



Planning Proposal

Old Northern Road, Dural

May 2016

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Executive Summary

This Planning Proposal has been prepared on behalf the owners of the subject land. This Planning Proposal provides the justification to The Hills Shire Council to commence the process of transforming rural land into urban land for the purposes of delivering additional residential dwellings, seniors housing (to include aged care), health services facility and recreation space (public and/or private).

The land, subject to this proposal comprises a total of 12 lots divided between two (2) parcels referred to as the Northern and Southern sites, each legally described in **Table 1**. The land is bound to the east and west (front and rear) by Old Northern Road and Derriwong Road, respectively, to the north of Round Corner Town Centre. Old Northern Road forms the boundary between The Hills Local Government Area (LGA) and Hornsby Shire Council LGA.

The land naturally grades in a south, southwest direction towards Derriwong Road and O'Hara's Creek beyond. The site is predominantly cleared of any substantial vegetation with only sporadic and fragmented vegetation patches remaining. Existing uses are predominantly rural residential in nature, the majority of the allotments are currently zoned RU6 Transition under the Hills Local Environmental Plan 2012.

The Planning Proposal seeks to rezone the land a mix of R2 Low Density Residential, RE1 Public Recreation and RE2 Private Recreation combined with a portion of land within the southern parcel identified for additional permitted land uses to include, health services facilities and ancillary retail premises.

Combined with the above changes in land use zones, the Planning Proposal seeks to amend the following development standards applying to the land:

- Minimum lot size requirement from 2 hectares to 700m²;
- Implement of maximum FSR controls for land subject to additional permitted uses;
- Amend the maximum building heights from 10 metres to 9 metres for R2 Low Density Residential zoned land and 12 metres on land with additional permitted uses.

The Planning Proposal is supported by an urban design study which supports the logical expansion of the urban fringe, demonstrating compatibility of future land use zones (on land not included in this request) and a suitable urban layout and form that provides for future road connections.

Support for this Planning Proposal is justified based on the following:

- The proposed rezoning is consistent with the emerging and anticipated urban character of the area and the existing pattern of density for development within adjacent urban centres;
- Compatibility and integration of the proposed land uses and urban form with Round Corner and provision for future connectivity with adjacent lands (not included in this proposal);
- The land is not presently used for agricultural purposes and the potential use of the land for agriculture is constrained due to the proximity of urban land and the potential for intensive agriculture to generate adverse environmental impacts
- The rezoning and future redevelopment would support the continued growth of Round Corner through increasing proximate residential density and complimentary non-residential land uses;
- The proposal will not dilute the primacy of adjacent urban centres, but reinforce and support their growth through the increased residential density and worker populations within the retail catchment;
- The rezoning reflects a logical extension and infill of urban land uses, bookended between two (2) existing centres that are the subject of continuing growth and development;

- The delivery of an integrated approach to an aging population through the delivery of medical services, aged care and independent living will meet a local need allowing for residents to stay within their community; and
- The residential subdivision will deliver new residential land to meet demand of existing and potential residents, in an identified market gap for “downsizers” and young families.

Taking into account the detailed consideration of the emerging character and trends towards urbanisation of land surrounding Round Corner, the request to rezone the land subject of this proposal is considered supportable. It is requested that Council endorse the proposal and request the Department of Planning and Environment to issue a gateway determination to commence the process to amend the relevant planning maps and Schedule 1 of The Hills Local Environmental Plan 2012 to permit an extension to the urban fringe.

1 Introduction

1.1 OVERVIEW

This report has been prepared on behalf of Dural Investments Holdings Pty Ltd and supports their request to The Hills Shire Council, as the relevant planning authority, to prepare a Planning Proposal for amendment of the land use zone and development standards that currently apply under The Hills Local Environmental Plan 2012 for the land described in **Table 1**.

The intent of the request is to rezone the land for urban purposes to permit the delivery of health services facilities, associated retail uses and residential development including dwellings and seniors housing, combined with public and/or private recreation spaces.

The amendment would extend the existing urban fringe northward by rezoning the land from RU6 Transition to R2 Low Density Residential combined with the identification of certain land under the additional permitted uses described in Schedule 1 of LEP 2012. The rezoning of the land for urban purposes would permit redevelopment of underutilised and poor quality agricultural land for higher purposes to include low density residential blocks combined with a range of health care services, aged and supported care.

The envisaged development is consistent with the R2 Low Density Residential zoning applying to the land and aligns with broad direction and intent of the metropolitan strategy “A Plan for Growing Sydney”.

The proposal presents a significant opportunity to increase the diversity of residential land options within Dural responding to market demand of both an aging demographic looking to downsize and young families seeking a more affordable residential option. The proposal is a logical extension of the existing urban fringe that responds to recent gateway determinations supporting the rezoning of land to the south from rural to urban, combined with the growth of both Round Corner and Dural Centres. In this regard the proposal, with particular emphasis on population growth supports the economic development and retail diversity of the local centre without diluting or detracting from the centres hierarchy.

The proposed amendment will make a positive contribution to the growth and revitalisation of the local area and support aging in place of existing residents whilst providing for a broader range of housing options that may be more affordable.

1.2 PROPOSED LEP AMENDMENTS

The Planning Proposal requests amendments to the land use zone, range of permissible uses (limited through the use of schedule 1 additional permitted uses), minimum lot sizes and height of building development standards applying under THLEP 2012.

A high level master plan has been prepared for the described land and that immediately adjacent and surrounding to indicate how the land would connect and relate to adjacent urban areas. The proposed changes to the adopted provisions of THLEP 2012 are outlined in Parts 2 Explanation of Provisions and Part 4 Mapping, contained within this proposal.

The amendments are influenced by a number of key factors which are addressed in this report. These include:

- Orderly and economic use of the land that is otherwise under-utilised and undesirable for agricultural purposes;
- No additional or new impacts on the ecological sensitivities of the site or the surrounding and adjacent land;
- A development of the site that is consistent with and achieve key directions for the area and locality as expressed in the metropolitan plan “ A Plan for Growing Sydney”, in particular an increased delivery in the quantum of housing and expand choice in typology; and

- The potential building footprints, heights and forms are shown in the Urban Design Report prepared by Urbis.
- The design has been informed by detailed consideration of market demands and needs, combined with the physical characteristics of the land, the urban design analysis contained within the report demonstrates the redevelopment of the site is capable of achieving suitable streetscape and context consistency despite the change in density.

1.3 SUPPORTING DOCUMENTATION

This report is accompanied by the following documentation:

- Architectural Built Form and Massing Study prepared by Urbis dated May 2016;
- Traffic and Transport Impact Assessment prepared by AECOM dated 5 May 2015;
- Ecological Report prepared by Eco Logical Australia dated 23 March 2016;
- Bushfire Report prepared by Eco Logical Australia dated March 21016;
- Residential Market Analysis prepared by Urbis dated February 2016;
- Heritage Impact Statement prepared by Urbis dated February 2016;
- Preliminary Site Investigations Reports prepared by ADE Consulting; and
- Survey prepared by Land Partners dated 17 July 2015.

1.4 REPORT STRUCTURE

This Planning Proposal is structured as follows:

- **Section 1:** Introduction
- **Section 2:** Description and analysis of the site and local context with reference to metropolitan strategic planning and infrastructure projects;
- **Section 3:** Overview of Current Planning Controls;
- **Section 4:** The Planning Proposal, including the
 - **Part 1:** Objectives and intended outcomes of the planning proposal;
 - **Part 2:** Explanation of the provisions of the proposed amendment to the LEP;
 - **Part 3:** Justification of the Planning Proposal and Concept Urban Layout and Form;
 - **Part 4:** Mapping;
 - **Part 5:** Consideration of the community consultation likely to be associated with the Planning Proposal; and
 - **Part 6:** Project Timeline.
- **Section 5:** Conclusion

2 Context and The Sites

2.1 REGIONAL CONTEXT

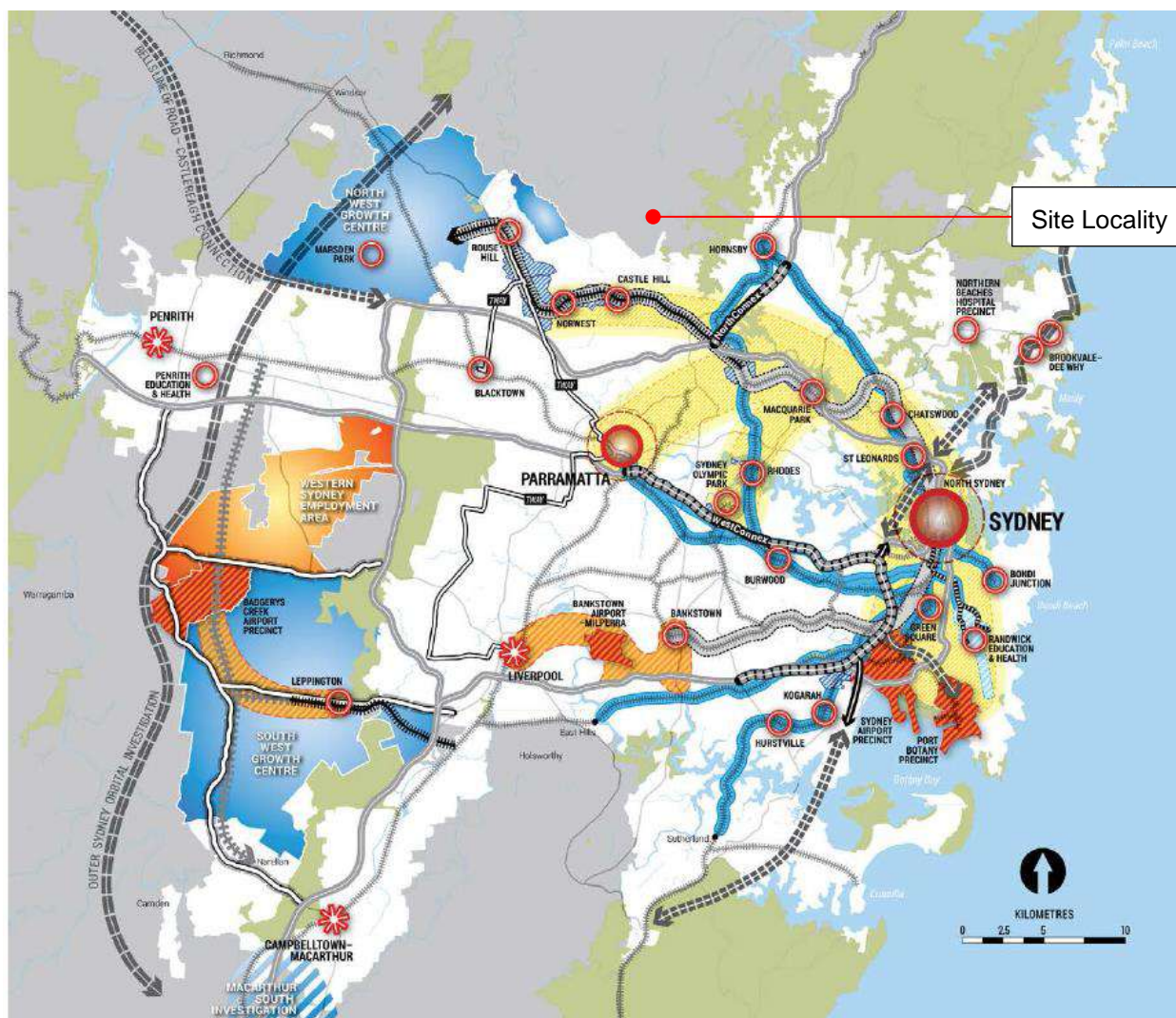
The land, subject of this planning proposal, is located north west of the Sydney Metropolitan Region and beyond the urban fringe in the Local Government Area (LGA) of The Hills approximately 30 kilometres from the Sydney CBD (GPO). Refer to **Figures 1** and **2**.

The Hills LGA covers an area of approximately 40km² and is home to around 192,230 people (ABS, 2015). The predominant character of residential development across the LGA is low density housing reflected in overall population density of 4.8 persons per hectare.

While the ABS (2016) reported growth in high and medium density housing over the period of 2006 to 2011, single dwellings are still preferred, accounting for 60.9% of housing growth in the LGA, a high percentage of which (92.4%) are owner occupied.

This is likely to change following the completion of the North West rail link that will encourage increasing densities within the established centres around key future transport stops.

FIGURE 1 – A PLAN FOR GROWING SYDNEY (Source: www.planning.nsw.gov.au)



Population demographics for The Hills LGA reflect a dominant cohorts in the younger workforce (2 to 34) and “parents and homebuilders” (35 to 49). As with many areas throughout Sydney and NSW, there is an aging population, with approximately 16.7% of the residents between the age of 60 – 85+.

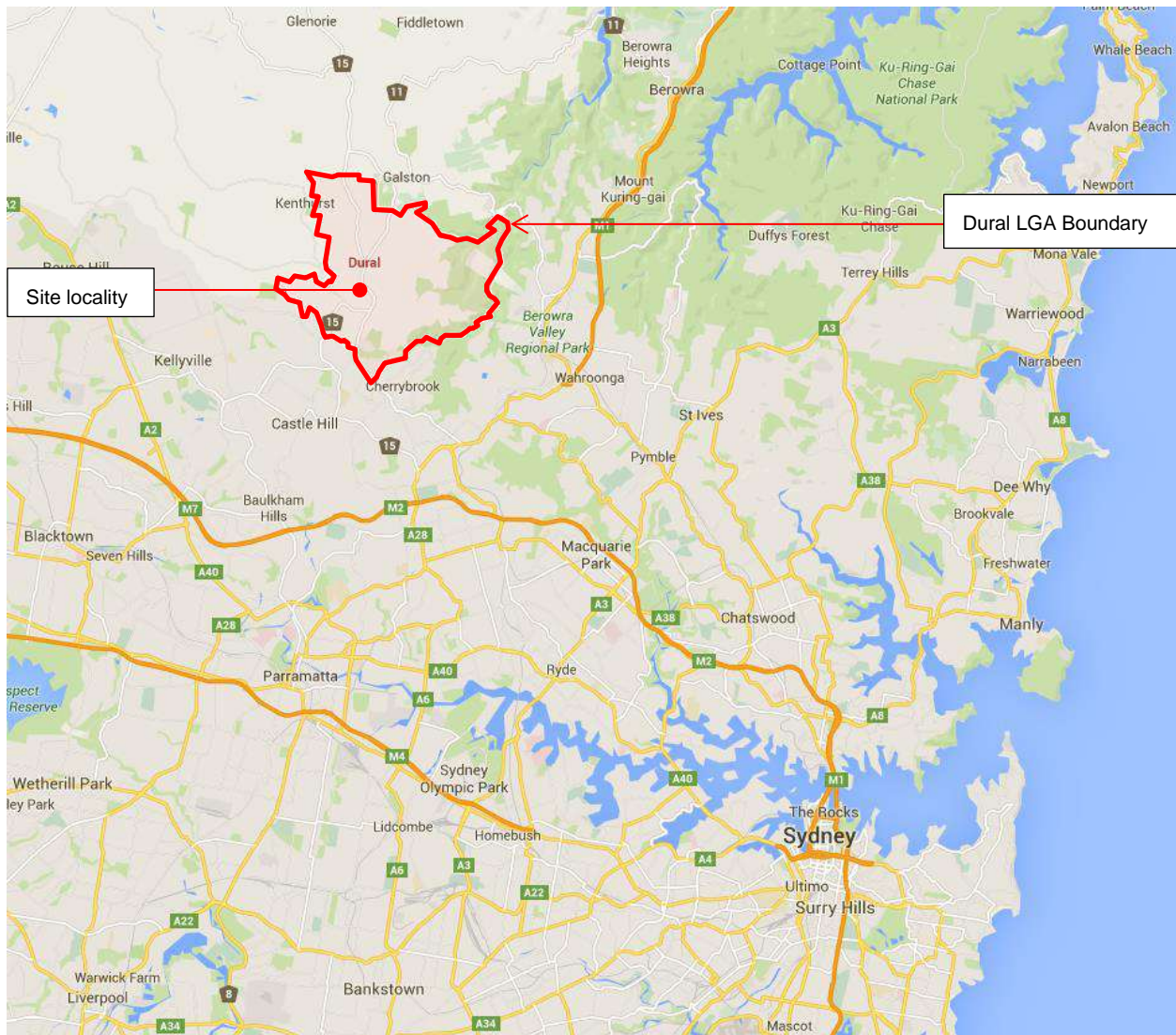
Reflective of the dominant cohorts (moving into and within the “parents and homebuilders phase”) combined with the delivery of rail infrastructure contributing to increased residential opportunities and densities population is estimated to grow by 33.47% over the next 15 years to 2031, to 248, 899 people. 25.2 per cent of this population will be aged between 55 and 85 +.

2.2 LOCAL CONTEXT

Dural covers an area of approximately 1,462 hectares (or 15km²) and in 2011 was home to 2,832 residents with a population density of 1.94 persons per hectare. In general the population of Dural has remained stable since 2001 due to the limited residential land stock and release. 94 per cent of residents in Dural are private owner/occupiers, with the majority of residents aged 35 to 49 falling within the service age group described as “parents and homebuilders”.

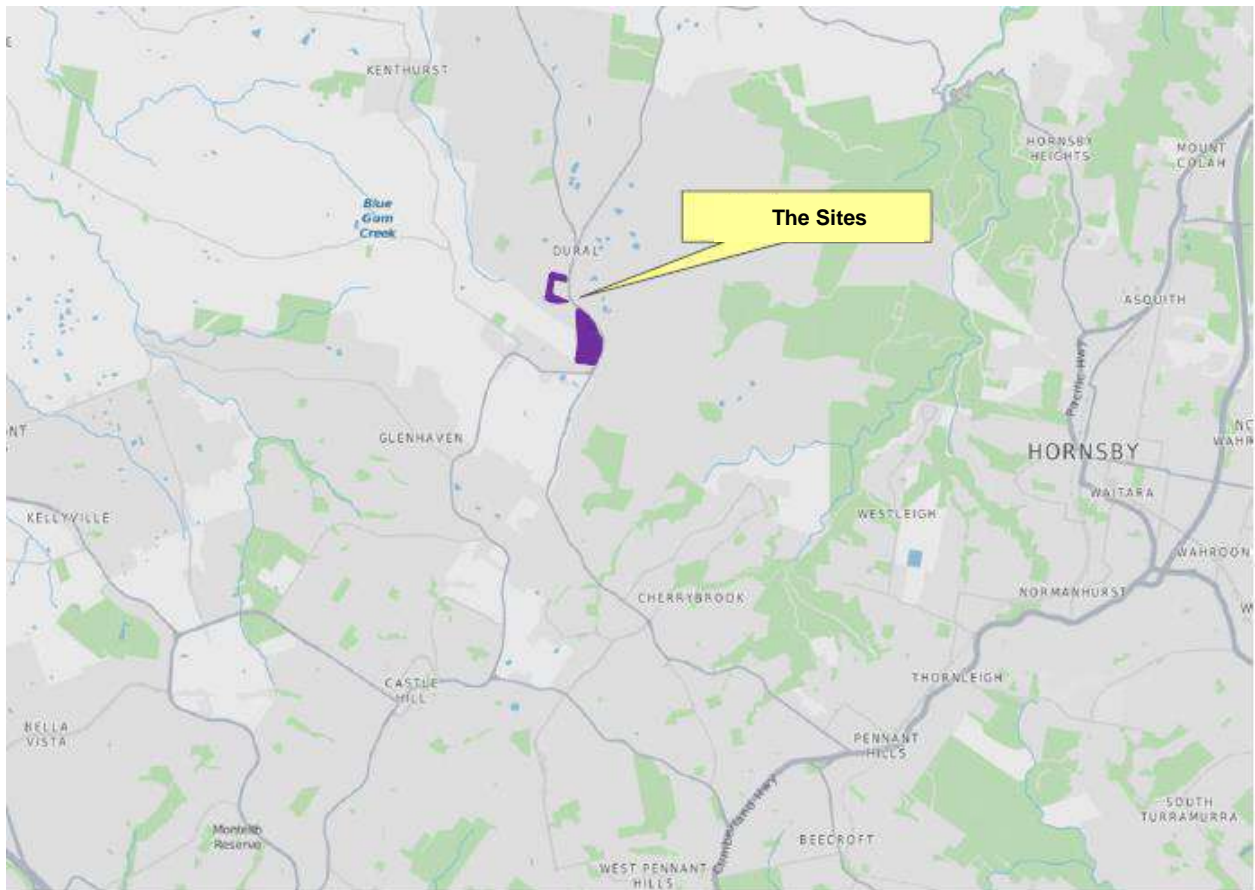
Rural land with the LGA is used mainly for hobby farms, nurseries and orchards, especially citrus fruits.

FIGURE 2 – DURAL LOCALITY MAP (SOURCE; WWW.GOOGLE.COM)



The immediate context of the land that makes up the northern and southern land holdings is shown in **Figure 5**. The prevailing context would be presently described as peri urban, reflecting a mix of urban and rural character, denoting the site and its surrounds as an area in transition.

FIGURE 3 – REGIONAL CONTEXT OF THE SITES (SOURCE: AECOM, 2016)



The sites are bookended by urban development forms, including Round Corner to the South and a the Dural Neighbourhood Centre to the north both of which are presently being expanded by recent approvals for development and rezoning applications that will have transformative influences on built form character and density. Furthermore the locality in the short to medium term will be influenced by significant planning proposals and Development Approvals that are being considered by The Hills and Hornsby Councils, including:

- Former Timber Yard;
- South Dural;
- Dural Service Centre; and
- The Cascades Development.

FORMER TIMBER YARD, OLD NORTHERN ROAD DURAL

A Planning Proposal to rezone land at Nos. 582 and 582A Old Northern Road, Dural was submitted to The Hills Shire Council on 23 October 2014 for seeking to rezone the land from RU6 Transition to R3 Medium Density Residential. The location of the land subject of the proposal is shown in **Figure 4**

The Planning Proposal seeks to facilitate redevelopment of the site to deliver the following:

- Six (6) x two (2) bedroom townhouses;
- 47 x three (3) bedroom townhouses; and
- Four (4) x four (4) bedroom townhouses;

Future redevelopment, under the current concept plan, will also deliver supporting areas of open space.

FIGURE 4 – PLANS RELATING TO OLD NORTHERN ROAD PLANNING PROPOSAL (SOURCE: RTP, 2016)



PICTURE 1 – LOCATION OF SITE



PICTURE 2 – CONCEPT LAYOUT

SOUTH DURAL: PLANNING PROPOSAL

A Planning Proposal to rezone existing rural land for urban purposes as shown in **Figure 4** was given Gateway Approval on 7 March 2014.

The objective of the proposal is to facilitate comprehensive redevelopment of the land for urban purposes including residential and mixed use development, including employment uses including the delivery of new infrastructure to support the anticipated growth. The proposal sought to amend the local zoning maps as well as minimum lot sizes and height of buildings to reflect a low density urban form.

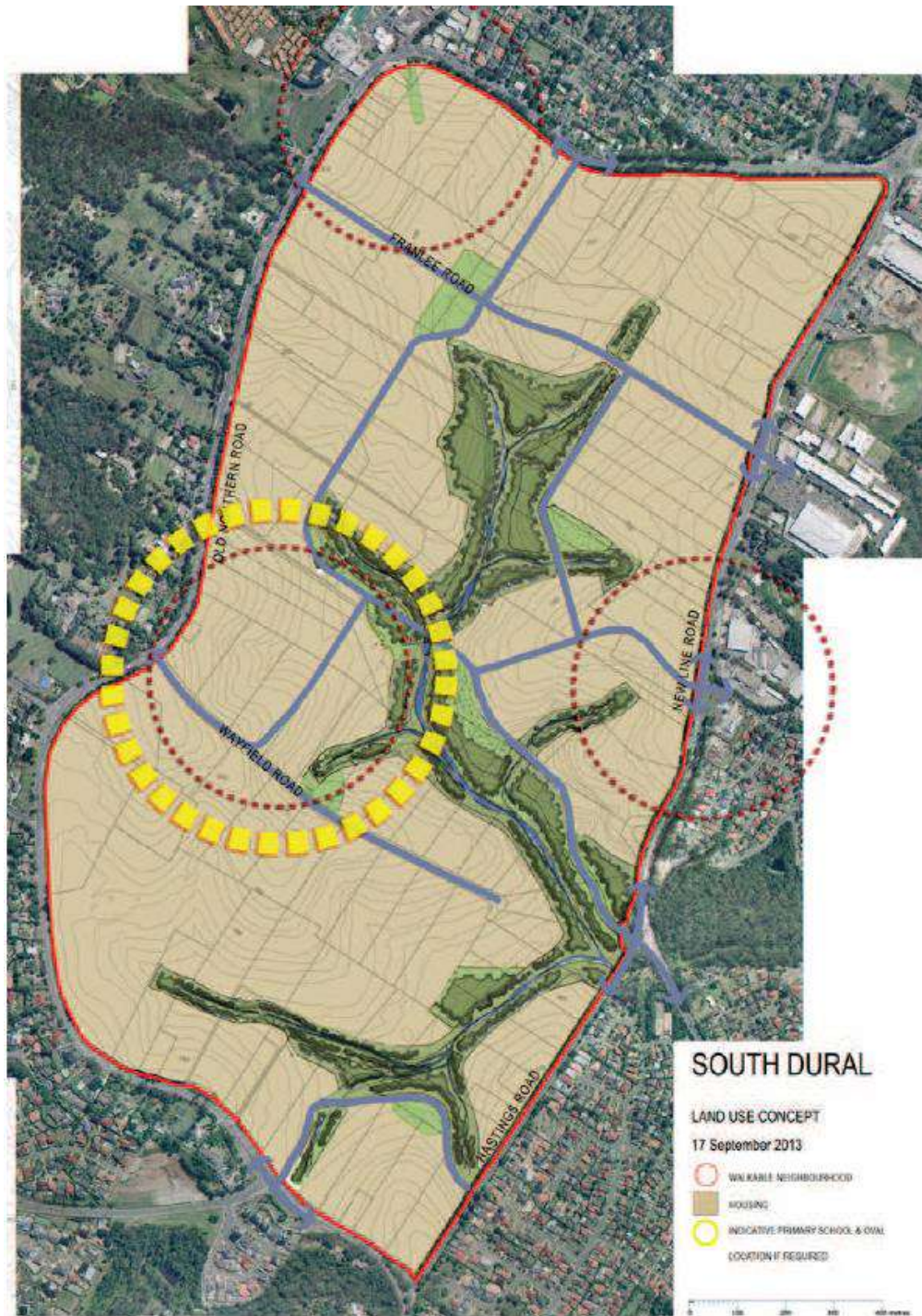
The South Dural Urban Investigation Area, Retail and Commercial Potential Report, prepared by Don Fox Planning (2008) and submitted in support of the Planning Proposal indicates that the following rezoning future redevelopment could achieve:

- A maximum of 2,900 new residential dwellings; and
- Between 1,300m² and 3,000m² retail and commercial floor space (dependent on the delivery of a small supermarket).

The economic report indicated that the increase in residential density may also contribute to an increased demand in medical, child care and education services within the locality.

Despite the above figures (taken from the supporting Retail and Commercial Potential Report prepared by Don Fox Planning), the proposal, at the time of being granted gateway, had not undertaken to develop detailed plans to determine the future potential yield with respect to dwellings numbers or non-residential floor space. A copy of the submitted concept plan, detailing the extent of land to which the proposal relates is provided at **Figure 5**. The proximity of the subject sites to the land, subject of the South Dural Planning Proposal is shown in **Figure 6**.

FIGURE 5 SOUTH DURAL: INDICATIVE CONCEPT PLAN (SOURCE: HORNSBY SHIRE COUNCIL WEBSITE)



DURAL SERVICE CENTRE: NEW LINE ROAD, DURAL

The Planning Proposal seeks to rezone the subject properties from IN2 Light Industrial to B2 Local Centre, to support a retail development. No amendment was proposed for changes to the adopted building height (10.5 metres) and floor space ratio (0.7:1). The proposal envisages the expansion of the Dural Business Park to the south to facilitate the delivery of a new shopping centre including supermarket, medical centre and commercial space.

The proposal was reported to Hornsby Council on 13 April 2014 and received a recommendation of support for referral to the Department of Planning and Environment for Gateway Approval.

2.3 THE SITES

The land to which the Planning Proposal relates made of up of multiple individual land parcels that are broadly broken into the Northern and Southern Sites. The general location of these unconsolidated holdings is shown in **Figure 6** and summarised in **Table 1**.

FIGURE 6 – AERIAL VIEW OF SOUTHERN AND NORTHERN SITES AND SURROUNDING CONTEXT (SOURCE: URBIS, 2016)

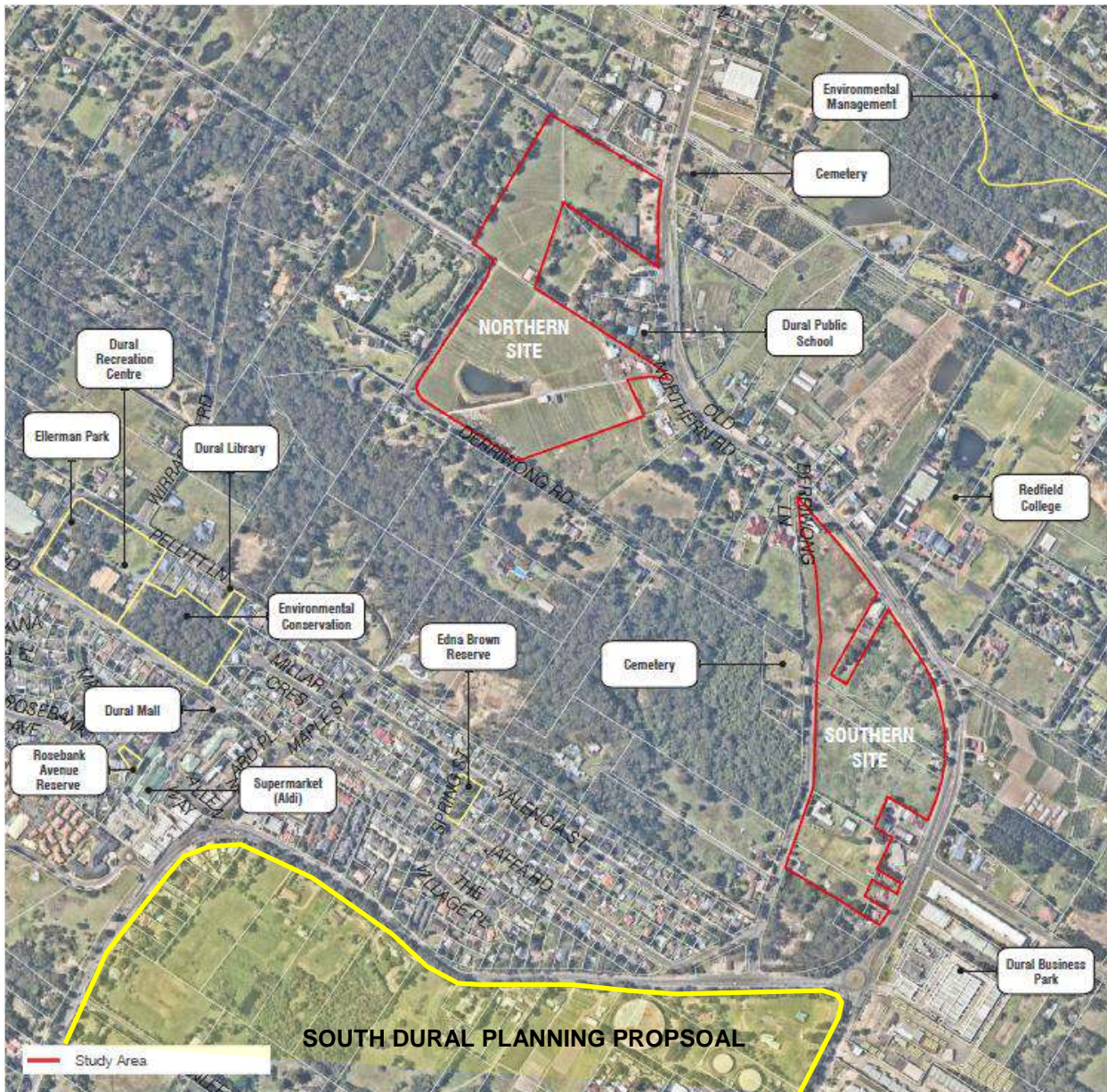


TABLE 1 – SUMMARY OF LANDHOLDINGS

NORTHERN SITE	SOUTHERN SITE
626 Old Northern Road, legally described as Lot 2 in DP 541329 (2.023 hectares)	606 Old Northern Road, legally described as Lot 1 in DP73652 (1.622 hectares)
27 Derriwong Road, legally described as Lot 9 in DP237576 (2.025 hectares)	602 Old Northern Road, legally described as Lot 1 in DP 656036 (1.967 hectares)
618 Old Northern Road, legally described as Lot X in DP 501233 (4.777 hectares)	600A Old Northern Road, legally described as Lot 101 in DP713628 (6,331m ²)

NORTHERN SITE	SOUTHERN SITE
21 Derriwong Road, legally described as Lot 2 in DP567995 (2.023 hectares)	600 Old Northern Road, legally described as Lot 100 in DP 713628 (2.211 hectares)
	5 Derriwong Road (also described as 586 Old Northern Road), legally described as Lot 11 DP866560 (6,024m ²).
	7 Derriwong Road, legally described as Lot 12 in DP 866560 (1.211 ha)
	590 Old Northern Road, legally described as Lot D in DP38097 (859.9m ²)
	584 Old Northern Road, legally described as Lot 1 DP660184 (746.1m ²)
Total area: 10.848 hectares (108,480m²)	Total area: 10.617 hectares (106,171m²)

2.3.1 TOPOGRAPHY

The northern site slopes away from Old Northern Road towards Derriwong with a variable gradient ranging from 6 to 8 per cent. While the southern site also has south, southwest slope away from Old Northern Road towards Derriwong the gradient is much lower ranging between 3 and 5 percent.

A detailed survey showing local landform of each of the lots is provided at **Appendix I**.

2.3.2 HYDROLOGY

SURFACE WATER FLOW

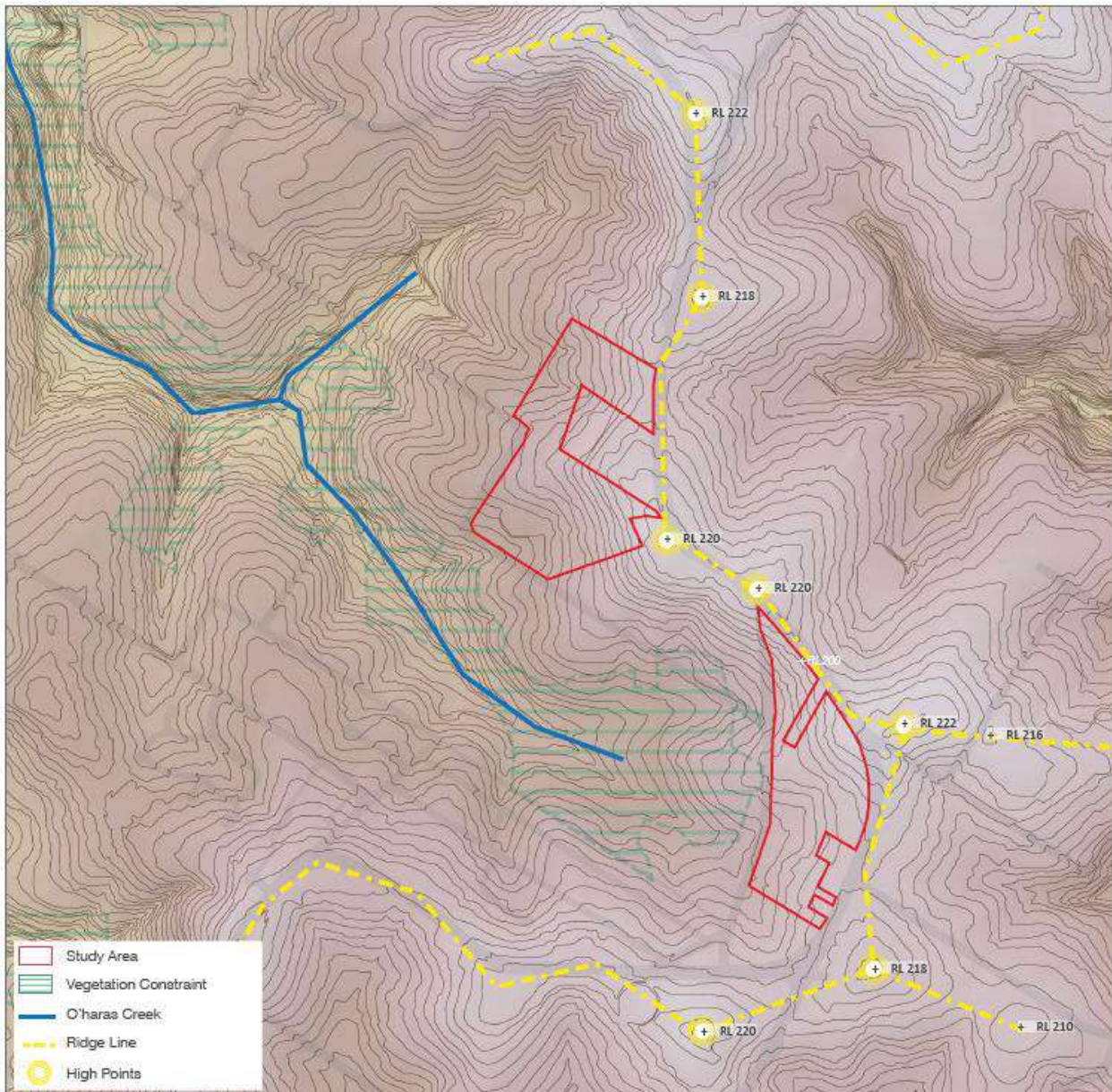
As outlined in section 2.2.1 the land generally slopes away from Old Northern Road in a west, south west direction towards the natural drainage lines and permanent water courses.

Eco Logical Australia have undertaken an assessment of the sites and the surrounding lands and identified that several tributaries of the O'Hara Creek drain away from the sites and converge at the O'Hara Creek to the west and south-west of the site. O'Hara's Creek is identified as a "major creek" line by Eco Logical (refer to **Appendix D**), the creek flows in a north-west direction (**Figure 7**) and is buffered by existing and established native vegetation refer to **Figure 8**).

GROUNDWATER FLOWS

The presence of groundwater flows is anticipated given the presence of a series of streams and creek lines within the immediate context of the sites. ADE Consulting (**Appendix G**) anticipates that local groundwater is likely to flow westerly direction towards O'Hara Creek which is located approximately 200 metres to the west and flows from south to north.

FIGURE 7 – LOCAL TOPOGRAPHY AND HYDROLOGY LINES



2.3.3 LOCAL GEOLOGY

SOILS

ADE Consulting Group have undertaken preliminary site investigations and determined that the sites are located on a Glenorie Soil Landscape (gn) as indicated on the Sydney Soil Landscape Map prepared by the Soil Conservation Services of NSW.

The geology of the Glenorie Soil Landscape is underlain by Wianamatta Group Ashfield Shale and Bringelly Shale formations. The Ashfield Shale is comprised of laminate and dark grey shale. Bringelly Shale consists of shale, calcareous claystone, laminate and fine to medium grained lithic-quartz stone.

Soils are shallow to moderately deep (< 100cm) with variability across upper slopes and drainage gullies. The topsoil (A1 Horizon) consists of a friable dark brown loam, with moderately to strongly pedal structure, apedal single-grained structure and porous sandy fabric. The pH ranges from strongly acid (pH 4.0) to slightly acid (pH 6.0).

Beneath this layer occurs the B Horizon consisting of hard setting clay loam. The pH ranges between strongly acid (pH 4.0) to slightly acid (pH 6.5). The B Horizon is brown strongly pedal medium clay. The

pH varies from strongly acid (pH 4.5) to moderately acid (pH 6.5). Strongly weathered sandstone fragments are common. Roots and charcoal fragments are rare.

It should be noted that the area occurs close to a transition between Glenorie and Lucas Heights soil landscapes and therefore transitional phases may occur and vary depending on the exact location.

ACID SULPHATE SOILS

The sites are identified on the adopted planning maps as low risk and unlikely to contain acid sulphate soils

2.3.4 FLORA AND FAUNA

The sites have been substantially cleared and consist mainly of grassed land that is currently unutilised for any agricultural purposes.

Land to the south, forming the riparian lands, around the O'Hara's Creek line and tributaries contain significant areas of vegetation.

2.3.4.1 FLORA (SPECIES AND VEGETATION COMMUNITIES)

Assessment of existing vegetation mapping was undertaken by Eco Logical Australia and ground truthed by site inspections of land subject of this proposal. Land adjacent to and surrounding the sites subject of the proposal was also the subject of desk top review.

Eco Logical concludes that while the majority of the site has been substantially modified to support historical use as market gardens, pockets of native vegetation are present both on the site and on land adjacent and surrounding. The distribution of identified vegetation communities is shown in **Figure 8**.

The majority of all the sites, subject of this proposal, support exotic species with the notable exception of:

- Sporadic patches in the southern lot that contains *Eucalyptus saligna* (Sydney Blue Gum), including mature specimens and regenerating saplings. *Eucalyptus saligna* (Sydney Blue Gum) is a key diagnostic species of the Blue Gum High Forest (BGHF) listed as a critically endangered ecological community under the *Threatened Species Conservation Act 1995* (TSC Act).
- A small linear patch of Sydney Turpentine Ironbark Forest (STIF) located in the northern site along the western boundary to Derriwong Road. STIF is listed as an endangered ecological Community under the TSC Act.

Land within the broader study area may also support STIF and BGHF, indicated by the presence of key characteristic species such as *Syncarpia glomulifera* (Turpentine) and *Eucalyptus saligna*. Refer to **Figure 8**.

Despite the presence of protected vegetation communities, no individual threatened flora species were recorded.

2.3.4.2 FAUNA

Eco Logical having undertaken high level mapping assessment of vegetation combined with field validation determined that the site contains limited faunal habitat or foraging availability owing to:

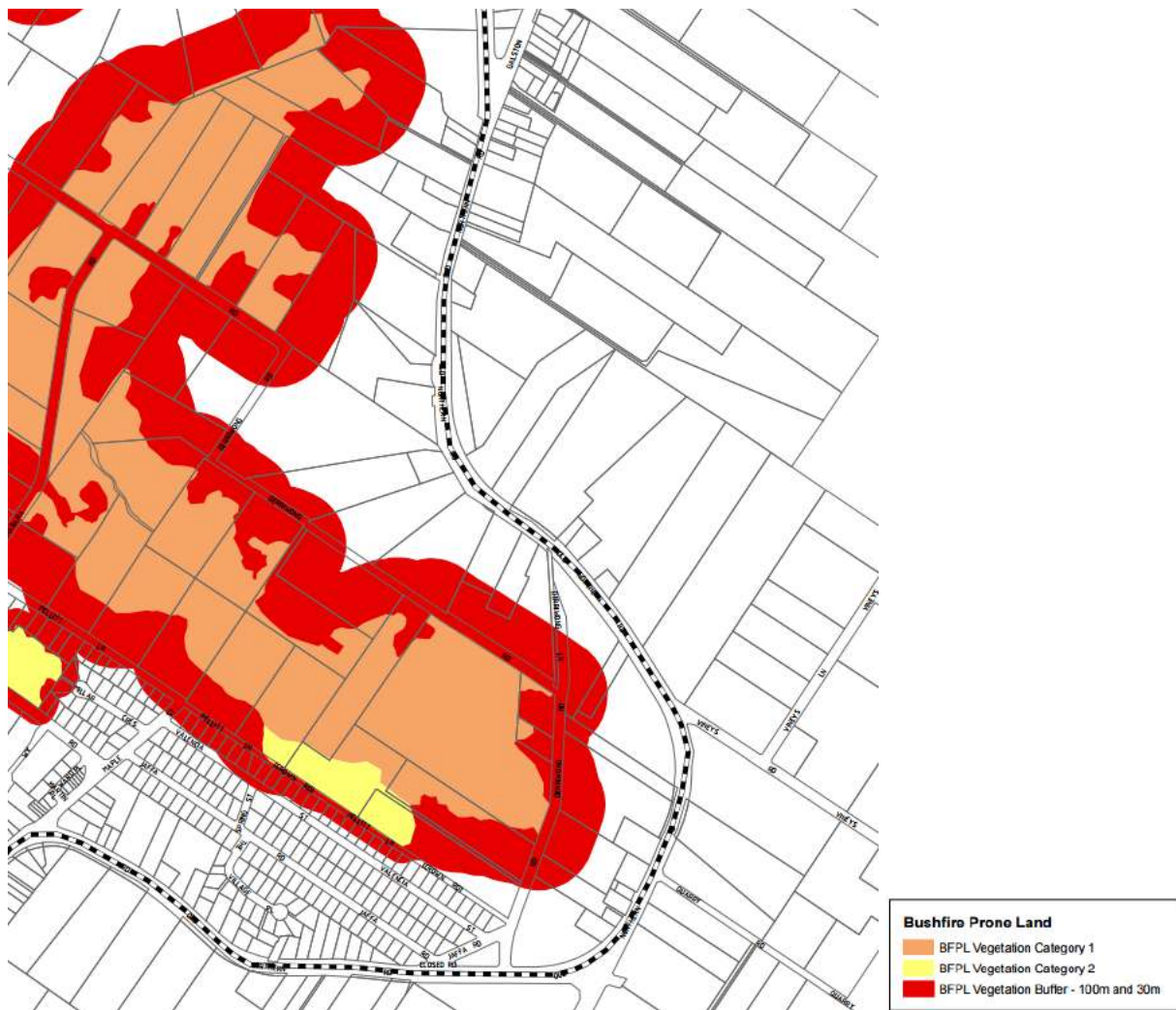
- limited availability (presence) of farm dams, canopy and hollow bearing trees recorded within the sites;
- Limited presence of native species in the under or canopy storey layers limiting the generation of leaf litter and woody debris to provide faunal habitat.

Consequently the site is unlikely to support significant permanent faunal species communities and where present they are likely to be highly mobile, such as threatened micro bats and birds (such as Little Eagle) that may utilise the area for occasional foraging and roosting.

2.3.5 BUSHFIRE

The land is identified as being located within the vegetation buffer (100 metres and 30 metres) on Council's adopted bushfire prone land planning maps (**Figure 9**).

FIGURE 9 – EXTRACT OF BUSFIRE PLANNING MAP (SOURCE: HILLS SHIRE COUNCIL).



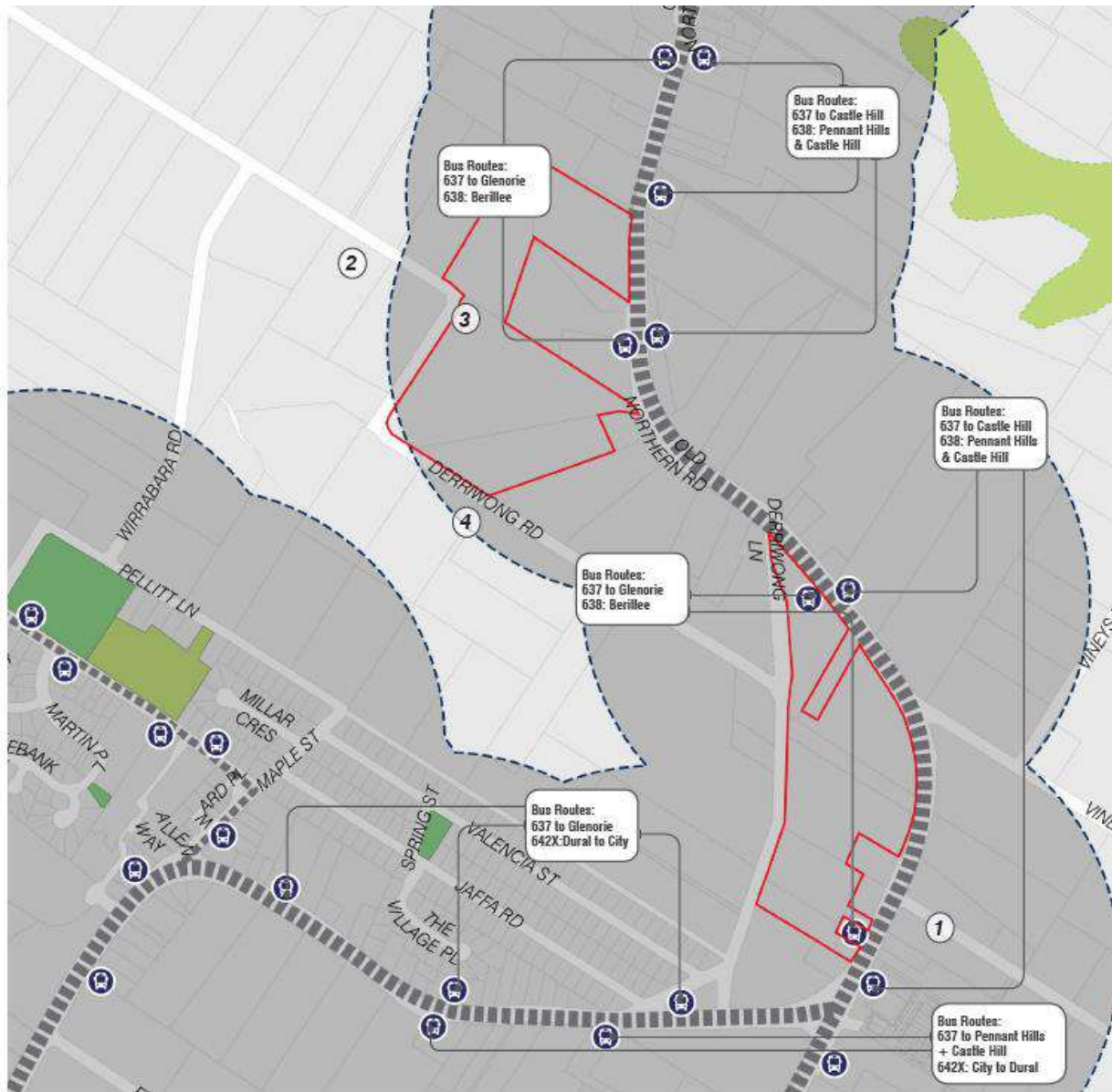
2.3.6 ACCESS AND MOVEMENT

2.3.6.1 PUBLIC TRANSPORT

The sites are accessible via public transport, with regular bus services available along Old Northern Road. Both land parcels, north and south are immediately adjacent to the north bound service stop with south bound services available on the opposite side of Old Northern Road accessible via the pedestrian over pass or traffic controlled intersection. South bound services connect to Pennant Hills and Castel Hill. While north bound service connect to Glenorie.

The location of bus stops along Old Northern Road in relation to the sites is shown in **Figure 10**.

FIGURE 10 – PUBLIC TRANSPORT CONNECTIONS AND ROUTES SERVICING THE SITES

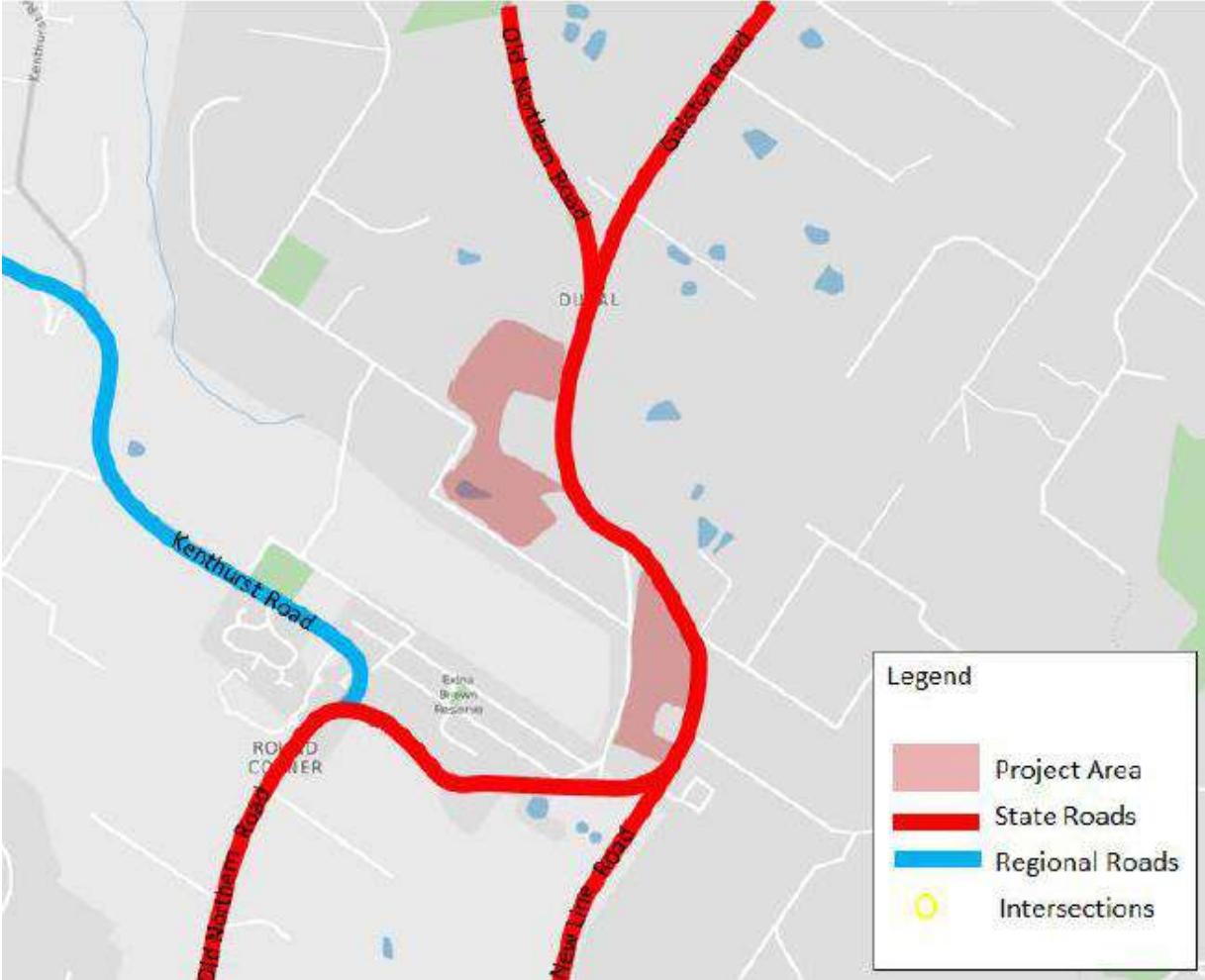


2.3.6.2 VEHICLE ACCESS

The existing local road network currently supports the following vehicle access, egress and movements:

- **Old Northern Road/New Line Road:** A two way, classified road, serving and the main vehicle movement route into and out of Dural and connecting the sites to Round Corner and Dural Centres.
- **Derriwong Road** is a minor two way collector/local road to the west of the sites that is accessed via Old Northern Road.

FIGURE 11 – EXISTING ROAD NETWORK (SOURCE: AECOM, 2016)

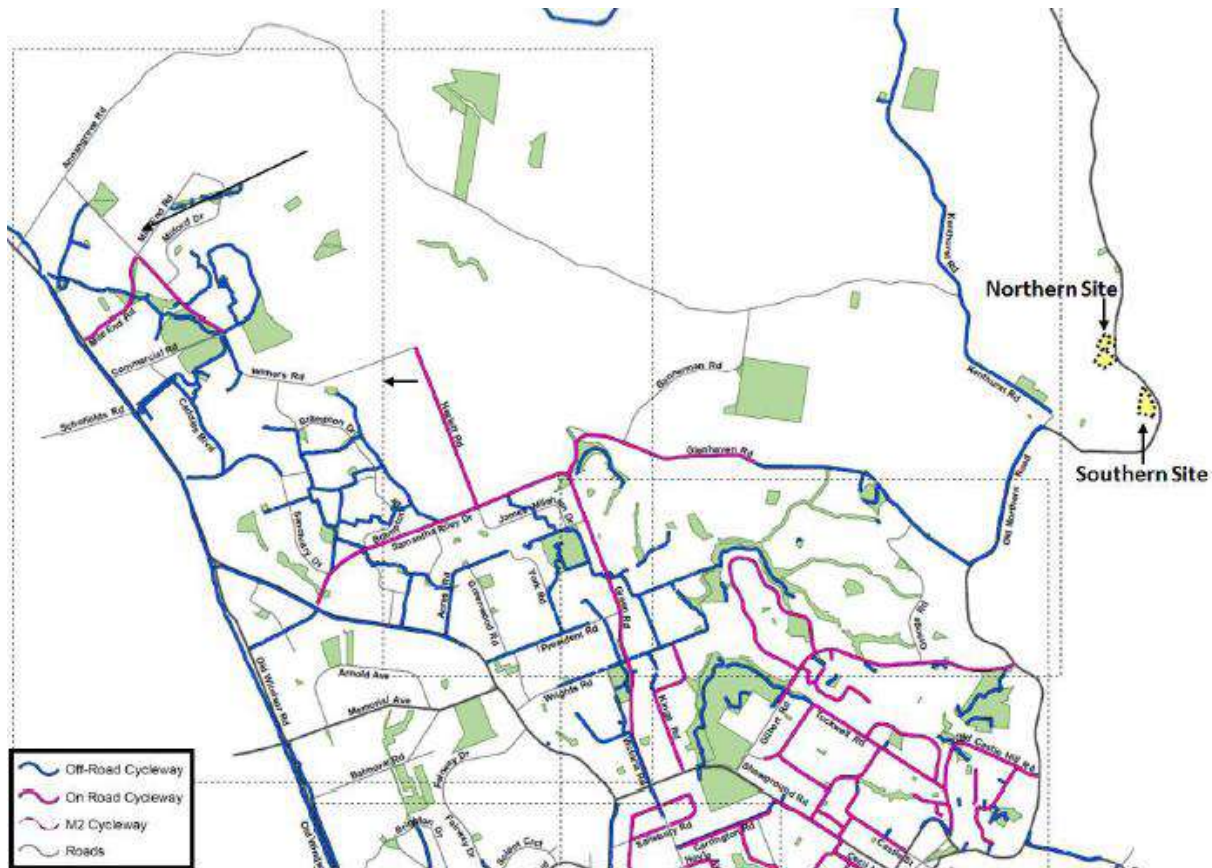


2.3.6.3 PEDESTRIAN AND CYLCEWAY ACCESS

Formal pedestrian footpaths are provided along the western side of Old Northern Road, connecting the sited to Round Corner in the south and the Memorial Hall and Dural Public School to the north. There is currently no footpath provision on Derrivong Road.

An extensive cycleway network is available, on road and off throughout the Hills extending throughout Dural including the sites (**Figure 12**).

FIGURE 12 – EXISTING CYCLE WAY ROUTES (SOUREC: AECOM, 2016)



Source: Hills Shire Council Cycleways map.

2.3.7 SOCIAL INFRASTRUCTURE

The sites are located between two (2) urban centres, Round Corner to the south and the Dural Neighbourhood Centre to the north. These urban centres offer a range of services including:

- Banking institution (Commonwealth Bank Branch);
- Post office;
- A range of specialty retail premises; and
- Supermarket.

Beyond the urban, retail and commercial centres, the sites are well located with respect to local schools including, Dural Public School, Redfield College, The Hills Grammar and Pacific Hills Christian School.

2.3.8 SERVICES AND UTILITIES

Preliminary investigation into the availability of services and utilities was undertaken by AT&L Engineers (**Appendix H**) and has identified the following:

- Water services are available within the area to service the sites;
- The land is not presently serviced by sewer mains, existing services south of the site will need to be extended (and potentially) upgraded to support the new residential development and increased density;
- Electricity is available to the site, the utility can be upgraded to meet anticipate additional loads.
- Gas is currently available within the area, by Jemena.

- Telecommunications cables are currently available.
- Owing to the current rural character of the site, there is limited formal infrastructure within the sites. Each is capable of gravity drainage to an adjacent street that connects to the existing Council stormwater system.

3 Current Planning Controls

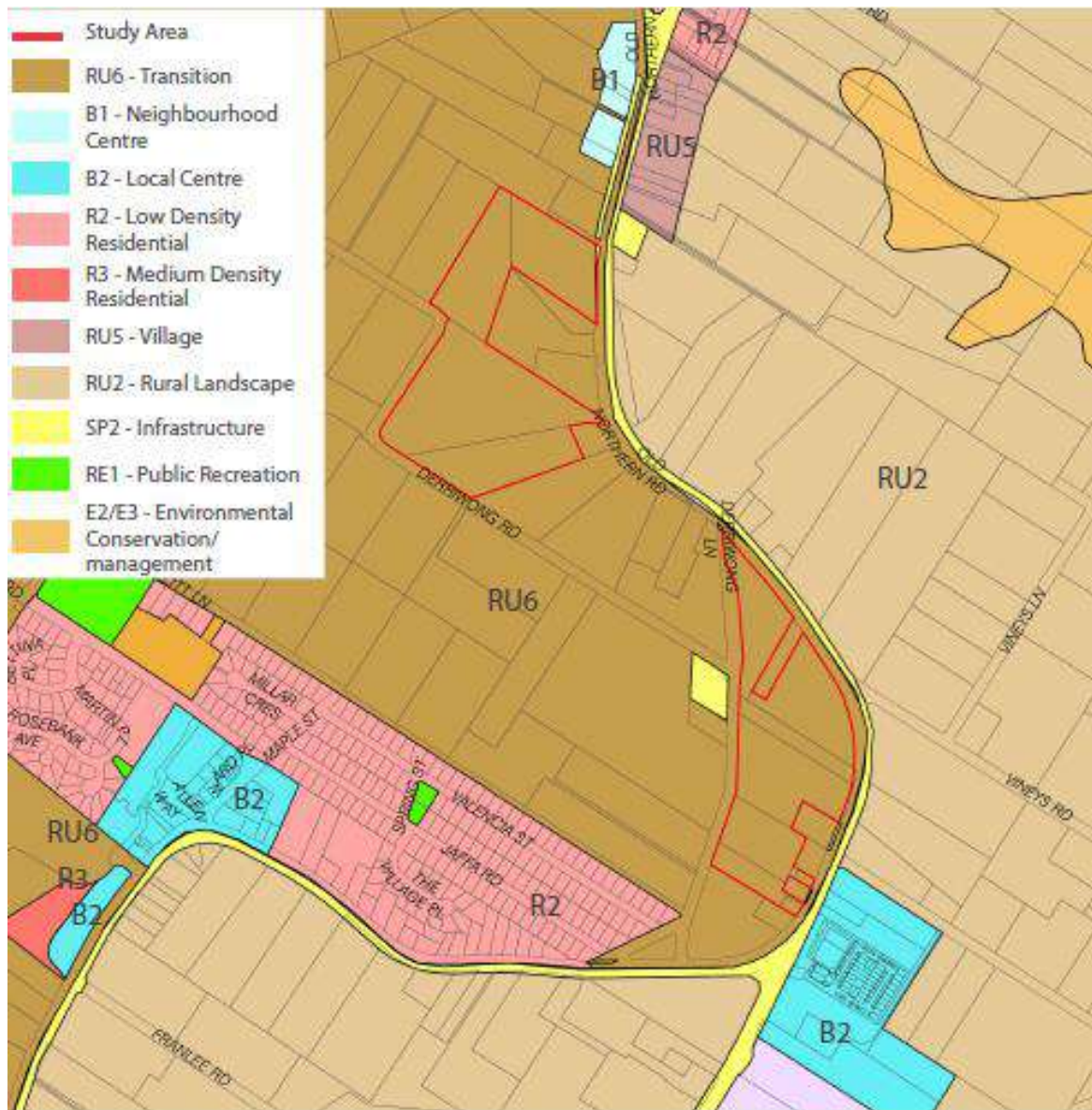
3.1 THE HILLS LOCAL ENVIRONMENTAL PLAN 2012

The following clauses of The Hills Local Environmental Plan 2012 (THLEP 2012) are relevant to the land and the proposed amendments.

3.1.1.1 ZONING AND LAND USE

As shown in **Figure 13** the site is currently zoned RU6 Transition.

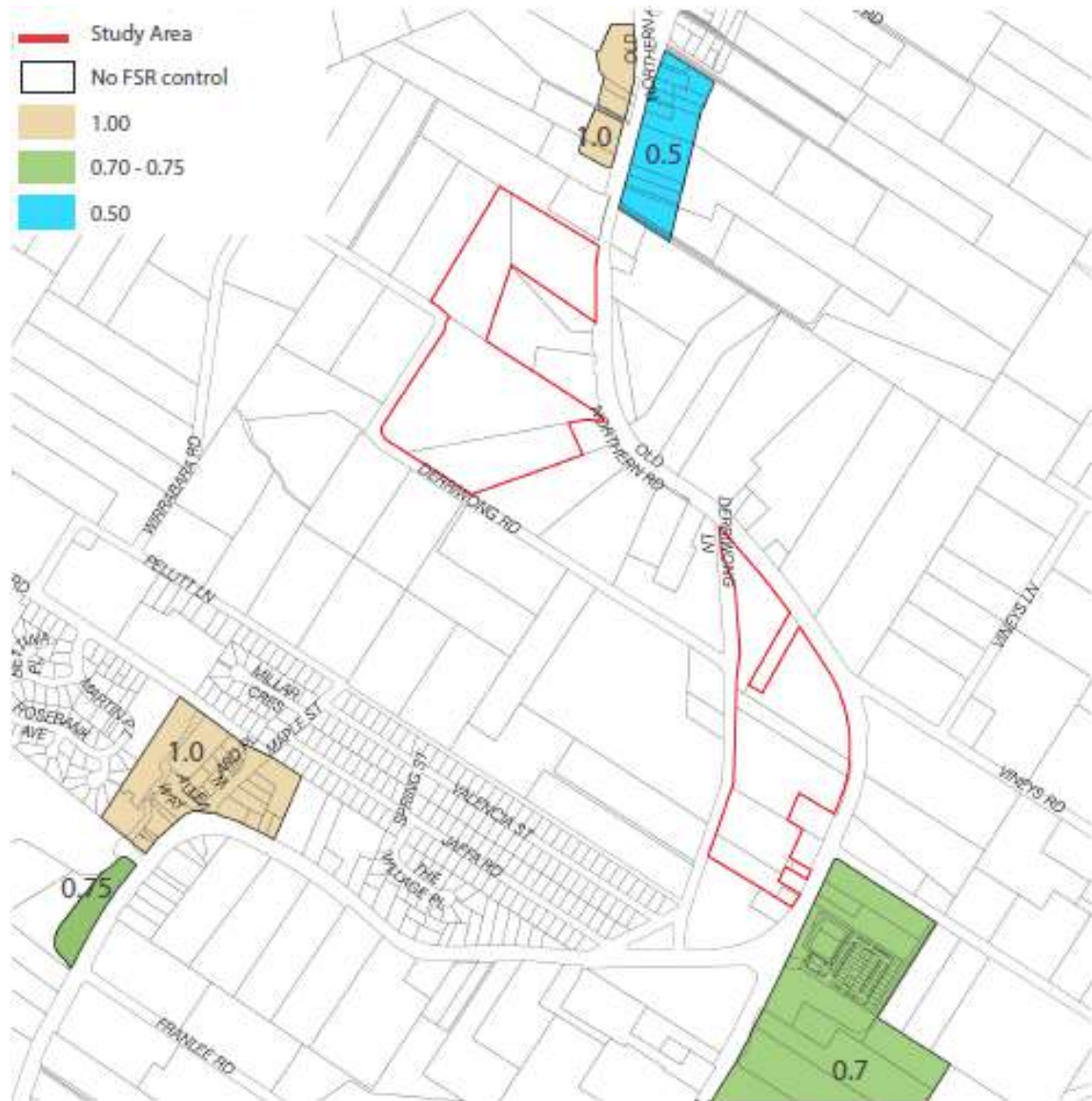
FIGURE 13 – EXTRACT OF LEP 2012 ZONING MAP SHOWING THE LOCATION OF THE SITES



3.1.1.2 FLOOR SPACE RATIO

As shown in **Figure 14** land for residential purposes is unconstrained by FSR controls, land within the B2 Local Centre is subject to a maximum FSR of 0.5:1.

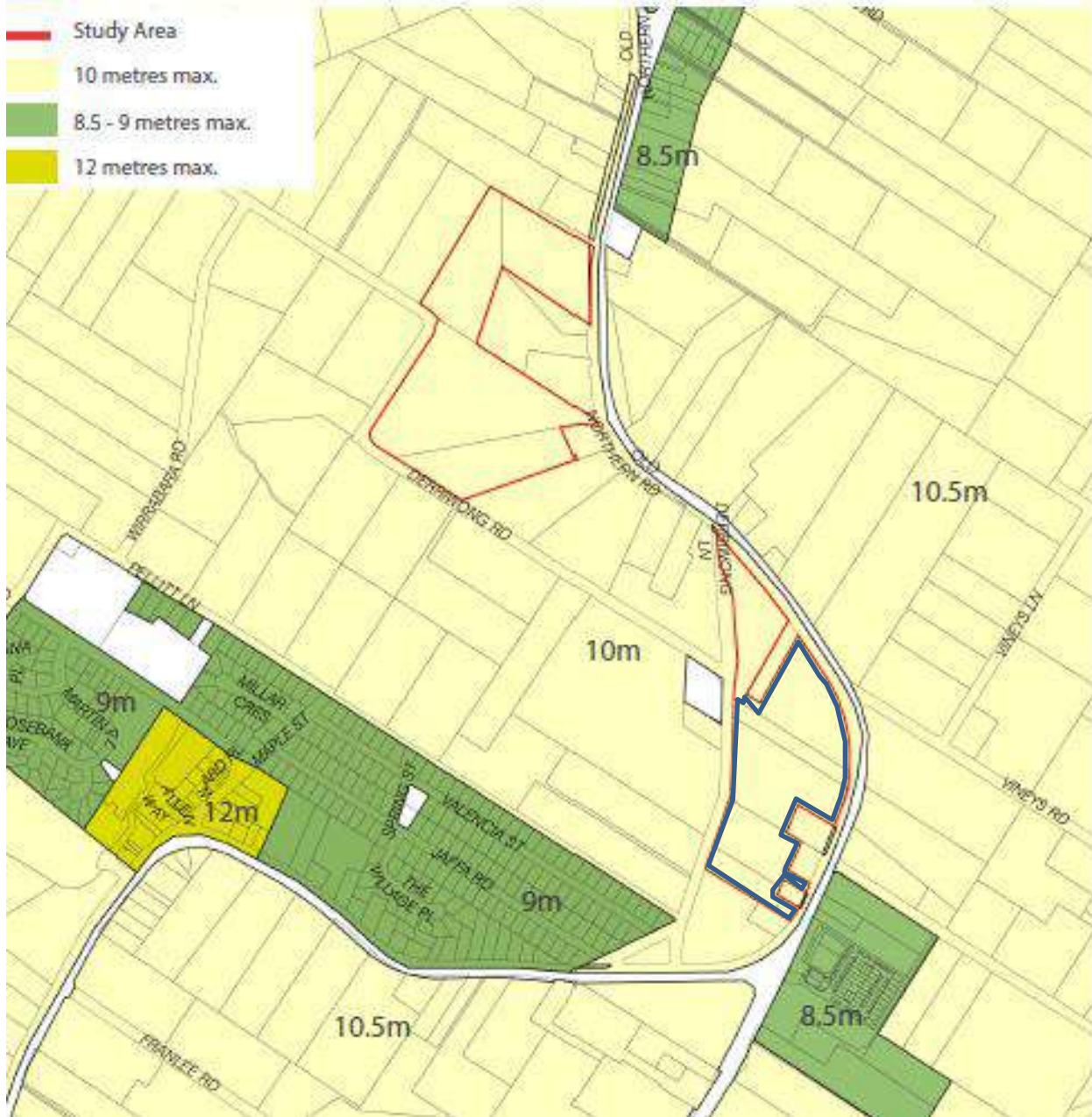
FIGURE 14 – EXISTING FSR PLANNING MAP



3.1.1.3 HEIGHT OF BUILDINGS

The Height of Buildings planning map permits buildings up to 10 metres on the sites. Urban land to the south of the site in Round Corner Town Centre is permitted building of between 8.5 metres and 12.0 metres in height, with the variable heights reflecting the change in land use with higher building forms up to 12 metres permitted on land zoned B2 Local Centre.

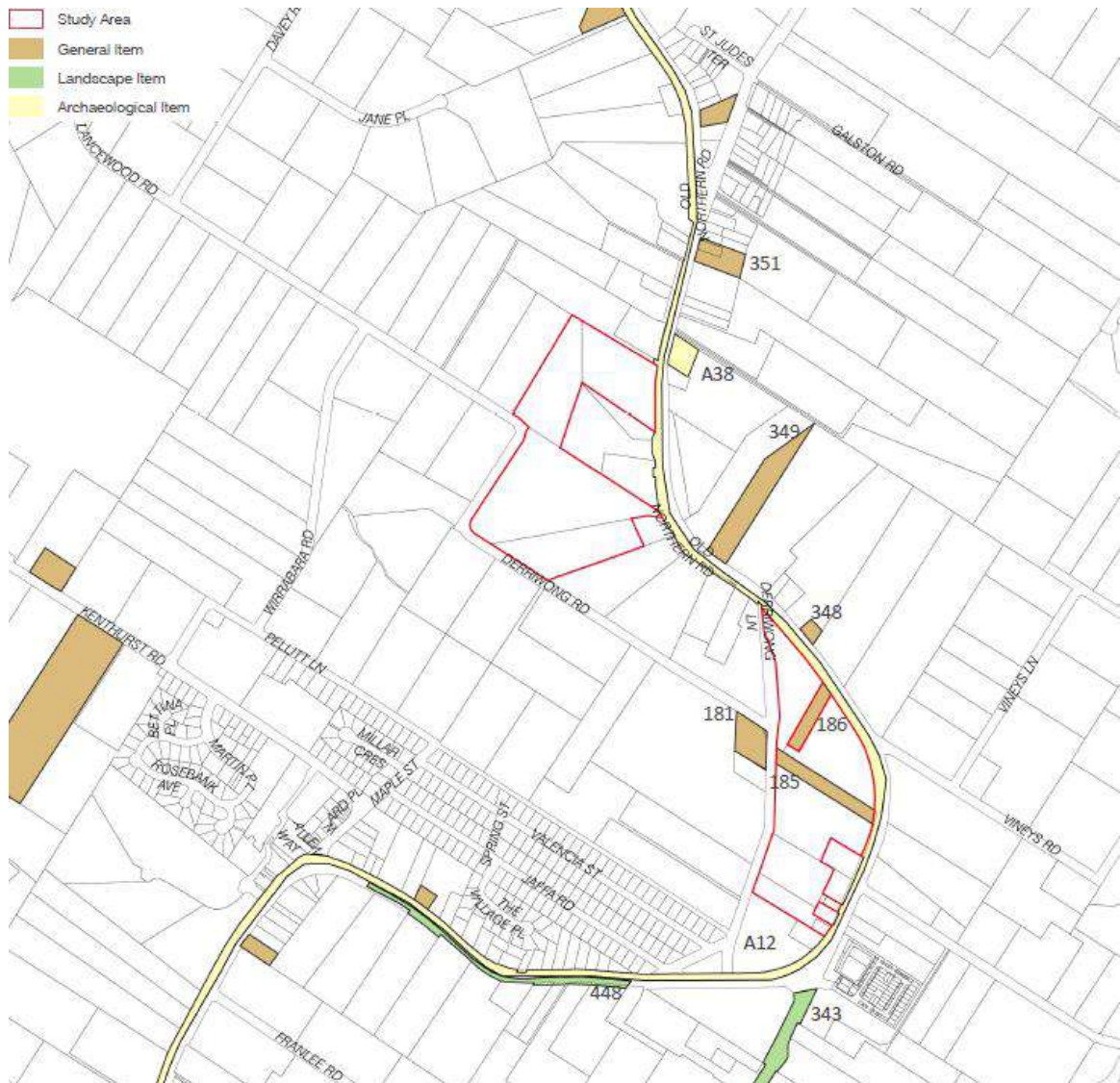
FIGURE 15 – EXISTING HEIGHT OF BUILDING MAP



3.1.1.4 HERITAGE

The site is located within proximity five (5) identified heritage items within and immediately adjacent to the sites, as well as Old Northern Road extending along the eastern boundary, listed as an item of archaeological significance. The Planning Proposal does not seek to amend the heritage planning map.

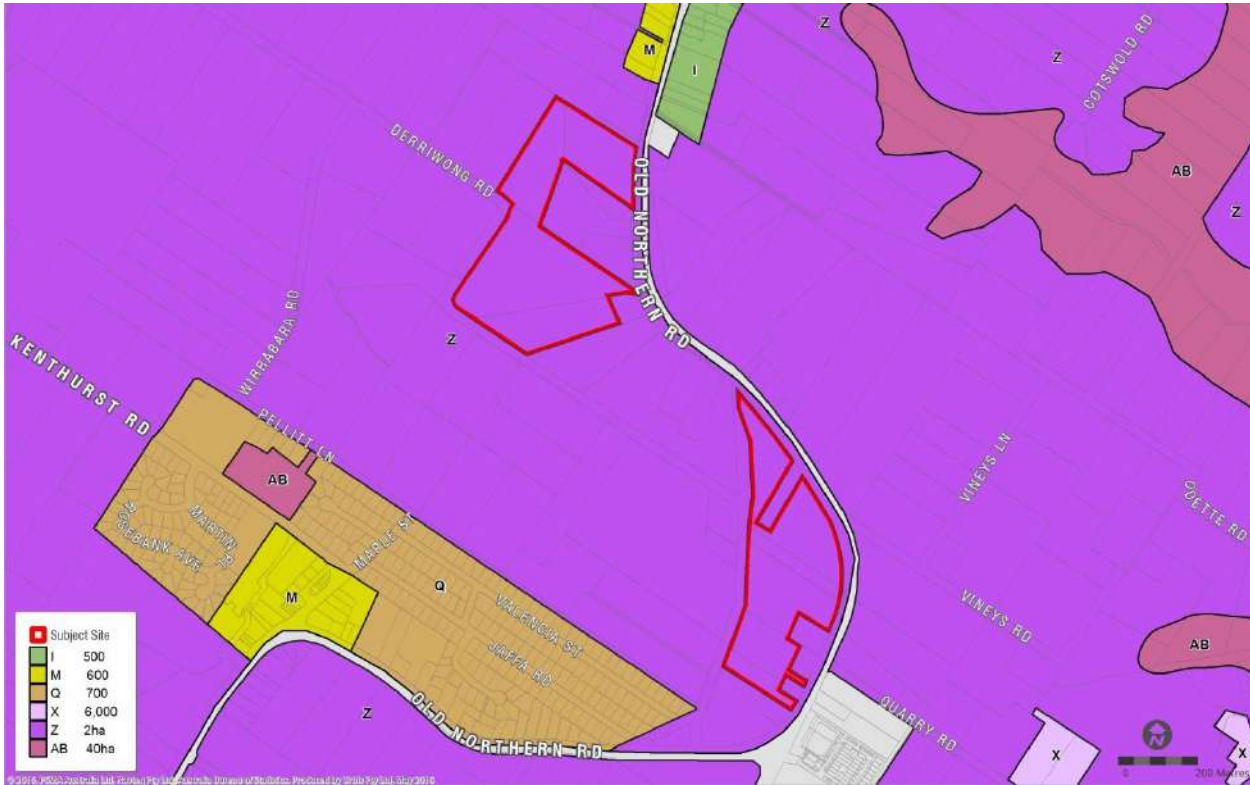
FIGURE 16 – HERITAGE PLANNING MAP THLEP 2012 AND HLEP 2013.



3.1.1.5 MINIMUM LOT SIZE

The minimum lot size applying to the land is 2 ha (2,000m²). Land to the south of the site in Round Corner is permitted to be a minimum of between 600m² and 700m². Increase density, reflected in the reduction of minimum lots sizes to 600m² is permitted within the Round Corner Town Centre and Dural Neighbourhood Centres where land is zoned B2 Local Centre and B1 Neighbourhood Centre. Refer to **Figure 17**.

FIGURE 17 – EXISTING MINIMUM LOT SIZE MAP



4 The Planning Proposal

This Planning Proposal has been prepared in accordance with section 55 of the *Environmental Planning and Assessment Act 1979* with consideration of the Department of Planning and Infrastructure's "A guide to preparing planning proposals" dated October 2012.

The Planning Proposal is addressed in the following six (6) parts:

- **Part 1:** A statement of the objectives or intended outcomes of the proposed amendment;
- **Part 2:** An explanation of the provisions that are to be included in the proposed amendment;
- **Part 3:** The justification for those objectives, outcomes and the process for their implementation;
- **Part 4:** Mapping;
- **Part 5:** Details of community consultation that is to be undertaken for the planning proposal;
- **Part 6:** Project Timeline.

Discussion for each of the above parts is outlined in the following sections.

Part 1 – Objectives and Intended Outcomes

Objectives

The primary objectives of the Planning Proposal specific to the site are as follows:

- Rezone the land from rural to urban purposes to allow for the delivery of health care services, assisted living options (aged care and supported living) combined with low density residential lots;
- Support orderly and economic use of otherwise underutilised rural land;
- Provide a height control that responds appropriately to the variable development forms while ensuring compatibility with the context the transitioning context;
- Allow the delivery of expanded recreational opportunities that will enhance the amenity of the existing and future residents;
- Deliver a suitable urban layout and structure that will provide for future and logical connections with existing and future urban land, allowing for improved permeability;
- Improve the access and safety of vehicle movements around the existing Dural Public School;
- Ensure that new development is appropriate to the surrounding and likely future built form context and provides an acceptable transition the (new) rural edge; and
- Ensure that the development provides an appropriate relationship to and protection of existing heritage items.

Intended Outcomes

The intended outcomes of the Planning Proposal are as follows:

- To rezone the land from rural to urban to facilitate the delivery of increased residential density;
- Amend the appropriate development standard maps, for height of buildings and minimum lot size shown at Part 2 of this Planning Proposal; and
- Amend the written instrument to include:
 - Amend Schedule 1 and the associated planning map of the THLEP 2012 to allow for additional permitted uses over part of the southern sites for the purpose of health services facilities and ancillary retail premises on certain land and seniors housing.
 - Insert clause 4.3A Exceptions to Height of Buildings for Seniors Housing to allow for taller building forms over a part of the southern sites where future development delivers seniors housing (residential care facilities and/or independent living units).

The intended overall outcome of the Planning Proposal is to facilitate the redevelopment of the site to accommodate a mix of residential typologies and increased range of permissible land uses to support the delivery of health services facilities and aged care/seniors housing. In doing so, the proposal will contribute to the NSW State Government's vision to increase the delivery of housing within proximity to existing centres aimed at strengthening their economic viability and growth.

FIGURE 19 – ADDITIONAL PERMITTED USES MAP



SCHEDULE 1 ADDITIONAL PERMITTED USES

The amendment of Schedule 1, to include the following provisions:

Use of certain land at Old Northern Road, Dural

- 1) This clause applies to certain land at Dural, being Lot 1 in DP656036
Shown as “Item 7” on the Additional Permitted Uses Map.
 - (a) Development for the purposes of health services facility is permitted with development consent.
 - (b) Ancillary retail premises as permitted with consent if they are associated with and form part of a health services facility on the same land.
- 2) This clause applies to certain land at Dural, being Lot 101 in DP 713628; Lot 100 in DP712628; Lot 1 in DP 656036; Lot 100 in DP 713628; Lot 11 DP866560; Lot 12 in DP 866560; and Lot 1 DP660184.
Shown as “Item 8” on the Additional Permitted Uses Map.
 - (a) Development for the purposes of Seniors Housing is permitted with development consent.

HEIGHT OF BUILDINGS

Amendment of the LEP 2012 Height of Buildings Map in accordance with the proposed height map is shown in **Figure 20**, which indicates variable maximum permissible heights across the site ranging from 9.0 metres to 12.0 metres.

The maximum heights achievable under the proposed controls are consistent with the adopted development standards for residential and non-residential development with Round Corner.

FIGURE 20 – PROPOSED HEIGHT OF BUILDINGS MAP



INSERTION OF CLAUSE 4.3A EXCEPTIONS TO HEIGHT OF BUILDINGS FOR SENIORS HOUSING

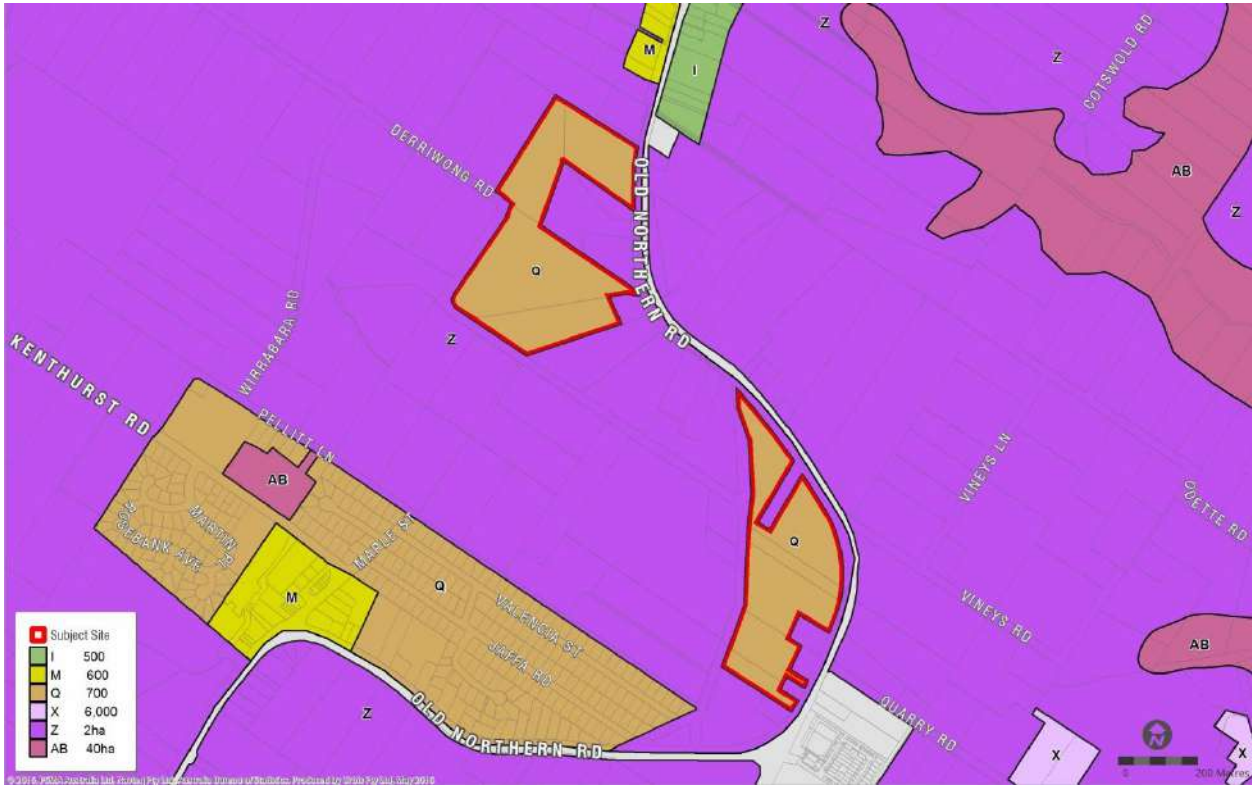
- (1) This clause applies to certain land at Dural, being Lot 101 in DP 713628; Lot 100 in DP712628; Lot 1 in DP 656036; Lot 100 in DP 713628; Lot 11 DP866560; Lot 12 in DP 866560; and Lot 1 DP660184. As shown edged blue of the Height of Buildings Map.
- (2) The objectives of this clause are as follows:
 - (a) to permit an increased height of buildings on land to which this clause applies for the purpose of facilitating the development of “seniors housing” to include a mix of residential aged care facility and self-contained dwellings;
 - (b) to maintain a 9 metre maximum building height for all other development on land to which this clause applies.
- (3) Despite any other provisions of this Plan, development consent may be granted for development to which this clause applies so as to allow for buildings up to a maximum of 12 metres.

MINIMUM LOT SIZE

Amendment of the LEP 2012 Minimum Lot Size map in accordance with the proposed minimum lot size map is shown in **Figure 21** is 700m².

The proposed minimum lot size for residential subdivision is consistent with the minimum lot size adopted under the provision of THELP 2012 for residential land within Round Corner.

FIGURE 21 – PROPOSED MINIMUM LOT SIZE MAP



Part 3 – Justification for the Planning Proposal

SECTION A – NEED FOR A PLANNING PROPOSAL

IS THE PLANNING PROPOSAL A RESULT OF ANY STRATEGIC STUDY OR REPORT

No. The Planning Proposal is a proponent initiated change that responds to the outcomes of a market analysis of the area undertaken by Urbis (Economics and Market Research) that identified:

- Existing and continued demand for residential properties including:
 - Existing and continued demand for smaller lots, including townhouses and larger apartments by existing residents looking to “down size” from acreage who do not want to leave the Dural area; and
 - Demand for larger lots in areas outside Kellyville and Castle Hill, due to lower market entry prices;
- Existing and medium term demand for seniors housing, in particular aged care and independent living units; and
- Ancillary retail services suitable to meet the demand associated with the health services facilities, including a café, florist, pharmacy or the like.

A comprehensive urban design study (**Appendix A**) has been undertaken to support this Planning Proposal and provides context to the proposal including future connectivity with surrounding land in terms of potential land use zones as well as urban form, connectivity and layout (i.e. precinct structure planning)

In preparing this Planning Proposal, alternate development options have been examined and tested in regard to the layout of the future open space, street network and built form to ensure that building height, bulk and scale of non-residential development was appropriate to the context of the site and the locality. This is addressed in Section C of this Planning Proposal and **Appendix A** containing the Urban Design Report. Urban form and layout has been developed to respond, where possible, to site constraints including bushfire, ecology (flora and fauna) and heritage. The Planning Proposal is also supported by a Traffic Impact Assessment was prepared by AECOM Consultants (**Appendix C**).

The Planning Proposal details how amendments to the current controls of THLEP 2012 can be realised with minimal adverse environmental impacts.

IS THE PLANNING PROPOSAL THE BEST MEANS FOR ACHIEVING THE OBJECTIVES OR INTENDED OUTCOMES, OR IS THERE A BETTER WAY?

A Planning Proposal is the most appropriate mechanism of achieving a rezoning of the land from rural to urban. There is no other alternative that would permit the range of uses or proposed lot size and building heights.

SECTION B – RELATIONSHIP TO STRATEGIC PLANNING FRAMEWORK

IS THE PLANNING PROPOSAL CONSISTENT WITH THE OBJECTIVES AND ACTIONS OF THE APPLICABLE REGIONAL OR SUBREGIONAL STRATEGY

In December 2014 the NSW Government published *A Plan for Growing Sydney*. Consistency with *A Plan for Growing Sydney* and the directions for the *West Central Subregion* is discussed below.

A PLAN FOR GROWING SYDNEY (2034)

A “Plan for Growing Sydney” sets the high level strategic vision to guide the development of the Sydney Metropolitan Region. The plan is framed around Key Directions and Actions to inform productivity, environmental management and liveability (Refer to **Figure 1**).

Dural is located in the northwest of the Metropolitan Region and is identified on the high level strategy map as forming part of the “Metropolitan Rural Area” approximately 3 kilometres from the “Metropolitan Urban Area”.

Despite the location of the sites beyond the urban fringe, recent gateway and development approvals on land to north and south of the sites are contributing to transition in the nature, density and scale of development. The cumulative outcome of the recent approvals will extend the urban fringe and contribute to the increasingly urbanised character of the area.

The site, while not specifically identified in the metropolitan strategy, A Plan for Growing Sydney, it is located within proximity to strategic growth centres and corridors including Rouse Hill, Castle Hill and Hornsby. The proposal to rezone land within the immediate proximity to the urban fringe would support key directions and actions of the metropolitan plan as outlined in **Table 2**.

TABLE 2 – CONSIDERATION OF THE PROPOSAL AGAINST THE RELEVANT DIRECTIONS AND ACTIONS

DIRECTION/ACTION	COMMENT/CONSISTENCY
Goal 1: Sydney’s Competitive Economy	
<p>Direction 1.10: Plan for education and health services to meeting Sydney’s growing needs.</p> <p>Action 1.10.3 Plan for Expansion of Health Facilities to Service Sydney’s Growing Population</p>	<p>The Planning Proposal aims to rezone the land to enable the delivery of:</p> <ul style="list-style-type: none"> – 3,000m² GFA to support the development of Health services facilities including Medical Consulting rooms, Allied Health Services and associated and ancillary retail space; – Seniors housing to include a mix of residential age care and/or independent living units covering an area of approximately two (2) hectares. <p>The West Central District, in particular The Hills Shire and the catchment of Dural has an aging demographic profile where there is a continuing demand for health and aged care services.</p>
<p>Direction 1.11: Deliver infrastructure</p> <p>Action 1.11.3: Undertake long term planning for social infrastructure to support growing communities.</p>	<p>The delivery of integrated health services facilities combined with aged and supported care services within the West Central region of Sydney within proximity to three (3) priority precincts aligns with the NSW State Government plan for the delivery social infrastructure to meet future demand.</p> <p>The proposal makes provision for the delivery of integrated open space that has been co-located with compatible land uses including an existing school and public hall to support a range of future recreational opportunities for a broad cross section of the community (existing and future).</p>
Goal 2: A City of housing choice, with homes that meet our needs and lifestyles; Sydney’s Housing Choice	
<p>Direction 2.1: Accelerate housing supply across Sydney to deliver 664,000 new dwellings by 2031.</p>	<p>Dural, while currently located with the Metropolitan Rural Area, is located only 1.6 kilometres north of urban zoned</p>

DIRECTION/ACTION	COMMENT/CONSISTENCY
<p>Action 2.1.1: Accelerate housing supply and local housing choices</p>	<p>land and 3km from the metropolitan urban fringe.</p> <p>The social demographic of Dural is families and over 55's. Strategic housing and economic investigation demonstrates a demand for smaller housing lots driven by relative affordability for young families as well as demand generated by "empty nesters" and retirees looking to remain in the "village" like area but wanting to down size from 2 hectare properties.</p> <p>The proposal is consistent with current demand for an alternate housing product within a homogenous supply environment combined with planning for long term growth up to 20 years in the future.</p>
<p>Direction 2.3: Improve housing choice to suit different needs and lifestyles.</p> <p>Action 2.3.1 Require Local Housing Strategies to Plan for range of housing types.</p>	<p>This proponent initiated Planning Proposal has examined local demographics and market demand to determine the need and desire of existing and future residents to provide for housing supply and choice.</p> <p>In particular the proposal will facilitate the delivery of smaller land holdings within a desirable location to support couples, families looking to upscale (i.e. 2nd or 3rd time buyers) who cannot afford to purchase in strategic growth centres and need larger family lots and older residents looking to downsize from 2 ha holdings and age in place. The delivery of an "in between" residential product would support the 50 per cent of the aging population would prefer to remain within their existing community while allowing for housing choice to provide "Universal Housing" allowing aging in place.</p>
<p>Goal 4: Sydney's sustainable and resilient environment</p>	
<p>Direction 4.1: Protect our natural environment and biodiversity.</p> <p>Action 4.1.1: Protect and deliver a network of high conservation value land by investing in green corridors and protecting native vegetation and biodiversity.</p>	<p>The sites have been substantially cleared of vegetation. An extensive vegetation corridor (located outside the site boundaries) is located to the south/southwest and follows the O'Hara Creek Line.</p> <p>An ecological assessment of the land and surrounds has been undertaken and identified the presence of endangered and threatened flora communities within the sites.</p> <p>The current concept plan for development of the southern site will require the removal of the identified flora community. Assessment of their condition by ELA has concluded, the surveyed species are in a poor condition and highly fragmented.</p> <p>Notwithstanding this, the species may be present</p>

DIRECTION/ACTION	COMMENT/CONSISTENCY
	<p>throughout the extensive vegetation corridor located to the south/southwest that will not be affected by the proposal. Detailed consideration of the potential for environmental impact is considered in Part 3, Section C of this Proposal and the attached ELA report. It is considered that there are alternatives that may overcome the potential for adverse impacts. ‘</p>
<p>Action 4.1.2: Prepare a strategic framework for the metropolitan rural area to enhance and protect its broad range of environmental, economic and social assets.</p>	<p>The land is located within an “Agricultural cluster” as depicted on Figure 25 of APFGS.</p> <p>The Planning Proposal is not considered to contribute to a loss of commercially viable or productive agricultural lands. Surrounding land uses are predominantly urban in nature including local centres to north and south providing services such as educational establishments and retail and commercial operations. The nature of the surrounding uses compromise its ability to be utilised for agricultural purposes. Rezoning the land from rural to urban purposes may provide for the following:</p> <ul style="list-style-type: none"> ▪ Boost the economy and support the growth of Round Corner and Dural Centres; ▪ Improve access to Dural Public School; and ▪ Delivery of open space and recreational opportunities.
<p>Direction 4.2: Building Sydney’s resilience to natural hazards.</p> <p>Action 4.2.3: Map Natural Hazard Risks to inform land use planning decisions.</p>	<p>The Planning Proposal has been informed by mapping of local constraints and opportunities including ecological characteristics, flooding and fire hazard.</p> <p>As discussed in Part 3, Section C of this Planning Proposal, investigation of the sites potential concludes that existing environmental sensitivities can be appropriately and adequately managed to ensure suitability of the land for the proposed purposes.</p>

WEST CENTRAL SUBREGION

The Hills LGA forms part of the West Central Subregion that provides for contained growth of Sydney Region. The Metropolitan Plan has identified that the West Central Subregion will be the focus of significant infrastructure, including the extension of the rail network.

The West Central Subregion is anticipated to experience population growth of approximately 1.9 per cent to 2031, 0.3 per cent above the average of the Sydney Metropolitan Region. Of this growth 3.5 per cent will be persons aged over 65 years of age, double the current population proportion. The highest anticipated growth by household type is lone person households reflecting 2.6 per cent.

The priorities of the Subregion are generally focused on delivering priority precincts. While the subject land is located outside these precincts, the proposal will play a role in delivering housing and diversity of housing stock within an otherwise homogenous residential area.

Priority Statement: Accelerate housing supply and choice through the identification of suitable land for housing and employment growth coordinated with infrastructure.

Response: The Planning Proposal will provide for the delivery of housing and employment opportunities. The delivery of housing in this location will respond to a measured market demand for smaller lifestyle lots (i.e. below 2 hectares) allowing for existing residents to down size or growing families an affordable residential lot within the peri-urban setting with access to schools, village centres and public transport connections.

IS THE PLANNING PROPOSAL CONSISTENT WITH THE LOCAL COUNCIL'S COMMUNITY STRATEGIC PLAN, OR OTHER LOCAL STRATEGIC PLAN?

THE HILLS LOCAL STRATEGY (2008)

The Hills Local Strategy is underpinned by a series of eight (8) Directions Papers, each containing key directions for achieving the developmental goals of the Shire. The consistency of the proposal against each of the relevant actions of the Directions Papers has been considered in the following sections.

THE HILLS RESIDENTIAL DIRECTIONS (2008)

The Hills Residential Directions Paper was adopted on 10 June 2008 to inform the development of The Hills LEP 2012. The Directions Strategy is based on four (4) key directions, including:

- Accommodating Population Growth;
- Respond to changing housing needs;
- Provide a sustainable living environment; and
- Facilitate quality housing outcomes.

The Directions Paper recognises that achieving the key directions (or goals) is a challenge due to the following:

- Maintaining the “garden” image of the Hills Shire while delivering housing mix and providing affordability (delivering a homogenous housing stock to provide large garden settings);
- Encouraging timely delivery of residential development;
- Accommodating an aging population;
- Fostering and maintaining a safe and secure communities; and
- Balancing urban growth with the preservation of ecological and environmental objectives.

The aims and objectives of Residential Directions Paper align with the former Metropolitan Plan for Sydney and Northwest Subregional Strategy. The Discussion Paper examined the outcomes of the previous Residential Development Strategy 1997, that had instituted uplifts in residential density across 16 target sites and adopted a “Residential Structure Plan” to support the delivery of new and intensified residential development (refer to **Figure 20**).

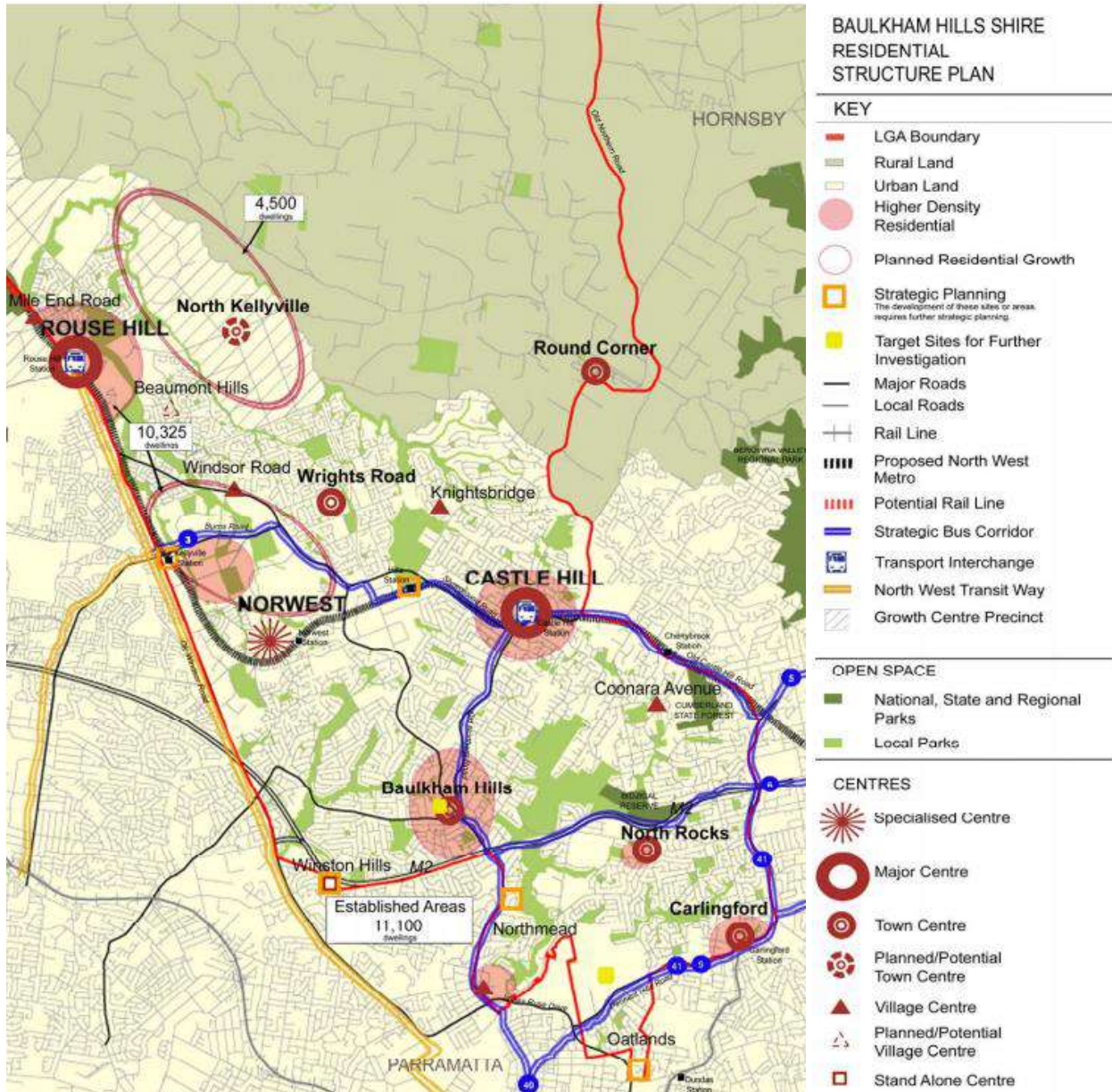
The sites, the subject of the Planning Proposal are located in the north of The Hills LGA identified as “rural land” within close proximity and between urban zoned centres including of Round Corner Town Centre (including residential zoned land) and Dural Neighbourhood Centre.

In 2008, residential growth was focused on development within established urban areas (centres) and was predominantly aimed at delivering apartments focused in the Baulkham Hills, Castle Hills and Carlingford. At this time there was a slow take up on the opportunity to develop “townhouses” in Dural, including land within the town centre of Round Corner. The paper concluded that one of the key

challenges in facilitating higher density development within this form of development had been access to jobs, transport and facilities.

Notably in the intervening eight (8) years since the paper was adopted by Council and published demand trends have significantly altered, with Urbis' market analysis indicating a significant increase in the demand for town house and smaller lot style residential development within the area. Consequently despite the status of this strategic vision paper the directions are inconsistent with current market demand.

FIGURE 22 – RESIDENTIAL STRUCTURE PLAN (SOURCE: THE HILLS RESIDENTIAL DISCUSSION PAPER, 2008)



Notwithstanding the inconsistency between the vision papers and market demand consideration of the proposal against the relevant key directions has been considered, and concludes the following;

- **Key Direction 2.1.2: Housing Needs:** The proposal will contribute to the delivery of seniors accommodation close to services and transport. As demonstrated in the urban design report (**Appendix A**) careful site planning has considered the potential interface issues combined with massing and scale to ensure compatibility with the peri-urban/fringe locations of the sites.

While it is acknowledge that the development will contribute to an extension of the metropolitan boundary into current rural land, the sites and their immediate surrounds are bookended by current

urban zoned centres that have been the focus of recent approvals to expand their capacity. It is therefore considered that the “infill” of this area reflects a logical extension of existing urban areas that otherwise compromise fragment rural land that owing to the proximity of residential land uses cannot be utilised for any meaningful agricultural purpose.

- Increased density is required, where zoning seeks to increase density above R2 Low Density Residential land would need to be within proximity to a centre with jobs and transport.

Key Direction 2.1.3 and 2.2.1: Housing Diversity and Affordability: The proposal will deliver housing diversity within a homogenous market typology where there is a limited supply of land. ABS statistics indicate that there has been marginal increase in land availability in the previous 10 years due to the limited supply. Residents looking to down size are required to relocate to urbanised areas where prices are rapidly escalating and re-entry into the market is competitive.

The proposal will deliver a desirable product that aims to fill a current market “gap”. A market analysis of demand for residential properties by type has been undertaken by Urbis (**Appendix B**) and concludes that there is demand for new residential land in the area.

THE HILLS CENTRE DIRECTIONS PAPER

The Hills Centres Direction Paper provides an overall strategic context for the planning and management of the Shire’s centres development and growth to 2031.

The sites are located within proximity and between two (2) centres identified in the Discussion Paper, Round Corner to the south identified as a “Town Centre” and “Dural” to the north, a neighbourhood/rural centre. Under the current THLEP 2012 the centres are zoned B2 Local Centre and B1 Neighbourhood Centre, respectively.

The relevant outcomes of the discussion paper in relation to the sites and surrounding locality include:

- A recommendation to restrict rezoning or expansion of the Dural Centre (north of the site) due to the potential for impact on the primacy of Round Corner; and
- Identification of limited growth demand for the retail centres of Round Corner or Dural, to specialty retail outlets.

Notwithstanding this, in the intervening eight (8) years to 2016 the residential market and demand for increased density has grown and The Hills Council have supported the following significant applications that have altered retail opportunities within the locality:

- **Cascades:** 636 Old Northern Road, Dural that will deliver 17 residential apartments, 5,421m² of gross leasable floor area containing a mix of business, shops, medical, restaurants, cafes, child care centre and recreation space.
- **Planning Proposal:** 488-494 Old Northern Road, Dural - Rezoning from RU6 Transition to part B2 Local Centre & part R3 Medium Density Residential & that a floor space ratio standard of 0.75:1 be implemented over the land zoned B2. **Approved at gateway.**

The Planning Proposal is supported by a concurrent staged development application to construct three (3) storey retail and commercial building.

Notwithstanding the policy position of The Hills Council, the character of the Dural area is in an active state of morphology and transition with increasing density and expanding retail opportunities. The Planning Proposal seeks to rezone land for primarily residential purposes that would support the evolving and expanding roles of both the Round Corner and Dural centres, and will be consistent with the evolving character of the locality

ENVIRONMENT AND LEISURE DIRECTIONS PAPER

Environment and Leisure Direction sets a framework of six (6) key directions for achieving Council’s desired approach to the planning, protection and management of the Shire’s environment and leisure spaces (private and public). These include:

1. Protecting and managing the Shire's environment and leisure spaces.
2. Providing high quality spaces for community recreation and enjoyment.
3. Improving the accessibility and connectivity of environment and leisure spaces.
4. Providing for public domain spaces that encourage community interaction.
5. Conserving the Shire's unique diversity of plants and animals.
6. Protecting Aboriginal cultural heritage.

The Planning Proposal is considered to deliver outcomes consistent with Council's policy direction for the delivery and preservation of open space, in particular the envisaged urban form and layout of the each land parcel has achieved the following:

- Preservation of heritage items and curtilage combined with adequate separation to moderate any potential interface impacts;
- Expansion of existing recreation services and facilities currently available to residents and workers within Dural by providing an aquatic centre and expanded complimentary space to support a range of activities undertaken within the grounds of the memorial hall;
- Co-location of complimentary land uses, such as a proposed aquatic centre adjacent to the existing school and parklands adjacent to the existing memorial hall;
- Consideration of the broader context and connectivity to adjoining land, in particular land to the south forming part of a O'Hara Creek riparian corridor;
- Delivery of high quality open spaces with respect to size, configuration, access and context.

WATERWAYS DIRECTIONS

The Waterways Direction is built around three (3) priorities for achieving, protection, management and maintenance of the Shire's waterways. These include:

1. Effective Stormwater Planning;
2. Effective Stormwater Management; and
3. Management of Natural Waterways.

Future development of the land is capable of consistency with the strategic aims and directions of the Waterways Policy. The sites are capable of connection to existing stormwater infrastructure and water sensitive urban design (WSUD) elements would be developed and implemented at DA stage following the Planning Proposal process.

O'Hara's Creek is located to the south, south-west of the sites. The land subject of this proposal is outside the riparian corridor and as such is unlikely to have a direct influence on water quality or protection. Notwithstanding this, as outlined above it is envisaged that WSUD elements would be implemented as part of any future development, contributing to reduced nutrient and sediment loads of water reaching the natural and manmade water system.

Consideration of stormwater capacity and connections of the land to existing infrastructure has been undertaken and is discussed in detail in Part C of this proposal. The resolution of preliminary investigations is that the land is capable of being serviced.

RURAL LANDS STRATEGY (2003)

The Rural Lands Strategy provides a strategic framework for the Shire's rural lands to, amongst other objectives achieve the following:

- Protect and enhance the existing and future rural economy – including employment and future investment opportunities;

- Avoid land use conflict; and
- Respond to social needs and preserve social values of the rural community.

The Planning Proposal seeks to transform the land from rural to urban land. In considering the consistency of the proposal against this strategy regard has been given to the implications of pending or recently approved application and proposals for urban development within the immediate locality, including:

- South Dural Planning Proposal: Approved at Gateway, supporting the rezoning of rural to urban land and the potential delivery of 2,900 dwellings and 3,000m² non-residential floor space;
- Dural Service Centre Planning Proposal: Supported by Hornsby Council and proposing rezoning that south of the existing Dural Business Park from IN2 Light Industrial to B2 Local Centre. The Planning Proposal, if approved, will facilitate the delivery of a new shopping centre anchored by a supermarket, retention of bulky goods retailing, medical centre and commercial space;
- Rezoning of on 488 – 494 Old Northern Road, Dural by the Hills Shire, to increase residential density to R3 Medium Density and expand the B2 Local Centre (Round Corner);
- Approval of the Cascades development to the north of the site, expanding the service and retail offerings in the Dural Neighbourhood Centre; and
- Planning Proposal for the former timber yards at Nos. 582 and 582A Old Northern Road, Dural for medium density residential (pending support from Council)

It is evident from both the number and nature of uses sought across the various proposal and applications that the character of the area is transforming. The subject sites are bookended by the two (2) centres of Dural to the north and Round Corner to the south and reflect a logical extension to the urban fringe.

The land is not currently and has not in recent years been utilised for agricultural purposes and its proximity to the Round Corner and other urban activities make it unsuitable for agriculture use due to the potential for land use conflict associated with noise, odour, dust and the like.

Accordingly, the Planning Proposal to rezone the sites reflects a logical extension of existing urban land that does not contribute to or cause a loss of viable agricultural land or undermine the objectives of the Rural Lands Strategy.

IS THE PLANNING PROPOSAL CONSISTENT WITH APPLICABLE STATE ENVIRONMENTAL PLANNING POLICIES?

The Planning Proposal is consistent with all relevant state environmental planning policies (SEPPs) as assessed in **Table 3** below.

TABLE 3 – CONSIDERATION OF RELEVANT STATE PLANNING INSTRUMENTS

POLICY	CONSISTENCY
State Environmental Planning Policy No. 55 – Remediation of Land	A preliminary site investigation has been undertaken for all lots the subject of this Planning Proposal that concludes while the presence of contaminants have been detected, all sites are capable of being made suitable for their intended future purpose. Refer to Appendix G .
State Environmental Planning Policy (Infrastructure) 2007	The following provisions of ISEPP are relevant: <ul style="list-style-type: none"> ▪ Old Northern Road is an RMS controlled road. The proposed amendment will require new intersections to

POLICY	CONSISTENCY
	<p>be constructed to facilitate access and permeability; these are discussed and assessed for future performance in the Traffic and Transport Report prepared by AECOM (Appendix C).</p> <ul style="list-style-type: none"> ▪ Future residential development is set back from the road so as to overcome potential road traffic noise impacts. <p>Future development envisaged by the Planning Proposal is capable of complying with the relevant provisions of the ISEPP.</p>
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004	Rezoning the land R2 Low Density Residential would permit the application of the SEPP, facilitating the delivery of purpose built accessible housing and/or aged care facilities on the land.
State Environmental Planning Policy (Rural Lands) 2008	<p>Baulkham Hills, now known as The Hills Shire Council is listed under clause 4 as land to which the SEPP applies.</p> <p>The proposal seeks to rezone existing rural lands to allow for urban purposes. In this regard, as the Planning Proposal is a request to amend an LEP the application should demonstrate consistency with Part 2 clause 7 Rural Planning Policies. Notwithstanding the implicit loss of rural lands as a consequence of the planning proposal, the LEP amendment would not be inconsistent with the principles on the basis of the following:</p> <ul style="list-style-type: none"> (a) The land is not currently used and has not been used in recent years for agricultural purposes and current land use and zoning of surrounding land fragments these holdings from other areas of agricultural land to the north. Furthermore the landholdings are effectively bookended by urban purposes that further limits the viability of land for any agricultural purpose due to the inherent potential for land use conflicts. (b) As noted above, the land is fragmented from extensive areas of agricultural land to the north and primarily serves a large rural lifestyle lots or is undeveloped/unoccupied vacant land. Despite demands in the region for some smaller hobby farms, the land is not currently used for agricultural purposes. (c) As noted above the land is not used for rural purposes and therefore provides no social or

POLICY	CONSISTENCY
	<p>economic value in its current state.</p> <p>(d) The Planning Proposal has taken into account the natural, ecological and biodiversity characteristics of the land and responded with appropriate zones and lots sizes to manage environmental sensitivities</p> <p>(e) The land is presently zoned RU6 Transition and is located immediately north of the urban fringe. Proximity to urban land uses including petrol stations and commercial development does not contribute positively to the rural lifestyle image and is therefore in market a sense undesirable.</p> <p>(f) Necessary services, utilities and infrastructure will be extended and augmented to provide for the increased density.</p> <p>The land is not presently utilised for agricultural purposes and is not identified in schedule 2 as being “state significant agricultural land”.</p>
<p>Sydney Regional Plan No. 20 – Hawkesbury Nepean River (No. 2 – 1997)</p>	<p>Baulkham Hills, now known as The Hills Shire Council is listed under clause 2 as land to which the SREP applies.</p> <p>The Nepean River is to the southwest of Dural in the lower catchment of the Hawkesbury River that divides to form the Nepean and Grose Rivers.</p> <p>The proposal has been considered against the relevant key principles as follows:</p> <ul style="list-style-type: none"> ▪ There are no rivers, streams or wetlands present on the sites and the future development is considered unlikely to have direct or significant impact on the river and aquatic health. ▪ The rezoning and future development is capable of managing water quality and quantity. ▪ The Planning Proposal and envisaged future development has sought to protect and integrate local heritage items into the future urban layout. ▪ The sites have been disturbed by former agricultural activity or land clearing and currently only support sporadic and highly fragmented vegetation patches that have limited structural complexity and no habitat value. Despite flora species being identified as part of an endangered ecological community, they have limited capability of being connected to other more significant

POLICY	CONSISTENCY
	<p>corridors of vegetation to the south west.</p> <ul style="list-style-type: none"> ▪ The sites and adjacent land within the immediate context is not utilised for any significant agricultural purpose. The context of the site is increasing urbanised character with Round Corner to the south and the increasing local centre to the north that would further restrict the use of the land for any agricultural purpose. ▪ The proposal includes the provision of local open space and recreation facilities to support new and existing residents. ▪ The Planning Proposal would facilitate the delivery of up to 148 low density residential lots complimented by seniors housing (RACF and ILUs). Preliminary servicing investigations have been undertaken to support the delivery of sewer to the area, it is not intended to provide onsite effluent disposal. A total water cycle management plan can be developed at DA stage. <p>The future redevelopment of the land (following rezoning) is unlikely to have an adverse impact on water quality within the catchment. The future subdivision, dwellings and non-residential development across the sites would be designed in an appropriate manner to ensure the preservation of water quality, including the delivery of WSUD to ensure appropriate water quality can be achieved within subdivision design.</p>

IS THE PLANNING PROPOSAL CONSISTENT WITH APPLICABLE MINISTERIAL DIRECTIONS

The following Ministerial Directions are considered applicable:

TABLE 4 – CONSIDERATION OF RELEVANT SECTION 117 DIRECTIONS

DIRECTION	CONSISTENCY
1. Employment and Resources	
1.2 Rural Zones	<p>No. The proposal seeks to rezone existing rural land within an LGA listed under clause (2) (b) of the Ministerial Direction. Notwithstanding this the proposal is not considered to be inconsistent with the objective of the direction to protect land of value to agricultural production.</p> <p>The land subject of the proposal is not used for the purpose of agriculture or located within proximity to same, so as to potentially introduce land use conflict on rezoning. The land is located within the</p>

DIRECTION	CONSISTENCY
	<p>immediate proximity of existing urban land used for residential, commercial/retail and educational land uses. The proximity to urban uses combined with the fragmented nature of the land ownership and lot size is inconsistent with agricultural production.</p> <p>The Planning Proposal reflects a logical extension of the urban zone from Round Corner in the south to the Dural Neighbourhood Centre in the north.</p> <p>Retention of the land as a rural zone serves no meaningful agricultural purpose.</p>
1.5 Rural Lands	<p>No. Notwithstanding the inconsistency of the proposal with the Direction, the proposal is not inconsistent with the objectives of the zone to:</p> <ul style="list-style-type: none"> (a) Protect the agricultural production value of rural land; (b) Facilitate orderly and economic development of rural lands for rural and related purposes. <p>As outlined above and throughout the Planning Proposal the land and that immediately surrounding is not used for any rural or agricultural purpose and its proximity to urban land uses makes it unsuitable for any such endeavour due to the potential for land use conflicts to arise. The changing character of surrounding land, to reflect increasing residential density and expansion of commercial uses (north and south) further supports the potential for rezoning the sites as a logical connection between the two (2) existing local centres (Round Corner and Dural).</p>
2. Environment and Heritage	
2.3 Heritage Conservation	Yes. The Planning Proposal is consistent with the Ministerial Directions and does not seek to remove existing provisions to protect items of environmental heritage.
3. Housing, Infrastructure and Urban Development	
3.1 Residential Zones	Yes. The Planning Proposal is consistent with the Ministerial Directions relating to Residential zones, aiming to improve housing choice within the Dural area and deliver services and infrastructure to support the same.
3.3 Home Occupations	Yes. Where residential zones are sought the proposed changes would continue to permit home occupations to be carried out in dwelling houses without the need for development consent.
3.4 Integrating Land Use and Transport	Ye. The Planning Proposal to create new urban land is consistent with the Ministerial Direction. A detailed Urban Design Study has been prepared and provides an appropriate urban structure and form

DIRECTION	CONSISTENCY
	that is close to public transport routes along Old Northern Road and is located adjacent to an existing town centre. All future residents are located within a 400m walking catchment of bus stops along Old Northern Road that connect to large urban centres such as Castle Hill.
4. Hazard and Risk	
4.4 Planning for Bushfire Protection	Yes. The Planning Proposal is consistent with the Ministerial Directions. Future development is capable of achieving adequate protection in accordance with the guidelines Planning for Bushfire Protection. A detailed bushfire assessment has been undertaken and is provided at Appendix E .
6. Local Plan Making	
6.1 Approval and Referral Requirements	Yes. The Planning Proposal is consistent with the Ministerial Directions.
6.2 Reserving Land for Public Purpose	Yes. The Planning Proposal is consistent with the Ministerial Directions.
6.3 Site Specific Provisions	Yes. The Planning Proposal is consistent with the Ministerial Directions.
7. Metropolitan Planning	
7.1 Implementation of A Plan for Growing Sydney	Yes. The Planning Proposal is consistent with the Ministerial Directions. Refer to Table 2 .

SECTION C – ENVIRONMENTAL, SOCIAL AND ECONOMIC FRAMEWORK

IS THERE ANY LIKELIHOOD THAT CRITICAL HABITAT OR THREATENED SPECIES, POPULATIONS OR ECOLOGICAL COMMUNITIES, OR THEIR HABITATS, WILL BE ADVERSELY AFFECTED AS A RESULT OF THE PROPOSAL?

Eco Logical Australia (ELA) undertook a flora and fauna assessment of the site and broader locality to determine the likelihood, presence and absence of critical habitat, threatened species or populations or ecological communities or their habitats.

The ecological assessment was based on preliminary desk top searches and follow up site surveys the confirmed the presence of the following:

- Two (2) threatened ecological flora communities were identified, including:
 - Blue Gum High Forest, listed a critically endangered under the *Threatened Species Conservation Act 1993 (TSC Act)*; and
 - Turpentine Ironbark Forest, listed as endangered under the *TSC Act*.
- One (1) potential threatened flora species, *Epacris purpurascens var. purpurascens* was identified as being present.
- The potential for the following fauna species to be present:
 - Highly mobile micro bats and bird species; and
 - The potential presence within the study area of a threatened invertebrate *Pommerhelix duralensis* (Dural land snail)

VEGETATION COMMUNITIES AND FLORA SPECIES

The distribution of the two (2) ecological vegetation communities, combined with broader vegetation mapping for the sites and the broader locality is shown in **Figure 8**.

It is evident from the vegetation map that the surveyed areas of ecological sensitivity are small patches that are highly fragmented and located within large and expansive areas of highly modified and altered landscapes dominated by exotic vegetation species. ELA has concluded that both EECs surveyed on site are in “poor condition”.

The Planning Proposal and future redevelopment of the land may impact on these communities requiring the removal of the mature and regenerating *Eucalyptus saligna* (Blue Gum) trees and removal of two (2) mature *Eucalyptus pilularis* (Blackbutt) both a key diagnostic species of the Blue Gum High Forest, listed under the *TSC Act*. Notably the size (<1 ha) and quality of these vegetation patches excludes them from qualification for protection under the *Environmental Protection and Biodiversity Act 1999*.

Notwithstanding the above, as TSC Act listed species, the trees have been mapped as “high constraints” by ELA (refer to **Appendix D**) and prior to their removal a test of significance will need to be undertaken to determine the scope of impact of development on the vegetation community.

ELA have indicated that there is potential for the Blue Gum High Forest Community to be more wide spread throughout the locality that may have the potential to mitigate any loss of the highly degraded and fragmented patches on the sites. This would be the subject of further targeted studies at DA stage, to confirm the presence and extent of the community in the area and the completion of a seven part test to determine significance. In the event that the preferred design layout cannot be implemented, design alternatives may be explored as well as opportunities to transplant trees or collect, seeds to support revegetation elsewhere within the immediate area.

The potential impact has feasible alternatives that may be explored at DA stage.

FAUNA AND FAUNA HABITAT

Based on the ELA assessment (**Appendix D**) the potential for the rezoning and future redevelopment to adversely affect fauna species is considered low owing to the limited habitat value of the site.

ELAs survey of the site identified extensive and dominant presence of exotic flora species combined with a lack of structural complexity within the vegetation surveyed (i.e. no canopy, mid and ground cover storey) reducing the availability of faunal habitat in the form of hollow bearing trees, leaf litter and woody debris.

Fauna identified as present or likely to be present by ELA is unlikely to be adversely affected by the proposal, on the basis of the following:

- the site does not contain forest habitat to support the presence of the *Pommerhelix duralensis* (Dural land snail) and it is therefore considered unlikely to be present within the sites;
- A migratory species, *Adrea ibis* (Cattle egret) was surveyed as being present on the site. However, the species is common to disturbed environments and similar habitat exists within proximity to the site that will not be disturbed as a result of the proposal;
- Dewatering of the existing dam may encounter fauna species (not surveyed at the time of the ELA inspection). Potential impacts can be mitigated at DA/construction stage with the preparation of a pre-clearing fauna management plan;
- Roosting or foraging by highly mobile micro bats and birds is potentially limited by the significantly low number of trees present on the site. Particularly when viewed in the context of the large expanse of continuous trees and habitat to the south and southwest of the site along O'Hara Creek.

It is reasonable to conclude that where the potential for impact has been identified that there are suitable means and options for managing and potentially overcoming the effects of future redevelopment.

ARE THERE ANY OTHER LIKELY ENVIRONMENTAL EFFECTS AS A RESULT OF THE PLANNING PROPOSAL AND HOW ARE THEY PROPOSED TO BE MANAGED?

The preparation of the Planning Proposal to rezone the land has considered the potential effects of the proposal on the following environmental matters:

- Urban Design and Built Form;
- Heritage;
- Traffic and Transport
- Water Quality;
- Bushfire; and
- Site Contamination.

URBAN DESIGN, LAYOUT AND FORM

An Urban Design Report has prepared by Urbis and provided in **Appendix A** which identifies:

- A future potential urban layout and form, including street network and land use distribution;
- Building footprint, public domain areas and pedestrian/cycle linkages
- Proposed building mass and heights; and
- Street setbacks.

The detailed Urban Design Report outlines the design approach to the development at precinct and development site level to demonstrate the capability of the site and the potential connectivity to and consistency with the broader area.

FUTURE LAND USES

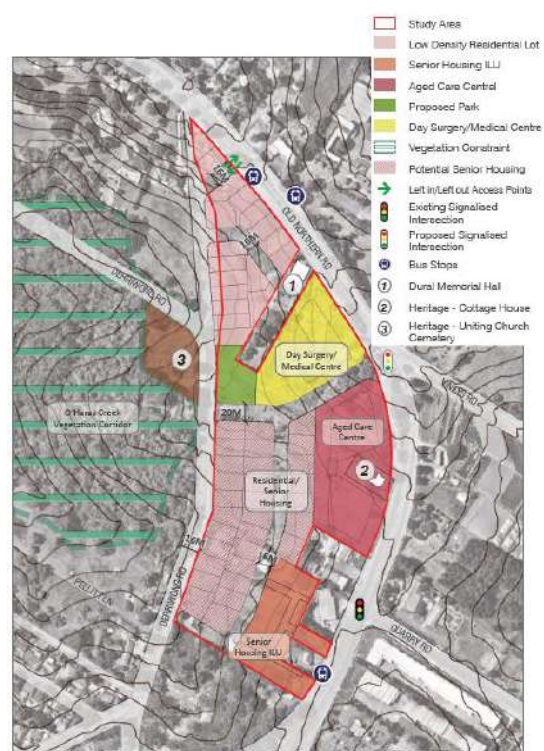
The distribution of land uses has been carefully considered and planned to respond to the existing context, plan for future connection as well as delivering high levels of amenity. The layout seeks to

- Moderate the effects of road noise associated with Old Northern Road on future residents by locating non-residential uses towards Old Northern Road;
- Enhance existing infrastructure through collocation of compatible land use (i.e. the location of open space adjacent to existing social infrastructure such as Dural Public School and the Memorial Hall); and
- Retain and integrate heritage elements.

FIGURE 23 – LAND USE DISTRIBUTION



PICTURE 3 – NOTHERN SITES



PICTURE 4 – SOUTHERN SITES

STREET LAYOUT/NETWORK

Local street patterns and block size (width and length) are determinates of liveability. Despite the peri urban nature of the locality a typical urban layout and block length and width has been adopted to encourage pedestrian movement (in particular to promote use and access to the public transport routes along Old Northern Road). Street widths and frontage depths, with the exception of land fronting Old Northern Road, has been based on the prevailing pattern of development through The Hills, that seeks to reinforce feelings of open landscaped settings.

Site specific factors that have influenced the urban form and street layout include:

- Utilise, where possible, the road network to establish a suitable separation from bushfire sources (i.e. provide a ring road);

- Reduce the number of driveway crossings onto Old Northern Road by providing access where possible from Derriwong Road;
- Provide logical and effective connections to the existing road network and where possible enhance access and operation of intersections through upgrades;
- Achieve a flexible and adaptable road layout that will support future extension and integration of adjacent land holdings to the south;
- Enhance safety and access around Dural Public School;
- Promote safety, accessibility and connectivity of all road users.

The outcome of these design drivers can be seen in the envisaged urban layout shown in **Figures 26 and 30**, contained in the urban design report provide at **Appendix A**.

The following street widths have been adopted to reinforce street hierarchy:

- **Local Collector Roads:** 20 metres; and
- **Residential Streets:** 16 metres.

BUILDING HEIGHTS

The identified of appropriate building heights was informed by:

- A desire to retain and reinforce the existing local character of existing low density housing within the adjacent urban area;
- Respond to and recognise the effects of landform and topography;
- Achieve a compatible bulk and scale for new (non-residential development) while recognising the different design demands and parameters such as promoting appropriate internal amenity and integration of building services (lit overruns and plant rooms);

As shown in **Figures 24 and 25**, the future heights of non-residential elements have the potential to respond to the natural landform and achieve heights that are consistent with the local character

FIGURE 24 – SECTION THROUGH SOUTHERN SITES, SHOWING SCALE COMPARISON & TRANSITION (SOURCE: URBIS, 2016)

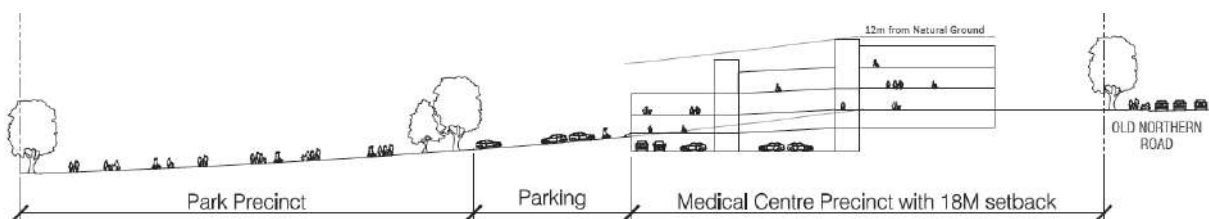
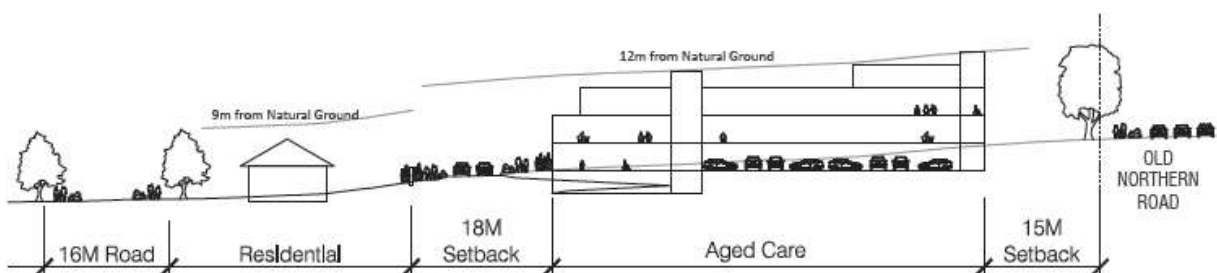
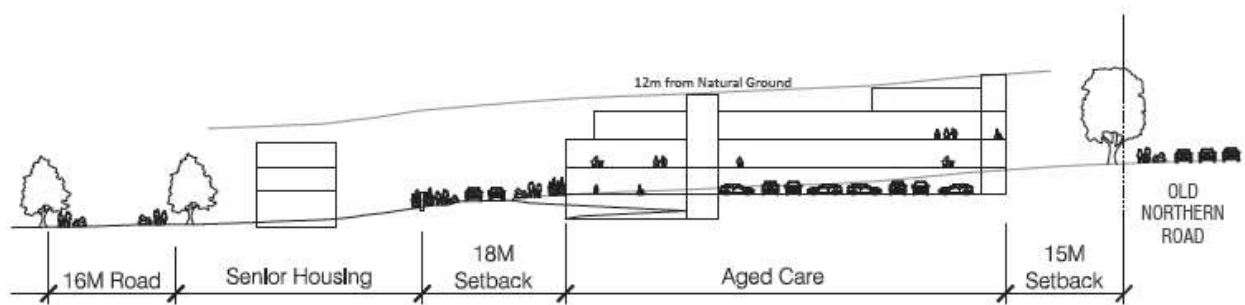


FIGURE 25 – SECTION THROUGH SOUTHERN SITES, SHOWING SCALE COMPARISON & DEVELOPMENT OPTIOS (SOURCE: URBIS, 2016)





SETBACKS

The development of the urban layout and form in relation to setbacks has been informed by Council's DCP controls and the prevailing urban context. In this regard, the following setbacks have been adopted;

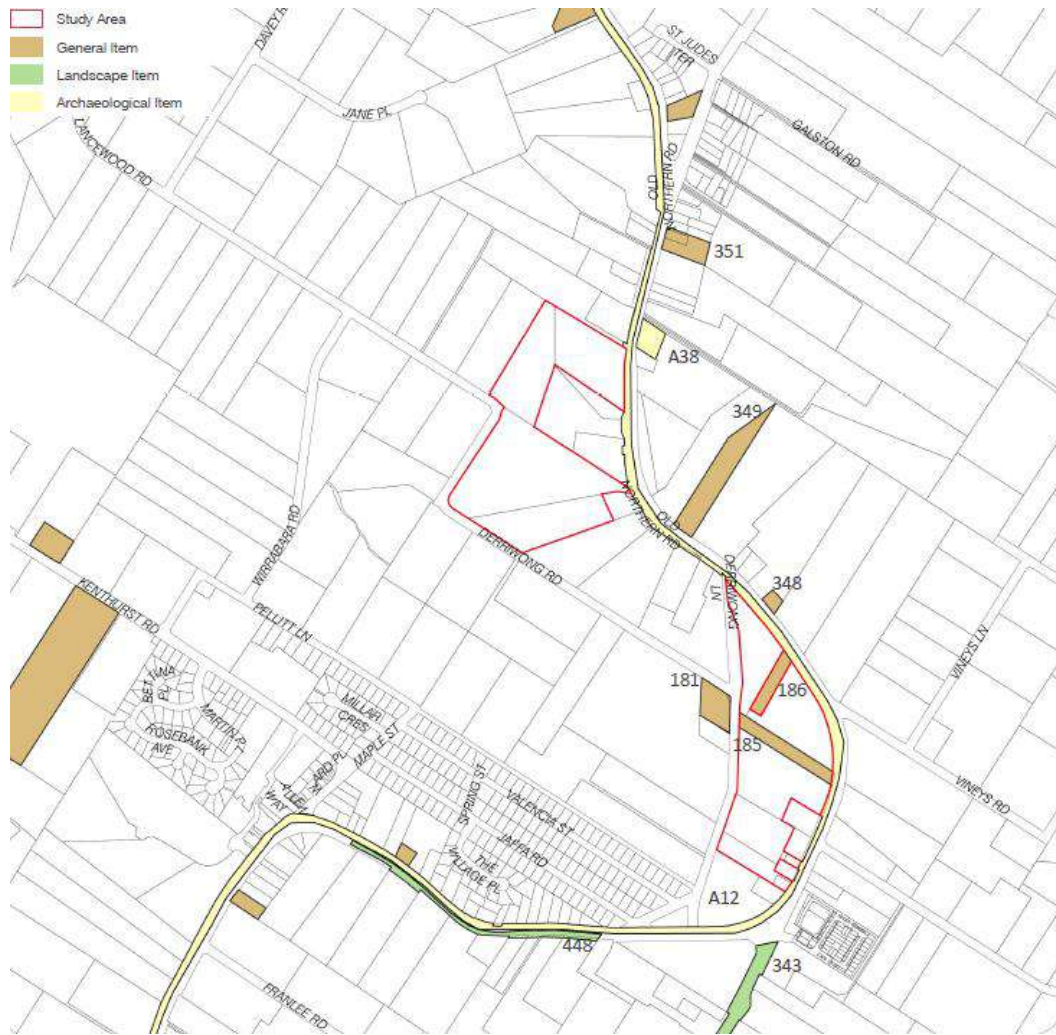
- **Old Northern Road:** 15 – 18 metres;
- **All other streets:** 10 metres.

The most visible elements of any future development will be those along Old Northern Road. The street setback was informed by alignment of existing and recent non-residential development occurring within the broader locality and in particular the recent cascades development that allowed for an 18 metres setback. The setback will allow for the establishment of soft landscaping treatments and large tree plantings to moderate any potential effects of the larger building forms (informed by the increased height control) and provide suitable separation from noise sources.

HERITAGE

As outlined in Section 1, Old Northern Road which bounds the eastern edge of the sites forms the LGA boundary between The Hills Shire and Hornsby Council. Accordingly the sites are located within proximity to environmental heritage items listed under THLEP 2012 and the Hornsby Local Environmental Plan 2013 (HLEP 2013). The Planning Proposal seeks to rezone land surrounding and adjacent to heritage items will facilitate increased density and heights that will alter the visual character of the locality and the spatial relationship of buildings.

FIGURE 26 – EXTRACT OF THLEP 2012 HERITAGE MAP (SOURCE: URBIS (HERITAGE, 2016).



A Heritage Impact Statement (HIS), prepared by Urbis (Heritage) (**Appendix F**) has considered the relationship of future built form of the land and relevant heritage items. The HIS addresses all heritage items within proximity to the site, shown in **Figure 26** and summarised by LGA in **Table 5**.

TABLE 5 – SUMMARY OF HERITAGE ITEMS BY LGA

THE HILLS SHIRE	HORNSBY COUNCIL
Item 86: The Dural Soldiers Memorial, located at 604 Old Northern Road	Item 348: Dwelling, located at 857 Old Northern Road
Item 85: Dwelling, located at, located at 600A Old Northern Road	Item 349: Dwellings located at 873 Old Northern Road, Dural
Item 81: Uniting Church Cemetery, Derriwong Road	Item 448: Street Trees located along the eastern side of Old Northern Road.
Item A12 (Archaeological item): Old Northern Road, between Dural and Wiseman's Ferry.	

The potential for impact arising from the rezoning or future development on items located on the opposite side of Old Northern Road in the Hornsby LGA is considered limited due to the separation and distance provided by Old Northern Road. Equally the rezoning and future redevelopment is considered unlikely to have direct or indirect impacts on the heritage value, context or setting of the cemetery located on the south-western side of Derriwong Road (Item 181, in **Figure 25**)

Accordingly the assessment of potential impact has focused on those items listed under The Hills LEP 2012 located within the immediate vicinity of the site. In particular the following

- **Item 85, Dwelling:** a weatherboard cottage (circa 1880 – 1900) constructed on the former “Tuckwell” land grant. The house and curtilage, despite significant degradation, have been assessed as having historical, associative and representative significant under the NSW Assessing for Significant Guidelines (2001). Refer to **Figure 27, Picture 5**.
- **Item 86: Memorial Hall:** a Spanish mission style building (1925) built by the community as a memorial to local soldiers of the first world war and as such of local significance. However, they are common throughout The Hills. Refer to **Figure 27, Picture 6**.

FIGURE 27 – PICTURES OF THLEP 2012 HERITAGE ITEMS WITHIN VICINITY OF THE SITE



PICTURE 5 – ITEM 85: 600 OLD NORTHERN ROAD

PICTURE 6 – ITEM 86: 604 OLD NORHERN ROAD

Items 85 and 86 will adjoin land to be rezoned for non-residential purposes and seniors housing, that will be supported by changes in lot size and building heights. These proposed changes in urban and built form will alter the spatial relationships of the buildings and has the potential to alter the curtilage of the sites and their visual prominence within the streetscape.

Urbis (Heritage) provided recommendations aimed at mitigating any effects of the transitioning urban form on the heritage item at 600A Old Northern Road, a summary of these issues is provided in **Table 6** combined with an overview of how the future urban layout and form has responded. The resultant urban layout is shown in **Figure 28**.

TABLE 6 – CONSIDERATION OF HERITAGE RECOMMENDATIONS (ITEM 86)

HERITAGE RECOMMENDATION	URBAN DESIGN RESPONSE
A heritage curtilage be formed for the house at 600A Old Northern Road to protect the impacts of potential future development.	No. 600A Old Northern Road is intended to be retained as a standalone lot, i.e. dwelling and curtilage preserved. The site has been integrated into the urban form as shown in Figure 10 .
Consider restoration of the house as part of the proposed works so that the principal house form is wholly retained. This would ultimately conserve and enhance the heritage significance of the item.	Provision has been made within the envisaged future layout for the adaptive reuse of the house to provide services related to the RACF such as means shed, café or meeting place.
When developed, it is recommended that lower-scale residences (one to two storeys) in the vicinity of the heritage items would be in keeping with other development in the area and would not impact on views and the heritage significance of the item. Development in the vicinity of the items must respond appropriate to their form and scale.	The RACF buildings surrounding the curtilage of the item are not envisaged to exceed 2 storeys. Detailed design will provide further opportunities to incorporate positive massing and building articulation to alleviate any potential bulk and scale effects. More the preservation of the curtilage and suitable setback will provide landscaping opportunities to further enhance

HERITAGE RECOMMENDATION	URBAN DESIGN RESPONSE
	and integrate any future development.

FIGURE 28 – POTENTIAL URBAN LAYOUT OF SOUTHERN SITES



Figure 26: Medical Centre Concept Plan



PICTURE 8 – HERITAGE INTERFACE

PICTURE 7 – LAYOUT/STRUCTURE OF MEDICALSERVICES HUB

While no specific recommendations were made by Urbis (Heritage) in relation to the Memorial Hall, the planning proposal, in relation to distribution of future land uses and urban form and layout has considered future interface and spatial relationships. Notably the urban design analysis and direction has sought to integrate the memorial hall into the new urban form and provide complimentary land uses aimed at enhancing the site both visually and practically through the following:

- Co-location of public open space that achieves a longitudinal connectivity from Old Northern Road, the Memorial Hall extending southward through a proposed park (public open space) and the adjacent cemetery (refer to **Figure 22**);
- Location of active uses opposite to create a forecourt and plaza;
- A new and alternative site entry (removing the need to enter and exit from Old Northern Road);
- Development of the adjacent land has adopted a large (18 metre) setback, behind the Memorial Hall to maintain sight lines to the heritage item and mitigate any effects of bulk and scale arising from the taller building forms; and
- Large side setbacks to support landscaping along boundaries aimed at preserving the “garden setting”.

TRAFFIC AND TRANSPORT

The Dural Planning Proposal will facilitate the delivery of the following:

- The northern site is proposed to consist of approximately 98 low density residential lots and an aquatic centre and park.
- The southern site will support up to 48 low density residential lots, aged care facility with 60 senior’s Independent Living Units (ILU) and 150 beds for assisted living, and a medical precinct of approximately 3,000m².

Delivery of the expanded urban zone will also involve the construction of new road networks and connections to a classified road (Old Northern Road) altering and contributing to local traffic flows.

A traffic and transport study undertaken by AECOM Consultants (**Appendix C**) to establish the existing level of service at intersections and capacity within the road network, potential impacts of the post-development traffic flows on the on the existing traffic network and the suitability of the proposed development and intersection design.

TRAFFIC VOLUMES

Roads and Maritime Traffic Data indicates that the primary access roads to Dural and the sites, Old Northern Road and New Line Road, carry approximately 19,500 and 30,000 vehicles per day. AECOM suggest that this road network link is approaching capacity. Within the immediate vicinity of the site, this is in part reflected in the operation of key intersections.

Figures 29 and **30**, detail the AM and PM peak hour vehicle movements and indicate that three (3) of the five (5) existing intersections with Old Northern Road operate satisfactorily, with the remaining two (2) experiencing significant delays or failing.

FIGURE 29 – EXISTING AM PEAK INTERSECTION PERFORMANCE (SOURCE: AECOM, 2016)

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay (sec)	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way (left out)	2,347	F	0.511	89.8 ¹	191
Old Northern Road New Line Road	Roundabout	4,454	F	1.102	70.9	814
	Signals	4,454	C	0.833	30.5	160
Old Northern Road Vineys Road	Roundabout	2,998	A	0.462	9.2 ¹	31
Old Northern Road Nursery Access Road	Give-way	2,177	A	0.688	11.4 ¹	2

FIGURE 30 – EXISTING PM PEAK INTERSECTION PERFORMANCE (SOURCE: AECOM, 2016)

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay (sec)	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way (left out)	2,585	E	0.767	59.4 ¹	182
Old Northern Road New Line Road	Roundabout	4,709	F	1.116	104.6	1,013
	Signals	4,709	C	0.893	35.2	135
Old Northern Road Vineys Road	Roundabout	2,840	A	0.462	9.6 ¹	29
Old Northern Road Nursery Access Road	Give-way	2,344	B	0.673	17.8 ¹	7

Based on the future development profile, outlined above, AECOM estimate that the development sites would contribute the following additional traffic movements:

- 284 vehicle trips during the AM Peak period; and
- 325 vehicle trips during the PM Peak period.

These additional traffic flows, though objectively minor in nature, have implications for the operation of the local traffic network including the major distributor (classified) road of Old Northern Road and New Line Road, as well as the proposed intersections. These implications and the potential mitigation works are outlined in the following sections and the Traffic and Transport Report provided at **Appendix C**.

VEHICLE ACCESS

Old Northern Road and Derriwong Road will provide vehicular access to both northern and southern site. The proposal will provide five (5) access points along Old Northern Road which include:

- three (3) intersections, two (2) Left In/Left Outs (LILO) and an intersection allowing all movements to access the northern site:
- Two (2) intersections, one LILO and an intersection allowing all movements to access the southern site.

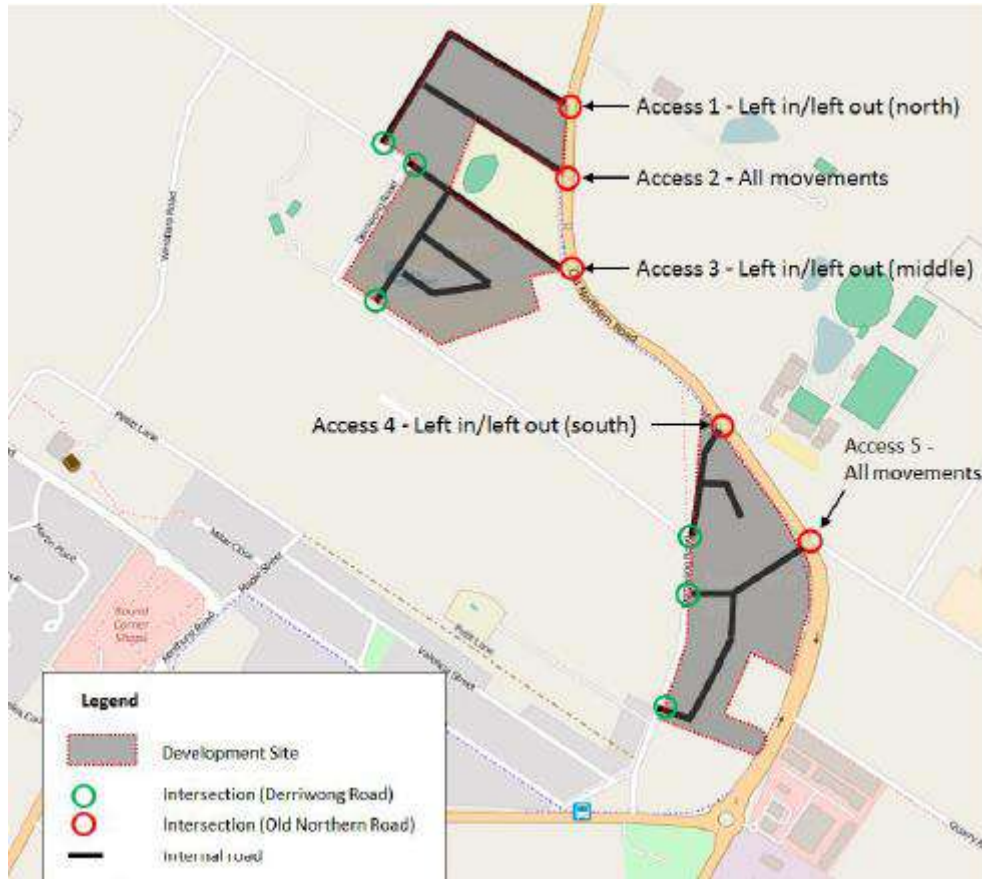
An additional six (6) access points, designed as priority intersections, are proposed along Derriwong Road.

Management of the anticipated traffic flows from the future subdivision onto Old Northern Road, have been used to inform the urban design report and road layout. AECOM have recommended that to manage the increased flows the following upgrades are required:

- Access 1 – conversion of the existing intersection of Old Northern Road | Nursery Access Road to a LILO.
- Access 2 – New roundabout or signalised intersection on Old Northern Road, north of Dural Primary School.
- Access 3 – New LILO intersection on Old Northern Road, south of Dural Primary School.
- Access 4 – New LILO intersection on Old Northern Road.
- Access 5 - proposed upgrade of Old Northern Road | Vineys Road as a roundabout or a signalised intersection.

The existing and proposed road network together with intersection upgrades are shown in **Figure 31**.

FIGURE 31 – ENVISAGED URBAN LAYOUT INCLUDING NEW ROAD CONNECTIONS/INTERSECTIONS



Traffic flows along Derriwong Road, are minimal and the additional traffic flows would not alter its level of service or operation in a perceptible way.

In relation to the broader traffic network and in particular the operation of the major collector roads Old Northern Road/New Line Road south of the site, it is understood that infrastructure upgrades will be required to provide sufficient capacity to support the delivery and realisation of several planning proposals including South Dural, Dural Service Centre and the adjoining Round Corner Timber site.

South Dural Planning Proposal was granted Gateway Approval on the premise of delivering these infrastructure upgrades and, despite the potential for the gateway approval to lapse, the DP&E has provided an extension of time to allow this proposal to be developed and implemented. The South Dural Planning Proposal, together with the Dural Service Centre, Round Corner Timber Yard and the subject Planning Proposal, represent an opportunity for a coordinated approach and efficient spending on infrastructure. The significant progression of the South Dural Planning Proposal, together with the recent extension of time granted to the proponent, represents a clear commitment to the delivery of the necessary infrastructure works and should be interpreted as certainty that upgrades will be delivered in the near future.

The Proponent for this Planning Proposal is willing to contribute a fair and equitable proportion of upgrade costs associated with improving local road infrastructure to support the delivery of the proposal.

TRANSPORT AND ACCESSIBILITY

The proposed urban layout and street network has been designed to achieve the following:

- a new road network that supports safe and suitable movement for cars and cyclists;
- promote an active walking catchment and use of public transport;
- a road layout that support a high level of permeability and connectivity and safety for vehicles and pedestrians; and

- Suitable walkability with the majority of future dwellings located within a 400 metres walking distance of an existing bus route linking to surrounding transport hubs allowing for internal pedestrian paths will be connected to existing footpaths on Old Northern Road allowing pedestrians to reach existing bus stops in the area.

Local and Regional Road Infrastructure is capable of being upgraded to meet the increased demands of additional traffic flows.

BUSHFIRE

ELA has undertaken a Bushfire Fire Assessment identifying all potential bushfire constraints to the future urban development within the study area, classification of hazard and planning requirements to ensure appropriate management and future asset protection (**Appendix E**).

In accordance with the NSW Policy of Planning for Bushfire Protection (BPB), the predominant vegetation class and effective slope of the sites as key indicators of bushfire threat have been determined to establish potential bushfire affectation and risk, expressed as “Bushfire Attack Levels” (BAL). The outcome of this assessment is summarised in **Figures 32 and 33**.

The land, subject of this proposal, has been identified to having a BAL of 29. Within this zone primary focus is given to the protection of buildings from ember attack and burning debris ignited by wind borne embers and radiant heat. Impact may be managed through the establishment of Asset Protection Zones (APZs) providing separation between a potential source of fire threat and development.

FIGURE 32 – BUSHFIRE THREAT ASSESSMENT SUMMARY (SOURCE: ELA, 2016)

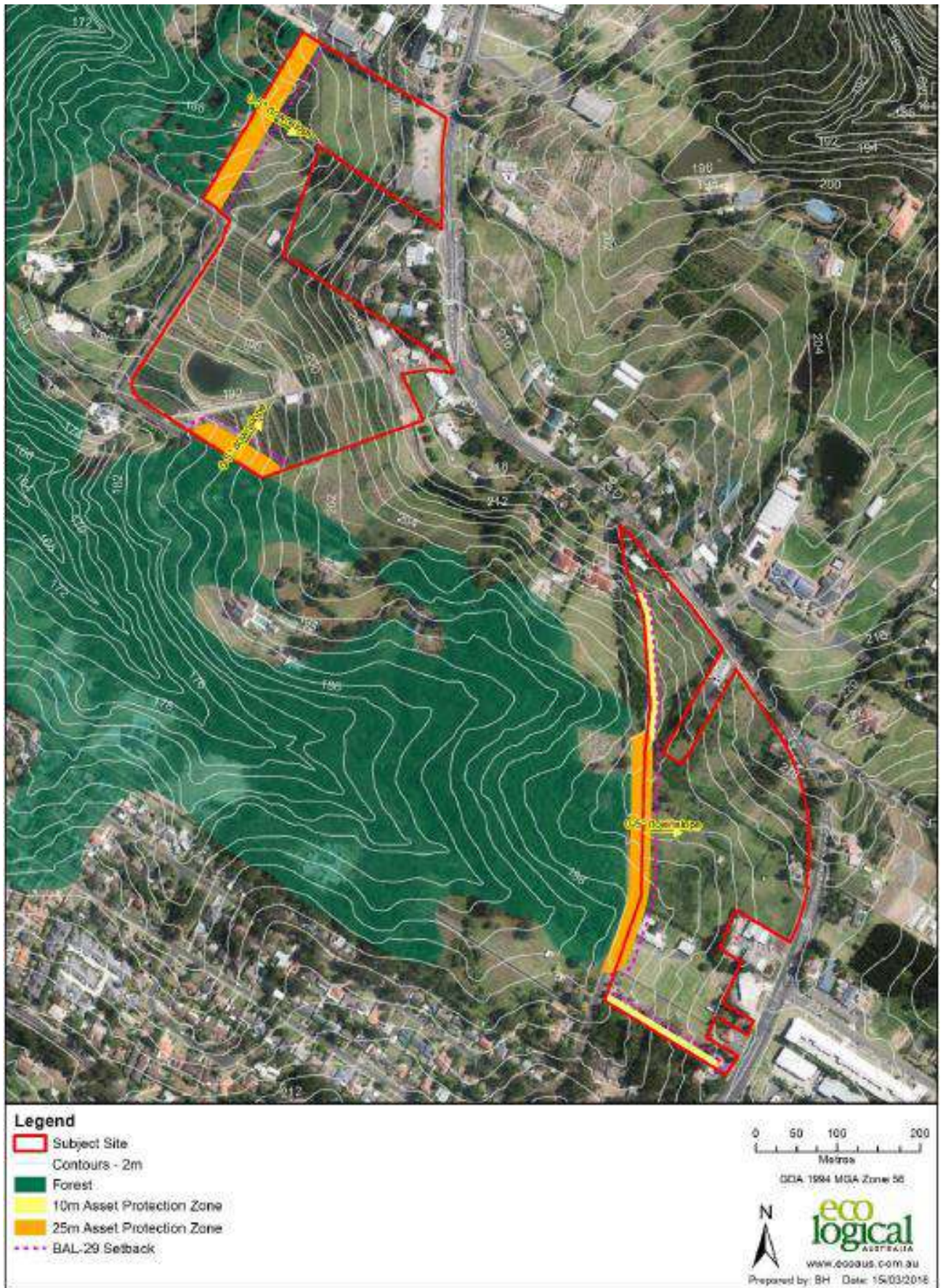
Direction from envelope	Slope ¹	Vegetation ²	PBP required APZ ³	BAL-29 APZ AS3959	Comments
Northern cluster					
West and south	0-5 ⁰ downslope	Forest	25 m 70 m (SFPP)	32 m	Provided within property boundaries
South	0-5 ⁰ downslope	Grassland	10 m	10 m	
All other directions	Managed land				
Southern cluster					
West	0-5 ⁰ downslope	Forest	25 m 70 m (SFPP)	32 m	Provided by Derriwong Road and within property boundaries
West	0-5 ⁰ downslope	Grassland	10 m	10 m	Provided within property boundaries
South	0-5 ⁰ downslope	Low hazard	10 m 30 m (SFPP)	14 m	
All other directions	Managed land				

¹ Slope most significantly influencing the fire behaviour of the site having regard to vegetation found. Slope classes are according to PBP.

² Predominant vegetation is identified, according to PBP and “Where a mix of vegetation types exist the type providing the greater hazard is said to be predominate”.

³ Assessment according to Table A2.4 of PBP

FIGURE 33 – RECOMMENDED APZS (SOURCE: ELA, 2016)



The recommendations of ELA and how they have incorporated into the potential future subdivision design and layout is summarised in **Table 7**.

TABLE 7 – CONSIDERATION OF RECOMMENDATIONS OF ELA

ELA RECOMMENDATION	RESPONSE
Use of perimeter roads to create separation between fire source and future development	The existing and extended urban layout provides for perimeter roads to the south and west to provide separation between existing “forest” and future residential development.
Provision of alternative access and egress for fire service vehicles	The future urban layout will improve permeability and provide alternative entry and egress points to Old Northern Road
Ensure adequate setback from bushfire prone vegetation (APZs)	Development will be subject to development controls adopted under the existing DCP that promote 10 metre front setbacks. These setbacks when combined with the existing street widths (approximately 16 metres) should provide adequate separation.
Integrate non-combustible infrastructure within APZs such as roads, easements and parking areas. The majority of APZs should be contained within perimeter roads and front yard setbacks	As above.
Ensure adequate access and egress from the study area through a well-designed road system	As above for fire service vehicle access, the development will improve vehicle permeability by providing more road controlled connections through to Old Northern Road.
Consider the adequacy of water supply and the delivery of other services (gas and electricity)	Services and utilities will be augmented, upgraded and expanded as necessary. Refer to later discussion and Appendix H .
Provide temporary APZs during any staged development	This may be addressed as part of a future DA and Construction Management Plan.
Provide for effective and ongoing management of APZs.	May be achieved through the registration of notices of titles to raise awareness of construction requirements for potential purchasers
Consider construction standards (AS3959) implications for future developments depending on development type (25 and 70 metre APZs).	May be achieved through the registration of notices of titles to raise awareness of construction requirements for potential purchasers.

Taking into account the above, the identified sensitivities can be appropriately managed to ensure protection of the future land uses.

WATER QUALITY

The Planning Proposal is unlikely to have adverse effects on local or catchment level water quality. Future redevelopment of the site would involve the integration of WSUD elements in accordance with the local development controls and connection of the land to reticulated sewer and stormwater systems.

The combination of these measures would feasibly improve water quality in relation to the removing sources of ground water contaminants (such as on site effluent disposal systems) and reduce sediment and nutrient loads of run off reaching O'Hara's Creek.

Detailed design of water quality measures would be undertaken as part of a development application following gazettal of the planning proposal.

SITE CONTAMINATION

ADE Group Pty Ltd has undertaken preliminary site investigations (PSI) for all the individual title lots that make up the northern and southern sites of the subject of this Planning Proposal. A summary of each is provided in **Table 8**.

TABLE 8 – SUMMARY OF PSI FINDINGS

LOT NO. & DP	FINDINGS	RECOMMENDATIONS
Lot 2 in DP 567995 (No. 21 Derriwong Road)	<ul style="list-style-type: none"> ▪ Presence of unvalidated fill along the eastern boundary; ▪ Visible stockpiling of asbestos and asbestos conduits; ▪ Previous use and remaining structural elements indicate potential use of the site to involve fuel storage and chemicals associated with former agricultural production; ▪ Presence of an onsite waste water treatment tank (bacteria and heavy metals); and ▪ Contamination arising from the former use of the site for agricultural purposes arising from crop spraying (pesticides and herbicides – low to moderate risk). 	<p>Past use and existing development indicate the potential for contamination to be present on the site. Further detailed testing is required prior to use for residential purposes.</p> <p>ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use</p>
Lot 9 in DP 237576 (No. 27 Derriwong Road)	<ul style="list-style-type: none"> ▪ Contamination arising from the former use of the site for agricultural purposes arising from crop spraying (pesticides and herbicides – low to moderate risk); ▪ Potential for asbestos to be present on the site in the existing building fabric. 	<p>Low potential for contaminant of concern to pose a risk to the proposed future users of the site, limited investigation is required to determine risk.</p> <p>ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use</p>
Lot 100 in DP 713628 (No. 600 Old Northern Road)	<ul style="list-style-type: none"> ▪ Previous use and remaining structural elements indicate potential use of the site to involve fuel storage and chemicals associated with former agricultural production; ▪ Presence of an onsite waste water treatment tank (bacteria and heavy metals); 	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required.</p>

LOT NO. & DP	FINDINGS	RECOMMENDATIONS
	<ul style="list-style-type: none"> ▪ Contamination arising from the former use of the site for agricultural purposes arising from crop spraying (pesticides and herbicides – low to moderate risk); ▪ Proximity of the site to Old Northern Road there is a low to moderate potential for contamination arising from runoff ▪ Proximity of the site to an operating petrol station may have exposed the site to point source contamination from underground storage tanks (risk is considered low due to the potential directional flow westward of ground water) 	<p>Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use.</p>
<p>Lot 1 in DP 656036 (602 Old Northern Road)</p>	<ul style="list-style-type: none"> ▪ Previous use and remaining structural elements indicate potential use of the site to involve fuel storage and chemicals associated with former agricultural production; ▪ Presence of an onsite waste water treatment tank (bacteria and heavy metals); ▪ Contamination arising from the former use of the site for agricultural purposes arising from crop spraying (pesticides and herbicides – low to moderate risk); ▪ The site during inspection by ADE was identified as being used for the storage of rubbish including chemicals (petrol, chlorine residential grade chemicals), imported (unvalidated) fill materials and 44 gallon drums with unknown chemical materials. 	<p>ADE concludes that there is potential for contaminants of concern to pose a risk to the proposed future users of the site and that a limited investigation into the nature and extent of contamination (if present) is required. In particular:</p> <ul style="list-style-type: none"> ▪ Areas observed to contain motor oil, chlorine and unknown chemical storage; ▪ Onsite effluent tanks etc. <p>Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use.</p>
<p>Lot X in DP 501233 (No. 618 Old Northern Road)</p>	<ul style="list-style-type: none"> ▪ This site has an extensive history of use that may have contributed to the presence of contaminants requiring remediation. In particular the following: <ul style="list-style-type: none"> – Use of the site as a former market garden; – Presence of an existing dam (constructed using imported fill material), combined with in-ground pipes of unknown material; – Use of imported fill across the site to 	<p>ADE conclude that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required.</p> <p>Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use.</p>

LOT NO. & DP	FINDINGS	RECOMMENDATIONS
	<p>construct car parking combined with stockpiles</p> <ul style="list-style-type: none"> – Potential chemical spills and leaks associated with machinery use and repair; – Use of asbestos construction materials; – Presence of above ground storage tank and hydrocarbon staining on soil service – 	
<p>Lot2 DP541329 (No. 626 Old Northern Road)</p>	<p>The conceptual site model for the site has identified the following potential sources of contamination on the site:</p> <ul style="list-style-type: none"> ▪ Importation of controlled fill material to establish a carpark (Heavy metals, BTEX, PAHS etc); ▪ Leakages from unknown sources; ▪ Presence of a former commercial building leading to introduction of uncontrolled fill and asbestos. 	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required. Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use</p>
<p>Lot 11 DP 866560 (5 Derriwong Road)</p>	<p>The conceptual site model for the site has identified the following potential sources of contamination on the site:</p> <ul style="list-style-type: none"> ▪ Uncontrolled fill material under dwelling slabs; ▪ Construction materials (asbestos, lead paint etc) existing dwelling and the footprint of a former shed; ▪ Organic contaminants and metals from septic tanks/sewage; and ▪ Seepage (leaking USTs) from adjacent service station. 	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required. Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use.</p>
<p>7 Derriwong Road (Lot 12 in DP 866560)</p>	<p>The site has historically been used for grazing purposes and is located within proximity to agriculture since the 1920s. Currently the site adjoins a service station with USTs.</p>	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further</p>

LOT NO. & DP	FINDINGS	RECOMMENDATIONS
	<p>The conceptual site model for the site has identified the following potential sources of contamination on the site:</p> <ul style="list-style-type: none"> ▪ Uncontrolled fill material in stockpiles and areas of altered profile (i.e. carparks) ▪ Leakages and spills associated with the former agricultural maintenance facility; ▪ Organic contaminants and metals from septic tanks/sewage; and ▪ Seepage (leaking USTs) from adjacent service station. <p>All potential contamination sources and pathways have been identified as a low, moderate and likely.</p>	<p>investigation into the nature and extent of contamination (if present) is required.</p> <p>Targeted sampling of the site can be undertaken to determine the extent of contamination and remediation necessary to render the land suitable for residential use.</p>
584 Derriwong Road (Lot 1 DP 660184)	<p>The conceptual site model for the site has identified the following potential sources of contamination on the site:</p> <ul style="list-style-type: none"> ▪ Uncontrolled fill material under dwelling slabs; ▪ Construction materials (asbestos, lead paint etc) existing dwelling and the footprint of a former shed; ▪ Seepage (leaking USTs) from adjacent service station; and ▪ Leakages and spills of fields etc. 	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required. Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use</p>
590 Derriwong Road (Lot D DP 38097)	<p>The conceptual site model for the site has identified the following potential sources of contamination on the site:</p> <ul style="list-style-type: none"> ▪ Uncontrolled fill material under dwelling slabs; ▪ Construction materials (asbestos, lead paint etc) existing dwelling and the footprint of a former shed; ▪ Seepage (leaking USTs) from adjacent service station; and ▪ Organic contaminants and metals from 	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required. Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use</p>

LOT NO. & DP	FINDINGS	RECOMMENDATIONS
	septic tanks/sewage.	
606 Old Northern Road (Lot 1 DP 73652)	<p>The conceptual site model for the site has identified the following potential sources of contamination on the site:</p> <ul style="list-style-type: none"> ▪ Previous use as an orchard would have contributed to wide spread potential contamination of the site. ▪ Organic contaminants and metals from septic tanks/sewage; ▪ Uncontrolled fill material under dwelling slabs; and ▪ Construction materials (asbestos, lead paint etc) existing dwelling and the footprint of a former shed. 	<p>ADE concludes that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required. Notwithstanding, ADE indicate that if contaminants are encountered they will be capable of remediation such that the site can be made suitable for its intended use</p>

With the exception of No. 606 Old Northern Road that has a history of use as an orchard, the nature of the contaminant sources and migration pathways identified in the various conceptual site models, if sites are contaminated it is likely to be limited to “hot spots”. As outlined above and detailed in the PSI Reports, each of the sites despite exposure to contaminant sources owing to historical agricultural use can be made suitable for residential and commercial use.

HOW HAS THE PLANNING PROPOSAL ADEQUATELY ADDRESSED ANY SOCIAL AND ECONOMIC EFFECTS?

The proposed amendment is considered to make a positive social and economic contribution to the immediate locality and broader LGA. The positive implications associated with the amendment and likely future development is outlined in the following section.

The proposal will provide for an increased in total dwelling yield and diversify housing typology thereby contributing to increased housing choice.

Residential redevelopment of the site, as facilitated by this Planning Proposal will deliver a number of social and economic benefits including greater housing choice, a new public street network and park and more pedestrian connections through the area which will encourage a more vibrant and activated public domain generally.

SECTION D – STATE AND COMMONWEALTH INTERESTS

IS THERE ADEQUATE PUBLIC INFRASTRUCTURE FOR THE PLANNING PROPOSAL?

INFRASTRUCTURE AND UTILITIES

The proposal will require the expansion, augmentation and upgrade to existing public infrastructure, including:

- Electricity;
- Telecommunications;
- Sewer; and

- Water.

Preliminary investigations have been undertaken by AT&L and Land Partners, to determine available service connection points and identify potential service routes (where expended networks are required). These investigations have identified several options for the delivery of services to the land which are currently being discussed with service providers to confirm feasibility and support.

The investigation reports, identifying the location of current services and connections points are provided in **Appendix H**, with details of the options for connection, expansion and upgrade. AT&L and Land Partners have concluded that all the land the subject of the Planning Proposal can be adequately serviced by the necessary infrastructure and utilities.

SOCIAL INFRASTRUCTURE

The Planning Proposal will deliver new and expanded public social infrastructure, including:

- A new aquatic centre and playground; and
- A public park with an area of 2,969m².

The proposed recreational facilities can be delivered as either private or public recreation facilities. In the event the facilities are dedicated to Council, a formal offer by way of Voluntary Planning Agreement will be submitted and advertised in accordance with the provisions of the EP&A Act 1979.

The delivery of expanded recreational opportunities to the local and wider community is considered to make a positive social impact.

WHAT ARE THE VIEWS OF STATE AND COMMONWEALTH PUBLIC AUTHORITIES CONSULTED IN ACCORDANCE WITH THE GATEWAY DETERMINATION?

Appropriate consultation with relevant government agencies would be undertaken by Council following a gateway determination. A preliminary list of agencies that would be consulted as part of the exhibition of the proposal is included below.

- Endeavour Energy;
- Telstra;
- Sydney Water;
- Roads and Maritime Services;
- Transport for New South Wales;
- Office of Environment and Heritage; and
- NSW Office of Water.

A final list of all relevant agencies will be determined as part of the Gateway Determination. Following the Gateway determination, all relevant agencies will be consulted.

Part 4 – Mapping

This Planning Proposal seeks to amend the following planning maps contained in The Hills Local Environmental Plan 2012 as they apply to the sites:

- Land Zoning;
- Height of Buildings;
- Minimum Lot Sizes; and
- Additional Permitted Uses.

Copies of the proposed planning maps are provided in Part 2 explanation of the provisions.

Part 5 - Community Consultation

Public consultation will be undertaken in accordance with the requirements of the *Environmental Planning and Assessment Act 1979* and Council's policies for community consultation. It is anticipated that public exhibition of the Planning Proposal would involve:

- Publishing of the proposal and supporting technical reports on The Hills website;
- Publishing of a Public Notice in in the Sydney Morning Herald and/or a relevant local newspaper; and
- Direct Notice, in writing to the owners and occupiers of adjoining and nearby properties and relevant community groups.

The Planning Proposal will be publicly exhibited for a period of between 14 and 28 days in accordance. Exhibition material will be made available on Council's Website and at Council's administration centre.

The Proponent would welcome the opportunity to engage with Council following the lodgement of this planning proposal. This would include briefing councillors and Council staff to inform the process and to provide for a better understanding of the Planning Proposal prior to it being considered for gateway determination.

Part 6 Project Timeline

The following project timeline will assist with tracking the progress of the planning proposal through its various stages of consultation and approval. It is estimated that this amendment to The Hills Local Environmental Plan 2012 will be completed by April 2017.

TABLE 9 – PROJECT TIMELINE

STAGE	2016								2017			
	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL
Submit Planning Proposal to Council	■											
Council exhibit Planning Proposal	■	■										
Council assess PP, consider submissions and report to Council for endorsement		■	■	■								
PP referred to DPE for Gateway Determination				■	■							
DPE consider PP and issue gateway determination Issued					■	■	■	■				
Community consultation								■	■			
Final Assessment of PP including consideration of submissions.									■	■	■	
Making of LEP												■

5 Conclusion

The Planning Proposal has been prepared in accordance with section 55 of the EP&A Act and the relevant guidelines prepared by the NSW Department of Planning including *A Guide to Preparing Local Environmental Plans* and *A Guide to Preparing Planning Proposals*.

The Planning Proposal provides a comprehensive justification of the proposed amendment to THLEP 2012, and is supported on the following grounds:

- The proposed rezoning is consistent with the emerging and anticipated urban character of the area and the existing pattern of density for development within adjacent urban centres;
- The proposed land uses and urban form are compatible and integrate with Round Corner and will provide for future connectivity with adjacent lands (not included in this proposal);
- The land is not presently used for agricultural purposes and the potential use of the land for agriculture is constrained due to the proximity of urban land and the potential for intensive agriculture to generate adverse environmental impacts;
- The rezoning and future development would support the continued growth of Round Corner local centre with increased proximate residential density and complimentary non-residential land uses;
- The proposal will not dilute the primacy of adjacent urban centres, but reinforce and support their growth through the increased residential density and worker populations within the retail catchment;
- The rezoning reflects a logical extension and infill of urban land uses, bookended between two (2) existing centres that are the subject of continuing growth and development;
- The delivery of an integrated approach to support an aging population through the delivery of medical services, aged care and independent living will meet a local need allowing for residents to stay within their community;
- The proposal represents orderly and economic use of otherwise underutilised land that cannot be used for meaningful agricultural production;
- The residential subdivision will deliver new residential land to meet demand of existing and potential residents, in an identified market gap for “downsizers” and young families;
- The proposed road network will deliver increased permeability in the locality; and
- The proposal will result in positive social and economic impacts on the local community through the delivery of expanded recreational opportunities and new job creation.

Overall, it is considered that the Planning Proposal has a range of positive benefits, and it is requested The Hills Shire Council take the necessary steps to enable it to proceed to Gateway Determination under Section 56 of the EP&A Act.

Disclaimer

This report is dated May 2016 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Dural Development Management Services Pty Ltd (**Instructing Party**) for the purpose of Planning Proposal (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

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DERRIWONG ROAD

OLD NORTHERN ROAD, DURAL

URBAN DESIGN/ LAND USE PROPOSAL
PREPARED FOR DURAL INVESTMENT HOLDINGS PTY LTD
MAY 2016

OLD NORTHERN ROAD



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1.0 EXECUTIVE SUMMARY

Urbis has been engaged by Dural Investments Holdings Pty Ltd to prepare an urban design study to investigate the development opportunities and potential rezoning of two sites located in Dural.

The two sites are located on the western side of the Old Northern Road. One site is located adjacent to and north of the major intersection with New Line Road (Southern Site) and the other site surrounds Dural Public School (Northern Site).

The urban design and strategic justification for the urban development and rezoning of the two sites is based on the following consideration:

- This part of the Dural locality is undergoing a transition from historical rural land uses with an expansion of the urban fringe and non-rural land uses to the north and south of the sites, with low density residential zones proposed, as demand for housing with good access to employment, retail and service increases in the region.
- This transition is particularly reflected in the South Dural planning proposal, located south of the site between the Old Northern Road and New Line Road, which proposes the staged delivery of 3,000 dwellings.
- The sites have not in recent years and in some instances never been used for productive agricultural activities.
- The sites are located between two centres, Cascades at the north and Round Corner at the south. The Cascade proposal will see a redevelopment of the local centre with the introduction of new retail opportunities and apartment buildings.

- Land surrounding the Round Corner local centre been developed with low density housing on lots of approximately 700 square metres and the physical boundaries have been reached. Any further expansion of the existing residential neighbourhood would logically be northward along Old Northern Road in order to avoid and protect the ecologically sensitive land adjacent to the town centre.
- The sites that are mostly cleared and present no physical constraints to urban development.
- The provision of a Metro Norwest station at Castle Hill.
- There is already significant amount of infrastructure, facilities services and education facilities available in the locality.

The design proposal has investigated the opportunities to development the sites for a variety of land uses to support and compliment the Dural community. The planning proposal and this urban design study presents the following land use opportunities.

NORTHERN SITE:

- 98 low density residential lots
- Aquatic Centre

SOUTHERN SITE:

- 48 low density residential lots
- Approximately 2,700m²
- Day Surgery/ Medical Centre (3,000m² GFA)
- Aged Care - Nursing home
- Senior Housing - Independent living units (ILU)

This urban design study has demonstrated that the rezoning and development of the two sites:

- Would represent the logical extension of the low density residential neighbourhood and urban centre Round Corner
- Improves access of the Dural Public School and the Dural Memorial Hall, enhancing the relationship of the social infrastructure with the surrounding area
- Will deliver additional amenities to the community with the delivery of recreation and open space facilities
- Will benefit from the sites location proximate to a range of environmental and open space opportunities
- Will be supported by and provide economic uplift to the two local centres adjacent to the sites
- Improves vehicular and pedestrian permeability of the area, consolidating the urban fabric of Dural

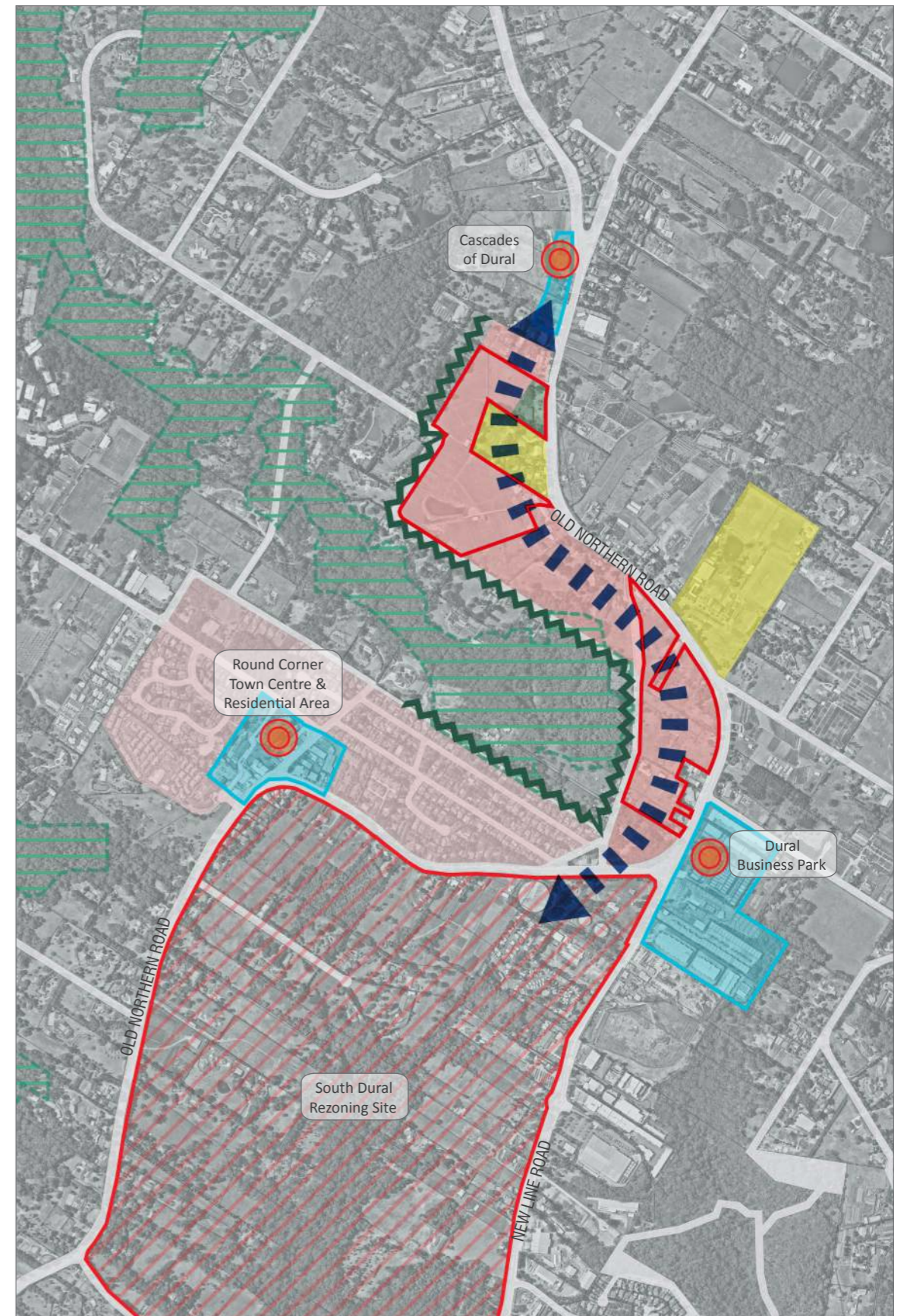
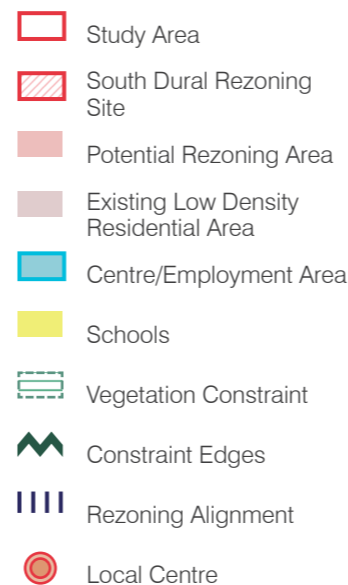


Figure 1: Rezoning Opportunities

SCALE 1:15,000 @ A3
0 200 400 600

2.0 INTRODUCTION

2.1 SITE IDENTIFICATION

The subject sites are located between the Old Northern Road and the Derriwong Road, with a total area of 18.9 hectares.

The Northern Site has an area of 10.7 hectares, surrounding the Dural Public School, legally identified as:

- Lot 2 / DP541329
- Lot 9 / DP237576
- Lot X / DP501233
- Lot 2 / DP567995

The Southern Site has an area of 8.2 hectares and is adjacent to the major intersection of Old Northern Road and New Line Road. The nine allotments are legally identified as:

- Lot 1 / DP73652
- Lot 1 / DP656036
- Lot 101 / DP713628
- Lot 100 / DP713628
- Lot 12 / DP866560
- Lot 11 / DP866560
- Lot 1 / DP660184
- Lot D / DP39261
- Lot D / DP38097

2.2 SITE CHARACTERISTICS

Key features on the sites include:

- The subject sites are located approximately 25km northwest of Sydney CBD.
- The sites have access to public parks, nature reserves and a range of facilities and services.
- The northern site surrounds the north, west and southern perimeters of Dural Public School.
- The southern site contains a heritage item that is in poor condition.
- Both sites typically slope downwards from the ridgeline along Old Northern Road in a south-westerly direction towards the vegetated area of O'Haras Creek.
- Round Corner Local Centre is located 1km west of the sites and Cascades (Neighbourhood Centre) is located 1km north of the sites.
- The Southern Site is located in proximity to Dural Business Park.
- Old Northern Road has a major role in the local context of the site, with its role as a high frequency bus road, connecting the site to major centres, predominantly, Castle Hill.
- Old Northern Road is also the major road that leads traffic at the North to the New Line Road and M2 further South.

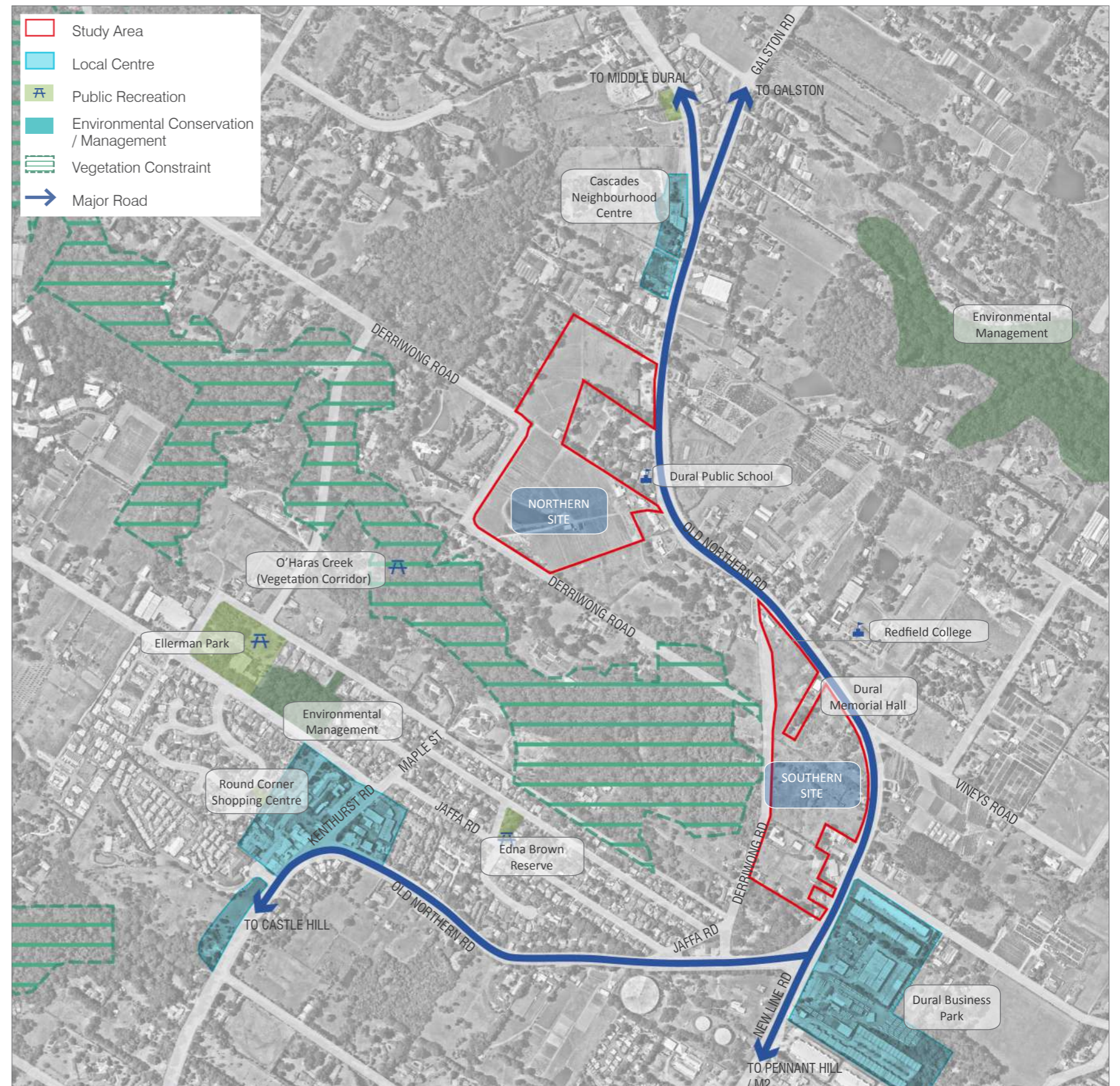


Figure 2: Context Map

3.0 REGIONAL CONTEXT

3.1 ACCESS AND CONNECTION

The subject sites are located 5km north of Castle Hill, one of the major strategic centres identified in greater metropolitan Sydney. High frequency bus routes along the Old Northern Road link the site to Castle Hill.

Castle Hill will be located on the Metro Norwest line which is expected to be completed in early 2019. The metro line will improve access to the employment centres of Norwest, Macquarie Park and North Sydney and Sydney CBD.

Future transport infrastructure upgrades planned for the district will further improve connectivity to employment and educational centres which in turn provides a more desirable choice for businesses and residents to locate their presence in Dural.

The development of the subject sites along with the provision of a greater variety of housing choice in desirable locations will support the general population and promote more people working closer to existing and future employment areas.

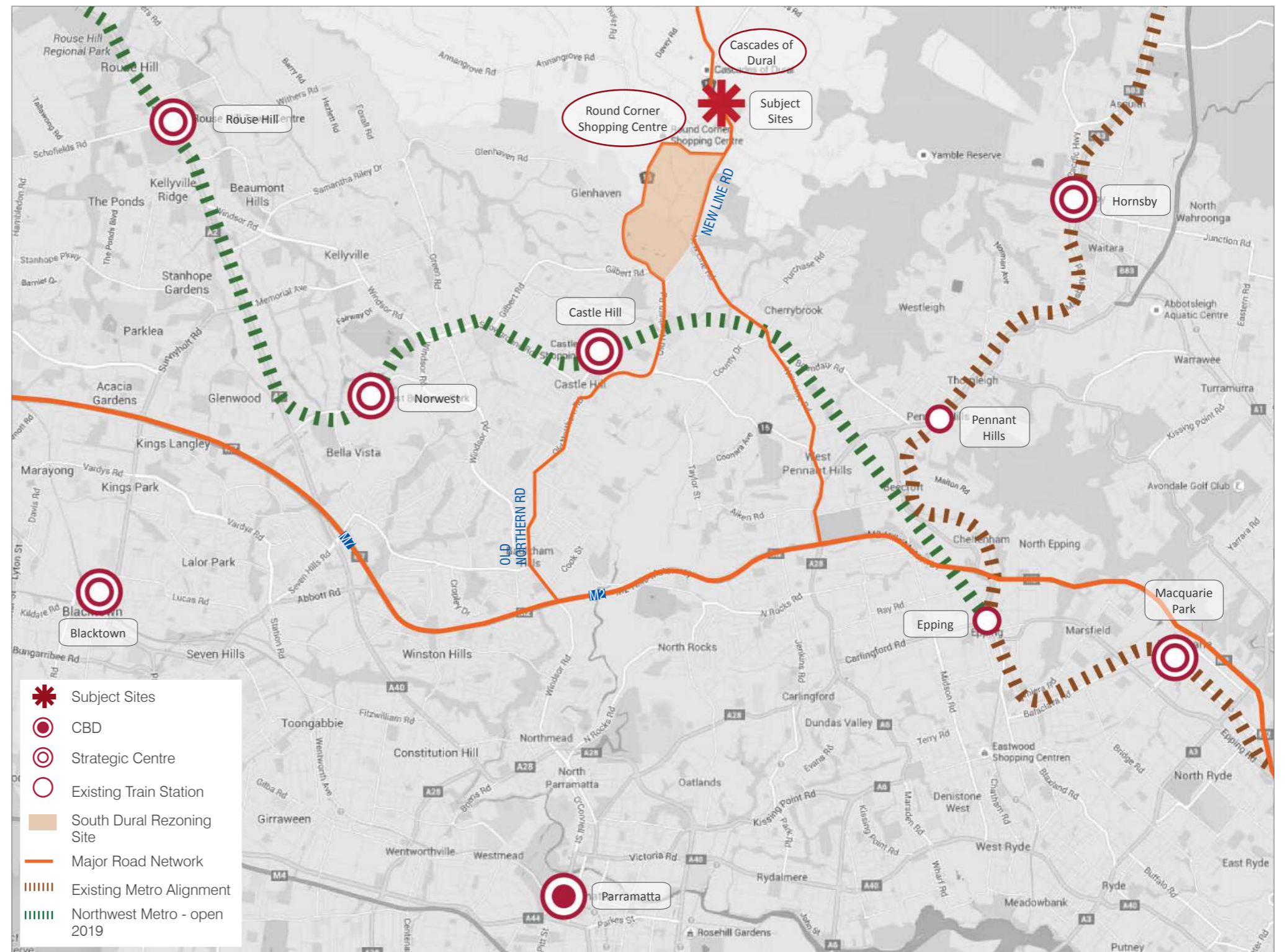


Figure 3: Regional Context Map

NOT TO SCALE



3.2 SOUTH DURAL PLANNING PROPOSAL

The South Dural is a 240 ha precinct located between Round Corner and Castle Hill. The precinct is bounded by The Old Northern Road, New Line Road and Hasting Road. The precinct is envisaged to accommodate in the order of 3,000 dwelling and contain three centres, the most northern one, opposite the Round Corner Local Centre.

The planning proposal has gone through Gateway Determination. The exhibition of the ILP and additional details of the proposal are planned to go on exhibition by June 2016.

The rezoning of the South Dural Precinct will bring the urban edge to the southern part of the study area, further reinforcing the opportunity to rezoning the sites to more urban uses.

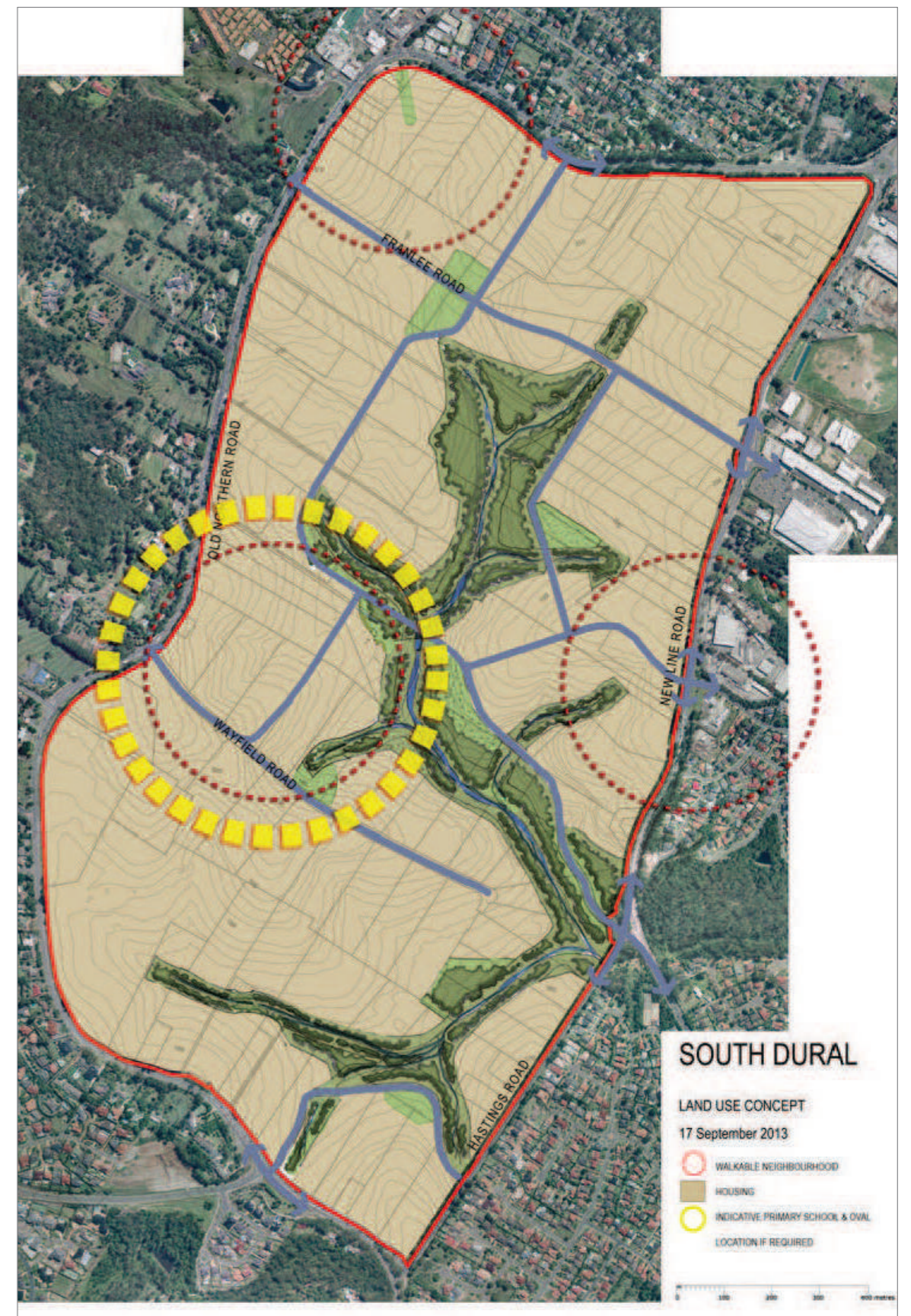


Figure 4: South Dural Planning Proposal

4.0 CONTEXT ANALYSIS

4.1 SURROUNDING LAND USES

The subject sites present significant development opportunities given its location, existing land uses and likely hood of change in its urban form. The site is prominently located on a well trafficked road with good access to public transport, local facilities and services.

The sites are positioned in an area that is **undergoing a period of change in its urban character and form**, with both sites located between the Round Corner (Local Centre - B2), Cascade (Neighbourhood Centre - B1) and the Dural Business Park, where a range of retail shops, cafes and restaurants are located.

- Surrounding land uses are presently low density with residential as the primary use in the area, however, closer to the town centre, an amalgam of more urbanised forms of use are evident, having been developed over a period of time. These include:
 - A number of seniors housing sites west of the local centre;
 - Townhouse, attached/dual occupancy and villa style development;
 - Dural Business Park and the light industrial sites along New Line Road;
 - Holiday Parks and Motels
- Closer to the local centre, south-west of the subject sites, residential subdivisions have evolved, developed at an average of 700m² allotments.
- More compact forms of urban character** are also evident in areas proximate to the local centre such as villa style, attached and townhouse developments off Old Northern Road such as those between 542-550 Old Northern Road;
- South of the local centre a new precinct is envisaged to accommodate in the order of 3,000 dwelling and contain three centres, the most northern one, opposite the Round Corner Local Centre.
- North of the subject sites, examples of change in urban form include the rezoning and development of Cascades, a mixed-use

development comprising business uses, residential, food and beverage, a child care centre and a recreation facility/multipurpose hall.

- The sites are located in close proximity to educational facilities, specifically
 - The Dural Public School surrounded by the Northern Site.
 - Redfield College, right across the Southern Site along Old Northern Road
- There are heritage items located around the subject sites such as:
 - A cemetery across from the Northern Site on Old Northern Road, identified as an archaeological item.
 - Uniting Church Cemetery located adjacent to the Southern Site at the intersection of Derriwong Road and Derriwong Lane.
 - The Dural Memorial Hall located within the Southern Site.
 - One Cottage House located within the Southern Site.

LOCAL OPEN SPACE AND VEGETATED AREAS

The sites have some access to open spaces:

- It is located 1.5km to the west of Berowra Valley National Park, including Tunks Creek.
- Holland Reserve and Dural Nature Reserve are two biodiversity corridors located at the west and south of the subject sites
- Ellerman Park, Edna Brown Reserve and Rosebank Avenue Reserve are three key public parks in the surrounding area
- O'Hara's Creek Vegetation Corridor is located between the Round Corner Town Centre and the Northern Site has potential to improve access to the natural amenity of future developments in Dural. **This area of vegetation also presents as a natural boundary for urban development in the area, constraining incremental development of compact urban forms northward along Old Northern Road.**

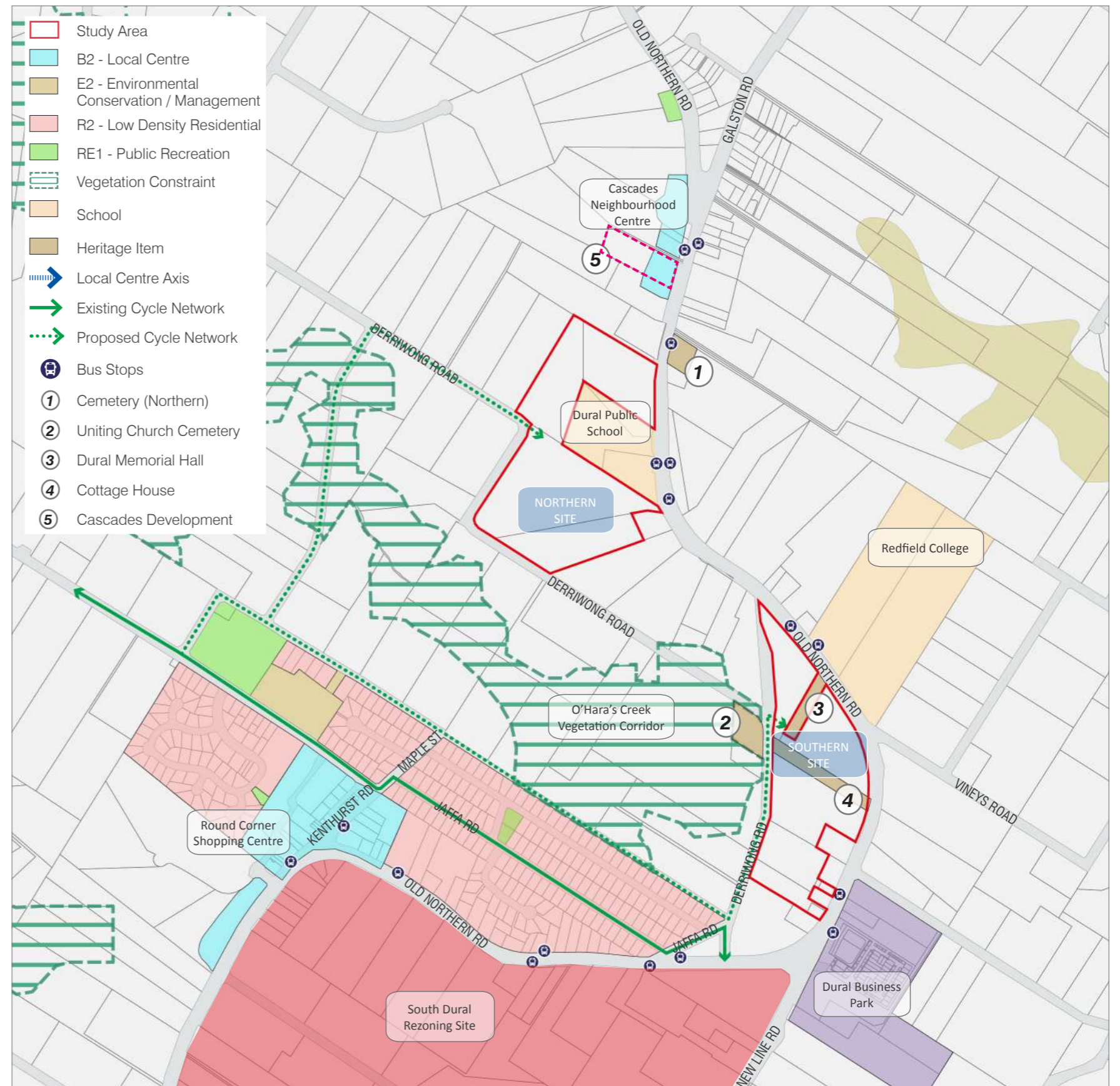
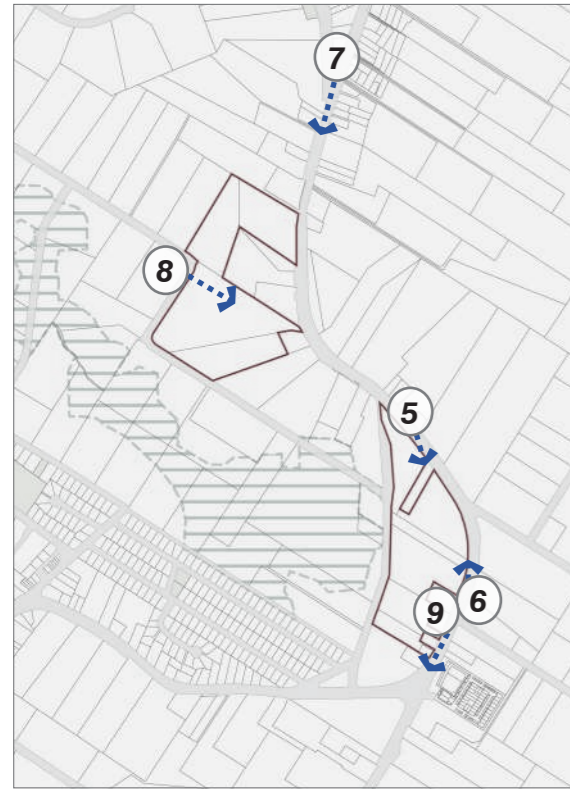


Figure 5: Land Uses Map

SCALE 1:10,000 @ A3



SITE PHOTOS



Key (1:20,000)



Figure 6: Dural Memorial Hall - Heritage Item



Figure 7: Cottage House - Heritage Item



Figure 8: Cascades Neighbourhood Centre looking south towards bend in Old Northern Road

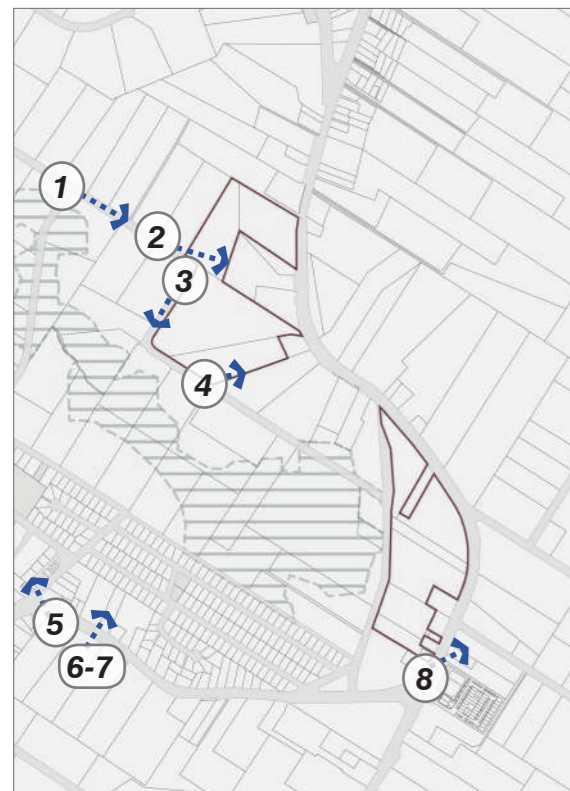


Figure 9: Looking east towards Dural Public School from Derriwong Road



Figure 10: Looking south towards Dural Business Park in Old Northern Road

GOOGLE STREETVIEW



Key (1:20,000)

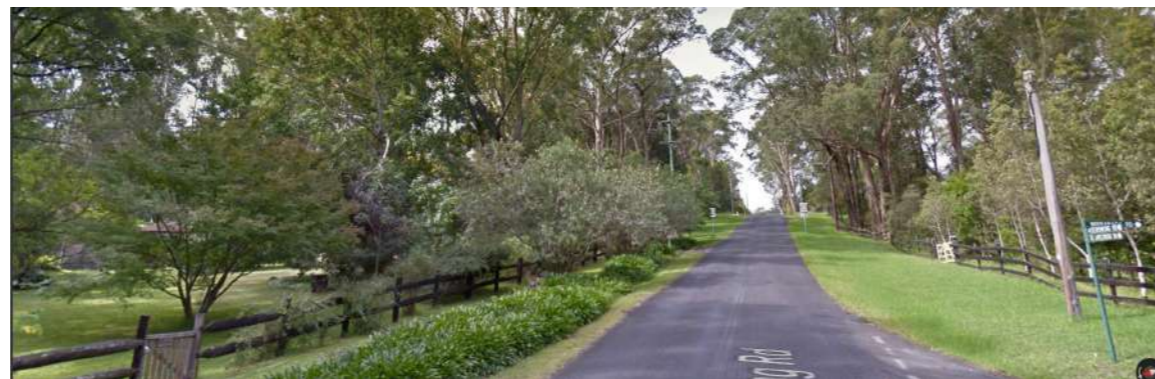


Figure 11: View 1: Eastern view towards subject site at intersection of Wirrabarra Road and Derriwong Road



Figure 12: View 2: Eastern view towards subject site on Derriwong Road at bend



Figure 13: View 3: South West view on site boundary from Derriwong Road



Figure 14: View 4: Looking north east along Derriwong Road towards site boundary



Figure 15: View 5: Looking at the intersection of Old Northern Road and Maple Road towards Round Croner Shopping Centre



Figure 16: View 6: Looking at compact building typologies at 542 Old Northern Road



Figure 17: View 7: Looking at townhouse residential typologies at 546 Old Northern Road



Figure 18: View 8: Towards the edge condition of Dural Business Par.k. Generally, wide separations from boundary to building line decrease perception of safety for pedestrians. Setbacks with building edges closer to the road allow for greater passive surveillance.

4.2 ACCESS & MOVEMENT

ROAD ACCESS

The subject sites primary point of access and vehicle movement is via Old Northern Road.

- Old Northern Road has direct connection towards New Line Road and M2 Hills Highway further South. This Major Road connects the subject sites to Castle Hill, Macquarie Park and Sydney CBD.
- Derriwong Road is a local road that connects both sites to the south-west of Old Northern Road, servicing primarily large lot residential west of the site.
- Derriwong Road presents potential to be the key access route to both sites in order to divert traffic from the major road of Old Northern Road
- Intersection points proximate to the study area include:
 - The Y-intersection of Old Northern Road and Galston Road, at the north of the subject sites that connect to Glenorie and Marramarra National Park.
 - T-intersection of Old Northern Road and Vineys Road, at the lower portion of the Southern Site.
 - T-intersection of Old Northern Road and Quarry Road, at the mid portion of the Southern Site connecting to Berowra Valley National Park.
 - The round-a-bout intersection where Old Northern Road and New Line Road intersect south of the sites connecting to Castle Hill or West Pennant Hills and thr M2.
 - T-intersection point of Kenthurst Road and Old Northern Road, south-east of the subject site, located at Round Corner Shopping Centre.

Presently, Dural Public School and Dural Memorial Hall are currently restricted to one point of access and servicing from Old Northern Road. Traffic issues because of limited access to these community facilities is particularly challenging on busy periods or special event days.

Further in this report, opportunities to address and alleviate some of the current issues regarding traffic have been developed as part of the proposal and will be addressed in the following pages.

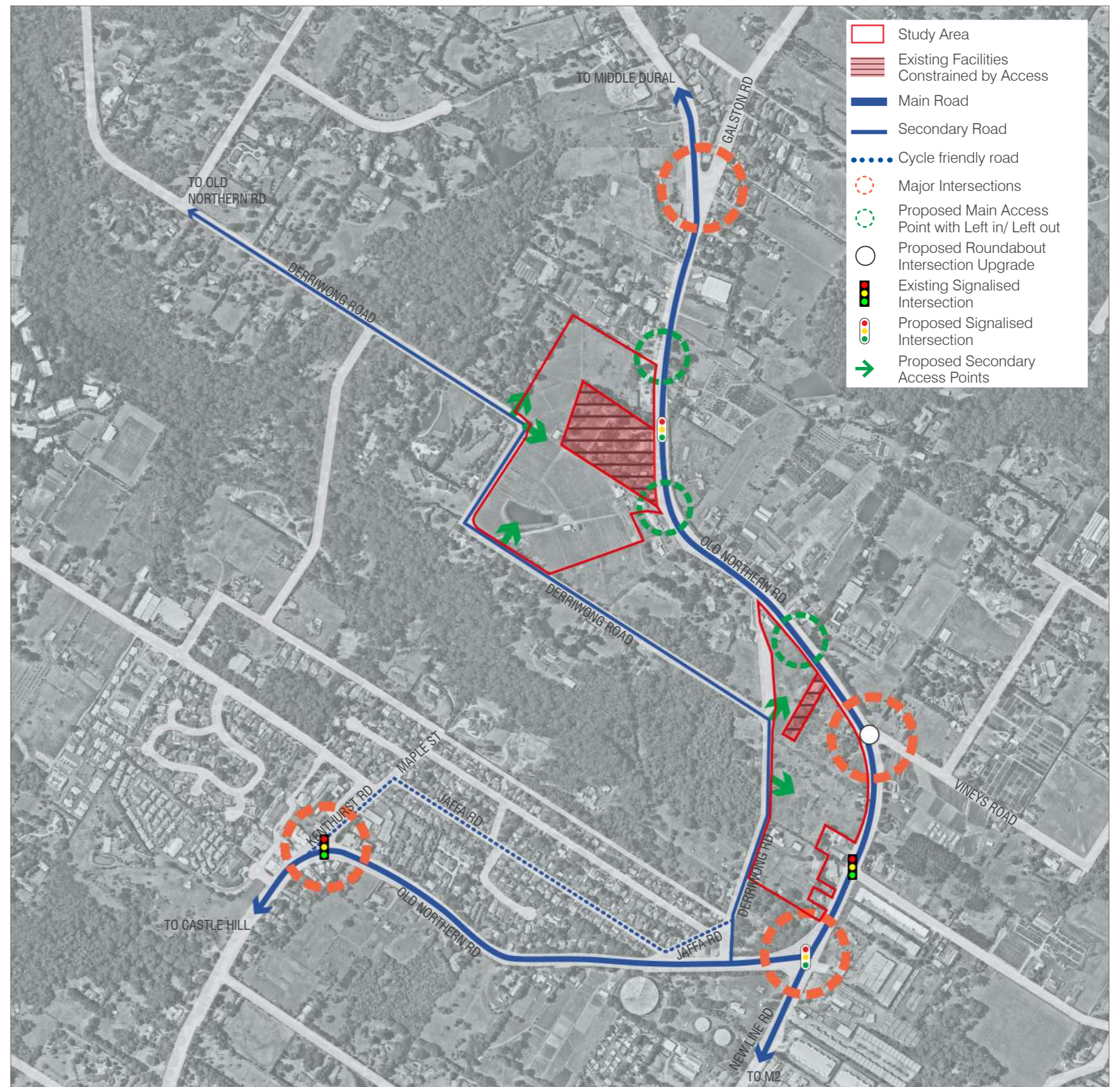


Figure 19: Access and Movement Map

SCALE 1:10,000 @ A3
0 100 200 300 400 500

PUBLIC TRANSPORT

The sites are located proximate to a frequently serviced public transportation network, specifically:

- The sites are well located with immediate access to a bus stop that connects user to greater Sydney areas such as to the Sydney CBD, North Sydney, The Hills District and Glenorie.
- The closest train station is Pennant Hills Station and is the primary destination for greater connections regionally for district residents.
- Bus routes to Pennant Hills have a frequency between 40 and 60 minutes with an average commute time of 45 minutes.
- Route 637 connect the sites to Castle Hill in less than 15 minutes.
- Castle Hill is a key destination in the region with the existence of the two shopping centres, Castle Mall Shopping Centre and Castle Towers Shopping Centre, where range of retail shops, restaurants and cafes are located.
- Specifically, Castle Towers Shopping Centre encompasses major retail anchors such as David Jones, Myer, Target, Kmart, Coles and Event Cinemas.
- The new Castle Hill train station adjacent to these retail shopping centres at the intersection of Old Northern Road and McMullen Avenue, is under construction as

part of the Sydney metro north-west.

- The north-west metro will link Rouse Hill to the CBD through a secured Nambour Crossing and continue on through the south-west metro to Bankstown that potentially can be connected to Liverpool.
- The north-west rail link from Rouse Hill to Chatswood is expected to be completed by 2019.
- Additionally, Pennant Hills train station is currently the nearest train station located south of the subject sites, with a distance of 10km.
- The completion of Castle Hill Station that is located 5km away from the sites will potentially reduce commute time of local residents.
- Moreover, Castle Hill as one of the strategic centres will be a landmark destination for residents of the subject sites.

With the increasing frequency and availability of public transport options connecting Dural in addition to the market's inclination for well serviced development sites in desirable locations - the site is well positioned to accommodate for this demand.

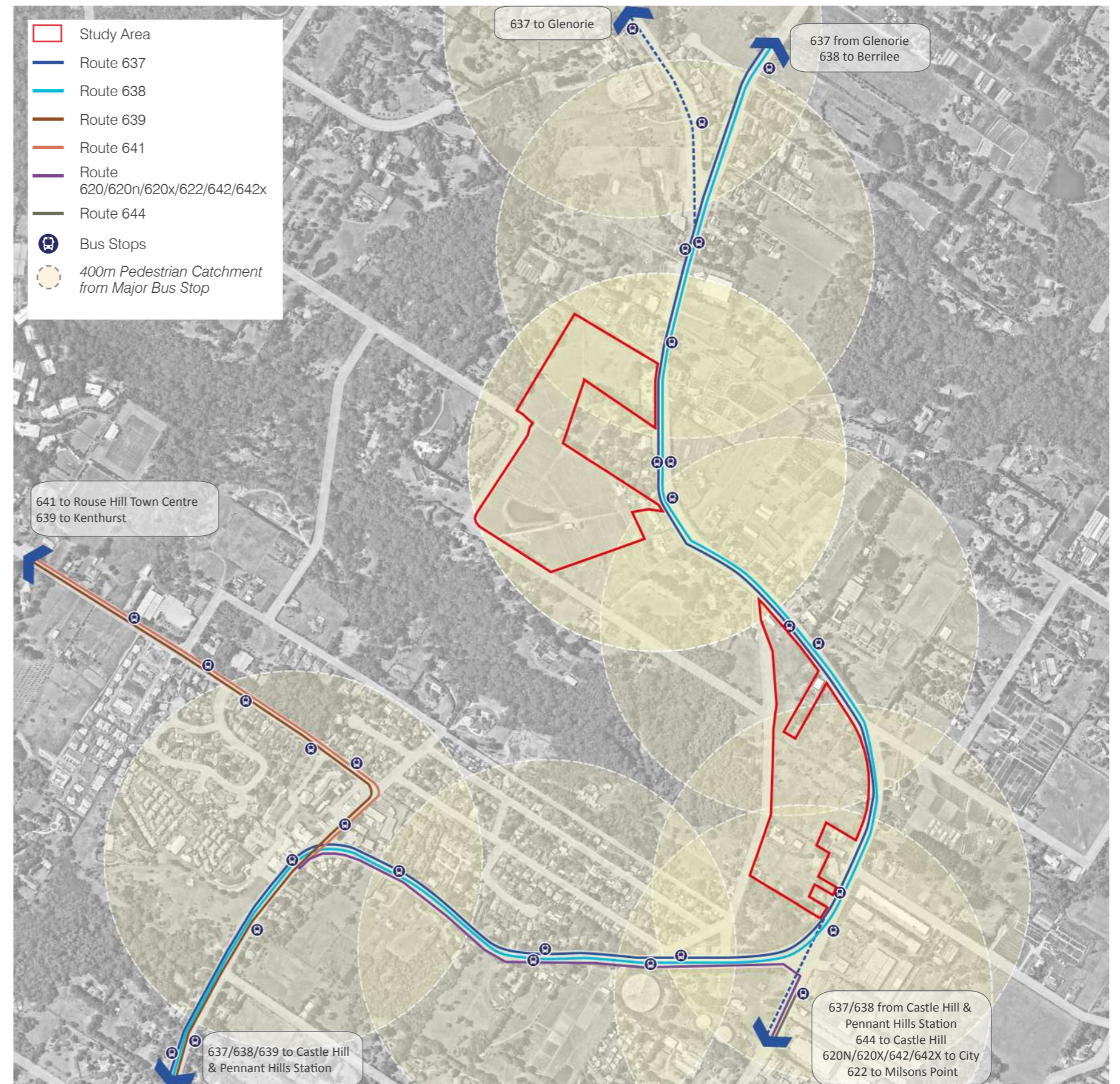


Figure 20: Public Transport Map

4.3 NATURAL ENVIRONMENT

LAND FORM & TERRAIN

The subject sites are located along Old Northern Road which follows the ridgeline and sit at an elevated position descending from this point westwards toward the vegetated corridor and creek.

- Views from the sites are directed towards the O'Haras Creek and the tributary corridor which is densely vegetated
- This dense vegetation creates a natural boundary for urban development to occur westwards.
- It also acts as a vegetated buffer given the mature trees in this area for developments located further west minimising potential visual impact of development for residents that reside around the Round Corner Town Centre precinct.
- The high point of the sites also creates opportunities for views towards the Blue Mountains (west of the sites) on a clear day.

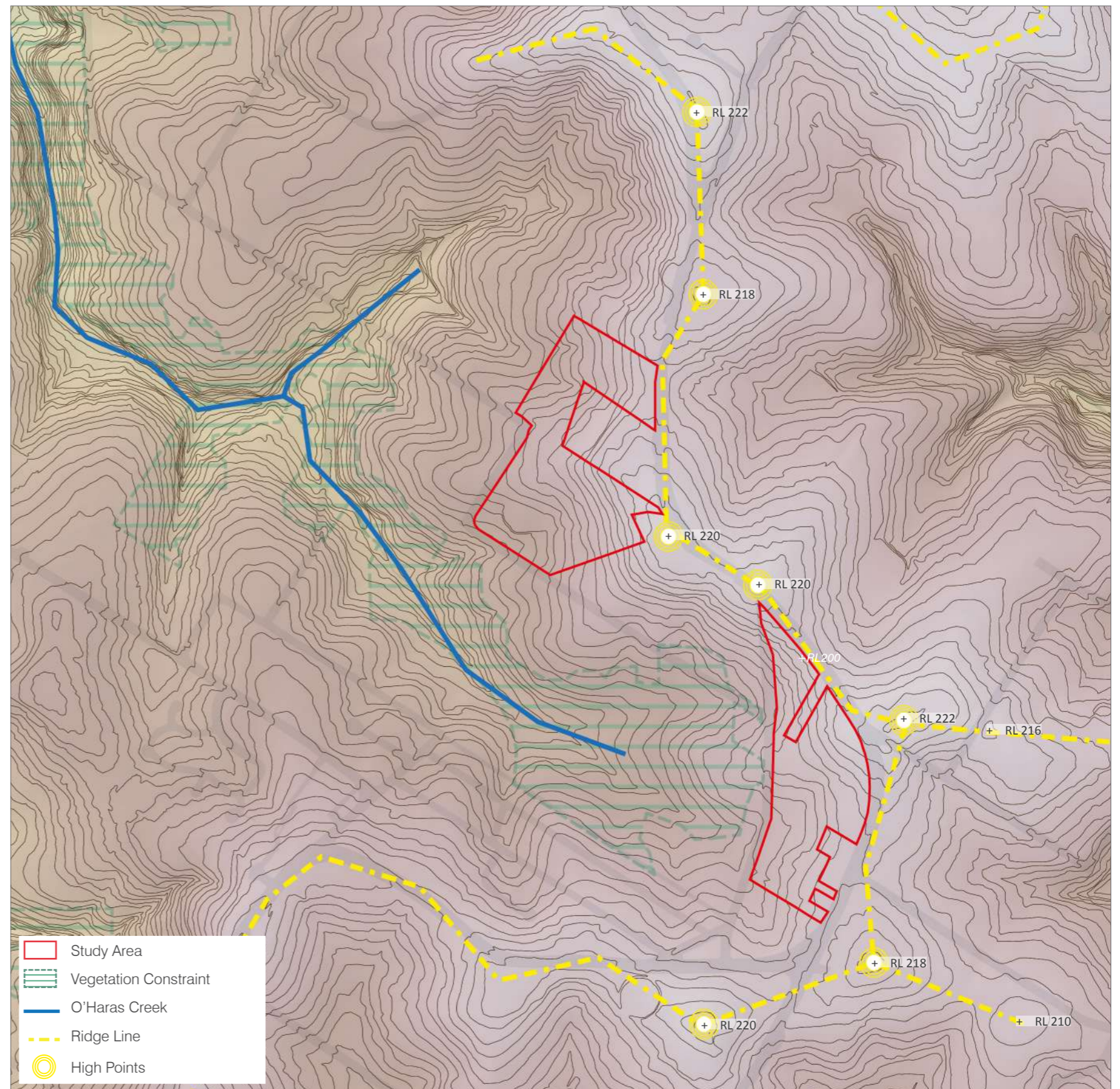


Figure 21: Topography Map

SCALE 1:7,500 @ A3



4.4 SUMMARY OF TECHNICAL & CONSULTANT REPORTS

The following technical and consultant documents have been considered in this urban design report:

- Heritage Impact Statement
- Ecological Assessment
- Bush fire Protection Assessment
- Planning and Property (Planning Controls)
- Traffic

HERITAGE

Local heritage items in the locality of the sites are identified as follow

- A12 "Old Northern Road" to the west of both sites is an archaeological Item from Glenhaven to the Hawkesbury River at the north with a distance of approximately 40km
- 185 "House" is part of the southern site - Item General. Suggested curtilage indicated (Heritage Impact Statement).
- 186 "Dural Soldiers Memorial Hall" - Item General is located north of the southern site but is not part of it. The Memorial Hall is surrounded by the Southern site precinct
- 181 "Uniting Church Cemetery" is adjacent to the southern site

Development on the Southern Site can be integrated with both the Dural Soldiers Memorial Hall and the cottage, "House" on Old Northern Road.

There are six items on the other side of Old Northern Road :

- 348 "House" - General Item
- 349 "House" - General Item
- A38 "Cemetery" - Item Archaeological
- 351 "House" (former Uniting Church and Chapel) - General Item
- 448 "Roadside trees" - Item Landscape
- 343 "Street trees and bushland" - Item Landscape

Suggested curtilage

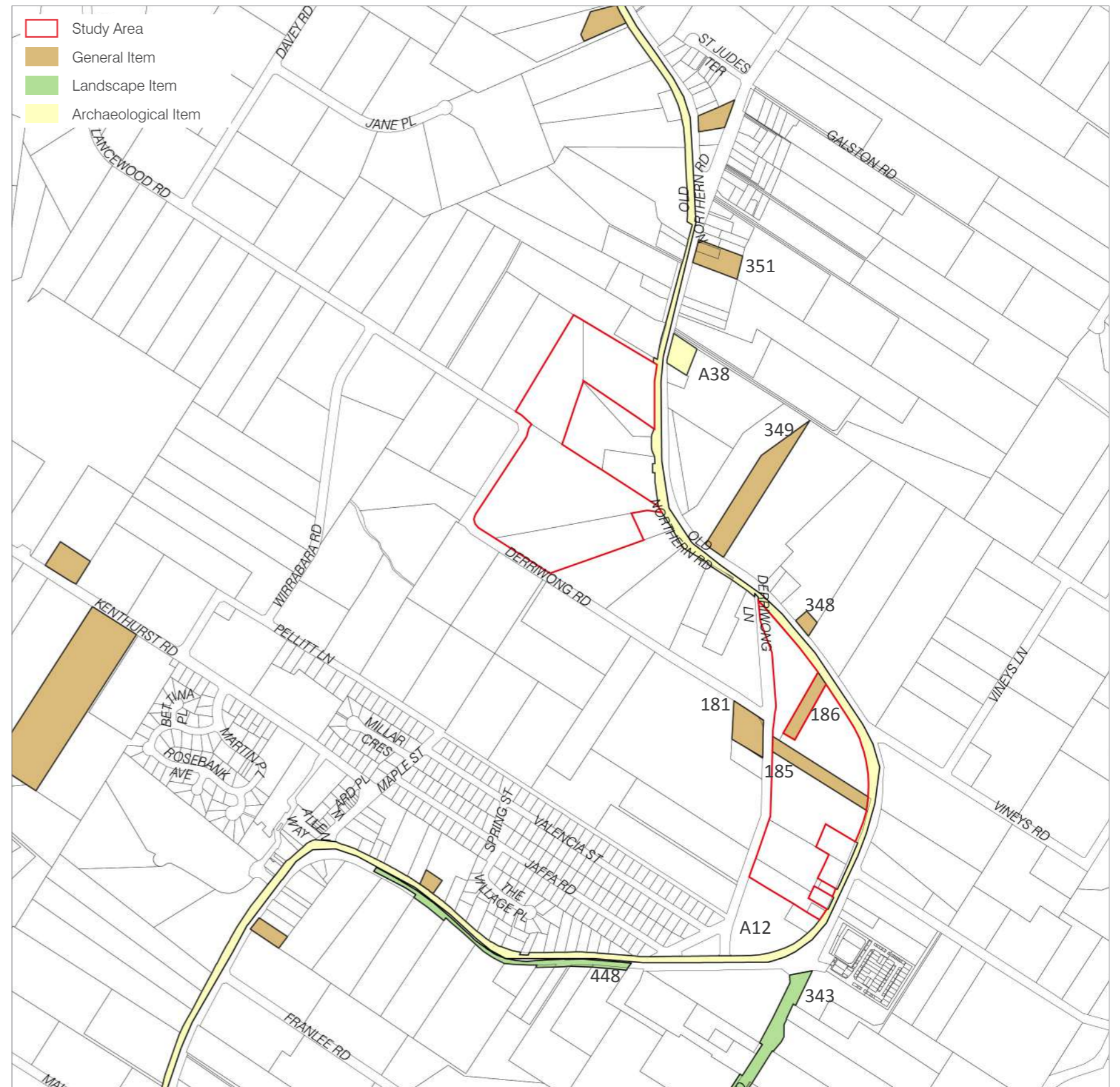


Figure 22: Heritage constraints. (Source: NSW Crown - Planning and Environment)

ECOLOGICAL ASSESSMENT

Some ecological constraints have been identified in both sites.

Northern Site

- Two constraint zones were identified adjacent to the site boundary, which are both under moderate to high category
- There are some small areas with ecological constraints
- However, these constraints have no major impact for the potential development

Southern Site

- Four areas have been identified with
- Three zones under the High constraint classification and
- One identified as moderately constrained



Figure 23: Constraints Assessment (Ecological). (Source: Ecological Australia)

BUSH FIRE PROTECTION ASSESSMENT

There is an adjacent forest to the west of both sites. The bush fire protection assessment indicated two asset protection zones in the northern site and three in the southern site.

- There are two Asset Protection Zones of 25m located along the north-west and south-west edges of the Northern site.
- A 25m Asset protection zone is identified along the western edge of the Southern site boundary
- Two 10m Asset protection zones are located along the west and south edges of Southern site boundary

The impact of these asset protection zones on the potential development is minimised as these zones are on the western and southern edges of the sites. Moreover, location of these zones are in place with new roads.

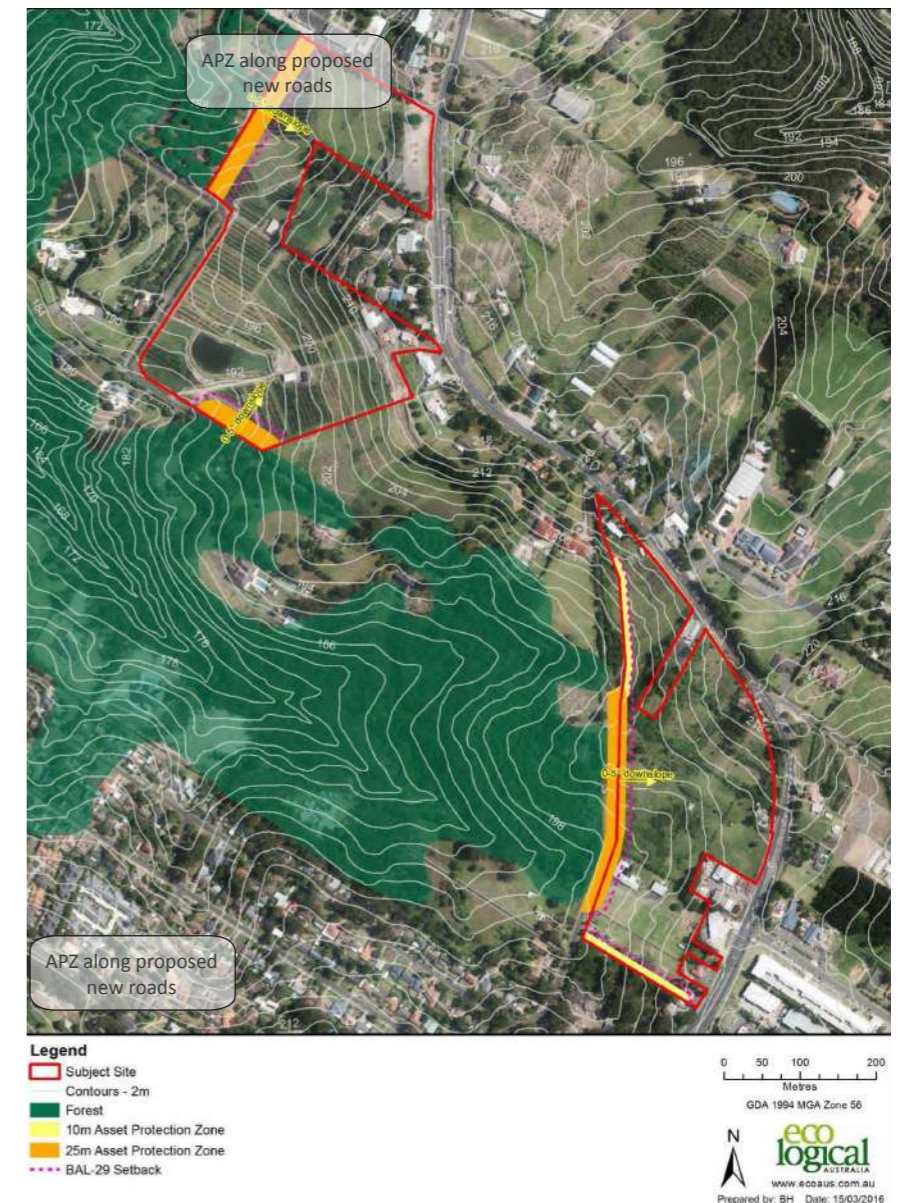


Figure 24: Asset Protection Zones. (Source: Ecological Australia)

SUMMARY OF OPPORTUNITIES

The context analysis have indicated range of opportunities on the sites, in particular

- The sites that are mainly cleared land with no major impacts from the identified constraints
- Good access to the public transport network
- Proximity to the North-west Metro at Castle Hill Station which will improve the sites' accessibility to employment areas in Norwest, Macquarie Park and Sydney CBD
- Proximity to the Round Corner Town Centre at the west and the Cascade Neighbourhood Centre at the north
- The opportunity to create new public roads to connect Old Northern Road to future development on the sites
- The potential of future development on the Northern Site to provide improved accessibility to the Dural Public School with new road access
- The potential of northern site to provide community facilities such as an aquatic centre adjacent to the Public School, which further support the residential uses
- The proximity of the Southern Site to the Round Corner Town Centre has the potential to accommodate compatible land uses including residential and health care facilities such as aged care (nursing home) along with Senior Housing (independent living)
- The potential to provide a new open space around Dural Soldiers Memorial Hall at the Southern site to be integrated with the Uniting Church Cemetery
- The potential to provide pedestrian and

cycle connections to surrounding open space from the sites

The sites have demonstrated its' relationship to the Round Corner Town Centre, Cascade Neighbourhood Centre along with existing residential areas. As an overall, the sites have indicated the potential of future development to enhance the living environment of the precinct as a whole through an improved connectivity within the precinct and an improved access to the greater region.

This summary of opportunities have indicated the role of the sites as part of the development of the precinct, indicating a potential growth corridor that extends from the Round Corner Town Centre across to the Cascade Neighbourhood Centre up North.

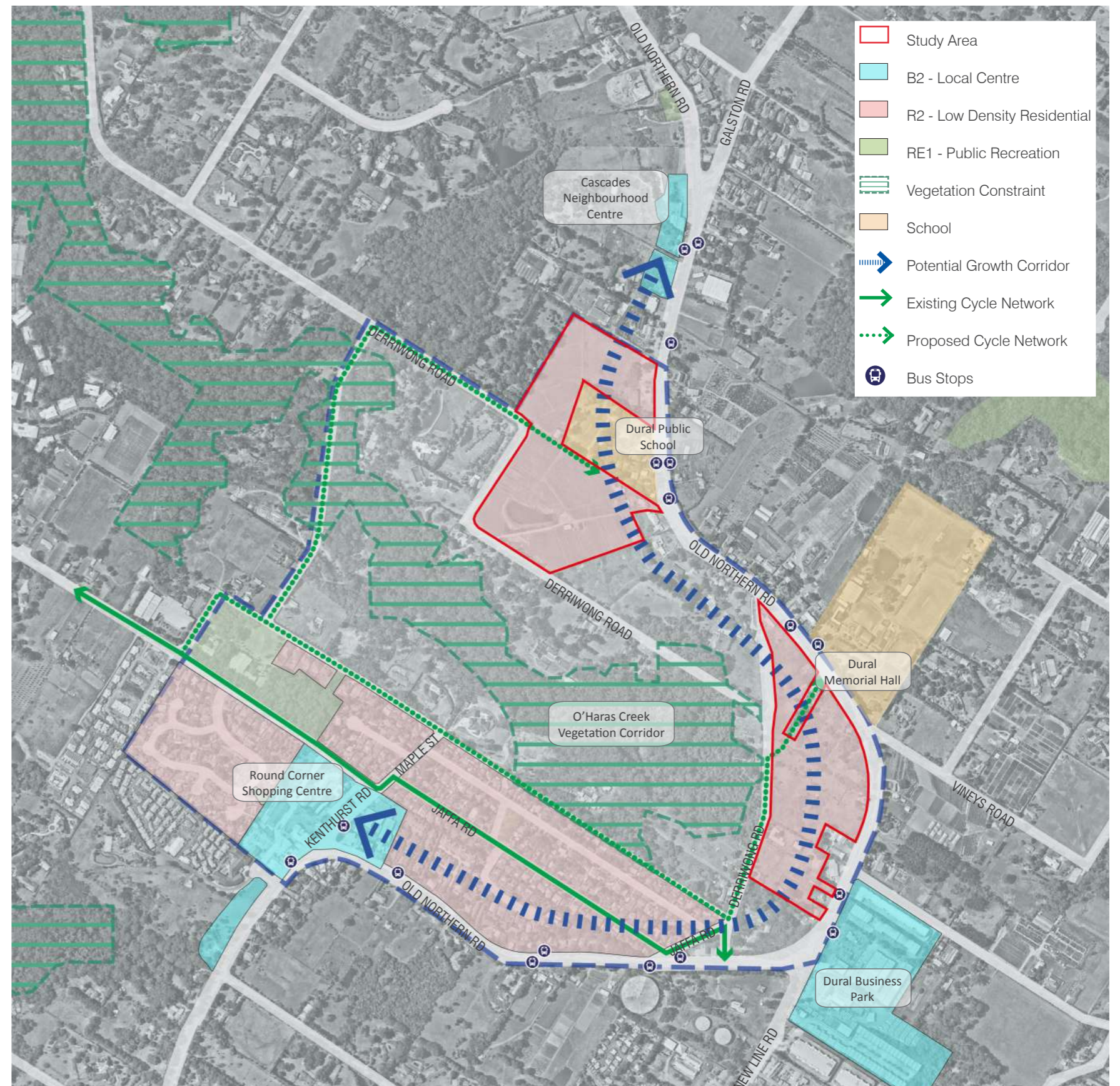


Figure 25: Summary of Opportunities

SCALE 1:10,000 @ A3



5.0 CONCEPT PLAN

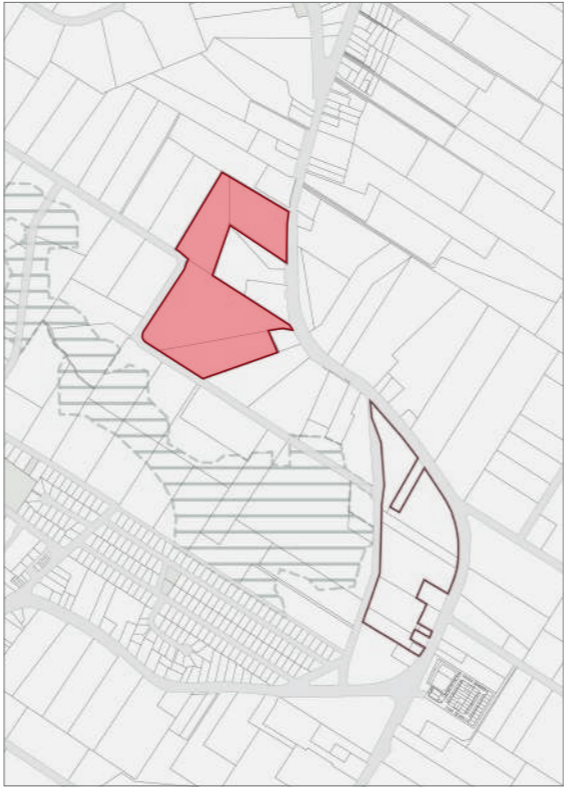
5.1 NORTHERN SITE

OVERALL PLAN

Low density residential is the predominant land use of the Northern Site. In compliance with the requirements of R2 - Low Density, the plan proposes a subdivision of typically 700m² residential allotments at the Northern Precinct.

The key benefits of the proposal for Northern Site include:

- An improved connectivity and permeability of the sites through the provision of new roads and connection to Derriwong Road for the locality.
- The provision of a new perimeter road around the Dural Public School, alleviating traffic issues off Old Northern Road and during peak school periods
- The provision of Left in/ Left out “LiLo” access points from the Old Northern Road



Key (1:20,000)

- Study Area
- Low Density Residential Lot
- Aquatic Centre
- Vegetation Constraint
- ➔ Left in/Left out Access Points
- Existing Pedestrian Overpass
- ⚡ Proposed Signalised Intersection
- Existing Bus Stops
- Archaeological Item - Cemetery

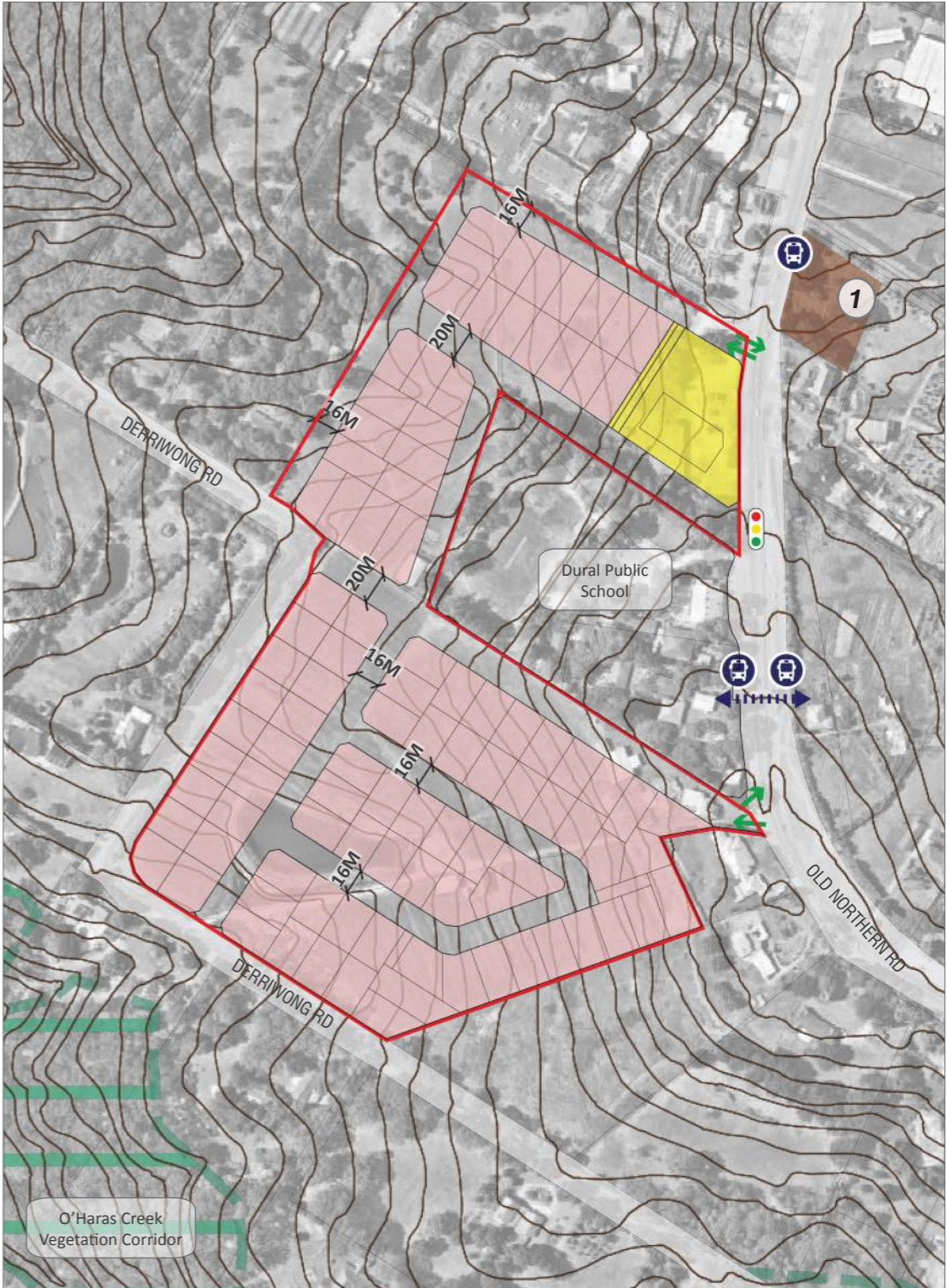


Figure 26: Northern Site Plan

SCALE 1:4,000 @ A3
0 50 100 150 200 METRES

COMMUNITY FACILITIES - AQUATIC CENTRE

The proposal of the Northern Site on Old Northern Road comprises an aquatic centre for the Dural community. The key features of the centre include:

- An indoor 25m lap pool.
 - A children's play and splash area.
 - Associated retail and cafe with outdoor seating.
 - An area for drop-off and pickup, some car parking variegated with landscaping will be accessed from the new road, south of the aquatic centre as well as an existing road off Old Northern Road at the north of the aquatic centre.
 - A potential underground car park is proposed to service the pool and the carpark.
 - A landscaped buffer from Old Northern Road, 15m from property boundary to building envelope, 10m from the new road at the south, providing an amenable interface for both passers by and users of the aquatic centre.
- Whilst provisions have been made to allow for generous setbacks from roads, wide separations from boundary to building line tend to decrease perceptions of safety for pedestrians. Setbacks with building edges closer to the road allow for greater passive surveillance and feelings of safety. The frontage on Old Northern Road will be activated with outdoor Cafe seating increasing passive surveillance on to the street.
 - A landscape buffer of 5m from Old Northern Road to the car park will further facilitate an amenable landscaped edge from this viewpoint
 - Landscape planting along the edge of the adjacent residential subdivision to the west.

- Study Area
- ① 5m Wide Vehicular Access
- ② Aqua Centre Main Entry
- ③ Underground Parking Entry
- ④ Playground with Parking Underground
- ⑤ Aqua Centre Building Envelope
- ⑥ Main Signage Wall
- ⑦ Adjacent Residential Lots
- ⑧ Building Setback for Vegetation Buffer
- ⑨ Left In & Out
- ⑩ Signalised Crossing

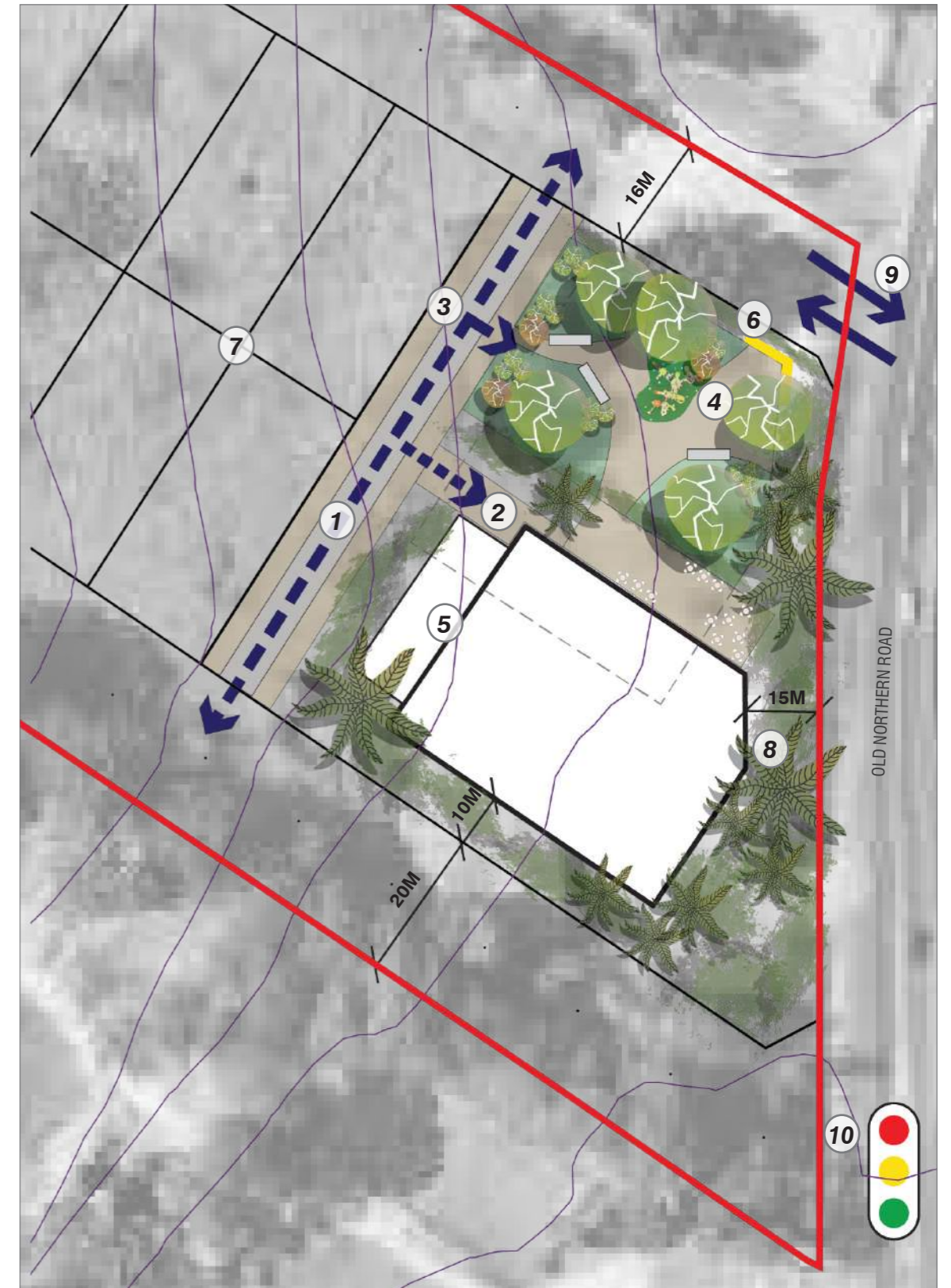


Figure 27: Aquatic Centre Plan

SCALE 1:800 @ A3

0 10 20 30 40





Figure 28: Artist Impression from the interior of Aquatic Centre



Figure 29: Artist Impression as viewed from Old Northern Road

5.2 SOUTHERN SITE

OVERALL PLAN

The concept plan for the Southern Site includes a mix of the following uses:

LOW DENSITY RESIDENTIAL

- 48 low density residential lots with a size of 700m²

SENIOR HOUSING - INDEPENDENT LIVING

- A senior housing allotment is proposed at the south end of the Southern site with 8,910 m²
- The senior housing is located in proximity to the bus stop which will provide easy access to public transport for residents.

AGED CARE

- The proposal has also incorporated an aged care facility at the east of the Southern Site with a site area of approximately 14,705m².
- The development of the facility will incorporate and respect the heritage item and its curtilage within the site. The cottage is currently in poor condition and it is envisaged that as part of the development, the item will be adaptively re-used into suitable uses such as a cafe/restaurant. Its curtilage establishes an opportunity for the item to be set within a landscaped area and utilising a clear address and interface with Old Northern Road.
- Setbacks with landscaped planting will be provided to improve the amenity of the facility and how it sits within the context of the surrounding area
- A through connection to Derriwong Road has also been proposed to improve the connectivity and accessibility locally.

HEALTH CARE FACILITIES

- A 3,000m² GFA of Day Surgery/ Medical Centre is proposed in a 10,664m². The proposed footprint provides active frontages to Old Northern Road and the main vehicular access to the site.
- Entrance of the facility is located in proximity to the Dural Memorial Hall

OPEN SPACE

- A park of 2,696m² is proposed at the intersection of Derriwong Road the main vehicular access to the site.
- In addition to providing amenity to local residents, this open space will be integrated with the existing Dural Soldiers Memorial Hall, the new medical centre and the Uniting Church Cemetery.

NEW CONNECTIONS

A key opportunity that this proposal has identified is to provide additional permeability for the locality:

- Providing new Left in/Left out intersections off Old Northern Road to improve access to future development, including the Memorial Hall.
- Providing direct access from Derriwong Road to Old Northern Road, particularly for residents further west close to O'Harra's Creek.
- Providing car parking and rear access to Dural Memorial Hall, alleviating traffic issues during special event days
- Improving active transport access to Round Corner, Dural Memorial Hall.



Key (1:20,000)

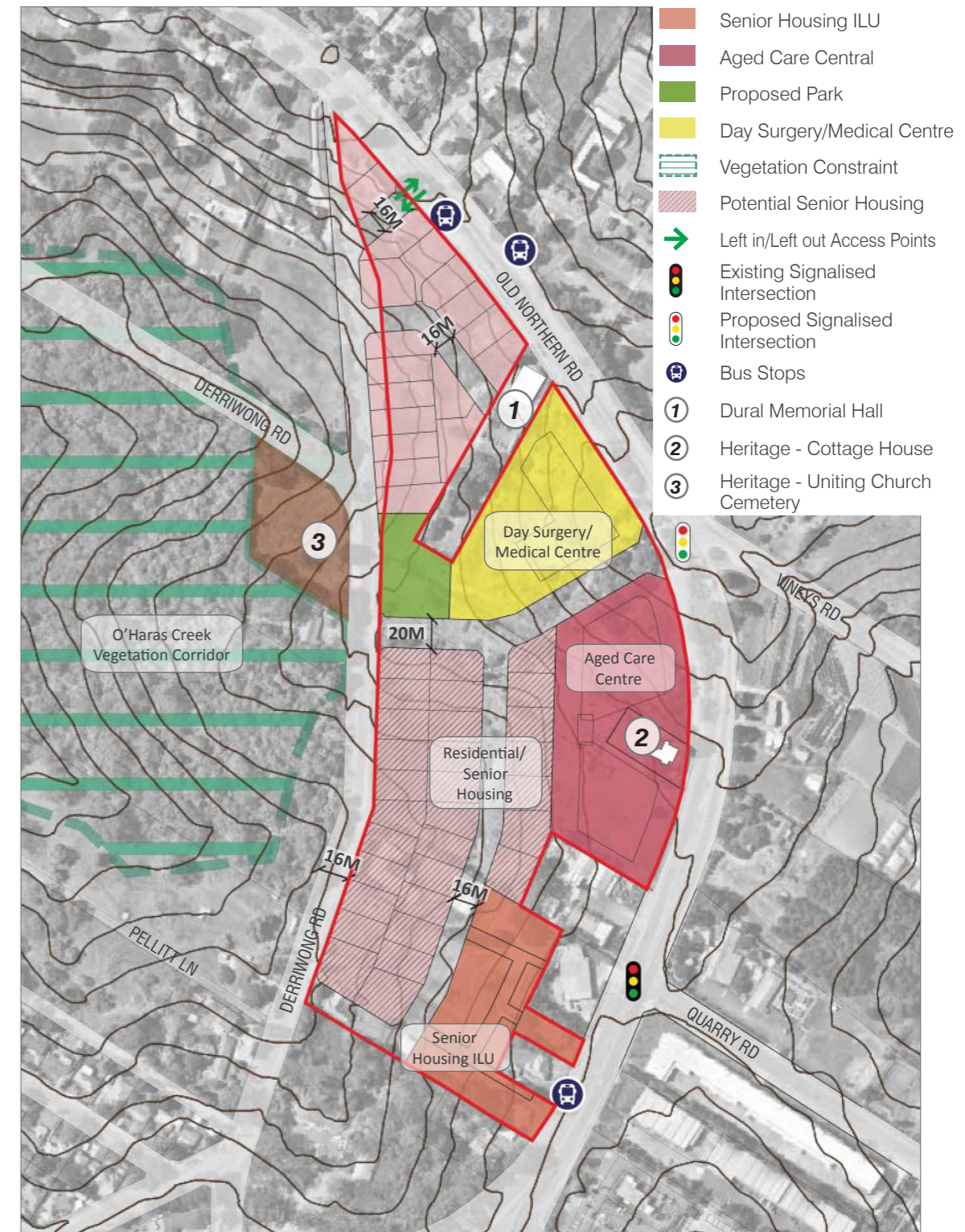


Figure 30: Southern Site Plan

SCALE 1:4,000 @ A3



HEALTH CARE FACILITIES

Day Surgery/ Medical Centre

The proposed Day Surgery/ Medical Centre is located opposite to the aged care facility, adjacent to the intersection of Old Northern Road and Vineys Road

The key features of the proposal of this health care facility include:

- A proposed plaza and cafe are located adjacent to Dural Soldiers Memorial Hall to provide a breakout area and an active frontage.
- Landscape planting along the setback for Old Northern Road and the 10m setback from the proposed new road. Whilst provisions have been made to allow for generous setbacks from roads, wide separations from boundary to building line decrease perception of safety for pedestrians. Setbacks with building edges closer to the road allow for greater passive surveillance and feelings of safety.
- Given that the high points are along Old Northern Road, built form can typically follow the natural ground line as a terraced enveloped breaking up potential bulk.
- It is proposed to be three storeys from Old Northern Road stepping down with the slope to address the maximum height limit.
- Provision of a new parking facility to the west of the building with adequate amount of landscaping










-  Study Area
-  Vehicle Access Point
-  Pedestrian Access Network
-  Section Cut
-  Pedestrian Activity Point
-  ① Cafe at Medical Centre ground level as Activity Point
-  ② Surface Parking for Medical Centre
-  ③ Existing Parking at rear of Dural Memorial Hall
-  ④ Proposed Community Park



Figure 31: Medical Centre Concept Plan

SCALE 1:1,250 @ A3
0 10 20 30 40 50

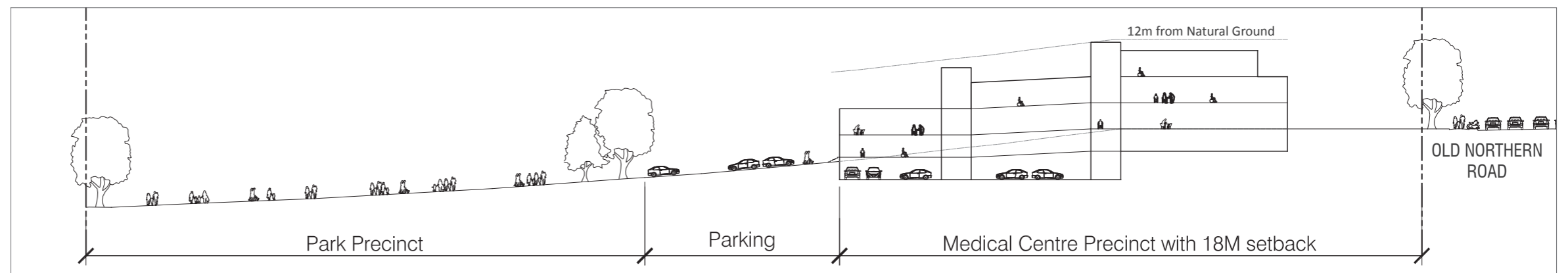


Figure 32: Medical Centre Section

SCALE 1:1,000 @ A3
0 10 20 30 40 50

AGED CARE

The proposed aged care facility is located to the east of the site.

- Vehicular access of this super lot is proposed to be located to the west with a signalised intersection at the intersection point of the new proposed road and Old Northern Road, in consideration of the traffic and safety issue
- Given that the high points are along Old Northern Road, built form can typically follow the natural ground line as a terraced enveloped breaking up potential bulk as perceived from Old Northern Road
- It is proposed to be three storeys from Old Northern Road stepping down with the slope to address the maximum height limit.
- Basement car parking is proposed to

minimise visual perception and urban heat island effect associated with surface car parking.

- The heritage item within the site is envisaged for adaptive re-use of the cottage. It can incorporate an independent cafe/restaurant with landscaped garden within the curtilage for patients, visitors and the general population.
- The adaptive re-use of this heritage item would also provide a special pedestrian entry point for the Aged Care Facility and can be serviced via the rear driveway proposed for the facility.
- A landscape buffer has also been proposed along the driveway to the residential area to minimise the impact of the facility on the

residential lots to the west and improve the overall amenity of the area

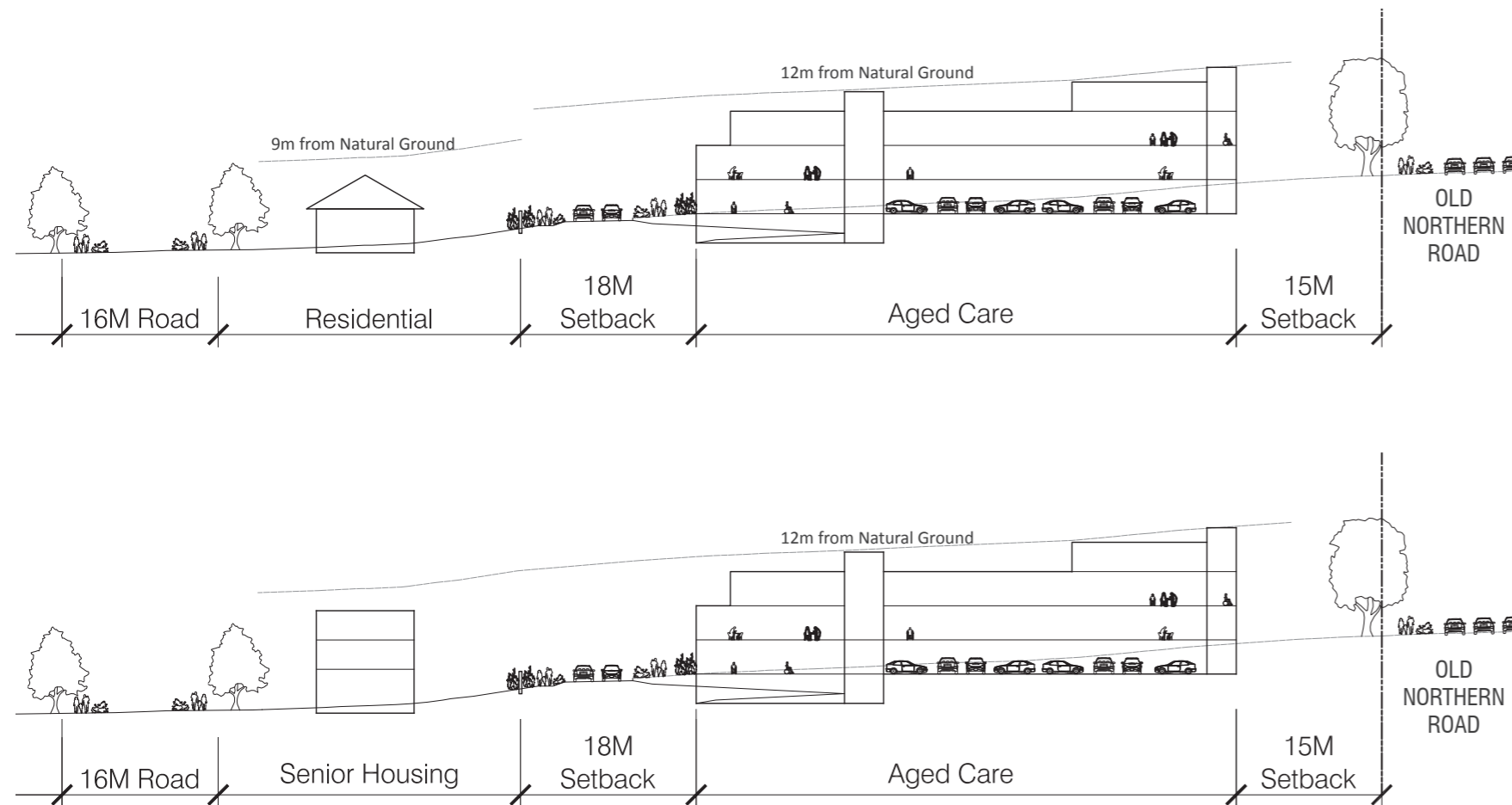


Figure 33: Aged Care Sections - Two Options

SCALE 1:1,000 @ A3
0 10 20 30 40 50 NORTH

- Study Area
- ➔ Vehicle Access Point
- ➔ Pedestrian Access Network
- Section Cut
- 🚦 Proposed Signalised Intersection
- ① Main Entry/ Drop off Point of Aged Care Facility
- ② Adaptive Re-use of Heritage Cottage House with landscaped garden

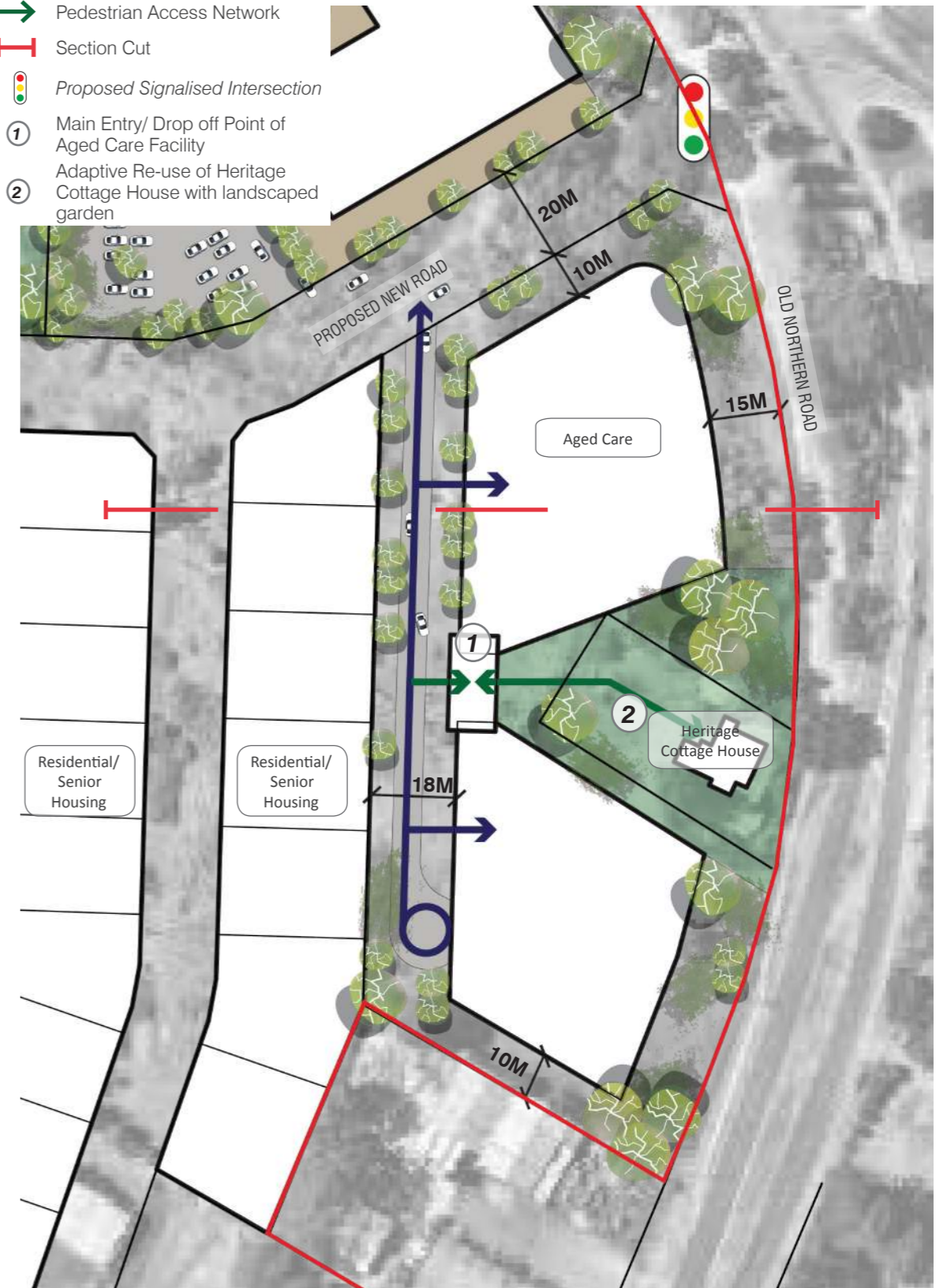


Figure 34: Aged Care Concept Plan

SCALE 1:1,250 @ A3
0 10 20 30 40 50 NORTH

6.0 CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

This urban design report has outlined an analysis of the regional and local context in the midst of the emerging change of character surrounding the subject sites. The sites are a desirable location for development given its prominent location in the context of the changing character of Dural along Old Northern Road. The sites present the logical extension of a more urbanised changing character along Old Northern Road given:

- It is now located between increasingly urbanised forms of development such as the rezoning and future character of Cascades to the north of the subject sites, the emerging character of the Round Corner local centre to its south-west and Dural Business Park to the south-east on at the junction of New Line Road and Old Northern Road and the future evolution of urban character in the South Dural proposal.
- A significant area of vegetation west of the sites, known as O'Hara's Creek, identified as an area of biodiversity (The Hills LEP 2012) presents a natural boundary for urban development in the area. Therefore incremental development extending from the Round Corner local centre is limited northwards along Old Northern Road towards the Cascade site.
- The identified heritage items and the environmental constraints have shown no major impacts on the sites. There is further opportunity to protect and improve the condition of the heritage item in the south site with adaptive re-use of the building and the utilisation of the curtilage to enhance its landscape setting to provide good interface with Old Northern Road and the future development.

- The proposed development has incorporated advice from technical consultants to minimise the possible impacts of future development to the existing built environment
- The opportunities of the sites illustrate the potential to integrate the future development in line with the future character of the area.
- The proximity of the sites to the new Castle Hill Station indicate the potential of the sites to be better connected to the greater Sydney region with the completion of Sydney Metro Northwest by 2019. This will enable improved access to surrounding employment and education centres

This urban design study has demonstrated that the rezoning and development of the two sites:

- Would represent the logical extension of the low density residential neighbourhood and urban centre Round Corner.
- Improves access of the Dural Public School and the Dural Memorial Hall, enhancing the relationship of the social infrastructure with the surrounding area.
- Will deliver additional amenities to the community with the delivery of recreation and open space facilities.
- Will benefit from the sites location proximate to a range of environmental and open space opportunities.
- Will be supported by and provide economic uplift to the two local centres adjacent to the sites.
- Improves vehicular and pedestrian permeability of the area, consolidating the urban fabric of Dural.

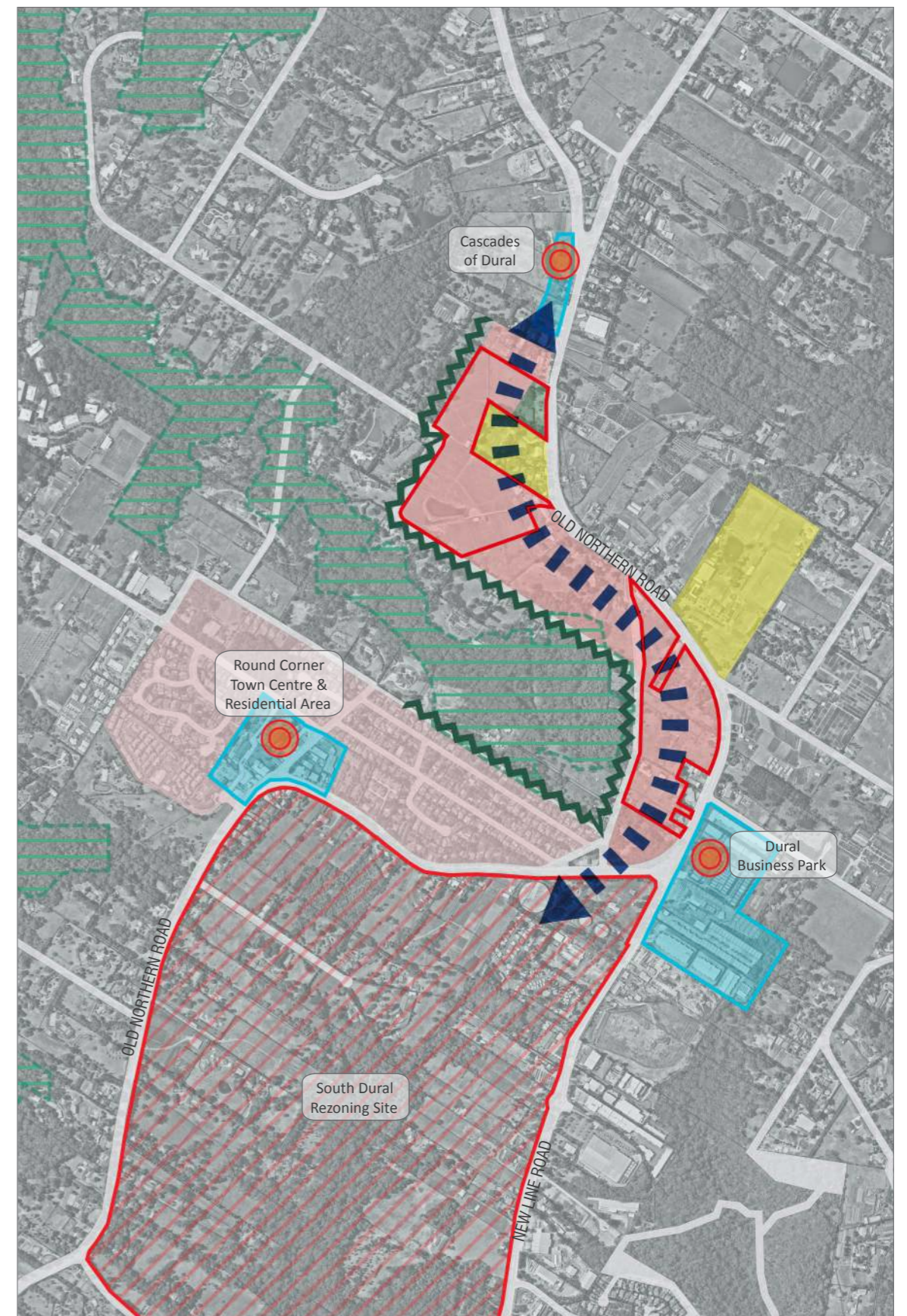


Figure 35: Rezoning Opportunities

SCALE 1:15,000 @ A3

0 200 400 600



6.2 RECOMMENDATION

The urban design analysis has found a potential to increase densities on the subject sites.

Urbis recommends the following amendments to the Land Zoning Map included in The Hills Local Environmental Plan 2012:

- The change of land zone classification from RU6 - Transition to **R2 - Low Density Residential** to consolidate a more urban character, similar to the surroundings of Round Corner Local Centre. This can potentially be incorporate the land between the Northern Site and the Southern Site
- A change of land zone to **RE2 - Private Recreation** for the inclusion of an aquatic centre for the community
- The inclusion of an additional park for Dural that requires a land zone classification **RE1 - Public Recreation**
- Potentially sensitive vegetated area along the O'Haras Creek to be re zone to **E2 - Environmental Conservation**

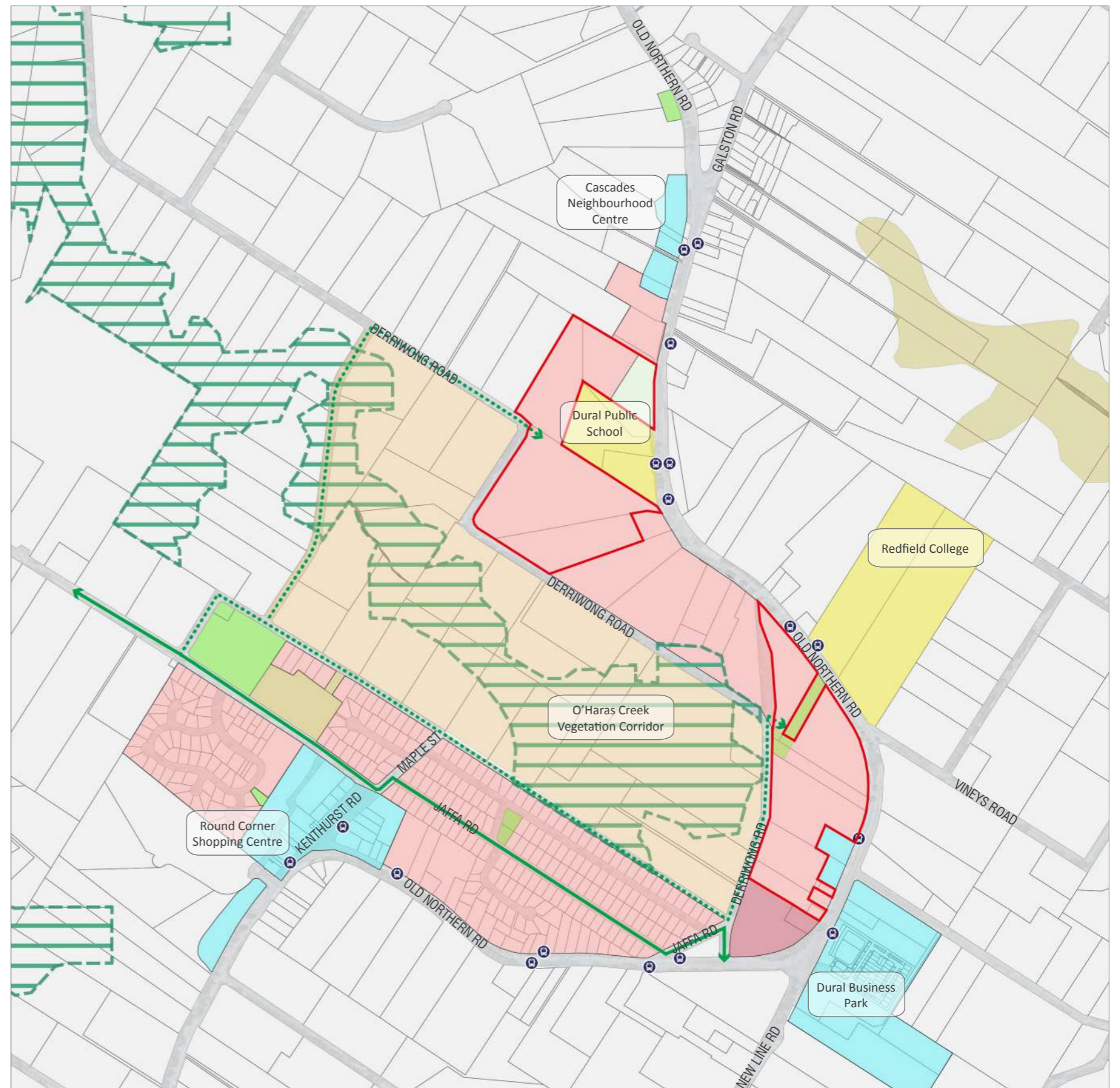
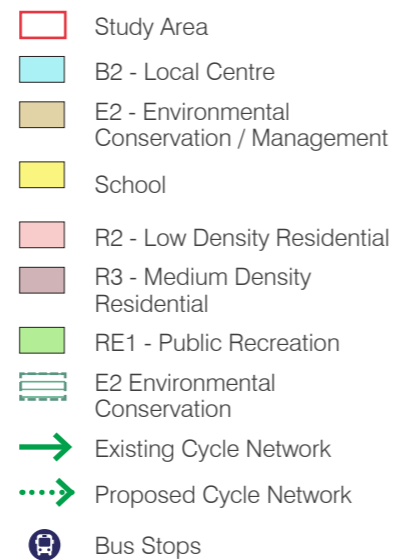


Figure 36: Land Zoning Map

SCALE 1:10,000 @ A3
0 100 200 300 400 500

Sydney

Level 23, Darling Park Tower 2
201 Sussex Street
Sydney, NSW 2000
t 02 8233 9900
f 02 8233 9966

Melbourne

Level 12, 120 Collins Street
Melbourne VIC 3000
t 03 8663 4888
f 03 8663 4999

Brisbane

Level 7, 123 Albert Street
Brisbane QLD 4000
t 07 3007 3800
f 07 3007 3811

Perth

Level 1, 55 St Georges Terrace
Perth WA 6000
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Residential Market Assessment

584, 586, 590, 600, 602, 606, 618 & 626 Old
Northern Road and 7, 11, 21 & 27 Derriwong Road,
Dural

February 2016

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

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Report Number	FINAL

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Executive Summary

Urbis has been commissioned to undertake a residential market assessment in respect of a planning proposal to develop residential dwellings on the sites at The Old Northern Road and Derriwong Road, Dural. The report also considers potential ancillary commercial uses on the site.

Key points to note from our residential analysis include:

- Medium density dwellings in the area continue to attract interest mainly from downsizers and retirees who are looking to move from acreage properties in the local area, typically at least one to two acres in size. The rural setting offered in Dural still appeals to these people and hence they don't want to move out of the area
- There has also been some demand for larger residential lots with detached dwellings. Demand is often driven by buyers who were looking in the Castle Hill/ Kellyville areas but have sought better value properties in Dural where the price increases have not been as significant

Overall, there is a need to provide a broader range of residential dwellings in Dural, providing more variety in terms of lot and dwelling size, and cost. The type of residential product in demand ranges from some larger residential lots to more medium density type stock such as townhouses and larger apartments. By providing a range of dwelling types on the site and in the broader area, this will ensure that the needs of the local market are met and that there is sufficient take-up of the residential product.

A variety of dwelling types will also ensure that the residential product in Dural does not become homogenous. The larger lots and detached dwellings dispersed throughout the medium density dwellings will ensure the character of Dural is maintained without contiguous lots of higher density buildings.

The suggested dwelling mix across the site is summarised in the table on the following page. Both low and high density options have been provided in the table, with the higher density option carrying more risk in terms of market supportability.

The majority of the dwellings on the subject site should be detached dwellings and townhouses, with the provision of some apartments. The internal size of the dwellings recommended for the subject site are generously proportioned with mostly three to four bedrooms.

The residential analysis also considers seniors living dwellings. There is a range of seniors living facilities available, often differentiated by the target age groups and the level of care provided. The three broad categories include over 55s facilities, Independent Living Units (ILUs) and aged care facilities. Our analysis indicates that there is likely to be demand in the medium term for seniors living in the local Dural area, more so for ILU and aged care facilities, provided that no other facilities are built prior.

Urbis has also considered the current and future supply of service station, gymnasium, child care centres, recreational facilities and ancillary retail associated with a day surgery/medical centre within the area in order to assess the demand for these types of facilities at the subject site.

Due to current provision, there is expected to be limited demand for service station or commercial gym uses at the site. There is also a significant provision of recreational facilities within the catchment area and considering the relatively limited population in the local area, there is unlikely to be significant demand for further facilities in the near future. Any future open spaces would, however, further improve the amenity for the surrounding and future residents.

In view of the current extensive supply of child care spaces, any proposed new centre should be targeted at meeting the needs of new residents on the site. In this regard, it would be prudent to wait until the residential development is established and to carefully monitor the household profile of new residents to determine whether this generates a demand for child care facilities.

The amount of ancillary retail sustainable within a future day surgery/medical centre on the site depends on the scale and function of the day surgery/medical centre itself. It is likely that a café (catering to staff, patients and visitors) and pharmacy would be supportable, with potentially a florist. A higher provision of beds could generate demand for more services.

Residential Mix Option

SUBJECT SITE

Southern Site

Dwelling Type	Number of Bedrooms	% of Total Dwellings		% of Dwellings by type
		Lower Density Option	Higher Density Option	
Apartment	2			30%
	3			<u>70%</u>
		30%	30%	100%
Townhouse	2			10%
	3			60%
	4			<u>30%</u>
		35%	70%	100%
Detached	3			20%
	4			<u>80%</u>
		35%		100%
		100%	100%	

Northern Site

Dwelling Type	Number of Bedrooms	% of Total Dwellings		% of Dwellings by type
		Lower Density Option	Higher Density Option	
Townhouse	2			10%
	3			60%
	4			<u>30%</u>
		10%	20%	100%
Detached Dwelling	3			20%
	4			<u>80%</u>
		90%	80%	100%
		100%	100%	

*Based on current sale prices

Source : Urbis

Introduction

Urbis has been commissioned to undertake a residential and ancillary commercial market assessment in support of a planning proposal to rezone land at Old Northern and Derriwong Roads, Dural to permit a mix of residential and commercial development.

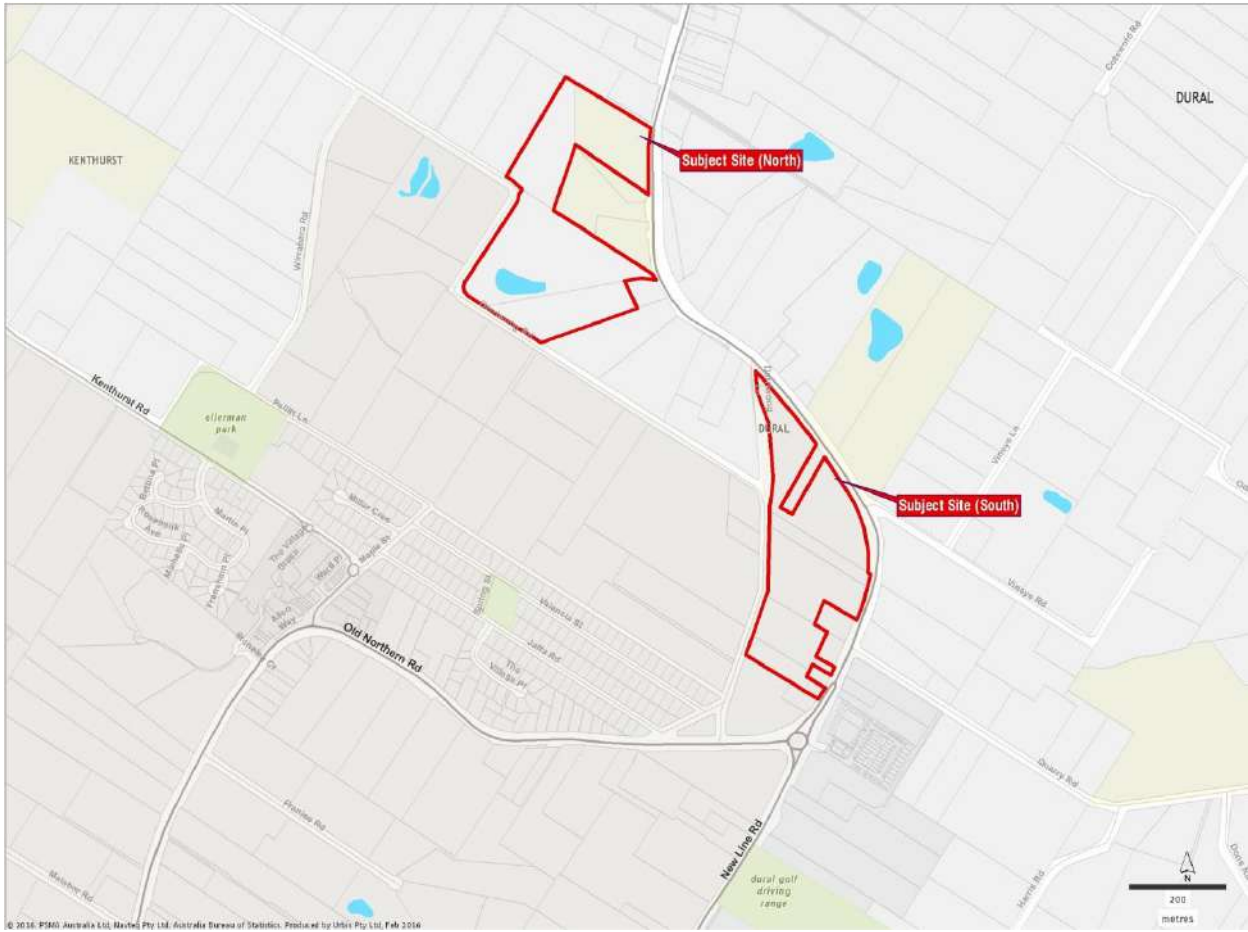
The subject site collectively includes the following land parcels:

- 584 Old Northern Road, Dural
- 586 Old Northern Road, Dural
- 590 Old Northern Road, Dural
- 600 Old Northern Road, Dural
- 602 Old Northern Road, Dural
- 606 Old Northern Road, Dural
- 618 Old Northern Road, Dural (also known as No. 25 Derriwong Road)
- 626 Old Northern Road, Dural
- 7 Derriwong Road, Dural
- 11 Derriwong Road (also known as 600A Old Northern Road), Dural
- 21 Derriwong Road, Dural
- 27 Derriwong Road, Dural

The subject site (referenced as the northern and southern sites throughout this report) is shown on Map 1.1 on the following page.

The remainder of this report is structured as follows:

- Section one provides a residential market analysis considering the local population, existing and proposed supply, the local residential sales market and residential demand drivers. Implications are drawn from this analysis to suggest the most suitable residential product for the subject site. This section also includes an analysis of the local seniors living market and the likely demand for this type of product in the local area.
- Section two provides an overview of the competitive environment for other potential commercial uses at the site, including service stations, gyms, child care centres, recreational facilities and ancillary retail uses associated with day surgery/medical centre uses. We note that a demand assessment for medical facilities is being undertaken separately.



1 Residential Market Analysis

This section provides an overview of the residential market in the Dural region.

1.1 RESIDENTIAL CATCHMENT ANALYSIS

This section examines the current demographic profile of the residential catchment for Dural in order to gain an insight into potential purchasers of residential dwellings at the subject site.

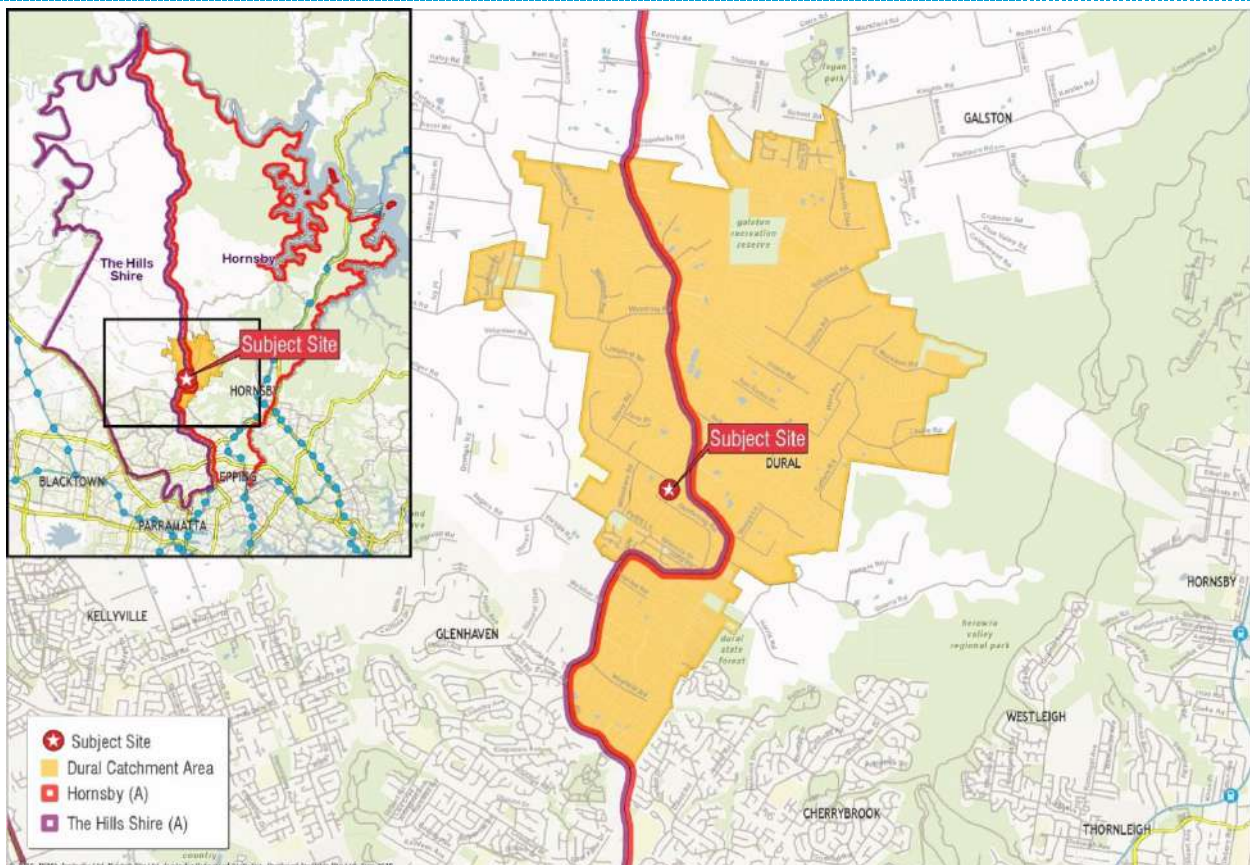
The residential catchment is defined by amalgamating Statistical Area Level 1 geographic areas (SA1s) surrounding the subject site in order to define an area which:

- Includes the subject site and environs to include Dural, Middle Dural to the north, Glenhaven to the south, Kenthurst to the west and Galston to the east
- Ensures that the geographic extent is sufficient to be able to capture areas where recent house building has occurred. Analysis of data from areas of recent house building activity provides the best guide as to the future buyer profile for the subject site.

The residential catchment area is shown in Map 1.1 below.

DURAL CATCHMENT AREA

MAP 1.1



POPULATION FORECASTS

The population of the Dural Catchment Area was approximately 5,800 as at the 2011 Census, after growing by approximately 1,300 persons from 2006 figures. This represented annual growth of 5.2% over the five year period, which was significantly higher than the annual population growth in The Hills Shire LGA (1.5%) and the Hornsby LGA (less than one per cent).

The catchment area is projected to have lower overall growth than both the Hills Shire and Hornsby LGAs moving forward. This is to be expected as the catchment area is less urbanised and has less planned development activity than other areas in the LGAs. Between 2016 and 2021 in the Dural Catchment Area, the population is projected to grow by 344 residents, to 6,100. The annual growth rate over this period is 1.2%, before tapering off to 0.3% to 0.4% to 2031.

Official population projections suggest that the Hills Shire LGA's population will achieve annual growth of 1.5% or above between 2011 and 2026, with growth underpinned by the development as part of the North West Growth Centre, before tapering off to 1.2% between 2026 and 2031.

The Hornsby LGA is projected to experience strong growth from 2011 to 2016 (1.8%) before declining to 0.6% per annum between 2026 and 2031.

Estimated Resident Population

DURAL CATCHMENT AREA, HILLS SHIRE LGA AND HORNSBY LGA

TABLE 1.1

	2001	2006	2011	2016	2021	2026	2031
Dural Catchment Area	4,483	4,468	5,756	5,742	6,086	6,191	6,302
Additional Residents	-	-15	1,288	-14	344	105	111
Average Annual Change (Nominal)	-	-3	258	-3	69	21	22
Average Annual Change (Percent)	-	-0.1%	5.2%	0.0%	1.2%	0.3%	0.4%
The Hills Shire LGA	146,045	165,143	177,536	193,793	210,190	226,191	239,597
Additional Residents	-	19,098	12,393	16,257	16,397	16,001	13,406
Average Annual Change (Nominal)	-	3,820	2,479	3,251	3,279	3,200	2,681
Average Annual Change (Percent)	-	2.5%	1.5%	1.8%	1.6%	1.5%	1.2%
Hornsby LGA	153,197	156,808	157,017	171,883	180,206	186,590	192,048
Additional Residents	-	3,611	209	14,866	8,323	6,384	5,458
Average Annual Change (Nominal)	-	722	42	2,973	1,665	1,277	1,092
Average Annual Change (Percent)	-	0.5%	0.0%	1.8%	1.0%	0.7%	0.6%

Source: ABS 2011 Census; SA Fi population forecasts; Urbis

DEMOGRAPHIC OVERVIEW

This section analyses the key socio demographic characteristics of the catchment of relevance to the assessment of residential uses on the subject site. The following table provides a summary of the key findings from the socioeconomic analysis, with the relevant charts provided on the subsequent pages.

Dural Residential Catchment – Key Demographic Indicators

SUMMARY (BASED ON 2011 CENSUS DATA)

TABLE 1.2

INDICATOR	VALUE	IMPLICATION
Average age	41.6 years	An older population compared to Hills Shire, Hornsby and Greater Sydney benchmarks. Residential development needs to be appropriately designed to cater to an older demographic
Average household income	\$102,189 p.a.	Higher household income than Sydney, but below both benchmark LGAs suggesting the need for a medium quality product
Most common dwelling structure	Detached dwellings	Low and medium density development with larger dwelling sizes continues to be the prevailing dwelling type in the area
Most common dwelling tenure type	Own home outright (42%)	High proportion of home ownership and limited investor activity
Average household size	2.7 persons	In line with Sydney average but below LGA benchmarks suggesting the need for a mix of dwelling sizes
Most common number of cars owned per household	2 cars (38% of households)	The catchment is located on the edge of an urban area and has limited public transport infrastructure resulting in higher private transport dependence. Garage provision will therefore be an important selling point

Age distribution: The average age for the residents of the Dural Catchment Area is 41.6 years, which is considerably higher than both the Hills Shire and Hornsby LGAs, at 36.7 and 38.6 years respectively. The average age of residents in the catchment area is also significantly higher than the average age across the broader Sydney area, which was 37.1 years as at the 2011 Census.

Within the catchment area, 33% of the population is aged over 55 years. This is compared to just 24% in the Hills Shire LGA, 26% in the Hornsby LGA and 24% across the greater Sydney area. This indicates an older population within the catchment area.

Household income profile: The average household income for the catchment area as at 2011 was \$102,189, which is 8.2% above the Sydney average of \$94,428. The average for the catchment area was, however, below the average across the Hills Shire and Hornsby LGAs which were \$119,428 and \$110,487 respectively.

The highest proportion of residents in the catchment area fall within the \$130,000 - \$156,000 income bracket (15%). The income distribution chart however shows that there is a higher than average proportion of residents with incomes between \$15,600 and \$41,600. Lower incomes in this region could be suggestive of part time employment, which given the age distribution could be attributed to retirees, as well as to teenagers.

Dwelling structure: As at 2011, detached houses made up the majority of dwellings in the catchment area, as well as in the Hills Shire and Hornsby LGAs; and across greater Sydney. The catchment area has a significantly higher proportion of detached houses than the Sydney average, with limited higher density dwellings.

The Dural Catchment Area has a much higher proportion of dwellings with four or more bedrooms (47%) than the Sydney average (30%). This is marginally higher than the proportion in the Hornsby LGA (44%), however below the proportion within the Hills Shire LGA (63%). Dwellings with three bedrooms were the second most common dwelling type in the catchment area, making up 34% of dwellings.

Dwelling tenure: The proportion of residents who own their home outright in the catchment area (42%) is higher than the Hills Shire and Hornsby LGAs (36% and 37% respectively) and significantly higher than the Sydney average (31%).

The proportion of catchment area residents who are in the process of purchasing and therefore have a mortgage (37%) is below the average across the Hills Shire and Hornsby LGAs, however marginally higher than the Sydney average.

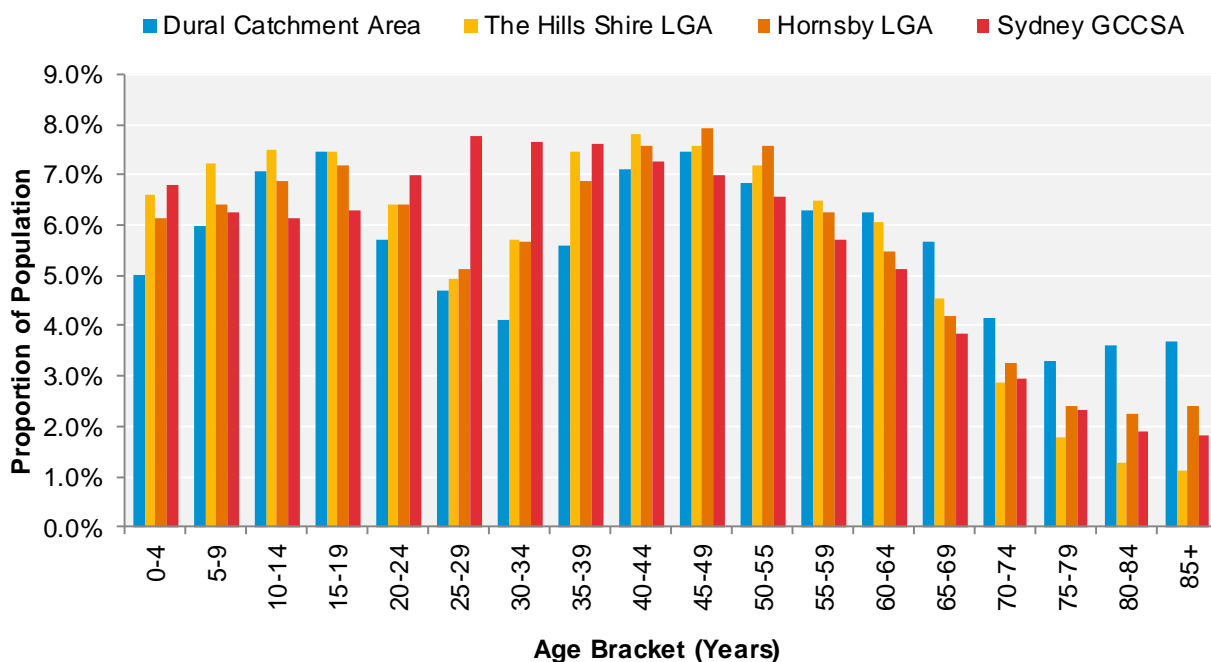
Family size and composition: The average household size for the Dural Catchment Area of 2.7 persons per dwelling is below that of the Hills Shire LGA (3.1 persons) and the Hornsby LGA (2.8 persons), however is in line with the Sydney average.

In terms of family types, couple families with no children is the most common family type within the catchment area (35%), which could represent younger couples without children or older couples who are empty nesters. This category is followed by couple families with children under 15 years of age (31%) which represents the young family households.

Number of cars per household: The majority of dwellings within the catchment area (38%) have two cars. The catchment area also has a higher than average proportion of dwellings with four or more cars (13%). This reflects the location of the catchment area on the edge of an urban area and the limited public transport infrastructure.

Age Distribution

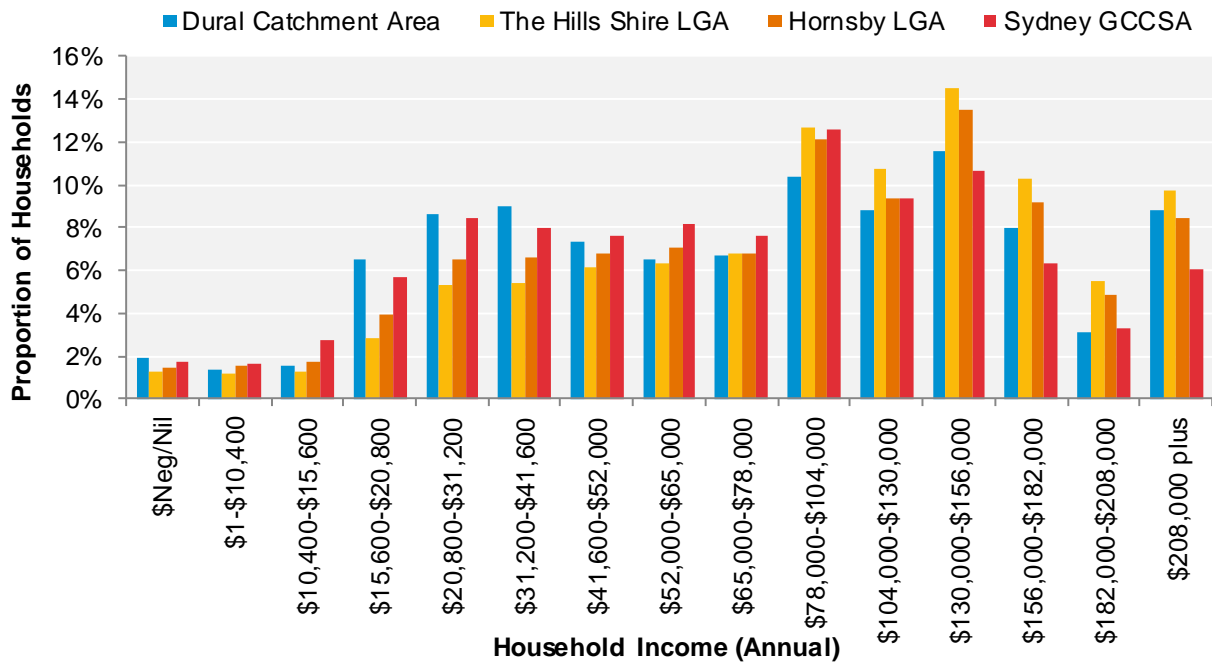
DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.1



Source: Australian Bureau of Statistics 2011 Census; Urbis

Household Income

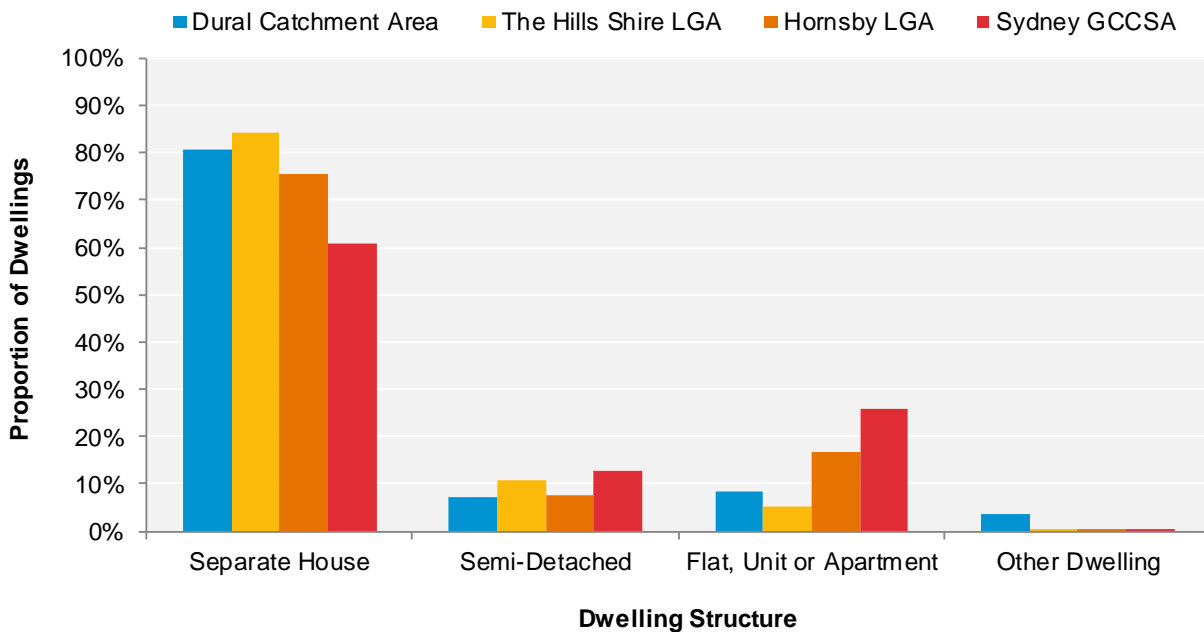
DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.2



Source: Australian Bureau of Statistics 2011 Census; Urbis

Dwelling Structure

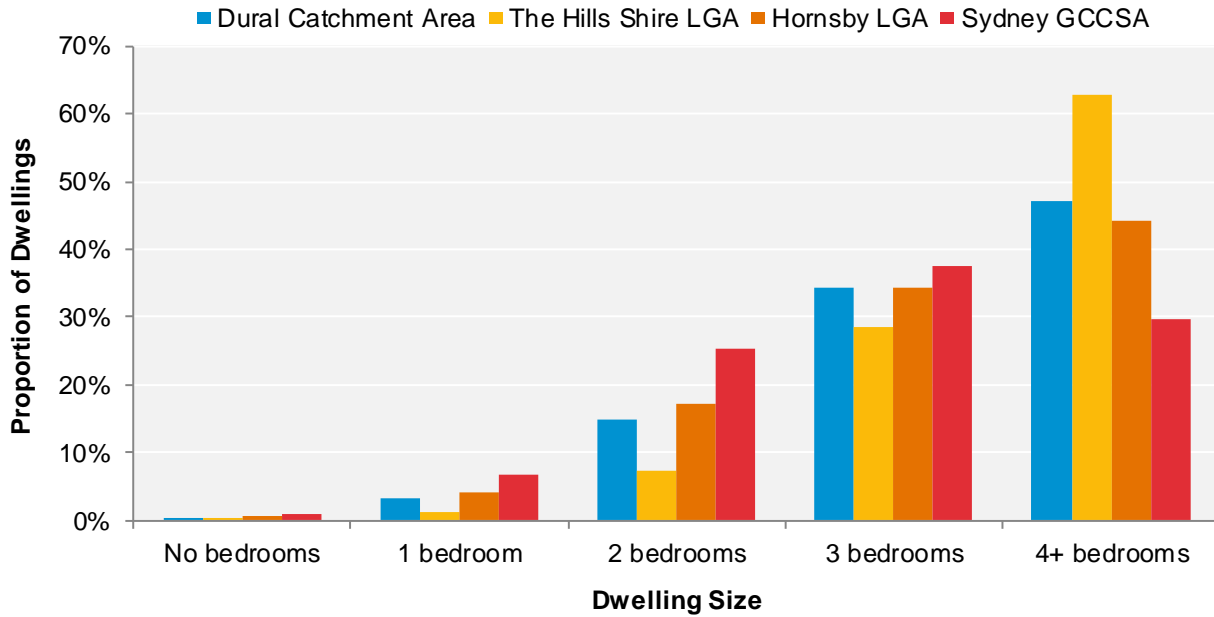
DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.3



Source: Australian Bureau of Statistics 2011 Census; Urbis

Dwelling Size

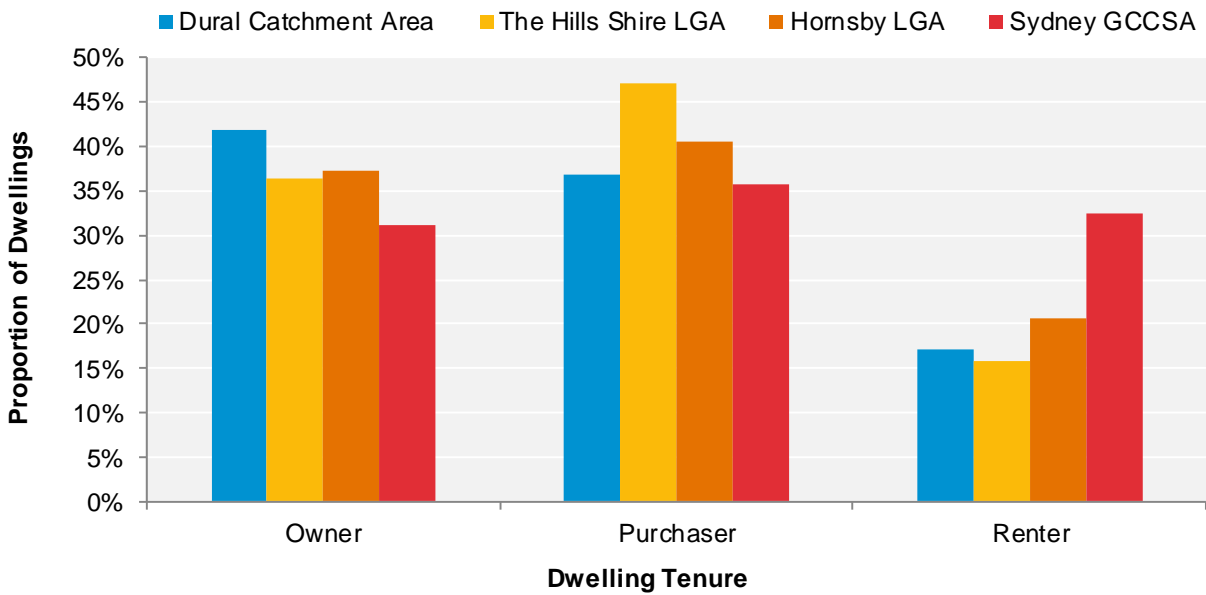
DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.4



Source: Australian Bureau of Statistics 2011 Census; Urbis

Dwelling Tenure

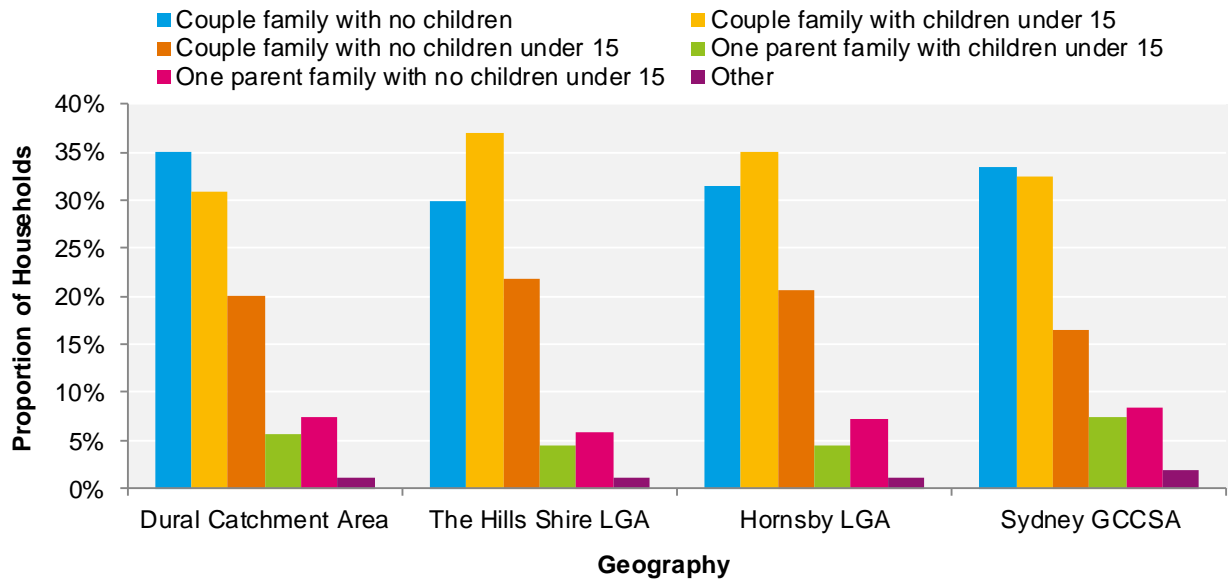
DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.5



Source: Australian Bureau of Statistics 2011 Census; Urbis

Family Composition

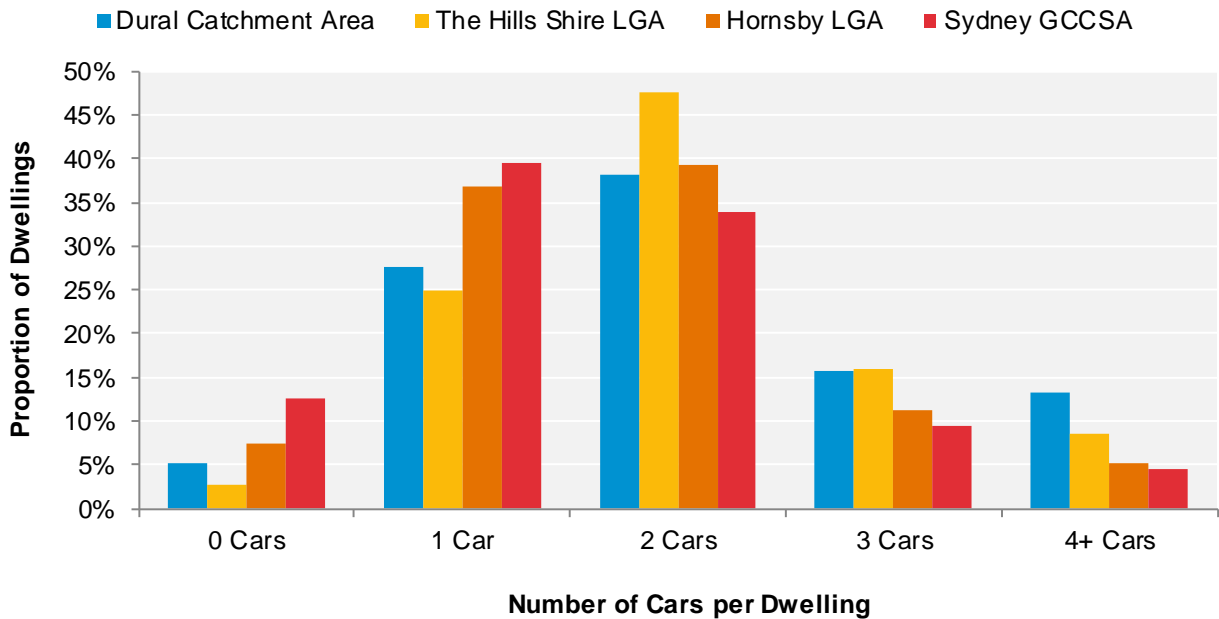
DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.6



Source: Australian Bureau of Statistics 2011 Census; Urbis

Number of Cars

DURAL CATCHMENT AREA, HILLS SHIRE LGA, HORNSBY LGA AND SYDNEY GCCSA CHART 1.7



Source: Australian Bureau of Statistics 2011 Census; Urbis

MIGRATION ANALYSIS

For the purpose of a residential assessment, it is important to consider where residents have moved from and hence the type of market that residential dwelling products should be aimed at.

Chart 1.8 below shows the top ten SA2 Statistical Areas where residents of the Dural Catchment Area lived five years prior to the 2011 Census.

The majority of residents lived in the Dural-Kenthurst-Wisemans Ferry SA2 (2,620 residents), the Galston-Laughtondale SA2 (884 residents) and the Glenhaven SA2 (163 residents) five years ago. As the Dural Catchment Area overlaps parts of these three SA2s, these figures would include residents who had not moved or those who had moved locally between 2006 and 2011.

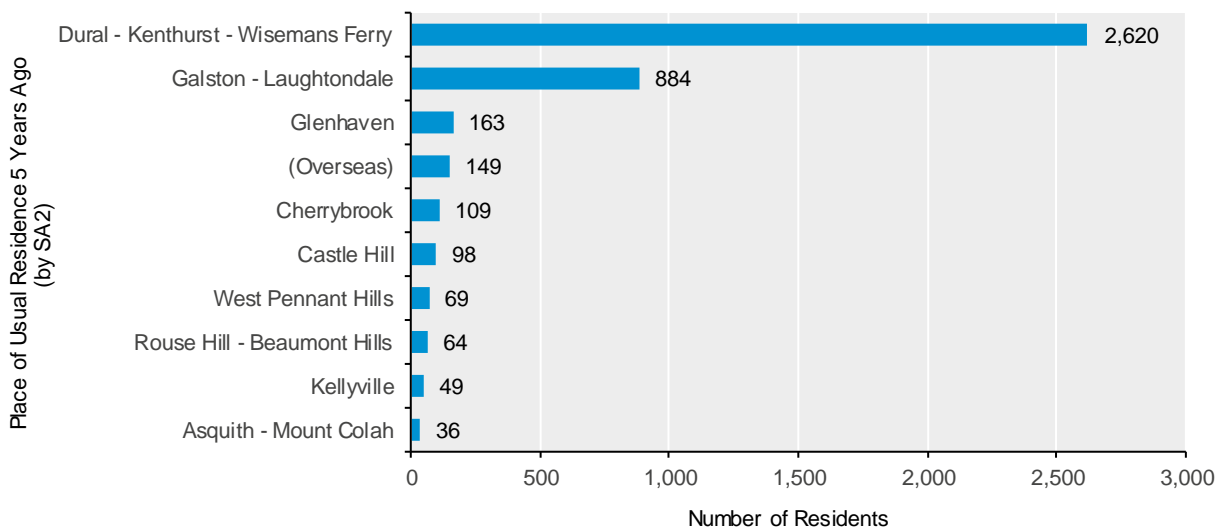
The chart also shows that a significant number of residents (almost 150) lived overseas five years prior to the 2011 Census before residing in the Dural Catchment Area. This is further evidenced in the demographics of the catchment area residents which show that approximately 6% of residents were born in the United Kingdom and 29% have British ancestry.

The remaining SA2s of usual residence are concentrated within the areas surrounding the Dural Catchment Area, such as Cherrybrook, Castle Hill and West Pennant Hills, highlighting that the majority of residents are from a relatively localised region.

Place of Usual Residence

DURAL CATCHMENT AREA, FIVE YEARS AGO (2011 CENSUS)

CHART 1.8



Source : Australian Bureau of Statistics, 2011 Census; Urbis

NEW DWELLING APPROVALS

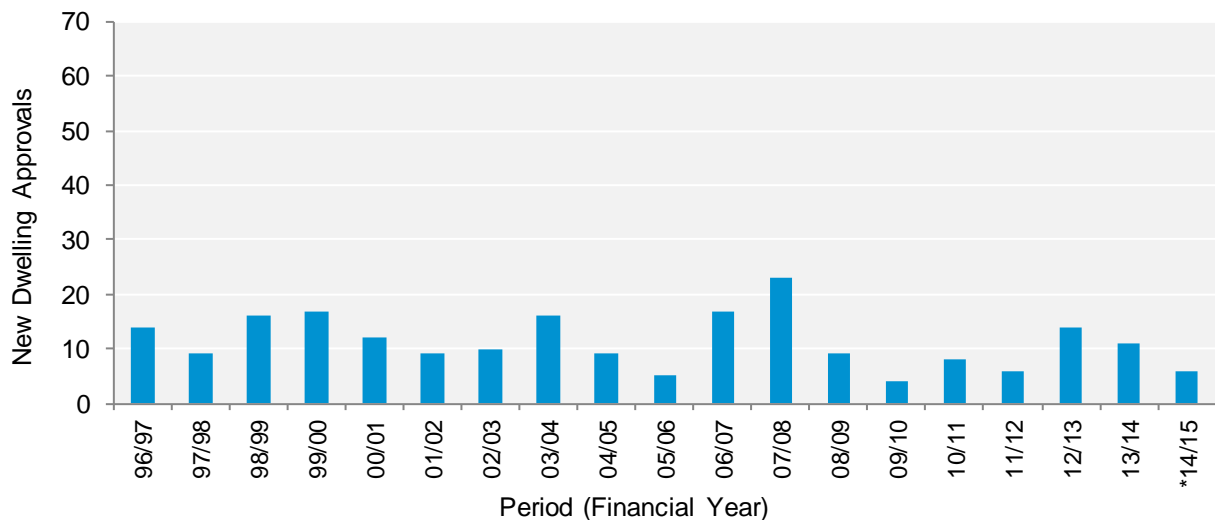
Chart 1.9 and Chart 1.10 show the new dwelling approvals (NDAs) for both houses and 'other dwellings' (including semi-detached, row, or terrace houses or townhouses; flats, units or apartments) within the Dural Catchment Area between 1996 and 2015. The key observations from these charts include:

- The number of NDAs for houses has been more consistent across the period than for other dwellings. The number of other dwelling NDAs has been more sporadic however this is likely to be due to the nature of such developments, whereby multiple dwellings are built in a single development.
- There is no clear preference or growing trend towards a particular dwelling type over the period, with the NDAs for both dwelling types fluctuating significantly.

New Dwelling Approvals – Houses

DURAL CATCHMENT AREA (1996 – 2015)

CHART 1.9

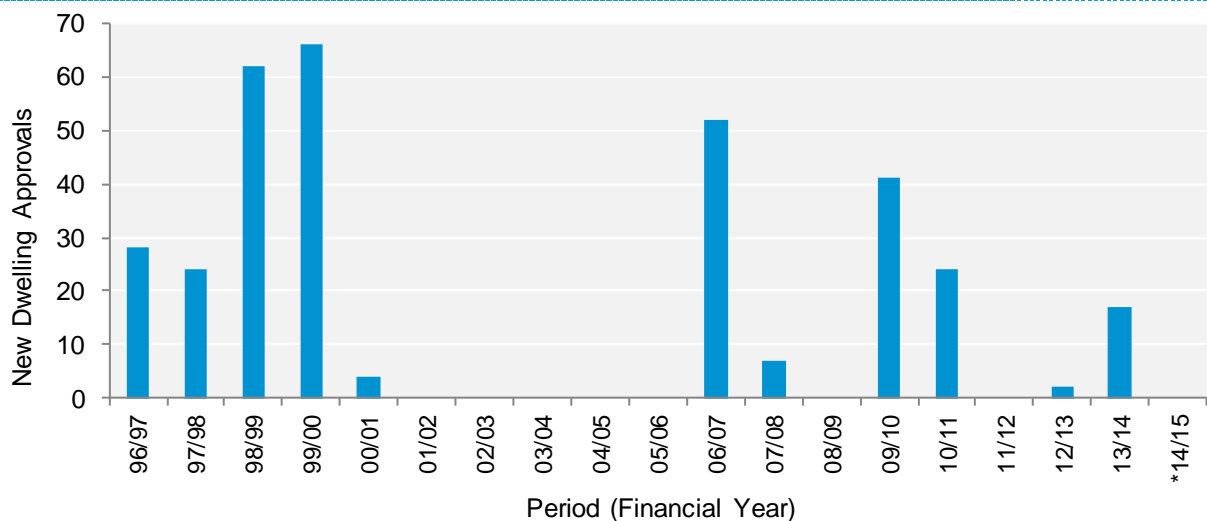


*Note: 2014/15 data is for three quarters only. 2011 data onwards is based on the new 2011 SA1 geography
Source: Australian Bureau of Statistics Census 1996, 2001, 2006 and 2011; Urbis

New Dwelling Approvals – Other Dwellings

DURAL CATCHMENT AREA (1996 – 2015)

CHART 1.10



*Note: 2014/15 data is for three quarters only. 2011 data onwards is based on the new 2011 SA1 geography
Source: Australian Bureau of Statistics Census 1996, 2001, 2006 and 2011; Urbis

IMPLICATIONS FOR THE SUBJECT SITE

The following implications can be drawn out in relation to the development potential on the subject site:

Age distribution: The age distribution of the Dural Catchment Area reflects that of an older population and suggests that there is a high proportion of retirees. This has implications for a potential development on the site which would need to accommodate older residents, with accessibility being important. This also suggests the potential need for seniors living dwellings on the subject site and this will be considered later in this report.

Household income profile: The household income characteristics can have significant implications when considering the pitch and quality of offer of residential uses on the site. The average household income for the Dural Catchment Area is above the Sydney average but below that of the Hills Shire and Hornsby LGA averages.

Lower household incomes in this area could be a reflection of the employment sectors in which people work. Equally however, it could also signify a proportion of households containing retirees and therefore not deriving an income.

The pricing of housing should therefore be pitched towards a medium quality product and have considerable regard to historic and current pricing being achieved within the local market.

Family size and composition: Couple families with no children make up the highest proportion of households in the Dural Catchment Area, indicative of the retiree and empty nester markets. Couple families with children under 15 years are the second most common family type, which indicate a significant young family market.

This implies that residential development on the subject site needs to cater to varying markets, with dwelling sizes ranging from two to four bedrooms, and a mix of dwellings types be more heavily weighted towards lower density dwellings such as detached and semi-detached (e.g. townhouses).

Dwelling structure: Detached houses are the most common dwelling type within the Dural Catchment Area, with semi-detached and unit dwellings making up less than 16% of the total dwellings combined. Furthermore, the average household size for the catchment area is comparatively large, with a high proportion of dwellings with four or more bedrooms (47%).

The region is still a predominantly detached housing market, but strategic planning is making increasing provisions for higher density around town centres (such as Rouse Hill Town Centre). This trend is further being fuelled by housing affordability issues where semi-detached or apartment dwellings are generally more affordable than detached dwellings on large lots of land.

In our view the dwelling mix on the subject site could contain a combination of dwellings types including detached, semi-detached and apartments, with higher density dwelling located closest to retail and services. There should be a high proportion of larger dwellings, to cater to the high average household sizes.

Number of cars per household: Car ownership within the Dural Catchment Area is high and hence this needs to be considered in the provision of car spaces that are provided with the residential dwellings. The socio demographic data suggests that most dwellings on the subject site should have two car spaces.

Migration analysis: The migration analysis suggests that the majority of residents are moving into the Dural Catchment Area from the local area and hence are generally accustomed to larger dwelling sizes and enjoy the lifestyle and amenity offered in this area of Sydney.

1.2 RESIDENTIAL SUPPLY ASSESSMENT

This section considers the existing and proposed supply of residential dwellings in the region surrounding the subject site in suburbs such as Dural, Galston, Glenhaven, Glenorie and Arcadia. Due to the limited amount of residential development activity occurring in the Dural area within the past decade, we have extended the analysis to the surrounding areas to get a better understanding of the residential trends.

MAJOR RESIDENTIAL DEVELOPMENT PROFILES

This section provides a summary of selected completed major residential developments relevant to the subject site. These profiles provide examples of the types of residential developments occurring in the region and consider characteristics such as location, mix, size and sale price, where available.

The table below shows a summary of the major developments selected for profiling, with the detailed development profiles on the subsequent pages and a map showing their location below.

Summary of Selected Major Developments

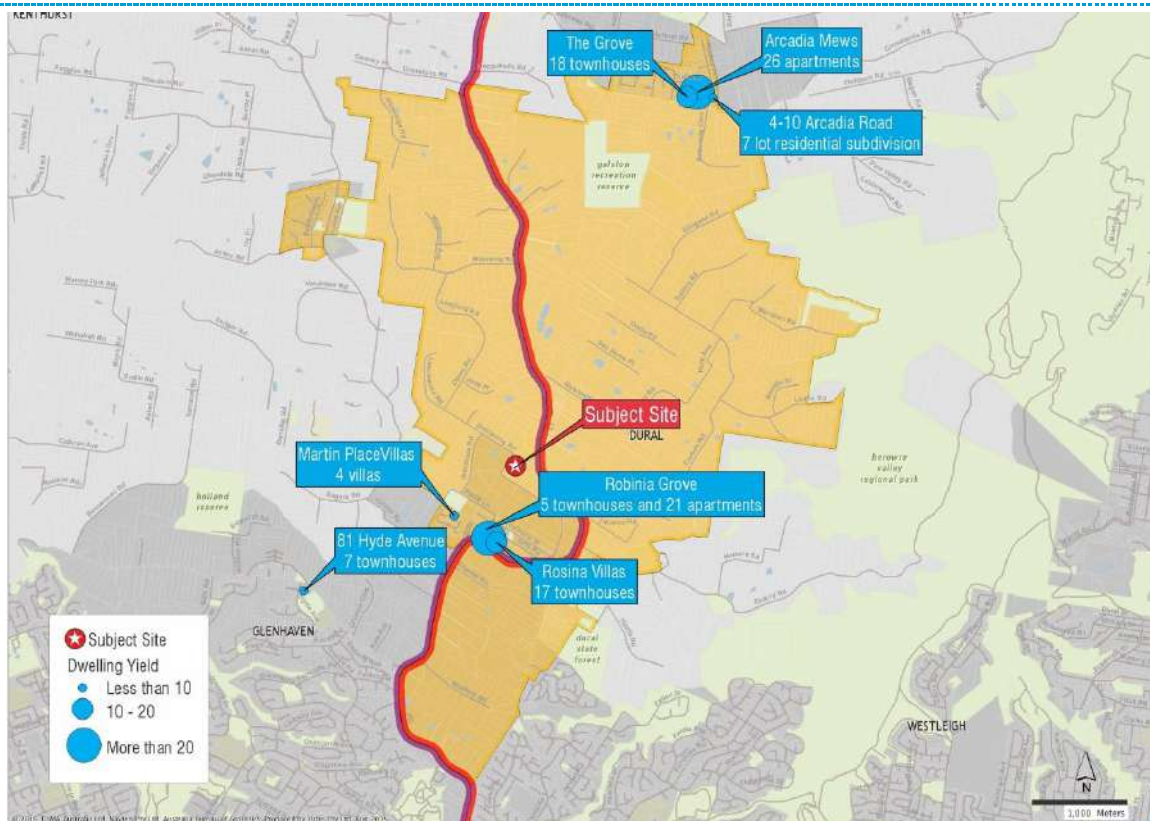
DURAL, GALSTON, GLENHAVEN, GLENORIE AND ARCADIA SUBURBS

TABLE 1.3

DEVELOPMENT	ADDRESS	YIELD
Arcadia Mews	5 Arcadia Road, Galston	26 apartments
Martin Place Villas	6 Martin Place, Dural	4 villas
Rosina Villas	550 Old Northern Road, Dural	17 townhouses
n.a.	4-10 Arcadia Road, Galston	7 lot residential subdivision
n.a.	81 Hyde Avenue, Glenhaven	7 townhouses
Robinia Grove	542-544 Old Northern Road, Dural	5 townhouses and 21 apartments
The Grove	364-368 Galston Road, Galston	18 townhouses

LOCAL RESIDENTIAL DEVELOPMENTS

MAP 1.2



PROJECT NAME	Arcadia Mews
ADDRESS	5 Arcadia Road, Galston
DEVELOPER	Marana Developments Pty Ltd
YEAR BUILT	2010
YIELD	26 apartments
PRODUCT MIX	2 bed: 5 apartments (19%) 3 bed: 21 apartments (81%)
SIZES	2 bed: 80-88 sq.m 3 bed: 92 - 100 sq.m
PRICES	Unit 10 (3 bedroom apartment): Initially sold for \$429,000 in May 2010 and most recently resold in November 2014 for \$470,000 Unit 18 (3 bedroom apartment): Initially sold for \$429,000 in June 2010 and most recently resold in April 2015 for \$628,500 Unit 21 (2 bedroom apartment): Initially sold for \$382,000 in February 2010 and most recently resold in March 2015 for \$585,000
APARTMENT FEATURES	- 2 bathrooms per apartment - 2 secure car spaces per apartment and store rooms in most apartments



Source: realestate.com.au; RPData; Urbis

PROJECT NAME	Martin Place Villas
ADDRESS	6 Martin Place
DEVELOPER	Elim Constructions
YEAR BUILT	2011
YIELD	4 villas
PRODUCT MIX	1 x 1 bedroom, 1 x 2 bedroom, 1 x 3 bedroom and 1 x 4 bedroom villas
SIZES	Unit 1: 57 sq.m Unit 2: 87 sq.m Unit 3: 123 sq.m Unit 4: 229 sq.m
PRICES	Unit 1 (1 bedroom villa): Initially sold for \$430,000 in July 2012 and most recently resold in May 2014 for \$495,000 Unit 2 (2 bedroom villa): Initially sold for \$535,000 in May 2012 and has not been resold since Unit 3 (3 bedroom villa): Initially sold for \$638,000 in August 2011 and has not been resold since Unit 4 (4 bedroom villa): Initially sold for \$680,000 in July 2011 and has not been resold since
FEATURES	- Each villa has 2 car spaces



Source: realestate.com.au; RPData; Urbis

PROJECT NAME	Rosina Villas
ADDRESS	550 Old Northern Road, Dural
DEVELOPER	Hardenbergia Pty Ltd
YEAR BUILT	2011
YIELD	17 villas
PRODUCT MIX	17 x 3 bedroom villas
SIZES	Each villa is approximately 120 sq.m
PRICES	Villas initially sold for \$637,500 to \$655,000 in 2012/ 2013. Unit 15 recently resold in September 2014 for \$782,000
FEATURES	<ul style="list-style-type: none"> - 3 bathrooms - 2 car garage



Source: realestate.com.au; RPData; Urbis

PROJECT NAME	n.a.
ADDRESS	4-10 Arcadia Road, Galston
DEVELOPER	n.a.
YEAR BUILT	2013
YIELD	7 lot residential subdivision (house and land packages)
PRODUCT MIX	House and land packages, mostly 4 bedroom homes
SIZES	Lot 2: 550 sq.m (land size) Lot 4: 523 sq.m (land size), 272 sq.m (building size) Lot 5: 525 sq.m (land size), 272 sq.m (building size)
PRICES	Lot 2: \$648,800 (March 2012) Lot 4: \$694,850 (Feb 2014) Lot 5: \$673,995 (March 2012)
FEATURES	- 3 bathrooms - 2 car garage



Source: realestate.com.au; RPData; Urbis

PROJECT NAME	n.a.
ADDRESS	81 Hyde Avenue, Glenhaven
DEVELOPER	Australand Holdings
YEAR BUILT	2005
YIELD	7 townhouses
PRODUCT MIX	3 and 4 bedroom townhouses
SIZES	Unit 4: 156 sq.m (total floor area) Unit 6: 150 sq.m (total floor area)
PRICES	Unit 1 (4 bedroom townhouse): Initially sold for \$500,000 in July 2005 and most recently resold in February 2013 for \$630,000 Unit 4 (4 bedroom townhouse): Initially sold for \$480,000 in February 2007 and most recently resold in June 2014 for \$820,000 Unit 6 (3 bedroom townhouse): Initially sold for \$499,000 in June 2006 and most recently resold in May 2013 for \$624,400 Unit 7 (3 bedroom townhouse): Initially sold for \$485,000 in December 2005 and most recently resold in May 2013 for \$636,000
FEATURES	<ul style="list-style-type: none"> - 2 bathrooms - 2 car garage



Source: realestate.com.au; RPData; Urbis

PROJECT NAME	Robinia Grove
ADDRESS	542-544 Old Northern Road Dural
DEVELOPER	Yorkcove Pty Ltd
YEAR BUILT	2000
YIELD	26 townhouses and apartments
PRODUCT MIX	5 townhouses (2 x 2 bed, 3 x 3 bed) 21 units (8 x 2 bed, 13 x 3 bed)
SIZES	Unit 9 (2 bedroom unit): 135 sq.m (including garage)
PRICES	Unit 4 (3 bedroom townhouse): Initially sold for \$179,000 in March 1998 and most recently resold in March 2015 for \$775,000 Unit 6 (3 bedroom townhouse): Initially sold for \$361,000 in July 2001 and most recently resold in August 2014 for \$735,000 Unit 9 (2 bedroom apartment): Initially sold for \$252,000 in December 1999 and most recently resold in March 2015 for \$650,000 Unit 18 (2 bedroom apartment): Initially sold for \$245,000 in October 1999 and most recently resold in January 2015 for \$665,000
FEATURES	<ul style="list-style-type: none"> - 2 bathrooms - 1 car space for 2 bedroom dwellings, 2 car spaces for 3 bedroom dwellings



Source: realestate.com.au; RPData; Urbis

PROJECT NAME	The Grove
ADDRESS	364-368 Galston Road, Galston
DEVELOPER	Tristar Ventures Pty Ltd
YEAR BUILT	2001
YIELD	18 townhouses
PRODUCT MIX	18 x 3 bedroom townhouses
SIZES	Approx. 114 – 166 sq.m (total floor area)
PRICES	<p>Unit 2 (3 bedroom townhouse): Initially sold for \$300,000 in October 2001 and most recently resold in December 2014 for \$620,000</p> <p>Unit 4 (3 bedroom townhouse): Initially sold for \$280,000 in August 2001 and most recently resold in November 2014 for \$610,000</p> <p>Unit 5 (3 bedroom townhouse): Initially sold for \$290,000 in August 2001 and most recently resold in August 2013 for \$530,500</p> <p>Unit 17 (3 bedroom townhouse): Initially sold for \$290,000 in November 2001 and most recently resold in October 2013 for \$525,000</p>
FEATURES	<ul style="list-style-type: none"> - 2 bathrooms - 2 car garage



Source: realestate.com.au; RPData; Urbis

PROPOSED RESIDENTIAL DEVELOPMENTS

There is limited residential development activity proposed within the region surrounding the subject site. Table 1.4 below provides a summary of the developments that are proposed within the suburbs of Dural, Galston, Glenhaven, Glenorie and Arcadia.

Two of these proposed developments are residential subdivisions, one of which is a rural residential subdivision which is not directly relevant to the subject site because of the large scale of the lots proposed (4,022 sq.m to 7,099 sq.m).

The Skyline Dural development presents the most significant competition to the development of the subject site if the project is to go ahead. This development is approximately 1.4 kilometres from the subject site along Old Northern Road and proposes a significant number of residential dwellings in addition to other potential competing land uses such as retail and commercial uses.

The Cascades development also presents potential competition to the development of the subject site. The Cascades site is just 250 metres to the north of the subject site and proposes a range of land uses such as residential, retail and commercial uses which may also compete with a development on the subject site.

For the purposes of our analysis, we have assumed that the South Dural precinct development will not proceed within the timeframe considered. We are advised that fragmented land ownership and infrastructure servicing costs are currently limiting the ability for the land to be brought forward for residential development.

Proposed Residential Developments

DURAL, GALSTON, GLENHAVEN, GLENORIE AND ARCADIA SUBURBS

TABLE 1.4

Project Title	Address	Yield	Estimated Completion	Stage	Description
South Dural Subdivision	Bound by Old Northern, New Line & Hastings Roads, Dural	3,000 lots	2025	Rezoning application	Proposed residential subdivision of 3,000 lots with sizes ranging from 250sq.m to 2,000sq.m and to include 3-5 storey dwellings, townhouses & terraces, detached dwellings and large lots
Skyline Dural	488-494 Old Northern Road, Dural	80 apartments and 21 townhouses	2019	Rezoning application	Planning proposal to facilitate the development of a part 4/ part 5 storey residential flat building containing 80 apartments and ground floor retail uses on the southern portion of site. The concept also includes a retail/ commercial building at northern end comprising a supermarket, specialty stores, office suites and 3 levels of basement parking. The proposal also includes 21 townhouses at rear of development
Cascades	636 Old Northern Road, Dural	17 units	2017	Contract let and preferred builder named	Proposed mixed use development with 17 residential apartments (6 x 2 bed, 10 x 3 bed and 1 x 4 bed), a variety of business uses (business premises, shops, restaurants, childcare centre and medical consulting rooms), restaurant and cafes, childcare centre and multi-purpose hall facility
Horizon Estate Subdivision	3050 Old Northern Road, Dural	10 lots	2015	Subdivision approval	Proposed rural residential subdivision of 10 community title lots with lot sizes ranging from 4,022 sq.m to 7,099 sq.m

Source : Cordell Connect; Urbis

1.3 RESIDENTIAL SALES MARKET

This section considers the number of transactions and median sale prices for residential properties (both houses and apartments) in the suburbs surrounding the subject site in order to provide insight into the state of the local residential property market. There is also consideration of the market drivers that are impacting the Sydney residential property market.

INCREASING PRICE GAP BETWEEN HOUSES AND APARTMENTS

Australian's dream of a white picket fence home is slipping away for a large proportion of the population. The key driver affecting this shift in housing choices and location is affordability.

The chart below demonstrates a major driver behind the shift of dwelling alternatives and the rise of infill development across the country. The graph demonstrates the average price gap between housing and apartments over the past thirty, ten, five and one year periods for Brisbane, Sydney and Melbourne.

Apartment vs. House Price Gap

BRISBANE LGA, MELBOURNE GCCSA, AND SYDNEY GCCSA

CHART 1.11



Source: RP Data; Urbis

- Sydney has one of the largest price gaps on the eastern seaboard of Australia. This is most likely due to it currently having one of the highest median house prices in comparison to Brisbane and Melbourne; and
- A combination of population growth, centralisation and geography has structured the cost of land within Sydney to rise based on scarcity of demand.
- The cost of traditional housing in Sydney is becoming increasingly expensive, and as such still provides a key driver promoting the development of infill or density development as alternative dwelling options.
- The increased costs of housing and demographic shifts are also combining to create a demand for rental accommodation which has further driven the demand for higher density development.
- The housing market within Dural offers a point of difference in that it provides residents with a semi-rural lifestyle whilst being located on the edge of an urban area, as well as offering some more affordable housing options. Residents that choose to live in this area are often motivated by lifestyle choices.

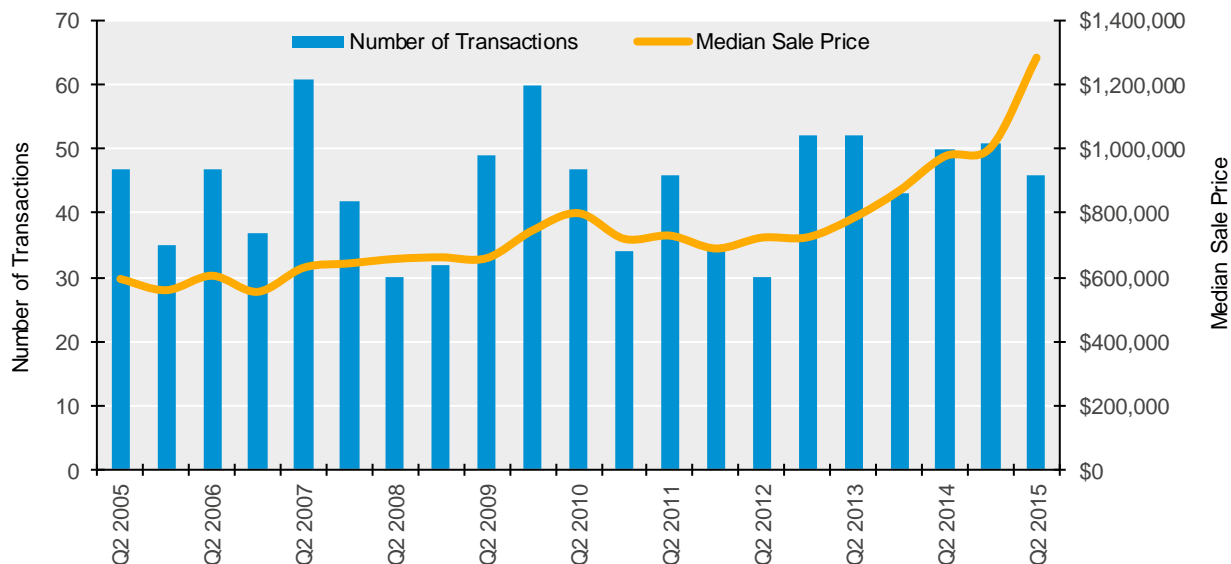
DURAL REGION SALES CYCLE – HOUSES

The sales cycle below depicts the sales volume and median sale price for houses every second and fourth quarter from 2005 to 2015 within the Dural region (i.e. the suburbs of Dural, Galston, Glenhaven, Glenorie and Arcadia).

House Sales Cycle – Q2 2005 to Q2 2015

DURAL, GALSTON, GLENHAVEN, GLENORIE AND ARCADIA SUBURBS

CHART 1.12



Note: Data is based on single residential dwellings

Source : RPData; Urbis

- The median sale price for houses in the Dural region was recorded at \$1,285,000 in the second quarter of 2015, based on 46 settled transactions
- The median price has shown an upward trend since 2012 (despite a small plateau in 2014), recording growth of 78% between the second quarter of 2012 and 2015
- Sydney experienced a period of decline during the Global Financial Crisis from 2008. In an attempt to stabilise the Australian economy, government stimulus packages paid to households prompted investors to capitalise on a subdued housing market, leading the median sale price to increase momentarily in 2009/2010
- Prior to the strong growth from 2012 onwards, the median sale price achieved relatively subdued growth. More recently however, the housing market has been underpinned by the Reserve Bank of Australia keeping the cash rate at historically low levels, with investors accounting for a significant amount of home loans.
- The number of house transactions in the Dural region is relatively limited, with significant fluctuations over the 10 year period. Over the period, the number of transactions in any quarter has ranged from 30 (Q2 2008) to 61 (Q2 2007).
- The median sale price of houses in the local area is elevated by the sale of large residential lots (up to five acres in size).

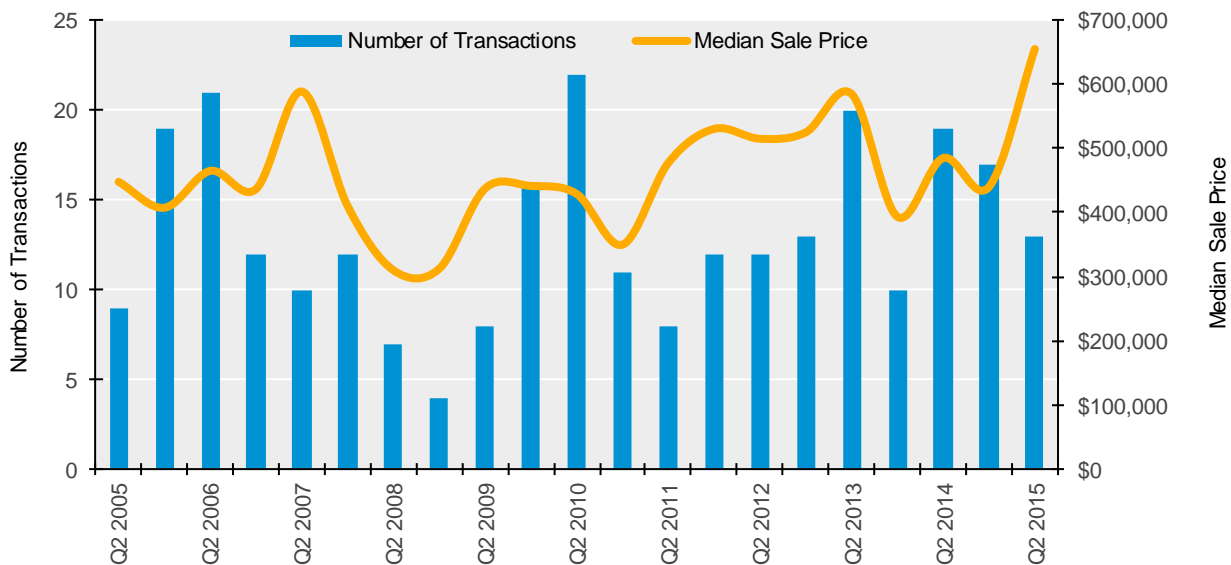
DURAL REGION SALES CYCLE – APARTMENTS

The sales cycle below depicts the sales volume and median sale price for apartments every second and fourth quarter from 2005 to 2015 within the Dural catchment.

Apartment Sales Cycle – Q2 2005 to Q2 2015

DURAL, GALSTON, GLENHAVEN, GLENORIE AND ARCADIA SUBURBS

CHART 1.13



Note: Data is based on residential strata units and multiple residential dwellings

Source : RPData; Urbis

- The median sale price for apartments in the Dural region was recorded at \$655,000 in the second quarter of 2015, based on 13 settled transactions. Over the 10 year period, the highest median sale price was \$755,000 (Q3 2014), also based on 13 transactions
- The median sale price has experienced strong growth over the last half year, however has experienced significant fluctuations over the 10 year period displayed in the chart
- Similarly, the number of transactions has also varied significantly over the period, ranging from just four transactions in Q3 2007 and Q4 2008 to 22 transactions in Q2 2010
- Over this decade, the number of house transactions has exceeded the number of apartment transactions.

RESIDENTIAL DEMAND DRIVERS

We have identified five key drivers of residential housing demand relevant to the subject sites (both the northern and southern sites). These key drivers include access to amenities and employment, transport and infrastructure, population growth and competing supply. The following table provides a brief description of these drivers and implications for the subject sites.

FACTORS	COMMENTS	IMPLICATIONS FOR THE SUBJECT SITE
Access to amenities	Locations that have easy access to shops, public transport, parks, entertainment and dining options, medical facilities and schools will be highly demanded as residential locations. These factors remain high on the priority lists of those looking to rent or buy	<ul style="list-style-type: none"> ▪ Residents will have access to the retail offer at Dural Mall (including a Woolworths supermarket) and the Dural IGA to the north). ▪ For the northern portion of the site additional convenience and food retail options will be available at the possible Cascades development at 636 Old Northern Road and the Skyline development at 488 Old Northern Road. ▪ A range of bulky goods retailers, service providers and fast food restaurants also exist near the intersection of Old Northern Road and New Line Road which is adjacent to the subject site. ▪ The site is located opposite Redfield College, with Dural Public School located approximately 600 metres north-west along Old Northern Road ▪ The site is located approximately 4.7 -5.1 kilometres from Castle Towers Shopping Centre, which is the closest regional shopping centre providing a large discretionary offer for residents. ▪ Residents on the southern site will have direct access to the proposed medical centre/ private day surgery/medical centre on the site. The Round Corner Medical Practice is also located adjacent to the Dural Mall.

FACTORS	COMMENTS	IMPLICATIONS FOR THE SUBJECT SITE
Access to employment	Residents often prefer to live close to work, enabling them to minimise travel times and improve work life balance	<ul style="list-style-type: none"> ▪ The nearest major employment centre is the Norwest Business Park ▪ There are existing employment opportunities within the retail/ commercial centres in Dural and its environs (including Round Corner) ▪ Employment options in the local area are generally restricted to the neighbouring retailers, such as the local supermarkets and convenience and bulky goods retailers
Transport and Infrastructure	<ul style="list-style-type: none"> ▪ Access to good public transport and road infrastructure are important to potential purchasers and renters. Particularly, linkages to the CBD, airport and major employment centres. ▪ Future infrastructure projects can revitalise areas, improve connectivity and linkages, create new jobs and reshape the existing community 	<ul style="list-style-type: none"> ▪ The Sydney Metro Northwest will include a station with park and ride facilities at Cherrybrook. This will enhance connections to key employment nodes across Sydney ▪ The Sydney CBD, a major employment node, is marginally more accessible from the southern site due to the bus service that runs from near the intersection of Old Northern Road and New Line Road.
Population growth	<ul style="list-style-type: none"> ▪ Population growth is a key indicator of demand for residential dwellings 	<ul style="list-style-type: none"> ▪ The population of the Dural Catchment Area is expected to experience marginal growth between 2011 and 2031, increasing by a projected 550 residents. The growth rates for the catchment area are generally below the averages seen across the Hills Shire and Hornsby LGAs.

FACTORS	COMMENTS	IMPLICATIONS FOR THE SUBJECT SITE
Competing supply	<ul style="list-style-type: none"> ▪ Competing residential developments provide an indication of market preferences in terms of price points, size, mix and scale of development. ▪ The amount of competing supply, quality and location of other developments in the area can influence demand on the subject site 	<ul style="list-style-type: none"> ▪ The trend in residential dwellings in the Dural Catchment Area shows a clear preference for larger, detached dwellings. It is a lifestyle trend for residents to move to areas like Dural for a semi-rural lifestyle on a large block of land ▪ Some recent developments have been small developments of units and townhouses (or a combination of both). These developments don't generally exceed 30 dwellings however the proposed Skyline development will (80 units and 21 townhouses) ▪ These unit and townhouse developments cater to the residents who enjoy the lifestyle of living in Dural, however choose to downsize so the maintenance of their property is minimised ▪ Recent developments have shown a preference for dwellings of 3-4 bedrooms ▪ Most dwellings, regardless of dwelling type, tend to have at 2 car spaces due to the high usage of private transport (which is a result of the limited public transport infrastructure) ▪ The median house price in the Dural region has recorded strong growth in recent years; however the median apartment prices have experienced more volatility. ▪ Furthermore, the number of house transactions in the local area has generally exceeded the number of apartment transactions.

In summary, the following elements will influence demand for, and type of, residential dwellings on the subject site:

- The southern site is better positioned to accommodate higher density residential dwellings (smaller detached lots, townhouses and apartments) due to its closer proximity to existing and planned amenities as part of the development concept for the land
- Employment options within the local area are somewhat limited; however the choice to move to the Dural area is usually based on lifestyle factors. The Sydney Metro Northwest will improve access to employment with the station located at Cherrybrook which is to include a park and ride facility.
- Public transport infrastructure is limited within the local area, with only bus services being provided. Consequently, most residents will use private motor vehicles and hence most dwellings should include two car spaces.
- Official population growth projections suggest that future population growth within the Dural Catchment Area is moderate and this needs to be considered in the scale of development on the subject sites
- The majority of the dwelling stock within the Dural area is larger detached dwellings with some higher density townhouses. Most of the dwellings have 3 to 4 bedrooms to suit the large family market.
- From discussions with local real estate agents, it is apparent that the majority of people moving into or enquiring about the Dural area are owner occupiers, most of which are young families. These families are often second home buyers.
- There has also been demand from retirees looking to move into the area; however affordability is becoming an increasing barrier for these buyers in the Dural area. According to the local agents, the residential lots of around one acre have been selling for approximately \$1.1 to \$1.7 million, with the five acre lots selling for \$2 to \$3 million. Therefore there is likely to be demand for more affordable residential options within the local area.

1.4 RESIDENTIAL RECOMMENDATIONS

The following section provides a summary of the key recommendations for the proposed development of the subject site in terms of the residential component.

The recommendations are based on the following:

- Demographic trends of those in the Dural region
- Recent sales in the local area
- Recent developments that have occurred or are expected to occur in the local area
- Discussions with local real estate agents.

Table 1.5 following provides a summary of the recommendations for the mix, size and pricing of the residential dwellings on the subject site. Both low and high density options have been provided in the table, with the higher density option carrying more risk in terms of market supportability. Key points to note from our analysis include:

- The majority of the dwellings should be detached dwellings and townhouses. There could also be some smaller dwellings in the form of apartments. As the majority of residents moving into the area are from the local area, they are used to larger dwellings and hence the internal size of the dwellings recommended for the subject site are generously proportioned with mostly three to four bedrooms.
- The southern site should contain a greater proportion of medium density dwellings as these dwellings will be located closer to amenities, which is regarded as a trade-off for individual property sizes
- The demographics also suggest that there is a significant retiree market within the Dural area, many of whom are downsizers and empty nesters. Despite the smaller dwelling size requirements of retirees, it is common for them to want an additional bedroom for family members and friends to stay with them or to accommodate other uses such as studies.
- The pricing of the dwellings is reflective of similar dwellings currently available or recently sold within the local area, as well agents' advice given the current state of the market
- The growing residential population in the Dural region will strengthen the retail spending market in the area, further supporting the existing retailers and service providers at Dural/ Round Corner
- The Dural region is still a predominantly detached housing market, but strategic planning is making increasing provisions for higher density around town centres (such as Rouse Hill Town Centre). This trend is further being fuelled by housing affordability issues where semi-detached or apartment dwellings are generally more affordable than detached dwellings.
- The medium density type dwellings have been receiving interest mainly from downsizers and retirees who are looking to move from acreage properties in the local area. The rural setting offered in Dural still appeals to these people and hence they don't want to move out of the area. We note however that despite the interest in these dwellings, there is currently a limited supply of townhouses in the local area.
- There has also been some demand for larger residential lots with detached dwellings. It is believed that this demand is driven by the price increases for smaller properties in the Castle Hill/ Kellyville areas. Buyers will instead look to the larger properties in the Dural area (where the price increases have not been as significant) where they are able to achieve better value.
- Overall, there appears to be a need to provide a broader range of residential dwellings in the local area, providing more variety in terms of lot size, dwelling size and cost. The type of residential product in demand appears to range from some larger rural residential lots to more medium density type stock such as townhouses and larger apartments. By providing a broad range of dwelling types on the site, this will ensure that the needs of the local market are met and the character of the area is maintained.

Dwelling Mix, Size and Pricing

SUBJECT SITES

TABLE 1.5

Dwelling Type	Number of Bedrooms	% of Total Dwellings		% of Dwellings by type	Internal Size (sq.m)	Land Area (sq.m)	Indicative Sale Price*
		Lower Density Option	Higher Density Option				
Apartment	2			30%	80-100	n.a.	\$600,000 - \$650,000
	3			<u>70%</u>	100-120	n.a.	\$700,000 - \$750,000
		30%	30%	100%			
Townhouse	2			10%	100-125	125-175	\$700,000 - \$750,000
	3			60%	125-150	175-225	\$750,000 - \$800,000
	4			<u>30%</u>	150-175	225-275	\$800,000 - \$850,000
		35%	70%	100%			
Detached	3			20%	200-220	450-525	\$950,000 - \$1,100,000
	4			<u>80%</u>	220-240	525-600	\$1,100,000 - \$1,250,000
		35%		100%			
		100%	100%				

Dwelling Type	Number of Bedrooms	% of Total Dwellings		% of Dwellings by type	Internal Size (sq.m)	Land Area (sq.m)	Indicative Sale Price*
		Lower Density Option	Higher Density Option				
Townhouse	2			10%	100-125	125-175	\$700,000 - \$750,000
	3			60%	125-150	175-225	\$750,000 - \$800,000
	4			<u>30%</u>	150-175	225-275	\$800,000 - \$850,000
		10%	20%	100%			
Detached Dwelling	3			20%	200-220	450-525	\$950,000 - \$1,100,000
	4			<u>80%</u>	220-240	525-600	\$1,100,000 - \$1,250,000
		90%	80%	100%			
		100%	100%				

*Based on current sale prices

Source : Urbis

1.5 SENIORS LIVING

In addition to analysing the standard residential dwelling market in the Dural catchment, we have also considered the seniors living residential market in the local area.

There is a broad provision of seniors living facilities available, often differentiated by the target age groups and the level of care provided. The three broad categories of seniors living include over 55s facilities, Independent Living Units (ILUs) and aged care facilities, which have been outlined below.

Over 55s facilities are designed to offer a high-quality resort-style of living to those aged over 55 years, often providing larger villas or apartments and facilities such as swimming pools, golf courses, bowling greens, club houses and restaurants. This type of facility is often suited to active retirees who are looking to downsize but do not yet require a facility that provides care or assistance.

ILUs are a form of retirement living which is generally an accommodation unit (more akin to a flat/ studio) designed for independent retirees aged over 65 years who do not require assistance with day-to-day living or particular aged care services but where support services are available when and if required. They are often located in retirement villages with a range of community facilities and services.

Aged care homes (or nursing homes) are facilities aimed at those residents who generally need more help with day-to-day tasks, personal care and nursing care. There are both low and high care facilities, depending on the needs of the resident, however most facilities will provide 24-hour nursing support via a nurse call system for when it is required. These facilities are generally catered and will often have organised activities for the residents. They can also include specialist facilities, for example wards designated for those suffering from Alzheimer's disease.

EXISTING SENIORS LIVING FACILITIES

Table 1.6 lists the existing seniors living facilities within the local Dural area. The table shows that there is a range of different facilities currently available in the surrounding area, ranging from over 55s facilities to aged care facilities.

Existing Seniors Living Facilities

DURAL, AS AT OCTOBER 2015

TABLE 1.6

Name	Address	Type	Dwellings	Beds
Oaktree Lifestyle Resort	28 Rosebank Ave, Dural	Over 55s	72	n.a.
Mountainview Retreat Retirement Village	1 Stonelea Ct, Dural	Over 55s	40-50 (est.)	80-100 (est.)
Kentgrove Lodge	116B Kenthurst Rd, Kenthurst	Independent Living Units	9	9
Kentgrove Independent Living Village	2C Jones Rd, Kenthurst	Independent Living Units	49	n.a.
Rowland Village	301 Galston Road, Galston	Independent Living Units	135	200
Bupa Aged Care	1 Stonelea Ct, Dural	Aged Care	n.a.	102
Lady of Grace Nursing Home	454 Old Northern Rd, Dural	Aged Care	n.a.	52
Mark Donaldson VC House	301 Galston Road, Galston	Aged Care	n.a.	40
Total			305 - 315	483 - 503

Source : Google Maps, Facility websites; Urbis

PROPOSED SENIORS LIVING FACILITIES

Table 1.7 outlines proposed seniors living facilities planned for the Dural area.

The Lady of Grace Nursing Home proposal is for additions to the existing facility, which will increase the total number of aged care beds in the catchment by 32.

The other proposal is for a new retirement village facility (independent living units) consisting of 70 two and three bedroom villas and units.

Proposed Seniors Living Facilities

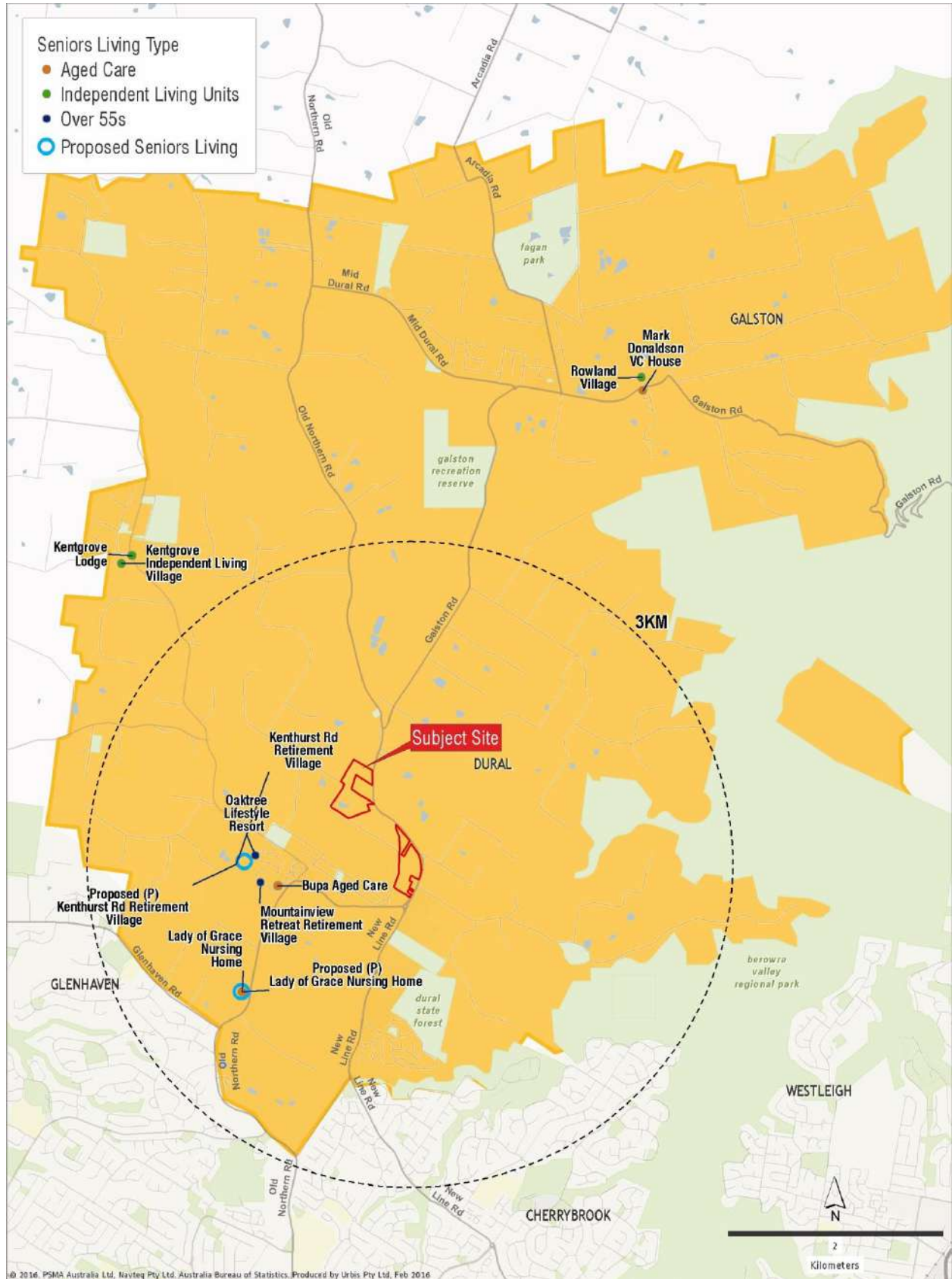
SUBURB OF DURAL, AS AT OCTOBER 2015

TABLE 1.7

Name	Address	Description	Estimated Completion
Lady of Grace Nursing Home	454 Old Northern Road, Dural	Alterations and additions to existing nursing home to increase the number of aged care beds from 52 to 79 plus an additional 5 assisted care units, giving a total of 84 beds.	2017
Kenthurst Road Retirement Village	50 Kenthurst Road, Dural	Construction of a new 70 unit self-care housing development containing 22 x 2/3 bedroom freestanding single storey villas, 48 x 2 bedroom units in 2 storey buildings and additional facilities.	2016

Source : Cordell Connect; Urbis

The existing and proposed seniors living facilities have been shown on Map 1.3 on the following page. The majority of the facilities are located in the south-western corner of Dural, in close proximity to the subject site. This is also the location of the two proposed facilities, with this area being favourable due to its proximity to amenities and facilities.



FORECAST DEMAND FOR SENIORS LIVING

In order to assess the likely demand for the different seniors living facilities, we have considered the demand for the over 55s facilities separate to the facilities that provide some level of support/ care (ILUs and aged care). The ILU and aged care facilities are generally for those aged over 65 years.

Over 55s Facilities:

Table 1.8 summarises the demand projections for over 55s facilities in the Dural area, which is based on the following assumptions:

- As at 2011, 33% of the population was aged over 55 years. This rate has been applied to the population forecasts to determine a conservative view of the potential population of the area aged over 55 years to 2026
- The population of the Dural area aged over 55 years is projected to grow from approximately 3,700 in 2015 to 4,400 by 2026, assuming the proportion of the population in this age group remains unchanged
- At present, there are approximately 112-122 over 55s dwellings in the catchment area, potentially catering for up to approximately 240 residents
- This suggests that just 6.4% of the population aged over 55 years are currently living in over 55s facilities
- If this same rate is applied to the population in 2026, the number of people living in over 55s facilities could reach over 280 residents, suggesting that there is some scope to increase the supply of over 55s dwellings in the local area.

Worth noting is that these projections assume that the proportion of the population aged over 55 years will remain unchanged over the coming years. However, the general trend across the broader Sydney area is of an ageing population which could potentially increase the demand for over 55s dwellings in the local area, particularly as the Dural area is seen as an attractive area for retirees.

Population Aged 55+ Years

DURAL

TABLE 1.8

	2011	2015	2016	2021	2026
Total Population	10,700	11,200	11,300	12,700	13,200
Population aged 55+ years (%)	33%	33%	33%	33%	33%
Population aged 55+ years (no.)	3,579	3,746	3,780	4,248	4,415
Population aged 55+ years in existing facilities (no.)		240	240	240	240
Population aged 55+ years in existing facilities (%)		6.4%	6.4%	6.4%	6.4%
Potential total demand for over 55s facilities		240	242	272	283
Potential unmet demand		0	2	32	43

Source : ABS Census 2011; Urbis

Independent Living Units and Aged Care:

Residents who live in ILUs and aged care facilities are generally aged over 65 years, with these facilities providing some level of support and/ or care for the residents when and if required.

Table 1.9 summarises the demand projections for ILUs and aged care facilities in the Dural area, which is based on the following assumptions:

- In 2011, approximately 20% of the catchment population was aged over 65 years.
- ABS 2011 Census data suggests that approximately 25% of the population of Dural, Galston, Glenorie, Glenhaven and Arcadia aged over 65 years live in ILUs or aged care. The dwelling types from the Census data included in this analysis include those living in retirement villages, nursing homes and accommodation for the retired or aged (not self-contained).
- This proportion has then been applied to the proportion of the Dural population aged over 65 years, resulting in the number of residents potentially living in ILUs or aged care in the catchment.
- When this is compared to the current and proposed supply of ILUs and aged care places in the catchment, there appears to be a reasonable undersupply at present. With the proposed developments being completed in the coming years, the undersupply is expected to contract noticeably, before growing back up to current levels by 2026. This suggests that there is potential demand for ILU and/or aged care facilities in the local area.

However it should be noted that this is assuming no further supply will enter the market prior to a potential development on the subject site and hence the development pipeline should be monitored appropriately. Furthermore, this demand is based on a consistent proportion of the population aged over 65 years living in ILUs and aged care from 2011 to 2026.

Potential ILU and Aged Care Demand

DURAL

TABLE 1.9

	2011	2015	2016	2021	2026
Total Population	10,700	11,200	11,300	12,700	13,200
Population aged 65+ years (%)	20%	20%	20%	20%	20%
Population aged 65+ years (no.)	2,139	2,239	2,259	2,539	2,639
Population aged 65+ in ILUs or aged care (%)	25%	25%	25%	25%	25%
Population aged 65+ in ILUs or aged care (no.)	543	568	573	645	670
Supply of ILUs and aged care	450-480	450-480	520-550	552-582	552-582
Potential unmet demand	63-93	88-118	23-53	63-93	88-118

Source : ABS Census 2011; Google Maps; Facility Websites; Cordell Connect; Urbis

2 Ancillary Commercial Uses

In addition to residential uses on the subject site, we have also given consideration to ancillary commercial land uses such as service stations, leisure uses (gyms) and child care centres. We note that the client is undertaking a separate review of the market supportability of a medical centre/ private day surgery/medical centre on the subject site.

2.1 SERVICE STATIONS

The subject site is located at Old Northern Road, which is one of the main roads through Dural connecting to Wisemans ferry in the north.

Map 6.1 shows the location of existing service station facilities in relation to the subject site.

As indicated on the map, a service station (Shell branded) is surrounded by the subject site off Old Northern Road. Another service station (BP branded) is located further south along Old Northern Road, approximately 550 metres from the subject site.

There is a Caltex service station close to the intersection with Old Northern Road and Galston Road opposite the Dural Village retail centre. This is located on the southbound lane of Old Northern Road. There is also a Caltex service station at Round Corner.

We are not aware of any other current proposals for additional service stations within Dural at present.

On balance we do not consider that it would be advantageous to include a service station in the development mix for the following reasons:

- The extent of existing competition within the vicinity of the site
- The amount of land-take and access requirements that would be required to accommodate the use on site
- Potential integration issues with other proposed retail, health and residential uses and the need to satisfy the relevant hazard controls
- The fact that land could be better utilised for the higher value uses (residential, medical and ancillary retail).

2.2 GYMNASIUMS

Table 6.1 lists the name and address of existing gym facilities located within Dural. Map 2.2 opposite shows the location of these gyms in relation to the subject site.

There are eight commercial gyms located within close proximity to the subject site, catering to a broad range of different users and markets.

Within the local area, gyms are currently therefore being provided at a rate of one gym per 1,400 residents. In 2014, Urbis undertook a review of gym provision in Australia which identified that there were 3,313 gyms in Australia in 2011, equal to one gym per 6,500 people.

Based on this benchmark, gym provision in the catchment exceeds the Australia benchmark by a factor of greater than 4.5:1.

We believe that the market is currently well supplied with gym facilities and that an additional commercial gym on the subject site would not be supportable by the market.

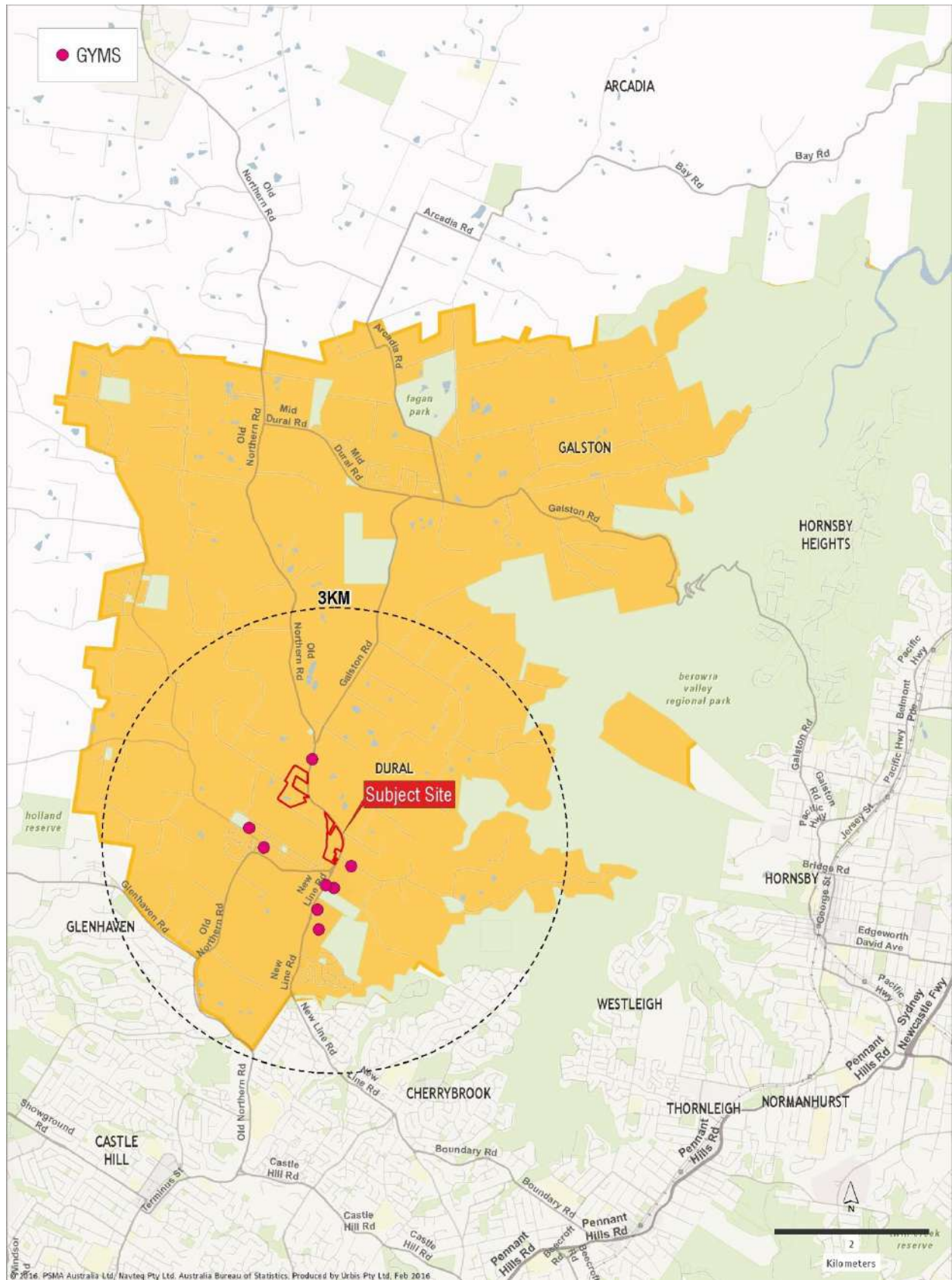
Existing Gym Facilities

DURAL

TABLE 2.1

Name	Address
F45 Training Dural	7/915 Old Northern Road, Dural
Evolution Health and Fitness Studio	25A Kenthurst Road, Dural
CrossFit Norwest	1/7-9 Kenthurst Road, Dural
Plus Fitness	5/829 Old Northern Road, Dural
Anytime Fitness Dural	6/288 New Line Road, Dural
Curves Gym Dural	10/288 New Line Road, Dural
Resolution Fitness for Life	256 New Line Road, Dural
Gym George Training Studio	30/252 New Line Road, Dural

Source : Google Maps; Urbis



2.3 CHILD CARE CENTRES

Child care centres offer professional care for children aged 0-6 years of age, where the children are generally grouped into rooms according to age and developmental stage.

EXISTING AND PROPOSED CHILD CARE CENTRES

Map 2.3 following shows the existing child care centres in the context of the subject site and the surrounding areas. Table 2.2 lists the existing child care centres within Dural and shows the number of child care places within each facility.

From Map 2.3 and Table 2.2, the following observations can be made:

- There are 12 existing child care centres that fall within the local area, with a capacity of approximately 650 places
- The largest facility is the Fit Kidz Learning Centre Dural North which can accommodate 98 children
- The majority of the existing facilities are located at the southern end of Dural and are likely to service this part of the local area as well as the adjacent residential areas of Glenhaven and Cherrybrook.

Further to this, we note that there is one proposed child care centre within the local area. This facility will be part of the Cascades mixed use development at 636 Old Northern Road Dural, approximately 200 metres north of the subject site. As part of the mixed use development, the proposal includes a 595 sq.m child care centre for 72 children.

Additionally, another development application was submitted in early 2016 for alterations and additions to an existing dwelling to become a childcare centre for 136 children. This project is to be completed in December 2016 and the childcare centre is to be called Wiggle and Giggles Child Care Centre.

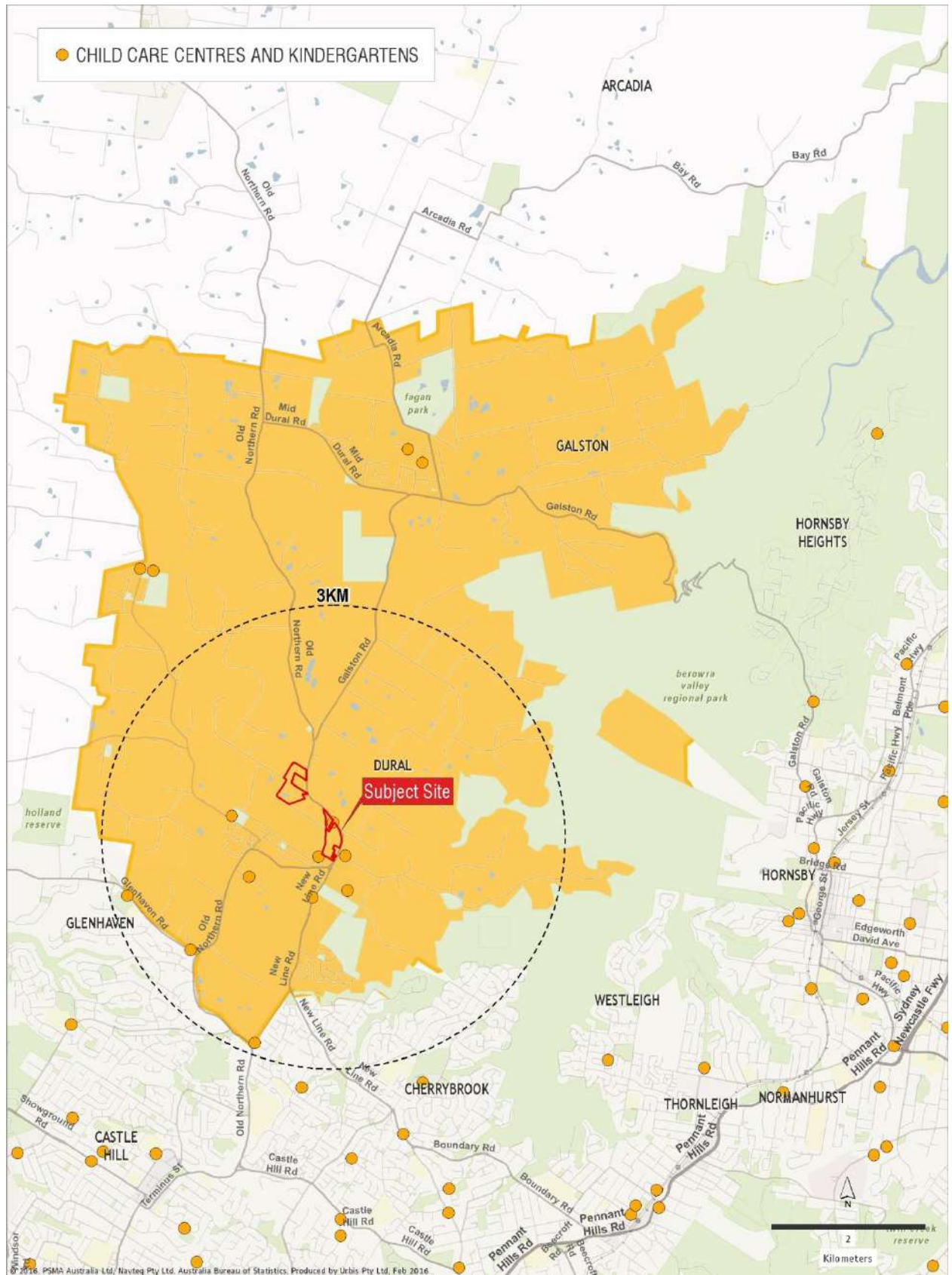
Existing Child Care Centres

DURAL

TABLE 2.2

Name	Number of Places
Galston Long Day Care Centre	40
KU Galston Preschool	40
Elbelle's Early Learning Centre	46
Early Childhood Education Centre Child Care	40
Ellerman Long Day Care Centre	40
Fit Kidz Learning Centre Dural North	98
Wakefield Children's Early Learning Centre	70
Endeavour Early Education	30
First Friends Preschool	39
KU Glenhaven Preschool	43
Kindalin Early Childhood Learning Centre	70
Beehive Castle Hill Childcare	90
Total	646

Source : echildcare.com.au; Urbis



DEMAND ASSESSMENT FOR CHILD CARE CENTRES

Future demand for child care spaces will be driven by population growth, and the proportion of additional children in the 0-6 age category.

Based on the existing population, approximately 7% of the population is aged 0-6 years as at the 2011 Census. This age bracket is the most common user of child care facilities. If this same rate is applied to the population projections, then there could be an additional 140 children of this age in the local area by 2026.

Based on a study conducted by MacroPlan in 2010, 38% of the population aged 0-5 years in the Sydney Statistical Division have all parents working full-time and would require some form of child care. Of these, the report suggests that 73.4% of these children will be placed into formal child care. When this rate is applied to the additional 140 children aged 0-6 year within the area, this would suggest a market of 40 additional children requiring care.

In view of the current extensive supply of child care spaces, any proposed new centre should be targeted at meeting the needs of new residents at the site and its immediate vicinity. In this regard, it would be prudent to wait until the residential development is established and to carefully monitor the household profile of new residents to determine whether this generates a demand for child care facilities. This will also allow the developer to monitor the status of the possible proposed childcare centres mentioned earlier to determine if the market could support additional child care places.

Market Demand for Additional Child Care Centres

DURAL

TABLE 2.3

Resident market	%	Number
Population growth 2015-26		2,000
Population aged 0-6	7%	141
Population aged 0-6 with all parents working full time and requiring formal care	38%	54
Population aged 0-6 with all parents working full time who attend long day child care	73%	40
Total number of children requiring child care		40

Source: ABS Census 2011; Macroplan; City of Sydney; Cordell Connect; Urbis

2.4 RECREATIONAL FACILITIES

'Recreational facilities' is a broad term used to describe a number of indoor and outdoor facilities catering to different sports, activities and interests. Some examples of recreational facilities include sport clubs, bowling centres, parks (local and regional), museums and swimming pools.

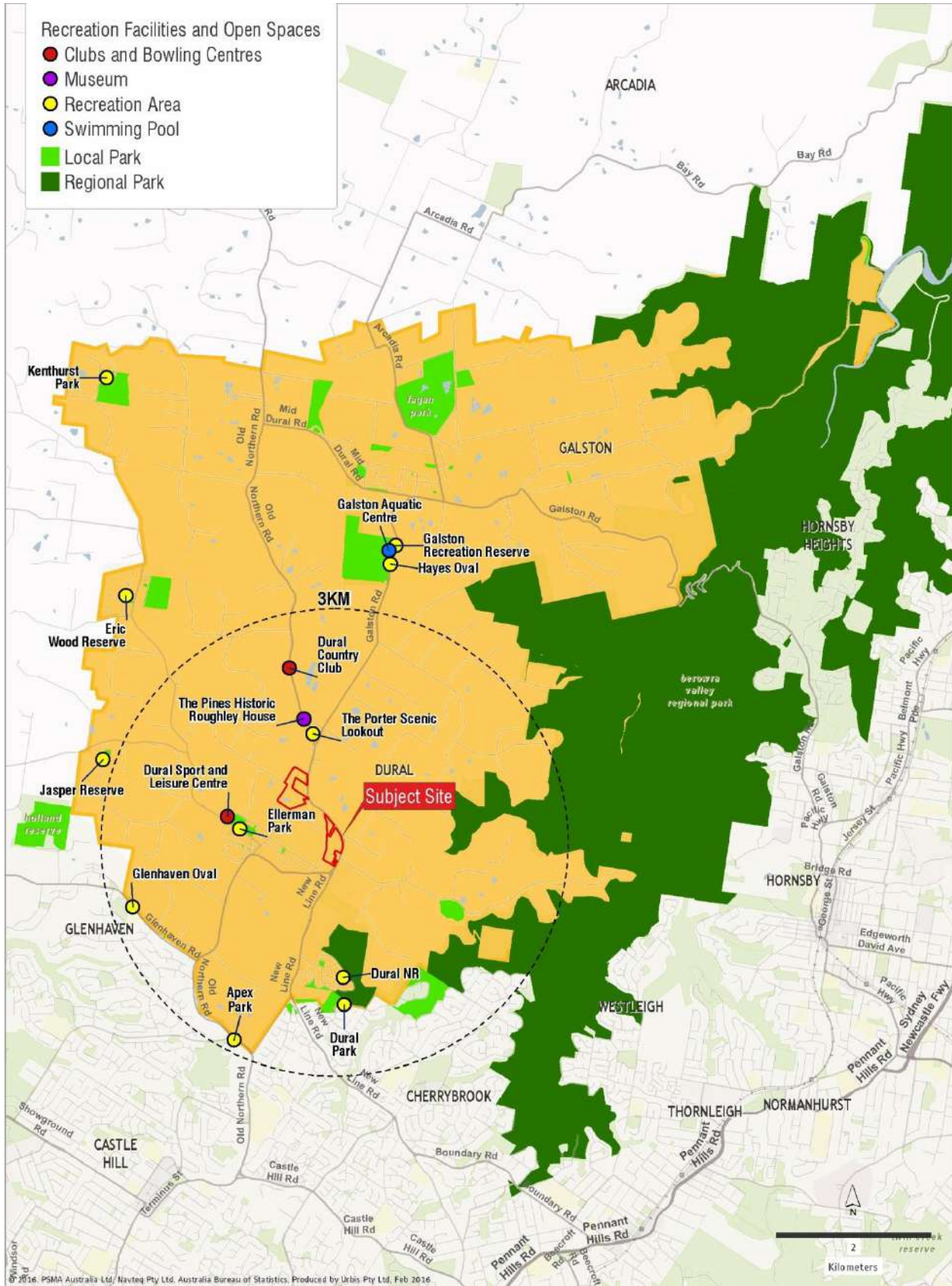
Map 2.4 on the following page shows the location of recreational facilities surrounding the subject site.

From the map it is evident that there is a significant provision of local/ regional parks and recreation areas within the local area, with the closest being the Porter Scenic Lookout to the north of the subject site and Ellerman Park to the west. The provision of parks and open spaces is relatively high compared to many areas of Sydney and hence there would be limited benefit gained from additional park and open space facilities in the local area.

In terms of swimming pools, the only existing one identified in the local area is the Galston Aquatic Centre, which is approximately 3.1 kilometres north of the subject site. Despite this being the only public swimming pool facility, the local area is still well-provisioned in terms of swimming pools as many retirement villages and seniors living facilities have their own private swimming pools for the use of their residents. This would limit the potential demand for additional swimming pool facilities in the local area.

The only museum identified in the local area is The Pines Historic Roughley House which is located just to the north of the subject site along Old Northern Road. This property is now owned by the Hills Shire Council and is a historic home that is open to the public to see an example of colonial life in the local area. With the relatively small population and limited tourism in the area, it is anticipated that there would be limited demand for an additional museum facility.

The Dural Country Club is one of two clubs/ bowling centres identified within the local area, providing dining, entertainment and function spaces, and lawn bowls. The other facility is the Dural Sport and Leisure Centre that provides a range of sporting venues (catering for futsal, netball, indoor cricket, taekwondo and indoor hockey) and function facilities. On this basis, it is unlikely that an additional club or bowling centre would be supportable given the current provision of such facilities and the relatively limited demand for these facilities in the local area.



2.5 ANCILLARY RETAIL ASSOCIATED WITH DAY SURGERY/MEDICAL CENTRE

As part of the overall concept plan, a day surgery/medical centre is being considered as part of the development on the southern portion of the subject site. The demand for ancillary retailing within the day surgery/medical centre has been considered.

Retailing associated with day surgery/medical centres is primarily focused on the worker, visitor and patient market. The scale of retailing that could be supported would need to be commensurate with the role and scale of the day surgery/medical centre. Due to its association with medical facilities it typically offers less potential to attract spending from a resident market.

Day surgery/medical centres represent a significant opportunity for retail-based activity through providing a captive market of patients, visitors and staff. These groups often have time to spend. In addition, due to the circumstances around being in a day surgery/medical centre, we would expect patients and visitors to typically enjoy good propensity to 'treat' themselves and/or loved ones. If good quality retailing could be provided in high profile locations in day surgery/medical centres, these factors would work very much in favour of retailers.

From our experience of undertaking focus groups with day surgery/medical centre workers in large day surgery/medical centres and users in other locations, the following are regularly identified as desirable facilities:

- **Retail:** pharmacy, newsagency, dry cleaning, supermarket, giftware and food and beverage options.
- **Amenities:** gym, child care centre, bank, post office, medical facilities for staff (GP's allied health etc.) and outdoor areas for relaxation and congregation.

In our analysis of major day surgery/medical centres, retail floorspace per bed is typically provided at a rate of 0.6 sq.m per bed to 3.1 sq.m per bed.

As an example, Nepean Hospital, which in 2014 provided 685 beds only provided around 400 sq.m of retail floorspace (a café, newsagent and volunteer shop). At the other end of the scale, Westmead Hospital, providing 900 beds, contains around 2,800 sq.m of retail floorspace with tenants including a food court under single management, cafes, newsagent/ convenience store, mobile phone/electronic hire store, florist, optometrist, jeweller, pharmacy and hair dresser / beautician.

It is clear therefore that the amount of retail that is sustainable depends on the scale and function of the day surgery/medical centre. It is likely that a café (catering to staff, patients and visitors) and pharmacy would be supportable, with potentially a florist. A higher provision of beds could generate demand for additional services.

3 Conclusion

The analysis confirms that there is an underlying demand for additional residential dwellings in the Dural area. The residential dwellings provided on the site should include a variety of dwellings in terms of their lot size, dwelling size and pricing. This could range from larger residential lots with detached dwellings to more medium density type stock such as townhouses and larger apartments. The variety of dwelling types will cater to the diverse demographics of the local residents, whilst also ensuring that all land in the local area is not developed into higher density dwellings and thereby impact the character of the area.

Our analysis also indicates that there is a potential unmet demand for seniors living in the Dural area in the medium term, primarily for ILU and aged care facilities, and for over 55s facilities to a lesser extent.

The current provisioning of service stations and commercial gym uses, combined with the demand for such commercial facilities in the area, suggests that the market would not support additional facilities.

Due to the extensive supply of child care spaces in the local area, the demand for a proposed new centre will predominantly be driven by the needs of the new residents on the site. In this regard, it would be prudent to wait until the residential development is established and to carefully monitor the household profile of new residents to determine whether this generates a demand for child care facilities.

The subject site is also surrounded by recreational facilities and open spaces suggesting that there is unlikely to be significant demand for further facilities in the near future. Any future recreational facilities/open spaces would, however, further improve the amenity for the surrounding residents.

The amount of ancillary retail sustainable within a future day surgery/medical centre on the site depends on the scale and function of the day surgery/medical centre itself. It is likely that a café (catering to staff, patients and visitors) and pharmacy would be supportable, with potentially a florist. A higher provision of beds could generate demand for more services.

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Dural Planning Proposal

Traffic Impact Assessment



Dural Planning Proposal

Traffic Impact Assessment

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Quality Information

Document Dural Planning Proposal

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1.0 Introduction

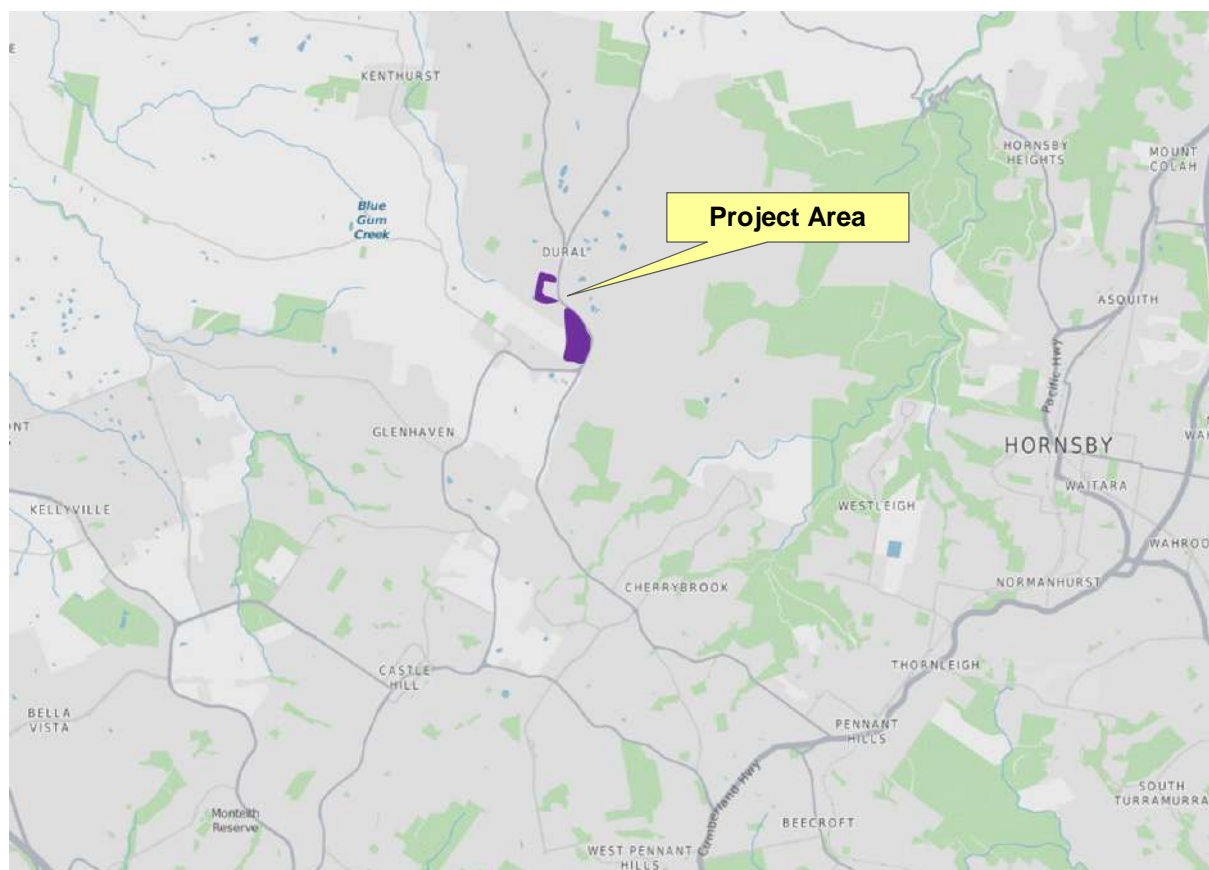
1.1 Background

AECOM has been commissioned by Urbis to prepare a Traffic Impact Assessment (TIA) to support the planning proposal for a proposed development in the Dural area, located approximately 39km north-west of Sydney.

The Dural Planning Proposal intends to provide a mix-use development consisting of residential dwellings, community facilities, aged care facility and medical precinct. The subject site has been divided into two areas; the northern site and southern site.

This TIA has been prepared to understand the likely impacts of the vehicular trips generated by the Dural development on the surrounding local road network and the likely infrastructure upgrade required to mitigate the impacts of the proposal.

Figure 1 Regional context



Source: AECOM, 2016

1.2 Purpose and Scope

The purpose of this report is to provide a review of the potential traffic impacts of the proposed development on the external road network. The assessment involves assessing trip generation of the proposed development within the study area and provides the recommendations on the traffic requirement as a result of the development trips.

1.3 Report Framework

The report has been structured into the following sections:

- **Section 2** details the existing transport conditions in the locality for all modes of transport.
- **Section 3** reviews the impacts of changes to the traffic flow and road network, prior to future development being investigated in this assessment.
- **Section 4** describes the details of the proposed development within the study area and the access strategy for the development.
- **Section 5** provides a traffic impact assessment of the proposed development and surrounding road network and identifies appropriate transport infrastructure to cater for the forecast traffic flows.
- **Section 6** provides the summary and conclusions of the report.

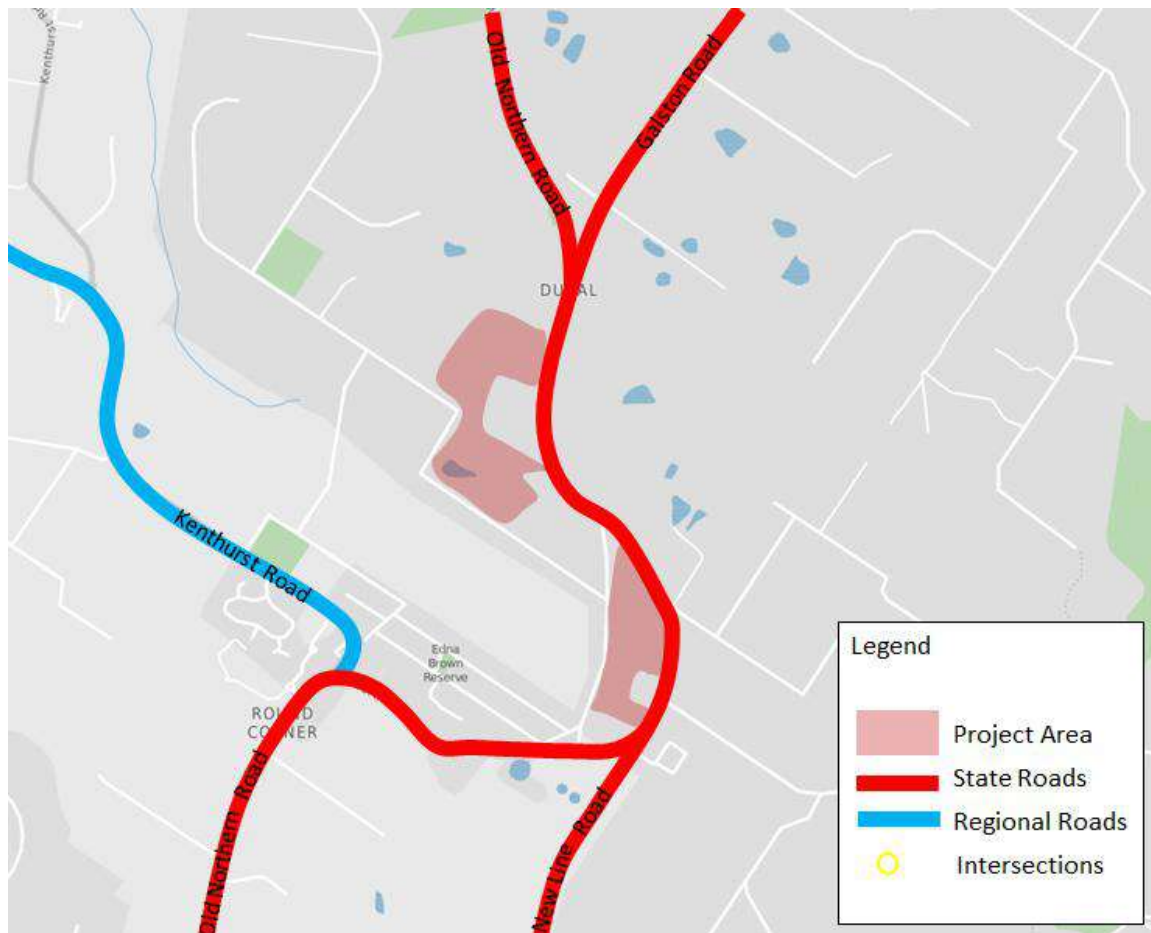
2.0 Existing Conditions

2.1 Site Description

The study area is located in Dural within the Local Government Area (LGA) of The Hills Shire. It is generally bounded by Derriwong Road to the west and Old Northern Road to the east. Old Northern Road forms the boundary for two LGAs, The Hills Shire to the west and Hornsby Shire to the east.

The location of the study area and the surrounding road network is shown in **Figure 2**.

Figure 2 Location



Source: AECOM, 2016

The study area is currently occupied and surrounded by rural residential dwellings with the remaining area being open grass land and woodland at present. The northern site borders Dural Public School and Dural Local Centre and low residential dwellings are located to the west. Dural Business Park is located to the southeast.

2.2 Travel Behaviour

Travel characteristics for NSW residents travelling to work are gathered from the journey-to-work data extracted from the Australian Bureau of Statistics (ABS) 2011 census data (2014 release). Journey to work data (JTW) includes details of the origin and destination of trips, together with characteristics of the journey such as mode of travel.

The northern and southern sites are contained within Travel Zone 4310 in Dural. Data from the 2011 Journey to Work (JTW) dataset, accessed via the Bureau of Transport Statistics' JTW explorer, has been analysed to determine indicative existing travel mode share for the sites. The existing land use within Travel Zone 4310 includes rural to semi-rural agricultural and residential, low density residential, low to medium density retail and commercial, recreation, and education.

Table 1 shows the mode share of trips travelling to and from the study area travel zones and **Table 2** shows the origins and destinations of trips to and from the study area travel zones.

Table 1 Journey to Work mode split for Travel Zone 4310

Mode	% Mode Share	
	Origin Trips (from TZ 4310)	Destination Trips (to TZ 4310)
Vehicle Driver	79%	85%
Vehicle Passenger	4%	8%
Bus	6%	2%
Train	4%	1%
Walked only	5%	2%
Other mode	1%	1%
Not Stated	1%	2%

Note: Excludes those who did not go to work.

Source: 2011 Journey to Work data, accessed via the BTS JTW Explorer.

The JTW data shows that the majority of trips to and from the study area travel zone are predominantly made by private car. Approximately 93 per cent of people working in study area arrive by car, and approximately 83 per cent of people living in the study area travel to work by car. The data also shows three per cent of persons working in the travel zone arrive by public transport and approximately 10 per cent of residents travel by public transport. This reflects the study area's proximity to the bus corridor along New Line Road and Old Northern Road with high frequency bus services to the City and major town centres, which has a significant influence in encouraging use of public transport in the study area.

Table 2 Journey to Work origins and destinations (all modes) for Travel Zone 4310

SA3	% Mode Share	
	Trips from TZ 4310	Trips to TZ 4310
Dural – Wisemans Ferry	27%	34%
Baulkham Hills	15%	24%
Sydney Inner City	8%	-
Blacktown – North	-	6%
Rouse Hill – McGraths Hill	3%	5%
Blacktown	3%	4%
Parramatta	5%	3%
Hornsby	4%	2%
Mount Druitt	-	2%
Richmond – Windsor	-	2%
Pennant Hills – Epping	-	2%
Ryde – Hunters Hill	3%	-
Strathfield – Burwood – Ashfield	3%	-
Other / no fixed place of work	7%	16%

Note: Excludes those who did not go to work.

Source: 2011 Journey to Work data, accessed via the BTS JTW Explorer.

A high proportion of trips are to or from SA3 areas within The Hills Shire LGA. Of total JTW trips departing the travel zone, 42 per cent were trips to destinations within The Hills LGA; 27 per cent to Dural – Wisemans Ferry

and 15 per cent to Baulkham Hills. More than half the total number of JTW trips to the travel zone originated from SA3 areas within The Hills Shire, with 34 per cent coming from Dural – Wisemans Ferry SA3, and 24 per cent from Baulkham Hills SA3.

2.3 Pedestrian and Cycle Facilities

Pedestrian footpaths are provided intermittently on Old Northern Road, depending on land uses bordering the road. An existing pedestrian footpath extends from Dural Public School to the intersection of Old Northern Road | New Line Road in the south, and continues west along Old Northern Road to the Dural Local Centre at the intersection of Old Northern Road | Kenthurst Road. This footpath provides access between the study area and bus stops along Old Northern Road.

The pedestrian overpass at Dural Public School facilitates the safe crossing of pedestrians over Old Northern Road for the northern site. At the southern site, the signalised intersection at Old Northern Road | Quarry Road provides a signalised crossing for pedestrians on the eastern and southern approaches.

Figure 3 Pedestrian over pass



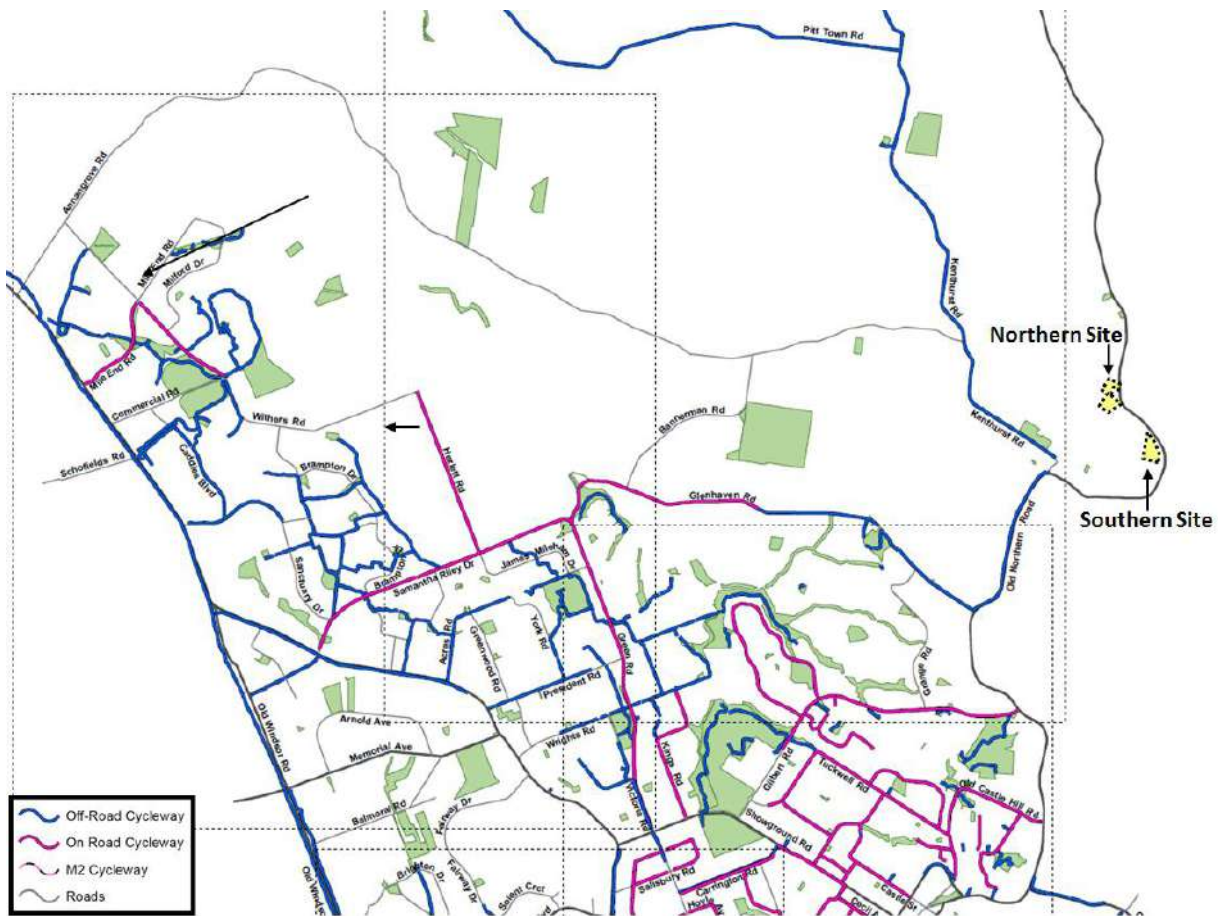
Source: AECOM, 2015

There is currently no footpath provision on Derriwong Road. There are footpath provisions on one side of the residential Jaffa Road and Valencia Street, which are located to the west of the southern site.

In terms of cycling facilities, there are limited cycling links to the study area. The cycle network in the Hills Shire Council, presented in **Figure 4**, shows that there are existing off-road cycle routes near the study area along Kenthurst Road, Old Northern Road between Kenthurst Road and Glenhaven Road, and on Glenhaven Road.

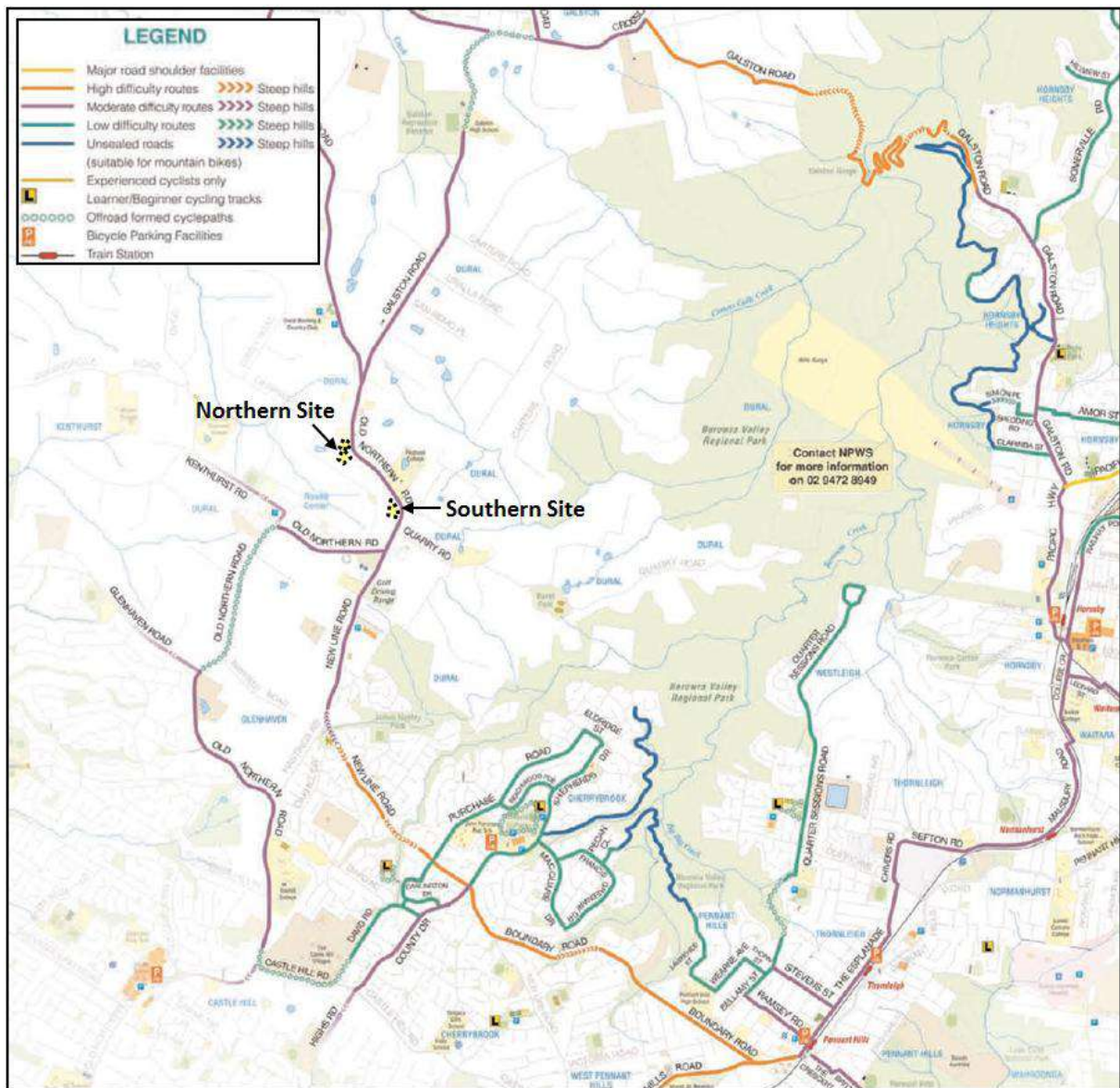
The Hornsby Shire Council cycle map, shown in **Figure 5**, identifies a moderate/high difficulty cycle route connecting to Pennant Hills Station which is about a 9km cycle from the proposed development sites. This identified route however contains steep hills and much of the route is recommended for experienced cyclists only.

Figure 4 Hills Shire Council cycle network



Source: Hills Shire Council Cycleways map.

Figure 5 Hornsby Shire Council cycle network



Source: Hornsby Shire Council Cycling Map, 2008.

2.4 Bus Network

Bus services in the vicinity of the study area are operated by Hillsbus. The study in the context of the local bus network is shown in **Figure 6**.

Figure 6 Existing bus connections to the northern and southern Dural sites



Source: Hillsbus, October 2015.

There are several existing bus routes which have stops located close to the proposed development sites. Local bus routes 637 and 638 can be accessed at bus stops along Old Northern Road which are walking distance from both the northern and southern sites.

- Bus route 637 is a local bus connection between Glenorie and Castle Hill.
- Bus route 638 is a local bus connection between Berrilee and Pennant Hills Station.

Bus routes 642 and 642X, which provide connections to the City, can be accessed at the bus stop located on Old Northern Road, near Derriwong Road. This bus stop is approximately a 500m walk from the southern site, but would be about a 20 minute walk from the northern site. It was observed that much of the on-street parking on Jaffa Road and Derriwong Road close to this bus stop was occupied, most likely by commuters who parked their car and then rode the bus in to work.

- Bus route 642 is a regional bus connection between Dural and the City.

Table 3 summarises the bus route frequencies in close proximity to the study area.

Table 3 Bus service provision to the proposed development sites

Bus Route	Route Description	Weekday Frequency (to nearest 5 mins)		
		AM Peak 7-9 am	Off Peak 10 am- 3 pm	PM Peak 4-6 pm
637	Glenorie to Castle Hill	30	100	60
	Castle Hill to Glenorie	60	100	60
638	Berrilee to Pennant Hills	40	-	60
	Pennant Hills to Berrilee	1 service	1 service	60
642 / 642X	Dural to City	10	60 ¹	-
	City to Dural	-	45 ²	24

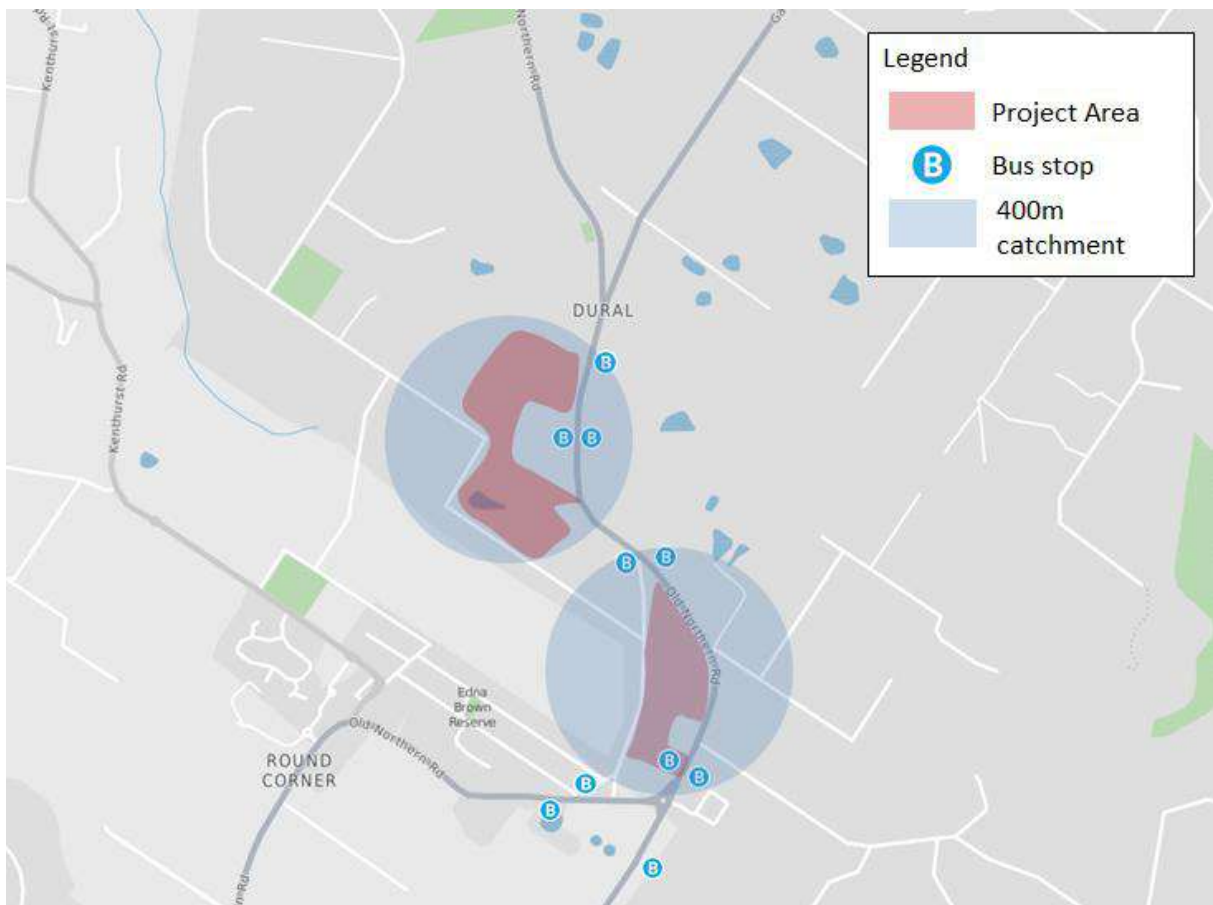
Source: Hillsbus, accessed November 2015.

¹Last service at 2:41pm

²First service at 12:18pm

Figure 7 highlights existing bus stops are within a 400m walking catchment. Bus stops within the 400m walking catchment are served by local bus routes 637 and 638. Additional walking distance is required for regional bus services 642/X.

Figure 7 Bus stops



Source: AECOM, 2016

2.5 Rail Network

The closest train station is Pennant Hills Station which is located approximately 8km southeast of the study area. Pennant Hills Station is served by the T1 North Shore Line which runs between Hornsby and the City via Macquarie University. Bus route 638, described in **Section 2.4**, connects the study area to Pennant Hills Station. Rail services operate between Pennant Hills and City at approximately every 15 minutes. On weekdays, services run via Chatswood and the Lower North Shore, and on weekends run via Strathfield. Pennant Hills station in the context of the existing rail network is shown in **Figure 8**.

Figure 8 Pennant Hills Station in the context of the Sydney Trains network

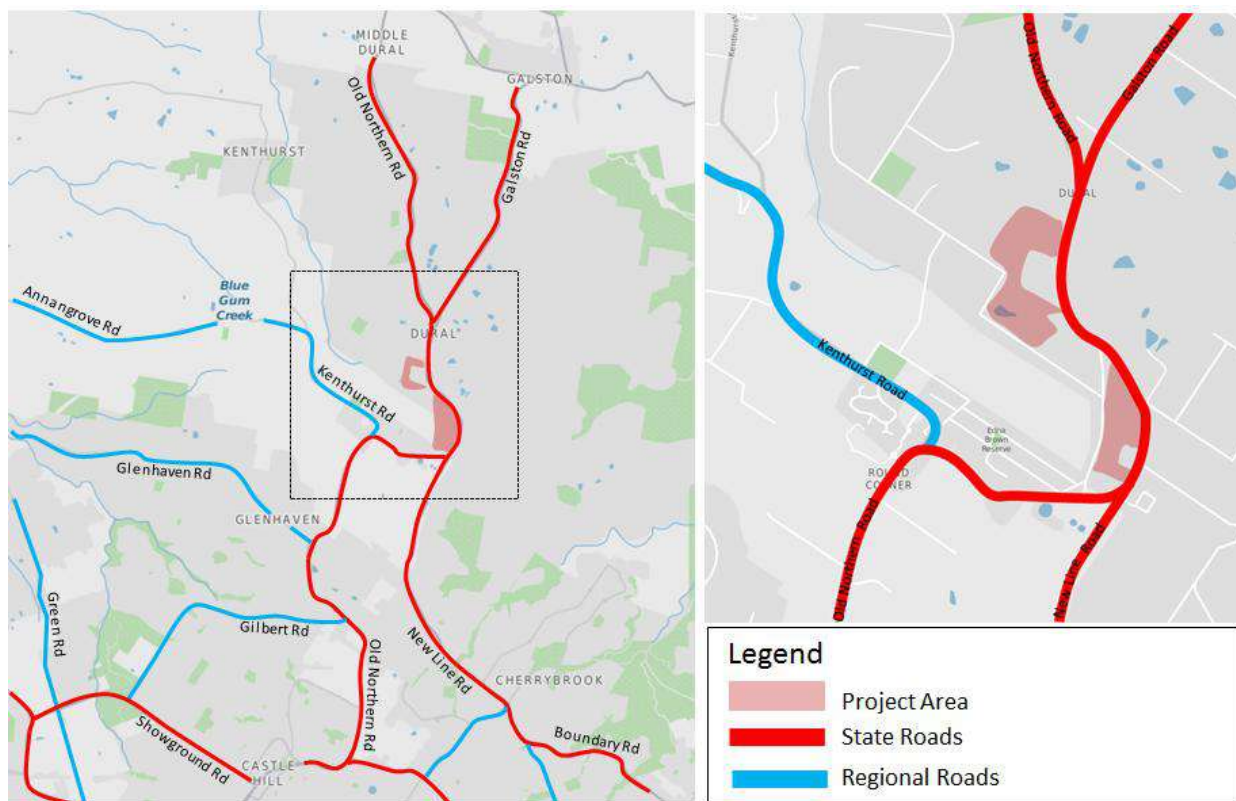


Source: Sydney Trains, accessed November 2015.

2.6 Road Network

The main roads in the vicinity of the proposed development sites are Old Northern Road and New Line Road. Connecting regional links include Glenhaven Road, Kenthurst Road and Galston Road which provides links to Old Northern Road and provide links to the surrounding areas including Kellyville and Galston.

Figure 9 Road network



2.6.1 Old Northern Road

The study area is located along the western side of Old Northern Road which is a state road in a north-south direction. The road provides links to Glenorie and Wisemans Ferry to the north and Castle Hill and Baulkham Hills to the south.

Old Northern Road is a sealed road with predominantly one lane in each direction in the vicinity of proposed development sites. The road widens locally to two lanes in each direction at larger intersections. **Figure 10** shows a typical cross-section of Old Northern Road in the vicinity of the study area.

Figure 10 Old Northern Road: typical cross section



Source: AECOM, 2015

Old Northern Road has a sign posted speed limit of 60km/h in close proximity to the study area. A school zone is in operation along much of Old Northern Road close to the proposed development sites, extending from approximately the northern boundary point of the proposed northern site, to the intersection of Old Northern Road and Vineys Road in the south. The school zone reduces the vehicle speed to 40km/hr on school days between 8am and 9.30am and 2.30pm and 4pm.

2.6.2 New Line Road

New Line Road is an arterial road located to the south of the study area. It runs in a north-south direction from Old Northern Road to the Cumberland Highway. The road has one lane in each direction between Old Northern Road and Hastings Road. A roundabout is located at the intersection of New Line Road | Old Northern Road, which also provides access to Dural Business Park. The speed limit along New Line Road is 60km/h. There are no parking lanes along the road. **Figure 11** shows a typical cross-section of New Line Road.

Figure 11 New Line Road south of Old Northern Road



Source: AECOM, 2014

2.6.3 Local access roads

There are limited local access roads close to the study. Existing local access roads include Derriwong Road which currently links to Old Northern Road which provides access to semi-rural land in the area. The intersection of Old Northern Road | Derriwong Road is currently a priority intersection.

Figure 12 Derriwong Road



Source: AECOM, 2015

Valencia Street and Jaffa Road, to the west of the southern site, connect low density residential dwellings to Kenthurst Road via Maple Street. These roads provide access the local properties and are generally sealed, single carriageway, and with a posted speed limit of 50km/hr.

2.6.4 Other infrastructure

A dedicated passenger pick and drop off area is provided along Old Northern Road opposite Dural Primary School. This provides vehicles travelling along Old Northern Road opportunities to safely pick up and drop off passengers.

This dedicated area requires vehicles exiting the area to turn left only allowing vehicles originating from the south to travel southbound on Old Northern Road, however requires vehicles from the north to find other opportunities along Old Northern Road to travel northbound.

Figure 13 Pick-up / drop off area



Source: AECOM, 2016

2.7 Traffic Volumes

2.7.1 Daily Traffic Counts

Traffic volume data has been obtained from Roads and Maritime Services to determine the historical traffic growth in the surrounding area. **Table 4** shows historical Average Daily Traffic (ADT) volumes at stations in the vicinity of the study area.

The location of the stations is shown in **Figure 14**. The traffic data shows that there are approximately 19,500 vehicles per day on Old Northern Road and approximately 30,000 vehicles daily on New Line Road in the vicinity of the study area.

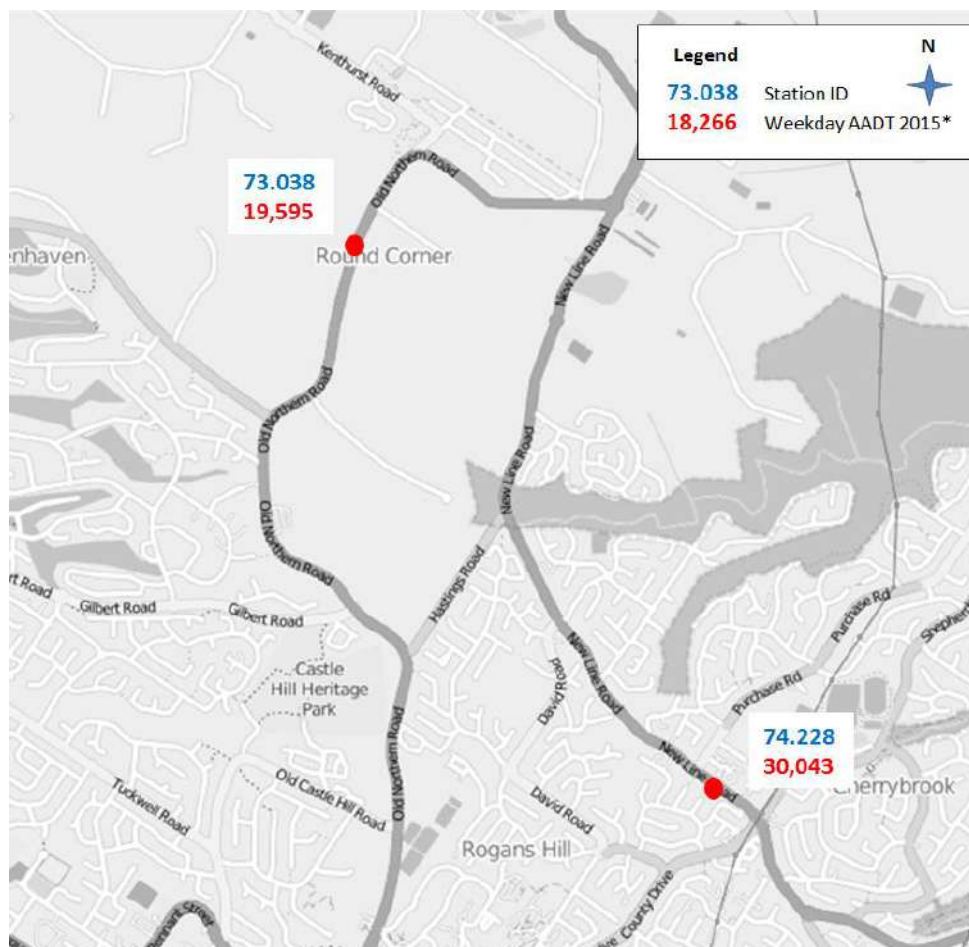
Table 4 Historical weekday traffic volumes and growth

Station #	Location	Weekday AADT					Average growth / year
		2011	2012	2013	2014	2015 ¹	
73038	Old Northern Road, near Malabar Road, Round Corner	18,531	18,841	19,214	18,737	19,595	1.41%
74228	New Line Road, east of Purchase Road, Cherrybrook	30,100	30,063	30,017	30,109	30,043	-0.05%

Source: Roads and Maritime Services, 2015

¹ 2015 Weekday AADT is year to date (to November 2015)

Figure 14 2014 Weekday AADT in the vicinity of the site



Source: Roads and Maritime Services Traffic Volume Data 2015, OpenStreetMap (Base Imagery), 2014.

*2015 Weekday AADT is year to date (to November 2015)

2.7.2 Intersection counts

Classified turning movement counts were undertaken by Trans Traffic Survey during the morning (7am to 9am) and evening (3.00pm to 6.00pm) peak periods on 28 October 2015 at the following intersections:

- Old Northern Road | Derriwong Road (priority)
- Old Northern Road | New Line Road (roundabout)
- Old Northern Road | Nursery Access Road (priority)

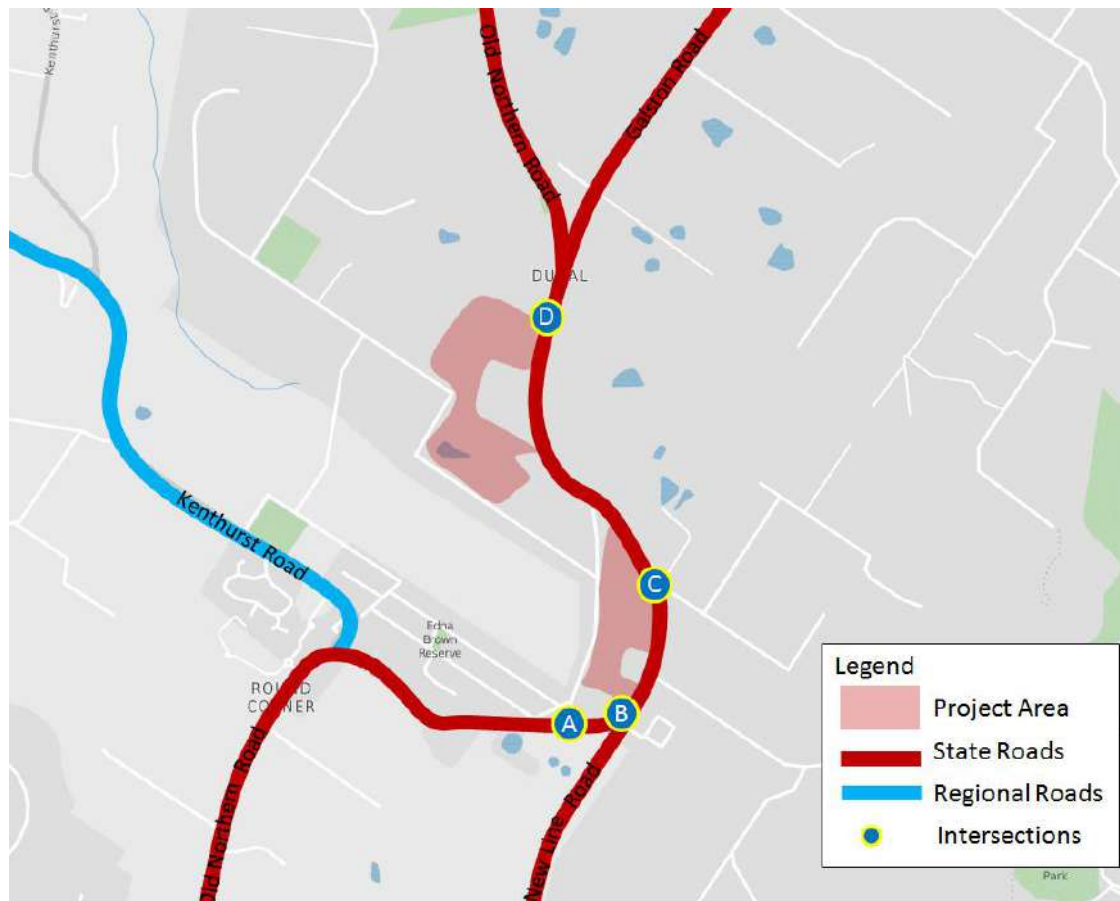
Analysis of the data shows that the AM peak period for the network was between 7.45am and 8.45am and the PM peak was between 3:15pm and 4.15pm which is driven by the school peak rather than the typical PM commuter peak.

Key intersections assessed include:

- a) Old Northern Road | Derriwong Road (priority)
- b) Old Northern Road | New Line Road (roundabout)
- c) Old Northern Road | Vineys Road
- d) Old Northern Road | Nursery Access Road (priority)

Given the local nature of Vineys Road, traffic volumes at the intersection has been estimated based on the assumption that properties which rely on Vineys Road for access generates 0.86 and 0.89 trips during the AM and PM peak respectively.

Figure 15 Key intersections



Source: AECOM, 2016

The traffic count data shows that traffic flow in the peak hour traffic direction on Old Northern Road and New Line Road has exceeded 1,000 veh/hr. This implies that both roads are approaching capacity for a one lane road during the peak hours.

2.8 Intersection Assessment

Intersection assessment based on the surveyed traffic data has been carried out using SIDRA 6.1, a computer based modelling package which calculates isolated intersection performance.

The main performance indicators for SIDRA 6.1 include:

- Degree of saturation (DoS) – a measure of the ratio between traffic volumes and the capacity of the intersection is used to measure the performance of isolated intersections.
- Average delay – how long in seconds the average vehicle waits at the intersection.
- Level of service (LoS) – a measure of the overall performance of the intersection (as explained in **Table 5**).

Table 5 Level of Service criteria for Intersections

Level of Service	Average Delay (secs/veh)	Traffic Signals and Roundabouts	Give Way and Stop Signs
A	Less than 14	Good Operation	Good Operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays	At capacity; requires other control mode
F	>70	Roundabouts require other control mode	At capacity; requires other control mode

Source: Roads and Maritime Services, 2002

Table 6 summarises the existing intersection operation in the AM peak period and **Table 7** summarises the existing intersection operation of the PM peak period. More detailed results are presented as **Appendix B**.

Table 6 2015 AM Peak Hour Intersection Performance

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay ¹ (sec)	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way	2,005	B	0.389	27.9	103
Old Northern Road New Line Road	Roundabout	3,804	A	0.814	13.0	79
Old Northern Road Vineys Road	Give-way	2,559	F	1.500	509.5	51
Old Northern Road Nursey Access Road	Give-way	1,851	A	0.583	8.6	1

Source: AECOM, 2014

¹Average delay report is the average delay of the worst intersection approach for giveaway and roundabout intersections.

Table 7 2015 PM Peak Hour Intersection Performance

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay ¹ (sec)	95% Back of Queue (m)
Old Northern Road / Derriwong Road	Give-way	2,186	B	0.579	16.3	107
Old Northern Road / New Line Road	Roundabout	3,993	B	0.836	16.3	88
Old Northern Road / Vineys Road	Give-way	2,402	F	0.642	243.7	2
Old Northern Road / Nursery Access Road	Give-way	1,968	A	0.566	11.6	3

Source: AECOM, 2014

¹Average delay report is the average delay of the worst intersection approach for giveaway and roundabout intersections.

The SIDRA results indicate that during the AM and PM peak hour, three of the four intersections assessed in the vicinity of the study area operate satisfactorily.

The intersection of Old Northern Road | Vineys Road operates unsatisfactorily due to delays experienced by vehicles on Vineys Road. It should also be noted at the intersection of Old Northern Road | Derriwong Road, right turn movements from Derriwong Road experiences significant delays during both the AM and PM peak as it is required to wait for gaps along Old Northern Road to enter the intersection.

3.0 Future Traffic Conditions

3.1 Background Traffic Growth

The historical Roads and Maritimes Services traffic data over the past five years were analysed to estimate the background traffic growth in the vicinity of the study site.

As shown in **Table 4**, since 2011 traffic has increased by approximately 1.4 per cent per year on Old Northern Road, near Malabar Road, and decreased by approximately 0.5 per cent per year on New Line Road, west of Purchase Road. To estimate the growth of traffic along key roads of the study area, an average annual growth of 1.4 per cent has been applied.

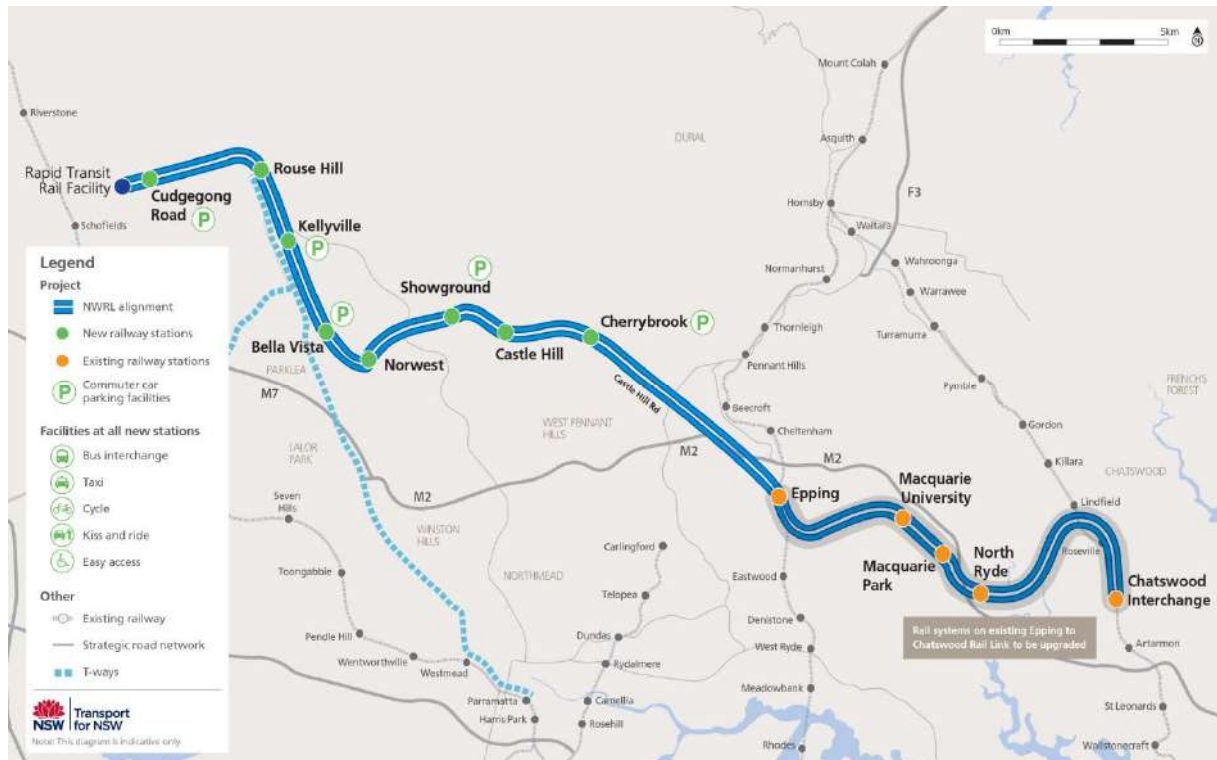
The traffic that would be generated by an approved shopping centre development at 488 Old Northern Road have also been accounted for in the background traffic volumes.

3.2 Planned Infrastructure

The North West Rail Link (NWRL) is currently under construction and due to commence operation in the first half of 2019, will offer a metro rail transport option for the future residents of the proposed development by providing frequent train services between Rouse Hill and Chatswood. Passengers will be able to interchange at Epping or Chatswood to connect to the rest of Sydney Train network. As part of Sydney Metro, the metro services on NWRL will continue past Chatswood, into the Sydney CBD via a second harbour crossing. The NWRL will include the construction of six new stations as shown in **Figure 16**.

The new stations (Castle Hill and Cherrybrook) are approximately seven to eight kilometres from the study site. It is anticipated that there will be bus connections accessible from the study connecting to the NWRL. The Environmental Impact Statement (EIS) Stage 2 for the NWRL indicates that Castle Hill Station will be a major interchange point for commuters transferring between NWRL and bus services from the central part of the NWRL corridor.

Figure 16 The Northwest Rail Link network



Source: Transport for NSW, 2014

There are currently no planned road infrastructure upgrades around the study area.

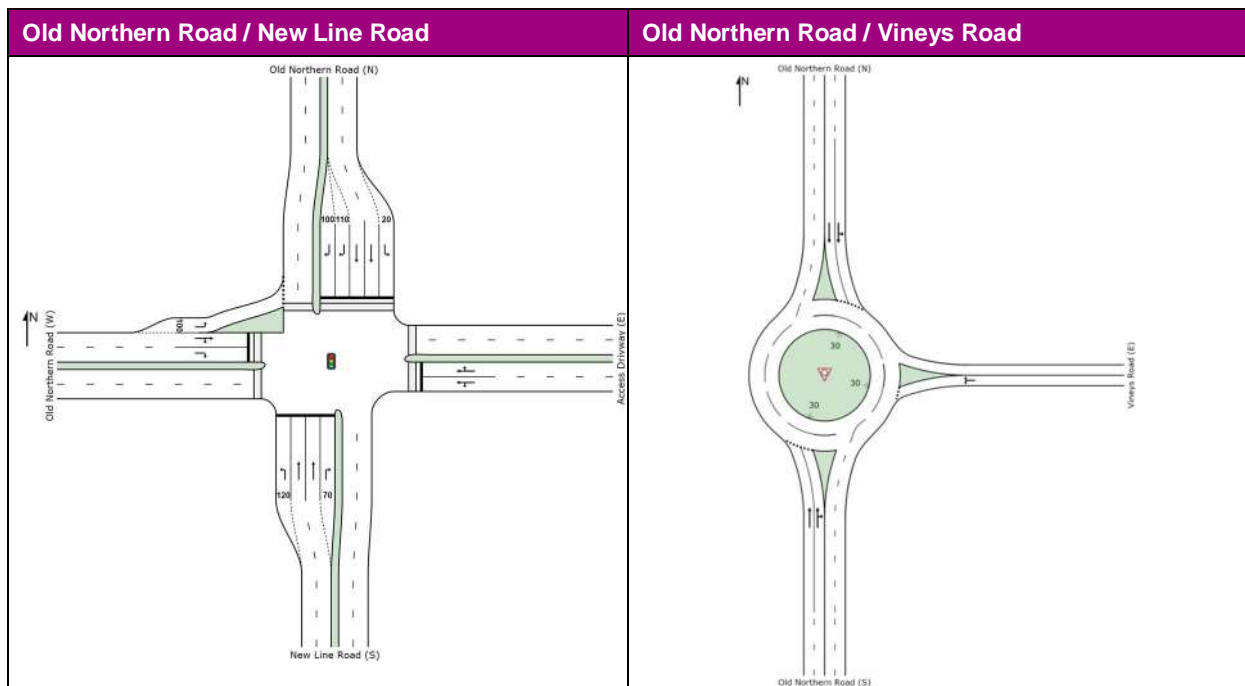
3.3 Mitigation Measures

To cater for the background traffic growth in the vicinity of the study area, local infrastructure upgrades may be required for the road network to continue to operate effectively.

It has been highlighted that existing traffic volumes along Old Northern Road and New Line Road is approaching capacity. It is expected that background traffic growth will trigger the requirement of upgrading these road for additional capacity.

Assessments of intersection performance under the 2026 forecast traffic volumes indicates the intersection of Old Northern Road | New Line Road and Old Northern Road | Vineys Road will need to be upgraded to cope with background traffic growth. Upgrade options are shown in **Table 8**.

Table 8 Intersection Layout Options (2026 Base)



Source: AECOM, 2016

3.4 Intersection Assessment

The **Table 9** and **Table 10** below summarise both AM and PM intersections performance for future year 2026 without development traffic scenario.

Table 9 2026 AM Peak intersection performance – without proposed development

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay (sec)	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way (left out)	2,347	F	0.511	89.8 ¹	191
Old Northern Road New Line Road	Roundabout	4,454	F	1.102	70.9	814
	Signals	4,454	C	0.833	30.5	160
Old Northern Road Vineys Road	Roundabout	2,996	A	0.462	9.2 ¹	31
Old Northern Road Nursery Access Road	Give-way	2,177	A	0.688	11.4 ¹	2

Source: AECOM, 2014

¹Average delay report is the average delay of the worst intersection approach for giveaway and roundabout intersections

Table 10 2026 PM Peak intersection performance – without proposed development

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay (sec)	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way (left out)	2,585	E	0.767	59.4 ¹	182
Old Northern Road New Line Road	Roundabout	4,709	F	1.116	104.6	1,013
	Signals	4,709	C	0.893	35.2	135
Old Northern Road Vineys Road	Roundabout	2,840	A	0.462	9.6 ¹	29
Old Northern Road Nursery Access Road	Give-way	2,344	B	0.673	17.8 ¹	7

Source: AECOM, 2014

¹Average delay report is the average delay of the worst intersection approach for giveaway and roundabout intersections

It is noted that during the AM peak, the 95th percentile queue along the west leg of the Old Northern Road | New Line Road intersection extends past the Old Northern Road | Derriwong Road intersection. Modelling also suggests that the priority Old Northern Road | Derriwong Road intersection will fail in 2026.

As part of the development proposed in this study, new intersections will allow vehicles which either turn right into or out of the Old Northern Road | Derriwong Road intersection, to use alternate points at new northern intersections with Old Northern Road. This would allow movements at this intersection to be restricted to left in left out, improving intersection safety.

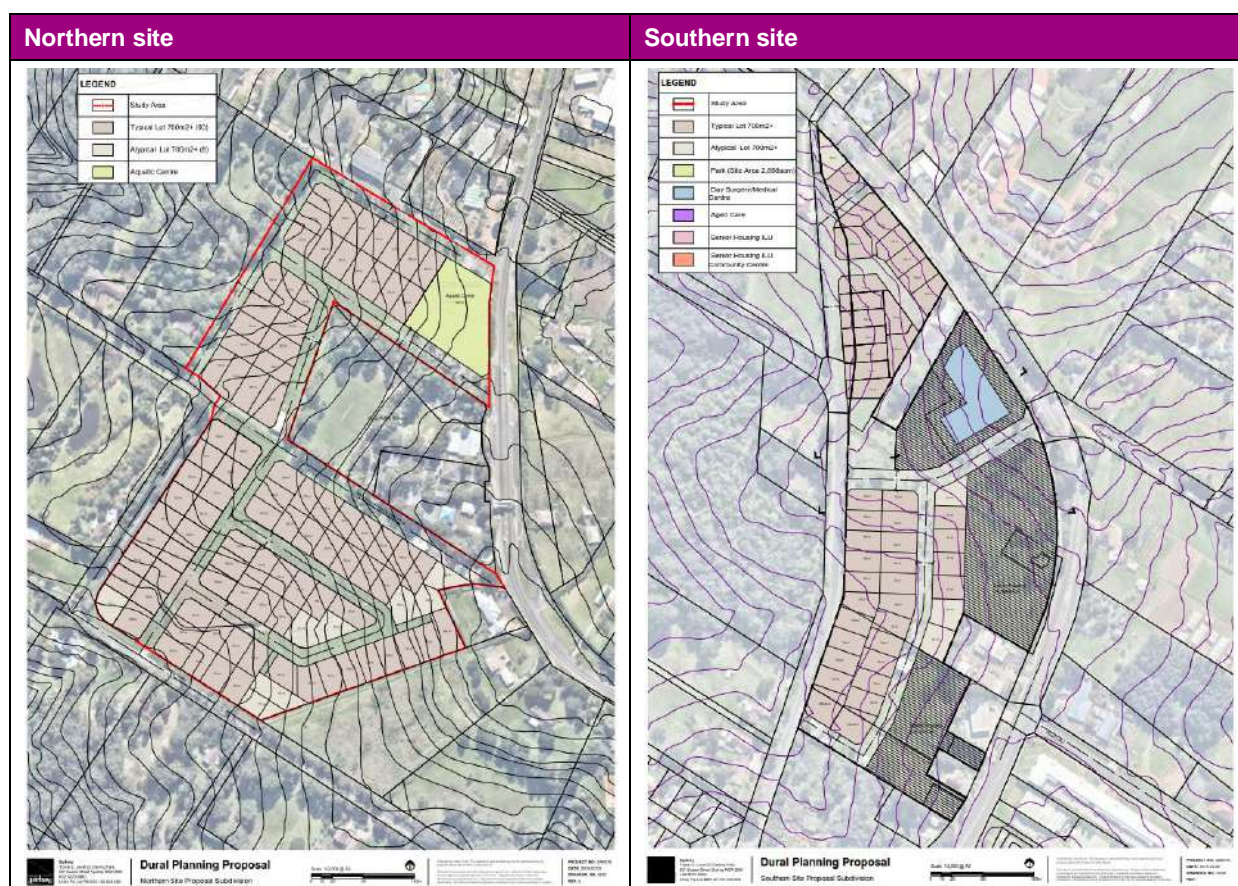
4.0 Proposed Development

4.1 Land Use

The Dural Planning Proposal intends to provide a mix-use development. The proposed development has been divided into the following two sites:

- the northern site is proposed to consist of approximately 98 low density residential lots and an aquatic centre.
- the southern site is proposed to consist of 48 low density residential lots, an aged care facility with 60 senior’s independent living units (ILU) and 150 beds for assisted living, and a medical precinct of approximately 3,000 m².

Figure 17 Dural Planning Proposal



Source: Urbis, 2016

The development types and quantity of each of the types of residential and commercial development are shown in **Table 11**.

Table 11 Proposed Development Type and Quantity

Site	Development Type	Quantity
Northern Site	Low density residential	98 dwellings
	Aquatic Centre	5,825m ²
Southern Site	Low density residential	48 lots
	Aged Care Facility – Seniors ILU & Assisted Living	60 ILUs & 150 beds
	Medical Precinct	3,000m ²

Source: Urbis, 2016

4.2 Site Access

Both northern and southern sites can be accessed from Old Northern Road and Derriwong Road. The northern site will have three accesses to Old Northern Road via two left in / left out (LILO) intersections and one intersection allowing all movements.

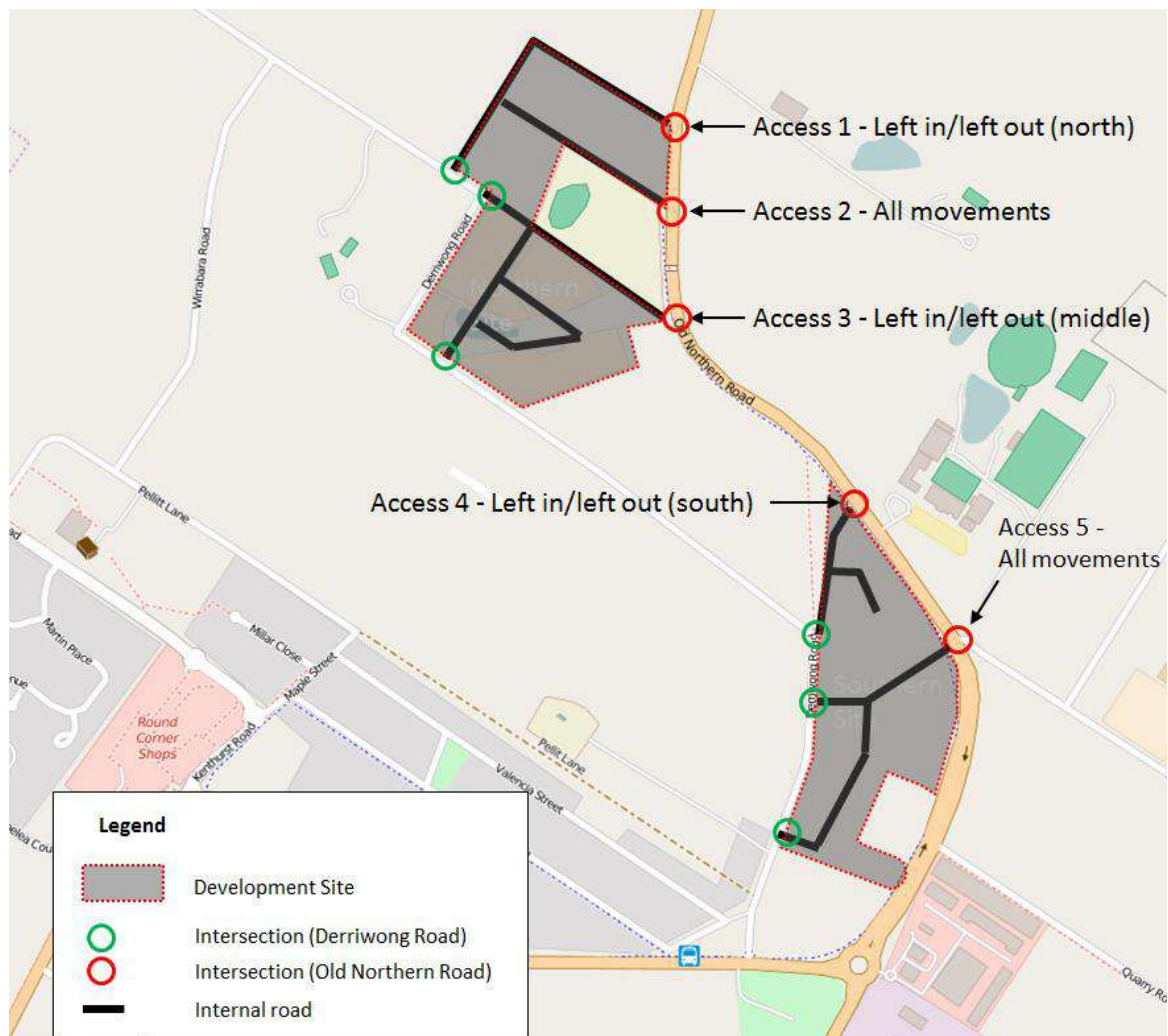
The southern site will have two accesses to Old Northern Road via a LILO and one intersection allowing all movements.

The proposed site access to the development from Old Northern Road is summarised below:

- Access 1 – conversion of the existing intersection of Old Northern Road | Nursery Access Road to a LILO.
- Access 2 – new intersection allowing all movements
- Access 3 – new LILO
- Access 4 – new LILO
- Access 5 – upgrade the existing intersection of Old Northern Road | Vineys Road with a western approach to allow all movements

The indicative location and type of site accesses are shown in **Figure 18**. Primary access to the proposed development is expected to be undertaken at intersections which allow all movements to occur.

Figure 18 Study site access intersections



Source: Basemap; Openstreetmap, accessed 2016.

4.3 Internal Road Network

The internal road network for both sites is shown in **Figure 18**. All internal roads should be designed or upgraded to provide safe access and egress for trips generated by the development.

It is envisioned that the proposed site access for the northern site allows an alternative location for pick-up/drop off movements generated by Dural Public School. This will resolve the issue experienced at the existing pick up/drop off location opposite Dural Public School, allowing vehicles from the north to use the internal road network to travel northbound on Old Northern Road, after pick-up/drop off.

4.4 Pedestrians and Cyclists

Internal pedestrian paths will be connected to existing footpaths on Old Northern Road allowing pedestrians to reach existing bus stops in the area. It is envisioned that the internal road network will allow for cyclists to share the roadways with general traffic.

4.5 Public Transport

The majority of the study area will be within the 400m catchment of current bus routes operating on Old Northern Road and New Line Road. Therefore, most of the residents will be within a 400m walking distance of an existing bus route linking to surrounding transport hubs. It is also anticipated that new bus connections will be established that are accessible from the study connecting to the NWRL stations.

5.0 Traffic Impact Assessment

5.1 Traffic Generation

The Roads and Maritime's Guide to Traffic Generating Developments Updated traffic surveys (TDT 2013/04a). Given the rural nature of the area, the average trip rate for low density dwellings and housing for seniors surveyed within Sydney have been applied.

For land uses where trip rates are not available in these guides, trip rates have been taken from the Institute of Transport Engineers' Trip Generation guide. This is with the exception of the Medical Precinct for which a rate of 2 vehicles per 100m² GFA has been assumed.

Details of the applied trip generation rates and the generation trips for the proposed development are shown in **Table 12**.

Table 12 Total trips generated by proposed development

Site	Development Type	Quantity	AM Peak		PM Peak	
			Trip Rate	Trips Generated	Trip Rate	Trips Generated
Northern Site	Low density residential	98 dwellings	0.86 per dwelling	85	0.89 per dwelling	87
	Aquatic Centre [^]	5,825m ² (4,078m ² GFA)	1.74 per 100m ² GFA	71	1.76 per 100m ² GFA	72
Southern Site	Low density residential	48 lots	0.86 per dwelling	41	0.89 per dwelling	43
	Aged care facility – Senior's ILU [#]	60 ILUs	N/A	N/A	0.176 per ILU	11
	Aged care facility – Assisted living	150 beds	0.18 trips per bed	27	0.35 trips per bed	53
	Medical Precinct	3,000m ²	2 per 100m ² GFA	60	2 per 100m ² GFA	60
Total			284		325	

[^] It has assumed that the aquatic centre has a 70% efficiency rate for GFA conversion.

[#] It has been assumed the Age Care Facility – Senior's ILU morning peak does not coincide with the network peak.

In terms of the split between inbound and outbound trips, it has been assumed that:

- For trips generated by low density residential will be composed of 90 per cent outbound trips and 10 per cent inbound trips in the AM Peak and reversed in the PM Peak. The same split has been applied to the senior's ILU in the PM peak.
- For trips generated by the assisted living component of the aged care facility, it has been assumed 67 per cent are inbound trips and 33 per cent are outbound trips in the AM Peak. During the PM peak it has been assumed 46 per cent are inbound trips and 54 per cent are outbound trips. This is in line with the ITE guideline.
- For trips generated by the aquatic centre, it has been assumed 61 per cent are inbound trips and 39 per cent are outbound trips in the AM Peak. During the PM peak it has been assumed 29 per cent are inbound trips and 71 per cent are outbound trips. This is in line with the ITE guideline.
- For trips generated by the medical precinct, it has been assumed that 70 per cent are inbound trips and 30 per cent are outbound trips in the AM Peak, this is reversed in the PM Peak. This is based on the assumption that most trips will be generated by employees.

The future traffic flows are generated from both northern site and southern site. In AM peak hour, there are 156 trips generated from northern site, and 128 trips are from southern site. In PM peak hour, there are 160 trips generated from northern site, and 176 trips are from southern site as shown in **Table 13**

Table 13 Forecast Traffic Flow

Site	AM Peak trips			PM Peak trips		
	In	Out	Total	In	Out	Total
Northern Site	52	104	156	100	60	160
Southern Site	64	64	128	91	74	165
Total	116	168	284	191	134	325

Source: AECOM, 2016

5.2 Traffic Distribution and Assignment

Trip distribution and assignment for the development has been determined based on existing Journey to Work patterns for private vehicle trips to and from Travel Zone 4310, within which the study area is located. The access roads which drivers would use to reach their destinations were considered, and this was used to distribute the trips between drivers whom would use:

- Old Northern Road north (north of study sites)
- New Line Road
- Kenthurst Road / Old Northern Road west (west of study sites)

The trip distribution to each of these routes for the AM Peak Period is shown in **Table 14**. These distributions are assumed to be reversed in the PM Peak.

Table 14 Distribution of generated traffic to key routes in the AM Peak Period

Route	To/from	% of allocated trips	
		Origin trips	Destination trips
Old Northern Road (north)	North	25%	31%
New Line Road	South / East	25%	35%
Kenthurst Road / Old Northern Road (west)	West	50%	34%
Total		100%	100%

Source: AECOM, 2016

Table 15 provides a summary of the likely traffic distribution for the development between the Old Northern Road and Derriwong Road access road intersections.

Table 15 Traffic splits between access roads

Access Road	AM Peak		PM Peak	
	In	Out	In	Out
Old Northern Road	65%	75%	75%	83%
Derriwong Road	35%	25%	25%	17%

Source: AECOM, 2016

5.3 Intersection Assessment

Table 16 and Table 17 show the intersection performance of future year together with development traffic for both AM and PM peak hour.

Table 16 2026 AM Peak Intersection Performance – with proposed development

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay (sec) ¹	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way (left in/left out)	2,451	A	0.390	9.1	3
Old Northern Road New Line Road	Signals	4,612	C	0.834	33.0	178
Access 1 (Old Northern Road Nursery Access Road)	Give-way (left in/left out)	2,243	A	0.699	8.6	1
Access 2	Roundabout	2,299	A	0.454	10.7	28
	Signals	2,299	A	0.646	8.4	69
Access 3	Give-way (left in/left out)	2,702	A	0.786	11.8	1
Access 4	No traffic from the development has been assigned to this intersection					
Access 5 (Old Northern Road Vineys Road)	Roundabout	3,161	A	0.520	11.2	37
	Signals	3,161	A	0.749	10.6	97

Source: AECOM, 2014

¹Average delay report is the average delay of the worst intersection approach for giveaway and roundabout intersections.

Table 17 2026 PM Peak Intersection Performance – with proposed development

Intersection	Intersection Type	Demand Flow (veh/h)	Level of Service	Degree of Saturation (v/c)	Ave Delay (sec)	95% Back of Queue (m)
Old Northern Road Derriwong Road	Give-way (left out)	2,658	A	0.500	8.4	3
Old Northern Road New Line Road	Signals	4,878	C	0.922	39.7	169
Access 1 (Old Northern Road Nursery Access Road)	Give-way (left in/left out)	2,416	B	0.684	15.5	2
Access 2	Roundabout	2,447	A	0.435	11.9 ¹	24
	Signals	2,447	B	0.865	15.5	95
Access 3	Give-way (left in/left out)	2,700	B	0.753	17.8	1
Access 4	No traffic development has been assigned to this intersection					
Access 5 (Old Northern Road Vineys Road)	Roundabout	3,065	A	0.601	12.4 ¹	45
	Signals	3,065	A	0.732	10.4	91

Source: AECOM, 2014

¹Average delay report is the average delay of the worst intersection approach for giveaway and roundabout intersections.

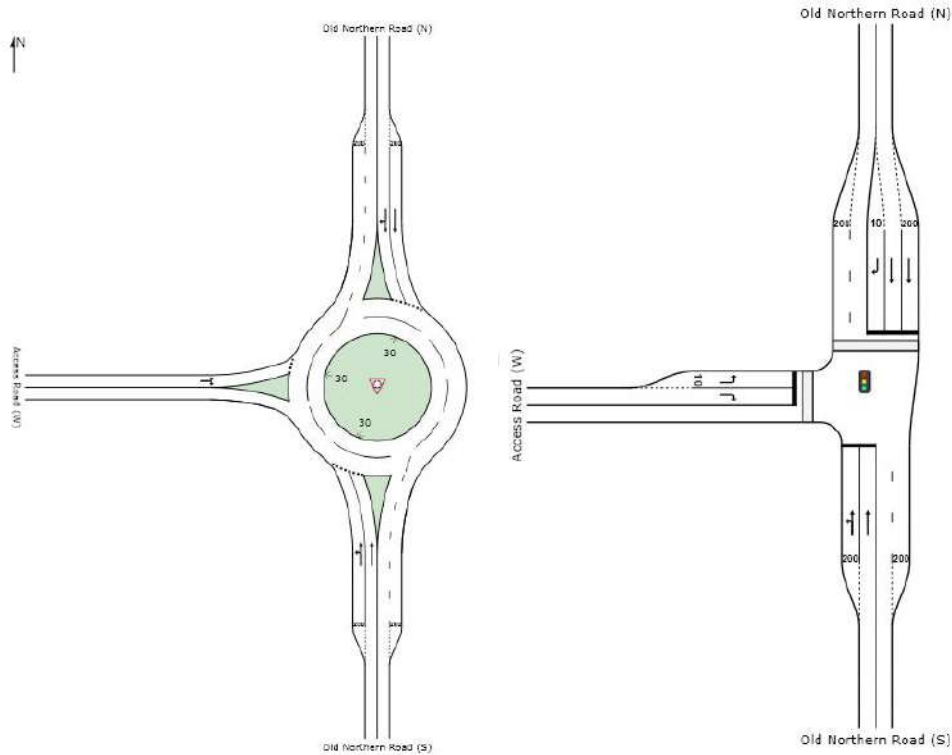
As was noted in the intersection assessment which assessed the 2026 background traffic only, the intersection of Old Northern Road | New Line Road, the left turn movement on the Old Northern Road intersection west leg exceeds the 100m left turn bay provision and queuing extends past the preceding priority intersection at Old Northern Road / Derriwong Road.

It is forecasted minimal traffic would use intersections along Derriwong Road, which would operate satisfactorily as priority intersections.

The primary intersections providing access to the development have been assessed as a roundabout and signalised intersection given the likelihood of a priority intersection, allowing all movements, operating satisfactorily being low.

The primary intersection for the northern site will require a new intersection along Old Northern Road. **Figure 19** presents the geometric layout assessed for the intersection. There is potential for both the roundabout and signalised intersection to integrate with the pick up/drop off zone subject to detailed design.

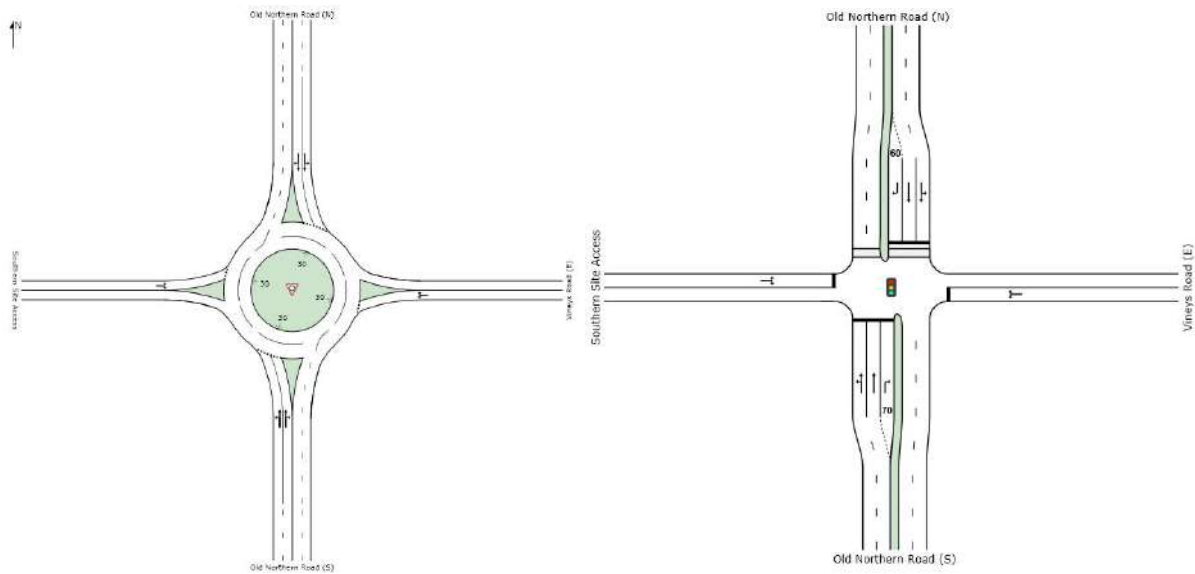
Figure 19 Northern site – Access Road 2



Source: AECOM, 2016

The primary intersection for the southern site is to be provided at the existing intersection of Old Northern Road | Vineys Road. This will require the existing priority intersection to be upgraded with a western approach to allow trips generated by the development to access the surrounding road network.

Figure 20 Southern site – primary access intersection



Source: AECOM, 2016

5.4 Infrastructure Upgrade Summary

The following infrastructure upgrades are required to accommodate background traffic:

- Upgrade of Old Northern Road and New Line Road for additional capacity.
- Old Northern Road | New Line Road to be upgraded to a signalised intersection.
- Old Northern Road | Vineys Road proposed to be upgraded as a roundabout.

Further infrastructure upgrades are required to accommodate the traffic generated by the proposed development:

- Access 1 – conversion of the existing intersection of Old Northern Road | Nursery Access Road to a LILLO.
- Access 2 – New roundabout or signalised intersection on Old Northern Road, north of Dural Primary School.
- Access 3 – New LILLO intersection on Old Northern Road, south of Dural Primary School.
- Access 4 – New LILLO intersection on Old Northern Road.
- Access 5 - proposed upgrade of Old Northern Road | Vineys Road as a roundabout or a signalised intersection.

It is forecasted minimal traffic would use intersections along Derriwong Road, which would operate satisfactorily as priority intersections.

6.0 Summary and Conclusion

6.1 Proposed development

The Dural Planning Proposal intends to provide a mix-use development. The proposed development has been divided into the following two sites:

- the northern site is proposed to consist of approximately 98 low density residential lots and an aquatic centre.
- the southern site is proposed to consist of 48 low density residential lots, aged care facility with 60 senior's independent living units (ILU) and 150 beds for assisted living , and a medical precinct of approximately 3,000 m².

6.2 Vehicle Access

Old Northern Road and Derriwong Road will provide vehicular access to both northern and southern sites. Five access points are proposed along Old Northern Road which include:

- three intersections, two LILOs and an intersection allowing all movements to access the northern site:
- two intersections, one LILO and an intersection allowing all movements to access the southern site.

An additional nine access points are proposed along Derriwong Road, which are proposed as priority intersections.

6.3 Transport and Accessibility

All internal roads are to be designed or upgraded to provide safe access and egress for trips generated by the development.

The majority of the study area will be within the 400m catchment of current bus routes operating on Old Northern Road and New Line Road. Therefore, most of the residents will be within a 400m walking distance of an existing bus route linking to surrounding transport hubs. It is also anticipated that new bus connections will be established that are accessible from the study connecting to the NWRL stations.

Internal pedestrian paths will be connected to existing footpaths on Old Northern Road allowing pedestrians to reach existing bus stops in the area. It is envisioned that the internal road network will allow for cyclists to share the roadways with general traffic.

6.4 Traffic Impacts

The existing intersections assessed indicate three of the four intersections in the vicinity of the study area operate satisfactorily. The intersection of Old Northern Road | Vineys Road operates unsatisfactorily due to delays experienced by vehicles on Vineys Road. Right turn movements from Derriwong Road at the intersection of Old Northern Road | Derriwong Road also experiences significant delays during both the AM and PM peak as it is required to wait for gaps along Old Northern Road to enter the intersection.

Current traffic volumes experienced along Old Northern Road and New Line Road are approaching capacity, which is expected to be upgraded to provide additional capacity to cater for future background traffic.

Forecasted 2026 background traffic volumes indicate the intersection of Old Northern Road | New Line Road and Old Northern Road | Vineys Road will need to be upgraded to cope with background traffic growth.

It is proposed the intersection of Old Northern Road | New Line Road is upgraded to a signalised intersection and the intersection of Old Northern Road | Vineys Road is upgraded to a roundabout.

Further infrastructure upgrades are required to accommodate the traffic generated by the proposed development:

- Access 1 – conversion of the existing intersection of Old Northern Road | Nursery Access Road to a LILO.
- Access 2 – New roundabout or signalised intersection on Old Northern Road, north of Dural Primary School.
- Access 3 – New LILO intersection on Old Northern Road, south of Dural Primary School.
- Access 4 – New LILO intersection on Old Northern Road.
- Access 5 - proposed upgrade of Old Northern Road | Vineys Road as a roundabout or a signalised intersection.

It is forecasted minimal traffic would use intersections along Derriwong Road, which would operate satisfactorily as priority intersections.

6.5 Timing and Delivery

It is understood that infrastructure upgrades will be required to provide sufficient capacity within the existing traffic network to support the delivery and realisation of several planning proposals, which are at various stages of consideration, by the relevant planning authorities. Other planning proposals in the surrounding area include South Dural, Dural Service Centre and the adjoining Round Corner Timber site.

It is noted that the South Dural planning proposal was granted Gateway Approval on the premise of delivering these infrastructure upgrades and, despite the potential for the gateway approval to lapse, the DP&E has provided an extension of time to allow this proposal to be developed and implemented. The South Dural planning proposal, together with the Dural Service Centre, Round Corner Timber Yard and the subject planning proposals, represent an opportunity for a coordinated approach and efficient spending on infrastructure.

The significant progression of the South Dural Planning Proposal, together with the recent extension of time granted to the site, represents a clear commitment to the delivery of the necessary infrastructure works and should be interpreted as certainty that upgrades will be delivered in the near future.

Skye Playfair Redman
Urbis
Level 23, Darling Park Tower 2, 201 Sussex Street
Sydney NSW 2000

Project No. 15GOS_1895

23 March 2016

Dear Skye,

RE: Ecological Assessment – Dural Rezoning

Eco Logical Australia Pty Ltd was commissioned to prepare an Ecological (flora and fauna) and Bushfire Constraints Analysis for the proposed rezoning of multiple parcels of land along Old Northern Road, Dural (**Figure 1**). Although the main focus of the ecological assessment was to identify possible constraints within the parcels of land along Old Northern Road (referred to as the “subject site” - see **Figure 1**), Urbis also requested a desktop review of the broader area surrounding the land (referred to as the “study area” - see **Figure 1**).

This letter outlines the ecological constraints across the subject site, as determined from the desktop literature review and field survey. Potential ecological constraints were assessed in relation to State and Commonwealth legislation, namely the *NSW Threatened Species Conservation Act 1995* (TSC Act) and *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

An initial constraints assessment was conducted for seven lots in late 2015. Another five lots were added in early 2016, and have been combined in a single ecological constraints assessment provided below.

Eco Logical Australia undertook a desktop analysis to refine the field survey. The ecological constraints analysis concluded that despite the subject site being substantially modified, there is a potential that threatened ecological communities persist within the study area. A site investigation was required to validate the presence of threatened ecological communities within the subject site.

Two threatened ecological communities in poor condition were recorded within the subject site as part of the site inspection by Eco Logical Australia. These were Blue Gum High Forest listed as a critically endangered under the TSC Act, and Sydney Turpentine Ironbark Forest listed as endangered under the TSC Act.

The desktop vegetation mapping and a brief visual inspection of the broader study area suggests that the study area may contain patches of Sydney Turpentine Ironbark Forest and Blue Gum High Forest, as well as potential habitat for threatened flora and fauna species. Additional surveys would be required to verify the extent and condition of threatened ecological communities and the presence of threatened species within the study area.

If you have any questions please do not hesitate to contact me (02) 8536 8650 or matthewd@ecoaus.com.au.

Kind Regards,



Matthew Dowle
Senior Ecologist

Site Description

The site is comprised of two cluster lots along Old Northern Road, Dural (**Figure 1**) (referred to as the “subject site”) within The Hills Shire Council (THSC).

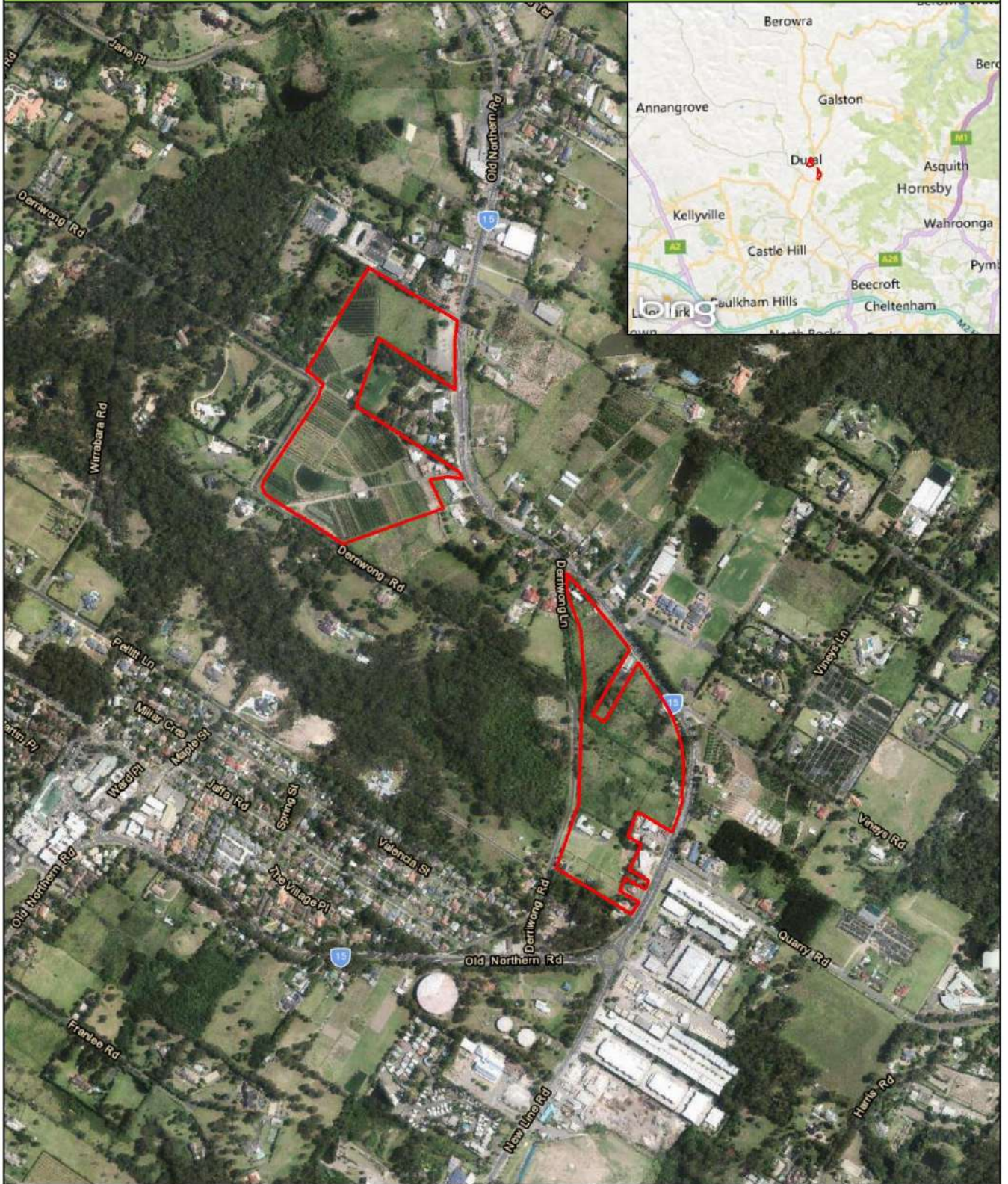
The site includes the following lots:

- Lot 100 and 102 (DP13628)
- Lot 1 (DP656036)
- Lot X (DP501233)
- Lot 2 (DP567995)
- Lot 9 (DP237576)
- Lot 2 (DP541329)
- Lots 101 and 103 (DP713628)
- Lot 1 (DP660184)
- Lot 11 DP866560
- Lot D DP38097
- Lot 1 DP73652
- Lot 12 DP866560.

The entire subject site is zoned as RU6 Transition. The majority of the study area is also zoned RU6 Transition with the exception of a parcel of land to the corner of Derriwong Road, zoned SP2 (Cemetery) and two small linear sections along Old Northern Road in the south of the study area are also zoned SP2 (Classified Road).

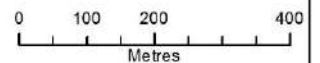
A review of The Hills Local Environmental Plan 2012 (HLEP) Terrestrial Biodiversity layer has confirmed that the subject site does not fall within land mapped as ‘biodiversity’. However, the land directly west of Derriwong Road has been mapped as part of the Terrestrial Biodiversity layer. This relates to clause 7.4 Biodiversity (Terrestrial) and requires that certain objectives relating to biodiversity protection be considered when assessing development applications on land that have been shown on the Terrestrial Biodiversity Map.

Location



Legend

Subject Site



GDA 1994 MGA Zone 56



Prepared by: BH Date: 15/03/2016

Figure 1: study area and subject site

Methodology

The following resources were reviewed during the desktop assessment of the study area:

- NSW BioNet, Atlas of NSW Wildlife database search (5 km) (accessed 27 July 2015)
- EPBC Act Protected Matters Search Tool (5 km) (accessed 27 July 2015)
- *Soil Landscapes of the Sydney 1:100 000 sheet* (Chapman and Murphy 1989)
- Vegetation mapping:
 - Native vegetation of Western Sydney (NSW NPWS 2002)
 - The Hills Shire Council vegetation mapping (THSC 2008) (Sheet 6)
- Local government planning instruments
 - The Hills Local Environmental Plan 2012 (HLEP)
 - The Hills Shire Council Terrestrial Biodiversity Map (Sheet CL1_023)
- Aerial photography.

A review of available literature and database searches was conducted to determine potential ecological constraints and data gaps. This information was used to assist in the assessment of the subject site.

A brief site investigation was originally conducted on 22 October 2015 by Danielle Adams-Bennett to identify the presence and condition of TECs, threatened species and fauna habitat values (i.e. hollow-bearing trees) within the subject site. A follow-up site investigation to incorporate the additional sites was conducted on 17 February 2016. A brief visual assessment from the roadside was conducted to identify vegetation in the broader study area. This method is suitable when trying to conduct broad validation. However, additional field surveys are required to confirm the boundaries of these vegetation communities and the presence of threatened species within the study area that are outside the subject site.

An assessment of the likelihood of occurrence of TECs and threatened flora and fauna species and their habitats was undertaken to determine if these are likely to occur within the study area (**Appendix A**).

Results

Literature review of study area

Hydrology and Soils

Several tributaries of O'haras creek drain away from the subject site and converge with O'haras Creek to the west of the study area. O'haras Creek is a major creek line which is buffered by native vegetation and flows in a north-west direction.

The majority of the site is located within Glenorie soil landscape with a small section on Lucas Heights within the south-eastern portion of Lot X DP 501233 and Lot 2 DP567995. Glenorie soil landscape (erosional) occurs on undulating or rolling hills. It is associated with the Wianamatta Group Shales and has low to moderate fertility and high erosional hazard (Chapman and Murphy 1989). Lucas Heights soil landscape (residual) is generally found on upper slopes or ridgetops and has a low fertility (Chapman and Murphy 1989).

Vegetation communities

The vegetation within the study area has been previously mapped by broad-scale mapping projects (NPWS 2002, THSC 2008). The majority of the subject site was not mapped as native vegetation under these previous projects. Interpretation of aerial photography indicated the presence of market gardens, cleared lands and a modified landscape. However, small stands of native vegetation were mapped within and adjacent to the subject site.

The two vegetation mapping datasets NPWS (2002) and THSC (2008) were inconsistent in the classification of native vegetation types within the subject site and study area (discussed below). Therefore field validation was required to confirm the presence and identity of any native vegetation communities within the subject site.

Additional surveys would be required to validate the vegetation within the study area because the study area was not surveyed in detail beyond the subject site.

Threatened species

Database searches identified seven threatened ecological communities, 31 threatened flora species and 54 threatened fauna species, which are listed under the TSC or EPBC Acts. Fauna included 30 birds (including 12 migratory species), 14 mammals (including nine bats), five amphibians, two fish, two invertebrate and one reptile that have been recorded or are likely to occur within a 5 km radius around the subject site.

An assessment of the likelihood of occurrence for threatened species to occur within the study area is provided in **Appendix A**. The assessment identified that highly mobile fauna species such as microbats and bird species may utilise the study area. Additionally, there are a number of records for one threatened invertebrate *Pommerhelix duralensis* (Dural Land Snail) which may inhabit the study area. There are a number of records for one threatened flora species, *Epacris purpurascens* var. *purpurascens*, within the study area and adjacent lands.

Field surveys were conducted to determine if threatened species occur or whether suitable habitat is present within the subject site.

Field results of subject site inspection

Vegetation communities

The majority of the subject site has been substantially modified. However, small patches of native vegetation were located within Lot 1 (DP 656036) and Lot 11 (DP 866560) in the south. These patches of vegetation were previously mapped by THSC (2008) as Sandstone Gully Forest or Shale/Sandstone Transition Woodland, and by NPWS (2002) as Blue Gum High Forest or Sydney Turpentine Ironbark Forest.

However, three patches were validated as Blue Gum High Forest listed under the TSC Act, due to the presence of *Eucalyptus saligna* (Blue Gum) and *Eucalyptus pilularis* (Blackbutt) (**Figure 2**). *Eucalyptus saligna* and *Eucalyptus pilularis* are key diagnostic species of Blue Gum High Forest listed under the TSC Act. The two northern patches contained mature and regenerating individuals of *Eucalyptus saligna* (**Plate 1**), while the southern patch contained just two mature *Eucalyptus pilularis* (**Plate 2**). Areas of high quality Blue Gum High Forest may also be listed under the EPBC Act. However, these patches do not satisfy the listing criteria under the EPBC Act, due to their small size (less than 1 ha), lack of native species diversity across all strata, and/or they contain a canopy cover less than 10%.

A small linear patch of Sydney Turpentine Ironbark Forest was located along Derriwong Road and may be impacted by the proposed rezoning. Sydney Turpentine Ironbark Forest is listed as an endangered ecological community under the TSC Act. This patch of vegetation along the road does not satisfy the stringent criteria for listing under the EPBC Act due to its poor quality, small patch size (less than 1 ha) and canopy cover less than 10%.

The site inspection outside the subject site also identified key characteristic species of Sydney Turpentine Ironbark Forest or Blue Gum High Forest, suggesting that these communities are located within the broader study area (**Figure 2**). Several *Syncarpia glomulifera* (Turpentine), *Eucalyptus saligna*, *Eucalyptus pilularis* and *Angophora costata* were identified in vegetation patches adjacent to the subject site. These were identified in previous mapping as Blue Gum High Forest or Sydney Turpentine Ironbark Forest by NPWS (2002) and Shale/Sandstone Transition Forest by THSC (2008).



Plate 1: Patch of Blue Gum High Forest in poor condition



Plate 2: Patch of Blue Gum High Forest consisting of two individual *Eucalyptus pilularis*

Threatened Species

One migratory species, *Ardea ibis* (Cattle Egret), listed under the EPBC Act was recorded foraging with livestock. This species is common in disturbed environments. Similar types of habitat were located in semi-rural properties adjacent to the subject site and across the broader study area.

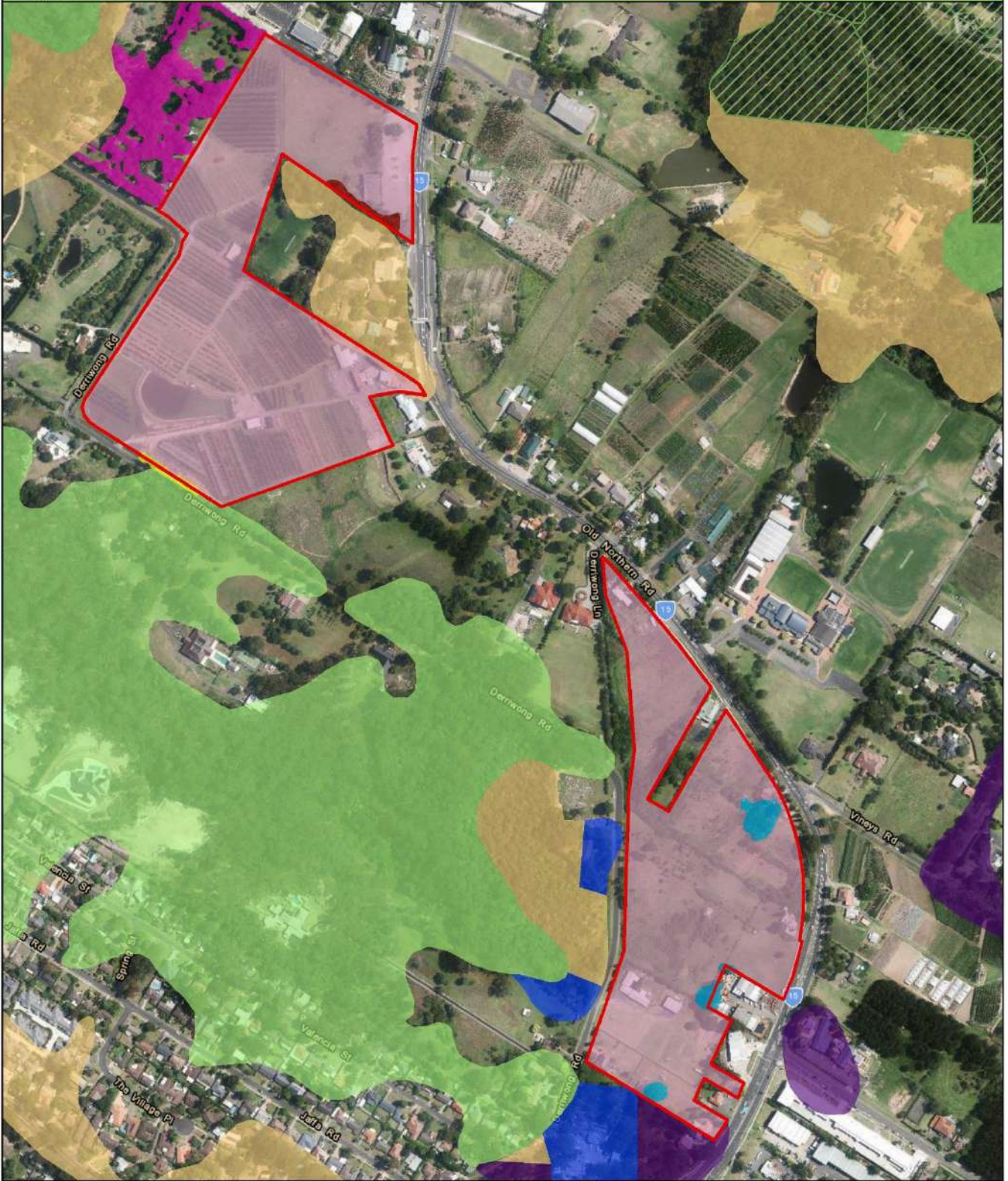
The subject site contained limited fauna habitat values. Fauna habitat values included farm dams and scattered canopy trees. No hollow-bearing trees and only limited foraging habitat for fauna species were recorded within the subject site. Due to the lack of native species within the canopy or shrub layers, there is also limited leaf litter and woody debris in the subject site.

The subject site does not provide habitat for threatened *Pommerhelix duralensis* (Dural Woodland Snail), despite the number of records in the locality. This species prefers forested habitats that have good native cover and woody debris, including fallen bark and leaf litter. These habitat features were largely absent from the subject site, due to current land practices and dominance of exotic species in the understorey. However, there is potential that the vegetation within the broader study area may contain habitat for the Dural Land Snail.

Due to the lack of important habitat features (i.e. hollow-bearing trees and intact native vegetation) the subject site is unlikely to support significant habitat for threatened fauna species. There is potential that highly mobile species such as threatened microbats and birds (e.g. Little Eagle) may utilise the area for occasional foraging or roosting.

No threatened flora species were recorded within the subject site during the field surveys. Furthermore, threatened flora are considered unlikely to occur within the subject site, due its predominately disturbed nature and thereby lack of potential habitat. Targeted surveys would be required to determine if the native vegetation within the broader study area contained threatened flora species.

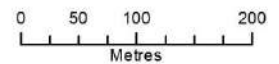
Vegetation Communities



Legend

- Subject Site
- Validated Vegetation (ELA 2015/2016)**
- Blue Gum High Forest (low condition)
- Exotics
- Native Planted
- Sydney Turpentine Ironbark Forest

- THSC 2008**
- Sydney Turpentine Ironbark Forest
- NPWS 2002**
- Blue Gum High Forest
- Sydney Turpentine Ironbark Forest
- Turpentine-Ironbark Margin Forest
- Western Sandstone Gully Forest
- Unclassified Vegetation



GDA 1994 MGA Zone 56



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Prepared by: BH/VH Date: 19/02/2016

Figure 2: Vegetation communities

Constraints

An ecological constraint value was assigned to the subject site based on the information from both the desktop review and site inspections. The value relates to potential risk of the rezoning to be constrained by biodiversity. These ecological constraints have been mapped (**Figure 3**) and discussed in the table below.

Table 1: constraints assessment of the subject site

Constraint	Value present on site	Constraint ranking criteria	Recommendation
High	Blue Gum High Forest and Sydney Turpentine Ironbark Forest (both low condition)	<ul style="list-style-type: none"> vegetation communities listed as threatened under the TSC Act whilst not intact, vegetation supports characteristic species of these communities potential foraging habitat for threatened bird species (e.g. Little Eagle) and microbats 	<ul style="list-style-type: none"> retain vegetation if possible and consider assisted revegetation with diagnostic species for the ecological community minimise impacts during development design and construction phase including establishing a buffer area adjacent to the vegetation. it is noted that an interior road network will be required within the subject site to provide sufficient permeability. Should trees within these communities be required to be removed, an impact assessment should be undertaken at the subdivision stage when the road network and lot layout is finalised. educate local community on significance of these ecological communities and threatened species through interpretative signage
Moderate	Native vegetation with a canopy	<ul style="list-style-type: none"> potential foraging habitat for threatened fauna species corridor for native fauna dispersal 	<ul style="list-style-type: none"> retain native vegetation where possible incorporate into landscape planting design if possible
Moderate	Patch of native shrubs	<ul style="list-style-type: none"> contains some native resilience, although it does not represent a native vegetation community potential corridor or shelter for native fauna 	<ul style="list-style-type: none"> suitable for development
Moderate	Planted non-indigenous native vegetation	<ul style="list-style-type: none"> does not represent a native vegetation community potential corridor or shelter for native fauna 	<ul style="list-style-type: none"> suitable for development
Low	Farm dam	<ul style="list-style-type: none"> potential foraging habitat for microbats suitable habitat for native fauna species 	<ul style="list-style-type: none"> conduct dewatering plan and relocation of native fauna species prior to disturbance suitable for development
Low	Exotic vegetation	<ul style="list-style-type: none"> suitable foraging habitat for Little Eagle, microbats and migratory birds such as the Cattle Egret waterbodies support limited vegetation cover for fauna 	<ul style="list-style-type: none"> development should be confined to these areas wherever possible implement management techniques to prevent the dispersal of weed species into adjacent woodland areas particularly during construction

Constraint	Value present on site	Constraint ranking criteria	Recommendation
Low	Landscape gardens	<ul style="list-style-type: none"> • planted tree species • potential foraging habitat for fauna species such as birds, reptiles 	<ul style="list-style-type: none"> • suitable for development



Figure 3: Constraints assessment

Recommendations and conclusion

Three small patches of Blue Gum High Forest in low condition were recorded within the subject site. A small patch of Sydney Turpentine Ironbark Forest was recorded along Derriwong Road and may be impacted upon under the proposed rezoning. All the Blue Gum High Forest and Sydney Turpentine Ironbark Forest patches were considered to be in low condition as they contained low native species diversity, are highly fragmented and had high weed densities or contained an understorey dominated by exotic species.

The subject site had limited habitat for threatened fauna species. No threatened flora species were recorded within the subject site. According to the literature review and a brief visual inspection, the study area contains potential Blue Gum High Forest and Sydney Turpentine Ironbark Forest vegetation and potential habitat for threatened flora and fauna species. However, additional surveys would be required to validate the vegetation boundaries and confirm the presence of threatened species within the broader study area.

The following recommendations have been provided for the proposed rezoning of the subject site:

- Avoid impact to areas of high ecological constraint, if possible.
- If high ecologically constrained areas are to be impacted by future road networks or lot layouts, further investigations are to be undertaken at the subdivision stage.
- Consider implementing a Vegetation Management Plan (VMP) for the long-term conservation of Blue Gum High Forest and management of weeds to prevent their spread.
- Any plantings as part of future developments incorporate native species indigenous to the study area.
- Prepare a soil and erosion control plan as part of the Development Application process.

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APPENDIX A - Likelihood of occurrence

Searches of the Atlas of NSW Wildlife and EPBC Protected Matters search tool were performed for the study area, based on a 5 km buffer around the study area. Marine species (including whales, seabirds, turtles and seals) have been removed from the list as these species were not considered relevant to the current proposal. The likelihood of occurrence was considered for all listed species, and is provided for each species under the 'likely' column.

Each species likely occurrence was initially informed through a desktop assessment and was used to guide the site inspection. The final assessment of the likelihood of occurrence was completed following the site inspection and was based on database or other records, presence or absence of suitable habitat, features of the study area, results of the field survey and professional judgement.

The terms for likelihood of occurrence are defined below:

- “yes” = the species was or has been observed in the study area
- “likely” = a medium to high probability that a species uses the study area
- “potential” = suitable habitat for a species occurs in the study area, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” = a very low to low probability that a species uses the study area, and
- “no” = habitat in the study area and in its vicinity is unsuitable for the species

Those species considered as potentially, likely or known to occur (likelihood of potential, likely or yes) are considered subject species for this project.

The following abbreviations have been used in the likelihood assessment:

- *TSC_Status* = Listing under the NSW Threatened Species Conservation Act 1995
- *EPBC_Status* = Listing under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999
- *CE* = Critically Endangered
- *E* = Endangered
- *E2* = Endangered Population
- *V* = Vulnerable
- *M* = Migratory

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
Ecological Communities					
	Blue Gum High Forest in the Sydney Basin Bioregion	CE	CE	Occurs mainly in areas with deep clay soil derived from shale, generally at altitudes greater than 100 m above sea level, and that have an annual rainfall of more than 1050 mm. Also known to occur in isolated valleys on soils associated with localised volcanic intrusions. Remnants mainly occur in the Lane Cove, Willoughby, Ku-ring-gai, Hornsby, Baulkham Hills, Ryde and Parramatta local government areas.	Known
	Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	E	E	Occurs on sandy soils of Hawkesbury-Nepean river system typically with low nutrient value and flat topography. The vegetation community contains low woodland, canopy up to 15m tall and dense mid layer of sclerophyll shrubs and scattered sedges. Species include <i>Angophora bakeri</i> , <i>Eucalyptus racemosa</i> , <i>Melaleuca decora</i> and <i>Banksia aemula</i> .	No
	Coastal Upland Swamps in the Sydney Basin Bioregion	E	E	This ecological community is restricted to the Sydney Basin Bioregion. It occurs on the Hawkesbury sandstone plateaux on acidic soils which are high in organic matter and subject to periodic waterlogging (OEH 2014). The structure of the vegetation may vary from tall open scrubs, tall closed scrubs, closed heaths, open graminoid heaths, sedgeland and fernlands (OEH 2014). This ecological community is associated with shallow groundwater aquifers in the headwaters and impeded drainage lines of streams, and on sandstone benches with abundant seepage moisture (OEH 2014). The floristic assemblage is diverse particularly in the ground layer (OEH 2014).	No
	Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion	E	CE	Occurs in western Sydney, with the most extensive stands occurring in the Castlereagh and Holsworthy areas. Smaller remnants occur in the Kemps Creek area and in the eastern section of the Cumberland Plain.	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
	Shale/Sandstone Transition Forest	CE	E	Occurs at the edges of the Cumberland Plain, where clay soils from the shale rock intergrade with earthy and sandy soils from sandstone, or where shale caps overlay sandstone. The boundaries are indistinct, and the species composition varies depending on the soil influences. It typically occurs in moderately wet sites, with an annual rainfall of 800-1100mm per year, and on clay soils derived from Wianamatta shale. The tree canopy is dominated by Turpentine and a variety of eucalypt species. Its distribution is mainly on the Cumberland Plain of the Sydney region. Was not recorded during the field surveys.	Potential outside the subject site
	Turpentine-Ironbark Forest in the Sydney Basin Bioregion	E	CE	Occurs in areas of moderate annual rainfall 800 – 1100 mm on fertile soils of the Wianamatta Shale including altitude margins of the Cumberland Plain, and on the shale ridge caps of sandstone plateaus. It is distributed between areas of Blue Gum High Forest (which occurs on more fertile soils and higher rainfall areas) and Cumberland Plain Woodland (on flat areas, less fertile soils and less rainfall). Remnants mostly occur in the Baulkham Hills, Hornsby, Ku-ring-gai, Parramatta, Ryde, Sutherland and Hurstville local government areas (OEH 2014).	Known
	Western Sydney Dry Rainforest and Moist Woodland on Shale	E	CE	A closed canopy often associated with humid conditions and supports epiphytes, vines and mesic shrubs although this varies according to topography and landform. It is found on shale soil in the Cumberland Plain Sub-region of the Sydney Basin Bioregion in elevations below 300m with a mean annual rainfall between 700-900mm.	No
FISH					
<i>Macquaria australasica</i>	Macquarie Perch	E (under FM Act)	E	Habitat for the Macquarie perch is bottom or mid-water in slow-flowing rivers with deep holes, typically in the upper reaches of forested catchments with intact riparian vegetation. Macquarie perch also do well in some upper catchment lakes. In some parts of its range, the species is reduced to taking refuge in small pools which persist in midland–upland areas through the drier summer periods.	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Prototroctes maraena</i>	Australian Grayling	-	V	Historically, this species occurred in coastal streams from the Grose River southwards through NSW, VIC and TAS. On mainland Australia, this species has been recorded from rivers flowing east and south of the main dividing ranges. This species spends only part of its lifecycle in freshwater, mainly inhabiting clear, gravel-bottomed streams with alternating pools and riffles, and granite outcrops but has also been found in muddy-bottomed, heavily silted habitat. Grayling migrate between freshwater streams and the ocean and as such it is generally accepted to be a diadromous (migratory between fresh and salt waters) species.	No
FROGS					
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V	Forages in woodlands, wet heath, dry and wet sclerophyll forest (Ehmann 1997). Associated with semi-permanent to ephemeral sand or rock based streams (Ehmann 1997), where the soil is soft and sandy so that burrows can be constructed (Environment Australia 2000).	Unlikely
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	This species has been observed utilising a variety of natural and man-made waterbodies (Pyke and White 1996) such as coastal swamps, marshes, dune swales, lagoons, lakes, other estuary wetlands, riverine floodplain wetlands and billabongs, stormwater detention basins, farm dams, bunded areas, drains, ditches and any other structure capable of storing water (OEH 2014). Fast flowing streams are not utilised for breeding purposes by this species. Preferable habitat for this species includes attributes such as shallow, still or slow flowing, permanent and/or widely fluctuating water bodies that are unpolluted and without heavy shading (OEH 2014). Large permanent swamps and ponds exhibiting well-established fringing vegetation (especially bulrushes— <i>Typha</i> sp. and spikerushes— <i>Eleocharis</i> sp.) adjacent to open grassland areas for foraging are preferable (Ehmann 1997). Ponds that are typically inhabited tend to be free from predatory fish such as <i>Gambusia holbrooki</i> (Mosquito Fish) (OEH 2014).	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Litoria littlejohni</i>	Littlejohn's Tree Frog, Heath Frog	V	V	<p>Littlejohn's Tree Frog has a distribution that includes the plateaus and eastern slopes of the Great Dividing Range from Watagan State Forest (90 km north of Sydney) south to Buchan in Victoria (OEH 2014). It occurs along permanent rocky streams with thick fringing vegetation associated with eucalypt woodlands and heaths among sandstone outcrops. It appears to be restricted to sandstone woodland and heath communities at mid to high altitude (OEH 2014). It forages both in the tree canopy and on the ground, and it has been observed sheltering under rocks on high exposed ridges during summer (OEH 2014). It hunts either in shrubs or on the ground. Breeding is triggered by heavy rain and can occur from late winter to autumn, but is most likely to occur in spring when conditions are favourable.</p> <p>Males call from low vegetation close to slow flowing pools. Eggs and tadpoles are mostly found in slow flowing pools that receive extended exposure to sunlight, but will also use temporary isolated pools (OEH 2014).</p>	No
<i>Mixophyes balbus</i>	Stuttering Frog	E	V	<p>A variety of forest habitats from rainforest through wet and moist sclerophyll forest to riparian habitat in dry sclerophyll forest (OEH 2014) that are generally characterised by deep leaf litter or thick cover from understorey vegetation (Ehmann 1997). Breeding habitats are streams and occasionally springs. Not known from streams disturbed by humans (Ehmann 1997) or still water environments (NSW Scientific Committee 2002).</p>	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V	-	Red-crowned Toadlets are found in steep escarpment areas and plateaus, as well as low undulating ranges with benched outcroppings on Triassic sandstones of the Sydney Basin (OEH 2014). Within these geological formations, this species mainly occupies the upper parts of ridges, usually being restricted to within about 100 metres of the ridgetop. However they may also occur on plateaus or more level rock platforms along the ridgetop (OEH 2014). Associated with open forest to coastal heath (Ehmann 1997). Utilises small ephemeral drainage lines which feed water from the top of the ridge to the perennial creeks below for breeding, and are not usually found in the vicinity of permanent water (Ehmann 1997). Breeding sites are often characterised by clay-derived soils and generally found below the first sandstone escarpment in the talus slope (NPWS 1997).	Unlikely
DIURNAL BIRDS					
<i>Anthochaera phrygia</i> (aka <i>Xanthomyza phrygia</i>)	Regent Honeyeater	E	E and M	Associated with temperate eucalypt woodland and open forest including forest edges, wooded farmland and urban areas with mature eucalypts, and riparian forests of River Oak (<i>Casuarina cunninghamiana</i>) (Garnett 1993). Areas containing Swamp Mahogany (<i>Eucalyptus robusta</i>) in coastal areas have been observed to be utilised (NPWS 1997). The Regent Honeyeater primarily feeds on nectar from box and ironbark eucalypts and occasionally from banksias and mistletoes (NPWS 1995). As such it is reliant on locally abundant nectar sources with different flowering times to provide reliable supply of nectar (Environment Australia 2000).	Unlikely
<i>Botaurus poiciloptilus</i>	Australasian Bittern	V	-	Terrestrial wetlands with tall dense vegetation, occasionally estuarine habitats (Marchant and Higgins 1993). Reedbeds, swamps, streams, estuaries (Simpson and Day 2004).	No
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo (population in Hornsby and Ku-ring-gai LGAs)	V-E2	-	During summer in dense, tall, wet forests of mountains and gullies, alpine woodlands (Morcombe 2004). In winter they occur at lower altitudes in drier more open forests and woodlands, particularly box-ironbark assemblages (Shields and Chrome 1992). They sometimes inhabit woodland, farms and suburbs in autumn/winter (Simpson and Day 2004).	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Calyptorhynchus lathamii</i>	Glossy Black-Cockatoo	V	-	Associated with a variety of forest types containing Allocasuarina species, usually reflecting the poor nutrient status of underlying soils (Environment Australia 2000; NPWS 1997; OEH 2014). Intact drier forest types with less rugged landscapes are preferred (OEH 2014). Nests in large trees with large hollows (Environment Australia 2000).	No
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	Distribution includes most of mainland Australia except deserts and open grasslands. Prefers eucalypt forests and woodlands with rough-barked species, or mature smooth-barked gums with dead branches, mallee and Acacia woodland. Feeds on arthropods from bark, dead branches, or small branches and twigs.	Potential
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E	E	Habitat is characterised by dense, low vegetation including heath and open woodland with a heathy understorey; in northern NSW occurs in open forest with tussocky grass understorey; all of these vegetation types are fire prone. Age of habitat since fires (fire-age) is of paramount importance to this species; Illawarra and southern populations reach maximum densities in habitat that has not been burnt for at least 15 years; however, in the northern NSW population a lack of fire in grassy forest may be detrimental as grassy tussock nesting habitat becomes unsuitable after long periods without fire; northern NSW birds are usually found in habitats burnt five to 10 years previously.	No
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	In New South Wales Little Lorikeets are distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Little Lorikeets mostly occur in dry, open eucalypt forests and woodlands. They have been recorded from both old-growth and logged forests in the eastern part of their range, and in remnant woodland patches and roadside vegetation on the western slopes. They feed primarily on nectar and pollen in the tree canopy, particularly on profusely-flowering eucalypts, but also on a variety of other species including melaleucas and mistletoes. On the western slopes and tablelands White Box <i>Eucalyptus albens</i> and Yellow Box <i>E. melliodora</i> are particularly important food sources for pollen and nectar respectively.	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Hieraaetus morphnoides</i>	Little Eagle	V	—	The Little Eagle is widespread in mainland Australia, central and eastern New Guinea. The Little Eagle is seen over woodland and forested lands and open country, extending into the arid zone. It tends to avoid rainforest and heavy forest (OEH 2014). The population of Little Eagle in NSW is considered to be a single population (OEH 2014). This species was recently listed as vulnerable due to a moderate reduction in population size based on geographic distribution and habitat quality (OEH 2014).	Potential
<i>Lathamus discolor</i>	Swift Parrot	E	E	Breeds in Tasmania between September and January. Migrates to mainland in autumn, where it forages on profuse flowering Eucalypts (Blakers <i>et al.</i> 1984; Schodde and Tidemann 1986). Hence, in this region, autumn and winter flowering eucalypts are important for this species. Favoured feed trees include winter flowering species such as Swamp Mahogany (<i>Eucalyptus robusta</i>), Spotted Gum (<i>Corymbia maculata</i>), Red Bloodwood (<i>C. gummifera</i>), Mugga Ironbark (<i>E. sideroxylon</i>), and White Box (<i>E. albens</i>) (OEH 2014).	Unlikely
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	V	-	Predominantly associated with box-ironbark association woodlands and River Red Gum (NSW Scientific Committee 2001). Also associated with drier coastal woodlands of the Cumberland Plain and the Hunter, Richmond and Clarence Valleys (NSW Scientific Committee 2001).	Unlikely
<i>Petroica boodang</i>	Scarlet Robin	V	-	Occurs from the coast to the inland slopes in NSW. After breeding (July-Jan), some disperse to the lower valleys and plains of the tablelands and slopes, and may appear as far west as the eastern edges of the inland plains in autumn and winter. Primarily resides in dry eucalypt forests and woodlands, with usually open and grassy understorey, with scattered shrubs. Abundant logs and fallen timber are important habitat components. In autumn and winter many Scarlet Robins live in open grassy woodlands, and grasslands or grazed paddocks with scattered trees, and may join mixed flocks of other small insectivorous birds.	Unlikely
<i>Petroica phoenicea</i>	Flame Robin	V	—	Flame Robins are found in a broad coastal band around the south-east corner of the Australian mainland, from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. Flame Robins prefer forests and woodlands up to about 1800 m above sea level.	Unlikely

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Rostratula australis</i> (a.k.a. <i>R. benghalensis</i>)	Painted Snipe (Australian subspecies)	E	V	Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber (OEH 2014). Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds (ibid.). Breeding is often in response to local conditions; generally occurs from September to December (OEH 2014). Roosts during the day in dense vegetation (NSW Scientific Committee 2004). Forages nocturnally on mud-flats and in shallow water (OEH 2014). Feeds on worms, molluscs, insects and some plant-matter (ibid.).	Unlikely
<i>Stagonopleura guttata</i>	Diamond Firetail	V	—	Typically found in grassy eucalypt woodlands, but also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities (OEH 2014). It is often found in riparian areas and sometimes in lightly wooded farmland (OEH 2014). Appears to be sedentary, though some populations move locally, especially those in the south (OEH 2014).	Unlikely
NOCTURNAL BIRDS					
<i>Ninox connivens</i>	Barking Owl	V	-	Associated with a variety of habitats such as savanna woodland, open eucalypt forests, wetland and riverine forest. The habitat is typically dominated by Eucalypts (often Redgum species), however often dominated by Melaleuca species in the tropics (OEH 2014). It usually roosts in dense foliage in large trees such as River She-oak (<i>Allocasuarina cunninghamiana</i>), other Casuarina and Allocasuarina, eucalypts, Angophora, Acacia and rainforest species from streamside gallery forests. It usually nests near watercourses or wetlands in large tree hollows with entrances averaging 2-29 metres above ground, depending on the forest or woodland structure and the canopy height (Debus 1997).	Unlikely
<i>Ninox strenua</i>	Powerful Owl	V	-	Powerful Owls are associated with a wide range of wet and dry forest types with a high density of prey, such as arboreal mammals, large birds and flying foxes (Environment Australia 2000). Large trees with hollows at least 0.5m deep are required for shelter and breeding (Environment Australia 2000).	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	Associated with forest with sparse, open, understorey, typically dry sclerophyll forest and woodland (OEH 2014) and especially the ecotone between wet and dry forest, and non-forest habitat (Environment Australia 2000). Known to utilise forest margins and isolated stands of trees within agricultural land and heavily disturbed forest where its prey of small and medium sized mammals can be readily obtained.	Unlikely
<i>Tyto tenebricosa</i>	Sooty Owl	V	-	Sooty Owls are associated with tall wet old growth forest on fertile soil with a dense understorey and emergent tall Eucalyptus species (Environment Australia 2000). Pairs roost in the daytime amongst dense vegetation, in tree hollows and sometimes in caves. The Sooty Owl is typically associated with an abundant and diverse supply of prey items and a selection of large tree hollows (Garnett 1993).	Unlikely
MAMMALS (EXCLUDING BATS)					
<i>Dasyurus maculatus</i> <i>Dasyurus maculatus maculatus</i>	Spotted-tailed Quoll Spotted-tailed Quoll (SE Mainland Population)	V -	- E	The Spotted-tailed Quoll inhabits a range of forest communities including wet and dry sclerophyll forests, coastal heathlands and rainforests (OEH 2014), more frequently recorded near the ecotones of closed and open forest. This species requires habitat features such as maternal den sites, an abundance of food (birds and small mammals) and large areas of relatively intact vegetation to forage in (OEH 2014). Maternal den sites are logs with cryptic entrances; rock outcrops; windrows; burrows (Environment Australia 2000).	Unlikely
<i>Isodon obselus obselus</i>	Southern Brown Bandicoot	V	E	This species is associated with heath, coastal scrub, sedgeland, heathy forests, shrubland and woodland on well drained, infertile soils, within which they are typically found in areas of dense ground cover. Suitable habitat includes patches of native or exotic vegetation which contain understorey vegetation structure with 50–80% average foliage density in the 0.2–1 m height range. This species is thought to display a preference for newly regenerating heathland and other areas prone to fire, but requires a mosaic of burnt and unburnt areas for survival.	Unlikely
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E	V	Rocky areas in a variety of habitats, typically north facing sites with numerous ledges, caves and crevices (Strahan 1998).	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Phascolarctos cinereus</i>	Koala	V-E2	-	Associated with both wet and dry Eucalypt forest and woodland that contains a canopy cover of approximately 10 to 70% (Reed <i>et al.</i> 1990), with acceptable Eucalypt food trees. Some preferred Eucalyptus species are: <i>Eucalyptus tereticornis</i> , <i>E. punctata</i> , <i>E. cypellocarpa</i> , <i>E. viminalis</i>	Unlikely
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	V	A small burrowing native rodent with a fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Inhabits open heathlands, open woodlands with a heathland understorey and vegetated sand dunes. A social animal, living predominantly in burrows shared with other individuals. The home range of the New Holland Mouse ranges from 0.44 ha to 1.4 ha and the species peaks in abundance during early to mid-stages of vegetation succession typically induced by fire	No
MAMMALS (BATS)					
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	The Large-eared Pied Bat has been recorded in a variety of habitats, including dry sclerophyll forests, woodland, sub-alpine woodland, edges of rainforests and wet sclerophyll forests (Churchill 1998; OEH 2014). This species roosts in caves, rock overhangs and disused mine shafts and as such is usually associated with rock outcrops and cliff faces (Churchill 1998; OEH 2014).	Unlikely
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	—	Prefers moist habitats with trees taller than 20m (OEH 2014). Roosts in tree hollows but has also been found roosting in buildings or under loose bark (OEH 2014).	Potential
<i>Miniopterus australis</i>	Little Bent-wing Bat	V	-	Prefers well-timbered areas including rainforest, wet and dry sclerophyll forests, Melaleuca swamps and coastal forests (Churchill 1998). This species shelter in a range of structures including culverts, drains, mines and caves (Environment Australia 2000). Relatively large areas of dense vegetation of either wet sclerophyll forest, rainforest or dense coastal banksia scrub are usually found adjacent to caves in which this species is found (OEH 2014). Breeding occurs in caves, usually in association with <i>M. schreibersii</i> (Environment Australia 2000, OEH 2014).	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bent-wing Bat	V	-	Associated with a range of habitats such as rainforest, wet and dry sclerophyll forest, monsoon forest, open woodland, paperbark forests and open grassland (Churchill 1998). It forages above and below the tree canopy on small insects (Dwyer 1995). Will utilise caves, old mines, and stormwater channels, under bridges and occasionally buildings for shelter (Environment Australia 2000, Dwyer 1995).	Potential
<i>Mormopterus norfolkensis</i>	East Coast Freetail Bat	V	-	Most records of this species are from dry eucalypt forest and woodland east of the Great Dividing Range (Churchill 1998). Individuals have, however, been recorded flying low over a rocky river in rainforest and wet sclerophyll forest and foraging in clearings at forest edges (Environment Australia 2000; Allison and Hoyer 1998). Primarily roosts in hollows or behind loose bark in mature eucalypts, but have been observed roosting in the roof of a hut (Environment Australia 2000; Allison and Hoyer 1998).	Potential
<i>Myotis macropus</i>	Southern Myotis	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. Will occupy most habitat types such as mangroves, paperbark swamps, riverine monsoon forest, rainforest, wet and dry sclerophyll forest, open woodland and River Red Gum woodland, as long as they are close to water (Churchill 1998). While roosting (in groups of 10-15) is most commonly associated with caves, this species has been observed to roost in tree hollows, amongst vegetation, in clumps of Pandanus, under bridges, in mines, tunnels and stormwater drains (Churchill 1998). However the species apparently has specific roost requirements, and only a small percentage of available caves, mines, tunnels and culverts are used (Richards 1998). Forages over streams and pools catching insects and small fish by raking their feet across the water surface. In NSW females have one young each year usually in November or December (OEH 2014)	Potential
<i>Pteropus poliocephalus</i>	Grey-headed Flying-Fox	V	V	Inhabits a wide range of habitats including rainforest, mangroves, paperbark forests, wet and dry sclerophyll forests and cultivated areas (Churchill 1998). Camps are often located in gullies, typically close to water, in vegetation with a dense canopy (Churchill 1998).	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	Found in almost all habitats, from wet and dry sclerophyll forest, open woodland (Churchill 1998), open country, mallee, rainforests, heathland and waterbodies. Roosts in tree hollows; may also use caves; has also been recorded in a tree hollow in a paddock (Environment Australia 2000) and in abandoned sugar glider nests (Churchill 1998). The Yellow-bellied Sheath-tail-bat is dependent on suitable hollow-bearing trees to provide roost sites, which may be a limiting factor on populations in cleared or fragmented habitats (Environment Australia 2000).	Potential
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	Associated with moist gullies in mature coastal forest, or rainforest, east of the Great Dividing Range (Churchill 1998), tending to be more frequently located in more productive forests (Hoye and Richards 1998). Within denser vegetation types, use is made of natural and man-made openings such as roads, creeks and small rivers, where it hawks backwards and forwards for prey (Hoye and Richards 1998).	Unlikely
INVERTEBRATE					
<i>Meridolum corneovirens</i>	Cumberland Plain Land Snail	V	-	Associated with open eucalypt forests, particularly Cumberland Plain Woodland. Found under fallen logs, debris and in bark and leaf litter around the trunk of gum trees or burrowing in loose soil around clumps of grass, or rubbish (NPWS 1997).	Unlikely
<i>Pommerhelix duralensis</i>	Dural Woodland Snail	-	E	This species is endemic to NSW. It has a narrow distribution and its habitat is specifically shale-influenced which occur along the transition of shale-sandstone landscape (TSCC 2014). Its known distribution ranges from St Albans. Moving southwest from St Albans, East Kurrajong and along the footslopes of the Blue Mountains as far south as Mulgoa (TSCC 2014).	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
REPTILE					
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	E	V	Typical sites consist of exposed sandstone outcrops and benching where the vegetation is predominantly woodland, open woodland and/or heath on Triassic sandstone of the Sydney Basin (OEH 2014). They utilise rock crevices and exfoliating sheets of weathered sandstone during the cooler months and tree hollows during summer (Webb and Shine 1998). Some of the canopy tree species found to regularly co-occur at known sites include <i>Corymbia eximia</i> , <i>C. gummifera</i> , <i>Eucalyptus sieberi</i> , <i>E. punctata</i> and <i>E. piperita</i> (OEH 2014).	No
MIGRATORY TERRESTRIAL SPECIES LISTED UNDER EPBC ACT					
<i>Apus pacificus</i>	Fork-tailed Swift	-	M	Sometimes travels with Needletails. Varied habitat with a possible tendency to more arid areas but also over coasts and urban areas (Simpson and Day 1999).	Unlikely
<i>Hirundapus caudacutus</i>	White-throated Needletail	-	M	Forages aerially over a variety of habitats usually over coastal and mountain areas, most likely with a preference for wooded areas (Marchant and Higgins 1993; Simpson and Day 1999). Has been observed roosting in dense foliage of canopy trees, and may seek refuge in tree hollows in inclement weather (Marchant and Higgins 1993).	Potential
<i>Merops ornatus</i>	Rainbow Bee-eater	-	M	Resident in coastal and subcoastal northern Australia; regular breeding migrant in southern Australia, arriving September to October, departing February to March, some occasionally present April to May. Occurs in open country, chiefly at suitable breeding places in areas of sandy or loamy soil: sand-ridges, riverbanks, road-cuttings, sand-pits, occasionally coastal cliffs (ibid). Nest is a chamber at the end of a burrow, up to 1.6 m long, tunneled in flat or sloping ground, sandy bank or cutting.	Unlikely
<i>Monarcha melanopsis</i>	Black-faced Monarch	-	M	Rainforest and eucalypt forests, feeding in tangled understorey.	Unlikely
<i>Monarcha trivirgatus</i>	Spectacled Monarch	—	M	Wet forests, mangroves (Simpson and Day 1999).	Unlikely
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	-	M	Wetter, denser forest, often at high elevations (Simpson and Day 2004).	Unlikely

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Rhipidura rufifrons</i>	Rufous Fantail	-	M	The Rufous Fantail is a summer breeding migrant to southeastern Australia (Morcombe 2004). The Rufous Fantail is found in rainforest, dense wet eucalypt and monsoon forests, paperbark and mangrove swamps and riverside vegetation (Morcombe 2004). Open country may be used by the Rufous Fantail during migration (Morcombe 2004).	Unlikely
<i>Xanthomyza phrygia</i>	Regent Honeyeater	E	E, M	SEE DIURNAL BIRDS ABOVE	See diurnal birds above
MIGRATORY WETLAND SPECIES LISTED UNDER EPBC ACT					
<i>Ardea alba</i>	Great Egret	-	M	The Great Egret is common and widespread in Australia (McKilligan 2005). The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). These include swamps and marshes; margins of rivers and lakes; damp or flooded grasslands, pastures or agricultural lands; reservoirs; sewage treatment ponds; drainage channels; salt pans and salt lakes; salt marshes; estuarine mudflats, tidal streams; mangrove swamps; coastal lagoons; and offshore reefs (Marchant and Higgins 1993; Martínez-Vilalta and Motis 1992). The species usually frequents shallow waters. It forages in a wide range of wet and dry habitats including permanent and ephemeral freshwaters, wet pasture and estuarine mangroves and mudflats (McKilligan 2005).	Potential
<i>Ardea ibis</i>	Cattle Egret	-	M	Cattle Egrets forage on pasture, marsh, grassy road verges, rain puddles and croplands, but not usually in the open water of streams or lakes and they avoid marine environments (McKilligan 2005). Some individuals stay close to the natal heronry from one nesting season to the next, but the majority leave the district in autumn and return the next spring. Cattle Egrets are likely to spend the winter dispersed along the coastal plain and only a small number have been recovered west of the Great Dividing Range (McKilligan 2005).	Yes

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Gallinago hardwickii</i>	Latham's Snipe	-	M	A variety of permanent and ephemeral wetlands, preferring open fresh water wetlands with nearby cover (Marchant and Higgins 1993). Occupies a variety of vegetation around wetlands (Marchant and Higgins 1993) including wetland grasses and open wooded swamps (Simpson and Day 1999). Latham's Snipe sometimes occur in habitats that have saline or brackish water, such as saltmarsh, mangrove creeks, around bays and beaches, and at tidal rivers. These habitats are most commonly used when the birds are on migration. They are regularly recorded in or around modified or artificial habitats including pasture, ploughed paddocks, irrigation channels and drainage ditches, ricefields, orchards, saltworks, and sewage and dairy farms. They can also occur in various sites close to humans or human activity (e.g. near roads, railways, airfields, commercial or industrial complexes).	No
<i>Pandion cristatus</i> (<i>Pandion haliaetus</i>)	Eastern Osprey	V	Ma, M	Associated with waterbodies including coastal waters, inlets, lakes, estuaries, beaches, offshore islands and sometimes along inland rivers (Schodde and Tidemann 1986). Osprey may nest on the ground, on sea cliffs or in trees. Osprey generally prefer emergent trees, often dead or partly dead with a broken off crown.	Unlikely
<i>Rostratula benghalensis</i> (a.k.a. <i>R. australis</i>)	Painted Snipe	-	M	See: <i>Rostratula australis</i>	No
FLORA SPECIES					
<i>Acacia bynoeana</i>	Bynoe's Wattle	E	V	<i>Acacia bynoeana</i> is found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains, and has recently been found in the Colymea and Parma Creek areas west of Nowra. It is found in heath and dry sclerophyll forest, typically on a sand or sandy clay substrate, often with ironstone gravels (OEH 2014).	No
<i>Acacia gordonii</i>	-	E	E	<i>Acacia gordonii</i> is restricted to the north-west of Sydney, occurring in the lower Blue Mountains in the west, and in the Maroota/Glenorie area in the east, within the Hawkesbury, Blue Mountains and Baulkham Hills local government areas. Grows in dry sclerophyll forest and heathlands amongst or within rock platforms on sandstone outcrops (OEH 2014).	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Acacia pubescens</i>	Downy Wattle	V	V	<i>Acacia pubescens</i> occurs on the NSW Central Coast in Western Sydney, mainly in the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. It is associated with Cumberland Plains Woodlands, Shale / Gravel Forest and Shale / Sandstone Transition Forest growing on clay soils, often with ironstone gravel (NPWS 1997; Benson and McDougall 1994).	Potential
<i>Allocasuarina glareicola</i>	-	E	E	<i>Allocasuarina glareicola</i> is primarily restricted to the Richmond district on the north-west Cumberland Plain, with an outlier population found at Voyager Point. It grows in Castlereagh woodland on lateritic soil (OEH 2014).	Unlikely
<i>Asterolasia elegans</i>	<i>Asterolasia elegans</i>	E	E	<i>Asterolasia elegans</i> is restricted to a few localities on the NSW Central Coast north of Sydney, in the Baulkham Hills, Hawkesbury and Hornsby LGAs. It is found in sheltered forests on mid- to lower slopes and valleys, in or adjacent to gullies (OEH 2014).	Unlikely
<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V	V	<i>Cryptostylis hunteriana</i> is known from a range of vegetation communities including swamp-heath and woodland (OEH 2014). The larger populations typically occur in woodland dominated by Scribbly Gum (<i>Eucalyptus sclerophylla</i>), Silvertop Ash (<i>E. sieberi</i>), Red Bloodwood (<i>Corymbia gummifera</i>) and Black Sheoak (<i>Allocasuarina littoralis</i>); where it appears to prefer open areas in the understorey of this community and is often found in association with the Large Tongue Orchid (<i>C. subulata</i>) and the Tartan Tongue Orchid (<i>C. erecta</i>) (OEH 2014).	Unlikely
<i>Darwinia biflora</i>	<i>Darwinia biflora</i>	V	V	<i>Darwinia biflora</i> is an erect or spreading shrub to 80 cm high associated with habitats where weathered shale capped ridges intergrade with Hawkesbury Sandstone, where soils have a high clay content (NPWS 1997).	Potential
<i>Darwinia peduncularis</i>	<i>Darwinia peduncularis</i>	V		<i>Darwinia peduncularis</i> occurs as local disjunct populations in coastal NSW in the Blue Mountains, Brooklyn, Berowra, Galston Gorge, Hornsby, Bargo River, Glen Davis, Mount Boonbourwa and Kings Tableland, and usually grows on or near rocky outcrops on sandy, well drained, low nutrient soil over sandstone (OEH 2014).	Unlikely

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	<i>Epacris purpurascens</i> var. <i>purpurascens</i>	V	-	<i>Epacris purpurascens</i> var. <i>purpurascens</i> has been recorded between Gosford in the north to Avon Dam in the south, in a range of habitats, but most have a strong shale soil influence (OEH 2014).	Potential
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	<i>Eucalyptus camfieldii</i> is associated with shallow sandy soils bordering coastal heath with other stunted or mallee eucalypts, often in areas with restricted drainage and in areas with laterite influenced soils, thought to be associated with proximity to shale (OEH 2014).	Unlikely
<i>Eucalyptus nicholii</i>	Narrow-leaved Peppermint	V	V	<i>Eucalyptus nicholii</i> naturally occurs in the New England Tablelands of NSW, where it occurs from Nundle to north of Tenterfield. Grows in dry grassy woodland, on shallow and infertile soils, mainly on granite (OEH 2014). This species is widely planted as an urban street tree and in gardens but is quite rare in the wild (OEH 2014). Plantings undertaken for horticultural and aesthetic purposes are not considered threatened species under the TSC Act.	No
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E	V	Known in NSW only from the Tenterfield district where it is very uncommon. Grows on rocky hillsides in shrubby woodland close to granite outcrops.	No
<i>Eucalyptus</i> sp. <i>Cattai</i>	<i>Eucalyptus</i> sp. <i>Cattai</i>	E	-	<i>Eucalyptus</i> sp. <i>Cattai</i> occurs in the area between Colo Heights and Castle Hill, north western Sydney. It occurs as a rare emergent in scrub, heath and low woodland on sandy soils, usually as isolated individuals or occasionally in small groups. The sites at which it occurs are generally flat and on ridge tops and associated soils are laterised clays overlying sandstone (OEH 2014).	No

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Galium australe</i>	Tangled Bedstraw	E		<i>Galium australe</i> is known from the Towamba Valley near Bega, Lake Yarrunga near Kangaroo Valley, Cullendulla Creek Nature Reserve near Batemans Bay, Conjola National Park, Swan Lake near Swanhaven, and the Big Hole in Deua National Park. Tangled Bedstraw was recorded historically from the Clyde River near Batemans Bay and the Mongarlowe area near Braidwood (OEH 2014). The species also occurs beside Lake Windemere in Jervis Bay, is widespread in Victoria and is also found in South Australia and Tasmania (OEH 2014). In NSW <i>Galium australe</i> has been found in moist gullies of tall forest, <i>Eucalyptus tereticornis</i> forest, coastal Banksia shrubland, and <i>Allocasuarina nana</i> heathland, while in other states the species is found in a range of near-coastal habitats, including sand dunes, sand spits, shrubland and woodland.	Unlikely
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	V		Known from coastal areas from northern Sydney south to the Nowra district. Previous records from the Hunter Valley and Nelson Bay are now thought to be erroneous. Grows in shrubby woodland in open forest on shallow sandy soils.	Unlikely
<i>Grammitis stenophylla</i>	Narrow-leaf Finger Fern	E		In NSW, <i>Grammitis stenophylla</i> has been found on the south, central and north coasts, and as far west as Mount Kaputar National Park near Narrabri, in moist places, usually near streams, on rocks or in trees, in rainforest and moist eucalypt forest (OEH 2014).	Unlikely
<i>Hibbertia superans</i>	-	E	-	<i>Hibbertia superans</i> mainly occurs in the north west Sydney region between Baulkham Hills and Wisemans Ferry, with a disjunct occurrence near Mt Boss (inland from Kempsey) on the Mid North Coast of NSW. In the Sydney region it occurs in dry sclerophyll forest on sandstone ridgetops while the northern occurrence is on granite (OEH 2014).	Potential
<i>Lasiopetalum joyceae</i>	<i>Lasiopetalum joyceae</i>	V	V	<i>Lasiopetalum joyceae</i> grows in ridgetop woodland, heath, woodland or open scrub, often with a clay influence (NPWS 1997).	Unlikely

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Leptospermum deanei</i>	Deane's Tea-tree	V	V	<i>Leptospermum deanei</i> has been recorded in Hornsby, Warringah, Kuring-gai and Ryde LGAs, in woodland on lower hill slopes or near creeks, at sites with sandy alluvial soil or sand over sandstone (OEH 2014). It has also been recorded in riparian scrub dominated by <i>Tristaniopsis laurina</i> and <i>Baeckea myrtifolia</i> ; woodland dominated by <i>Eucalyptus haemastoma</i> ; and open forest dominated by <i>Angophora costata</i> , <i>Leptospermum trinervium</i> and <i>Banksia ericifolia</i> (OEH 2014).	Unlikely
<i>Leucopogon fletcheri</i> subsp. <i>fletcheri</i>	<i>Leucopogon fletcheri</i> subsp. <i>fletcheri</i>	E	-	<i>Leucopogon fletcheri</i> subsp. <i>fletcheri</i> is restricted to north-western Sydney between St Albans in the north and Annangrove in the south, within the local government areas of Hawkesbury, Baulkham Hills and Blue Mountains. It occurs in dry eucalypt woodland or in shrubland on clayey lateritic soils, generally on flat to gently sloping terrain along ridges and spurs (OEH 2014).	No
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	<i>Melaleuca biconvexa</i> occurs in coastal districts and adjacent tablelands from Jervis Bay north to the Port Macquarie district. It grows in damp places often near streams.	No
<i>Melaleuca deanei</i>	Deane's Paperbark	V	V	Found in heath on sandstone (OEH 2014), and also associated with woodland on broad ridge tops and slopes on sandy loam and lateritic soils (Benson and McDougall 1998).	Potential
<i>Pelargonium</i> sp. <i>Striatellum</i>	Omeo Stork's-bill	E	E	In NSW, <i>Pelargonium</i> sp. (G.W. Carr 10345) is known from the Southern Tablelands. Otherwise, only known from the shores of Lake Omeo near Benambra in Victoria where it grows in cracking clay soil that is probably occasionally flooded.	No
<i>Persoonia hirsuta</i>	Hairy Geebung	E	E	<i>Persoonia hirsuta</i> occurs from Singleton in the north, south to Bargo and the Blue Mountains to the west (OEH 2014). It grows in dry sclerophyll eucalypt woodland and forest on sandstone	No
<i>Persoonia mollis</i> subsp. <i>maxima</i>	<i>Persoonia mollis</i> subsp. <i>maxima</i>	E	E	Deep gullies or on the steep upper hillsides of narrow gullies incised from Hawkesbury Sandstone, characterised by steep sideslopes, rocky benches and broken scarps, with creeks fed by small streams and intermittent drainage depressions. Occurrences of this plant have been recorded on the dry upper-hillsides of gullies and in more exposed aspects (Scribbly Gum <i>E. haemastoma</i> , Grey Gum (<i>E. punctata</i>).	Potential

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Pimelea curviflora</i> var. <i>curviflora</i>	<i>Pimelea curviflora</i> var. <i>curviflora</i>	V	V	<i>Pimelea curviflora</i> var. <i>curviflora</i> is confined to the coastal area of Sydney between northern Sydney in the south and Maroota in the north-west. It grows on shaley/lateritic soils over sandstone and shale/sandstone transition soils on ridgetops and upper slopes amongst woodlands (OEH 2014). Associated with the Duffys Forest Community, shale lenses on ridges in Hawkesbury sandstone geology.	Unlikely
<i>Pimelea spicata</i>	Spiked Rice-flower	E	E	In western Sydney, <i>Pimelea spicata</i> occurs on an undulating topography of well-structured clay soils, derived from Wianamatta shale (OEH 2014). It is associated with Cumberland Plains Woodland (CPW), in open woodland and grassland often in moist depressions or near creek lines (Ibid.). Has been located in disturbed areas that would have previously supported CPW (Ibid.).	Unlikely
<i>Pterostylis saxicola</i>	Sydney Plains Greenhood	E	E	Terrestrial orchid predominantly found in Hawkesbury Sandstone Gully Forest growing in small pockets of soil that have formed in depressions in sandstone rock shelves (NPWS 1997). Known from Georges River National Park, Ingleburn, Holsworthy, Peter Meadows Creek, St Marys Tower (NSW Scientific Committee 2011).	Unlikely
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	V	V	This species occupies a narrow coastal area between Bulahdelah and Conjola State Forests in NSW. On the Central Coast, it occurs on Quaternary gravels, sands, silts and clays, in riparian gallery rainforests and remnant littoral rainforest communities. In the Ourimbah Creek valley, <i>S. paniculatum</i> occurs within gallery rainforest with <i>Alphitonia excelsa</i> , <i>Acmena smithii</i> , <i>Cryptocarya glaucescens</i> , <i>Toona ciliata</i> , <i>Syzygium oleosum</i> with emergent <i>Eucalyptus saligna</i> . At Wyrribalong NP, <i>S. paniculatum</i> occurs in littoral rainforest as a co-dominant with <i>Ficus fraseri</i> , <i>Syzygium oleosum</i> , <i>Acmena smithii</i> , <i>Cassine australe</i> , and <i>Endiandra sieberi</i> . It is also report that this species appears absent from Terrigal formation shales, on which the gully rainforests occur. <i>S. paniculatum</i> is summer flowering (November-February), with the fruits maturing in May (OEH 2014).	Unlikely

SCIENTIFIC NAME	COMMON NAME	TSC ACT	EPBC ACT	HABITAT ASSOCIATIONS	LIKELIHOOD OF OCCURRENCE
<i>Tetratheca glandulosa</i>	<i>Tetratheca glandulosa</i>	V	V	Associated with ridgetop woodland habits on yellow earths, also in sandy or rocky heath and scrub (NPWS 1997). Often associated with sandstone / shale interface where soils have a stronger clay influence (NPWS 1997). Flowers July to November.	Potential
<i>Thesium austral</i>	Austral Toadflax	V	V	Widespread throughout the eastern third of NSW but most common on the North Western Slopes, Northern Tablelands and North Coast. Occurs in grassland or grassy woodland. Often found in damp sites in association with Kangaroo Grass (<i>Themeda australis</i>) (OEH 2014). The preferred soil type is a fertile loam derived from basalt although it occasionally occurs on metasediments and granite.	Unlikely

Disclaimer: Data extracted from the Atlas of NSW Wildlife and EPBC Protected Matters Report are only indicative and cannot be considered a comprehensive inventory. 'Migratory marine species' and 'listed marine species' listed on the EPBC Act (and listed on the protected matters report) have not been included in this table, since they are considered unlikely to occur within the study area due to the absence of marine habitat.

V = Vulnerable, E = Endangered, CE = Critically Endangered, M = migratory, Ma = Marine



Bushfire Protection Assessment

Proposed Rezoning – Dural

Prepared for
Urbis Pty Ltd

15 March 2016



DOCUMENT TRACKING

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1 Introduction

1.1 Description of proposal

Urbis commissioned Eco Logical Australia Pty Ltd (ELA) to prepare a bushfire protection assessment (BPA) for a proposed rezoning of a number of large allotments in Dural.

The lots are currently zoned as rural land being RU6-Transition with one lot being effected by a split zoning of RU6 and SP2-Infrastructre. Under the proposed rezoning, *The Hills Shire Local Environmental Plan 2012* (LEP) will be amended to allow for R2 Low Density Residential zone with areas of private/public open space (RE1 or RE2. There is also potential for special uses including medical, commercial and ancillary development. A separate ecological (flora and fauna) assessment has been undertaken by ELA.

This report relates to 14 lots within the proposed rezoining however it also considers the wider area of Dural, north of the Dural town centre.

1.2 Study area

The study area is located approximately 1 to 1.5 km from Dural town centre, within the The Hills Shire Council. There are currently existing dwellings or structures located within some lots within the subject area as shown in **Figure 1**.

The existing lots captured by the proposal are:

- Lot 100 and 102 DP13628
- Lot 1 DP656036
- Lot X DP501233
- Lot 2 DP567995
- Lot 9 DP237576
- Lot 2 DP541329
- Lots 101 and 103 DP713628
- Lot 1 DP660184
- Lot 11 DP866560
- Lot D DP38097
- Lot 1 DP73652
- Lot 12 DP866560.

The study area is separated into two clusters, separated by existing large lot residential land with dwellings and associated ancillary buildings. The main access to the lots is off Old Northern Road to the east and Derriwong Road to the west of the southern cluster of lots. The majority of the vegetation within the lots has been cleared except where scattered trees remain.

1.2.1 Aim and structure of report

ELA has been engaged to investigate the current bushfire risk of the study area and the appropriate combination of bushfire protection measures to mitigate this risk in support of the rezoning. Specifically, this analysis responds to the requirements of *Planning for Bush Fire Protection 2006* (PBP), *Australian Standard AS 3959 Construction of buildings in bushfire-prone areas* (AS3959) and the requirements of The Hills LEP. This report details the outcomes of these investigations in the context of the proposed land use.

The overarching objective of this report is to identify all potential bushfire constraints to the future urban development of the study area. The results of this assessment will directly support the preparation of necessary planning documentation. As such the objectives of this report are to:

- Ensure the statutory requirements for bushfire protection are identified and can be adequately met; and
- Implement suitable management frameworks for bushfire protection, whilst having consideration of the vegetation and ecological issues for the study area, enabling long term conservation and management of these environmental values while facilitating safe urban development outcomes.
- Consider the likely rehabilitation of ecological issues and the recommendations of the flora and fauna study to preserve and enhance ecological communities on the subject land.

This report assesses the potential bushfire hazard across the study area, in the context of existing vegetation (refer to **Figure 2** for vegetation coverage). It then identifies planning requirements as per PBP. Management of future asset protection zones (APZ) and environmental areas are also considered.

Future subdivision of land and the construction of buildings will require an assessment against PBP. As such the provisions of this report are to be considered in the planning and design of any development following the rezoning process.

1.3 Legislative requirements

1.3.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal planning legislation for NSW, providing a framework for the overall environmental planning and assessment of development proposals. A variety of other legislation and environmental planning instruments, such as the *Threatened Species Conservation Act 1995* (TSC Act), *Water Management Act 2000* and *Rural Fires Act 1997* (RF Act), are integrated with the EP&A Act.

1.3.2 Threatened Species Conservation Act 1995

The TSC Act aims to protect and encourage the recovery of threatened species, populations and communities listed under the Act. The TSC Act is integrated with the EP&A Act and requires consideration of whether a development (assessed under Part 4 of the EP&A Act) is likely to significantly affect threatened species, populations and ecological communities or their habitat.

1.3.3 Rural Fires Act 1997

Bushfire suppression and management is regulated by the RF Act. Both the EP&A Act and the RF Act were modified by the *Rural Fires and Environmental Assessment Legislation Amendment Act 2002* to enhance bushfire protection through the development assessment process. Key requirements of the RF Act include:

- The need for a bushfire safety authority to be issued by the RFS under section 100B of the RF Act for any development applications for subdivision (therefore considered integrated development);
- All landowners to exercise a duty of care to prevent bushfire from spreading on or from their land under section 63 of the RF Act. This relates to the appropriate provision and maintenance of APZs, landscaping and any retained vegetation when developing land.

1.3.4 Direction 4.4 Planning for Bush Fire Protection

Direction 4.4 Planning for Bushfire Protection identifies matters for consideration for planning proposals that will affect, or are in proximity to land mapped as bush fire prone. In particular a planning proposal where development is proposed must:

- have regard to *Planning for Bush Fire Protection 2006* (PBP),
- provide an Asset Protection Zone (APZ) incorporating at a minimum:
 - an Inner Protection Area (IPA) bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and
 - an Outer Protection Area (OPA) managed for hazard reduction and located on the bushland side of the perimeter road,
- for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service (RFS). If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the RF Act), the APZ provisions must be complied with,
- contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,
- contain provisions for adequate water supply for fire fighting purposes,
- minimise the perimeter of the area of land interfacing the hazard which may be developed,
- introduce controls on the placement of combustible materials in the Inner Protection Area.

Consideration must also be given to NSW RFS *Practice Note 2/12 Planning Instruments and Policies*. It is expected that the RFS, in its assessment of the proposal will consider the requirements of this Practice Note.

1.3.5 Planning for Bush Fire Protection 2006

Rezoning proposals require consultation with the NSW RFS as the lead agency for managing bushfire. As such the requirements of *Planning for Bush Fire Protection* (NSW RFS, 2006) are to be addressed. This includes having regard to the following planning principles of PBP:

- Provision of a perimeter road with adequate two way access which delineates the extent of the intended development;
- Provision, at the urban bushland interface, for the establishment of adequate asset protection zones for future housing;
- Specifying minimum residential lot depths to accommodate asset protection zones for lots on perimeter roads;
- Minimising the perimeter of the area of land, interfacing the hazard, which may be developed;
- Introduction of controls which avoid placing inappropriate developments in hazardous areas; and
- Introduction of controls on the placement of combustible materials in asset protection zones.

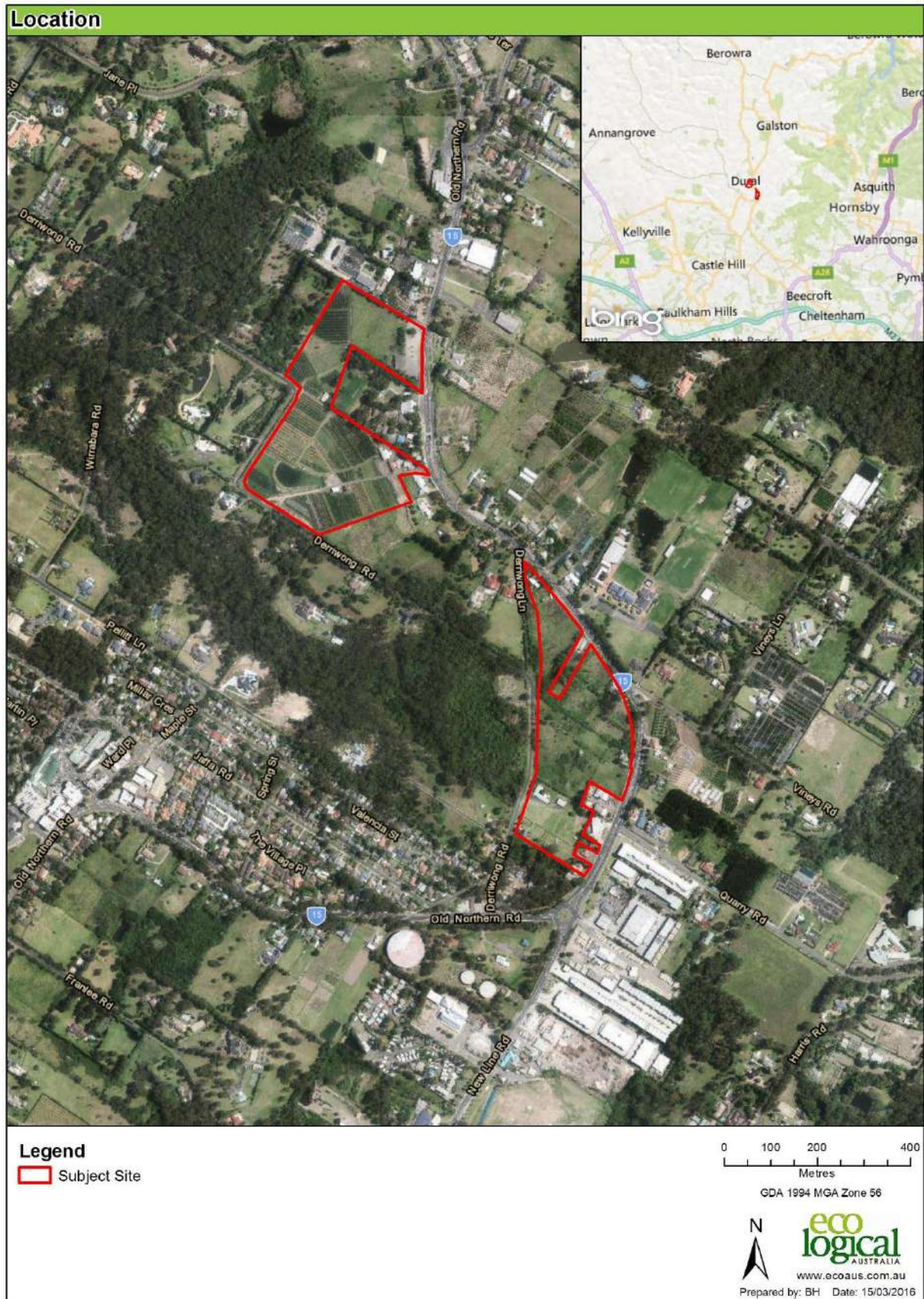


Figure 1: Study area

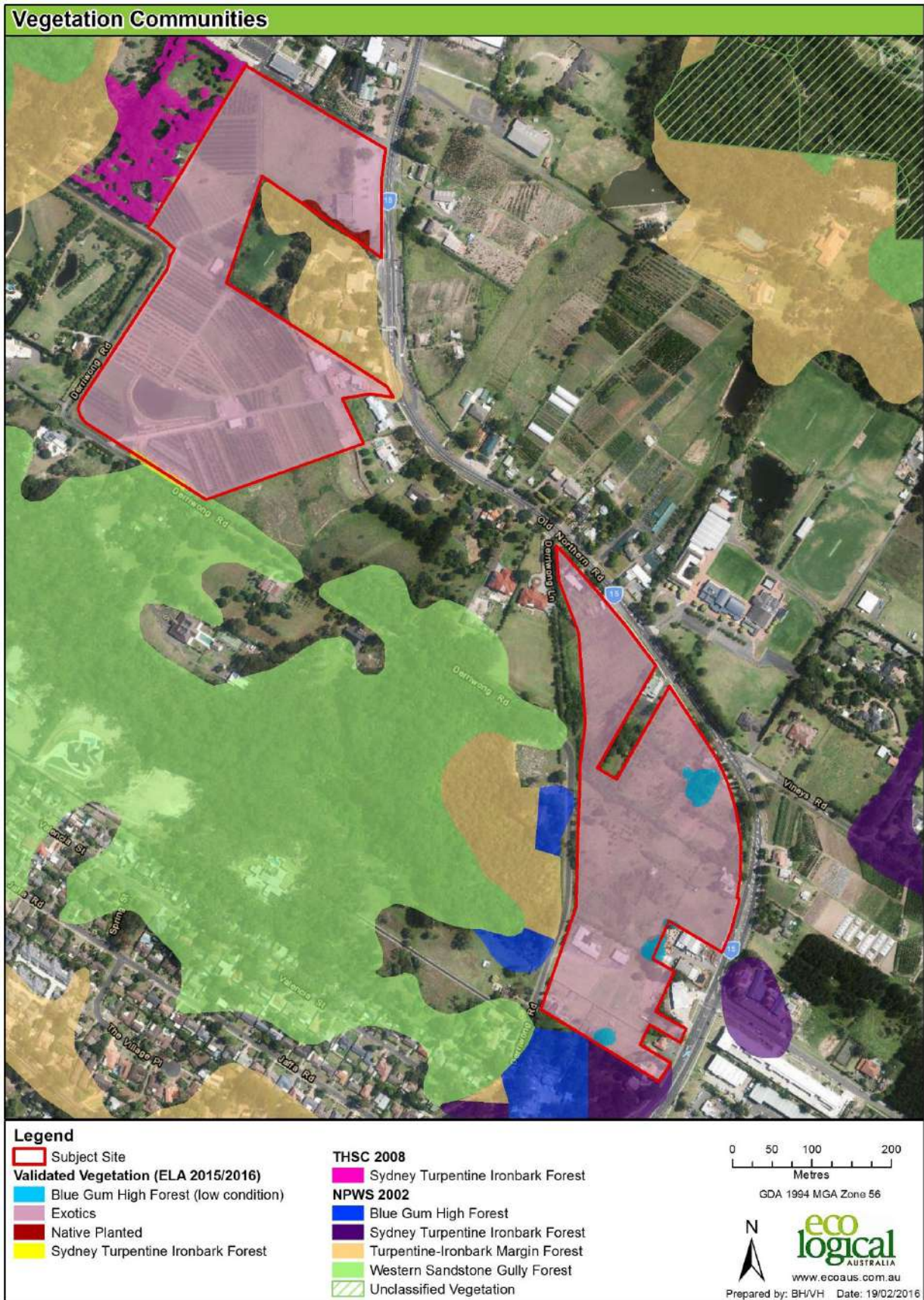


Figure 2: Vegetation Communities

2 Bushfire threat assessment

An assessment of the bushfire hazard is necessary to determine the application of bushfire protection measures such as asset protection zone location and dimension. This section provides a detailed account of the vegetation communities (bushfire fuels) and the topography (effective slope) that combine to create the bushfire hazard that may affect bushfire behaviour at the study area.

The concept of bushfire risk as influenced by fire history and current and past bushfire issues has little bearing on the determination of bushfire protection strategies for rezoning and future development within the study area. This is due to the fact that PBP assesses bushfire protection based purely on vegetation and slope (i.e. hazard and not risk), making the assumption that a fire may occur in any patch of bushland at a worst-case scenario (based on a set design fire).

Notwithstanding this, the *The Hills Bush Fire Risk Management Plan* (BFRMP) was reviewed to gain a greater understanding of the bushfire environment, hazard and risk issues that affect the study area.

The development of the study area is situated to the north east of the Dural town centre. The proposed development will provide further asset protection for existing development surrounding the study area by creating increased separation from bushfire hazards. The BFRMP does not affect the bushfire protection measures required for future development within the study area, but should be updated following development of the study area (**Figure 3**).

2.1 Bushfire protection measures

PBP requires the assessment of a suite of bushfire protection measures that in total afford an adequate level of protection. The measures required to be assessed for rezoning are listed in **Table 1** and are discussed in detail in this section. This section demonstrates that the study area can accommodate the required bushfire protection measures and achieve the Direction 4.4 objectives and RFS requirements.

Table 1: PBP bushfire protection measures

Bushfire Protection Measure	Considerations
Asset Protection Zones (APZ)	Location and dimension of APZ setbacks from vegetation including prescriptions of vegetation management within the APZ.
Access	Assessment to include access and egress in and out of a developable area such as alternate access, operational response and evacuation options. APZ perimeter access to be considered as is design standards of public roads and any fire trails.
Water supply and other utilities	List requirements for reticulated water supply and hydrant provisions, and any static water supplies for fire fighting.
Building construction standards	Provide a guide on the application of construction standards for future buildings.

2.2 Vegetation types

In accord with PBP, the predominant vegetation class has been assessed within the proposed lots and calculated for a distance of at least 140 m out from the proposed development. The predominant vegetation and effective slope assessments are shown **Table 3**.

Vegetation mapping shows Western Sandstone Gully Forest to the west of the southern cluster of lots with smaller pockets of Blue Gum High Forest, Turpentine-Ironbark Margin Forest, and Sydney

Turpentine-Ironbark Forest to the west and south. These vegetation formations also occur around the northern cluster of lots. In accordance with PBP the predominant vegetation is 'forest'.

Vegetation to the south of the southern cluster of lots is highly fragmented as a result of practices related to the timber supply yard and is a 'low hazard' in accordance with PBP.

The remaining vegetation within the study area consists of land used for intensive agriculture or land that is cleared and managed.

2.3 Effective slope

In accord with PBP, the slope that would most significantly influence fire behaviour was determined over a distance of 100 m from the boundary of the subject land where the vegetation was found (measuring the worst-case scenario). This assessment was made with 10 m contours and slope classes are listed in **Table 2**.

The land slopes down to the water course to the west. Slopes vary across the site and within the bushfire hazard and range from >0-15 degrees downslope and are shown in **Figure 3**.

Table 2: PBP slope classes

Upslope or Downslope	PBP Slope Class
Upslope / Flat Land	Flat land and all upslope land leading away from the development
Downslope	>0-5 degrees downslope leading away from the development
	>5-10 degrees downslope leading away from the development
	>10-15 degrees downslope leading away from the development
	>15-18 degrees downslope leading away from the development

3 Asset protection zones

Table A2.4 of PBP has been used to indicate the required APZ dimensions for future residential development within the subject land using the vegetation and slope data identified in **Section 2**. The APZ calculation is tabulated below and shown in **Figure 3**.

It is best practice to provide an APZ dimension that achieves a building construction standard under *AS 3959-2009 Construction of buildings in bushfire-prone areas* (Standards Australia 2009) of Bushfire Attack Level (BAL)-29 for residential development to ensure future home owners are not impacted by the additional costs associated with construction of a dwelling at BAL-40. **Table 3** lists the current minimum APZ and best practice APZ related to BAL-29 (refer to **Section 4** for more information on AS 3959-2009). Special Fire Protection Purpose (SFPP) developments will require an increase in APZ to provide a higher level of bushfire protection.

It is important to note that the APZ calculations quoted in this assessment are indicative only and have been determined at a landscape scale. This level of detail is suitable for a rezoning assessment where the aim is to demonstrate whether a parcel of land can accommodate the bushfire hazard, the expected APZ and future development. The final APZ dimensions for any future subdivision or development depends on the accuracy of a slope assessment undertaken at a site-specific level. The APZ dimensions quoted in this assessment should not be relied on to approve a future subdivision; they may be used as a guide only.

3.1 APZ maintenance plan

The following fuel management specifications will need to be considered in the provision of APZ fo future development:

- No tree or tree canopy is to occur within 2 m of the dwelling roofline.
- The presence of a few shrubs or trees in the APZ is acceptable provided that they:
 - are well spread out and do not form a continuous canopy
 - are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period
 - are located far enough away from the building so that they will not ignite the building by direct flame contact or radiant heat emission.
- Any landscaping or plantings should preferably be local endemic mesic species or other low flammability species.

3.2 Staging of development for APZ

Staging of future development should give consideration to the provision of an APZ to manage any potential bushfire hazard within adjoining future development areas to ensure that future dwellings are not impacted by unnecessary construction standards. This could occur through the provision of temporary APZ for earlier stages which will be automatically extinguished once the land where the APZ operates is developed and the hazard is permanently removed.

3.3 Perimeter access within APZ

An APZ may require a perimeter road depending on the significance of the bushfire threat. The assessment of perimeter access is provided in the following **Section 5.3**.

Table 3: Threat assessment, APZ and category of bushfire attack

Direction from envelope	Slope ¹	Vegetation ²	PBP required APZ ³	BAL-29 APZ AS3959	Comments
Northern cluster					
West and south	0-5 ⁰ downslope	Forest	25 m 70 m (SFPP)	32 m	Provided within property boundaries
South	0-5 ⁰ downslope	Grassland	10 m	10 m	
All other directions	Managed land				
Southern cluster					
West	0-5 ⁰ downslope	Forest	25 m 70 m (SFPP)	32 m	Provided by Derriwong Road and within property boundaries
West	0-5 ⁰ downslope	Grassland	10 m	10 m	Provided within property boundaries
South	0-5 ⁰ downslope	Low hazard	10 m 30 m (SFPP)	14 m	
All other directions	Managed land				

¹ Slope most significantly influencing the fire behaviour of the site having regard to vegetation found. Slope classes are according to PBP.

² Predominant vegetation is identified, according to PBP and "Where a mix of vegetation types exist the type providing the greater hazard is said to be predominate".

³ Assessment according to Table A2.4 of PBP

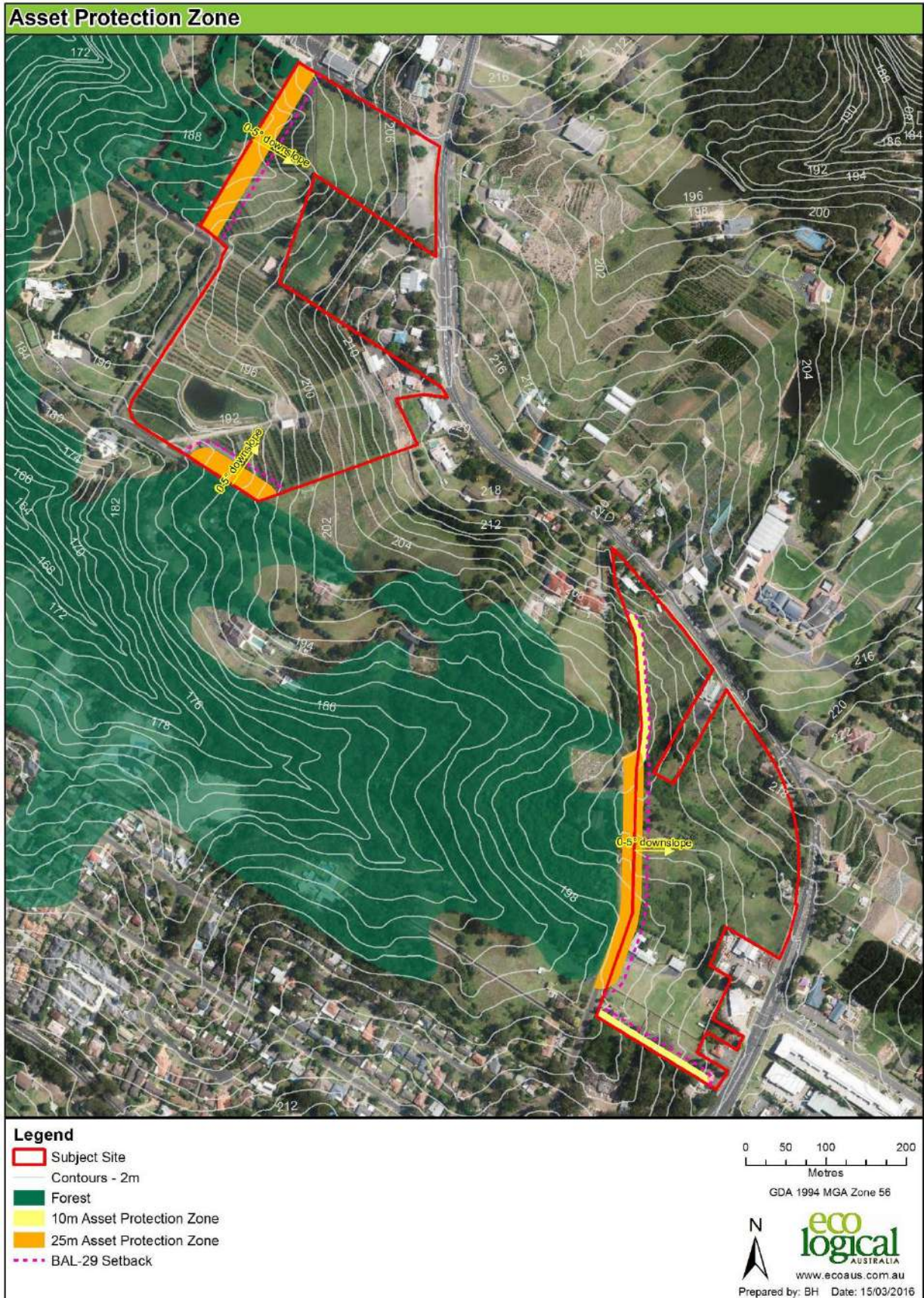


Figure 3: Asset protection zones

4 Construction standard

The application of building construction standards for bushfire protection under *AS 3959-2009 Construction of buildings in bushfire-prone areas* (Standards Australia 2009) is to be considered at the development application stage for individual dwellings and buildings. An assessment under AS 3959-2009 is not required at the rezoning or subdivision stages. The following is a brief introduction on AS 3959-2009.

AS 3959-2009 contains six Bushfire Attack Levels (BAL), each with a prescribed suite of design and construction specifications aimed at preventing ignition during the passing of a bushfire front. The BALs are outlined below:

- BAL-Low: The threat does not warrant application of construction standards. Developments with BAL-Low are generally not within bushfire prone land (greater than 100 m from bushland)
- BAL-12.5: Addresses background radiant heat at lower levels and ember attack
- BAL-19: Addresses mid-range radiant heat and ember attack
- BAL-29: Addresses high range radiant heat and ember attack
- BAL-40: Addresses extreme range of radiant heat and potential flame contact and ember attack
- BAL-FZ: Addresses construction within the flame zone. New subdivided lots are not permitted within the flame zone in NSW.

NSW has a minor variation to AS 3959-2009 which requires consideration in future development applications. The variation is contained within the document '*PBP Appendix 3 Addendum*' (RFS 2010).

5 Utilities and access

5.1 Water supply

Future lots will likely be serviced by reticulated water infrastructure suitable for fire fighting purposes. With the exception of rural residential subdivision, the furthest point from any future dwellings to a hydrant is to be less than 90 m (with a tanker parked in-line) in accordance with *Australian Standard 2419.1 – 2005 Fire Hydrant Installations - System Design, Installation and Commissioning* (Standards Australia 2005). The reticulated water supply is to comply with the following acceptable solutions within Section 4.1.3 of PBP:

- Reticulated water supply to use a ring main system for areas with perimeter roads;
- Fire hydrant spacing, sizing and pressures comply with AS 2419.1 – 2005;
- Hydrants are not located within any road carriageway;
- All above ground water and gas service pipes external to the building are metal, including and up to any taps; and
- The PBP provisions of parking on public roads are met.

5.2 Gas and electrical supplies

In accordance with PBP, electricity should be underground wherever practicable. Where overhead electrical transmission lines are installed:

- Lines are to be installed with short pole spacing, unless crossing gullies
- No part of a tree should be closer to a powerline than the distance specified in the *ISSC 3 Guideline for Managing Vegetation Near Power Lines* (Industry Safety Steering Committee, 2005).

Any gas services are to be installed and maintained in accordance with *Australian Standard AS/NZS 1596 'The storage and handling of LP Gas'* (Standards Australia 2008).

5.3 Access

All bushfire prone areas should have an alternate access or egress option. This is usually achieved by providing more than one public road into and out of a precinct. The need for an alternative road and its location depends on the bushfire risk, the density of the development, and the chances of the road being cut by fire. All precincts within the study area should allow for an alternative public access road.

The proposed access arrangements within the study area are in accordance with the intent and principles of PBP regarding the provision of safe access and egress for both residents and fire fighters.

5.3.1 Safe access and egress

All bushfire prone areas should have an alternate access or egress option. An internal road system supporting future development is to comply with Section 4.2.7 of PBP.

5.3.2 Road design and construction

Depending on the bushfire risk, all bushland interface areas containing an APZ for a significant bushfire hazard should feature a perimeter public road within the APZ. It is acceptable for some areas not to have a perimeter road or have a perimeter trail instead. These include areas of lower bushfire risk (such as grassland or low hazard remnants or areas where it may not be feasible to provide a continuous road due to the shape of the interface or the terrain. These areas should have some other access strategy such as regular access points and good access to a hydrant network.

Provision of a simple layout with perimeter roads and frequent direct access to the internal road system will provide sufficient access/egress in the case of an emergency. Public roads should provide safe operational access to structures and water supply. Perimeter roads will be required at APZ bushland interface locations where a significant bushfire hazard exists. However, minor drainage corridors and the setbacks provided within larger 'lifestyle lots' present a lower risk scenario and, therefore, may not require implementation of perimeter roads. Property access roads will also need to provide safe access for emergency services and provide protection to properties and occupants during a bushfire

The design details (PBP acceptable solutions) of public roads are shown in **Table 4**.

Table 4: Performance criteria for proposed public roads

Intent may be achieved where:	Acceptable solutions
<ul style="list-style-type: none"> firefighters are provided with safe all weather access to structures (thus allowing more efficient use of firefighting resources) 	<ul style="list-style-type: none"> public roads are two-wheel drive, all weather roads
<ul style="list-style-type: none"> public road widths and design that allows safe access for firefighters while residents are evacuating an area 	<ul style="list-style-type: none"> urban perimeter roads are two-way, that is, at least two traffic lane widths (carriageway 8 metres minimum kerb to kerb), allowing traffic to pass in opposite directions. Non perimeter roads comply with Table 4.1 – Road widths for Category 1 Tanker (Medium Rigid Vehicle) the perimeter road is linked to the internal road system at an interval of no greater than 500 metres in urban areas traffic management devices are constructed to facilitate access by emergency services vehicles public roads have a cross fall not exceeding 3 degrees public roads are through roads. Dead end roads are not recommended, but if unavoidable, dead ends are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end and direct traffic away from the hazard curves of roads (other than perimeter roads) are a minimum inner radius of six metres maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient there is a minimum vertical clearance to a height of four metres above the road at all times the capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles (approximately 15 tonnes for areas with reticulated water, 28 tonnes or 9 tonnes per axle for all other areas). Bridges clearly indicated load rating
<ul style="list-style-type: none"> the capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles 	<ul style="list-style-type: none"> public roads greater than 6.5 metres wide to locate hydrants outside of parking reserves to ensure accessibility to reticulated water for fire suppression
<ul style="list-style-type: none"> roads that are clearly sign posted (with easy distinguishable names) and buildings / properties that are clearly numbered 	<ul style="list-style-type: none"> public roads between 6.5 metres and 8 metres wide are No Parking on one side with the services (hydrants) located on this side to ensure accessibility to reticulated water for fire suppression public roads up to 6.5 metres wide provide parking within parking bays and located services outside of the parking bays to ensure accessibility to reticulated water for fire suppression
<ul style="list-style-type: none"> there is clear access to reticulated water supply 	<ul style="list-style-type: none"> one way only public access roads are no less than 3.5 metres wide and provide parking within parking bays and located services outside of the parking bays to ensure accessibility to reticulated water for fire suppression parking bays are a minimum of 2.6 metres wide from kerb to kerb edge to road pavement . No services or hydrants are located within the parking bays
<ul style="list-style-type: none"> parking does not obstruct the minimum paved width 	<ul style="list-style-type: none"> public roads directly interfacing the bush fire hazard vegetation provide roll top kerbing to the hazard side of the road

6 Recommendations and conclusion

Bushfire hazard has been assessed across the subject study area and found to be acceptable based on the ability to provide compliant APZ within the subject site. On the basis of this assessment, indicative asset protection zone requirements have been mapped across the proposed rezoning area.

A number of strategies have been provided in the form of planning controls such that the risk from bushfire can be minimised and future rezoning or development approval processes can be streamlined. Further, it has been found that development of the anticipated land uses within the subject study area, from a bushfire planning perspective, are considered suitable.

A number of strategies have been provided in this report such that the risk from bushfire can be mitigated. The main strategies suggested include:

- Ensure adequate setback from bushfire prone vegetation (APZs)
- Integrate non-combustible infrastructure within APZs such as roads, easements and parking areas. The majority of APZs should be contained within perimeter roads and front yard setbacks
- Ensure adequate access and egress from the study area through a well-designed road system
- Consider the adequacy of water supply and the delivery of other services (gas and electricity)
- Provide temporary APZs during any staged development
- Provide for effective and ongoing management of APZs; and
- Consider construction standards (AS3959) implications for future developments depending on development type (25 and 70 metre APZs).

The rezoning has been prepared based on the advice and constraints contained within this report. In relation to the furthering of the planning processes as they relate to the future uses of the study area, it is considered appropriate that more detailed assessment and consideration of the relevant bushfire protection strategies should be undertaken at the development application stage. This further assessment should include a more comprehensive review of the road and lot layout and subsequent planning controls, to ensure they are well designed in terms of bushfire protection outcomes.

The wider area of consideration has similar characteristics as the subject site and as such should have similar capacity to provide the required suite of bushfire protection measures for future rezoning investigations at the wider scale.

6.1 Statement of capability

This bushfire assessment demonstrates that the subject land is capable of accommodating future development and associated land use with the appropriate bushfire protection measures and bushfire planning requirements prescribed by s.117 (2) Direction 4.4 – *‘Planning for Bush Fire Protection’* and PBP.

If further information is required, please contact Mark Hawkins on 4302 1222.

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Heritage Impact Statement

Multiple Properties along Old Northern Road and
Derriwong Road, Dural

February 2016

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Executive Summary

The following Heritage Assessment was prepared to assess the heritage impacts of proposed subdivision of properties on Old Northern Road and Derriwong Road, Dural. These properties are herein collectively referred to as 'subject site':

A planning proposal is currently being planned for the rezoning of the subject site to allow for residential and neighbourhood scale commercial/retail development. The subject site incorporates, or is in the vicinity of a number of locally listed heritage items on The Hills Local Environmental Plan 2012 and Hornsby Local Environmental Plan 2013. These include:

- House, 600A Old Northern Road (Item No. I85) The Hills LGA
- Dural Soldiers Memorial Hall, 604 Old Northern Road (Item No. I86) The Hills LGA
- Uniting Church Cemetery, Derriwong Road (Item No. I81) The Hills LGA
- House, 857 Old Northern Road, Dural (Item No.348) Hornsby LGA
- House, 873 Old Northern Road, Dural (Item No.349) Hornsby LGA
- Old Northern Road, between Dural and Wiseman's Ferry (Item A12, archaeological) The Hills LGA
- Street trees listed on Old Northern Road in the Hornsby LGA (item 448).

This report is principally concerned with the impacts to the Spanish Mission style Dural Memorial Hall at 604 Old Northern Road, constructed in 1925 and the Victorian weatherboard house, 600A Old Northern Road constructed between 1880 and 1900. The subject proposal has been assessed in relation to the relevant controls and provisions contained within The Hills LEP 2012 and The Hills DCP 2012.

Based on the results of this assessment, it has been determined that overall, the proposed low density residential subdivision is unlikely to impact on the heritage significance of both the heritage listed items within the proposed subdivision area as well as items in the vicinity. Both the house and hall are located very close to Old Northern Road and the visual prominence of the buildings within the streetscape will be maintained. Existing views to and from the principal (front) elevations of the items will not be obscured or adversely impacted.

- It is recommended that a heritage curtilage be formed for the house at 600A Old Northern Road to protect the impacts of potential future development. This is identified in Figure 17.
- Consider restoration of the house as part of the proposed works so that the principal house form is wholly retained. This would ultimately conserve and enhance the heritage significance of the item.
- If developed, it is recommended that lower-scale residences (one to two storey) in the vicinity of the heritage items would be in keeping with other development in the area and would not impact on views and the heritage significance of the item. Development in the vicinity of the items must respond appropriate to their form and scale.

1 Introduction

1.1 BACKGROUND

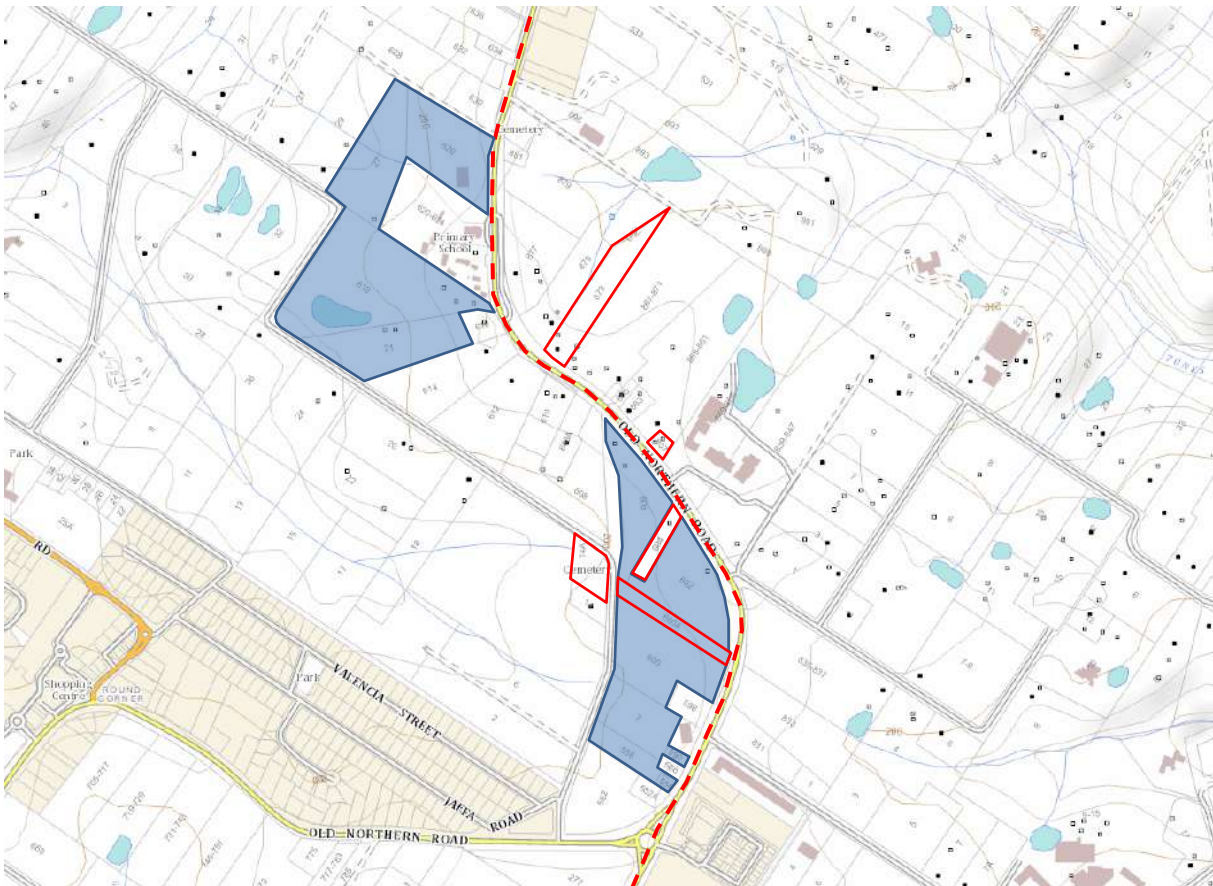
Urbis has been engaged HLA Group to prepare the following Heritage Assessment. This report was prepared to assess the heritage impacts of the proposed subdivision of properties in two areas between Old Northern Road and Derriwong Road, Dural, NSW.

The multiple properties contained within the subject site are currently predominately zoned as RU6 Transition, with Lot 2 DP 541329 being split zoned as both RU6 and SP2 Infrastructure. A planning proposal is currently being prepared for the rezoning of the subject site to allow for residential and neighbourhood scale commercial/retail development.

The subject site incorporates, or is in the vicinity of a number of locally listed heritage items in The Hills Local Environmental Plan 2012 and Hornsby Local Environmental Plan 2013. These include;

- House, 600A Old Northern Road (Item No. I85) The Hills LGA
- Dural Soldiers Memorial Hall, 604 Old Northern Road (Item No. I86) The Hills LGA
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- House, 873 Old Northern Road, Dural (Item No.349) Hornsby LGA
- Old Northern Road, between Dural and Wiseman's Ferry (Item A12, archaeological) The Hills LGA
- Street trees listed on Old Northern Road in the Hornsby LGA (item 448).

FIGURE 1 – SUBJECT SITE RELATED TO THIS REPORT OUTLINED BLUE AND HERITAGE ITEMS IN RED



SOURCE: SIX MAPS 2015

1.2 SITE LOCATION

The subject properties considered in this report are outlined in the below table.

TABLE 1 – LIST OF PROPERTIES INCLUDED IN THIS ASSESSMENT

STREET ADDRESS	LEGAL DESCRIPTION
584 Old Northern Road, Dural	Lot 1 DP660184
586 Old Northern Road, Dural	Lot 11 DP866560
590 Old Northern Road, Dural	Lot D DP38097
600 Old Northern Road, Dural	Lot 100 and Lot 102 DP713628
602 Old Northern Road, Dural	Lot 1 DP656036
606 Old Northern Road, Dural	Lot 1 DP73652
618 Old Northern Road, Dural (also known as No. 25 Deriwong Road)	Lot X DP 501233
626 Old Northern Road, Dural	Lot 2 DP541329
7 Derriwong Road, Dural	Lot 12 DP866560
11 Derriwong Road (also known as 600A ONR)	Lots 101 and 103 DP713628
21 Derriwong Road, Dural	Lot 2 DP567995
27 Derriwong Road, Dural	Lot 9 DP237576

The location of these properties in relation to listed heritage items or archaeological items in the vicinity is shown in (Figure 1).

1.3 METHODOLOGY

This Heritage Assessment has been prepared in accordance with the NSW Heritage Branch guideline 'Assessing Heritage Significance' (2001). The philosophy and process adopted is that guided by the *Australia ICOMOS Burra Charter 1999* (revised 2013).

Site constraints and opportunities have been considered with reference to relevant controls and provisions contained within The Hills Local Environmental Plan 2012 and the The Hills Development Control Plan 2012.

1.4 AUTHOR IDENTIFICATION

The following report has been prepared by Karyn McLeod (Heritage Consultant). Stephen Davies (Director) has reviewed and endorsed its content.

Unless otherwise stated, all drawings, illustrations and photographs are the work of Urbis.

1.5 THE PROPOSAL

The multiple properties contained within the subject site are currently predominately zoned as Zone RU6 Transition, with Lot 2 DP 541329 being split zoned as both RU6 and SP2 Infrastructure.

A planning proposal is currently being planned for the rezoning of the subject site to allow for residential and neighbourhood scale commercial/retail development.

The following properties, which are subject to the subdivision proposal include:

- 584 Old Northern Road, Dural
- 586 Old Northern Road, Dural
- 590 Old Northern Road, Dural
- 600 Old Northern Road, Dural
- 602 Old Northern Road, Dural
- 606 Old Northern Road, Dural
- 618 Old Northern Road, Dural (also known as No. 25 Deriwong Road)
- 626 Old Northern Road, Dural
- 7 Derriwong Road, Dural
- 11 Derriwong Road (also known as 600A ONR)
- 21 Derriwong Road, Dural
- 27 Derriwong Road, Dural

This report is principally concerned with the impacts to the heritage items located at 600A Old Northern Road (also known as 11 Derriwong Road) and 604 Old Northern Road, Dural. The Memorial Hall at 604 Old Northern Road is not part of the proposed subdivision; however it is surrounded by land that is within the proposal.

As no physical works are currently proposed, there is no identified risk of harm to Old Northern Road, which is identified in part as an archaeological item under the Hills LEP 2012.

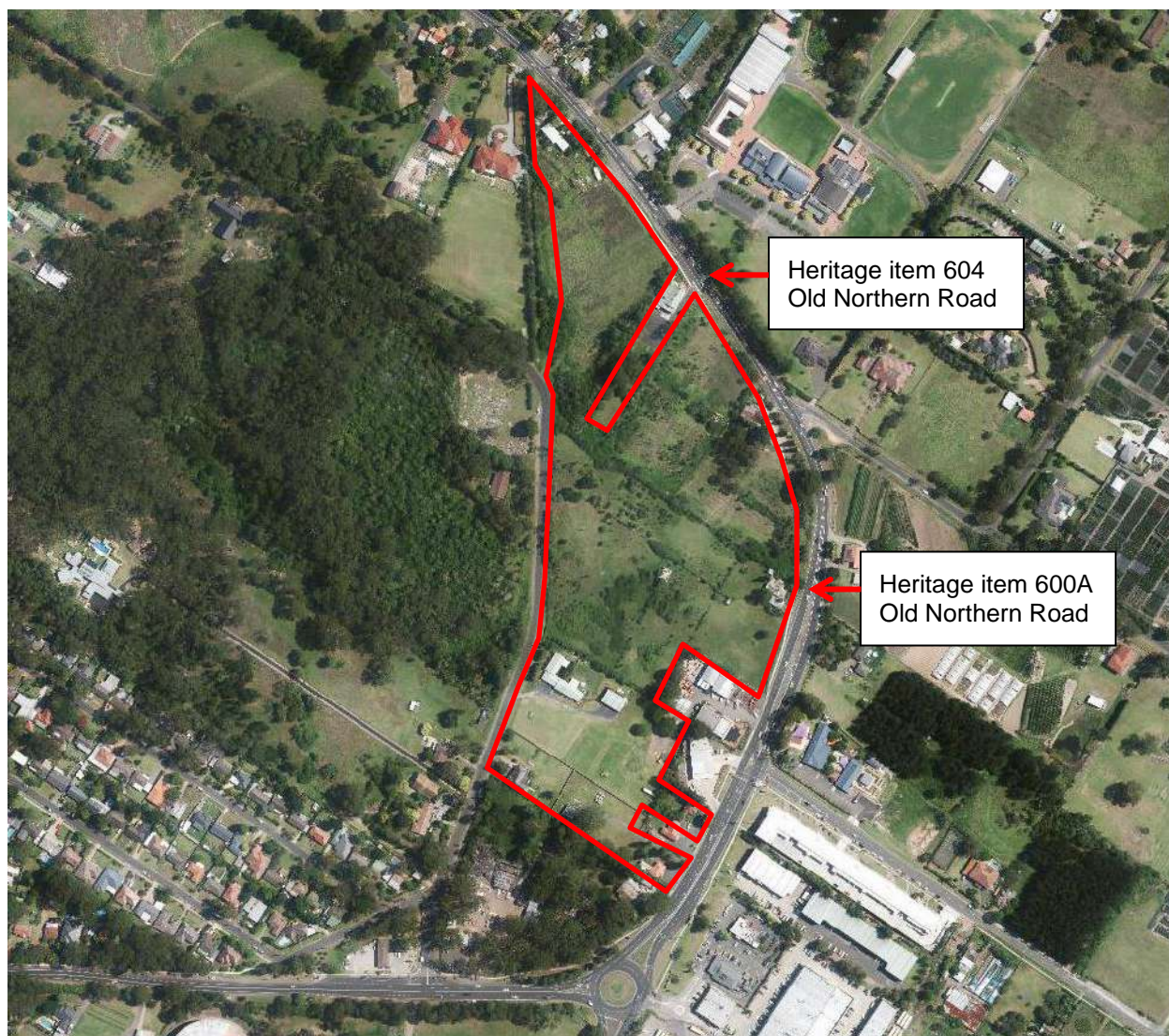
2 Site Description

2.1 THE SITE

Dural is a semi-rural suburb, 36 kilometres north-west of the Sydney central business district in the Local Government Areas (LGA) of Hornsby Shire and The Hills Shire. Dural is part of the Hills District, in North Western Sydney. The site is located between Old Northern Road and Derriwong Road and is mostly rural.

The subject site is located to the north of the Round Corner and contains a number of private residences and commercial properties fronting Old Northern Road. The land is largely cleared and vacant and contains remnant fruit trees from the orchards that dominated the area in the past. Orchards, plant nurseries and market gardens are common in the area, however low density housing development is located to the south west of the subject site and a large commercial and industrial precinct is located to the south east. Redfield College, an Independent Catholic boys' school is located opposite the site on the eastern side of Old Northern Road. The Dural Memorial Hall allotment has been excluded from the proposed subdivision, but is surrounded by land which is part of the proposal.

FIGURE 2 – THE SUBJECT SITE INDICATED IN RED OUTLINE



SOURCE: SIX MAPS 2015

2.2 HERITAGE ITEMS

2.2.1 600A OLD NORTHERN ROAD

The item is a beaded weatherboard cottage on brick footings with corrugated iron, hipped roof that flows to a verandah. It is symmetrical at the front, has a hipped projection to the rear and there are a number of later weatherboard and fibro additions to the rear. The rear verandah has been infilled, the doors are not original and a non-original iron railing has been added to the front and rear verandahs. The building has two brick chimneys with terracotta pots and Victorian style shutters. There is a garage and access to the Old Northern Road on the southern side of the house and remnant fencing that appears to separate what was originally an orchard at the rear. The house appears to have been constructed in the late Victorian period possibly between 1880 and 1900. It is located very close to the road separated by a high timber paling fence and footpath. The fencing and grounds are in poor condition and the house is uninhabited. The condition of the interior of the house is unknown as access was not possible.

Several mature non-native trees are located around the house and fence lines and the garden and orchard are overgrown. The land surrounding the listed property is cleared former orchard (stone fruit) and slopes down gently to the west to Derriwong Road. The property to the south (No. 600) is vacant and is currently being used for grazing horses and cattle. Commercial properties fronting Old Northern Road are also located to the south. A brick house constructed in the 1950s is located on 602 Old Northern Road to the north.

2.2.2 DURAL MEMORIAL HALL, 604 OLD NORTHERN RD

The Memorial Hall was constructed in the Spanish mission Style in 1925 and funded by the local residents. It is located very close to the road separated by a timber picket fence and has an addition to the north that houses a kitchen and disabled entrance. An iron arch at the front that states *1914 Lest We Forget 1918* and a plaque that states *In Loving Memory of Our Boys who fought in the Great War. 1914-1919*. The hall has a stage, seats approximately 200 and is used by the community for functions, theatre and musical performances. A driveway is located on the northern side of the building and an asphalt car park at the rear. The long allotment is located between Old Northern Road and Derriwong Road and is mostly vacant apart from some mature native trees to the rear of the building.

2.2.3 DURAL UNITING CHURCH CEMETERY

The small rural cemetery has been cleared from the bush that surrounds O'Haras Creek, a tributary of Cattai Creek to the north west. The land slopes from the south down to north and the graves lie in rows down this slope facing east. The cemetery was previously known as the Methodist Cemetery and was established in 1857 when part of Thomas Williams' grant was bought by a group of local Methodists. There are numerous graves dating to the 1870s including those of early local land owning families including Roughley, Cusbert and Mobbs. The cemetery is still in use. It is locally significant for its historic and aesthetic representative values.

FIGURE 3 – FRONT OF LISTED HOUSE AND GARAGE AT 600A OLD NORTHERN ROAD.



FIGURE 4 – REAR OF LISTED HOUSE 600A OLD NORTHERN ROAD.



FIGURE 5 – REAR 602 AND 600A OLD NORTHERN ROAD FROM DERRIWONG ROAD.



Pedestrian survey of the grounds of 600, 600A, 602 and 604 Old Northern Road found the properties to be covered in thick grasses and remnant orchards. There were also two derelict timber and iron sheds located at the rear of 600A which were of unknown function. The land has been previously cleared and used for a variety of agricultural uses and there is little likelihood of *in situ* Aboriginal objects being present on the site. The site also has low potential for the remains of significant historic archaeological features or deposits.

FIGURE 6 – VACANT LAND AT 600 OLD NORTHERN ROAD AND COMMERCIAL PROPERTIES TO THE SOUTH .



FIGURE 7 – PREVIOUS ORCHARD (STONE FRUIT) AT THE REAR OF 600A OLD NORTHERN ROAD.



FIGURE 8 – DURAL MEMORIAL HALL, 604 OLD NORTHERN ROAD, DURAL.



FIGURE 9 – THE REAR OF THE MEMORIAL HALL AND THE VACANT ALLOTMENT AT 606 OLD NORTHERN ROAD (LEFT)



FIGURE 10 – UNITING CHURCH CEMETERY ON THE WESTERN SIDE OF DERRIWONG ROAD

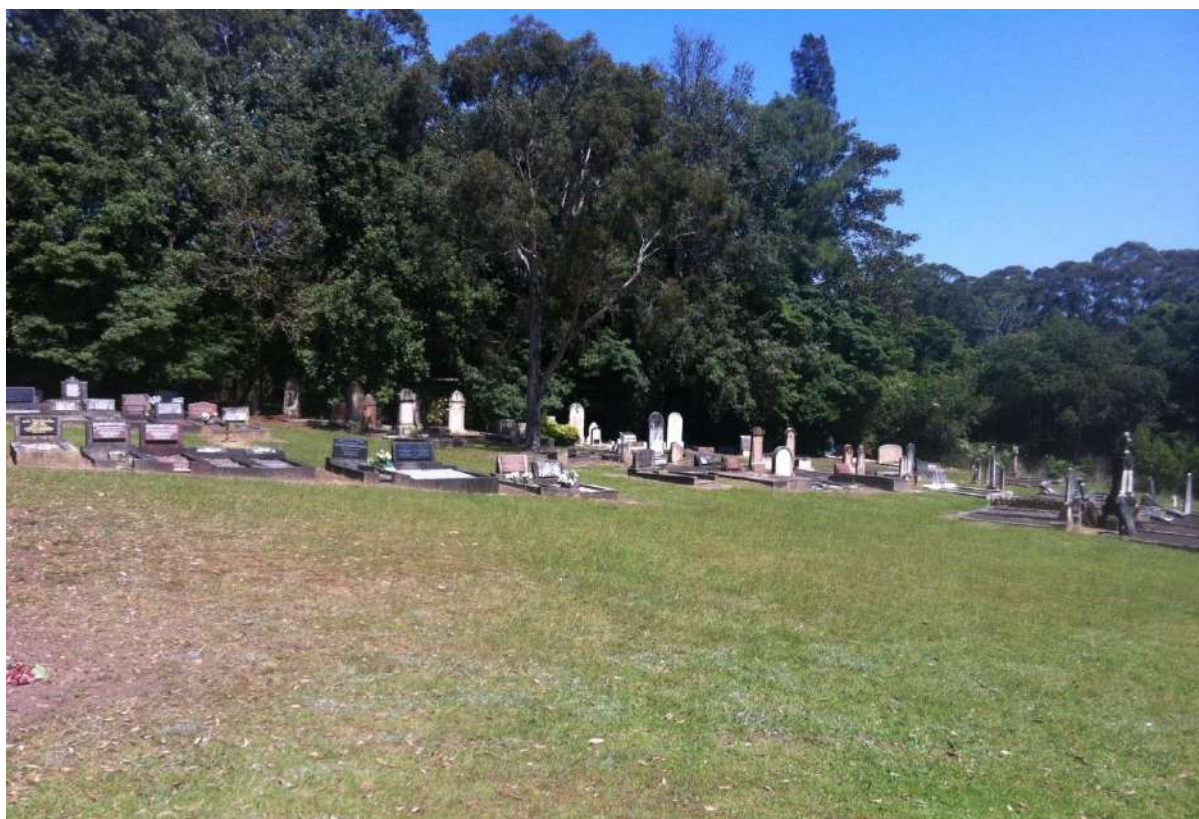


FIGURE 11 – SURROUNDING AREA.



PICTURE 1 – THE OLD NORTHERN ROAD VIEW NORTH



PICTURE 2 – LISTED HOUSE 600A OLD NORTHERN ROAD



PICTURE 3 – THE OLD NORTHERN ROAD VIEW SOUTH WITH COMMERCIAL PROPERTIES LEFT



PICTURE 4 – CAR PARK AT THE REAR OF THE MEMORIAL HALL AND DERRIWONG RD BEHIND



PICTURE 5 – DERRIWONG ROAD VIEW NORTH EAST WITH REAR OF 606, 604 AND 602 IN THE BACKGROUND



PICTURE 6 – DERRIWONG ROAD VIEW SOUTH EAST TOWARD THE REAR OF THE COMMERCIAL PROPERTIES

3 Historical Overview

3.1 AREA HISTORY

It has been claimed that Dural is an Aboriginal word used by the local Dharug language group meaning 'gully' or 'valley'. A map by surveyor James Meehan, dated 1817, shows the location for Dural as 'Doora', and a similar word appears in the Sydney Gazette in 1805. The Reverend WB Clarke gives Dural the meaning of 'valley' in his diary entry of November 1840. His informant was Nurragingy, a traditional owner of the land, who was then living at North Rocks.¹

In 1817 James Meehan surveyed and marked out a road between Castle Hill and Dural, but it remained a bush track until 1825, when work commenced on the Great North Road. The Great North Road, surveyed in 1825 and completed in 1836, was constructed using convict labour and spanned 264 km, connecting Sydney to the settlements of the Hunter Valley. The Great North Road commences at Parramatta Road, Five Dock, crossing the Parramatta River it passed through Ryde and Dural before reaching the Hawkesbury River at Wisemans Ferry, 100 km (62 mi) to the north. It then traverses rugged terrain to provide access to Singleton via Broke and Cessnock, Maitland and on to Newcastle.²

FIGURE 12 – CASTLE HILL PARISH AND PART OF GIDLEY, FIELD OF MARS, SOUTH COLAH, NELSON, ST. MATTHEW [AND] PROSPECT 1840. CASTLE HILL ROAD AND STUDY AREA INDICATED.



SOURCE: STATE LIBRARY OF NEW SOUTH WALES Z/M2 811.13/1840/1

The earliest settlers to make a living from the Dural district were timber-getters who cut timber from the forest to service the growing needs of Sydney. The forests of the Dural area stretched from Castle Hill across to Windsor and included ironbark, blue gum, turpentine, cedar, blackbutt, mahogany and wattle trees. The first land grants were given to 30 settlers, including 600 acres to George Hall in 1819. John Hall still owned property in the area in the 1880s. Another early landowner in the area was George Best,

¹ Dictionary of Sydney - Dural

² OEH – Convict History

whose farm became a well-known landmark after the Great North Road was built through his property and he established the 'Half-Way Inn' at Middle Dural in 1831.³

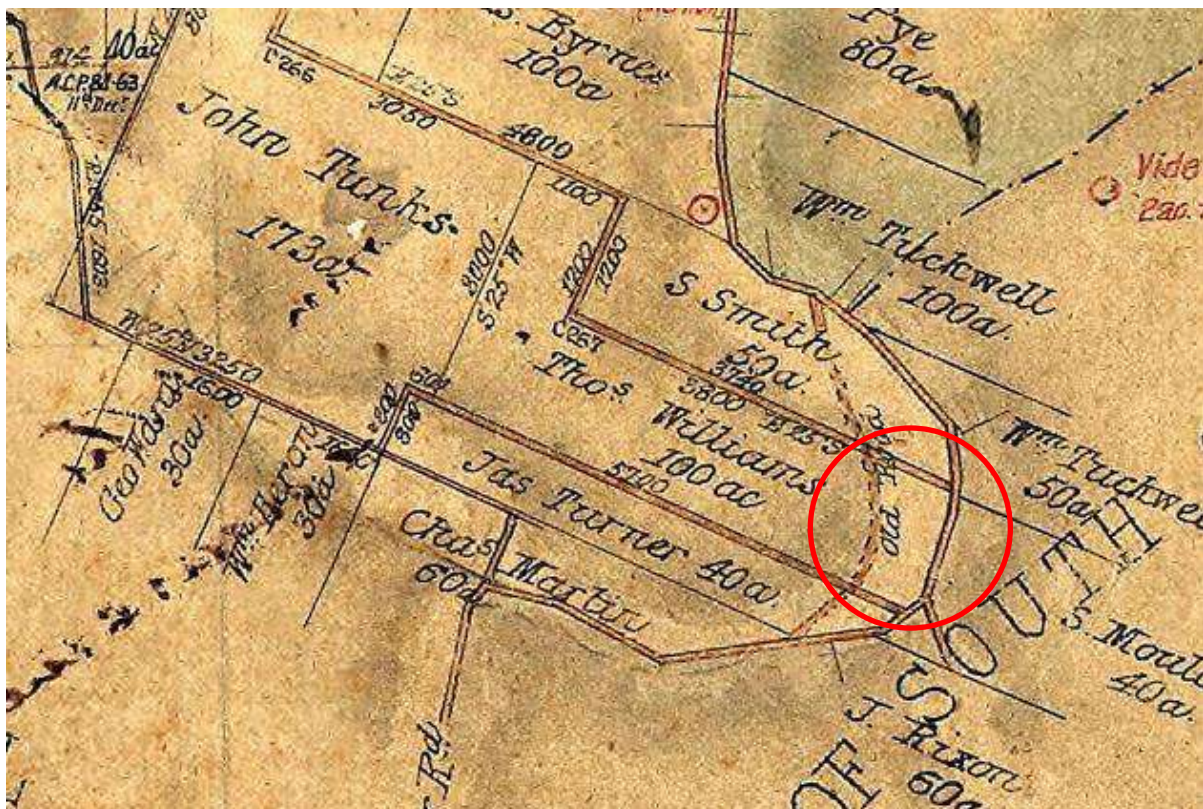
Other pioneers of this time were the Fagan, Waddell, Moulds, Hunt and Roughly families, many of their descendants still live in the region today. James Roughley donated land to be used for the building of a church. A sandstone chapel, known as St Jude's Church, was built on Old Northern Road circa 1846, with a vestry, apse and shingle roof, plus a bell turret on the western gable. A porch was added soon after. Prior to the construction of the church, services were held in a timber school building where St Jude's parish hall now stands. Some of the building materials from the old school were used in the building of the parish hall.⁴

Other settlers followed and the cleared land and the rich soils proved ideal for growing crops and later citrus. By 1870 there were dozens of citrus orchards, which drew a large number of workers to the area. As the population increased, additional schools, churches and a police station were established and the Dural Post Office opened in 1864.

Hornsby and Pennant Hills railway stations, located on the Main Northern line, opened on 17 September 1886. In 1893 there was a planned train line from Rosehill to Dural that would have taken in part of Thomas Williams land along the southern end boundary of Dural Road, however it was not completed. Castle Hill and Cherrybrook stations will be constructed as part of the North West Rail Link to be completed in 2019.

Dural is now a semi-rural area with orchards, market gardens and remnant forest. Land blocks average five acres (two hectares) and are popular as hobby farms.⁵

FIGURE 13 – PARISH OF NELSON COUNTY OF CUMBERLAND 1878 APPROXIMATE SITE INDICATED



SOURCE: DEPARTMENT OF LANDS - HLRV VIEWER 2015

³ Dural and Round Corner Chamber of Commerce - Dural History

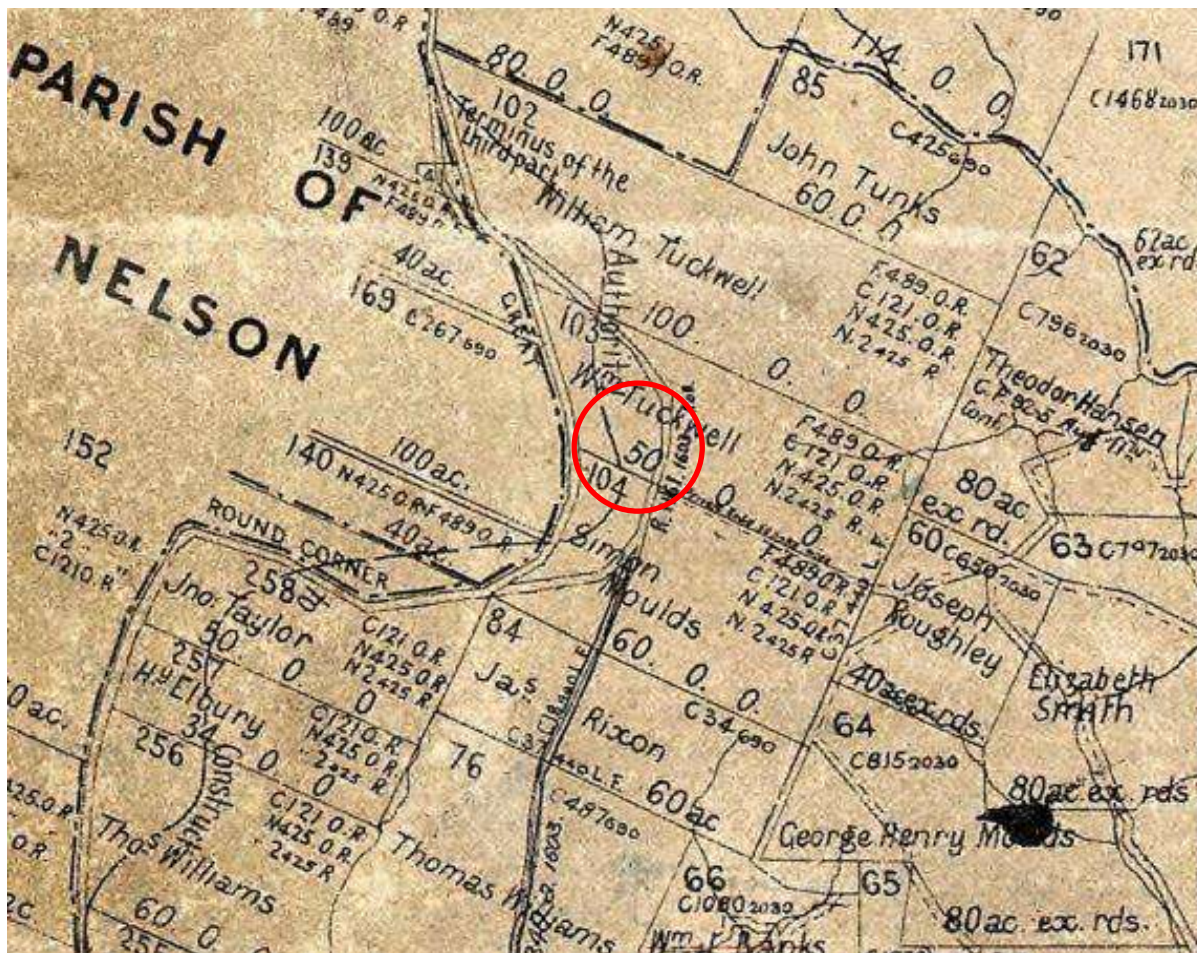
⁴ Dural District Anglican Churches – St Judes

⁵ Rowland, J 2008 Dural Dictionary of Sydney [electronic resource]

3.2 SITE HISTORY

While a large part of The Hills and Hornsby district had been granted in 1840 and the Old Northern Road was the boundary between properties. The Parish map of 1840 shows the subject site in the Parish of South Colah was located on a 50 acre property granted to William Tuckwell, just to the north of Round Corner. Tuckwell had also been granted the adjoining 100 acres to the north. Thomas Williams was granted 100 acres on the opposite side of the Old North Road sometime after 1840. Williams sold 21 acres of his property to a group of Methodists in 1857 for the establishment of a cemetery. Simon Moulds was granted the 60 acres to the south. The current Quarry Road is the boundary between Tuckwell and Mould's property.

FIGURE 14 – 1897 PARISH OF SOUTH COLAH THE SUBJECT SITE IS INDICATED



SOURCE: DEPARTMENT OF LANDS - HLRV VIEWER 2015

Sometime before the 1870s, the Northern Road was extended to the east through Tuckwell and Mould's properties (Figure 14) to join a new line of road from the south. The New Line Road was surveyed as early as 1829, but remained an unsealed track well into the 20th century. By the 1870s the area was increasingly populated and new roads through large grants were required to transport fruit and vegetables grown in the area to Sydney. The previous western alignment of the Old North Road became part of Derriwong Road (Figure 13). The remainder of Derriwong Road was formed as the boundaries between properties to the north and west. Most of the properties in the area at this time were between 40 and 200 acres and primarily dedicated to orchard growing.

According to Parish maps of Nelson and South Colah the large allotments remained relatively unchanged until after 1907. Around 1915 the subject site was subdivided from the large Tuckwell allotment and the eight acres became portion 479 which includes 600 and 600A Old Northern Road. The property was in the ownership of T. Parker at this time who sold it to M. T. Pahlow around 1923. By 1931 Vera Martha Lamb was the owner of the property together with the adjoining portion 359 to the west. She and her daughter Vera and granddaughter Daphne held the property until 1975. 602, 604 and 606 Old Northern

3.3 PROPERTY OWNERS 600 AND 600A OLD NORTHERN ROAD

Table 1 lists owners of the subject property from known historical records.

TABLE 2 – PROPERTY OWNERS

DATE	OWNER
10/01/1986	Franc and Guiseppa Burgio Part excised by Commissioner of Main Roads.
17/05/1979	Franc and Guiseppa Burgio
18/02/1975	JA Pope (Pastoral) PtyLtd
13/10/1972	Daphne Ellen Pender and Harry Greenfields (grand children of Martha Lamb)
10/07/1969	Vera Daphne Lamb (Daughter of Martha)
1931	Vera Martha Lamb
1923	MT Pahlow
1915	T Parker (Subject site subdivided from large allotment)
1907	William Tuckwell
1840	William Tuckwell

3.4 DATE OF CONSTRUCTION

Stylistically, the house appears to have been constructed between the 1880s -1900. No historical information has been found to confirm this. It is currently in poor condition and uninhabited.

The Dural Memorial Hall was constructed in 1925 on land that was subdivided from 602 Old Northern Rd.

3.5 ALTERATIONS AND ADDITIONS

Alterations and additions to the property include the addition of a carport/garage adjoining the south of the house, additions to the rear which are possibly a bathroom and laundry (post 1940), infilling of the rear veranda, new doors, addition of iron railing to the front and rear verandahs, construction of sheds in the rear and addition of an above ground pool.

600 Old Northern Road was subdivided to form the current allotments in 1979.

4 Heritage Significance

4.1 WHAT IS HERITAGE SIGNIFICANCE?

Before making decisions to change a heritage item, an item within a heritage conservation area, or an item located in proximity to a heritage listed item, it is important to understand its values and the values of its context. This leads to decisions that will retain these values in the future. Statements of heritage significance summarise a place's heritage values – why it is important, why a statutory listing was made to protect these values.

4.2 SIGNIFICANCE ASSESSMENT

The Heritage Council of NSW has developed a set of seven criteria for assessing heritage significance, which can be used to make decisions about the heritage value of a place or item. There are two levels of heritage significance used in NSW: state and local.

The following assessment of heritage significance for 600A Old Northern Road has been prepared in accordance with the 'Assessing Heritage Significance' (2001) guides.

CRITERIA	SIGNIFICANCE ASSESSMENT
<p>A – Historical Significance</p> <p><i>An item is important in the course or pattern of the local area's cultural or natural history.</i></p>	<p>The house at 600A Old Northern Road is the first building on the property and is located on part of one of the early land grants in the area. The building and allotment is associated with farming and orcharding in the area and has been subdivided from a much larger allotment. The property is located close to the Old Northern Road which was important for moving produce to Sydney for sale.</p> <p>The Hall was built by the community as a memorial to the local soldiers of the first world war.</p> <p>Successive stages of subdivision in the area are evident and both buildings remain in their original position close to the road and the adjoining allotment boundary.</p> <p>The subject site therefore has historic significance.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ shows evidence of a significant human activity <input type="checkbox"/> ▪ is associated with a significant activity or historical phase <input type="checkbox"/> ▪ maintains or shows the continuity of a historical process or activity <input checked="" type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ has incidental or unsubstantiated connections with historically important activities or processes <input type="checkbox"/> ▪ provides evidence of activities or processes that are of dubious historical importance <input type="checkbox"/> ▪ has been so altered that it can no longer provide evidence of a particular association <input type="checkbox"/>
<p>B – Associative Significance</p> <p><i>An item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's cultural or natural history.</i></p>	<p>The house at 600A Old Northern Road does not appear to have any association with any particular person, or group of persons although the house was home to several generations of the Lamb family for 44 years. The property also has associations with orcharding which was characteristic of the area and is likely to be associated with the subdivision of the large land parcels from the 1880s onward.</p> <p>The memorial hall has associations with the local community, but the hall and its allotment of land is not included in the proposed subdivision.</p> <p>The site has associative significance.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ shows evidence of a significant human occupation <input checked="" type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ has incidental or unsubstantiated connections with historically important people or events <input type="checkbox"/>

CRITERIA	SIGNIFICANCE ASSESSMENT
<ul style="list-style-type: none"> ▪ is associated with a significant event, person, or group of persons <input type="checkbox"/> 	<ul style="list-style-type: none"> ▪ provides evidence of people or events that are of dubious historical importance <input type="checkbox"/> ▪ has been so altered that it can no longer provide evidence of a particular association <input type="checkbox"/>
<p>C – Aesthetic Significance</p> <p><i>An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area.</i></p>	<p>The house is in poor condition and has a number of alterations. There are numerous timber weatherboard houses in the area.</p> <p>The memorial hall has some aesthetic significance, but is not included in the subdivision proposal.</p> <p>The property does not fulfil this criterion.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ shows or is associated with, creative or technical innovation or achievement <input type="checkbox"/> ▪ is the inspiration for a creative or technical innovation or achievement <input type="checkbox"/> ▪ is aesthetically distinctive <input type="checkbox"/> ▪ has landmark qualities <input type="checkbox"/> ▪ exemplifies a particular taste, style or technology <input type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ is not a major work by an important designer or artist <input checked="" type="checkbox"/> ▪ has lost its design or technical integrity <input type="checkbox"/> ▪ its positive visual or sensory appeal or landmark and scenic qualities have been more than temporarily degraded <input type="checkbox"/> ▪ has only a loose association with a creative or technical achievement <input type="checkbox"/>
<p>D – Social Significance</p> <p><i>An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons.</i></p>	<p>The house is likely to have some connection with the local community however it is unlikely that the property is esteemed but the community.</p> <p>The memorial hall is likely to be esteemed by the community as a memorial, meeting place and music venue, but is not included in the subdivision proposal.</p> <p>The property does not fulfil this criterion.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ is important for its associations with an identifiable group <input type="checkbox"/> ▪ is important to a community's sense of place <input type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ is only important to the community for amenity reasons <input type="checkbox"/> ▪ is retained only in preference to a proposed alternative <input checked="" type="checkbox"/>
<p>E – Research Potential</p> <p><i>An item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history.</i></p>	<p>A survey of the site did not reveal any evidence of previous archaeological structures or features. It is possible the site retains below ground historical archaeological features or deposits such as cesspits, wells and rubbish pits however these features and deposits are common and unlikely to be significant.</p> <p>The site was thickly vegetated and there was no evidence of aboriginal occupation of the site. The closest natural water source is some distance away and the site is likely to have been only infrequently visited by Aboriginal people in the past. The site has been cleared and subject to agricultural uses and it is unlikely that undisturbed Aboriginal objects would be present.</p> <p>The property does not fulfil this criterion.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ has the potential to yield new or further substantial scientific and/or archaeological information <input type="checkbox"/> ▪ is an important benchmark or reference site or type <input type="checkbox"/> ▪ provides evidence of past human cultures that is unavailable elsewhere <input type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ the knowledge gained would be irrelevant to research on science, human history or culture <input type="checkbox"/> ▪ has little archaeological or research potential <input checked="" type="checkbox"/> ▪ only contains information that is readily available from other resources or archaeological sites <input type="checkbox"/>

CRITERIA	SIGNIFICANCE ASSESSMENT
<p>F – Rarity</p> <p><i>An item possesses uncommon, rare or endangered aspects of the local area’s cultural or natural history.</i></p>	<p>Late Victorian weatherboard houses are common in the area.</p> <p>Memorial Halls are not uncommon in the Hills Shire.</p> <p>The site does not fulfil this criterion.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ provides evidence of a defunct custom, way of life or process <input type="checkbox"/> ▪ demonstrates a process, custom or other human activity that is in danger of being lost <input type="checkbox"/> ▪ shows unusually accurate evidence of a significant human activity <input type="checkbox"/> ▪ is the only example of its type <input type="checkbox"/> ▪ demonstrates designs or techniques of exceptional interest <input type="checkbox"/> ▪ shows rare evidence of a significant human activity important to a community <input type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ is not rare <input checked="" type="checkbox"/> ▪ is numerous but under threat <input type="checkbox"/>
<p>G – Representative</p> <p><i>An item is important in demonstrating the principal characteristics of a class of NSWs (or the local area’s):</i></p> <ul style="list-style-type: none"> ▪ <i>cultural or natural places; or</i> ▪ <i>cultural or natural environments.</i> 	<p>The timber weatherboard house is typical of vernacular dwellings of the late Victorian period in this area. The house could also be considered part of a group which collectively illustrates the settlement and development of farming and agricultural activities on the fringes of Sydney.</p> <p>The hall is also representative of the memorialisation of war and community engagement.</p> <p>The site is considered to have representative significance.</p>
<p>Guidelines for Inclusion</p> <ul style="list-style-type: none"> ▪ is a fine example of its type <input type="checkbox"/> ▪ has the principal characteristics of an important class or group of items <input type="checkbox"/> ▪ has attributes typical of a particular way of life, philosophy, custom, significant process, design, technique or activity <input type="checkbox"/> ▪ is a significant variation to a class of items <input type="checkbox"/> ▪ is part of a group which collectively illustrates a representative type <input checked="" type="checkbox"/> ▪ is outstanding because of its setting, condition or size <input type="checkbox"/> ▪ is outstanding because of its integrity or the esteem in which it is held <input type="checkbox"/> 	<p>Guidelines for Exclusion</p> <ul style="list-style-type: none"> ▪ is a poor example of its type <input type="checkbox"/> ▪ does not include or has lost the range of characteristics of a type <input type="checkbox"/> ▪ does not represent well the characteristics that make up a significant variation of a type <input type="checkbox"/>

4.3 STATEMENT OF SIGNIFICANCE

The house at 600A Old Northern Road has historical significance as it is located on part of one of the early land grants in the area and is associated with the early development and subdivision of the area. The site is associated with one family for many years and with orcharding which is characteristic of the area. The timber weatherboard house is typical of vernacular dwellings of the late Victorian period and is representative of this period of rural dwellings.

5 Impact Assessment

5.1 HERITAGE LISTING

Numbers 600A and 604 Old Northern Road are heritage listed items under The Hills Local Environmental Plan 2012. Numbers 600, 602 and 606 Old Northern Road are located immediately adjacent to the heritage items.

FIGURE 16 – THE HILLS AND HORNSBY LEP HERITAGE MAPS 23 AND THE HORNSBY LOCAL ENVIRONMENTAL PLAN (LEP) 2013 SHOWING HERITAGE LISTED ITEMS IN AND WITHIN THE VICINITY OF THE SUBJECT SITE (OUTLINED RED).



PICTURE 7 – THE HILLS LEP 2012 HERITAGE MAP 23



PICTURE 8 – THE HORNSBY LEP 2013 HERITAGE MAP

5.2 STATUTORY CONTROLS

5.2.1 THE HILLS LOCAL ENVIRONMENTAL PLAN 2012

The proposed works are addressed in the table below in relation to the relevant clauses in the LEP.

TABLE 3 – RELEVANT LEP CLAUSES

CLAUSE	DISCUSSION
<p>5.10 Heritage conservation</p> <p>Note. Heritage items (if any) are listed and described in Schedule 5. Heritage conservation areas (if any) are shown on the Heritage Map as well as being described in Schedule 5.</p> <p>(1) Objectives</p> <p>The objectives of this clause are as follows:</p> <p>(a) to conserve the environmental heritage of The Hills,</p> <p>(b) to conserve the heritage significance of heritage items and heritage conservation</p>	<p>As set out in the table below, it is considered that the proposed subdivision would not diminish the significance of the subject site. A curtilage is proposed around the heritage item at 600A Old Northern Road so that subdivision of the land will not detract from or obscure views to the item and those in the vicinity (Figure 17).</p>

CLAUSE	DISCUSSION
<p>areas including associated fabric, settings and views,</p> <p>(c) to conserve archaeological sites,</p> <p>(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.</p>	
<p>(2) Requirement for consent</p> <p>Development consent is required for any of the following:</p> <p>(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):</p> <p>(i) a heritage item</p> <p>(ii) an Aboriginal object,</p> <p>(iii) a building, work, relic or tree within a heritage conservation area,</p> <p>(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,</p> <p>(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,</p> <p>(d) disturbing or excavating an Aboriginal place of heritage significance, (e) erecting a building on land:</p> <p>(i) on which a heritage item is located or that is within a heritage conservation area, or</p> <p>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,</p> <p>(f) subdividing land:</p> <p>(i) on which a heritage item is located or that is within a heritage conservation area, or</p> <p>(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.</p>	<p>The proposal concerns the subdivision of land that includes a heritage item and therefore requires approval from The Hills Council. As such, this HIS has been prepared to assess the heritage impact of the proposed subdivision on the subject site and the proximate heritage items.</p>
<p>(4) Effect of proposed development on heritage significance</p> <p>The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).</p>	<p>No development is proposed at this time. It is generally considered that the proposed subdivision would be sympathetic to the significance of the heritage items.</p> <p>Urban zoning for the area would be in keeping with other development in the district. The site is located in an area of changing character, in particular the existing commercial development to the south.</p> <p>Subdivision and rezoning should aim to retain the same character and scale as that which is existing to the south at Round Corner and a curtilage separating the listed item from any new development would minimise impacts of future development.</p>

CLAUSE	DISCUSSION
<p>(5) Heritage assessment</p> <p>The consent authority may, before granting consent to any development:</p> <p>(a) on land on which a heritage item is located, or</p> <p>(b) on land that is within a heritage conservation area, or</p> <p>(c) on land that is within the vicinity of land referred to in paragraph (a) or (b), require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.</p>	<p>This report has been prepared to fulfil this requirement.</p>
<p>(6) Heritage conservation management plans</p> <p>The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a heritage conservation management plan before granting consent under this clause.</p>	<p>Not Applicable - the site does not require a Conservation Management Plan</p>
<p>(7) Archaeological sites</p> <p>The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the <i>Heritage Act 1977</i> applies):</p> <p>(a) notify the Heritage Council of its intention to grant consent, and</p> <p>(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.</p>	<p>Not Applicable - the site is not considered to be an archaeological site.</p> <p>As no physical works are currently proposed, there is no identified risk of harm to Old Northern Road, which is identified in part as an archaeological item under the Hills LEP 2012.</p> <p>There are therefore no identified archaeological constraints to the current proposal.</p>
<p>(8) Aboriginal places of heritage significance</p> <p>The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:</p> <p>(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and</p> <p>(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.</p>	<p>Not Applicable - the site is not considered to be a place of Aboriginal significance.</p>
<p>(9) Demolition of nominated State heritage items</p> <p>The consent authority must, before granting consent under this clause for the demolition of a nominated State heritage item:</p> <p>(a) notify the Heritage Council about the application, and</p>	<p>Not Applicable - demolition is not proposed.</p>

CLAUSE	DISCUSSION
(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.	
<p>(10) Conservation incentives</p> <p>The consent authority may grant consent to development for any purpose of a building that is a heritage item or of the land on which such a building is erected, or for any purpose on an Aboriginal place of heritage significance, even though development for that purpose would otherwise not be allowed by this Plan, if the consent authority is satisfied that:</p> <p>(a) the conservation of the heritage item or Aboriginal place of heritage significance is facilitated by the granting of consent, and</p> <p>(b) the proposed development is in accordance with a heritage management document that has been approved by the consent authority, and</p> <p>(c) the consent to the proposed development would require that all necessary conservation work identified in the heritage management document is carried out, and</p> <p>(d) the proposed development would not adversely affect the heritage significance of the heritage item, including its setting, or the heritage significance of the Aboriginal place of heritage significance, and</p> <p>(e) the proposed development would not have any significant adverse effect on the amenity of the surrounding area.</p>	Not applicable

5.2.2 THE HILLS DEVELOPMENT CONTROL PLAN 2012

The proposed works are addressed in the table below in relation to the relevant provisions in the DCP.

TABLE 4 – DEVELOPMENT CONTROL PLAN

PROVISION	DISCUSSION
<p>3.2 Subdivision</p> <p>Objective</p> <p>To ensure that the subdivision of land on which a heritage building is located does not isolate the building from its setting or context, or adversely affect its amenity or privacy.</p> <p>Controls</p> <p>(a) Proposals for subdivision should define an appropriate setting or 'curtilage' for the heritage building as part of the heritage impact statement or conservation management plan.</p> <p>(b) In determining the curtilage of a heritage building consideration is to be given to the following:</p> <ul style="list-style-type: none"> The type of structure and original form and function of the heritage building should be reflected in the curtilage. 	<p>A heritage curtilage should be imposed on the property at 600A old Northern Road that includes the current fence lines surrounding the house and rear yard. These fence lines are likely to date from the 1970s when the allotment was subdivided from 600 Old Northern Road. The house, however, maintains its relationship to the street and the surrounding allotments.</p> <p>The mature trees surrounding the house and within the</p>

PROVISION	DISCUSSION
<ul style="list-style-type: none"> Gardens, Trees, Fencing, Gates and Archaeological Sites that are considered valuable in interpreting the history and setting of a building should be retained within the curtilage; The likely development expected to occur on the lots proposed to be created which will adjoin the heritage site shall have regard to setting, overshadowing and the views to and from the heritage site; It is desirable to retain where possible the original access arrangements to the site. The manner in which a heritage building is orientated in respect to public roads contributes to its significance. Council may impose restrictions upon lots adjoining a heritage item including height limitations, building setbacks, access arrangements, building orientation, and presentation to the streetscape; Visual Links such as street frontage, garden settings, important vegetation, outbuildings, stables, water features, or distant topographical features should be retained within the curtilage and should not be obscured by new work. 	<p>proposed curtilage or on the northern fence line should be maintained as a means of maintaining the setting of the heritage item.</p> <p>It is noted that the curtilage proposed in this figure does not reflect the current lot boundaries of the item; however, the current lot boundaries are considered generous, as the majority of the lot to the rear of the item does not contribute to the setting of the house, which is primarily derived from its street-front position. Rather, the existing item curtilage reflects only the legal lot boundaries, and does not necessarily reflect an appropriate curtilage for the item.</p> <p>Development to the rear of the house and outside of the curtilage shown in Figure 17 may be appropriate, provided that it is designed with regard to the scale and form of the heritage item. The curtilage identified in Figure 17 should be considered in the further stages of this proposal.</p> <p>Access to the property from Old Northern Road should be maintained although the existing garage is a late addition and obscures the view to side and rear of the building from the street.</p> <p>There are no outbuildings or archaeological sites that should be retained.</p> <p>Visual links to the site are unlikely to be impacted as the heritage items are located very close to the road.</p>

5.3 HERITAGE OFFICE GUIDELINES

The proposed works are addressed in relation to relevant questions posed in the Heritage Office's 'Statement of Heritage Impact' guidelines

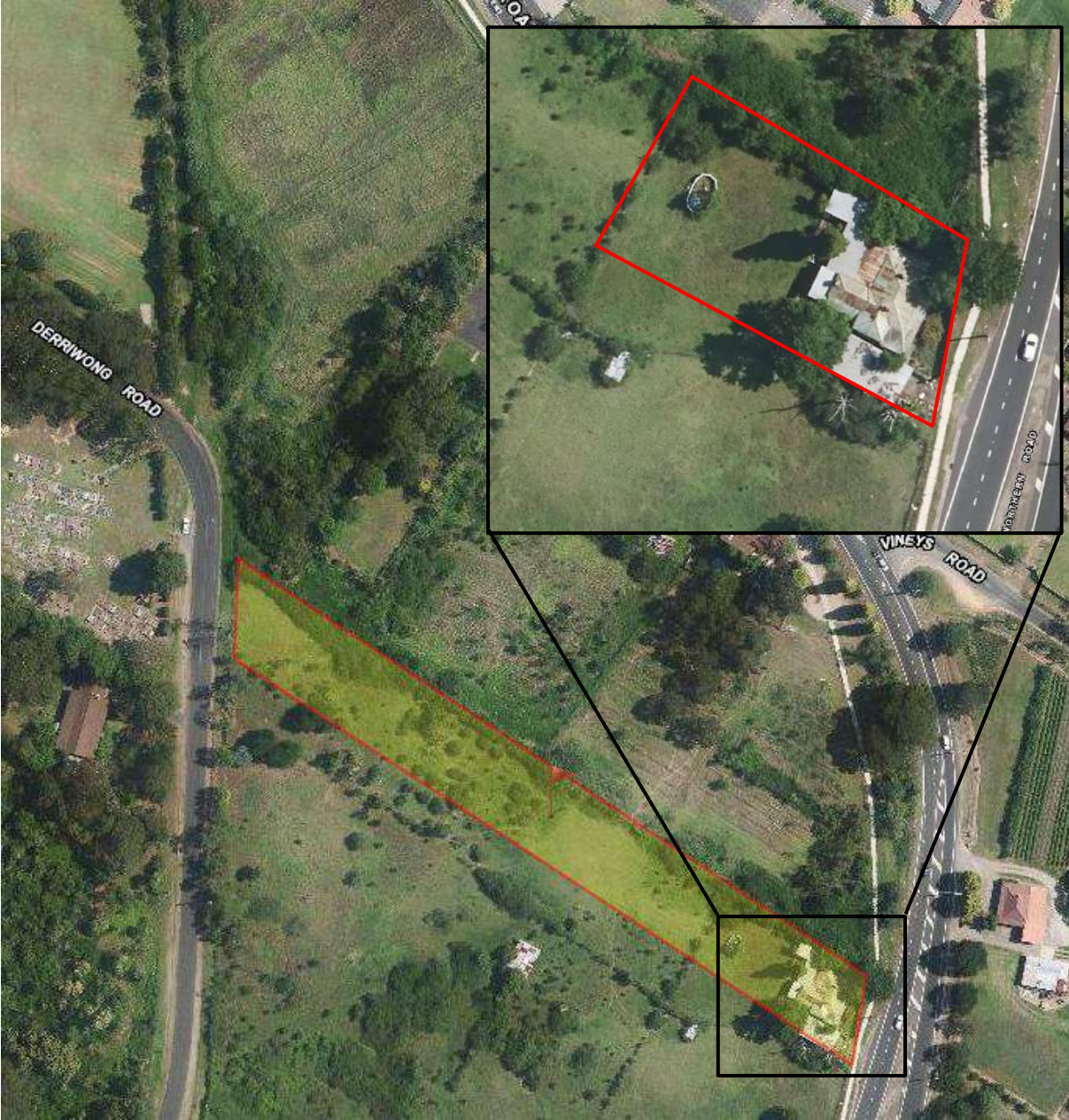
TABLE 5 – RELEVANT QUESTIONS

QUESTION	DISCUSSION
<p>The following aspects of the proposal respect or enhance the heritage significance of the item or conservation area for the following reasons:</p>	<p>Subdivision for low density residential purposes within the study area would be in keeping with the residential development already existing in the neighbourhood and the changing character of the semi- rural district.</p>
<p>The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:</p>	<p>Residential development in the vicinity of the listed items may obscure the historic and rural character of the house and hall.</p>

QUESTION	DISCUSSION
	<p>A curtilage around the heritage listed house to separate it from future development would be appropriate. Subdivision and future development should not physically encroach on the curtilage of the heritage item that is shown in Figure 17.</p> <p>It is noted that the curtilage proposed in this figure does not reflect the current lot boundaries of the item; however, the current lot boundaries are considered generous, as the majority of the lot to the rear of the item does not contribute to the setting of the house, which is primarily derived from its street-front position. Rather, the existing item curtilage reflects only the legal lot boundaries, and does not necessarily reflect an appropriate curtilage for the item.</p> <p>Development to the rear of the house and outside of the curtilage shown in Figure 17 may be appropriate, provided that it is designed with regard to the scale and form of the heritage item. The curtilage identified in Figure 17 should be considered in the further stages of this proposal.</p> <p>The proposed subdivision should be designed with regard for the amenity and significance of the heritage item and neighbouring items.</p>
<p>The following sympathetic solutions have been considered and discounted for the following reasons:</p>	<p>N/A</p>
<p>Change of use</p> <p>Has the advice of a heritage consultant or structural engineer been sought?</p> <p>Has the consultant's advice been implemented? If not, why not?</p> <p>Does the existing use contribute to the significance of the heritage item?</p> <p>Why does the use need to be changed?</p> <p>What changes to the fabric are required as a result of the change of use?</p> <p>What changes to the site are required as a result of the change of use?</p>	<p>The subject site and surrounding land will be rezoned from rural to low density residential. This is considered appropriate as there is similar development in the area.</p>
<p>New development adjacent to a heritage item</p> <p>How does the new development affect views to, and from, the heritage item?</p> <p>What has been done to minimise negative effects?</p> <p>How is the impact of the new development on the heritage significance of the item or area to be minimised?</p> <p>Why is the new development required to be adjacent to a heritage item?</p> <p>How does the curtilage allowed around the heritage item</p>	<p>Plans for future development of the site are unknown. A curtilage is proposed around the heritage listed house that contributes to the retention of its heritage significance. The existing front fence and garage currently presents a visual barrier to the front and side of the building.</p> <p>It is noted that the curtilage proposed in this figure does not reflect the current lot boundaries of the item;</p>

QUESTION	DISCUSSION
<p>contribute to the retention of its heritage significance?</p> <p>Is the development sited on any known, or potentially significant archaeological deposits?</p> <p>If so, have alternative sites been considered? Why were they rejected?</p> <p>Is the new development sympathetic to the heritage item?</p> <p>In what way (e.g. form, siting, proportions, design)?</p> <p>Will the additions visually dominate the heritage item?</p> <p>How has this been minimised?</p> <p>Will the public, and users of the item, still be able to view and appreciate its significance?</p>	<p>however, the current lot boundaries are considered generous, as the majority of the lot to the rear of the item does not contribute to the setting of the house, which is primarily derived from its street-front position. Rather, the existing item curtilage reflects only the legal lot boundaries, and does not necessarily reflect an appropriate curtilage for the item.</p> <p>Development to the rear of the house and outside of the curtilage shown in Figure 17 may be appropriate, provided that it is designed with regard to the scale and form of the heritage item. The curtilage identified in Figure 17 should be considered in the further stages of this proposal.</p> <p>No subdivision is proposed on the Dural Memorial Hall site and therefore the item will not be impacted.</p>
<p>Subdivision</p> <p>How is the proposed curtilage allowed around the heritage item appropriate?</p> <p>Could future development that results from this subdivision compromise the significance of the heritage item? How has this been minimised?</p> <p>Could future development that results from this subdivision affect views to, and from, the heritage item?</p> <p>How are negative impacts to be minimised?</p>	<p>Low density residential subdivision is already present in the area and is considered appropriate for the site. A curtilage surrounding the listed house conforming to the previous property boundaries would separate the new development from physical or visual impact on the heritage item. The existing front fence and garage of the house currently presents a visual barrier to the front and side of the building.</p>
<p>Tree removal or replacement</p> <p>Does the tree contribute to the heritage significance of the item or landscape?</p> <p>Why is the tree being removed?</p> <p>Has the advice of a tree surgeon or horticultural specialist been obtained?</p> <p>Is the tree being replaced? Why? With the same or a different species?</p>	<p>Several large mature trees are present close to the house and should be retained as they contribute to the Character of the house and the Old Northern Road. Several mature pine trees are located on the opposite side of the Old Northern Road. Trees on the northern boundary of the listed site separate the house from the adjoining property.</p>

FIGURE 17 – SUGGESTED HERITAGE CURTILAGE AROUND THE HERITAGE ITEM AT 600A OLD NORTHERN ROAD (IN INSET) SHOWN IN COMPARISON TO THE EXISTING LISTING CURTILAGE



SOURCE: GOOGLE MAPS 2015

6 Conclusion and Recommendations

Urbis was engaged to prepare this HIS for proposed subdivision of the subject site, located between Derriwong Road and old Northern Road, Dural. The subject site incorporates, or is in the vicinity of a number of locally listed heritage items on The Hills Local Environmental Plan 2012. These include a 'House' located at 600A Old Northern Road (Item No. I85) and the Dural Soldiers Memorial Hall located at 604 Old Northern Road (Item No. I86). In addition, the site is located in the immediate vicinity of the Uniting Church Cemetery on Derriwong Road (Item No. I81).

600A Old Northern Road is a beaded weatherboard cottage on brick footings with corrugated iron hipped roof that flows to a verandah. Stylistically the house appears to have been constructed between 1880 and 1900 and was associated with orcharding which was characteristic of the area. The study area was originally part of a land grant acquired by William Tuckwell prior to 1840. The current listed property was subdivided from 600 Old northern Road around 1979.

The subject proposal has been assessed in relation to the relevant controls and provisions contained within The Hills LEP 2012 and The Hills DCP 2012. Based on the results of this assessment, it has been determined that overall, the proposed low density residential subdivision is unlikely to impact on the heritage significance of any of the listed items on site or within the vicinity. Both the house and hall are located very close to the road and the visual prominence of the buildings within the streetscape will be maintained, and existing views to and from the principal (front) elevations of the items will not be obscured or adversely impacted. As no physical works are currently proposed, there is no identified risk of harm to Old Northern Road, which is identified in part as an archaeological item under the Hills LEP 2012.

- It is recommended that a heritage curtilage be formed for the house to protect the impacts of potential future development. This is identified in Figure 17.
- The house should be retained and restored as part of the proposed works so that the principal house form is wholly retained. This would ultimately conserve and enhance the heritage significance of the item, which is currently uninhabited.
- If developed, it is recommended that lower-scale residences (one to two storey) in the vicinity of the heritage items would be in keeping with other development in the area and would not impact on views and the heritage significance of the item. Development in the vicinity of the items must respond appropriate to their form and scale.

An appropriate, revised curtilage around the heritage item is shown in Figure 17, above. This curtilage is considered appropriate to maintain and conserve the significance of the item as well as to ensure that potential future development does not encroach on or negatively impact its setting.

7 Bibliography and References

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[Note: Some government departments have changed their names over time and the above publications state the name at the time of publication.]

Disclaimer

This report is dated February 2016 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of 's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Urbis Pty Ltd (**Instructing Party**) for the purpose of Heritage Impact Statement (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

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Phase I Preliminary Site Investigation

5 Derriwong Road (586 Old Northern Road),
Dural NSW

Prepared for: Urbis Pty Ltd



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Urbis Pty Ltd

Phase I Preliminary Site Investigation

5 Derriwong Road (586 Old Northern Road),
Dural NSW

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ABBREVIATIONS

ADE	A.D. Envirotech Australia Pty Ltd
AST	Above Ground Storage Tank
BGL	Below ground level (following excavation works)
BLGL	Below local area ground level
BTEX	Benzene, toluene, ethyl-benzene, xylene
COC	Chain of Custody
DEC	Department of Environment and Conservation
DSI	Detailed Site Investigation
DQO	Data Quality Objectives
GILs	Groundwater Investigation Levels
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LPI	Land Property Information
LTO	Land Titles Office
NATA	National Association of Testing Authorities
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW EPA	New South Wales Environmental Protection Authority
OEH	Office of Environment and Heritage
OPPs	Organophosphorous Pesticides
OCPs	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SCID	Stored Chemical Information Database
SWL	Standing Water Level
SH&EWMS	Safety Health and Environmental Works Method Statement
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
VHC	Volatile Halogenated Compounds

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1 INTRODUCTION

1.1 General Information

A. D. Envirotech Australia Pty Ltd (ADE) was engaged by Urbis Pty Ltd to undertake a Phase I Preliminary Site Contamination Investigation (PSI) to assess the potential for contamination at 5 Derriwong Road (586 Old Northern Rd), Dural NSW (hereafter referred to as the 'site').

The site entails Lot 11 DP 866560 in the Local Government Area of The Hills Shire Council, Parish of South Colah, County of Cumberland.

A site inspection was undertaken on the 9th of February 2016 and comprised of a visual assessment of the site. Details of the field inspection are given in this report, together with comments on the significance of the findings of the investigation.

This report was completed in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites*, NSW EPA, September 2000.

1.2 Proposed Development

ADE has been advised that Urbis Pty Ltd, on behalf of their client, are re-zoning the site from RU6 to R2 for residential and mixed use purposes including hospital, aged care and retail.

1.3 Objectives

The objectives of the investigation were to:

- Identify past and present potentially contaminating activities;
- Identify potential sources of contamination and types of contaminants;
- Discuss the site condition;
- Provide a preliminary assessment of site contamination for the suitability of the proposed development; and
- Assess the need for further investigations.

1.4 Scope of Work

The scope of work required to achieve the objectives of the investigation involved the following:

- Completion of a Safety, Health & Environment Work Method Statement (SHEWMS);
- Desktop site review of:
 - Land title records;
 - Section 149 certificates;
 - WorkCover NSW;
 - NSW Environment and Heritage;
 - EPA contaminated lands register for notations; and
 - Dial Before You Dig service search.
- Review of past and current activities on the site;
- Review of past and current activities on neighbouring sites and identification of any potential on-site/off-site sources of contamination;

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- Review of past aerial photographs of the site and its surrounds to identify the locations of any previous buildings and/or other infrastructure associated with activities that could be on-site/off-site sources of contamination;
- Review of local geology and hydrogeology (including groundwater bore search);
- Site inspection by an experienced environmental consultant; and
- Preparation of a Phase I PSI report outlining:
 - Detailed information on the results of the desktop review and site inspection;
 - Conclusions regarding the potential for contamination at the site;
 - Conclusions regarding the sites suitability for the proposed development; and
 - Recommendations for a Phase II Detailed Site Investigation (DSI), should it be warranted.

1.5 Legislative Requirements

The legislative framework for the report is based on guidelines that have been issued and/or endorsed by the NSW Environmental Protection Agency (EPA) formerly the Office of Environment and Heritage (OEH) under the following Acts/Regulations:

- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008*
- *Contaminated Land Management Act 1998*

The relevant guidelines issued under the provisions of the aforementioned Acts/Regulations include:

- *Guidelines for the NSW Site Auditor Scheme, NSW DEC 2006.*
- *Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA, 2000.*
- *Guidelines for Assessing Service Station Sites, NSW EPA 1994.*
- *National Environmental Protection Measure (Assessment of Site Contamination), 1999, as amended 2013.*
- *Australian Standard AS 4482.1 Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.*
- *Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances.*
- *Sampling Design Guidelines - NSW EPA, 1995.*
- *Waste Classification Guidelines Part 1: Classifying Waste, EPA, 2014.*
- *Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008, NSW DECCW 2009.*
- *Guidelines for the Assessment and Management of Groundwater Contamination, NSW DEC, 2007.*

1.6 Whole Report

No one section, or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendices and attachments.

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2 SITE IDENTIFICATION

2.1 Site Location

The site has frontage to Derriwong Road and The Old Northern Rd, Dural NSW as is shown by **Figure 1** below.



Figure 1. Aerial photograph of the site (photograph from Nearmap; accessed on 17.02.2016).

Bearings provided in this report are approximate only. For ease of representing locations in the report, the site is considered to be off Derriwong Road on the western boundary and the Old Northern Road on the eastern boundary having a nominal north-south direction assumed. All references to points of the compass within the report are based on these approximate bearings.

2.2 Site Inspection and Description

An Environmental Consultant from ADE carried out a site inspection on the 9th of February 2016 in order to make a visual assessment of the site and provide information on potential site contamination issues, some of which are as follows:

- Surrounding land uses and potential contamination sources;
- Presence of hazardous or dangerous goods storage;
- Presence of Underground or Aboveground Storage Tanks, Generators or associated fuel transfers systems i.e. fuel lines;
- Condition of current structures, stockpiles, vegetation and soil;
- Proximity to water bodies/courses; and
- Visible and/or olfactory evidence of contamination.

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A number of potentially contaminating items or activities were identified during the site inspection summarised in **Figure 2** below.



Figure 2. Aerial photograph of the site from map dated December 2015 (photograph from maps.au.nearmap.com; accessed on 16.02.2016).

Site observations

1. Asphalt capped surface with potential fill beneath asphalt
2. Raised soil profile evident indicating potential fill material
3. House fabric is presume asbestos fibre cement;
4. Sub-floor space contains presumed asbestos fibre cement debris, general rubbish and paint tins observed on soil surface
5. Septic tank
6. House building footprint is cut into the surrounding land with evidence of cut and fill earthworks
7. Raised garden beds indicating potential fill

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The subject site is rectangular in shape with an approximate area of 6,000 m². The block is split into two with the eastern block fronting onto Old Northern Road, and the western block fronting onto Derriwong Road. Two houses were present; one on the western block and one on the eastern which were occupied at the time of inspection. The majority of the site is open paddock or grassed area with limited use evident at the time of inspection.

The house present on the eastern block appeared to have been constructed in the 1960's. During the inspection, presumed asbestos fibre cement and potential lead paint were identified within the building fabric. Further potential asbestos contamination was observed in the form of fibre cement debris within the sub-floor space. The interior of the house was inaccessible at the time of inspection.

Inspection of the grassed area to the north of the eastern dwelling revealed an altered soil profile with evidence of raising indicating potential cut and fill activities in the past. A depressed drainage channel was present to the south of the raised area with water taps at intervals along its length.

A small concrete slab located on the southern fence line adjacent the eastern house appears consistent with a former garden shed or small storage area. No staining was observed on the slab.

Inspection of the western block appears to have been constructed in the late 80s to early 90s with the building cut into the surrounding land exhibiting an altered soil profile.

Raised garden beds were present on the northern and southern side of the driveway off Derriwong Road indicating earthworks or potential filling at some point.

Two septic tanks were identified; one on the south-western corner of the eastern house, and one on the south-western corner of the western house with disturbed soil surrounding them.

Photographs from the site inspection taken on the 9th of February 2016 can be found in Appendix III – Photographs.

2.3 Surrounding Land Use

At the time of inspection the primary surrounding land-uses were observed as follows:

- *Northern boundary:* North of the subject area lies a rural residential property, a Shell service station, and an agricultural equipment hire business. Further north consists of rural residential properties and light agriculture.
- *Eastern boundary:* East of the subject site are two houses fronting onto Old Northern Road followed by a commercial complex. Further east is dominated by mixed use and rural residential properties.
- *Southern boundary:* Immediately to the south lies a timber yard. A BP service station is present approximately 150 m south-west of the subject site. Further south lies a mixed use and recreational area.
- *Western boundary:* To the west of the site is Derriwong Road. To the west of the road lies further low density residential properties and bushland containing a first order stream to the north-west. Dural Cemetery is located in the bushland to the north-west.

2.4 Summary of Site Details

Table 1 below provides a summary of details pertaining to the site.

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Table 1. Site details and information.

Site Details	
Site address	5 Derriwong Road (586 Old Northern Rd), Dural NSW
Title identification(s)	Lot 11 DP 866560
Current site use	Residential
Proposed site use	Mixed use / residential and commercial
Investigation area	Approximately 6,000 m ²

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3 PHYSICAL SETTING

3.1 Site Topography and Hydrology

The sites elevation varies between approximately 215 m AHD and 203 m AHD. The topography slopes down gently from south-east to north-west. Two (2) first order streams which feed in to O'Haras Creek are located in the bushland to the north-west of the site. Surface water flow and groundwater is expected to follow the slope of the land and flow west to north-west into the first order streams and eventually into O'Haras Creek.

3.2 Local Geology and Soil

The site is located on a Glenorie Soil Landscape (gn) as indicated on the Sydney Soil Landscape Map, prepared by the Soil Conservation Services of NSW.

The geology of the Glenorie Soil Landscape is underlain by Wianamatta group Ashfield Shale and Bringelly Shale formations. The Ashfield shale is comprised of laminate and dark grey shale. Bringelly shale consists of shale, calcareous claystone, laminate and fine to medium grained lithic-quartz stone.

Soils are shallow to moderately deep (< 100cm) with variability across upper slopes and drainage gullies.

The topsoil (A1 Horizon) consists of a friable dark brown loam, with moderately to strongly pedal structure. apedal single-grained structure and porous sandy fabric. The pH ranges from strongly acid (pH 4.0) to slightly acid (pH 6.0).

Beneath this layer occurs the B Horizon consisting of hardsetting clay loam. The pH ranges between strongly acid (pH 4.0) to slightly acid (pH 6.5).

In conjunction with the B Horizon, a brown strongly pedal medium clay is present. The pH varies from strongly acid (pH 4.5) to moderately acid (pH 6.5). Strongly weathered sandstone fragments are common. Roots and charcoal fragments are rare.

It should be noted that the area occurs close to a transition between Glenorie and Lucas Heights soil landscapes and therefore transitional phases may occur and vary depending on the exact location.

Fill Material

No intrusive works were conducted during the site inspection. Potential fill was identified in the northern sector of the eastern block with slightly raised soil profile evident and evidence of raising and potential earthworks were identified surrounding the western house.

3.3 Hydrogeology

It was beyond the scope of work to study the groundwater flow direction. However, as previously mentioned in the above section, the local groundwater flow is likely to have a west to north westerly direction towards the first order stream feeding in to O'Hara Creek located to the north-west.

A search for registered groundwater wells within a 500 m radius of the site was undertaken by ADE via the NSW Office of Water (Allwaterdata.water.nsw.gov.au). Four (4) groundwater bores associated with the shell service station approximately 30 m to the north are present. Records of the groundwater bores

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indicate that the wells were installed in 2009. Standing water level was recorded at 4.2m and 2.8m in the nearby site with a similar altitude (refer to Appendix IV – NSW Groundwater (Office of Water)).

3.4 Acid Sulphate Soils

A review of the Acid Sulphate Soil Risk Maps demonstrated that the site is within an area of “low probability” of acid sulphate soils (refer to Appendix V – Acid Sulfate Soils). No further investigation is required with regards to acid sulphate soils.

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4 SITE HISTORY

4.1 Historical Land and Title Search

The site history has been compiled from information gathered from the Land Titles Office (LTO), Land Property Information (LPI) and Council records.

The site entails Lot 1 DP 660184 in the Local Government Area of The Hills Shire Council, Parish of South Colah, County of Cumberland.

Table 2. Summary of LTO records for Lot 11 DP 866560

Date	Transferred/Leased From	Transferred/Leased To	Transfer No.	Certificate reference
Lot 11, DP 866560				
30.06.1823	Crown land	Simon Moulds	N/A	Vol 12956 Fol 170
Unknown	Data gap due to filing methodology utilising IVA number restricting access to the previous torrens images			
16.07.1986	Unknown	Alfio Grasso & Nancy Grasso	W413296	Vol 12956 Fol 170
07.03.1997	Unknown– Conversion action		CA58988	Auto Folio 11/866560
27.08.2007	Unknown	Boronia Estates Construction	AE992726	Auto Folio 11/866560

The information obtained from the LTO, LPI and Council Records provides very little information regarding the ownership and usage of the land in question (refer to Appendix I – LTO Records).

4.2 NSW Office of Environment and Heritage

A search of the NSW Office of Environment and Heritage public register of state heritage inventory items identified no heritage listed items within the general area of the subject site (refer to Appendix VI – NSW OEH State Heritage Records).

4.3 Aerial Photographs Review

A review of aerial photographs was conducted and is summarised in Table 3 below. Aerial photographs from the years of 1930, 1947, 1956, 1965, 1986, 1994 and 2015 were examined (refer to Appendix II - Aerial Photographs).

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Table 3. Summary of aerial photography.

Year	Type	Subject Site Description	Adjacent Site Description
1930	Black and White	The site appears to be vacant or used for light agriculture. There is no defined boundary to the subject site and it appears to be part of a larger plot.	Properties to the north, east and west are being used as orchards, with large orchards present to the north-east and north-west of the site. There are a few houses present which appear to be farming properties. A remnant patch of vegetation is present directly south of the subject site.
1947	Black and White	The site appears to be vacant or used for pasturage. The site still has no defined boundary and appears to be part of a larger plot.	Orchards continue to function to the north of the site and to the east on the opposite side of The Old Northern Rd. Vegetation to the south appears to be thinned or cleared in comparison to the previous photo. A small residential property is now present directly opposite Quarry Rd. The road referenced today as Old Northern Road has recently been expanded.
1956	Black and White	A portion of the site has been disturbed and extends towards the north. Vegetation appears to have grown onto the southern boundary of the site from the adjoining remnant vegetation.	A number of residential properties are present to the north along the Old Northern Road extending to Quarry Rd. Many of the orchards which were present on the eastern side of the Old Northern Rd have been removed. Two properties appear to have been constructed to the south adjacent to the Old Northern Rd. Roads appear to have been sealed.
1965	Black and White	A driveway from the Old Northern Rd is apparent leading to a residential property. Much of the site is vegetated with what appears to be forest extending from the house towards the west. The building footprint of the house appears larger than the small house observed during the site visit and is consistent with a large shed to the east of the house apparent in future photos.	Immediately to the north of the subject site is still maintained and cleared whilst further north, vegetation has grown over the previously cleared sites. A number of houses have been constructed on the eastern side of the Old Northern Rd.
1986	Colour	The site has been cleared to the west of the above mentioned house. Derriwong Rd now runs along the western boundary of the subject site. A building footprint is apparent on the western boundary suggesting the site now functions as a dual occupancy.	Much of the vegetated land to the north appears to have been cleared. Residential properties are present on the western side of Derriwong Rd with further evidence of urbanisation in the surrounding areas. To the south is a cleared area within the vegetation consistent with the wood supply area present today.

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Table 4. continued...

Year	Type	Subject Site Description	Adjacent Site Description
1994	Colour	The site appears largely as it is today, resolution of the picture limits our ability to clearly define the onsite conditions.	A cleared and disturbed soil profile is present on the northern neighbouring site. There is little to no evidence of continued farming practices in the surrounding areas. To the north of the site there have been changes to the buildings with a large concrete slab present opposite Bunker Rd. Large development to the East of the site has commenced. A service station is present to the south-west.
2005	Colour	Higher resolution reveals a large shed adjacent the driveway beneath a large tree which is presumed to have been present since the 1960s. A structure of unknown origin and purpose is present along the northern boundary of the subject site. The residential house on Derriwong Rd is fully established.	The northern neighbouring property has been fully established including a large shed. To the east, a large commercial site is present.
2014	Colour	The site is as it was observed during inspection.	Surrounding land use remains consistent.

4.4 Contaminated Land Register Search

A search of the sites listed by the EPA under the *Contaminated Land Management Act 1997* revealed that no records have been issued against the site. A search of the 'List of NSW contaminated sites notified to the EPA' revealed that a former BP service station located at 582 Old Northern Road, Dural, approximately 150 m south-west of the subject site is currently listed as 'under assessment'. Direct contact with the NSW EPA was made however no information could be provided in regards to the status of the site.

ADE contacted Stephanie Williams, a representative of BP service stations who gave a verbal indication that the site had been notified due to the presence of Benzene above the required reporting limit however she stated that there was no risk of offsite migration. This claim was based on the statement that perimeter groundwater monitoring wells installed onsite were providing results of Non Detect (ND) for benzene and other analytes. The phone conversation during which this information was provided to ADE took place on the 24.11.2015.

Based on the distance and available information ADE is of the opinion that the apparent risk posed by the above mentioned service station is not significant.

4.5 Previous Investigation Reports

No previous investigative reports for the site or surrounding area have been provided by the client.

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4.6 Section 149

The site is currently zoned under Zone RU6 Transition under The Hills Local Environmental Plan 2012. The Planning Certificate under Section 149 of the *Environmental Planning and Assessment Act 1979* (See Appendix VII – Section 149 Certificate) provides the state and local environmental planning instruments which affect the site.

The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in the planning certificate.

- The land is not within an investigation area or remediation site under Part 3 of the Contaminated Land Management Act 1997;
- The land is not subject to an investigation order or an remediation order within the meaning of the Contaminated Land Management Act 1997;
- The land is not subject to a voluntary investigation proposal (or voluntary remediation proposal) that is the subject of the Environmental Protection Authority’s agreement under Section 19 or 26 of the Contaminated Land Management Act 1997; and
- The land is not subject to a site audit statement within the meaning of the Contaminated Land Management Act 1997.

4.7 Dial Before You Dig

An online search for utilities located within the site was conducted and is summarised in Table 4, below. Asset owners were notified and provided information on their utilities (refer to Appendix VIII – Dial Before You Dig).

Table 5. Summary of utilities located on or adjacent to the site

Asset Owner	Utility Type	Utility Location
Ausgrid	Underground Cable	No services present within the boundary of the subject site. However a Transmission cable runs adjacent to the site within Old Northern Road.
Telstra	Underground Cable	An underground cable runs along the eastern driveway commencing and separating from the main cable running along the Old Northern Rd, 2 live pairs are present. An additional wire runs to the western property from Derriwong Lane.
Sydney Water	Water	No services present within the boundary of the subject site. Potable water main runs along Old Northern Road adjacent to site.
Endeavour Energy	Electrical	No services present within the boundary of the subject site.
Jemena	Gas	No services present within the boundary of the subject site. A gas main runs within Old Northern Road.
Optus	Telecommunication	No services present within the boundary of the subject site.

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Table 6. continued...

Asset Owner	Utility Type	Utility Location
Pipe Networks NSW	Telecommunication	Contained within Telstra duct.

4.8 Assessment of Historical Information Integrity

The site history assessment has been obtained from a variety of resources including government records from the NSW land titles office, local council, historical archives, historical aerial photographs, NSW Office of Water and EPA. The veracity of the information from these sources is considered to be moderate due to an inability to track information relating to the previous owners via the LPI store. The site history assessment is generally considered to be of high integrity but low accuracy with respect to the historical use of the site.

4.9 WorkCover

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises (Refer to Appendix IX – NSW WorkCover).

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5 POTENTIAL CONTAMINATION TYPES AND RECEPTORS

5.1 Potential Contamination Types

Table 5 below provides details of potential contamination types that were identified during the investigation. These are Contaminants of Potential Concern (COPC) were noted for each have the potential to have migrated to or be found on the site based on the site history.

Table 7. Potential Sources, Locations and Types of Contaminants.

Potential Source of contamination	Location	Migration pathway	Likelihood	Contaminants of Potential Concern
Potential fill material / earthworks	Raised section along northern boundary, garden beds on western boundary	Surface water runoff, leaching into soils, downward migration into groundwater	Low to moderate likelihood	Metals, BTEX, TRH, PAHs, OCPs, OPPs, PCBs, asbestos
House fabric / construction	House footprint including sub-floor space of eastern house	Airborne particulate, surface water runoff, leaching into soils, groundwater migration	High likelihood	Lead pain and Lead dust, Asbestos
Septic Tank / Sewage	Septic tank and immediate surrounds	Leakages and demolition	Moderately likely	Bacteria – e.coli & salmonella & heavy metals
Service station with USTS north of site	Surrounding soil & groundwater aquifer	Groundwater infiltration from leaking USTS	Low to moderate likelihood	TRHs, PAHs, BTEX, Lead
Former shed present until 2005	Approximately 10 m east of the eastern house	Airborne particulate, surface water runoff, leaching into soils, groundwater migration	Moderate likelihood	Metals and asbestos

No specific assessment of groundwater contamination has been undertaken within this investigation.

5.2 Potential Transport Mechanism

Primary transport mechanisms for the migration of potential contaminants on to the site or off the site include:

- Potential importation of fill
- Airborne particulates due to wind turbulence events;
- Surface water runoff and storm water drainage;
- Downward migration and leaching via infiltration of rain water into the soil; and
- Lateral migration via groundwater.

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5.3 Potential Contamination Receptors

The main potential contamination receptors were considered to include:

- Future construction / utility workers involved in demolition of structures and excavation for future development of the site;
- Future residents and or users of the site; and
- The aquatic ecosystems in O'Haras Creek.

5.4 Potential Contamination Discussion

The house present in the eastern portion of the site provides possible localised contamination surrounding the building footprint. Both buildings present on site have the potential to contain asbestos within the building fabric. A hazardous materials survey should be undertaken prior to any demolition practices being undertaken. All hazardous materials are to be removed by a suitably qualified contractor prior to demolition of the house.

The site appears to have received some fill materials with an altered soil profile and lay of the land, in particular in the northern section of the eastern half (refer to Figure 2). The potential for uncontrolled fill within the site requires a targeted soil sampling program to determine if contamination is present.

The large shed formerly located approximately 15 m east of the eastern house as mentioned in the table 3 was not observed during the site inspection. There were no obvious signs of contamination within the former building footprint observed. It is unknown what the nature of use was for the shed, nor the materials used for the construction and nature of chemicals stored within the shed. There is a moderate likelihood that contamination has been left within the building footprint in the form of metals and asbestos as these are common contaminants associated with maintenance and storage sheds which the shed is presumed to have been.

The active Shell service station 50 m north of the site presents a potential for contamination within the site via surface water runoff from spillage and lateral migration within groundwater from leaking USTs. Contaminants of concern include heavy metals, PAH, TRH, and BTEX. Based on distance and topography with respect to groundwater flow direction the risk is considered to be low to moderate.

During the course of the site inspection no olfactory indication or visual staining on the soil surface were noted across the site.

Onsite waste water treatment tanks observed on site, these provide a potential source of contamination in the form of bacteria and heavy metals. Removal of the tank and or trenches (if identified) is to be carried out in accordance with the Local Government Authority (local council) requirements.

Results from the Stored Chemical Information Database no dangerous goods have were registered to the property address.

Upon review the available information presented within the body of this report, it is the opinion of ADE that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that an environmental investigation into the nature and extent of contamination (if present) is required.

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6 CONCLUSIONS

Based on the data and evidence collected in the course of the site inspection and site history review, the findings of the Phase I PSI are as follows:

- Localised contamination surrounding the building footprint is possible due to the presence of presumed asbestos fibre cement and building debris on the soil surface and within the subfloor space. A hazardous materials survey should be undertaken prior to any demolition practices being undertaken and recommendations adhered to;
- The site has undergone earthworks including possible fill activities in the past. The presence and extent of contamination within the potential fill material should be investigated;
- An onsite waste water treatment tank is presumed to provide a potential source of contamination in the form of bacteria and heavy metals. Removal of the tank and trenches is to be carried out in accordance with the Local Government Authority (Local Council) requirements;
- The active petrol station situated to the north of the site provides a potential source of contamination from underground storage tanks and lateral migration. Based on the risk, targeted sampling and groundwater monitoring is recommended to address this potential issue;
- It is the opinion of ADE that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that a limited investigation into the nature and extent of contamination (if present) is required; and
- ADE considers that it is likely that any contamination detected during further investigations (if present) will be capable of being remediated such that the site is suitable for the proposed land use.

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7 LIMITATIONS

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only and has been based on information provided by the client. The advice herein relates only to this project and all results, conclusions and recommendations made should be reviewed by a competent and experienced person with experience in environmental investigations, before being used for any other purpose. A.D. Envirotech Australia Pty Ltd (ADE) accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced or amended in any way without prior approval by the client or ADE and should not be relied upon by any other party, who should make their own independent enquiries.

Furthermore, soils, rock and aquifer conditions are often variable, resulting in non-homogenous contaminant distributions across a site. Boundaries between zones of variable contamination are often indistinct and have been interpreted based on available information and the application of professional judgement. The accuracy with which the subsurface conditions have been characterised depends on the frequency and methods of sampling and the uniformity of subsurface conditions and is therefore limited by the scope of works undertaken.

This report does not provide a complete assessment of the environmental status of the site and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, ADE reserves the right to review the report in the context of the additional information.

Access to the interior of the houses, garage and associated ancillary buildings a could not be gained during the site inspection, should any suspect materials or the storage of chemicals be uncovered, the information should be provided to ADE for review of the available information.

ADE's professional opinions are based upon its professional judgement, experience, training and results from analytical data. In some cases further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited investigation to the scope agreed upon with its client.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable member of the Environmental Industry within Australia. No other warranty, expressed or implied, is made or intended.

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Unit 6/7 Millennium Court
Silverwater, NSW 2128

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Upper Coomera, QLD 4209

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NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

8 REFERENCES

1. Australian Standard AS 4482.1 *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.*
2. Australian Standard AS 4482.2 *Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances.*
3. Chapman, G.A. and Murphy, C.L. (1989), *Soil Landscapes of the Sydney 1:100000 sheet.* Soil Conservation Services of NSW, Sydney.
4. *Contaminated Land Management Act 1998.*
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6. DLWC 1995a, *Guidelines for the Use of Acid Sulfate Soils Risk Maps*, by S.D. Naylor, G.A. Chapman, G. Atkinson, C.L. Murphy, M.J. Tulau, T.C. Flewin, H.B. Milford, & D.T. Morand, Soil Conservation Service of NSW, Department of Land and Water Conservation, Sydney .
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18. *NSW Code of Practice: How to Safely Remove Asbestos (2011).*
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20. *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008.*
21. *Sampling Design Guidelines - NSW EPA, 1995.*
22. *Soils Manual 1998.* Acid Sulfate Soil Management Advisory Committee, Wollongbar, NSW, Australia.
23. *Waste Classification Guidelines Part 1: Classifying Waste*, EPA, 2014.
24. *WHS Regulation 2011.*
25. *WHS Act 2011.*
26. *WorkCover NSW Working With Asbestos Guide (2008).*

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Appendix I – LTO Records

New South Wales Office:

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e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

HISTORY OF TITLE TRANSACTION

Title Reference: 13561-87

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

10/2/2016 2:46PM

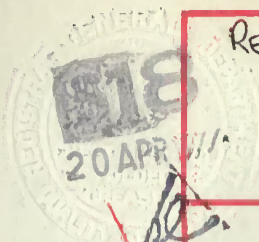
FOLIO: AUTO CONSOL 13561-87

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
2/12/1991		CONSOL HISTORY RECORD CREATED FOR AUTO CONSOL 13561-87	
		PARCELS IN CONSOL ARE: D/38097, D/39261.	
10/2/1998	3786149	TRANSFER	
10/2/1998	3786150	MORTGAGE	EDITION 1
18/9/2001	7952670	MORTGAGE	EDITION 2
11/3/2002	8423099	APPLICATION FOR REPLACEMENT CERTIFICATE OF TITLE	EDITION 3
12/1/2004	AA316480	CAVEAT	
17/8/2004	AA883692	DISCHARGE OF MORTGAGE	
17/8/2004	AA883693	MORTGAGE	EDITION 4
23/9/2006	AC619944	DISCHARGE OF MORTGAGE	
23/9/2006	AC619945	DISCHARGE OF MORTGAGE	
23/9/2006	AC619946	TRANSFER	EDITION 5

*** END OF SEARCH ***

PRINTED ON 10/2/2016

1VA.



REGISTRATION NOT OPPOSED 4-1-1977.
REGISTERED NUMBER 842 BOOK 3271 BOOK ~~842~~
ACKNOWLEDGEMENT
NEW SOUTH WALES STAMP DUTY PAID \$6 00

ACKNOWLEDGMENT made under the Wills Probate and Administration Act 1898
BETWEEN ENID MOORE of 590 Old Northern Road, Dural, in the State of New South
Wales, Spinster, Executrix of the duly proved Will of GRACE MOORE late of Dural
in the State of New South Wales, Pensioner, Deceased, of the one part AND
ENID MOORE the Devisee under the said Will, of the other part WHEREBY the said
Executrix DOTH ACKNOWLEDGE that the said Devisee is entitled for the estate
for which the same is devised to her by the said Will to the Real Estate described
in the said Will as "The Whole of my Real Estate" which said Real Estate is more
particularly described as -

ALL THAT piece or parcel of land situated in the Shire of Baulkham
Hills, Parish of South Colah and County of Cumberland being part of
Lot D in R.P. 1097 and Lot D in R.P. 2265.

DATED this Thirteenth day of December, One thousand Nine hundred and Seventy-
Six.

WITNESS to the signature of)
ENID MOORE) Enid Moore

JOHN G. BRADFIELD, Solicitor, Dural.

I
C
m

JANETTE CLAIRE HUMPHREY of Hornsby clerk to John G. Bradfield & Co., Solicitors
of Dural being duly sworn makes oath and says: The writing contained above has
been compared by me with the original instrument and is a true copy thereof.

SWORN at Dural this 22nd day of February 1977 before me: *Janette Humphrey*

John G. Bradfield JP

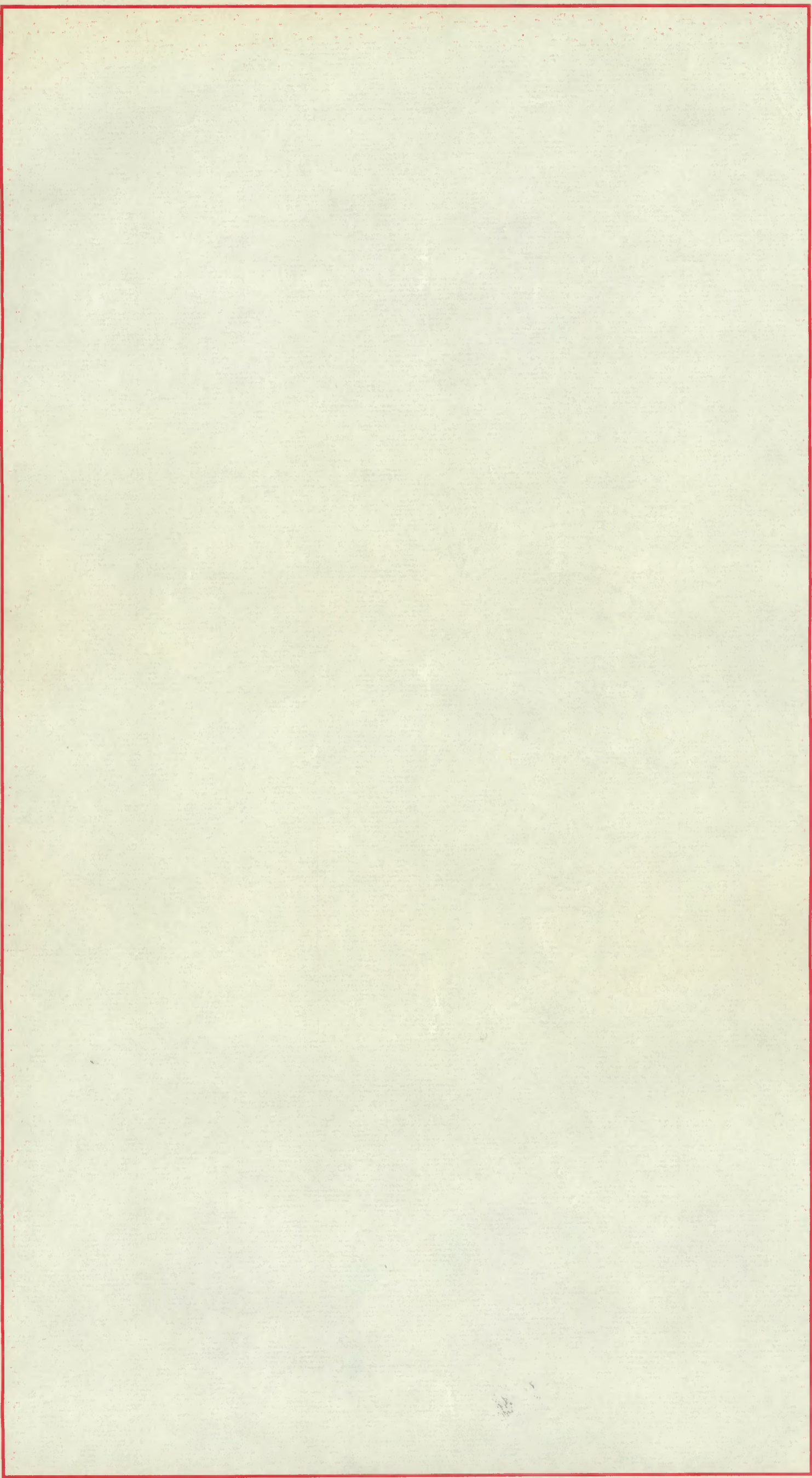
REGISTERED IN THE OFFICE of the Registrar General at Sydney the ~~22nd~~ ^{20th} day of ~~February~~ ^{April} 1977 at 55 minutes past 9 o'clock
and lodged by *Sandra Cafe* of *Burkhead* clerk to

No 842 Book 3271



[Signature]

REGISTRAR GENERAL.





CATE OF TITLE

PROPERTY ACT, 1900



13561087

NEW SOUTH WALES

IVA NO 24137

Vol. 13561 Fol. 87



CANCELLED

EDITION ISSUED

7 3 1978

SEE INTO FOLIO

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

[Signature]

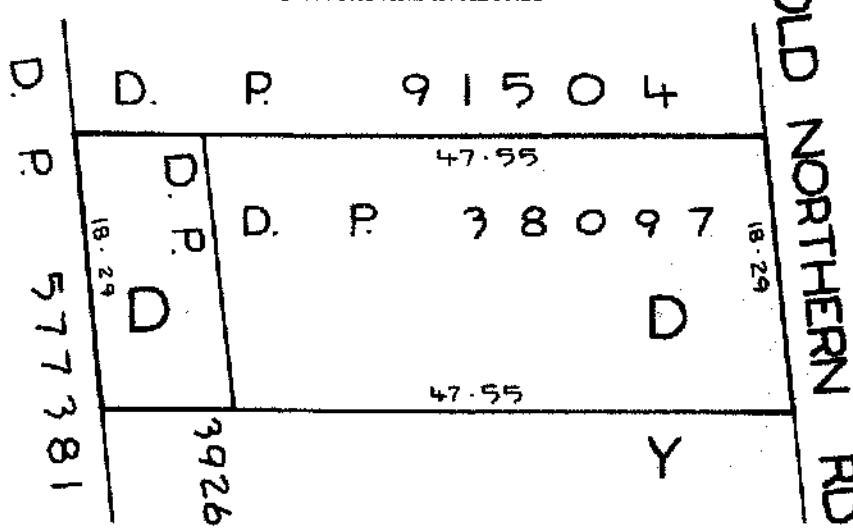


Registrar General.



PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES



IVA 24137 S.T. *10*

AREA: 860 m²
REDUCTION RATIO 1:500

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot D in Deposited Plan 38097 and Lot D in Deposited Plan 39261 in the Shire of Baulkham Hills Parish of South Colah and County of Cumberland being part of Portion 104 granted to Simon Moulds on 30-6-1823.

FIRST SCHEDULE

~~ENID MOORE of Durat *[Seal]* Minister.~~

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant referred to.
2. CAUTION. The land within described is held subject to any subsisting interest (as defined in Section 28A Real Property Act, 1900).

7-3-1978

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

(Page 1) Vol. 13561 Fol. 87

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE

Appendix II – Aerial Photographs

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
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Silverwater, NSW 2128

Queensland Office:

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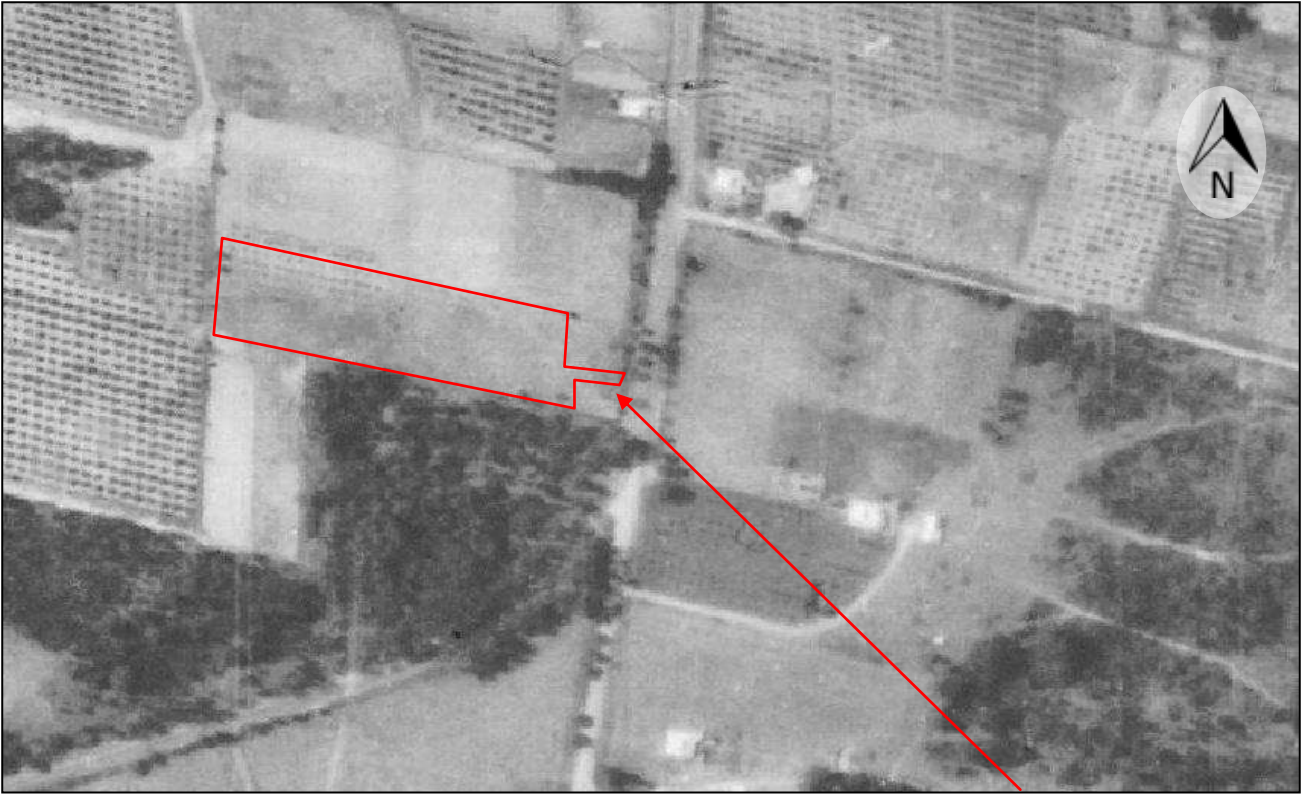
NSW: (02) 8541 7214
QLD: (07) 5519 4610

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site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



Aerial Photograph 1. Aerial photograph of the site dated 1930 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 08.02.2016.



Aerial Photograph 2. Aerial photograph of the site dated 1947 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 08.02.2016.

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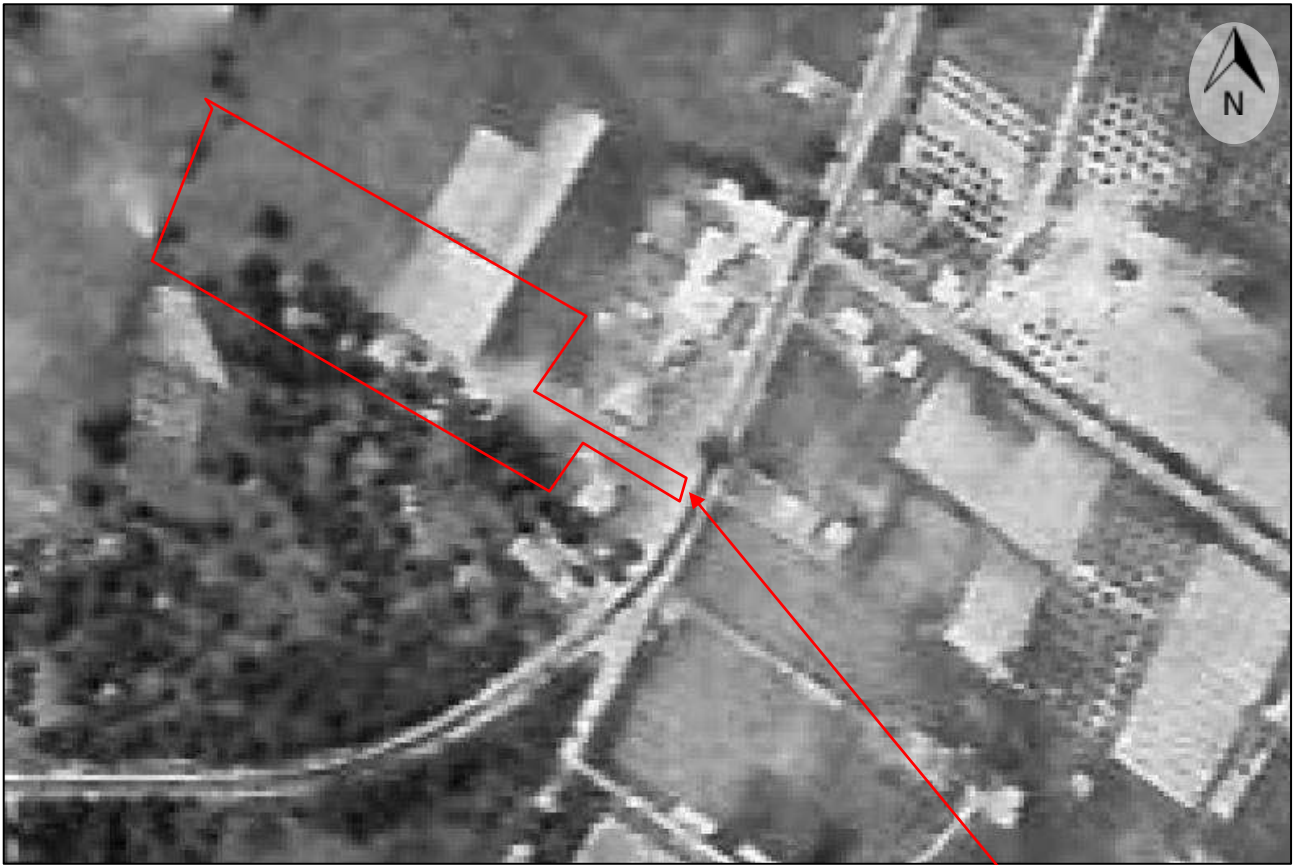
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Aerial Photograph 3. Aerial photograph of the site dated 1956 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 08.02.2016.



Aerial Photograph 4. Aerial photograph of the site dated 1965 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 08.02.2016.

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ABN:

520 934 529 50



Aerial Photograph 5. Aerial photograph of the site dated 1986 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 08.02.2016.



Aerial Photograph 6. Aerial photograph of the site dated 1994 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 08.02.2016.

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QLD: (07) 5519 4610

Internet:

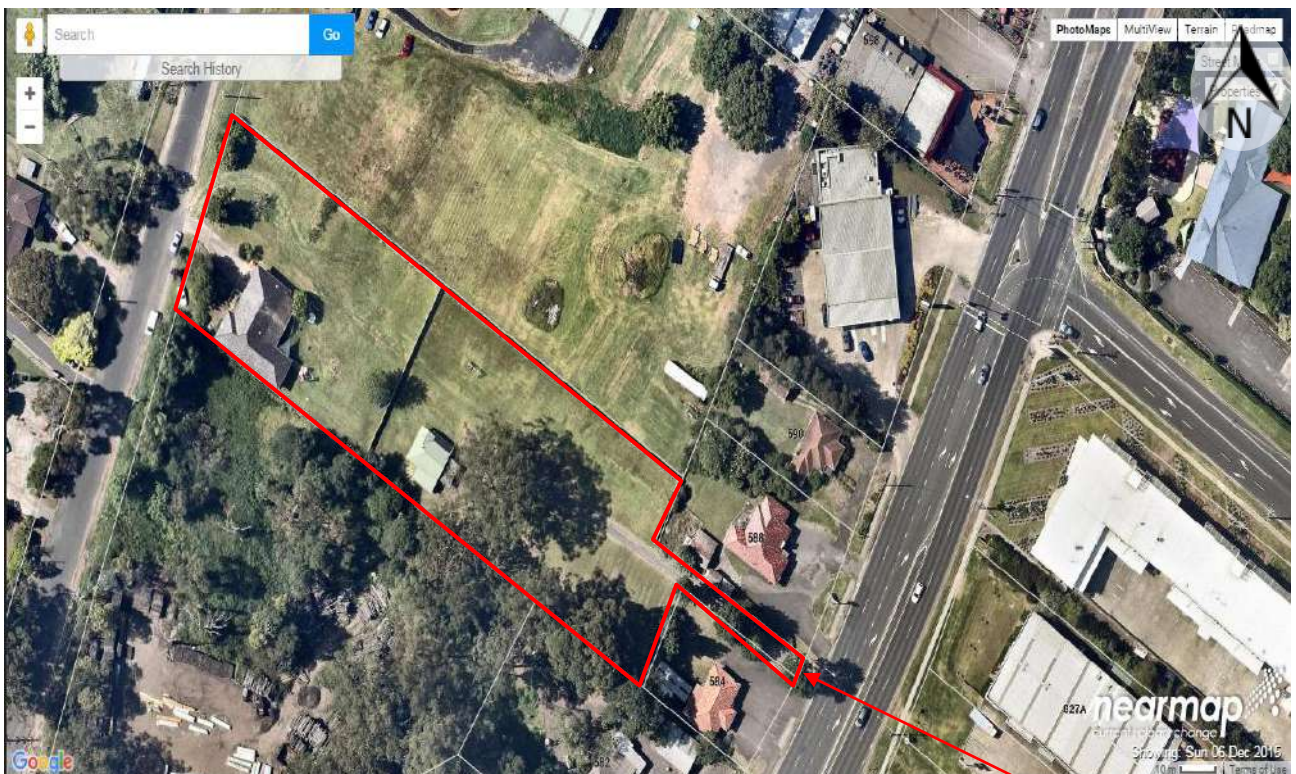
site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



Aerial Photograph 7. Aerial photograph of the site dated 2005 with approximate site boundary. Sourced from the nearmap.com, accessed on the 01.03.2016.



Aerial Photograph 8. Aerial photograph of the site dated 2015 with approximate site boundary. Sourced from the nearmap.com, accessed on the 08.02.2016.

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Appendix III – Photographs

New South Wales Office:

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e-mail info@ADenvirotech.com.au

ABN:

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Photograph 1 – View of the raised section along northern boundary



Photograph 2 – Sub-floor space of eastern house, presumed asbestos cement debris



Photograph 3 – Septic tank with disturbed soil profile in south-western corner of eastern portion



Photograph 4 – Slab present adjacent to the southern fence line in the eastern portion



Photograph 5 – Facing east from western portion of site adjacent the house

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Silverwater, NSW 2128

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ABN:

520 934 529 50

Appendix IV – Groundwater Search (Office of Water)

New South Wales Office:

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QLD: (07) 5519 4610

Internet:

site: www.ADenirotech.com.au
e-mail info@ADenirotech.com.au

ABN:

520 934 529 50

NSW Office of Water

Work Summary

GW110307
Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:
Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:
Completion Date: 26/05/2009

Final Depth: 8.00 m

Drilled Depth: 8.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:
Property: SHELL COMPANY OF AUST
 LTD COLES EXPRESS DURAL
 592 - 596 OLD NORTHERN
 ROAD DURAL 2158 NSW

Standing Water Level: 4.200

GWMA:
GW Zone:
Salinity:
Yield:

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.43	11//825077
Licensed:		

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown

Grid Zone:
Scale:
Area/District:
Elevation: 0.00 m (A.H.D.)

Northing: 6269999.0

Latitude: 33°41'39.5"S

Elevation Unknown
Easting: 317513.0

Longitude: 151°01'51.9"E

Source:
GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.22	50			Rotary Air
1		Hole	Hole	1.22	8.00	50			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded, Q:6500.000m3
1	1	Casing		0.00	2.00	50			
1	1	Casing		2.00	8.00	50			Seated on Bottom
1	1	Opening	Screen - Gauze/Mesh	2.00	8.00	50		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
6.00	8.00	2.00	Unknown	4.20					

Geologists Log Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.80	2.80	FILL,BROWN CLAYEY SAND	Fill	
2.80	4.00	1.20	CLAY SANDY BLACK TO GREY,FINE TO COARSE	Clay Loam	
4.00	8.00	4.00	SANDSTONE GREY AND BROWN	Sandstone	

Remarks

*** End of GW110307 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW110310
Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:
Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:
Completion Date: 22/05/2009

Final Depth: 8.50 m

Drilled Depth: 8.50 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:
Property: SHELL COMPANY OF AUST
 LTD COLES EXPRESS DURAL
 592 - 596 OLD NORTHERN
 ROAD DURAL 2158 NSW

Standing Water Level: 3.200

GWMA:
GW Zone:
Salinity:
Yield:

Site Details

Site Chosen By:
County
Form A: CUMBE
Licensed:
Parish
 CUMBE.43

Cadastre
 11/825077

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown
Area/District:
Grid Zone:
Scale:
Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:
Northing: 6269975.0
Easting: 317540.0

Latitude: 33°41'40.3"S
Longitude: 151°01'53.0"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.20	150			Rotary Air
1		Hole	Hole	1.20	3.10	125			Auger - Solid Flight
1		Hole	Hole	3.10	8.50	100			Down Hole Hammer
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded, Q:6500.000m3
1	1	Casing		0.00	2.50	65			
1	1	Casing		2.50	8.50	65			Seated on Bottom, Screwed
1	1	Opening	Screen	2.50	8.50	65		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
6.50	8.50	2.00	Unknown	3.20					

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.80	2.80	FILL, BROWN AND GREY, SAND AND GRAVEL	Fill	
2.80	8.50	5.70	SANDSTONE RED BROWN, FINE TO MED GRAINED AND WEATHERED	Sandstone	

Remarks

*** End of GW110310 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW110309

Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 22/05/2009

Final Depth: 10.00 m

Drilled Depth: 10.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:

Property: SHELL COMPANY OF AUST
LTD COLES EXPRESS DURAL
592 - 596 OLD NORTHERN
ROAD DURAL 2158 NSW

Standing Water Level: 3.100

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County: CUMBE
Form A: CUMBE
Licensed:

Parish: CUMBE.43

Cadastre: 11/825077

Region: 10 - Sydney South Coast

CMA Map:

River Basin: - Unknown

Grid Zone:

Scale:

Area/District:

Elevation: 0.00 m (A.H.D.)

Northing: 6269974.0

Latitude: 33°41'40.3"S

Elevation Unknown

Easting: 317530.0

Longitude: 151°01'52.6"E

Source:

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.20	50			Rotary Air
1		Hole	Hole	1.20	3.20	50			Auger - Solid Flight
1		Hole	Hole	3.20	10.00	50			Down Hole Hammer
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing		0.00	4.00	50			
1	1	Casing		4.00	10.00	50			Seated on Bottom, Screwed
1	1	Opening	Screen	4.00	10.00	50		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
5.20	8.50	3.30	Unknown	3.10					

Geologists Log Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.90	2.90	FILL,GREY AND BROWN CLAYEY SAND AND SANDSTONE FRAGS.	Fill	
2.90	10.00	7.10	SANDSTONE GREY,FINE TO MED. GRAINED	Sandstone	

Remarks

*** End of GW110309 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW110308

Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 22/06/2009

Final Depth: 7.00 m

Drilled Depth: 7.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:

Property: SHELL COMPANY OF AUST
LTD COLES EXPRESS DURAL
592 - 596 OLD NORTHERN
ROAD DURAL 2158 NSW

Standing Water Level: 2.800

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County: CUMBE
Form A: CUMBE
Licensed:

Parish: CUMBE.43

Cadastre: 11//825077

Region: 10 - Sydney South Coast

CMA Map:

River Basin: - Unknown

Grid Zone:

Scale:

Area/District:

Elevation: 0.00 m (A.H.D.)

Northing: 6269988.0

Latitude: 33°41'39.8"S

Elevation Unknown

Easting: 317544.0

Longitude: 151°01'53.1"E

Source:

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.20	150			Rotary Air
1		Hole	Hole	1.20	7.00	125			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing		0.00	3.00	65			
1	1	Casing		3.00	7.00	65			Seated on Bottom
1	1	Opening	Screen	3.00	7.00	65		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
5.00	7.00	2.00	Unknown	2.80					

Geologists Log Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.50	1.50	FILL,GREY AND BROWN SANDY GRAVEL AND SANDSTONE	Fill	
1.50	2.20	0.70	CLAY,SANDY,BROWN AND GREY	Clay	
2.20	7.00	4.80	SANDSTONE,BROWN,FINE TO MED GRAINED	Sandstone	

Remarks

*** End of GW110308 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Appendix V – Acid Sulphates Soils

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Location Search **Advanced Search**

Search Address or Place

[Place on map](#)

State: New South Wales, Australia

[Clear all layers](#)

Environmental Planning Instruments

- Acid Sulfate Soils
 - Class 1
 - Class 2
 - Class 3
 - Class 4
 - Class 5
- Active Street Frontage
- Additional Permitted Uses
- Additional Rural Village Land
- Airport Noise
- Bulk Water Supply Infrastructure
- Drinking Water
- Dwelling Density

Map data ©2015 Google 200 m Terms of Use Report a map error

Appendix VI - NSW OEH State Heritage Records

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

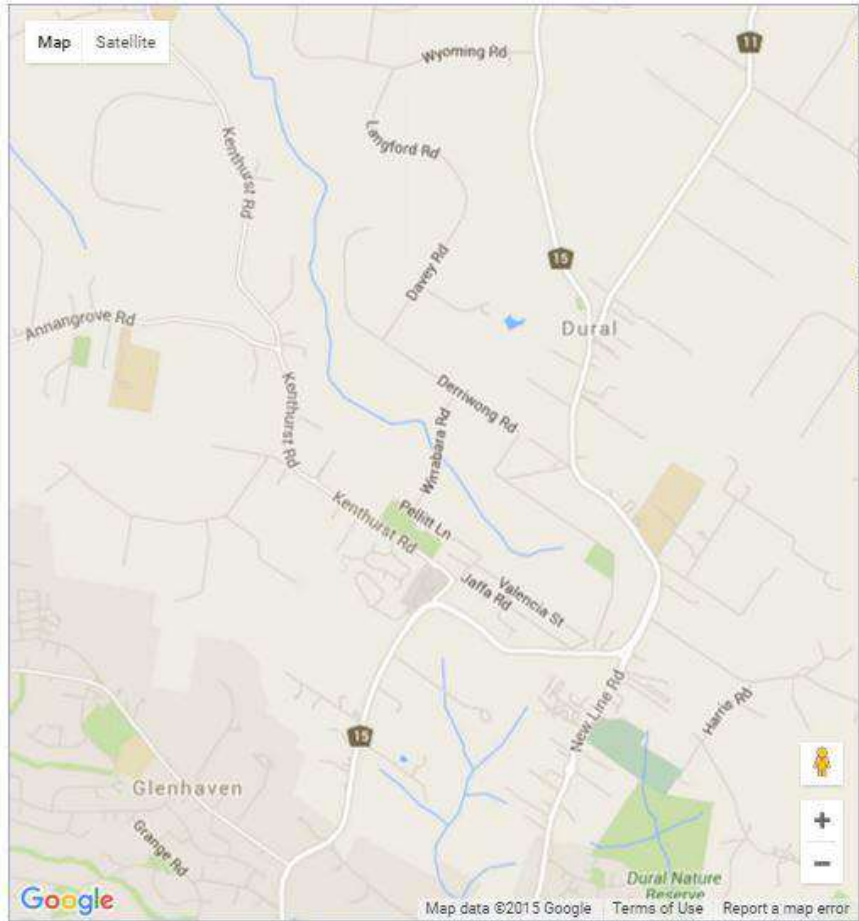
site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Search State Heritage Register

The results shown below are for the State Heritage Register ONLY and does not include items listed on Local Environmental Plans and s.170 Heritage and Conservation Registers. For further mapping information for please contact the relevant Local or State government agency.
Disclaimer: The positions of the State Heritage Register items shown on this page are for general identification and research purposes only. It should not be used for legal searches. Some SHR items have not been included for privacy and security reasons. Free downloading of State Heritage Register spatial datasets and associated metadata into a Geographical Information System (GIS) software package is available at [Community Access to Natural Resources Information \(CANRI\) - http://canri.nsw.gov.au/download/](http://canri.nsw.gov.au/download/)



The map displays the Dural area in New South Wales, Australia. It shows a network of roads including Wyoming Rd, Kangford Rd, Daney Rd, Derwong Rd, Annangrove Rd, Kenthurst Rd, Wirrabara Rd, Pellitt Ln, Jaffe Rd, Valencia St, New Line Rd, and Harrie Rd. A blue arrow points to a specific location on Daney Rd. The map also shows the Dural Nature Reserve and the Dural Nature Reserve. The map is overlaid with a grid and includes a search bar and a dropdown menu for local government areas.

Local government area
The Hills

Suburb/postcode
[Empty text box]

NSW historic theme
Please Choose...

Item type

- All
- Archaeological-Maritime
- Archaeological-Terrestrial
- Built
- Landscape
- Movable / Collection
- Complex / Group
- Conservation Area

Map data ©2015 Google Terms of Use Report a map error

Appendix VII – Section 149

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
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ABN:

520 934 529 50

THE HILLS SHIRE COUNCIL

3 Columbia Court, Baulkham Hills NSW 2153
PO Box 7064, Baulkham Hills BC NSW 2153

Telephone +61 2 9843 0555

Facsimile +61 2 9843 0409

DX 9966 Norwest

Email council@thehills.nsw.gov.au

www.thehills.nsw.gov.au

ABN No. 25 034 494 656

PLANNING CERTIFICATE UNDER SECTION 149 (2)
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 AS AMENDED.

Certificate Number: **84957**
Reference: 10130:64902
Issue Date: 17 February 2016
Receipt No: 5093935
Fee Paid: \$ 53.00

ADDRESS: 5 Derriwong Road, DURAL NSW 2158
DESCRIPTION: Lot 11 DP 866560

The land is zoned:
Zone RU6 Transition

The following prescribed matters apply to the land to which this certificate relates:

The Environmental Planning and Assessment Amendment Act 1997 commenced operation on 1 July 1998. As a consequence of this Act, the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Regulation 2000.

THIS CERTIFICATE IS DIRECTED TO THE FOLLOWING MATTERS
PRESCRIBED UNDER SECTION 149 (2) OF THE ABOVE ACT.

1. Names of relevant planning instruments and DCPs

(1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

(A) **Local Environmental Plans**

The Hills Local Environmental Plan 2012, as amended, applies to all land in the Shire unless otherwise stated in this certificate.

State Environmental Planning Policies

SEPP No.19 - Bushland In Urban Areas
 SEPP No.21 - Caravan Parks
 SEPP No.30 - Intensive Agriculture
 SEPP No.33 - Hazardous And Offensive Development
 SEPP No.50 - Canal Estate Development
 SEPP No.55 - Remediation Of Land
 SEPP No.62 - Sustainable Aquaculture
 SEPP No.64 - Advertising And Signage
 SEPP No.65 - Design Quality Of Residential Flat Development
 SEPP No.70 - Affordable Housing (Revised Schemes)
 SEPP (Building Sustainability Index: Basix) 2004
 SEPP (Major Development) 2005
 SEPP (Mining, Petroleum Production And Extractive Industries) 2007
 SEPP (Miscellaneous Consent Provisions)2007
 SEPP (Infrastructure) 2007
 SEPP (Exempt and Complying Development Codes) 2008
 SEPP (Affordable Rental Housing) 2009
 SEPP (State and Regional Development) 2011
 Sydney Regional Environmental Plan No. 9 Extractive Industries (No.2) - Amendment No.1
 Sydney Regional Environmental Plan No. 20 Hawkesbury – Nepean River (No.2 – 1997)

The following SEPP's may apply to the land. Please refer to '**Land to which Policy applies**' for each individual SEPP.

SEPP (Housing For Seniors Or People With A Disability) 2004

(2) The name of each **proposed environmental planning instrument** that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

(A) **Proposed Local Environmental Plans**

Proposed The Hills Local Environmental Plan 2012 (Amendment No.) applies to this land.

Refer Attachment 1(2)(A)

(B) **Proposed State Environmental Planning Policies**

Draft State Environmental Planning Policy (Competition).

- (3) The name of each development control plan that applies to the carrying out of development on the land.

The Hills Development Control Plan 2012

- (4) In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2. Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP).

- (A) The Hills Local Environmental Plan 2012 applies to the land unless otherwise stated in this certificate and identifies the land to be:

Zone RU6 Transition

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

The Hills Local Environmental Plan 2012?

YES

Clause 4.2A of The Hills Local Environmental Plan 2012 provides minimum land dimensions for the erection of a dwelling house on the following zones:

RU1 Primary Production, RU2 Rural Landscape, RU6 Transition, E3 Environmental Management and E4 Environmental Living.

Any other Planning Proposal?

NO

- (F) Whether the land includes or comprises critical habitat?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

- (G) Whether the land is in a conservation area (however described)?

The Hills Local Environmental Plan 2012?

NO

Any Other Planning Proposal?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP)*, or
 - (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
 - (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the ACT.
- (A) State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) does not apply.

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) does not apply.

Note: This precinct plan applies to land within the Box Hill Precinct or Box Hill Industrial Precinct.

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development.

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

Any amendments to Proposed State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

Any amendments to Proposed State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (F) Whether the land includes or comprises critical habitat?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (G) Whether the land is in a conservation area (however described)?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

3. Complying Development

- (1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of

the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

General Housing Code and Rural Housing Code

Complying Development under the General Housing Code and Rural Housing Code **may be** carried out on the land.

Housing Alterations Code and General Development Code

Complying Development under the Housing Alterations Code and General Development Code **may be** carried out on the land.

Commercial and Industrial (New Buildings and Additions) Code

Complying Development under the Commercial and Industrial (New Buildings and Additions) Code **may be** carried out on the land.

Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes

Complying Development under the Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes **may be** carried out on the land.

Note: Where reference is made to an applicable map, this information can be sourced from the following websites:

The Hills Local Environmental Plan 2012 - www.thehills.nsw.gov.au
State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct) or (Appendix 11 The Hills Growth Centre Precincts Plan) - www.planning.nsw.gov.au

4. Coastal protection

Whether or not the land is affected by the operation of Section 38 or 39 of the *Coastal Protection Act 1979*, but only to the extent that the council has been so notified by the Department of Finance, Services and Innovation?

NO

4A. Certain information relating to beaches and coasts

- (1) In relation to a coastal council - whether an order has been made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

NO

- (2) In relation to a coastal council:

(a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the

meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

NO

(3) (Repealed)

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

Whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

NO

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

5. Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961?

NO

6. Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under -

(A) Division 2 of Part 3 of the Roads Act 1993; or

NO

(B) any environmental planning instrument; or

NO

(C) any resolution of council?

a) The Hills Development Control Plan 2012?

NO

b) Any other resolution of council?

NO

7. Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

- (a) adopted by council, or
- (b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding)?

Council's policies on hazard risk restrictions are as follows:

(i) Landslip

- a) By The Hills Local Environmental Plan 2012 zoning?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

- b) By The Hills Local Environmental Plan 2012 local provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

- c) By The Hills Development Control Plan 2012 provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

(ii) Bushfire

YES

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by bushfire. That question is answered in Section 11 of this certificate.

Council has adopted the NSW Rural Fire Service Guidelines entitled 'Planning for Bushfire Protection 2006'. Development subject to bushfire risk will be required to address the requirements in these guidelines and can be downloaded off the RFS web site www.rfs.nsw.gov.au

The Development Control Plan may also contain provisions for development on Bushfire Prone Land and Bushfire Hazard Management. Refer Part 1(3) of this certificate for the applicable Development Control Plan.

(iii) Tidal inundation

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by tidal inundation.

(iv) Subsidence

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by subsidence.

(v) Acid sulphate soils

NO

(vi) Land contamination

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by contamination or potential contamination.

(vii) Any other risk

NO

7A. Flood related development controls information

- (1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (3) Words and expressions in this clause have the same meanings as in the standard instrument set out in the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

State Environmental Planning Policy?

NO

Proposed State Environmental Planning Policy?

NO

9. Contributions plans

The name of each contributions plan applying to the land:

THE HILLS SECTION 94A

9A. Biodiversity Certified Land

Whether the land is biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995?

NO

10. Biobanking Agreements

Whether the land is land to which a biobanking agreement under part 7A of the Threatened Species Conservation Act 1995 relates, (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage)?

NO

11. Bush fire prone land

Has the land been identified as bush fire prone land?

YES

The land is identified on Council's certified Bush Fire Prone Land map as being partly or wholly bush fire prone land. For details refer to the Bush Fire Prone Land map that can be viewed on Council's website at www.thehills.nsw.gov.au

12. Property vegetation plans

Has the council been notified that a property vegetation plan under the *Native Vegetation Act 2003* applies to this land?

NO

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the *Trees (Disputes Between Neighbours) Act 2006* to carry out work in relation to a tree on this land (but only if the council has been notified of the order)?

NO

14. Directions under Part 3A

Whether there is a direction by the Minister in force under section 75P (2)(c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect?

NO

15. Site compatibility certificates and conditions for seniors housing

(a) Whether there is a current site compatibility certificate (seniors housing) of which council is aware, issued under *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* in respect of proposed development on the land?

NO

(b) Whether there are any terms of a kind referred to in clause 18(2) of *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land?

NO

16. Site compatibility certificates for infrastructure

Whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land?

NO

17. Site compatibility certificates and conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land?

NO

(2) Whether there are any terms of a kind referred to in clause 17(1) or 38(1) of *State Environmental Planning Policy (Affordable Rental Housing) 2009* that have been imposed as a condition of consent to a development application in respect of the land?

NO

18. Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

NO DEVELOPMENT PLAN APPLIES

(2) The date of any subdivision order that applies to the land.

NO SUBDIVISION ORDER APPLIES

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

19. Site verification certificates

Whether there is a current site verification certificate, of which the council is aware, in respect of the land?

NO

Note. A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

Note. The following matters are prescribed by section 59 (2) of the *Contaminated Land Management Act 1997* as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act – if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

NO

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act – if it is subject to such an order at the date when the certificate is issued,

NO

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act – if it is the subject of such an approved proposal at the date when the certificate is issued,

NO

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of the Act – if it is subject to such an order at the date when the certificate is issued,

NO

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of the Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

NO

Note: Whether Council has been provided with a copy of any exemption under section 23 or authorisation by the Co-ordinator General under section 24 of the *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009*?

NO

THE HILLS SHIRE COUNCIL

This land has frontage to a "Classified Road". Roads and Maritime Services, 27-31 Argyle St, Parramatta, is the responsible authority for classified roads and should be consulted for any road widening proposals.

DAVE WALKER
GENERAL MANAGER



Per:

PLEASE NOTE: COUNCIL RETAINS THE ELECTRONIC ORIGINAL OF THIS CERTIFICATE. WHERE THIS CERTIFICATE REFERS TO INFORMATION DISPLAYED ON COUNCIL'S WEBSITE OR TO ANY EXTERNAL WEBSITE, IT REFERS TO INFORMATION DISPLAYED ON THE WEBSITE ON THE DATE THIS CERTIFICATE IS ISSUED.

ATTACHMENT 1(2)(A)

Planning Proposal 20/2015/PLP – Rural Workers Dwellings.

Planning Proposal 20/2015/PLP is to amend *The Hills Local Environmental Plan 2012* as part of a strategic review of planning controls for the Shire's rural areas. The proposal is to prohibit rural workers dwellings across all rural zones under Local Environmental Plan 2012.

The Shire's rural lands are within close proximity to the urban area and rural workers dwellings are generally only appropriate in remote locations more than 200km from major population centres and when the scale and nature of the farm necessitates on-site workers.

The changes also involve simplifying planning controls under Development Control Plan 2012, the Growth Centre Development Control Plans for the North Kellyville and Box Hill Release Areas.

The Minister for the Department of Planning and Environment has chosen to delegate the making of the plan to Council.

For further information please contact Council's Duty Planner on 9843 0469.

The above details are in keeping with the exhibited planning proposal. Please note that changes to the planning proposal may be made post exhibition. The current status and details of the planning proposal can be viewed on Council's website

www.thehills.nsw.gov.au under 'Application Tracking' on the home page or under the 'Planning & Development' menu bar.

ATTACHMENT 2(B)**Zone RU6 Transition****1 Objectives of zone**

- To protect and maintain land that provides a transition between rural and other land uses of varying intensities or environmental sensitivities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage innovative and sustainable tourist development, sustainable agriculture and the provision of farm produce directly to the public.

2 Permitted without consent

Bed and breakfast accommodation; Extensive agriculture; Home occupations.

3 Permitted with consent

Agricultural produce industries; Animal boarding or training establishments; Aquaculture; Building identification signs; Business identification signs; Cemeteries; Child care centres; Community facilities; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Environmental facilities; Environmental protection works; Farm buildings; Farm stay accommodation; Flood mitigation works; Garden centres; Home-based child care; Home businesses; Home industries; Information and education facilities; Intensive plant agriculture; Landscaping material supplies; Places of public worship; Plant nurseries; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Respite day care centres; Restaurants or cafés; Roads; Roadside stalls; Rural workers' dwellings; Secondary dwellings; Veterinary hospitals; Water supply systems.

4 Prohibited

Any development not specified in item 2 or 3.

NOTE: This land use table should be read in conjunction with the Dictionary at the end of The Hills LEP 2012 which defines words and expressions for the purpose of the plan.

Appendix VIII – Dial Before You Dig (DBYD)

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

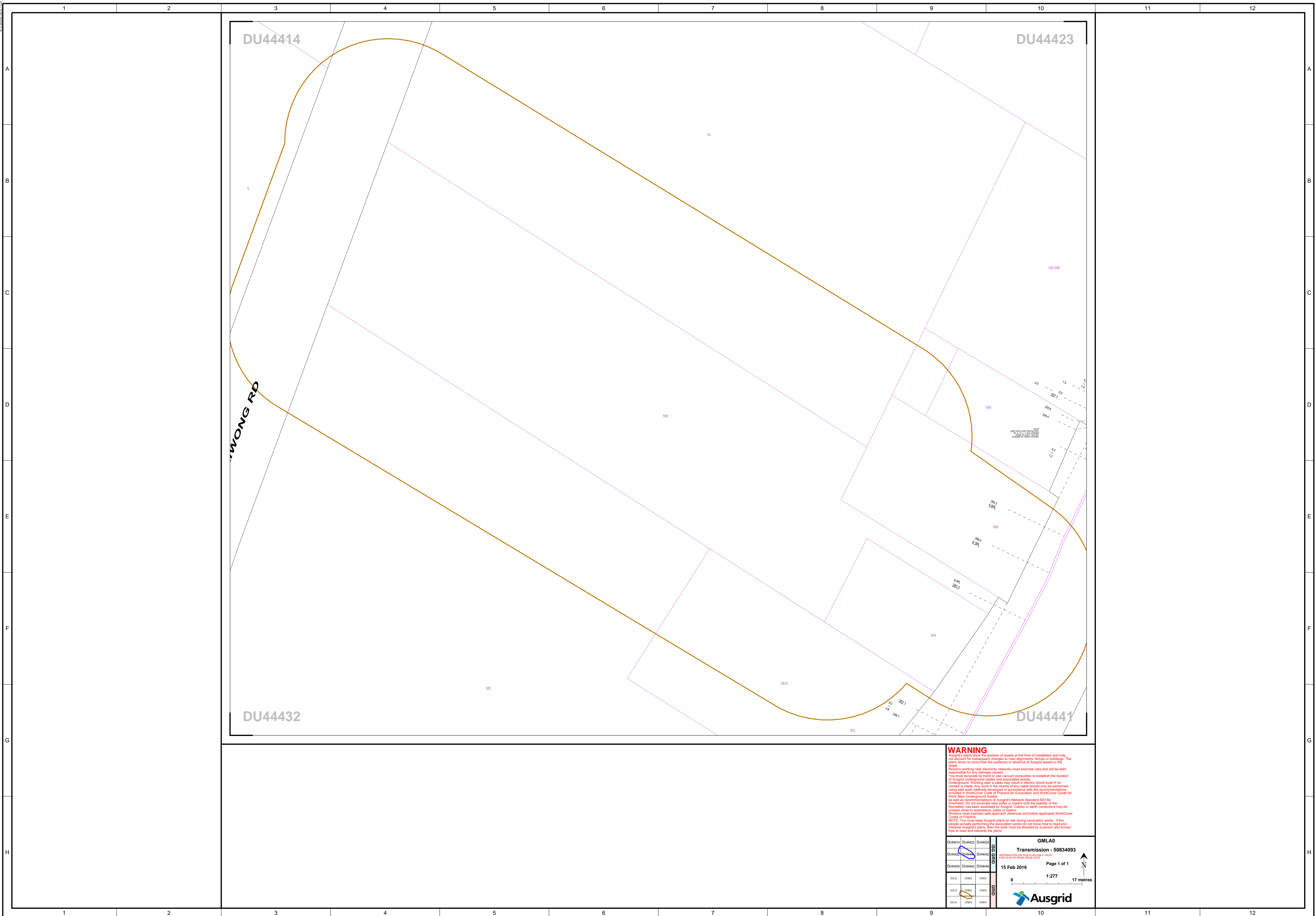
NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



DU44414

DU44423

WONG RD

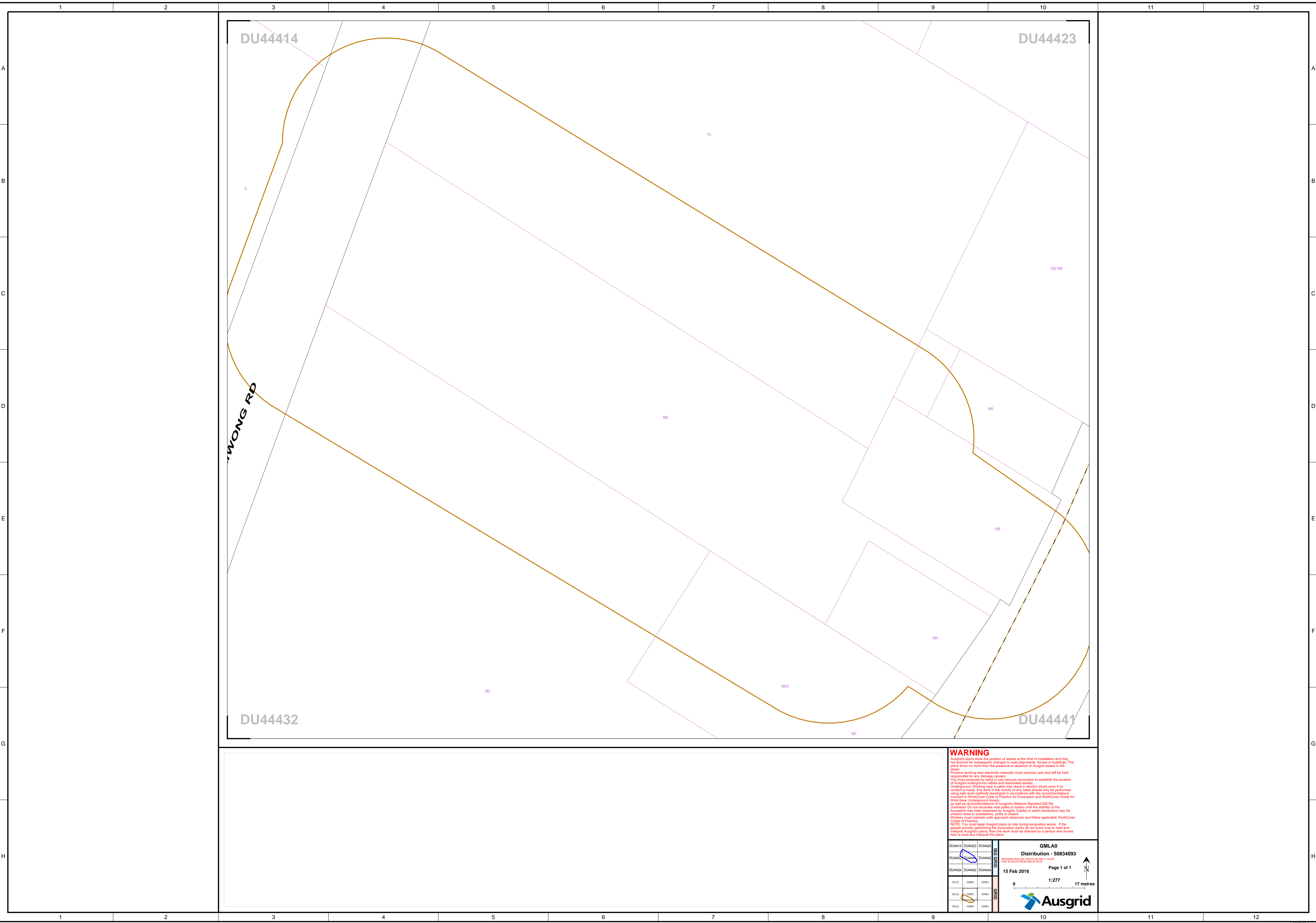
DU44432

DU44441

WARNING
Ausgrid's plans show the position of assets at the time of installation and may not account for subsequent changes to road alignments, fences or buildings. The plans show no more than the presence or absence of Ausgrid assets in the street.
Persons working near electricity networks must exercise care and will be held responsible for any damage caused.
You must excavate by hand or use vacuum excavation to establish the location of Ausgrid underground cables and associated assets.
Underground Working near a cable may result in electric shock even if no contact is made. Any work in the vicinity of any cable should only be performed using safe work methods developed in accordance with the recommendations included in WorkCover Code of Practice for Excavation and WorkCover Guide for Work Near Underground Assets.
as well as recommendations of Ausgrid's Network Standard NS156.
Overhead: Do not excavate near poles or towers until the stability of the foundation has been assessed by Ausgrid. Cables or earth conductors may be present close to substations, towers or towers.
Workers must maintain safe approach distances and follow applicable WorkCover Codes of Practice.
NOTE: You must keep Ausgrid plans on site during excavation works. If the people actually performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret the plans.

DU44414	DU44423	DU44424
DU44425	DU44426	DU44427
DU44428	DU44429	DU44430
DU44431	DU44432	DU44433
DU44434	DU44435	DU44436
DU44437	DU44438	DU44439
DU44440	DU44441	DU44442
DU44443	DU44444	DU44445
DU44446	DU44447	DU44448
DU44449	DU44450	DU44451
DU44452	DU44453	DU44454
DU44455	DU44456	DU44457
DU44458	DU44459	DU44460
DU44461	DU44462	DU44463
DU44464	DU44465	DU44466
DU44467	DU44468	DU44469
DU44470	DU44471	DU44472
DU44473	DU44474	DU44475
DU44476	DU44477	DU44478
DU44479	DU44480	DU44481
DU44482	DU44483	DU44484
DU44485	DU44486	DU44487
DU44488	DU44489	DU44490
DU44491	DU44492	DU44493
DU44494	DU44495	DU44496
DU44497	DU44498	DU44499
DU44500	DU44501	DU44502

GMLAO
Transmission - 50834093
Page 1 of 1
15 Feb 2016
1:277
17 metres
Ausgrid



WARNING
 Ausgrid's plans show the position of assets at the time of installation and may not account for subsequent changes to road alignments, fences or buildings. The plans show no more than the presence or absence of Ausgrid assets in this street.
 Persons working near electricity networks must exercise care and will be held responsible for any damage caused.
 You must excavate by hand or use vacuum excavation to establish the location of Ausgrid underground cables and associated assets.
 Underground: Working near a cable may result in electric shock even if no contact is made. Any work in the vicinity of any cable should only be performed using safe work methods developed in accordance with the recommendations included in WorkCover Code of Practice for Excavation and WorkCover Guide for Work Near Underground Assets.
 as well as recommendations of Ausgrid's Network Standard NS156.
 Overhead: Do not excavate near poles or towers until the stability of the foundation has been assessed by Ausgrid. Cables or earth conductors may be present close to substations, poles or towers.
 Workers must maintain safe approach clearances and follow applicable WorkCover Code of Practice.
 NOTE: You must keep Ausgrid plans on site during excavation works. If the people actually performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret the plans.

DU44414	DU44423	DU44424
DU44425	DU44426	DU44427
DU44428	DU44429	DU44430
DU44431	DU44432	DU44433
DU44434	DU44435	DU44436
DU44437	DU44438	DU44439
DU44440	DU44441	DU44442
DU44443	DU44444	DU44445
DU44446	DU44447	DU44448
DU44449	DU44450	DU44451
DU44452	DU44453	DU44454
DU44455	DU44456	DU44457
DU44458	DU44459	DU44460

GMLAO
Distribution - 50834093
INFORMATION ON THIS PLAN IS ONLY VALID FOR 30 DAYS FROM ISSUE DATE
 Page 1 of 1
 15 Feb 2016
 1:277
 0 17 metres

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty (20) working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

INFORMATION PROVIDED BY ENDEAVOUR ENERGY

- Any plans provided pursuant to this service are intended to show the approximate location of underground assets relative to road boundaries, property fences and other structures at the time of installation.
- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

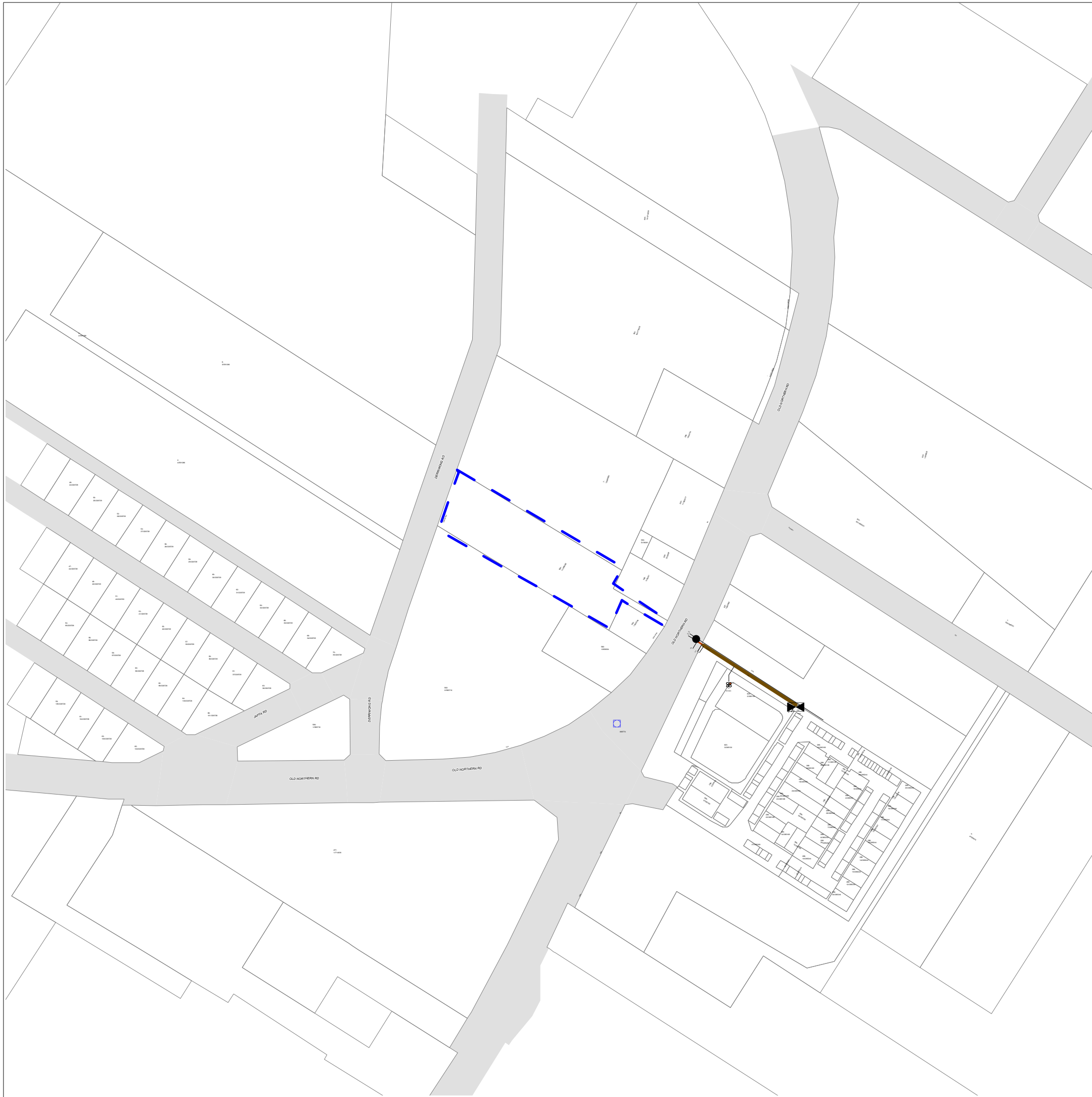
LEGEND

- OR ■ Street light column
- ▭ Padmount substation
- ▭ OR ▭ Overground pillar (O.G.Box)
- ▭ Underground pit
- ▬ Duct run
- ▬ Cable run
- ⊙ Typical duct section
- ▲ Asbestos warning



NOT TO SCALE

DBYD Sequence No.:	50834094
Issued Date:	15/02/2016



If further clarification is required, please contact:
 Endeavour Energy
 Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003



DBYD Underground Search Report

Date: 15/02/2016

DBYD Sequence No: 50834094

DBYD Job No: 10280824

ENDEAVOUR ENERGY ASSETS NOT AFFECTED

To:	Mr Ben Withnall	Company:	A.D. Envirotech Pty Ltd		
Address:	6/7 Millennium Court, Silverwater, NSW 2128				
Cust. ID:	1574323	Email:	b.withnall@adenvirotech.com.au		
Phone:	0414217615	Mobile:	Not Supplied	Fax:	Not Supplied
Enquiry Location:	5 Derriwong Road, Dural, NSW 2158				

Our Search has shown that **NO UNDERGROUND ASSETS ARE PRESENT** on our plans within the nominated enquiry location. However all persons planning excavation shall read and understand the warnings below. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

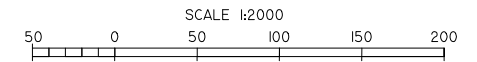
WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty (**20**) working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

SUPPLEMENTARY MATERIAL

Material	Purpose	Location
DBYD Cover Letter	Endeavour Energy DBYD response Cover Letter	Attached
DBYD Important Information & Disclaimer	Endeavour Energy disclaimer, responsibilities and information on understanding plans	Attached
DBYD Response Plans	Endeavour Energy DBYD plans	Attached
Work Cover NSW " <i>Work near underground assets: Guide</i> "	Guideline for anyone involved in construction work near underground assets	Contact Work Cover NSW for a copy
Work Cover NSW " <i>Excavation work: Code of practice</i> "	Practical guidance on managing health and safety risks associated with excavation	URL [Click Here]
Safe Work Australia " <i>Working in the vicinity of overhead and underground electric lines guidance material</i> "	Provides information on how to manage risks when working in the vicinity of overhead and underground electric lines at a workplace	URL [Click Here]
Endeavour Energy Safety Brochures & Guides	To raise awareness of dangers of working on or near Endeavour Energy's assets	URL [Click Here]

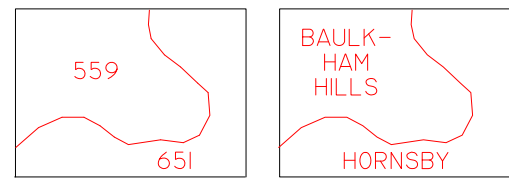
DURAL 4D



THIS MAP UPDATED ON 11/12/2014
 THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES
 SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
 DATE ALTERED:..... BY:.....

D4A	D4B	D5A
D4C	D4D	D5C
D7A	D7B	D8A

ADJOINING MAPS



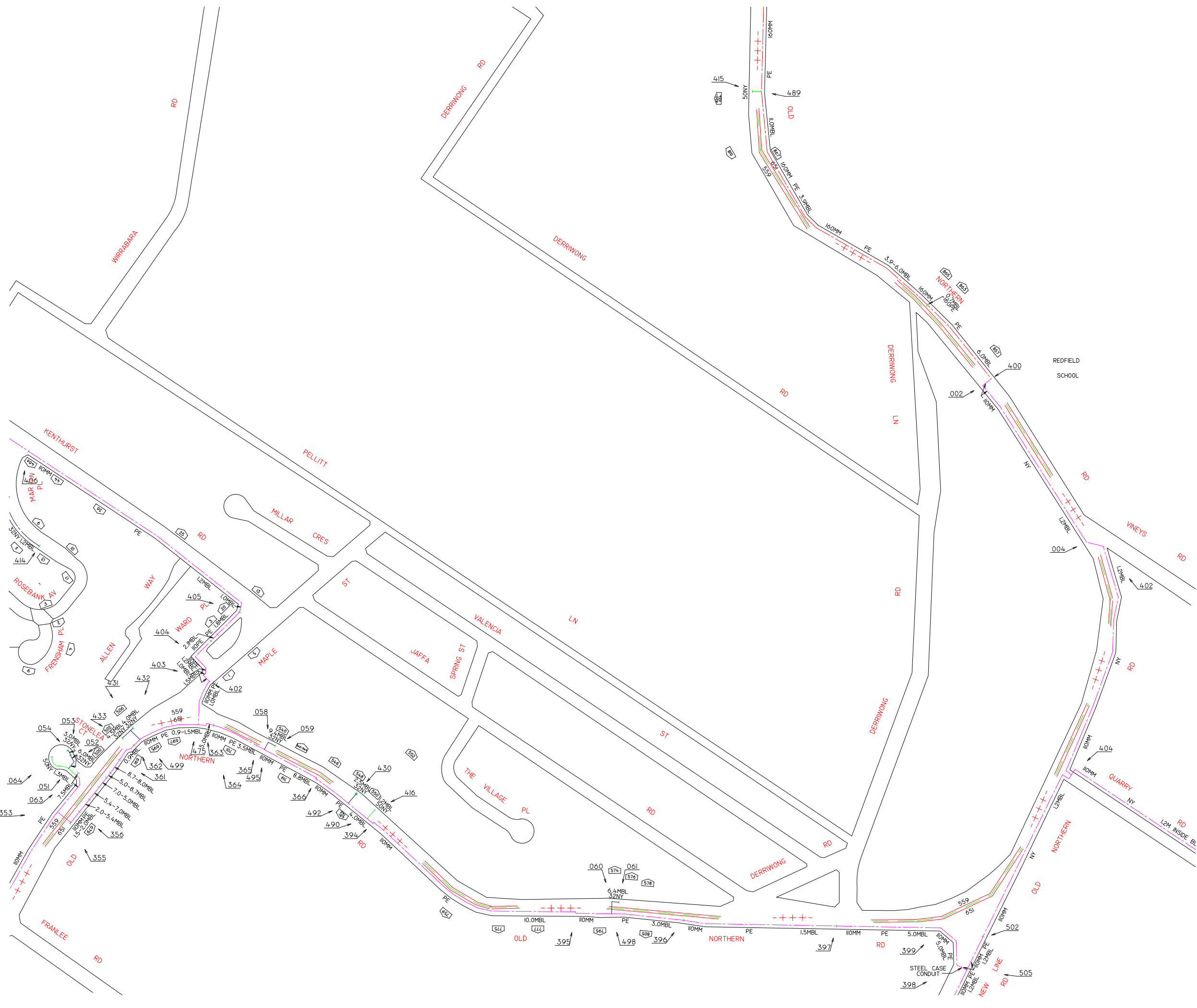
NETWORK AREA MUNICIPALITY AREA

Jemena

KEY

- | MAX ALLOWABLE OPERATING PRESSURE | |
|----------------------------------|--|
| — T — | TRUNK PIPELINE 7000 kPa |
| — P — | PRIMARY MAIN 3500 kPa |
| — S — | SECONDARY MAIN 1050 kPa |
| — 400 — | NETWORK MAIN 400 kPa |
| — 300 — | NETWORK MAIN 300 kPa |
| — 210 — | NETWORK MAIN 210 kPa |
| — 100 — | NETWORK MAIN 100 kPa |
| — 30 — | NETWORK MAIN 30 kPa |
| — 7 — | NETWORK MAIN 7 kPa |
| — 2 — | NETWORK MAIN 2 kPa |
| — + + + — | PROPOSED MAINS |
| PR II-2 3 | STEEL MAIN PROJECT NUMBER |
| △ | PRESSURE MONITORING STATION |
| ▽ | VALVE |
| □ | SYSTEM PRESSURE REGULATOR |
| • | SIPHON |
| 123 | NETWORK NODE |
| 123S | NETWORK VALVE NODE |
| 123V | VALVE NUMBER |
| 6NB | 6 INCH CAST IRON MAIN |
| 150MM | 150MM STEEL MAIN |
| 110MM PE/NY | 110MM POLYETHYLENE/NYLON MAIN |
| ⊙NB 50MM NY | 50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN |
| 1.2MBL | DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE |
| 1957 | YEAR LAID |
| — + + + — | MUNICIPALITY BOUNDARY |
| — + + + — | NETWORK BOUNDARY |
| 123 | HOUSE NUMBER |

DURAL 4D





Response Cover Letter

Date: 15/02/2016

PIPE Networks
Level 17, 127 Creek St
Brisbane QLD 4000
Phone: +61 732339895
Fax: +61 732339880

To:

Mr Ben Withnall - Customer ID: 1574323
A.D. Envirotech Pty Ltd - Mr Ben Withnall
6/7 Millennium Court
Silverwater
NSW
2128

Email: b.withnall@adenvirotech.com.au
Phone: 0414217615
Fax: Not Supplied
Mobile: Not Supplied

Dear Mr Ben Withnall

The following is our response to your Dial Before You Dig enquiry.

Assets Affected: Telstra

Sequence Number: 50834092

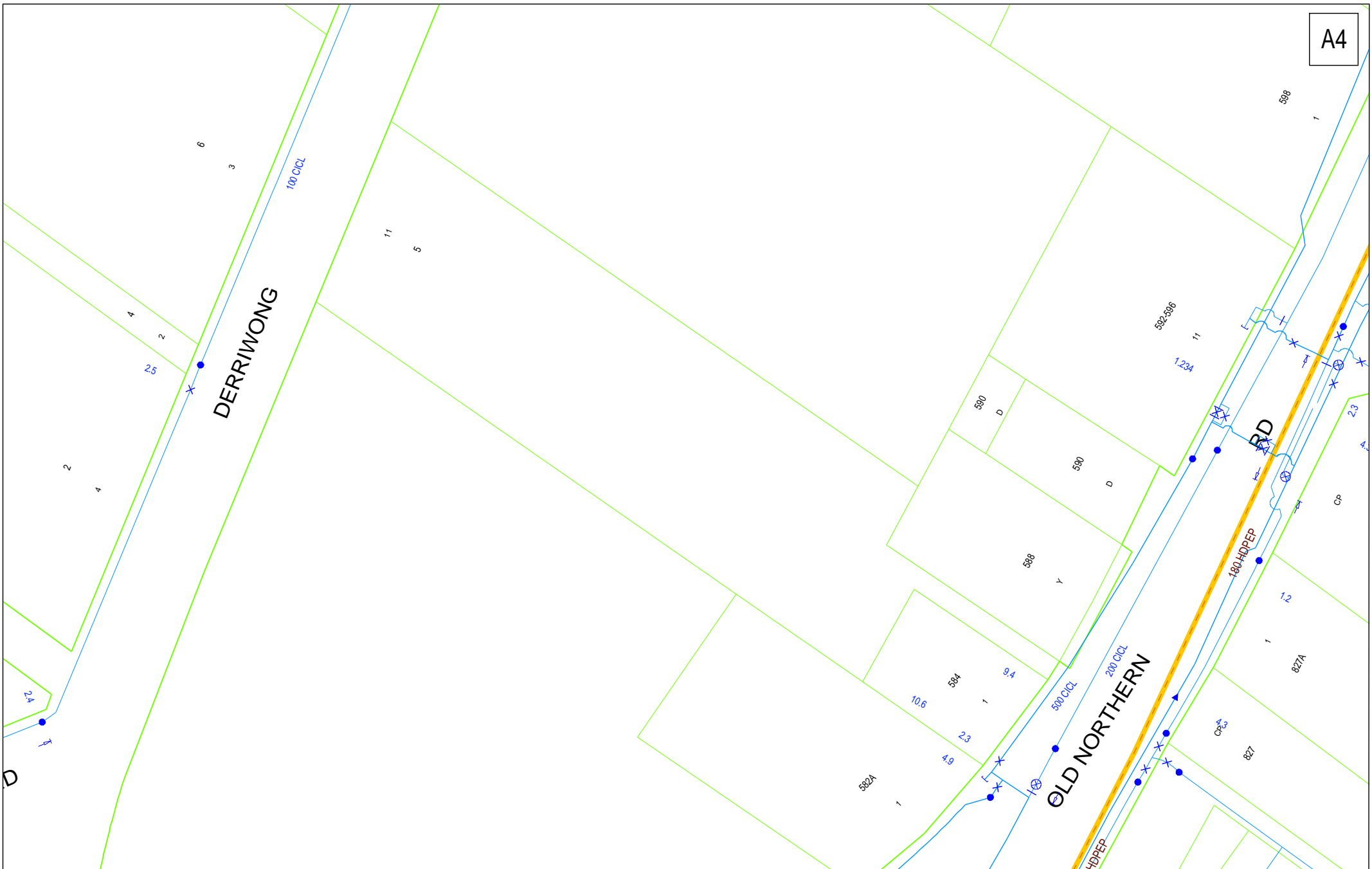
Location: 5 Derriwong Road
Dural
NSW 2158

Commencement Date: 18/02/2016

Please read over the attached documents for more information about your enquiry.

DISCLAIMER: No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.

Note: If the works fall in an area that adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time. **NO WORKS TO COMMENCE PRIOR TO INSPECTION.**



DBYD Address:
5 Derriwong Road
Dural NSW 2158

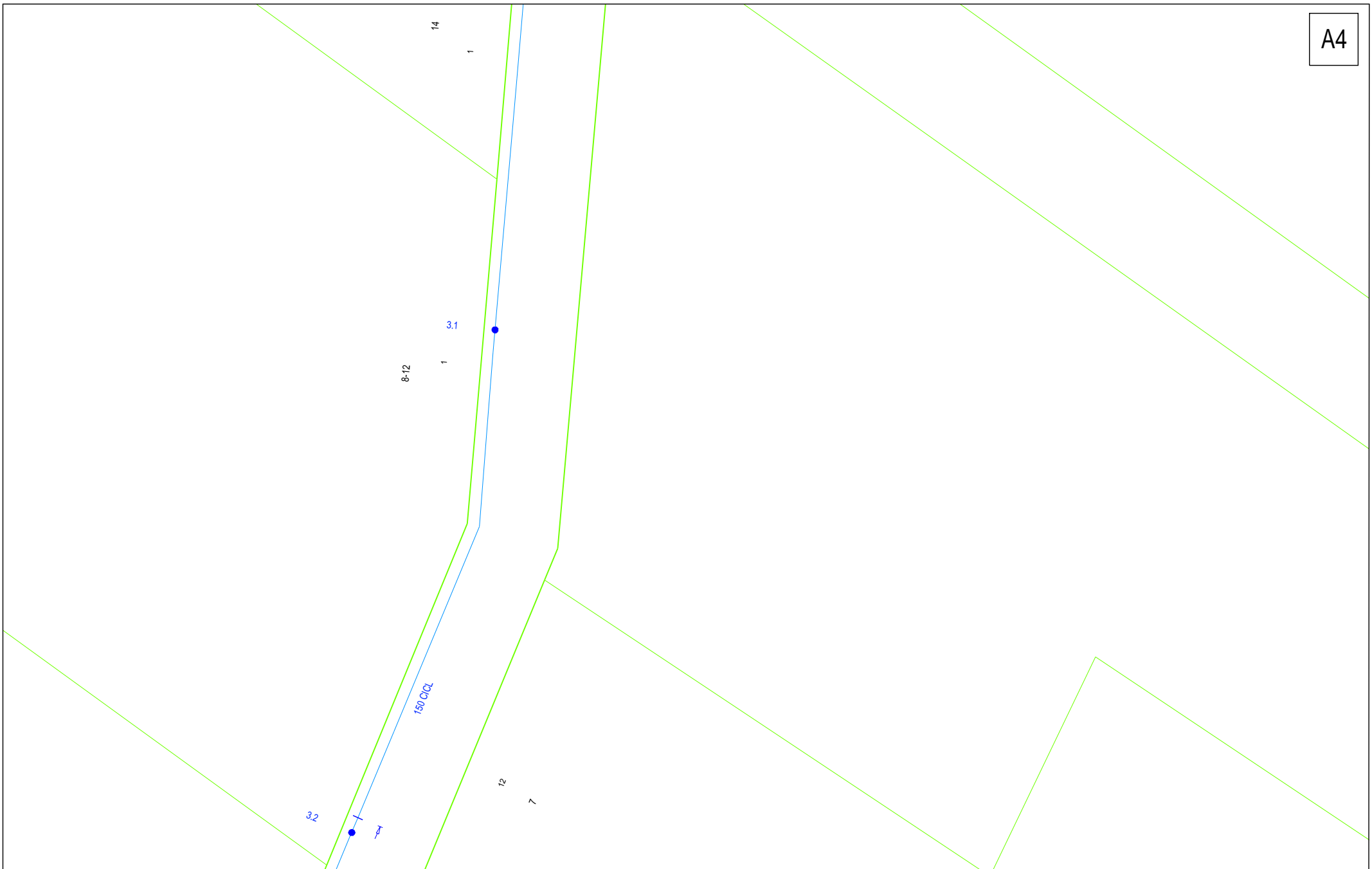
DBYD Job No: 10280824
DBYD Sequence No: 50834098

Copyright Reserved Sydney Water 2016
No warranty is given that the information shown is complete or accurate.
SYDNEY WATER CORPORATION

Scale: 1:1000
Date of Production: 15/02/2016

Plan 1 of 2

0m 5m 10m 15m 20m



DBYD Address:
5 Derriwong Road
Dural NSW 2158

DBYD Job No: 10280824
DBYD Sequence No: 50834098

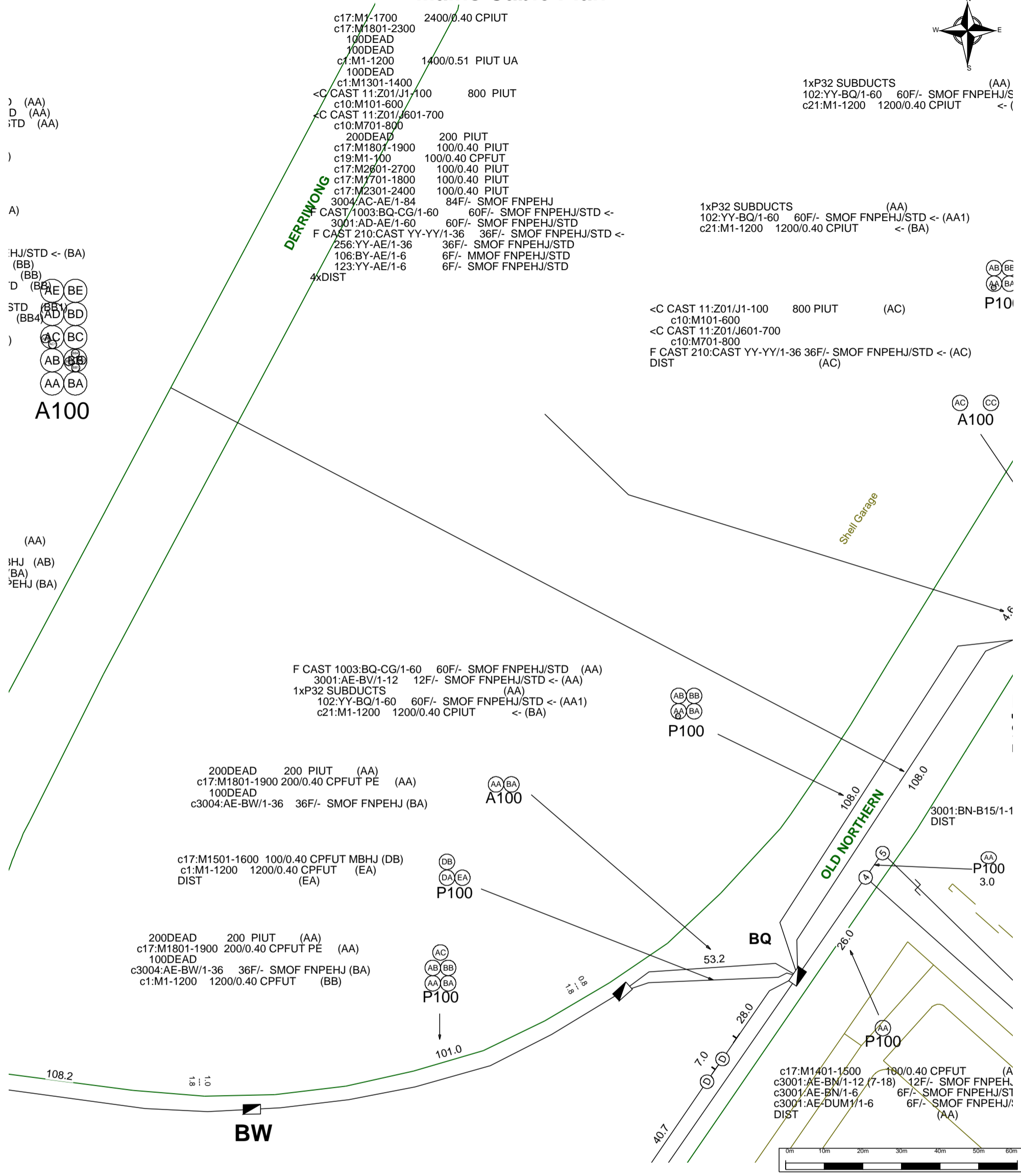
Copyright Reserved Sydney Water 2016
No warranty is given that the information shown is complete or accurate.
SYDNEY WATER CORPORATION

Scale: 1:1000
Date of Production: 15/02/2016

Plan 2 of 2

0m 5m 10m 15m 20m

Mains Cable Plan



For all Telstra DBYD plan enquiries -
 email - Telstra.Plans@team.telstra.com
 For urgent onsite contact only - ph 1800 653 935 (bus hrs)

Sequence Number: 50834095

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 15/02/2016 10:53:03

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Appendix IX – NSW WorkCover

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



SafeWork NSW

SafeWork NSW

92-100 Donnison Street, Gosford, NSW, 2250

Locked Bag 2906, Lisarow, NSW, 2252 |

Customer Service Centre 13 10 50

licensing@safework.nsw.gov.au | www.safework.nsw.gov.au

Our Ref: D16/525156

Your Ref: Evan Webb

17 February 2016

Attention: Evan Webb
AD Envirotech Pty Ltd
6/7 Millenium Court
Silverwater NSW 2128

Dear Mr Webb,

RE SITE: 586 Old Northern Rd Dural NSW

I refer to your site search request received by SafeWork NSW on 9 february 2016 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above mentioned premises.

For further information or if you have any questions, please call our Customer Service Centre on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Brent Jones', written over a circular stamp.

Brent Jones
Customer Service Officer
Customer Service Centre - Operations
SafeWork NSW

Appendix X – EPA Contaminated Sites Register

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



Healthy Environment, Healthy Community, Healthy Business

[Home](#) > [Contaminated land](#) > [Record of notices](#)

Search results

Your search for:LGA: Baulkham Hills Shire Council

Matched 5 notices relating to 1 site.

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
Kenthurst	137 Annangrove Road	Annangrove Climbers	5 former

Page 1 of 1

30 June 2015

Connect

Feedback

Web support
Public consultation

Contact

Contact us
Offices
Report pollution

Government

NSW Government
jobs.nsw

About

Accessibility
Disclaimer
Privacy
Copyright

DRUMMOYNE	Caltex Service Station 191-195 Lyons ROAD	Service Station	Under assessment
DRUMMOYNE	Former Dry Cleaners 225 Victoria ROAD	Chemical Industry	Under assessment
DRUMMOYNE	Shell Coles Express Drummoyne (Westbound) 35-51 Victoria ROAD	Service Station	Under assessment
DRUMMOYNE	Shell Coles Express Drummoyne (Eastbound) 36 - 46 Victoria ROAD	Service Station	Under assessment
DUBBO	BP Service Station, Dubbo 105 Erskine STREET	Service Station	Under assessment
DUBBO	Lowes Petroleum BP-Branded (former Mobil) Depot 107 Erskine STREET	Other Petroleum	Under assessment
DUBBO	Former Shell Depot 109-111 Erskine STREET	Other Petroleum	Under assessment
DUBBO	Caltex Service Station 119 Bourke STREET	Service Station	Under assessment
DUBBO	Shell Coles Express Service Station 131-133 Cobra STREET	Service Station	Under assessment
DUBBO	Dubbo Police Station 153 Brisbane STREET	Other Petroleum	Under assessment
DUBBO	Former Ambulance Station 165 Brisbane STREET	Other Petroleum	Contamination formerly regulated under the CLM Act
DUBBO	Service Station at Harvey Norman Centre 219-233 Cobra STREET	Service Station	Under assessment
DUBBO	Former Mobil depot 40-44 Morgan STREET	Other Petroleum	Regulation under CLM Act not required
DUBBO	Shell Coles Express Service Station 45-49 Whylandra STREET	Service Station	Under assessment
DUBBO	Caltex Service Station, Dubbo 60 Windsor PARADE	Service Station	Regulation under CLM Act not required
DUBBO	Caltex Service Station, Dubbo Cnr Brisbane Street and Cobra STREET	Service Station	Contamination currently regulated under CLM Act
DUBBO	Caltex Service Station Phillip St Cnr Fitzroy STREET	Service Station	Under assessment
DUBBO WEST	Mobil Service Station Corner Whylandra Street and Victoria STREET	Service Station	Under assessment
DULWICH HILL	Former Tyre Recapping 115-117 Constitution ROAD	Other Industry	Regulation under CLM Act not required
DULWICH HILL	Denison Road Playground 194 Denison ROAD	Landfill	Regulation under CLM Act not required
DUNEDOO	Former Shell Depot Corner Bolaro Street and Redbank STREET	Other Petroleum	Under assessment
DUNGOG	Lot 54 Common Rd 54 Common ROAD	Unclassified	Regulation under CLM Act not required
DUNMORE	Equestrian Centre 71 Fig Hill LANE	Unclassified	Regulation under CLM Act not required
DURAL	Caltex Service Station 530 Old Northern ROAD	Service Station	Regulation under CLM Act not required

DURAL	Woolworths Service Station 532 Old Northern ROAD	Service Station	Under assessment
DURAL	BP Service Station 582 Old Northern ROAD	Service Station	Under assessment
DURAL	Caltex Service Station 917-923 Old Northern ROAD	Service Station	Under assessment
EAGLE VALE	BP Service Station Corner Eagle Vale Drive and Gould ROAD	Service Station	Under assessment
EARLWOOD	RTA Land 3 Jackson PLACE	Unclassified	Contamination currently regulated under CLM Act
EARLWOOD	Wolli Creek Aqueduct Unwin STREET	Unclassified	Regulation under CLM Act not required
EAST BALLINA	Caltex East Ballina Service Station 34 Links AVENUE	Service Station	Regulation under CLM Act not required
EAST GOSFORD	Mobil Service Station 44 Victoria STREET	Service Station	Contamination currently regulated under CLM Act
EAST GOSFORD	Presbyterian Aged Care Facility 8-18 Enid CRESCENT	Landfill	Regulation under CLM Act not required
EAST MAITLAND	Mobil Service Station 250 Newcastle STREET	Service Station	Under assessment
EAST MAITLAND	Former Gasworks Site Corner Melbourne Street and Brisbane STREET	Gasworks	Regulation under CLM Act not required
EAST MAITLAND	Caltex Service Station Newcastle Rd Cnr William STREET	Service Station	Under assessment
EAST TAMWORTH	Caltex Service Station 358 New England HIGHWAY	Service Station	Under assessment
EASTERN CREEK	Caltex Service Station M4 Motorway Westbound M4 Westbound	Service Station	Regulation under CLM Act not required
EASTERN CREEK	Caltex Service Station M4Eastbound MOTORWAY	Service Station	Under assessment
EASTERN CREEK	Pioneer Road Services Old Walgrove ROAD	Other Industry	Under assessment
EASTLAKES	Budget Petroleum Eastlakes 102 Maloney STREET	Service Station	Contamination currently regulated under CLM Act
EASTLAKES	Former Shell Rosebery service station and adjacent land 275-279 Gardeners ROAD	Service Station	Contamination formerly regulated under the CLM Act
EASTLAKES	Eastlakes Reserve Evans AVENUE	Service Station	Contamination formerly regulated under the CLM Act
EASTWOOD	Mobil Service Station 5 Trelawney STREET	Service Station	Under assessment
EDEN	Caltex Service Station 159 Imlay STREET	Service Station	Under assessment
EDEN	Caltex Service Station 80-86 Imlay STREET	Service Station	Under assessment
EDENSOR PARK	Mobil Service Station Corner Cowpasture Road and Elizabeth DRIVE	Service Station	Under assessment
EDGECLIFF	Shell Coles Express Service Station 67 New South Head ROAD	Service Station	Under assessment
EDGEWORTH	Caltex Service Station 662 Main ROAD	Service Station	Under assessment

Phase I Preliminary Site Investigation

21 Derriwong Rd, Dural NSW

Prepared for: Urbis Pty Ltd



ADE
CONSULTING
GROUP

Prepared for:

Urbis Pty Ltd
Phase I Preliminary Site Investigation

21 Derriwong Rd, Dural

Version	Details	Date
v1 final	Written by Evan Webb	23 rd October, 2015
v2 final	Written by Evan Webb	6 th May, 2016

Report No: 9315 / PSI1 / v2 final

Date: 6th May, 2016

Written by:

Evan Webb
B.Sc. (Environmental)
Environmental Consultant

Reviewed by:

Thomas Lobsey
B. L&W. Sci
Senior Environmental Consultant

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Envirotech Australia Pty Ltd.

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ABBREVIATIONS

ADE	A.D. Envirotech Australia Pty Ltd
ALS	Australian Laboratory Services
AST	Above Ground Storage Tank
BGL	Below ground level (following excavation works)
BLGL	Below local area ground level
BR	Blind Replicate
BTEX	Benzene, toluene, ethyl-benzene, xylene
COC	Chain of Custody
DEC	Department of Environment and Conservation
DQI	Data Quality Indicators
DQO	Data Quality Objectives
EILs	Ecological Investigation Levels
ESLs	Ecological Screening Levels
GILs	Groundwater Investigation Levels
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LPI	Land Property Information
LTO	Land Titles Office
NATA	National Association of Testing Authorities
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW EPA	New South Wales Environmental Protection Authority
OEH	Office of Environment and Heritage
OPPs	Organophosphorous Pesticides
OCPs	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SCID	Stored Chemical Information Database
SWL	Standing Water Level
SH&EWMS	Safety Health and Environmental Works Method Statement
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
VAL	Validation Report
VHC	Volatile Halogenated Compounds

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1 INTRODUCTION

1.1 General Information

A. D. Envirotech Australia Pty Ltd (ADE) was engaged by Urbis Pty Ltd to undertake a Phase I Preliminary Site Contamination Investigation (PSI) to assess the potential for contamination at 21 Derriwong Road, Dural NSW (hereafter referred to as the 'site').

The site entails Lot 2, DP567995 in the Local Government Area of The Hills Shire Council, Parish of Nelson, County of Cumberland.

A site inspection was undertaken on the 3rd of July 2015 and comprised of a visual assessment of the site. Details of the field inspection are given in this report, together with comments on the significance of the findings of the investigation.

This report was completed in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites*, NSW EPA, September 2000.

1.2 Proposed Development

ADE has been advised that, Urbis Pty Ltd, on behalf of their client, are re-purposing the site and adjoining properties for *a mixed use residential and commercial development comprising retail outlet shops and medium density residential units*.

1.3 Objectives

The objectives of the investigation were to:

- Identify past and present potentially contaminating activities;
- Identify potential sources of contamination and types of contaminants;
- Discuss the site condition;
- Provide a preliminary assessment of site contamination for the suitability of the proposed development; and
- Assess the need for further investigations.

1.4 Scope of Work

The scope of work required to achieve the objectives of the investigation involved the following:

- Completion of a Safety, Health & Environment Work Method Statement (SHEWMS);
- Desktop site review of:
 - Land title records;
 - Section 149 certificates;
 - WorkCover NSW;
 - NSW Environment and Heritage;
 - EPA contaminated lands register for notations; and
 - Dial Before You Dig service search;
- Review of past and current activities on the site;

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- Review of past and current activities on neighbouring sites and identification of any potential on-site/off-site sources of contamination;
- Review of past aerial photographs of the site and its surrounds to identify the locations of any previous buildings and/or other infrastructure associated with activities that could be on-site/off-site sources of contamination;
- Review of local geology and hydrogeology (including groundwater bore search);
- Site inspection by an experienced environmental consultant; and
- Preparation of a Phase I PSI report outlining:
 - Detailed information on the results of the desktop review and site inspection;
 - Conclusions regarding the potential for contamination at the site;
 - Conclusions regarding the sites suitability for the proposed development; and
 - Recommendations for a Phase II Detailed Site Investigation (DSI), should it be warranted.

1.5 Legislative Requirements

The legislative framework for the report is based on guidelines that have been issued and/or endorsed by the NSW Environmental Protection Agency (EPA) formerly the Office of Environment and Heritage (OEH) under the following Acts/Regulations:

- *Protection of the Environment Operations Act 1997*
- *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008*
- *Contaminated Land Management Act 1998*

The relevant guidelines issued under the provisions of the aforementioned Acts/Regulations include:

- *Guidelines for the NSW Site Auditor Scheme, NSW DEC 2006.*
- *Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA, 2000.*
- *Guidelines for Assessing Service Station Sites, NSW EPA 1994.*
- *National Environmental Protection Measure (Assessment of Site Contamination), 1999, as amended 2013.*
- *Australian Standard AS 4482.1 Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.*
- *Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances.*
- *Sampling Design Guidelines - NSW EPA, 1995.*
- *Waste Classification Guidelines Part 1: Classifying Waste, EPA, 2014.*
- *Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008, NSW DECCW 2009.*
- *Guidelines for the Assessment and Management of Groundwater Contamination, NSW DEC, 2007.*

1.6 Whole Report

No one section, or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendices and attachments.

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2 SITE IDENTIFICATION

2.1 Site Location

The site has frontage to Derriwong Rd, Dural NSW as is shown by Figure 1 below.



Figure 1. Aerial photograph of the site (Photograph from maps.au.nearmap.com; accessed on 09.07.2015).

Bearings provided in this report are approximate only. For ease of representing locations in the report, the site is considered to be off Derriwong Road, with the Old Northern Road used for compass point directions having a nominal north-south direction assumed. All references to points of the compass within the report are based on these approximate bearings.

2.2 Site Inspection and Description

An Environmental Consultant from ADE carried out a site inspection on the 3rd of July 2015 in order to make a visual assessment of the site and provide information on potential site contamination issues, some of which are as follows:

- Surrounding land uses and potential contamination sources;
- Presence of hazardous or dangerous goods storage;
- Presence of Underground or Aboveground Storage Tanks, Generators or associated fuel transfers systems i.e. fuel lines;
- Condition of current structures, stockpiles, vegetation and soil;
- Proximity to water bodies/courses; and
- Visible and/or olfactory evidence of contamination.

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A residential house is present on the northern boundary of the site which appears to have been constructed in the 1980's, the house is cut into the slope of the land and was observed to be on a concrete slab, asphalt was present to the east of the house in the form of a parking area. A large storage shed was observed adjacent to the house which is presumed to have been used for previous agricultural activities undertaken on the site. Both the house and the shed were inaccessible at the time of the inspection. The shed was observed to be raised to level from the surrounding slope of the site with fill materials observed beneath the concrete slab, fill depths varied in depth from 0.2 m to 2.0 m depth. Asbestos was observed on the soil surface as well as building rubble and concrete pieces. It is presumed that the storage shed was used for the storage of chemical including fuel, fertiliser and herbicides / pesticides.

Access to the site is along the northern boundary with a driveway consisting of asphalt and gravel materials, the driveway provides shared access to 21 Derriwong and 618 Old Northern Road, Dural.

The site is approximately 1.97 ha which was predominantly grassed at the time of inspection. The site falls from east to west with a gentle to medium slope. Evidence of former market gardens / orchard use was observed on the site with the presence of wind rows observed in parallel lines covering the entire property. It appears that the wind rows have been smoothed out and grass grown to cover the site following the removal of the former agricultural activities.

On the western boundary, large stockpiles of mulch and firewood were observed during the site inspection. The stockpiles combined stretched a distance of approximately 100 m along the entire western boundary.

Along the eastern boundary, a levelled platform was observed which was noted to consist of imported fill materials, with road base and a mixture of soil textures observed on the surface. The area spans approximately 1,500m² and appears to have been used as a storage area / stabling yard. A small concrete slab, approximately 2m x 2m was observed on the north-western corner of the fill materials and may have previously been a platform for a tank. Limited signs of staining were observed within the area. A sheet of asbestos containing fibre cement was observed on the slab surface and a single piece of asbestos debris was observed on the soil surface approximately 10 m south of the slab. A small stockpile of asbestos cement conduits were observed on the southern section of the levelled area, approximately 10 conduits were observed. The condition of the conduits was noted to be fair with cracks and evidence of weathering observed.

No evidence of previous Underground Storage Tanks (USTs) were observed however the presence and positioning of the concrete slab suggests the possibility that it may have been associated with an Above ground Storage Tanks (ASTs).

Photographs and site inspection notes taken on the 3rd July 2015 can be found in Appendix III – Photographs.

2.3 Surrounding Land Use

At the time of inspection the primary surrounding land-uses were observed as follows:

- Northern boundary: Immediately to the north of the site is a large 5 ha property which at the time of inspection was cleared and grassed land with a large dam, storage sheds for agricultural equipment, a residential house, and a work shop associated with former agricultural activities was observed. Evidence of former orchard and / or market garden use is evident across the entire site.

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An intact above ground storage tank (AST) was observed approximately 10 m north of the northern boundary with significant staining on the soil surface present. Recent aerial photographs suggest that large scale machinery, rubbish and large quantities of chemicals associated with the agricultural industry have been stored on the site. Aerial photographs suggest the adjacent property (i.e 618 Old Northern Road) was previously owned by the same person or company with shared access and crops with shared access to the dam on the adjacent site for the purpose of irrigation. Further north of the neighbouring site is a school and additional agricultural lands which appear to be associated with the same agricultural practices and or company (27 Derriwong Rd, Dural);

- Eastern boundary: directly to the east of the site is a residential house which appears to be from the early 1900s based on the design, and was noted to be maintained in good condition and likely that it has been restored in recent times. Further east is the Old Northern Road, and large scale former rural / agricultural land present on the opposite side of the Old Northern Road;
- Southern boundary: To the south of the site is a residential property of significant size with a large associated paddock. There are no immediate signs of former agricultural use however recent aerial photographs suggest that a portion of the site, inline / adjoining the above mentioned levelled platform which may have been used for the purpose of storing and or stockpiling building materials and or building waste etc. Further south are residential properties; and
- Western boundary: West of the subject site are residential properties and bushland reserve which adjoins rural residential properties further to the west.

2.4 Summary of Site Details

Table 1 below provides a summary of details pertaining to the site.

Table 1. Site details and information.

Site Details	
Site address	21 Derriwong Rd, Dural NSW
Title identification(s)	Lot 2, DP567995
Current site use	Rural agricultural / Residential
Proposed site use	Mixed use / residential and commercial
Investigation area	Approximately 1.97 ha

3 PHYSICAL SETTING

3.1 Site Topography and Hydrology

The sites elevation varies between approximately 195 m AHD and 218 m AHD. The topography slopes moderately down from east to west. The fall of the land flows towards a second order stream which feeds into O’Haras Creek which is approximately 200 m west of the western border of the site. Surface water flow and groundwater is expected to follow the slope of the land and flow towards westward to O’Haras Creek.

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3.2 Local Geology and Soil

The site is located on a Glenorie Soil Landscape (gn) as indicated on the Sydney Soil Landscape Map, prepared by the Soil Conservation Services of NSW.

The geology of the Glenorie Soil Landscape is underlain by Wianamatta group Ashfield Shale and Bringelly Shale formations. The Ashfield shale is comprised of laminate and dark grey shale. Bringelly shale consists of shale, calcareous clastone, laminate and fine to medium grained lithic-quartz stone.

Soils are shallow to moderately deep (< 100cm) with variability across upper slopes and drainage gullies.

The topsoil (A1 Horizon) consists of a friable dark brown loam, with moderately to strongly pedal structure. apedal single-grained structure and porous sandy fabric. The pH ranges from strongly acid (pH 4.0) to slightly acid (pH 6.0).

Beneath this layer occurs the B Horizon consisting of hardsetting clay loam. The pH ranges between strongly acid (pH 4.0) to slightly acid (pH 6.5).

The B Horizon is a brown, strongly pedal medium clay. The pH varies from strongly acid (pH 4.5) to moderately acid (pH 6.5). Strongly weathered sandstone fragments are common. Roots and charcoal fragments are rare.

It should be noted that the area occurs close to a transition between Glenorie and Lucas Heights soil landscapes and therefore transitional phases may occur and vary depending on the exact location.

Fill Material

No intrusive works were conducted during the site inspection however opportunistic soil profiles and surface soils suggest the presence of fill materials beneath the shed, carpark, eastern levelled platform and along the driveway. Based on the evidence of former agricultural use, it is possible that top soil may have been imported to add nutrients and provide a growth medium for crops grown on site.

3.3 Hydrogeology

It was beyond the scope of work to study the groundwater flow direction. However, as previously mentioned in the above section, the local groundwater flow is likely to have a westerly direction towards O'Hara Creek which is located approximately 200 m to the west and flows from south to north.

A search for registered groundwater wells within a 500 m radius of the site was undertaken by ADE via the NSW Office of Water (NSW Groundwater works, NR Atlas website). A groundwater bore was located on site in the south-western corner of the site (GW105866) with an additional 4 located nearby. Records of the groundwater bore on site indicate that the well was installed for stock and or domestic purposes. The well has a licensed status of "converted" and was established on the 05/05/2005. No additional information relating to standing water level or soil profiles was provided. A nearby groundwater well (GW105497) which is located approximately 170 m north of the site indicates a standing water level of 29 m (refer to Appendix IV – NSW Groundwater (NRAtlas)).

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3.4 Acid Sulphate Soils

A review of the Acid Sulphate Soil Risk Maps demonstrated that the site is within an area of “no known occurrence or low risk” of acid sulphate soils (refer to Appendix V – Acid Sulfate Soils).

4 SITE HISTORY

4.1 Historical Land and Title Search

The site history has been compiled from information gathered from the Land Titles Office (LTO), Land Property Information (LPI) and Council records.

The site entails Lot 2, DP567995 in the Local Government Area of The Hills Shire Council, Parish of Nelson, County of Cumberland.

Table 2. Summary of LTO records for Lot 2, Deposited Plan (DP) 567995

Date	Transferred/Leased From	Transferred/Leased To	Transfer No.	Certificate reference
Lot 2 DP 567995				
30.06.1823	Crown land	Stephen Smith	N/A	Vol 12361 Folio 235
29.02.1974	Unknown – no prior title reference to follow	Joan Heather Jones	N/A	Vol 12361 Folio 235
13.06.1974	Part transfer to council for easement	Council	Q629551	Vol 2899 Folio 240
27.09.1988	Converted to computer folio	Unknown	N/A	Lot 2 DP 567995
N/A	Unknown	Alan Raymond Trappel	Q 629551	Lot 2 DP 567995

The information obtained from the LTO, LPI and Council Records is unclear with regards to the former owners of the land due to missing information on the documentation (Refer to Appendix I – LTO Records). No information can be extrapolated with regard to contamination from the LTO records.

4.2 NSW Office of Environment and Heritage

A search of the NSW Office of Environment and Heritage public register of state heritage inventory items identified no heritage listed items within the general area of the subject site (Refer to Appendix VI – NSW OEH State Heritage Records).

4.3 Aerial Photographs Review

A review of aerial photographs was conducted and is summarised in Table 3 below. Aerial photographs from the years of 1930, 1947, 1956, 1965, 1986, 1994, 2009, 2012 and 2015 were examined (refer to Appendix II - Aerial Photographs).

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Table 3. Summary of aerial photography.

Year	Type	Subject Site Description	Adjacent Site Description
1930	Black and White	The site is a cleared block in part with some remnant vegetation still present. There is no structure present on site however a house is located above the property immediately to the east which is believed to have been previously attached the subject site. A thin strip of orchard is present on the eastern boundary	The adjacent property to the north appears to be adjoined the subject site with a house and storage shed present and an orchard running north to south. Further north is landscaped property. Much of the surrounding land is used for orchards and agriculture.
1947	Black and White	The former small scale orchard appears to have been removed. An area of farming is evident on the southern boundary with visible wind rows. There is a section of orchard in the western half of the site. Clearing has occurred across the western half of the block	The surrounding area continues to be used for orchards and agriculture with the exception of further clearing to increase agricultural land.
1956	Black and White	The orchards are not present on the site. Some re-vegetation has occurred suggesting the land is not being used for agriculture. Additional buildings have been added on the eastern portion of the site.	The adjacent property to the north appears to be used for agriculture. Buildings are now present on the eastern portion of the property. Some residential / homestead sized properties are present in the surrounding area. Surrounding areas have orchards present. Derriwong road has been established.
1965	Black and White	Minor Re-vegetation has occurred across the western portion of the site.	The adjacent property to the north has been transformed with the entire site covered in wind rows, the installation of a large dam, the addition of a large storage shed near to the house and an increased area of farming. The property further north has additional buildings on it which appear consistent with the school which is present today. Some larger houses to the south have been constructed.
1986	Colour	The entire site is covered by wind rows and is being used for agricultural purposes. A large shed is now present to the south-east of the dam on the neighbouring property. A number of structures are present in the eastern portion of the site.	Additional sheds have been added to the adjacent property to the north; it appears that a carpark has been added below the shed structures. To the south of the subject site is a cleared portion of disturbed land.

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Table 3. continued

Year	Type	Subject Site Description	Adjacent Site Description
1994	Colour	The site appears largely unchanged however a residential house can now be observed directly to the east of the storage shed previously mentioned. A cleared portion on the eastern area of the site consistent with that observed during the site inspection can be observed.	Areas to the south of the site appear to have been disturbed with cleared soil noticeable. The surrounding area continues to be used for agricultural purposes.
2009	Colour	Large quantities of materials are being stored on the eastern levelled platform of the subject site. Small structures are present in the north-western portion of the area. The area appears to be used as storage for agricultural / industrial purposes. A large house to the east of the site is now present. The rest of the site appears to be orchards.	A structure approximately 15 to the north of the subject site which appears to be an above ground storage tank consistent with that observed during the site inspection is present. The property to the north continues to be orchards. The rest of the surrounding area remains largely unchanged.
2012	Colour	There is a cleared portion of orchard trees along the western boundary and evidence of stockpiles present. Disturbed soil and stockpiled materials are present adjacent the driveway.	The surrounds appear largely unchanged.
2015	Colour	The orchards have been removed and the subject site covered with grass. Obvious signs of stockpiled materials on the eastern platform have been removed. Large volumes of stockpile are present on the western boundary.	The neighbouring property has had the orchard removed as well. The structures and building remain present. The layout is as it appears today.

4.4 Contaminated Land Register Search

A search of the sites listed by the EPA under the *Contaminated Land Management Act 1997* revealed that no records have been issued against the site. No records of other contaminated sites that could have a potential impact on the site are present on the properties in the area surrounding the site (Refer to Appendix X – EPA Contaminated Sites Register).

4.5 Previous Investigation Reports

No previous investigative reports for the site or surrounding area have been provided by the client.

4.6 Section 149

The site is currently zoned under Zone RU6 Transition under The Hills Local Environmental Plan 2012. The Planning Certificate under Section 149 of the *Environmental Planning and Assessment Act 1979* (See Appendix VII – Section 149 Certificate) provides the state and local environmental planning instruments which affect the site.

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The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in the planning certificate.

- The land is not within an investigation area or remediation site under Part 3 of the Contaminated Land Management Act 1997;
- The land is not subject to an investigation order or an remediation order within the meaning of the Contaminated Land Management Act 1997;
- The land is not subject to a voluntary investigation proposal (or voluntary remediation proposal) that is the subject of the Environmental Protection Authority’s agreement under Section 19 or 26 of the Contaminated Land Management Act 1997; and
- The land is not subject to a site audit statement within the meaning of the Contaminated Land Management Act 1997.

4.7 Dial Before You Dig

An online search for utilities located within the site was conducted and is summarised in Table 4, below. Asset owners were notified and provided information on their utilities (refer to Appendix VIII – Dial Before You Dig).

Table 4. Summary of utilities located on or adjacent to the site

Asset Owner	Utility Type	Utility Location
Augrid	Underground Cable	No services present within the boundary of the subject site.
Telstra	Fibre Optic Cables	No services present within the boundary of the subject site.
Sydney Water	Water	No services present within the boundary of the subject site.
Endeavour Energy	Electrical	No services present within the boundary of the subject site.
Jemena	Gas	No services present within the boundary of the subject site.

4.8 Assessment of Historical Information Integrity

The site history assessment has been obtained from a variety of resources including government records from the NSW land titles office, local council, historical archives, historical aerial photographs, NSW Office of Water and EPA. The veracity of the information from these sources is considered to be high. The site history assessment is generally considered to be of high integrity with respect to the historical use of the site.

4.9 WorkCover

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises (Refer to Appendix IX – NSW WorkCover).

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5 POTENTIAL CONTAMINATION TYPES AND RECEPTORS

5.1 Potential Contamination Types

Table 5 below provides details of potential contamination types that were identified during the investigation. These are Contaminants of Potential Concern (COPC) were noted for each have the potential to have migrated to or be found on the site based on the site history.

Table 5. Potential Sources, Locations and Types of Contaminants.

Potential Source of contamination	Location	Migration Pathway	Contaminants of Potential Concern
Previous Land-use – Orchard during the 1940s onwards	Entire site	Spray	OCPs & OPPs
Irrigation of site	Throughout site	Installation	Asbestos conduits
Previous Land-use – Storage of agricultural equipment and supplies	Eastern platform of site, western boundary of the site	Leakage and spillage	Asbestos Containing Material and Asbestos Fibres, Heavy Metals, PAHs, TRHs, BTEX and Phenols
Storage shed presumed to have had chemicals stored within	Storage shed and immediate surrounds	Leakage and spillage	PAHs, TRHs, BTEX and Phenols
Potential above ground storage tanks (AST)	Eastern platform of site and adjacent areas	Leakage and spillage	TRH, BTEX and Phenols
Importation of fill	Beneath storage shed & eastern platform	Brought to site	Heavy Metals, PAHs, TRH, BTEX, Phenols & Asbestos
Waste water treatment / septic	Adjacent to storage shed	Leakage & removal	Heavy metals & Bacteria
House	Northern boundary of the site	Poor demolition practices	Asbestos & lead

No specific assessment of groundwater contamination has been undertaken within this investigation.

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5.2 Potential Transport Mechanism

Primary transport mechanisms for the migration of potential contaminants on to the site or off the site include:

- Airborne particulates due to wind turbulence events;
- Surface water runoff and storm water drainage;
- Downward migration and leaching via infiltration of rain water into the soil; and
- Later migration via groundwater.

5.3 Potential Contamination Receptors

The main potential contamination receptors were considered to include:

- Future construction / utility workers involved in excavation for future development of the site;
- Future residents and or users of the site;
- The aquatic ecosystems in O'Haras Creek.

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5.4 Potential Contamination Discussion

A raised and levelled platform of unvalidated fill is present along the eastern boundary, referred to as the eastern platform. Visual observation of asbestos on the soil surface as well as stockpiled asbestos conduits suggest former usage of the area for the storage of asbestos containing materials. Aerial photographs indicate that the area was used for storing farming / commercial equipment and materials. A small slab situated on the edge of the platform which may have potentially supported an AST suggests there may have been fuel stored in the area and therefore the potential for spillage and leaks to have occurred.

Fill materials beneath the storage shed and throughout the carpark are from an unknown location. Asbestos observed on the soil surface suggest the materials may be contaminated with building debris. The storage shed was inaccessible at the time of inspection, it is presumed that the building would have been utilised for the storage of chemicals of various kinds.

The residential house present on site has the potential to contain asbestos within the building fabric of the house. A hazardous materials survey should be undertaken prior to any demolition practices being undertaken. All hazardous materials are to be removed by a suitably qualified contractor prior to demolition of the house.

Results from the Stored Chemical Information Database reveal no record of stored chemicals registered to the subject site.

The onsite waste water treatment tank observed adjacent to the storage shed provide a potential source of contamination in the form of bacteria and heavy metals. Removal of the tank and trenches is to be carried out in accordance with the Local Government Authority requirements.

Ongoing usage of the subject site for agricultural purposes as an orchard and later for vegetable crops suggest that regular spraying of the site with pesticides and herbicides may have occurred over an extended period of time. As such the entire site has the potential for ongoing exposure and elevated levels of Organochlorine Pesticides (OCPs) and Organophosphate Pesticides (OPPs). It should be noted that based on the half life of these contaminants and the scale of the production, the risk is considered low to moderate for exceedances.

Upon review the available information presented within the body of this report, it is the opinion of ADE that there is the potential contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required.

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6 CONCLUSIONS

Based on the data and evidence collected in the course of the site inspection and site history review, the findings of the Phase I PSI are as follows:

- The land –use has been predominantly agricultural since the 1940’s, prior to this the land use is not clear;
- Presumed asbestos containing materials were observed in a number of locations on the site including the eastern platform fill materials and the fill materials beneath the storage shed;
- A hazardous materials survey should be undertaken prior to any demolition practices being undertaken and recommendations adhered;
- Based on ongoing usage of the subject site for agricultural purposes it is likely that regular spraying of the site with pesticides and herbicides has occurred over an extended period of time;
- Visual inspection revealed the presence of a slab potentially utilised for the purpose of supporting an Above Ground Storage Tank (AST);
- An AST was observed approximately 15 m north of the site boundary;
- Areas of potentially contaminated fill were observed on the eastern boundary and beneath the storage shed;
- It is the opinion of ADE that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required.
- ADE considers that it is likely that any contamination detected during further investigations (if present) will be capable of being remediated such that the site is suitable for the proposed land use.

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7 LIMITATIONS

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only and has been based on information provided by the client. The advice herein relates only to this project and all results, conclusions and recommendations made should be reviewed by a competent and experienced person with experience in environmental investigations, before being used for any other purpose. A.D. Envirotech Australia Pty Ltd (ADE) accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced or amended in any way without prior approval by the client or ADE and should not be relied upon by any other party, who should make their own independent enquiries.

Furthermore, soils, rock and aquifer conditions are often variable, resulting in non-homogenous contaminant distributions across a site. Boundaries between zones of variable contamination are often indistinct and have been interpreted based on available information and the application of professional judgement. The accuracy with which the subsurface conditions have been characterised depends on the frequency and methods of sampling and the uniformity of subsurface conditions and is therefore limited by the scope of works undertaken.

This report does not provide a complete assessment of the environmental status of the site and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, ADE reserves the right to review the report in the context of the additional information.

ADE's professional opinions are based upon its professional judgement, experience, training and results from analytical data. In some cases further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited investigation to the scope agreed upon with its client.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable member of the Environmental Industry within Australia. No other warranty, expressed or implied, is made or intended.

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8 REFERENCES

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Appendix I – LTO Records

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TITLE SEARCH

Title Reference: 2/567995

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 2/567995

SEARCH DATE	TIME	EDITION NO	DATE
16/10/2015	10:01 AM	-	-

VOL 12461 FOL 10 IS THE CURRENT CERTIFICATE OF TITLE

LAND

LOT 2 IN DEPOSITED PLAN 567995
AT DURAL
LOCAL GOVERNMENT AREA THE HILLS SHIRE
PARISH OF NELSON COUNTY OF CUMBERLAND
TITLE DIAGRAM DP567995

FIRST SCHEDULE

ALAN RAYMOND TRAPPEL (T Q629551)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 Q208098 EASEMENT FOR TRANSMISSION LINE AFFECTING THAT PART OF THE LAND WITHIN DESCRIBED SHOWN AS 15.24 WIDE IN THE PLAN Q208098

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 16/10/2015

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE.
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.

HISTORY OF TITLE TRANSACTION

Title Reference: 2/567995

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

16/10/2015 10:01AM

FOLIO: 2/567995

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 12461 FOL 10

Recorded	Number	Type of Instrument	C.T. Issue
28/3/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
27/9/1988		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED

*** END OF SEARCH ***

PRINTED ON 16/10/2015

CERTIFICATE OF TITLE



12461010

NEW SOUTH WALES

PROPERTY ACT, 1900

Vol. **12461** Fol. **10**

Appln No.49714

Prior Title Vol.12361 Fol.235



Edition issued 13-6-1974.

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land which is described in the Certificate of Title and that the person described in the Second Schedule is the person to whom the land is to be transferred, subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

CANCELLED
Jawatson
 Registrar General
SEE AUTO FOLIO

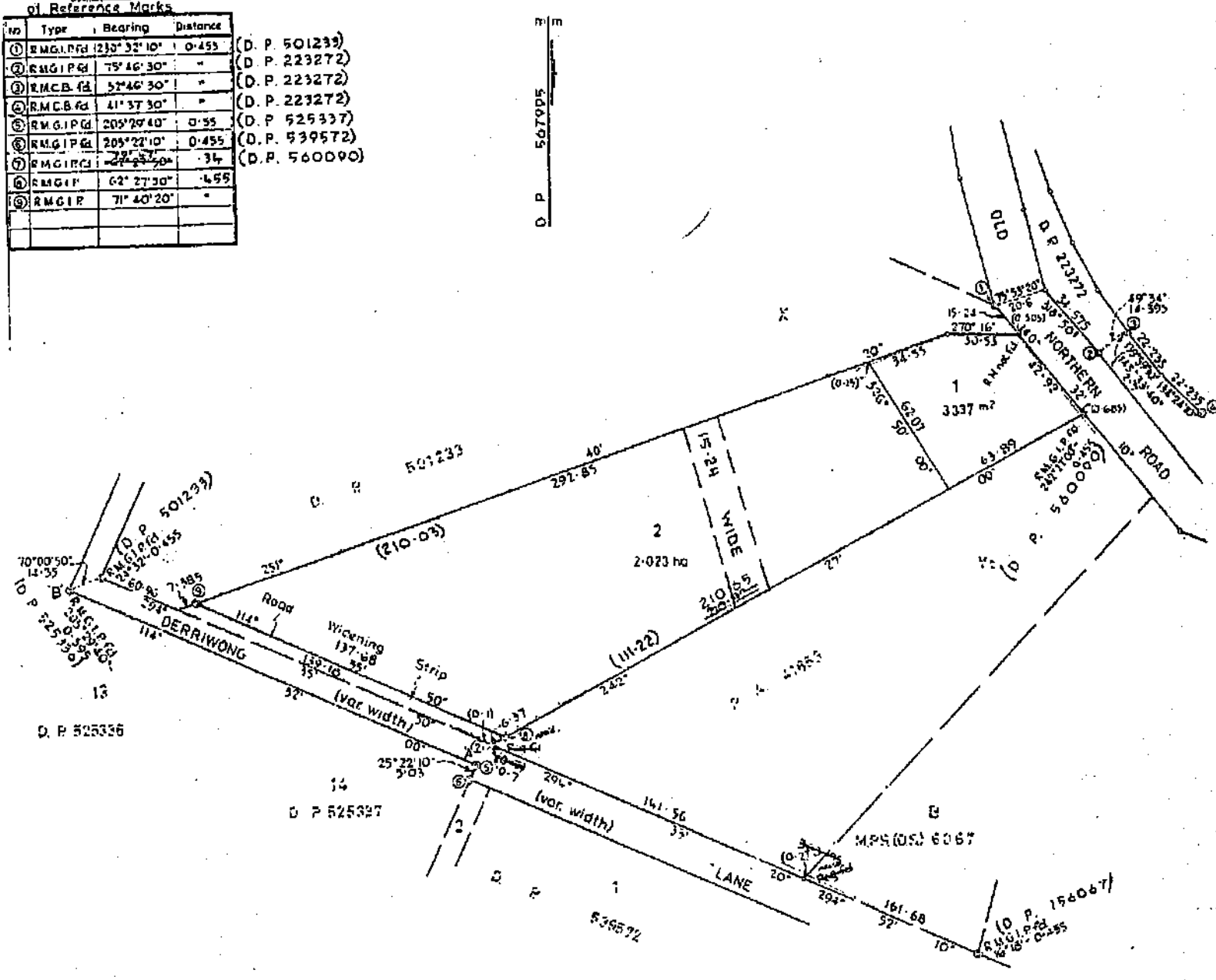


PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

Schedule of Reference Marks

No	Type	Bearing	Distance
1	RM.G.I.P.Fd	123° 32' 10"	0.455 (D.P. 501233)
2	RM.G.I.P.Fd	75° 46' 30"	" (D.P. 223272)
3	RM.C.B.Fd	52° 46' 30"	" (D.P. 223272)
4	RM.C.B.Fd	41° 57' 30"	" (D.P. 223272)
5	RM.G.I.P.Fd	205° 29' 40"	0.55 (D.P. 525337)
6	RM.G.I.P.Fd	205° 22' 10"	0.455 (D.P. 539572)
7	RM.G.I.P.Fd	27° 22' 30"	0.34 (D.P. 560090)
8	RM.G.I.F	62° 27' 30"	4.55
9	RM.G.I.F	71° 40' 20"	"



ESTATE AND LAND REFERRED TO

S
 Estate in Fee Simple in Lot 2 in Deposited Plan 567995 at Dural in the Shire of Baulkham Hills Parish of Nelson and County of Cumberland being part of Portion 139 granted to Stephen Smith on 30-6-1823.

FIRST SCHEDULE

~~JOAN HEATHER JONES of Dural, Married Woman.~~

SECOND SCHEDULE

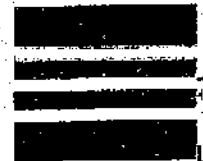
GRY
 1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

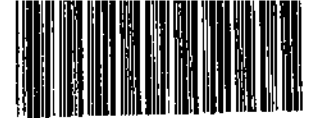
12461 Fol. 10

(Page 1) Vol.

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CERTIFICATE OF TITLE



12361 235

NEW SOUTH WALES

LAND PROPERTY ACT, 1900

Vol. **12361** Fol. **235**

Edition issued 28-2-1974

Appln. No.49714



12361 235
 Fol. 235
 (Page 1) Vol.

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Joubertson
 Registrar General.



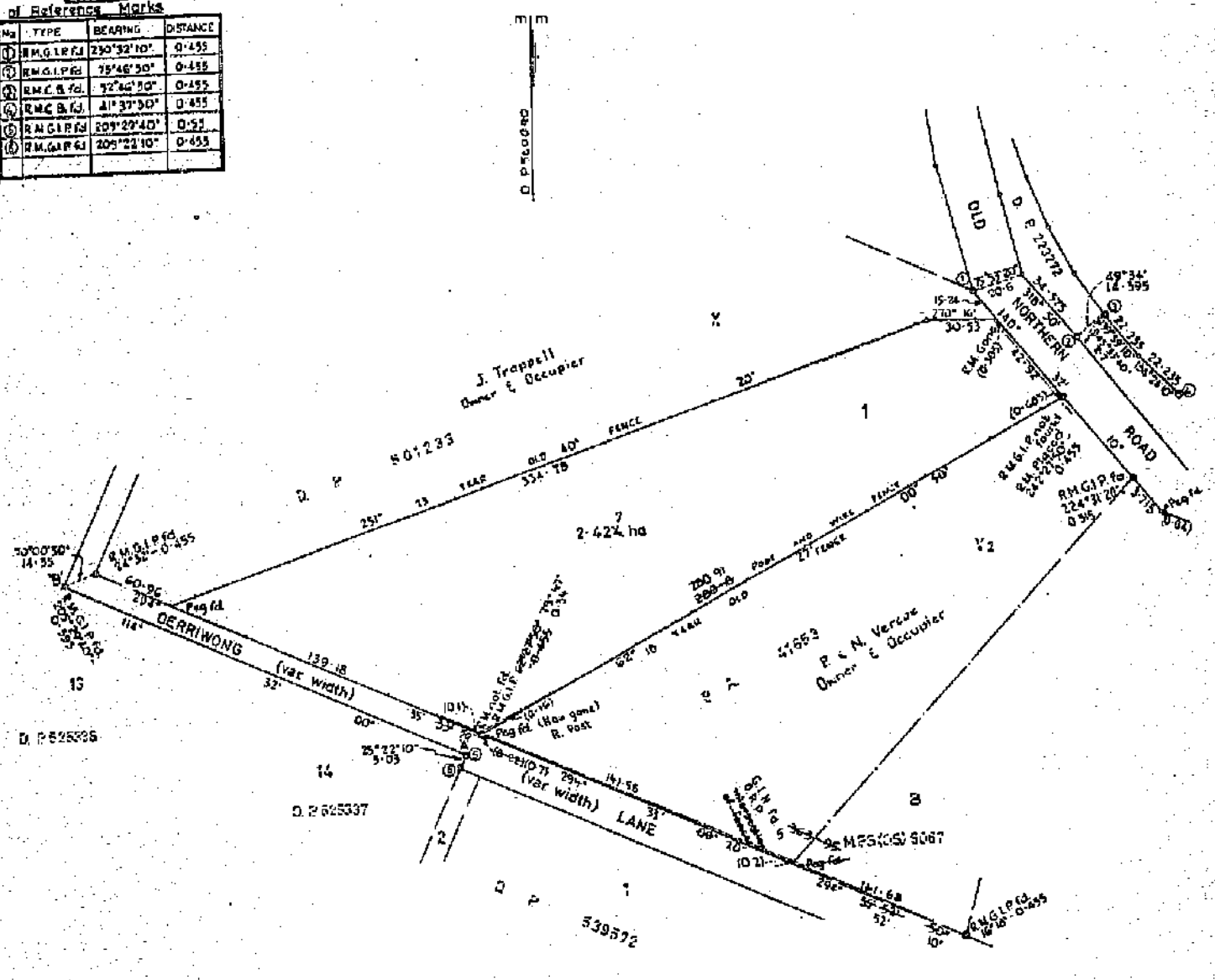
PLAN SHOWING LOCATION OF LAND

LENGTHS ARE IN METRES

CANCELLED

Schedule of Reference Marks

No.	TYPE	BEARING	DISTANCE
1	RM.G.I.P.F.	230°32'10"	0.455
2	RM.G.I.P.F.	79°46'50"	0.455
3	RM.C.B.F.	92°46'50"	0.455
4	RM.C.B.F.	41°37'50"	0.455
5	RM.G.I.P.F.	209°27'40"	0.55
6	RM.G.I.P.F.	209°22'10"	0.455



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in Lot 1 in Deposited Plan 560090 at Dural in the Shire of Baulkham Hills Parish of Nelson and County of Cumberland being part of Portion 139 granted to Stephen Smith on 30-6-1823.

FIRST SCHEDULE

JOAN HEATHER JONES, of Dural, Married Woman.

SECOND SCHEDULE

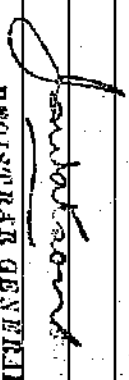

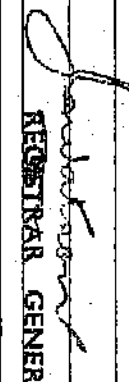

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

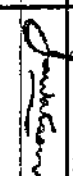
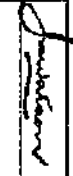

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FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR		INSTRUMENT		ENTERED		SIGNATURE OF REGISTRAR GENERAL	
NATURE	INSTRUMENT NUMBER	DATE	ENTERED	SIGNATURE OF REGISTRAR GENERAL	NATURE	INSTRUMENT NUMBER	DATE
This deed is cancelled as to <u>Part 14</u>							
New Certificates of Title have issued on <u>13-6-74</u>							
for lots in <u>Register Plan No. 567995</u> as follows:							
<u>lots 1 & 2 Vol. 12361 Fol. 910</u> respectively							
 REGISTRAR GENERAL				 REGISTRAR GENERAL			
The residue of land in this folio comprises							
<u>lots 3 & 4 Vol. 567995</u>							
<u>Entire 1st time is</u>							

SECOND SCHEDULE (continued)

INSTRUMENT		PARTICULARS		ENTERED		CANCELLATION	
NATURE	INSTRUMENT NUMBER	DATE	ENTERED	SIGNATURE OF REGISTRAR GENERAL	DISCHARGED	ENTERED	SIGNATURE OF REGISTRAR GENERAL
Mortgage	<u>NF 53980</u>	<u>22-3-1974</u>	<u>22-3-1974</u>		<u>Discharged</u>	<u>N299/88</u>	
to Commonwealth Trading Bank of Australia							
The interest of the Council of the Shire of Boulkham Hills in the addition to existing road shown in							
<u>DP 567995</u>			<u>14-6-1974</u>				

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N153980
 N299488
 567995
 567995
 567995

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Aerial Photograph 1. Aerial photograph of the site dated 1930 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.



Aerial Photograph 2. Aerial photograph of the site dated 1947 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.

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Aerial Photograph 3. Aerial photograph of the site dated 1956 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.



Aerial Photograph 4. Aerial photograph of the site dated 1965 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.

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Aerial Photograph 5. Aerial photograph of the site dated 1986 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.



Aerial Photograph 6. Aerial photograph of the site dated 1994 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.

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Aerial Photograph 7. Aerial photograph of the site dated 2009 with approximate site boundary. Sourced from the nearmap.com, accessed on the 20.07.2015.



Aerial Photograph 8. Aerial photograph of the site dated 2012 with approximate site boundary. Sourced from the nearmap.com, accessed on the 20.07.2015.

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Aerial Photograph 9. Aerial photograph of the site dated 2015 with approximate site boundary. Sourced from the nearmap.com, accessed on the 20.07.2015.

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Photograph 1 – Facing west towards Derriwong Rd on the northern boundary of the site. Fill materials beneath the storage shed



Photograph 2 – Asbestos observed on the surface of the fill material beneath the storage shed.

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ABN:

520 934 529 50



Photograph 3 – View of fill materials on the southern side of the storage shed



Photograph 4 – Septic tank adjacent to the storage shed

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



Photograph 5 – View of former orchard / market garden facing east toward Old Northern Road



Photograph 6 – Western boundary of the subject site with stockpiled wood and mulch

New South Wales Office:

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Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

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NSW: (02) 8541 7214
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e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



Photograph 7 – Slab located on eastern boundary of site with asbestos sheeting on surface. Small amounts of staining observed on the concrete



Photograph 8 – Presumed asbestos containing conduits on the eastern storage area of the site

New South Wales Office:

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Silverwater, NSW 2128

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Telephone:

NSW: (02) 8541 7214
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ABN:

520 934 529 50



Photograph 9 – Fill materials present on the eastern boundary of the site



Photograph 10 – Fill materials present on the eastern boundary of the site with asbestos observed on the soil surface

New South Wales Office:

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Silverwater, NSW 2128

Queensland Office:

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P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Appendix IV – Groundwater Search (Office of Water)

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

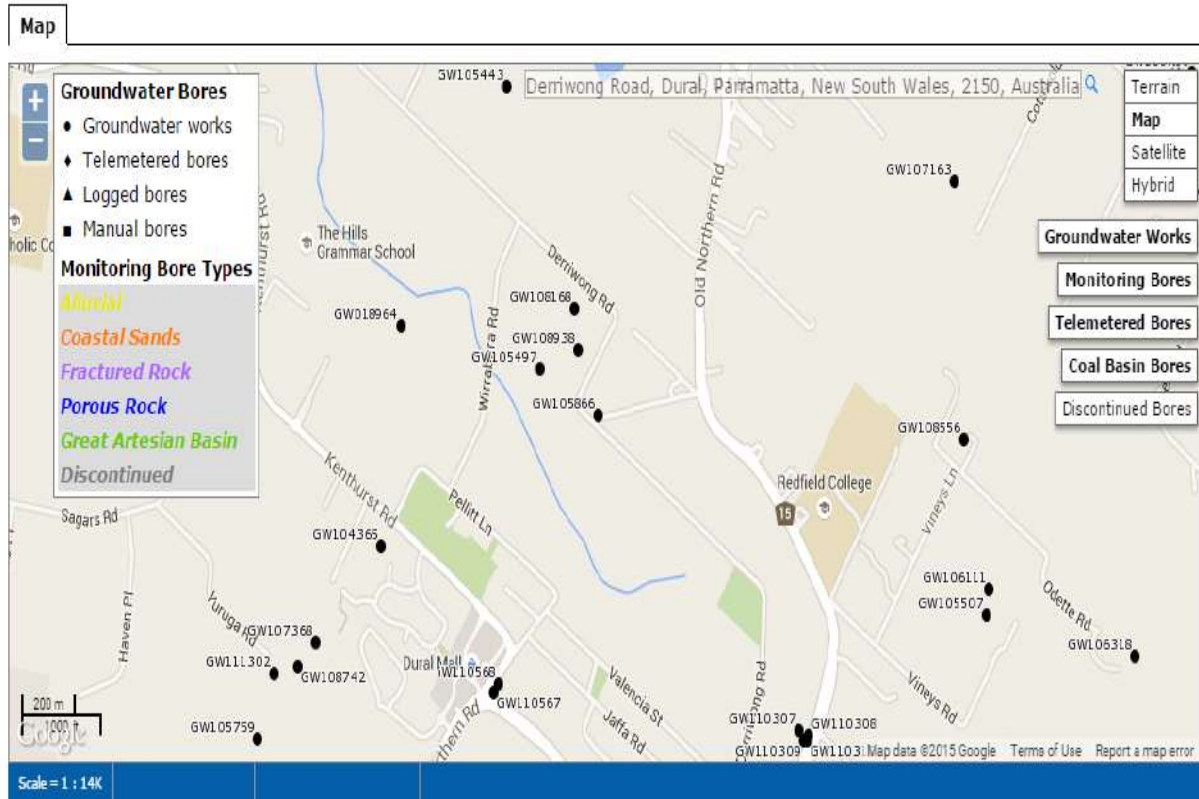
site: www.ADenirotech.com.au
e-mail info@ADenirotech.com.au

ABN:

520 934 529 50

Hawkesbury River Basin

All data times are Eastern Standard Time



NSW Office of Water

Work Summary

GW108938
Licence: 10BL601876

Licence Status: CONVERTED

Authorised Purpose(s): DOMESTIC

Intended Purpose(s): DOMESTIC

Intended Purpose(s): DOMESTIC

Work Type: Bore

Work Status:
Construct.Method:
Owner Type: Private

Commenced Date:
Completion Date: 19/06/2008

Final Depth:
Drilled Depth:
Contractor Name: INTERTEC DRILLING SERVICES

Driller: Paul Sheehy

Assistant Driller:
Property: BREITENBERGER 32
DERRIWONG ROAD ROUND
CORNER DURAL 2158 NSW

Standing Water Level:
GWMA:
GW Zone:
Salinity:
Yield:

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.38	102/818569
Licensed:		

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown
Area/District:
Grid Zone:
Scale:
Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:
Northing: 6270860.0
Easting: 316755.0

Latitude: 33°41'11.1"S
Longitude: 151°01'23.1"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

Geologists Log

Drillers Log

--	--	--	--	--	--	--	--	--	--

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
-------------	-----------	------------------	----------------------	---------------------	----------

Remarks

***** End of GW108938 *****

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW108168
Licence: 10BL600425

Licence Status: CONVERTED

Authorised Purpose(s): DOMESTIC,STOCK

Intended Purpose(s): STOCK, DOMESTIC

Work Type: Bore

Work Status: Supply Obtained

Construct.Method: Down Hole Hammer

Owner Type: Private

Commenced Date:
Completion Date: 20/06/2006

Final Depth: 237.40 m

Drilled Depth: 237.40 m

Contractor Name: INTERTEC DRILLING SERVICES

Driller: Colin Leslie Barden

Assistant Driller:
Property: CALLUS 34 DERRIWONG RD
DURAL 2158 NSW

Standing Water Level: 34.000

GWMA: -
GW Zone: -

Salinity:
Yield: 0.700

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.38	101 818569
Licensed: CUMBERLAND	NELSON	Whole Lot 101//818569

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown

Grid Zone:
Scale:
Area/District:
Elevation: 0.00 m (A.H.D.)

Northing: 6270954.0

Latitude: 33°41'08.0"S

Elevation: Unknown

Easting: 316741.0

Longitude: 151°01'22.7"E

Source:
GS Map: -

MGA Zone: 0

Coordinate Source: GIS - Geographic Information System

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	2.50	203			Down Hole Hammer
1		Hole	Hole	2.50	120.00	165			Down Hole Hammer
1		Hole	Hole	120.00	237.40	160			Down Hole Hammer
1		Annulus	Concrete	0.00	2.50	203			
1	1	Casing	Pvc Class 9	-0.50	59.50	140			Suspended in Clamps, Screwed and Glued
1	1	Casing	Steel	-0.50	2.50	168	158		Driven into Hole

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
65.00	66.00	1.00	Unknown			0.30		00:25:00	1570.00
112.00	113.00	1.00	Unknown			0.08		00:25:00	1450.00
128.00	130.00	2.00	Unknown			0.27		00:25:00	3300.00
232.00	236.00	4.00	Unknown	34.00		0.05		00:05:00	1900.00

Geologists Log Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.50	0.50	topsoil	Topsoil	
0.50	34.50	34.00	sandstone, grey weathered	Sandstone	
34.50	39.00	4.50	shale	Shale	
39.00	51.00	12.00	sandstone, grey	Sandstone	
51.00	51.50	0.50	shale	Shale	
51.50	65.00	13.50	sandstone, grey	Sandstone	
65.00	66.00	1.00	sandstone, grey quartz	Sandstone	
66.00	112.00	46.00	sandstone, grey	Sandstone	
112.00	113.00	1.00	sandstone, grey quartz	Sandstone	
113.00	115.00	2.00	siltstone	Siltstone	
115.00	128.00	13.00	sandstone, grey	Sandstone	
128.00	130.00	2.00	sandstone, grey quartz	Sandstone	
130.00	150.00	20.00	sandstone, grey	Sandstone	
150.00	158.50	8.50	siltstone	Siltstone	
158.50	204.00	45.50	sandstone, grey	Sandstone	
204.00	207.00	3.00	sandstone, light brown	Sandstone	
207.00	232.00	25.00	sandstone, grey	Sandstone	
232.00	236.00	4.00	sandstone, grey quartz	Sandstone	
236.00	237.40	1.40	sandstone, grey	Sandstone	

Remarks

20/06/2006: Form A Remarks:

air lift test at 150m when completed was producing a surface flow rate of 0.6 LPS and TDS of 1650mg/l

03/05/2010: updated from original form A

*** End of GW108168 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW105866
Licence: 10BL163206

Licence Status: CONVERTED

Authorised Purpose(s): STOCK,DOMESTIC
Intended Purpose(s):
Work Type: Bore

Work Status:
Construct.Method:
Owner Type:
Commenced Date:
Completion Date: 05/05/2005

Final Depth:
Drilled Depth:
Contractor Name:
Driller:
Assistant Driller:
Property: TRAPPEL 618 OLD NORTHERN RD DURAL 2158

Standing Water Level:
GWMA: -
GW Zone: -

Salinity:
Yield:

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.38	X 501233
Licensed: CUMBERLAND	NELSON	Whole Lot X//501233

Region: 10 - Sydney South Coast

CMA Map: 9130-4S

River Basin: 212 - HAWKESBURY RIVER
Area/District:
Grid Zone:
Scale:
Elevation: 0.00 m (A.H.D.)
Elevation (Unknown)
Source:
Northing: 6270712.0
Easting: 316825.0

Latitude: 33°41'15.9"S
Longitude: 151°01'25.8"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

Geologists Log

Drillers Log

From	To	Thickness	Drillers Description	Geological Material	Comments

(m)	(m)	(m)			
-----	-----	-----	--	--	--

Remarks

***** End of GW105866 *****

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW105497
Licence: 10BL162452

Licence Status: CONVERTED

Authorised Purpose(s): STOCK,DOMESTIC

Intended Purpose(s): STOCK, DOMESTIC

Work Type: Bore

Work Status:
Construct.Method: Rotary Air

Owner Type:
Commenced Date:
Completion Date: 12/11/2003

Final Depth: 150.00 m

Drilled Depth: 150.00 m

Contractor Name: INTERTEC DRILLING SERVICES

Driller: Damian Paranihi

Assistant Driller:
Property: MASTA P/L 30 DERRIWONG RD **Standing Water Level:** 29.000
DURAL 2158

GWMA: -
GW Zone: -

Salinity:
Yield: 0.300

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE	CUMBE.38	2 623323
Licensed: CUMBERLAND	NELSON	Whole Lot 2//623323

Region: 10 - Sydney South Coast

CMA Map: 9130-4S

River Basin: 212 - HAWKESBURY RIVER
Area/District:
Grid Zone:
Scale:
Elevation: 0.00 m (A.H.D.)
Elevation (Unknown)
Source:
Northing: 6270813.0
Easting: 316632.0

Latitude: 33°41'12.5"S
Longitude: 151°01'18.3"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	5.60	205			Down Hole Hammer
1		Hole	Hole	5.60	90.00	159			Down Hole Hammer
1		Hole	Hole	90.00	150.00	156			Down Hole Hammer
1	1	Casing	Steel	-0.40	5.60	168	158		Driven into Hole
1	1	Casing	Pvc Class 9	0.40	35.60	140			Suspended in Clamps, Screwed and Glued

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth	Duration (hr)	Salinity (mg/L)
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						(m)		
62.30	62.40	0.10	Unknown			0.25	66.00	830.00
69.20	70.00	0.80	Unknown			0.10	72.00	869.00
126.00	127.30	1.30	Unknown			0.45	132.00	780.00
136.50	137.80	1.30	Unknown	29.00		0.30	138.00	998.00

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	0.30	0.30	TOPSOIL	Topsoil	
0.30	32.50	32.20	SANDSTONE BROWN/GREY MG	Sandstone	
32.50	32.70	0.20	F. SANDSTONE GREY AND SILTSTONE	Sandstone	
32.70	62.30	29.60	SANDSTONE GREY	Sandstone	
62.30	62.40	0.10	W. O.25 SANDSTONE L/GREY	Sandstone	
62.40	69.20	6.80	SANDSTONE GREY M/G	Sandstone	
69.20	70.00	0.80	SANDSTONE GREY	Sandstone	
70.00	126.00	56.00	SANDSTONE GREY L/GREY	Sandstone	
126.00	127.30	1.30	SANDSTONE L/GREY AND QUARTZ	Sandstone	
127.30	136.50	9.20	SANDSTONE L/GREY	Sandstone	
136.50	137.80	1.30	W,QUARRTZ	Quartz	
137.80	150.00	12.20	SANDSTONE L/GREY	Sandstone	

Remarks

10/11/2010: Karla Abbs 10-Nov-2010; Removed invalid codes and updated drillers log

*** End of GW105497 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Appendix V – Acid Sulphates Soils

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Location Search **Advanced Search**

Search Address or Place

[Place on map](#)

State: New South Wales, Australia

[Clear all layers](#)

Environmental Planning Instruments

- Acid Sulfate Soils
 - Class 1
 - Class 2
 - Class 3
 - Class 4
 - Class 5
- Active Street Frontage
- Additional Permitted Uses
- Additional Rural Village Land
- Airport Noise
- Bulk Water Supply Infrastructure
- Drinking Water
- Dwelling Density

Map data ©2015 Google 200 m Terms of Use Report a map error

Appendix VI - NSW OEH State Heritage Records

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

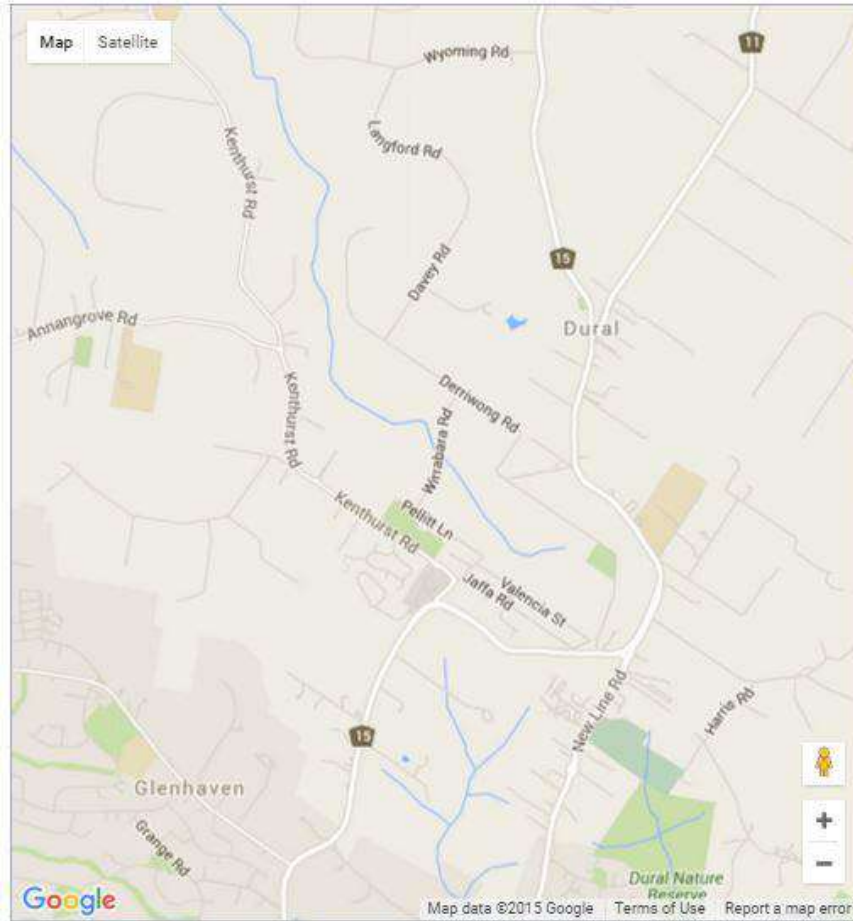
site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Search State Heritage Register

The results shown below are for the State Heritage Register ONLY and does not include items listed on Local Environmental Plans and s.170 Heritage and Conservation Registers. For further mapping information for please contact the relevant Local or State government agency.
Disclaimer: The positions of the State Heritage Register items shown on this page are for general identification and research purposes only. It should not be used for legal searches. Some SHR items have not been included for privacy and security reasons. Free downloading of State Heritage Register spatial datasets and associated metadata into a Geographical Information System (GIS) software package is available at [Community Access to Natural Resources Information \(CANRI\) - http://canri.nsw.gov.au/download/](http://canri.nsw.gov.au/download/)



The map displays the Dural area in New South Wales, Australia. It shows a network of roads including Wyoming Rd, Kangford Rd, Daney Rd, Derwong Rd, Annangrove Rd, Kenthurst Rd, Wirrabara Rd, Pellitt Ln, Jaffe Rd, Valencia St, New Line Rd, and Harrie Rd. A blue arrow points to a specific location on Daney Rd. The map also shows the Dural Nature Reserve and the Dural Nature Reserve. The map is overlaid with a grid and includes a search bar and a dropdown menu for local government areas. The map data is attributed to Google, 2015.

Local government area
The Hills

Suburb/postcode
[Empty text box]

NSW historic theme
Please Choose...

Item type

- All
- Archaeological-Maritime
- Archaeological-Terrestrial
- Built
- Landscape
- Movable / Collection
- Complex / Group
- Conservation Area

Map data ©2015 Google Terms of Use Report a map error

Appendix VII – Section 149

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

THE HILLS SHIRE COUNCIL

3 Columbia Court, Baulkham Hills NSW 2153
PO Box 7064, Baulkham Hills BC NSW 2153

Telephone +61 2 9843 0555

Facsimile +61 2 9843 0409

DX 9966 Norwest

Email council@thehills.nsw.gov.au

www.thehills.nsw.gov.au

ABN No. 25 034 494 656

PLANNING CERTIFICATE UNDER SECTION 149 (2) ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 AS AMENDED.

A.D Envirotech Australia
6/7 Millennium Ct
SILVERWATER NSW 2128

Certificate Number: **83238**
Reference: 9315:60041
Issue Date: 8 October 2015
Receipt No: 5001564
Fee Paid: \$ 53.00

ADDRESS: 600 Old Northern Road, DURAL NSW 2158
DESCRIPTION: Lot 100 DP 713628

The land is zoned:
Zone RU6 Transition

The following prescribed matters apply to the land to which this certificate relates:

The Environmental Planning and Assessment Amendment Act 1997 commenced operation on 1 July 1998. As a consequence of this Act, the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Regulation 2000.

THIS CERTIFICATE IS DIRECTED TO THE FOLLOWING MATTERS
PRESCRIBED UNDER SECTION 149 (2) OF THE ABOVE ACT.

1. Names of relevant planning instruments and DCPs

- (1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

(A) **Local Environmental Plans**

The Hills Local Environmental Plan 2012, as amended, applies to all land in the Shire unless otherwise stated in this certificate.

State Environmental Planning Policies

SEPP No.19 - Bushland In Urban Areas
 SEPP No.21 - Caravan Parks
 SEPP No.30 - Intensive Agriculture
 SEPP No.33 - Hazardous And Offensive Development
 SEPP No.50 - Canal Estate Development
 SEPP No.55 - Remediation Of Land
 SEPP No.62 - Sustainable Aquaculture
 SEPP No.64 - Advertising And Signage
 SEPP No.65 - Design Quality Of Residential Flat Development
 SEPP No.70 - Affordable Housing (Revised Schemes)
 SEPP (Building Sustainability Index: Basix) 2004
 SEPP (Major Development) 2005
 SEPP (Mining, Petroleum Production And Extractive Industries) 2007
 SEPP (Miscellaneous Consent Provisions)2007
 SEPP (Infrastructure) 2007
 SEPP (Exempt and Complying Development Codes) 2008
 SEPP (Affordable Rental Housing) 2009
 SEPP (State and Regional Development) 2011
 Sydney Regional Environmental Plan No. 9 Extractive Industries (No.2) - Amendment No.1
 Sydney Regional Environmental Plan No. 20 Hawkesbury – Nepean River (No.2 – 1997)

The following SEPP's may apply to the land. Please refer to '**Land to which Policy applies**' for each individual SEPP.

SEPP (Housing For Seniors Or People With A Disability) 2004

- (2) The name of each **proposed environmental planning instrument** that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Director-General has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

(A) **Proposed Local Environmental Plans**

No Proposed Local Environmental Plans apply to this land.

(B) **Proposed State Environmental Planning Policies**

Draft State Environmental Planning Policy (Competition).
State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development (Amendment No 3)

- (3) The name of each development control plan that applies to the carrying out of development on the land.

The Hills Development Control Plan 2012

- (4) In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2. Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP).

- (A) The Hills Local Environmental Plan 2012 applies to the land unless otherwise stated in this certificate and identifies the land to be:

Zone RU6 Transition

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

The Hills Local Environmental Plan 2012?

YES

Clause 4.2A of The Hills Local Environmental Plan 2012 provides minimum land dimensions for the erection of a dwelling house on the following zones:

RU1 Primary Production, RU2 Rural Landscape, RU6 Transition, E3 Environmental Management and E4 Environmental Living.

Any other Planning Proposal?

NO

- (F) Whether the land includes or comprises critical habitat?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

- (G) Whether the land is in a conservation area (however described)?

The Hills Local Environmental Plan 2012?

NO

Any Other Planning Proposal?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP)*, or
 - (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
 - (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the ACT.
- (A) State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) does not apply.

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) does not apply.

Note: This precinct plan applies to land within the Box Hill Precinct or Box Hill Industrial Precinct.

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development.

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

Any amendments to Proposed State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

Any amendments to Proposed State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (F) Whether the land includes or comprises critical habitat?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (G) Whether the land is in a conservation area (however described)?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

3. Complying Development

- (1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

General Housing Code and Rural Housing Code

Complying Development under the General Housing Code and Rural Housing Code **may be** carried out on the land.

Housing Alterations Code and General Development Code

Complying Development under the Housing Alterations Code and General Development Code **may be** carried out on the land.

Commercial and Industrial (New Buildings and Additions) Code

Complying Development under the Commercial and Industrial (New Buildings and Additions) Code **may be** carried out on the land.

Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes

Complying Development under the Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes **may be** carried out on the land.

Note: Where reference is made to an applicable map, this information can be sourced from the following websites:

The Hills Local Environmental Plan 2012 - www.thehills.nsw.gov.au
State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct) or (Appendix 11 The Hills Growth Centre Precincts Plan) - www.planning.nsw.gov.au

4. Coastal protection

Whether or not the land is affected by the operation of Section 38 or 39 of the *Coastal Protection Act 1979*, but only to the extent that the council has been so notified by the Department of Services, Technology and Administration?

NO

4A. Certain information relating to beaches and coasts

- (1) In relation to a coastal council - whether an order has been made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

NO

- (2) In relation to a coastal council:

(a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed - whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

NO

(3) (Repealed)

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

Whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

NO

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

5. Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961?

NO

6. Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under -

(A) Division 2 of Part 3 of the Roads Act 1993; or

NO

(B) any environmental planning instrument; or

NO

(C) any resolution of council?

a) The Hills Development Control Plan 2012?

NO

b) Any other resolution of council?

NO

7. Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

(a) adopted by council, or

(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that

authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding)?

Council's policies on hazard risk restrictions are as follows:

(i) Landslip

a) By The Hills Local Environmental Plan 2012 zoning?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

b) By The Hills Local Environmental Plan 2012 local provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

c) By The Hills Development Control Plan 2012 provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

(ii) Bushfire

YES

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by bushfire. That question is answered in Section 11 of this certificate.

Council has adopted the NSW Rural Fire Service Guidelines entitled 'Planning for Bushfire Protection 2006'. Development subject to bushfire risk will be required to address the requirements in these guidelines and can be downloaded off the RFS web site www.rfs.nsw.gov.au

The Development Control Plan may also contain provisions for development on Bushfire Prone Land and Bushfire Hazard Management. Refer Part 1(3) of this certificate for the applicable Development Control Plan.

(iii) Tidal inundation

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by tidal inundation.

(iv) **Subsidence**

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by subsidence.

(v) **Acid sulphate soils**

NO

(vi) **Land contamination**

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by contamination or potential contamination.

(vii) **Any other risk**

NO

7A. Flood related development controls information

- (1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (3) Words and expressions in this clause have the same meanings as in the standard instrument set out in the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

State Environmental Planning Policy?

NO

Proposed State Environmental Planning Policy?

NO

9. Contributions plans

The name of each contributions plan applying to the land:

THE HILLS SECTION 94A

9A. Biodiversity Certified Land

Whether the land is biodiversity certified land within the meaning of Part 7AA of the *Threatened Species Conservation Act 1995*?

NO

10. Biobanking Agreements

Whether the land is land to which a biobanking agreement under part 7A of the *Threatened Species Conservation Act 1995* relates, (but only if the council has been notified of the existence of the agreement by the Director-General of the Department of Environment, Climate Change and Water)?

NO

11. Bush fire prone land

Has the land been identified as bush fire prone land?

YES

The land is identified on Council's certified Bush Fire Prone Land map as being partly or wholly bush fire prone land. For details refer to the Bush Fire Prone Land map that can be viewed on Council's website at www.thehills.nsw.gov.au

12. Property vegetation plans

Has the council been notified that a property vegetation plan under the Native Vegetation Act 2003 applies to this land?

NO

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on this land (but only if the council has been notified of the order)?

NO

14. Directions under Part 3A

Whether there is a direction by the Minister in force under section 75P (2)(c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect?

NO

15. Site compatibility certificates and conditions for seniors housing

(a) Whether there is a current site compatibility certificate (seniors housing) of which council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land?

NO

(b) Whether there are any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land?

NO

16. Site compatibility certificates for infrastructure

Whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land?

NO

17. Site compatibility certificates and conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land?

NO

(2) Whether there are any terms of a kind referred to in clause 17(1) or 38(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land?

NO

18. Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

NO DEVELOPMENT PLAN APPLIES

(2) The date of any subdivision order that applies to the land.

NO SUBDIVISION ORDER APPLIES

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

19. Site verification certificates

Whether there is a current site verification certificate, of which the council is aware, in respect of the land?

NO

Note. A site verification certificate sets out the Director-General's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

Note. The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

NO

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

NO

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

NO

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of the Act – if it is subject to such an order at the date when the certificate is issued,

NO

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of the Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

NO

Note: Whether Council has been provided with a copy of any exemption under section 23 or authorisation by the Co-ordinator General under section 24 of the *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009*?

NO

THE HILLS SHIRE COUNCIL

This land has frontage to a "Classified Road". Roads and Maritime Services, 27-31 Argyle St, Parramatta, is the responsible authority for classified roads and should be consulted for any road widening proposals.

DAVE WALKER
GENERAL MANAGER



Per:

PLEASE NOTE: COUNCIL RETAINS THE ELECTRONIC ORIGINAL OF THIS CERTIFICATE. WHERE THIS CERTIFICATE REFERS TO INFORMATION DISPLAYED ON COUNCIL'S WEBSITE OR TO ANY EXTERNAL WEBSITE, IT REFERS TO INFORMATION DISPLAYED ON THE WEBSITE ON THE DATE THIS CERTIFICATE IS ISSUED.

ATTACHMENT 2(B)**Zone RU6 Transition****1 Objectives of zone**

- To protect and maintain land that provides a transition between rural and other land uses of varying intensities or environmental sensitivities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage innovative and sustainable tourist development, sustainable agriculture and the provision of farm produce directly to the public.

2 Permitted without consent

Bed and breakfast accommodation; Extensive agriculture; Home occupations.

3 Permitted with consent

Agricultural produce industries; Animal boarding or training establishments; Aquaculture; Building identification signs; Business identification signs; Cemeteries; Child care centres; Community facilities; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Environmental facilities; Environmental protection works; Farm buildings; Farm stay accommodation; Flood mitigation works; Garden centres; Home-based child care; Home businesses; Home industries; Information and education facilities; Intensive plant agriculture; Landscaping material supplies; Places of public worship; Plant nurseries; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Respite day care centres; Restaurants or cafés; Roads; Roadside stalls; Rural workers' dwellings; Secondary dwellings; Veterinary hospitals; Water supply systems.

4 Prohibited

Any development not specified in item 2 or 3.

NOTE: This land use table should be read in conjunction with the Dictionary at the end of The Hills LEP 2012 which defines words and expressions for the purpose of the plan.

Appendix VIII – Dial Before You Dig (DBYD)

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

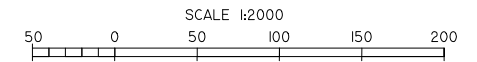
Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

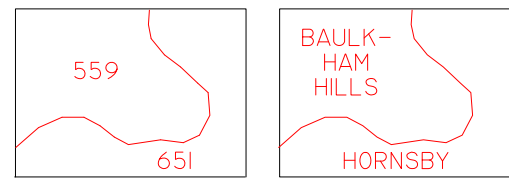
DURAL 4D



THIS MAP UPDATED ON 11/12/2014
 THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES
 SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
 DATE ALTERED:..... BY:.....

D4A	D4B	D5A
D4C	D4D	D5C
D7A	D7B	D8A

ADJOINING MAPS



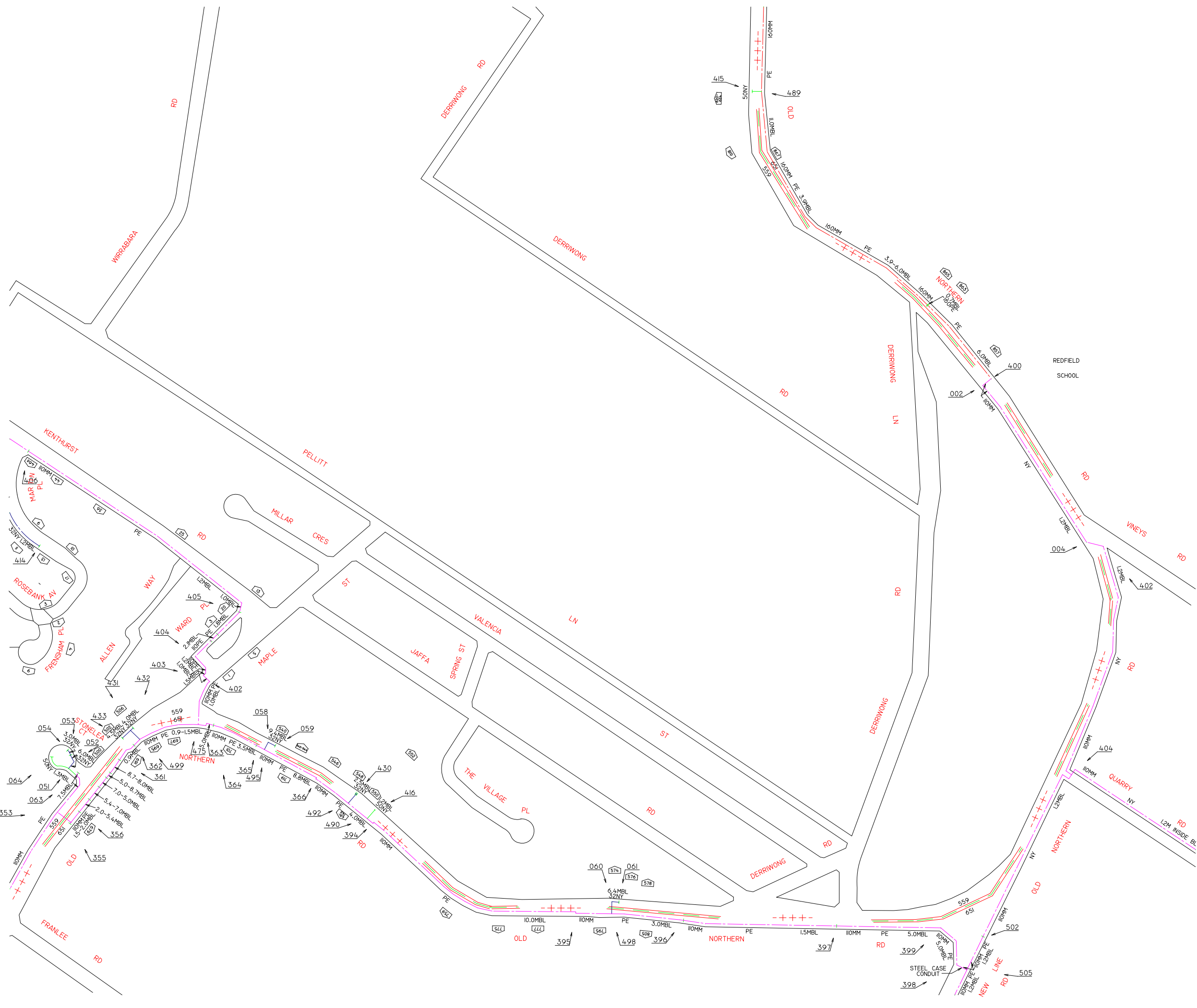
NETWORK AREA MUNICIPALITY AREA

Jemena

KEY

- | MAX ALLOWABLE OPERATING PRESSURE | |
|----------------------------------|--|
| — T — | TRUNK PIPELINE 7000 kPa |
| — P — | PRIMARY MAIN 3500 kPa |
| — S — | SECONDARY MAIN 1050 kPa |
| — 400 — | NETWORK MAIN 400 kPa |
| — 300 — | NETWORK MAIN 300 kPa |
| — 210 — | NETWORK MAIN 210 kPa |
| — 100 — | NETWORK MAIN 100 kPa |
| — 30 — | NETWORK MAIN 30 kPa |
| — 7 — | NETWORK MAIN 7 kPa |
| — 2 — | NETWORK MAIN 2 kPa |
| — + + + — | PROPOSED MAINS |
| PR II-2 3 | STEEL MAIN PROJECT NUMBER |
| △ | PRESSURE MONITORING STATION |
| ▽ | VALVE |
| □ | SYSTEM PRESSURE REGULATOR |
| • | SIPHON |
| 123 | NETWORK NODE |
| 123S | NETWORK VALVE NODE |
| 123V | VALVE NUMBER |
| 6NB | 6 INCH CAST IRON MAIN |
| 150MM | 150MM STEEL MAIN |
| 110MM PE/NY | 110MM POLYETHYLENE/NYLON MAIN |
| 50NB 50MM NY | 50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN |
| 1.2MBL | DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE |
| 1957 | YEAR LAID |
| — + + + — | MUNICIPALITY BOUNDARY |
| — + + + — | NETWORK BOUNDARY |
| 123 | HOUSE NUMBER |

DURAL 4D



If further information is required, please contact:
Ausgrid DBYD
Phone: (02) 4951 0899
Fax: (02) 4951 0729



Emergency Phone Number 131388

Underground Cable Location Search Advice

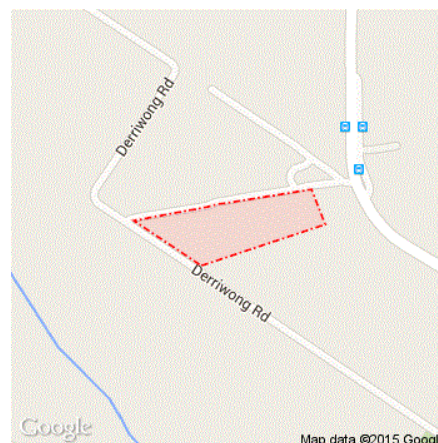
**-- Ausgrid Assets Not Recorded in the Vicinity --
(Caution Still Required)**

To:	Mr Evan Webb AD Envirotech 4 10 Millenium Silverwater NSW 2128	Phone No:	0296486669
		Issue Date:	30/06/2015

In response to your enquiry, Sequence No46400108 the records of Ausgrid **do not** disclose that there are Ausgrid underground cables in the defined search location.

This search is based on the geographical position of the dig site as denoted in the Dial Before You Dig caller confirmation sheet and an overview is provided:

Address:	21 Derriwong Road Dural NSW 2158
Job #:	9359051

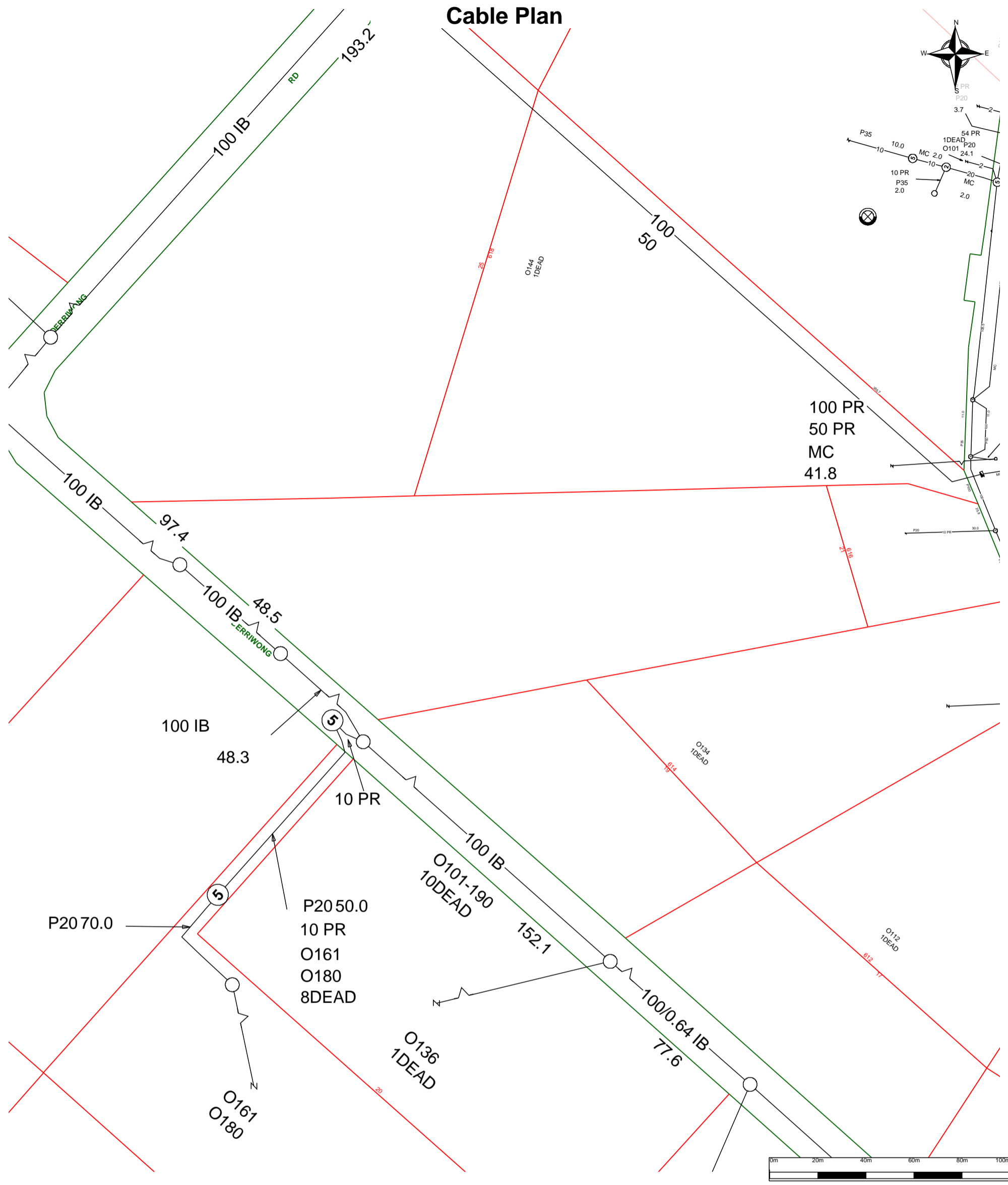


****Important****

All information provided to you is ONLY VALID FOR **30 DAYS** from the date of issue

**YOU MUST READ AND UNDERSTAND THE:
IMPORTANT INFORMATION
AND
CHECKLIST FOR WORK NEAR OR AROUND UNDERGROUND CABLES
THAT ARE INCLUDED AS PART OF THIS ADVICE**

Cable Plan



For all Telstra DBYD plan enquiries -
 email - Telstra.Plans@team.telstra.com
 For urgent onsite contact only - ph 1800 653 935 (bus hrs)

Sequence Number: 46400110

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 30/06/2015 14:21:31

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan

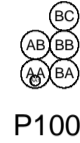
200DEAD 200 PIUT (AC)
 c1:M1-1400 1400/0.51 PIUT UA (AD)
 c19:M1-200 200/0.40 CPFUT (AE)



3001:CI-B22/1-12 12F/- SMOF FNPEHJ/STD (AA)
 DIST (AA)

c3001:CI-B22/1-12 12F/- SMOF FNPEHJ/STD (AA)

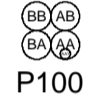
c1003:CJ-CL/1-60 60F/- SMOF FNPEHJ/STD (AA)
 1xP35 SUBDUCTS (AA)
 c266:YY-KENT YY/1-24 24F/- SMOF FNPEHJ/STD (AA1)
 C KENT 10:Z01/J1-200 200/0.81 APIUT <- (AB)
 2xDIST (AB)
 c20:M1-400 400/0.40 CPFUT (BA)



c3001:AC-CI/1-12 12F/- SMOF FNPEHJ/STD <- (AA)
 DIST ()

c3001:AC-CI/1-12 12F/- SMOF FNPEHJ/STD (AA)

1xP35 SUBDUCTS (AA)
 C KENT 10:Z01/J1-200 200/0.81 APIUT <- (BA)
 c1003:CJ-CL/1-60 60F/- SMOF FNPEHJ/STD (BA)
 c3001:AC-CI/1-12 12F/- SMOF FNPEHJ/STD (BA)
 c20:M1-400 400/0.40 CPFUT (BB)
 2xDIST (BB)
 c266:YY-KENT YY/1-24 24F/- SMOF FNPEHJ/STD ()



F CAST 210:CAST YY-YY/1-36 36F/- SMOF FNPEHJ/STD <- (AA)
 c19:M1-200 200/0.40 CPFUT (BA)

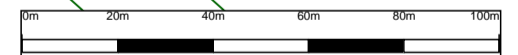


F CAST 210:CAST YY-YY/1-36 36F/- SMOF FNPEHJ/STD
 c19:M1-200 200/0.40 CPFUT (BA)

c19:M1-200 200/0.40 ()

1xP32 SUBDUCTS (AA)
 102:YY-BQ/1-60 60F/- SMOF FNPEHJ/S
 F CAST 1003:BQ-CG/1-60 60F/- SMOF FNPEHJ/S
 c21:M1-1200 1200/0.40 CPIUT <- ()
 3001:AC-CI/1-12 12F/- SMOF FNPEHJ/S

1xP32 SUBDUCTS
 102:YY-BQ/1-60
 c21:M1-1200
 F CAST 1003



For all Telstra DBYD plan enquiries -
 email - Telstra.Plans@team.telstra.com
 For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 30/06/2015 14:21:37

Sequence Number: 46400110

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



Job No 9359051

Phone: 1100
www.1100.com.au

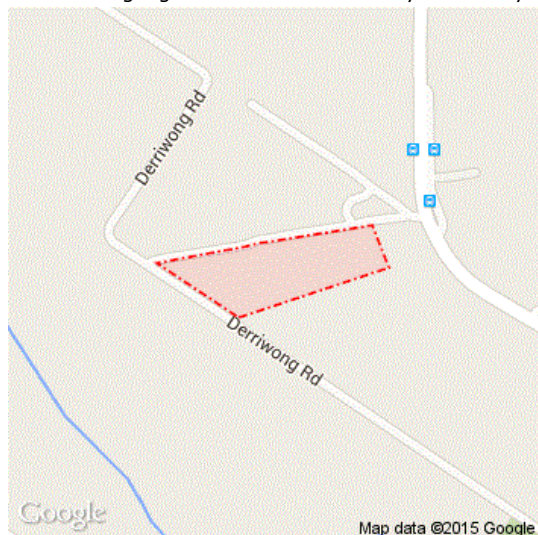
Caller Details

Contact: Mr Evan Webb
Company: AD Envirotech
Address: 4 10 Millenium
Silverwater NSW 2128

Caller Id: 1153777
Mobile: 0449960490
Email: e.webb@adenvirotech.com.au
Phone: 0296486669
Fax: Not Supplied

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference: 9315 - 21 Derriwong Rd
Working on Behalf of: Private
Enquiry Date: 30/06/2015
Start Date: 06/07/2015
End Date: 07/07/2015
Address: 21 Derriwong Road
Dural NSW 2158
Job Purpose: Excavation
Onsite Activity: Vertical Boring
Location of Workplace: Private Property
Location in Road: Not Supplied

- Check that the location of the dig site is correct. If not you must submit a new enquiry.
- Should the scope of works change, or plan validity dates expire, you must submit a new enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:
Not Supplied

Your Responsibilities and Duty of Care

- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at www.1100.com.au
- For more information on safe excavation practices, visit www.1100.com.au

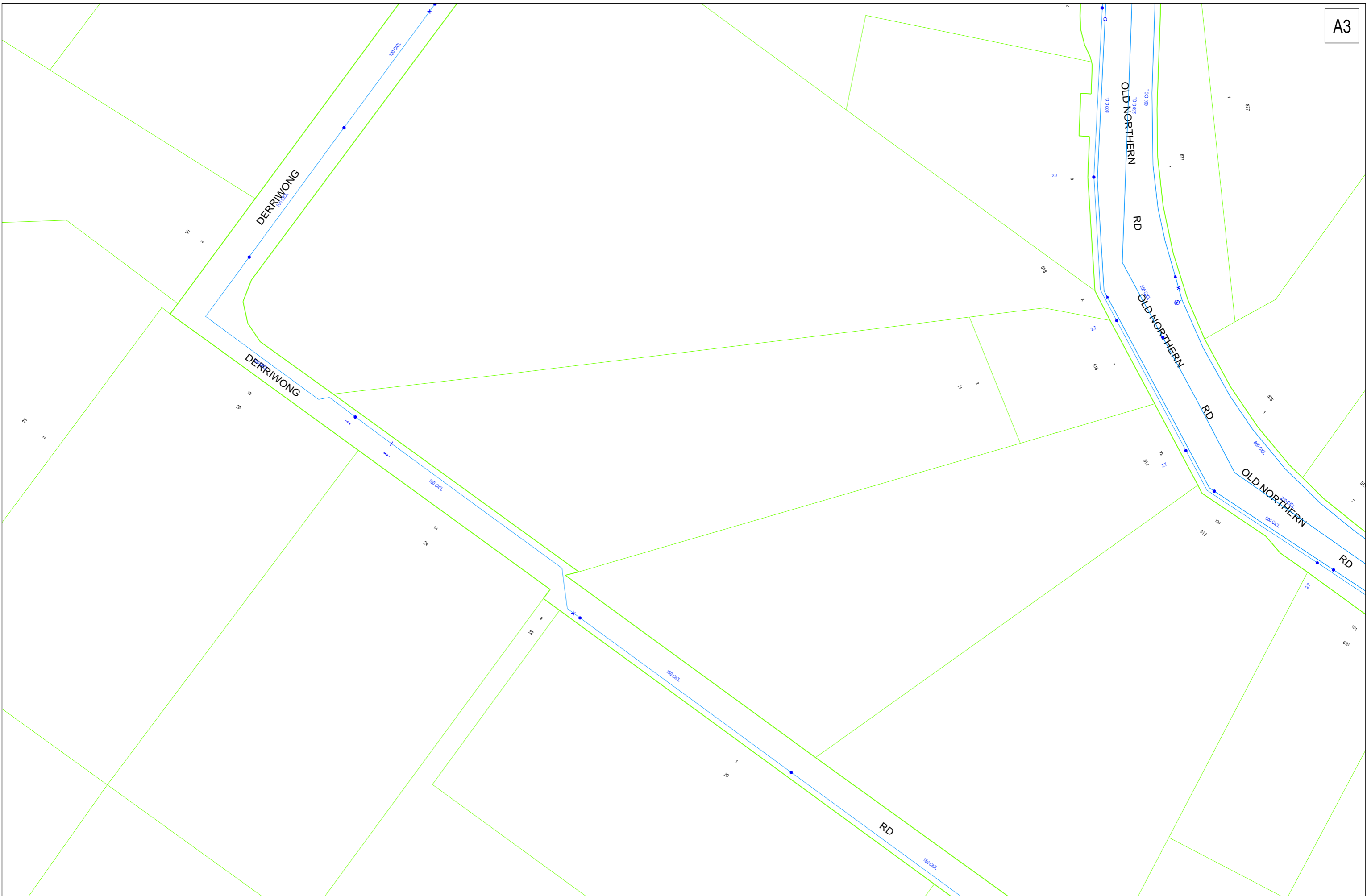
Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.
** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.
Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
46400108	Ausgrid	0249510899	NOTIFIED
46400109	Endeavour Energy	0298534161	NOTIFIED
46400111	Jemena Gas North	1300880906	NOTIFIED
46400112	Sydney Water	132092	NOTIFIED
46400110	Telstra NSW, Central	1800653935	NOTIFIED
46400107	The Hills Shire Council #	0298430555	NOTIFIED

END OF UTILITIES LIST

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week



Appendix IX – NSW WorkCover

New South Wales Office:

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Unit 6/7 Millennium Court
Silverwater, NSW 2128

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WorkCover

Our Ref: D15/167038
Your Ref 131332

WorkCover NSW
92-100 Donnison Street, Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
T 02 4321 5000 F 02 4325 4145
Customer Service Centre 13 10 50
DX 731 Sydney workcover.nsw.gov.au

13 October 2015

Attention: Evan Webb
6/7 Millenium Court
Silverwater NSW 2128

Dear Evan,

RE SITE: 21 Derriwong Rd, Dural NSW 2158

I refer to your site search request received by WorkCover NSW on 1st October 2015 requesting information on licences to keep dangerous goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises.

If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'Bernadette Sturgiss', written over a horizontal line.

Bernadette Sturgiss
Customer Service Officer
Dangerous Goods Team

Appendix X – EPA Contaminated Sites Register

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[Home](#) > [Contaminated land](#) > [Record of notices](#)

Search results

Your search for:LGA: Baulkham Hills Shire Council

Matched 5 notices relating to 1 site.

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
Kenthurst	137 Annangrove Road	Annangrove Climbers	5 former

Page 1 of 1

30 June 2015

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Phase I Preliminary Site Investigation

7 Derriwong Road, Dural NSW

Prepared for: Urbis Pty Ltd



ADE
CONSULTING
GROUP

Prepared for:

Urbis Pty Ltd

Phase I Preliminary Site Investigation

7 Derriwong Road, Dural

Version	Details	Date
v1 final	Written by Ben Withnall	26 th February 2016
v2 final	Amended by Evan Webb	17 th March 2016

Report No:

STC-18-10130 / PS14 / v2 final

Date:

17th March 2016

Written by:

Ben Withnall
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Environmental Consultant

Reviewed by:

Thomas Lobsey
B. L&W. Sci
Senior Environmental Consultant

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Envirotech Australia Pty Ltd.

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ABBREVIATIONS

ADE	A.D. Envirotech Australia Pty Ltd
AST	Above Ground Storage Tank
BGL	Below ground level (following excavation works)
BLGL	Below local area ground level
BTEX	Benzene, toluene, ethyl-benzene, xylene
COC	Chain of Custody
DEC	Department of Environment and Conservation
DSI	Detailed Site Investigation
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LPI	Land Property Information
LTO	Land Titles Office
NATA	National Association of Testing Authorities
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW EPA	New South Wales Environmental Protection Authority
OEH	Office of Environment and Heritage
OPPs	Organophosphorous Pesticides
OCPs	Organochlorine Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PSI	Preliminary Site Investigation
SCID	Stored Chemical Information Database
SWL	Standing Water Level
SH&EWMS	Safety Health and Environmental Works Method Statement
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
VHC	Volatile Halogenated Compounds

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1 INTRODUCTION

1.1 General Information

A. D. Envirotech Australia Pty Ltd (ADE) was engaged by Urbis Pty Ltd to undertake a Phase I Preliminary Site Contamination Investigation (PSI) to assess the potential for contamination at 7 Derriwong Road, Dural NSW (hereafter referred to as the 'site').

The site entails Lot 12 DP 866560 in the Local Government Area of The Hills Shire Council, Parish of South Colah, County of Cumberland.

A site inspection was undertaken on the 9th of February 2016 and comprised of a visual assessment of the site. Details of the field inspection are given in this report, together with comments on the significance of the findings of the investigation.

This report was completed in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites*, NSW EPA, September 2000.

1.2 Proposed Development

ADE has been advised that, Urbis Pty Ltd, on behalf of their client, are re-zoning of the site from RU6 to most likely R2 for residential and mixed use purposes including hospital, aged care and retail.

1.3 Objectives

The objectives of the investigation were to:

- Identify past and present potentially contaminating activities;
- Identify potential sources of contamination and types of contaminants;
- Discuss the site condition;
- Provide a preliminary assessment of site contamination for the suitability of the proposed development; and
- Assess the need for further investigations.

1.4 Scope of Work

The scope of work required to achieve the objectives of the investigation involved the following:

- Completion of a Safety, Health & Environment Work Method Statement (SHEWMS);
- Desktop site review of:
 - Land title records;
 - Section 149 certificates;
 - WorkCover NSW;
 - NSW Environment and Heritage;
 - EPA contaminated lands register for notations; and
 - Dial Before You Dig service search;
- Review of past and current activities on the site;
- Review of past and current activities on neighbouring sites and identification of any potential on-site/off-site sources of contamination;

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- Review of past aerial photographs of the site and its surrounds to identify the locations of any previous buildings and/or other infrastructure associated with activities that could be on-site/off-site sources of contamination;
- Review of local geology and hydrogeology (including groundwater bore search);
- Site inspection by an experienced environmental consultant; and
- Preparation of a Phase I PSI report outlining:
 - Detailed information on the results of the desktop review and site inspection;
 - Conclusions regarding the potential for contamination at the site;
 - Conclusions regarding the sites suitability for the proposed development; and
 - Recommendations for a Phase II Detailed Site Investigation (DSI), should it be warranted.

1.5 Legislative Requirements

The legislative framework for the report is based on guidelines that have been issued and/or endorsed by the NSW Environmental Protection Agency (EPA) formerly the Office of Environment and Heritage (OEH) under the following Acts/Regulations:

- *Protection of the Environment Operations Act 1997.*
- *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008.*
- *Contaminated Land Management Act 1998.*

The relevant guidelines issued under the provisions of the aforementioned Acts/Regulations include:

- *Guidelines for the NSW Site Auditor Scheme, NSW DEC 2006.*
- *Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA, 2000.*
- *Guidelines for Assessing Service Station Sites, NSW EPA 1994.*
- *National Environmental Protection Measure (Assessment of Site Contamination), 1999, as amended 2013.*
- *Australian Standard AS 4482.1 Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds.*
- *Australian Standard AS 4482.2 Guide to the sampling and investigation of potentially contaminated soil. Part 2: Volatile substances.*
- *Sampling Design Guidelines - NSW EPA, 1995.*
- *Waste Classification Guidelines Part 1: Classifying Waste, EPA, 2014.*
- *Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008, NSW DECCW 2009.*
- *Guidelines for the Assessment and Management of Groundwater Contamination, NSW DEC, 2007.*

1.6 Whole Report

No one section, or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendices and attachments.

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2 SITE IDENTIFICATION

2.1 Site Location

The site has frontage to Derriwong Rd and The Old Northern Rd, Dural NSW as is shown by Figure 1 below.

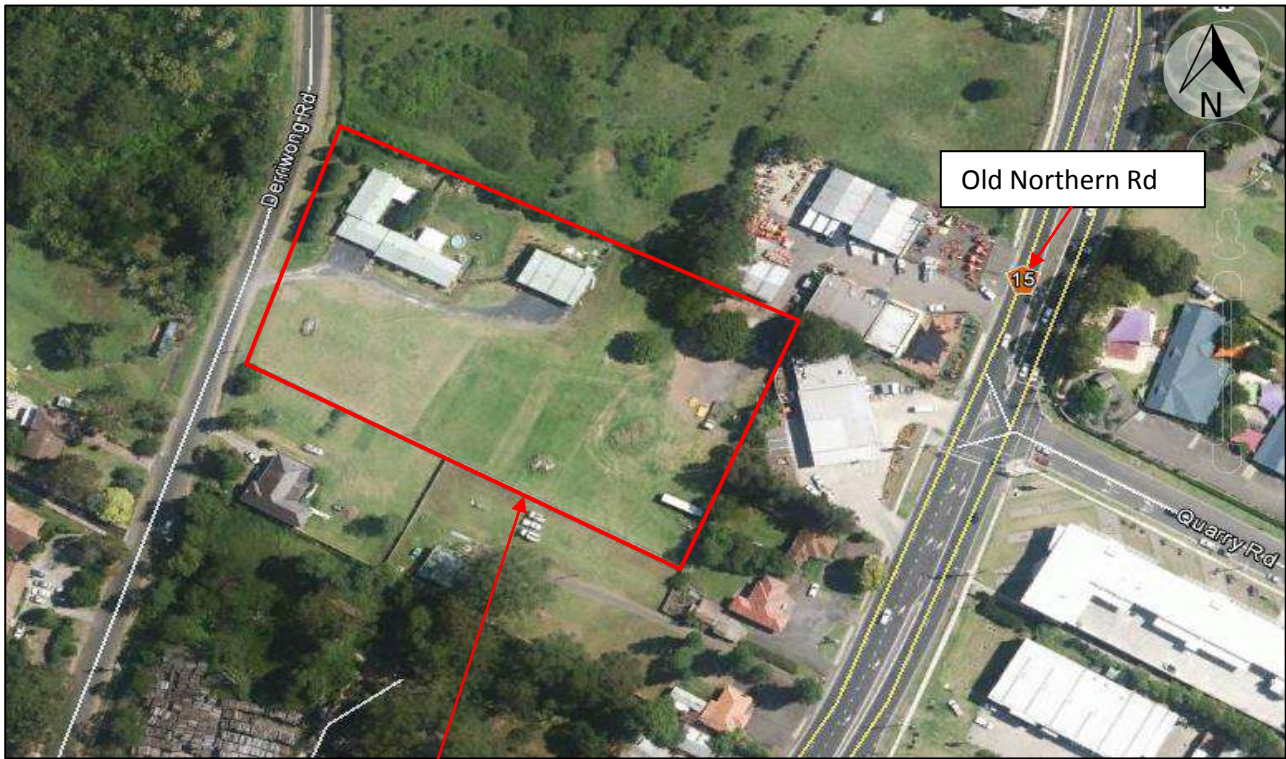


Figure 1. Aerial photograph of the site (photograph from Google Earth Pro; accessed on 15.02.2016).

Bearings provided in this report are approximate only. For ease of representing locations in the report, the site is considered to be off the Derriwong Road having a nominal north-south direction assumed. All references to points of the compass within the report are based on these approximate bearings.

2.2 Site Inspection and Description

An Environmental Consultant from ADE carried out a site inspection on the 9th of February 2016 in order to make a visual assessment of the site and provide information on potential site contamination issues, some of which are as follows:

- Surrounding land uses and potential contamination sources;
- Presence of hazardous or dangerous goods storage;
- Presence of Underground or Aboveground Storage Tanks, Generators or associated fuel transfers systems i.e. fuel lines;
- Condition of current structures, stockpiles, vegetation and soil;
- Proximity to water bodies/courses; and
- Visible and/or olfactory evidence of contamination.

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A number of potentially contaminating items or activities were identified during the site inspection summarised in **Figure 2** below.

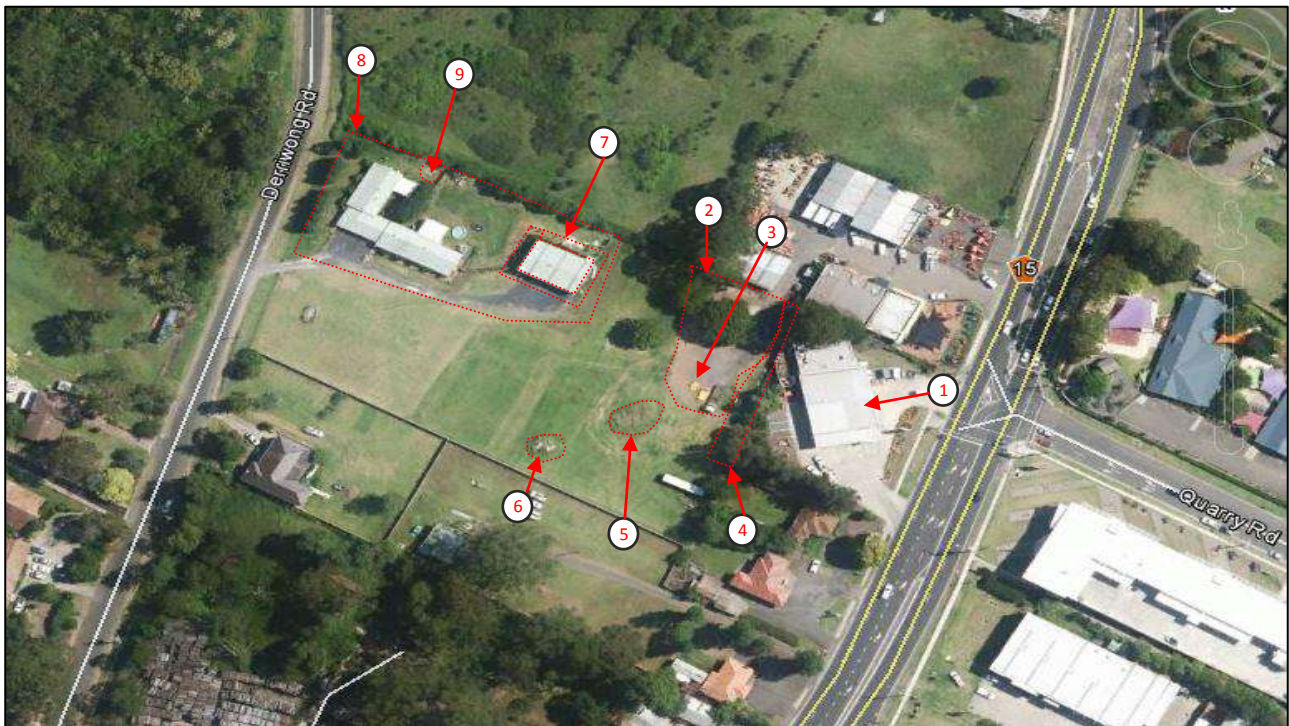


Figure 2. Aerial photograph of the site dated showing items or areas of potential concern (map adapted from Google Earth Pro; accessed 15.02.2016).

1. Shell Service Station located adjacent to the site on the eastern boundary
2. Car park capped with imported fill
3. Storage of machinery from adjacent agricultural equipment business in car park
4. General waste on the soil surface including SMF insulation batt
5. Grass covered stockpile
6. Stockpiled building and domestic waste
7. General waste surrounding the shed on the northern boundary
8. Altered soil profile indicating cut and fill earthworks surrounding the shed and house footprint
9. Septic tank adjacent to house

The subject site is a rectangular shape with an approximate area of 1.2 ha. There is a gentle slope from east to west and the majority of the site is an unused paddock / grassed area. The site is currently occupied as a residential block with a house constructed in the 1990's to 2000's located in the north western corner and a large shed in the central northern sector. The interior of the house and subfloor space was inaccessible at the time of inspection as was the shed. No hazardous materials were observed surrounding the house footprint. General waste and agricultural maintenance equipment was identified surrounding the shed footprint.

The eastern sector of the site consists of a car park adjacent to a Shell service station adjacent the eastern boundary. ADE was informed during the investigation by a staff member that Hills District Farm Equipment Pty Ltd, situated on the northern boundary, has an agreement to utilise the area for parking and storage of

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agricultural equipment. At the time of inspection cars and equipment were noted to be parked in this area. The car park is capped with potential imported fill with gravel spread across the surface. General waste including SMF insulation batts was observed on the eastern and northern boundaries.

A grass covered stockpile was observed in the central eastern sector of the site. The origin of the stockpile is unknown and general waste was observed on the surface. A second grass covered stockpile was observed in the south western sector consisting of mixed building and domestic waste.

Altered topography was observed surrounding the shed and house with evidence of potential cut and fill earthworks including disturbed soil profile. The shed sits on a raised platform that has been levelled, whilst the house sits at the base of an excavated area. A disturbed soil profile was examined on the northern boundary indicating earthworks or potential fill material.

On the north eastern corner of the house footprint a septic tank was observed in addition to electrical service pits immediately west.

Photographs from the site inspection taken on the 9th of February 2016 can be found in Appendix III – Photographs.

2.3 Surrounding Land Use

At the time of inspection the primary surrounding land-uses were observed as follows:

- *Northern boundary:* Immediately to the north of the site is a disused former orchard and residential property. Adjoining the northern boundary is the Hills District Farming Equipment which sells farming machinery and is understood to carry out service and maintenance of farming equipment. A pre-school is located further north and Redfield College is situated on the eastern side of The Old Northern Rd;
- *Eastern boundary:* east of the subject site is a Shell service station followed and The Old Northern Road followed by residential and agricultural land;
- *Southern boundary:* To the south of the site are two residential properties. Further south is a Timber yard;
- *Southern east of the site:* South-east of the site is a large commercial centre. Approximately 200 m south-east is a large Hills District Bus Depot; and
- *Western boundary:* West of the subject site is a residential property and bushland which adjoins residential properties. Dural Cemetery is located to the north-west of the site on the opposite side of Derriwong Road.

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2.4 Summary of Site Details

Table 1 below provides a summary of details pertaining to the site.

Table 1. Site details and information.

Site Details	
Site address	7 Derriwong Road, Dural NSW
Title identification(s)	Lot 12 DP 866560
Current site use	Rural residential
Proposed site use	Mixed use / residential and commercial
Investigation area	Approximately 1.2 ha

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3 PHYSICAL SETTING

3.1 Site Topography and Hydrology

The sites elevation varies between approximately 211 m AHD and 203 m AHD. The topography slopes gently down from east to west. A first order stream which feeds in to O’Haras Creek is located in the bushland to the west of the site. Surface water flow and groundwater is expected to follow the slope of the land and flow westward to O’Haras Creek.

3.2 Local Geology and Soil

The site is located on a Glenorie Soil Landscape (gn) as indicated on the Sydney Soil Landscape Map, prepared by the Soil Conservation Services of NSW.

The geology of the Glenorie Soil Landscape is underlain by Wianamatta group Ashfield Shale and Bringelly Shale formations. The Ashfield shale is comprised of laminate and dark grey shale. Bringelly shale consists of shale, calcareous claystone, laminate and fine to medium grained lithic-quartz stone.

Soils are shallow to moderately deep (< 100cm) with variability across upper slopes and drainage gullies.

The topsoil (A1 Horizon) consists of a friable dark brown loam, with moderately to strongly pedal structure. apedal single-grained structure and porous sandy fabric. The pH ranges from strongly acid (pH 4.0) to slightly acid (pH 6.0).

Beneath this layer occurs the B Horizon consisting of hardsetting clay loam. The pH ranges between strongly acid (pH 4.0) to slightly acid (pH 6.5).

In conjunction with the B Horizon, brown strongly pedal medium clay is present. The pH varies from strongly acid (pH 4.5) to moderately acid (pH 6.5). Strongly weathered sandstone fragments are common. Roots and charcoal fragments are rare.

It should be noted that the area occurs close to a transition between Glenorie and Lucas Heights soil landscapes and therefore transitional phases may occur and vary depending on the exact location.

Fill Material

No intrusive works were conducted during the site inspection. However, an altered soil profile and topography were observed indicating earthworks at some point.

3.3 Hydrogeology

It was beyond the scope of work to study the groundwater flow direction. However, as previously mentioned in the above section, the local groundwater flow is likely to have a westerly direction towards the first order stream feeding in to O’Hara Creek located to the west.

A search for registered groundwater wells within a 500 m radius of the site was undertaken by ADE via the NSW Office of Water (Allwaterdata.water.nsw.gov.au). Four (4) groundwater bores are located to the south-west of the site associated with the shell service station located nearby. Records of the groundwater bores indicate that the wells were installed in 2009. Standing water level was recorded at 4.2m and 2.8m in the nearby site with a similar altitude (refer to Appendix IV – NSW Groundwater (Office of Water)).

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3.4 Acid Sulphate Soils

A review of the Acid Sulphate Soil Risk Maps demonstrated that the site is within an area of “low probability” of acid sulphate soils (refer to *Appendix V – Acid Sulfate Soils*). No further investigation is required with regards to acid sulphate soils.

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4 SITE HISTORY

4.1 Historical Land and Title Search

The site history has been compiled from information gathered from the Land Titles Office (LTO), Land Property Information (LPI) and Council records.

The site entails Lot 12 DP 866560 in the Local Government Area of The Hills Shire Council, Parish of South Colah, County of Cumberland.

Table 2. Summary of LTO records for Lot 12, Deposited Plan (DP) 866560

Date	Transferred/Leased From	Transferred/Leased To	Transfer No.	Certificate reference
Lot 12 DP 866560				
26.08.1997	Unknown	Rimika Nominees Pty Ltd	T3356939	12/866560

The information obtained from the LTO, LPI and Council Records is unclear with regards to the former owners of the land due to missing information on the documentation (Refer to Appendix I – LTO Records). No information can be extrapolated with regard to contamination from the LTO records.

4.2 NSW Office of Environment and Heritage

A search of the NSW Office of Environment and Heritage public register of state heritage inventory items identified no heritage listed items related to the subject site (Refer to Appendix VI – NSW OEH State Heritage Records).

4.3 Aerial Photographs Review

A review of aerial photographs was conducted and is summarised in Table 3 below. Aerial photographs from the years of 1930, 1947, 1956, 1965, 1986, 1994 and 2014 were examined (refer to Appendix II - Aerial Photographs).

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Table 3. Summary of aerial photography.

Year	Type	Subject Site Description	Adjacent Site Description
1930	Black and White	The site appears to be vacant or used for light agriculture. A small amount of regularly spaced trees are present in the south western corner.	Much of the surrounding sites are being used as orchards, in particular to the north-east and north-west of the site. There are a few houses present in the surrounding area. Broad scale clearing has occurred.
1947	Black and White	The site appears to be vacant or used for pasturage.	The orchards to the west and north west appear to have been removed however much of the surrounding land appears to be continue to be managed with an apparent lack of re-growth of vegetation. Orchards continue to function to the north of the site and to the east on the opposite side of The Old Northern Rd. South of the site is cleared land. The road curving to the east, referenced today as Old Northern Road has recently been expanded.
1956	Black and White	The eastern boundary of the site and adjacent block appears to have been developed or subdivided with buildings present. The central sector of the site has been cleared indicating some agricultural use.	Surrounding land use remains consistent with scattered orchards and market gardens.
1965	Black and White	The land appears to be cleared and used for crops. The eastern border is more defined with residential buildings present indicating the earlier subdivision.	Surrounding land use is consistent with market gardens. Orchards are still present but less prevalent. Residential development to the south / south west has increased.
1986	Colour	The site appears to now be unused. With no evidence of intensive agriculture.	Land use to the east remains as market gardens however majority of other agriculture has ceased and orchards have been removed in the immediate area.
1994	Colour	The site has had an area in the north-west cleared corresponding to the current house position.	The site adjacent the eastern border is now in the form of the service station as is seen today. A recently disturbed area where the timber yard is present today is visible. Significant re-vegetation of the formerly cleared areas to the west has occurred. The site on the north eastern boundary resembles the equipment hire business as seen today.
2014	Colour	The house, shed and car park are now present as was observed at the time of the inspection.	The surrounds still exhibit some market gardening but are largely rural residential. They appear as was observed during inspection.

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4.4 Contaminated Land Register Search

A search of the sites listed by the EPA under the *Contaminated Land Management Act 1997* revealed that no records have been issued against the site. A search of the 'List of NSW contaminated sites notified to the EPA' revealed that a former BP service station located at 582 Old Northern Road, Dural approximately 180 m south of the site is currently listed as 'under assessment'. Direct contact with the NSW EPA was made however no information could be provided in regards to the status of the site.

ADE contacted Stephanie Williams, a representative of BP service stations who gave a verbal indication that the site had been notified due to the presence of Benzene above the required reporting limit however she stated that there was no risk of offsite migration. This claim was based on the statement that perimeter groundwater monitoring wells installed onsite were providing results of Non Detect (ND) for benzene and other analytes. The phone conversation during which this information was provided to ADE took place on the 24.11.2015.

Based on the distance and fall of the land, in conjunction with the anecdotal evidence provided by BP, it is not considered that the service station does not pose a significant risk to the subject site.

4.5 Previous Investigation Reports

No previous investigative reports for the site or surrounding area have been provided by the client.

4.6 Section 149

The site is currently zoned under Zone RU6 Transition under The Hills Local Environmental Plan 2012. The Planning Certificate under Section 149 of the *Environmental Planning and Assessment Act 1979* (See Appendix VII – Section 149 Certificate) provides the state and local environmental planning instruments which affect the site.

The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in the planning certificate.

- The land is not within an investigation area or remediation site under Part 3 of the Contaminated Land Management Act 1997;
- The land is not subject to an investigation order or an remediation order within the meaning of the Contaminated Land Management Act 1997;
- The land is not subject to a voluntary investigation proposal (or voluntary remediation proposal) that is the subject of the Environmental Protection Authority's agreement under Section 19 or 26 of the Contaminated Land Management Act 1997; and
- The land is not subject to a site audit statement within the meaning of the Contaminated Land Management Act 1997.

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4.7 Dial Before You Dig

An online search for utilities located within the site was conducted and is summarised in Table 4, below. Asset owners were notified and provided information on their utilities (refer to Appendix VIII – Dial Before You Dig).

Table 4. Summary of utilities located on or adjacent to the site

Asset Owner	Utility Type	Utility Location
Ausgrid	Underground Cable	No services present within the boundary of the subject site.
Pipeline	Telecommunication	A telecommunication service is present within the Telstra overhead cable
Telstra	Fibre Optic Cables	An aerial Telstra cable runs from the south western boundary to the house
Sydney Water	Water	No services present within the boundary of the subject site.
Endeavour Energy	Electrical	No services present within the boundary of the subject site.
Jemena	Gas	No services present within the boundary of the subject site.
RMS	Electrical/Communication	RMS cables are present running in a north-south direction on the eastern boundary

4.8 Assessment of Historical Information Integrity

The site history assessment has been obtained from a variety of resources including government records from the NSW land titles office, local council, historical archives, historical aerial photographs, NSW Office of Water and EPA. The veracity of the information from these sources is considered to be moderate due to an inability to track information relating to the previous owners via the LPI store. The site history assessment is generally considered to be of high integrity but low accuracy with respect to the historical use of the site.

4.9 WorkCover

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises (refer to Appendix IX – NSW WorkCover).

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5 POTENTIAL CONTAMINATION TYPES AND RECEPTORS

5.1 Potential Contamination Types

Table 5 below provides details of potential contamination types that were identified during the investigation. These are Contaminants of Potential Concern (COPC) were noted for each have the potential to have migrated to or be found on the site based on the site history.

Table 5. Potential Sources, Locations and Types of Contaminants.

Potential Source of contamination	Location	Migration pathway	Likelihood	Contaminants of Potential Concern
Septic Tank / Sewage	Septic tank and immediate surrounds	Leakages and demolition	Moderate	Bacteria – e.coli & salmonella & heavy metals
Service station with USTS upslope of site	Surrounding soil & groundwater aquifer	Groundwater infiltration from leaking USTS	Low to moderate	TRHs, PAHs, BTEX, Lead
Agricultural maintenance facility adjacent / shared land use	Surrounding soil & groundwater aquifer	Leakages and spillage from stored agricultural equipment, potential groundwater infiltration from leaking USTS (if present)	Low	TRHs, PAHs, BTEX, Lead
Potential earthworks / imported fill	Areas of altered profile including carpark and cut and fill areas	Surface water runoff, downward migration into groundwater	Low to moderate	PAH, BTEX, TRHs, OCPs & OPPs, BTEX, heavy metals and asbestos
Stockpiles of uncontrolled fill	South-eastern portion of site	Surface water runoff, downward migration into groundwater	Moderate to likely	PAH, BTEX, TRHs, OCPs & OPPs, BTEX, heavy metals and asbestos

No specific assessment of groundwater contamination has been undertaken within this investigation.

5.2 Potential Transport Mechanism

Primary transport mechanisms for the migration of potential contaminants on to the site or off the site include:

- Airborne particulates due to wind turbulence events;
- Surface water runoff and storm water drainage;
- Downward migration and leaching via infiltration of rain water into the soil; and

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- Lateral migration via groundwater.

5.3 Potential Contamination Receptors

The main potential contamination receptors were considered to include:

- Future construction / utility workers involved in excavation for future development of the site;
- Future residents and or users of the site; and
- The aquatic ecosystems in O'Haras Creek.

5.4 Potential Contamination Discussion

The site appears to have undergone earthworks and potential cut and fill activities particularly in the northern sector surrounding the house and shed, and within the car park. The potential for uncontrolled fill within the site requires a targeted soil sampling program to determine if contamination is present.

A petrol station situated adjoining the eastern boundary of the site provides a potential source of contamination from underground storage tanks via groundwater seepage and direct leakages from potentially poorly maintained services. Based on the distance and expected flow of groundwater direction to the west, the risk is considered moderate to high.

During the course of the site inspection no olfactory indication or visual staining on the soil surface were noted across the site.

The onsite waste water treatment tank observed provides a potential source of contamination in the form of bacteria and heavy metals. Removal of the tank and trenches is to be carried out in accordance with the Local Government Authority (local council) requirements.

Onsite buildings have the potential to contain asbestos and other hazardous materials, as such a hazardous materials survey should be undertaken prior to demolition.

Results from the Stored Chemical Information Database no dangerous goods have been registered to the property address.

Upon review the available information presented within the body of this report, it is the opinion of ADE that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that further investigation into the nature and extent of contamination (if present) is required.

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6 CONCLUSIONS

Based on the data and evidence collected in the course of the site inspection and site history review, the findings of the Phase I PSI are as follows:

- The land use has been predominantly grazing and in close proximity to agriculture since the 1930's prior to this the land use is not known and land title records are unavailable;
- The onsite waste water treatment tank observed provide a potential source of contamination in the form of bacteria and heavy metals. Removal of the tank and trenches is to be carried out in accordance with the Local Government Authority (Local Council) requirements;
- The site has undergone earthworks including potential cut and fill activities in the past. The presence and extent of contamination within the potential fill material should be investigated;
- A petrol station situated adjoining the eastern border of the site provides a potential source of contamination from underground storage tanks. Based on the risk, targeted sampling and groundwater monitoring is recommended to address this potential issue;
- Prior to demolition of structures onsite a Hazardous Materials Survey should be completed;
- Results from the Stored Chemical Information Database no dangerous goods have were registered to the property address;
- It is the opinion of ADE that there is the potential for contaminants of concern to pose a risk to the proposed future users of the site and that a limited investigation into the nature and extent of contamination (if present) is required; and
- ADE considers that it is likely that any contamination detected during further investigations (if present) will be capable of being remediated such that the site is suitable for the proposed land use.

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7 LIMITATIONS

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only and has been based on information provided by the client. The advice herein relates only to this project and all results, conclusions and recommendations made should be reviewed by a competent and experienced person with experience in environmental investigations, before being used for any other purpose. A.D. Envirotech Australia Pty Ltd (ADE) accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced or amended in any way without prior approval by the client or ADE and should not be relied upon by any other party, who should make their own independent enquiries.

Furthermore, soils, rock and aquifer conditions are often variable, resulting in non-homogenous contaminant distributions across a site. Boundaries between zones of variable contamination are often indistinct and have been interpreted based on available information and the application of professional judgement. The accuracy with which the subsurface conditions have been characterised depends on the frequency and methods of sampling and the uniformity of subsurface conditions and is therefore limited by the scope of works undertaken.

This report does not provide a complete assessment of the environmental status of the site and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, ADE reserves the right to review the report in the context of the additional information.

Access to the interior of the hazardous storage material shed and the interior of the residential house could not be gained during the site inspection, should any suspect materials or the storage of chemicals be uncovered, the information should be provided to ADE for review of the available information.

ADE's professional opinions are based upon its professional judgement, experience, training and results from analytical data. In some cases further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited investigation to the scope agreed upon with its client.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable member of the Environmental Industry within Australia. No other warranty, expressed or implied, is made or intended.

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8 REFERENCES

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Appendix I – LTO Records

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HISTORY OF TITLE TRANSACTION

Title Reference: 12/866560

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

15/2/2016 1:41PM

FOLIO: 12/866560

First Title(s): OLD SYSTEM

Prior Title(s): CA58988

Recorded	Number	Type of Instrument	C.T. Issue
7/3/1997	CA58988	CONVERSION ACTION	FOLIO CREATED EDITION 1
19/6/1997	3158777	MORTGAGE	EDITION 2
26/8/1997	3356938	DISCHARGE OF MORTGAGE	
26/8/1997	3356939	TRANSFER	
26/8/1997	3356940	MORTGAGE	EDITION 3
27/7/1999	6033151	DEPARTMENTAL DEALING	
14/9/2015	AJ811575	DEPARTMENTAL DEALING	

*** END OF SEARCH ***

PRINTED ON 15/2/2016



TITLE SEARCH

Title Reference: 12/866560

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 12/866560

SEARCH DATE	TIME	EDITION NO	DATE
15/2/2016	1:33 PM	3	26/8/1997

LAND

LOT 12 IN DEPOSITED PLAN 866560
 AT DURAL
 LOCAL GOVERNMENT AREA THE HILLS SHIRE
 PARISH OF SOUTH COLAH COUNTY OF CUMBERLAND
 TITLE DIAGRAM DP866560

FIRST SCHEDULE

RIMIKA NOMINEES PTY LIMITED
 IN 3/25 SHARE
 ROBERT JAMES CHALMERS
 LYNETTE MARGARET CHALMERS
 AS JOINT TENANTS IN 22/25 SHARE
 AS TENANTS IN COMMON (T 3356939)

SECOND SCHEDULE (2 NOTIFICATIONS)

- 1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- 2 3356940 MORTGAGE TO ST. GEORGE BANK LIMITED

NOTATIONS

NOTE: THE CERTIFICATE OF TITLE FOR THIS FOLIO OF THE REGISTER DOES NOT INCLUDE SECURITY FEATURES INCLUDED ON COMPUTERISED CERTIFICATES OF TITLE ISSUED FROM 4TH JANUARY, 2004. IT IS RECOMMENDED THAT STRINGENT PROCESSES ARE ADOPTED IN VERIFYING THE IDENTITY OF THE PERSON(S) CLAIMING A RIGHT TO DEAL WITH THE LAND COMPRISED IN THIS FOLIO.

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

PRINTED ON 15/2/2016

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TITLE SEARCH

Title Reference: 13561-87

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: AUTO CONSOL 13561-87

SEARCH DATE	TIME	EDITION NO	DATE
15/2/2016	12:56 PM	5	23/9/2006

LAND

LAND DESCRIBED IN SCHEDULE OF PARCELS
LOCAL GOVERNMENT AREA THE HILLS SHIRE
PARISH OF SOUTH COLAH COUNTY OF CUMBERLAND
TITLE DIAGRAM SEE SCHEDULE OF PARCELS

FIRST SCHEDULE

RIMIKA NOMINEES PTY LTD (T AC619946)

SECOND SCHEDULE (1 NOTIFICATION)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

SCHEDULE OF PARCELS

LOT D IN DP38097
LOT D IN DP39261

TITLE DIAGRAM

DP38097
DP39261.

*** END OF SEARCH ***

PRINTED ON 15/2/2016

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Aerial Photograph 1. Aerial photograph of the site dated 1930 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 15.02.2016.



Aerial Photograph 2. Aerial photograph of the site dated 1947 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 15.02.2016.

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Aerial Photograph 3. Aerial photograph of the site dated 1956 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 15.02.2016.



Aerial Photograph 4. Aerial photograph of the site dated 1965 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 15.02.2016.

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Aerial Photograph 5. Aerial photograph of the site dated 1986 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 20.07.2015.



Aerial Photograph 6. Aerial photograph of the site dated 1994 with approximate site boundary. Sourced from the Department of Finance and Services records, accessed on the 15.02.2016.

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Aerial Photograph 7. Aerial photograph of the site dated 2014 with approximate site boundary. Sourced from nearmap.com, accessed on the 15.02.2016.

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Photograph 1 – Shell service station located adjacent to the Site on the Eastern boundary. Photo taken from Old Northern Rd.



Photograph 4 – SMF insulation and general rubbish located along the eastern boundary of the Site.



Photograph 2 – Car park located within the north eastern portion of the Site, which has been capped with imported fill material.



Photograph 5 – Grassed stockpile located within the eastern portion of the Site.



Photograph 3 – Storage of agricultural equipment, located south of the car park.



Photograph 6 – Stockpiled building and domestic waste.

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Photograph 7 – General waste surrounding the shed on the northern boundary.



Photograph 8 – Altered soil profile west of the house.

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Appendix IV – Groundwater Search (Office of Water)

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NSW Office of Water

Work Summary

GW110308

Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 22/06/2009

Final Depth: 7.00 m

Drilled Depth: 7.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:

Property: SHELL COMPANY OF AUST
LTD COLES EXPRESS DURAL
592 - 596 OLD NORTHERN
ROAD DURAL 2158 NSW

Standing Water Level: 2.800

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County: CUMBE
Form A: CUMBE
Licensed:

Parish: CUMBE.43

Cadastre: 11//825077

Region: 10 - Sydney South Coast

CMA Map:

River Basin: - Unknown

Grid Zone:

Scale:

Area/District:

Elevation: 0.00 m (A.H.D.)

Elevation Unknown

Source:

Northing: 6269988.0

Easting: 317544.0

Latitude: 33°41'39.8"S

Longitude: 151°01'53.1"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.20	150			Rotary Air
1		Hole	Hole	1.20	7.00	125			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing		0.00	3.00	65			
1	1	Casing		3.00	7.00	65			Seated on Bottom
1	1	Opening	Screen	3.00	7.00	65		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
5.00	7.00	2.00	Unknown	2.80					

Geologists Log Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	1.50	1.50	FILL, GREY AND BROWN SANDY GRAVEL AND SANDSTONE	Fill	
1.50	2.20	0.70	CLAY, SANDY, BROWN AND GREY	Clay	
2.20	7.00	4.80	SANDSTONE, BROWN, FINE TO MED GRAINED	Sandstone	

Remarks

*** End of GW110308 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW110307

Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:

Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:

Completion Date: 26/05/2009

Final Depth: 8.00 m

Drilled Depth: 8.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:

Property: SHELL COMPANY OF AUST
LTD COLES EXPRESS DURAL
592 - 596 OLD NORTHERN
ROAD DURAL 2158 NSW

Standing Water Level: 4.200

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County: CUMBE
Form A: CUMBE
Licensed:

Parish: CUMBE.43

Cadastre: 11//825077

Region: 10 - Sydney South Coast

CMA Map:

River Basin: - Unknown
Area/District:

Grid Zone:

Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:

Northing: 6269999.0
Easting: 317513.0

Latitude: 33°41'39.5"S
Longitude: 151°01'51.9"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.22	50			Rotary Air
1		Hole	Hole	1.22	8.00	50			Auger - Solid Flight
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded, Q:6500.000m3
1	1	Casing		0.00	2.00	50			
1	1	Casing		2.00	8.00	50			Seated on Bottom
1	1	Opening	Screen - Gauze/Mesh	2.00	8.00	50		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
6.00	8.00	2.00	Unknown	4.20					

Geologists Log Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.80	2.80	FILL,BROWN CLAYEY SAND	Fill	
2.80	4.00	1.20	CLAY SANDY BLACK TO GREY,FINE TO COARSE	Clay Loam	
4.00	8.00	4.00	SANDSTONE GREY AND BROWN	Sandstone	

Remarks

*** End of GW110307 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW110310
Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:
Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:
Completion Date: 22/05/2009

Final Depth: 8.50 m

Drilled Depth: 8.50 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:
Property: SHELL COMPANY OF AUST
 LTD COLES EXPRESS DURAL
 592 - 596 OLD NORTHERN
 ROAD DURAL 2158 NSW

Standing Water Level: 3.200

GWMA:
GW Zone:
Salinity:
Yield:

Site Details

Site Chosen By:

County	Parish	Cadastre
Form A: CUMBE Licensed:	CUMBE.43	11/825077

Region: 10 - Sydney South Coast

CMA Map:
River Basin: - Unknown

Grid Zone:
Scale:
Area/District:
Elevation: 0.00 m (A.H.D.)

Northing: 6269975.0

Latitude: 33°41'40.3"S

Elevation Unknown
Easting: 317540.0

Longitude: 151°01'53.0"E

Source:
GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.20	150			Rotary Air
1		Hole	Hole	1.20	3.10	125			Auger - Solid Flight
1		Hole	Hole	3.10	8.50	100			Down Hole Hammer
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded, Q:6500.000m3
1	1	Casing		0.00	2.50	65			
1	1	Casing		2.50	8.50	65			Seated on Bottom, Screwed
1	1	Opening	Screen	2.50	8.50	65		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
6.50	8.50	2.00	Unknown	3.20					

Geologists Log

Drillers Log

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.80	2.80	FILL, BROWN AND GREY, SAND AND GRAVEL	Fill	
2.80	8.50	5.70	SANDSTONE RED BROWN, FINE TO MED GRAINED AND WEATHERED	Sandstone	

Remarks

*** End of GW110310 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

NSW Office of Water

Work Summary

GW110309
Licence: 10BL603071

Licence Status: ACTIVE

Authorised Purpose(s): MONITORING BORE
Intended Purpose(s): MONITORING BORE

Work Type: Well

Work Status:
Construct.Method: Rotary Air

Owner Type: Private

Commenced Date:
Completion Date: 22/05/2009

Final Depth: 10.00 m

Drilled Depth: 10.00 m

Contractor Name: Macquarie Drilling

Driller: Douglas Stephen Miller

Assistant Driller:

Property: SHELL COMPANY OF AUST
 LTD COLES EXPRESS DURAL
 592 - 596 OLD NORTHERN
 ROAD DURAL 2158 NSW

Standing Water Level: 3.100

GWMA:
GW Zone:

Salinity:
Yield:

Site Details

Site Chosen By:

County
Form A: CUMBE
Licensed:

Parish
 CUMBE.43

Cadastre
 11/825077

Region: 10 - Sydney South Coast

CMA Map:

River Basin: - Unknown
Area/District:

Grid Zone:
Scale:

Elevation: 0.00 m (A.H.D.)
Elevation Unknown
Source:

Northing: 6269974.0
Easting: 317530.0

Latitude: 33°41'40.3"S
Longitude: 151°01'52.6"E

GS Map: -

MGA Zone: 0

Coordinate Unknown
Source:

Construction

Negative depths indicate Above Ground Level; C-Cemented; SL-Slot Length; A-Aperture; GS-Grain Size; Q-Quantity; PL-Placement of Gravel Pack; PC-Pressure Cemented; S-Sump; CE-Centralisers

Hole	Pipe	Component	Type	From (m)	To (m)	Outside Diameter (mm)	Inside Diameter (mm)	Interval	Details
1		Hole	Hole	0.00	1.20	50			Rotary Air
1		Hole	Hole	1.20	3.20	50			Auger - Solid Flight
1		Hole	Hole	3.20	10.00	50			Down Hole Hammer
1		Annulus	Waterworn/Rounded	0.00	0.00				Graded
1	1	Casing		0.00	4.00	50			
1	1	Casing		4.00	10.00	50			Seated on Bottom, Screwed
1	1	Opening	Screen	4.00	10.00	50		1	PVC Class 18, Screwed, A: 0.40mm

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)
5.20	8.50	3.30	Unknown	3.10					

**Geologists Log
Drillers Log**

From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material	Comments
0.00	2.90	2.90	FILL,GREY AND BROWN CLAYEY SAND AND SANDSTONE FRAGS.	Fill	
2.90	10.00	7.10	SANDSTONE GREY,FINE TO MED. GRAINED	Sandstone	

Remarks

*** End of GW110309 ***

Warning To Clients: This raw data has been supplied to the NSW Office of Water by drillers, licensees and other sources. The NOW does not verify the accuracy of this data. The data is presented for use by you at your own risk. You should consider verifying this data before relying on it. Professional hydrogeological advice should be sought in interpreting and using this data.

Appendix V – Acid Sulphates Soils

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Appendix VI - NSW OEH State Heritage Records

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

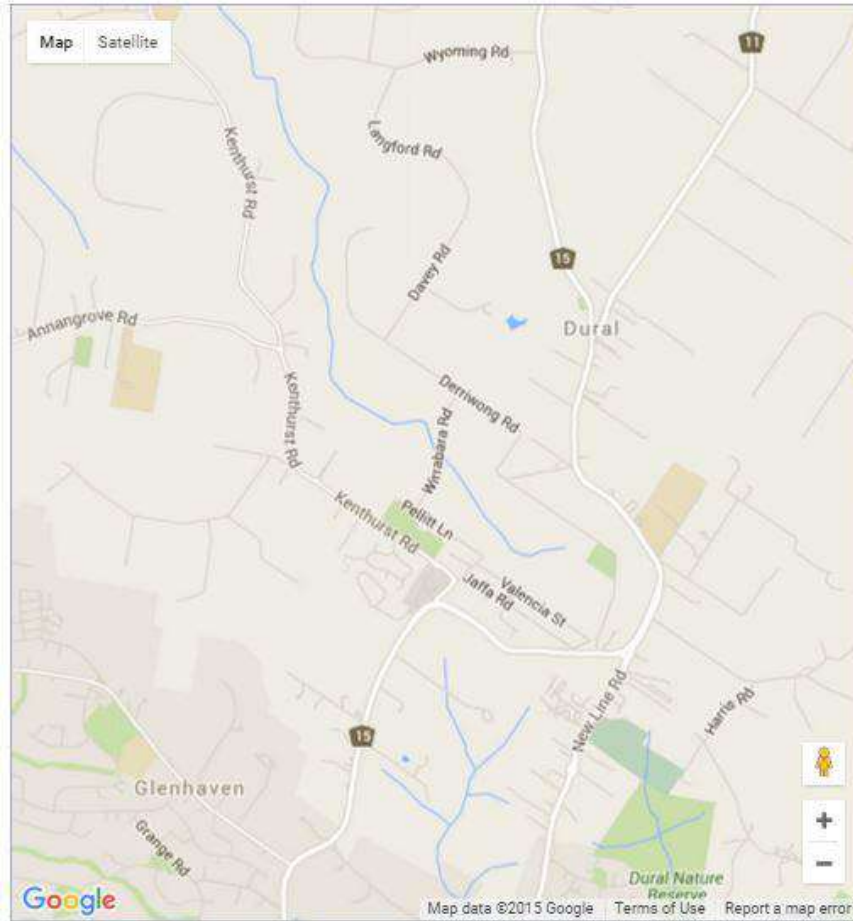
site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

Search State Heritage Register

The results shown below are for the State Heritage Register ONLY and does not include items listed on Local Environmental Plans and s.170 Heritage and Conservation Registers. For further mapping information for please contact the relevant Local or State government agency.
Disclaimer: The positions of the State Heritage Register items shown on this page are for general identification and research purposes only. It should not be used for legal searches. Some SHR items have not been included for privacy and security reasons. Free downloading of State Heritage Register spatial datasets and associated metadata into a Geographical Information System (GIS) software package is available at [Community Access to Natural Resources Information \(CANRI\) - http://canri.nsw.gov.au/download/](http://canri.nsw.gov.au/download/)



The map displays the Dural area in New South Wales, Australia. It shows a network of roads including Wyoming Rd, Kangford Rd, Daney Rd, Derwong Rd, Annangrove Rd, Kenthurst Rd, Wirrabara Rd, Pellitt Ln, Jaffe Rd, Valencia St, New Line Rd, Harrie Rd, and Grange Rd. A blue arrow points to a specific location on Daney Rd. The map also shows the Dural Nature Reserve and the Dural Nature Reserve. The map is overlaid with a grid and includes a search bar and a dropdown menu for local government areas.

Local government area
The Hills

Suburb/postcode
[Empty text box]

NSW historic theme
Please Choose...

Item type

- All
- Archaeological-Maritime
- Archaeological-Terrestrial
- Built
- Landscape
- Movable / Collection
- Complex / Group
- Conservation Area

Map data ©2015 Google Terms of Use Report a map error

Appendix VII – Section 149

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

THE HILLS SHIRE COUNCIL

3 Columbia Court, Baulkham Hills NSW 2153
PO Box 7064, Baulkham Hills BC NSW 2153

Telephone +61 2 9843 0555
Facsimile +61 2 9843 0409

Email council@thehills.nsw.gov.au
www.thehills.nsw.gov.au

DX 9966 Norwest

ABN No. 25 034 494 656

PLANNING CERTIFICATE UNDER SECTION 149 (2)
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 AS AMENDED.

Certificate Number: **84960**
Reference: 10130:64902
Issue Date: 17 February 2016
Receipt No: 5093935
Fee Paid: \$ 53.00

ADDRESS: 7 Derriwong Road, DURAL NSW 2158
DESCRIPTION: Lot 12 DP 866560

The land is zoned:
Zone RU6 Transition

The following prescribed matters apply to the land to which this certificate relates:

The Environmental Planning and Assessment Amendment Act 1997 commenced operation on 1 July 1998. As a consequence of this Act, the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment Regulation 2000.

THIS CERTIFICATE IS DIRECTED TO THE FOLLOWING MATTERS
PRESCRIBED UNDER SECTION 149 (2) OF THE ABOVE ACT.

1. Names of relevant planning instruments and DCPs

(1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

(A) **Local Environmental Plans**

The Hills Local Environmental Plan 2012, as amended, applies to all land in the Shire unless otherwise stated in this certificate.

State Environmental Planning Policies

SEPP No.19 - Bushland In Urban Areas
 SEPP No.21 - Caravan Parks
 SEPP No.30 - Intensive Agriculture
 SEPP No.33 - Hazardous And Offensive Development
 SEPP No.50 - Canal Estate Development
 SEPP No.55 - Remediation Of Land
 SEPP No.62 - Sustainable Aquaculture
 SEPP No.64 - Advertising And Signage
 SEPP No.65 - Design Quality Of Residential Flat Development
 SEPP No.70 - Affordable Housing (Revised Schemes)
 SEPP (Building Sustainability Index: Basix) 2004
 SEPP (Major Development) 2005
 SEPP (Mining, Petroleum Production And Extractive Industries) 2007
 SEPP (Miscellaneous Consent Provisions)2007
 SEPP (Infrastructure) 2007
 SEPP (Exempt and Complying Development Codes) 2008
 SEPP (Affordable Rental Housing) 2009
 SEPP (State and Regional Development) 2011
 Sydney Regional Environmental Plan No. 9 Extractive Industries (No.2) - Amendment No.1
 Sydney Regional Environmental Plan No. 20 Hawkesbury – Nepean River (No.2 – 1997)

The following SEPP's may apply to the land. Please refer to '**Land to which Policy applies**' for each individual SEPP.

SEPP (Housing For Seniors Or People With A Disability) 2004

(2) The name of each **proposed environmental planning instrument** that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

(A) **Proposed Local Environmental Plans**

Proposed The Hills Local Environmental Plan 2012 (Amendment No.) applies to this land.

Refer Attachment 1(2)(A)

(B) **Proposed State Environmental Planning Policies**

Draft State Environmental Planning Policy (Competition).

- (3) The name of each development control plan that applies to the carrying out of development on the land.

The Hills Development Control Plan 2012

- (4) In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2. Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP).

- (A) The Hills Local Environmental Plan 2012 applies to the land unless otherwise stated in this certificate and identifies the land to be:

Zone RU6 Transition

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

The Hills Local Environmental Plan 2012?

YES

Clause 4.2A of The Hills Local Environmental Plan 2012 provides minimum land dimensions for the erection of a dwelling house on the following zones:

RU1 Primary Production, RU2 Rural Landscape, RU6 Transition, E3 Environmental Management and E4 Environmental Living.

Any other Planning Proposal?

NO

- (F) Whether the land includes or comprises critical habitat?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

- (G) Whether the land is in a conservation area (however described)?

The Hills Local Environmental Plan 2012?

NO

Any Other Planning Proposal?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

2A. Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

- (a) Part 3 of the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP)*, or
 - (b) a Precinct Plan (within the meaning of the 2006 SEPP), or
 - (c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the ACT.
- (A) State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan) does not apply.

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) applies to the land unless otherwise stated in this certificate and identifies the land to be:

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan) does not apply.

Note: This precinct plan applies to land within the Box Hill Precinct or Box Hill Industrial Precinct.

- (B) The purposes for which the instrument provides that development may be carried out within the zone without development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Exempt Development.

- (C) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent:

Refer Attachment 2(B)

Also refer to the applicable instrument for provisions regarding Complying Development

- (D) The purposes for which the instrument provides that development is prohibited in the zone:

Refer Attachment 2(B)

- (E) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

Any amendments to Proposed State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

Any amendments to Proposed State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (F) Whether the land includes or comprises critical habitat?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (G) Whether the land is in a conservation area (however described)?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

- (H) Whether an item of environmental heritage (however described) is situated on the land?

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct Plan)?

NO

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 11 The Hills Growth Centre Precincts Plan)?

NO

3. Complying Development

- (1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.
- (2) The extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18 (1) (c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.
- (3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of

the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

General Housing Code and Rural Housing Code

Complying Development under the General Housing Code and Rural Housing Code **may be** carried out on the land.

Housing Alterations Code and General Development Code

Complying Development under the Housing Alterations Code and General Development Code **may be** carried out on the land.

Commercial and Industrial (New Buildings and Additions) Code

Complying Development under the Commercial and Industrial (New Buildings and Additions) Code **may be** carried out on the land.

Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes

Complying Development under the Commercial and Industrial Alterations, Subdivision, Demolition and Fire Safety Codes **may be** carried out on the land.

Note: Where reference is made to an applicable map, this information can be sourced from the following websites:

The Hills Local Environmental Plan 2012 - www.thehills.nsw.gov.au
State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (Appendix 2 North Kellyville Precinct) or (Appendix 11 The Hills Growth Centre Precincts Plan) - www.planning.nsw.gov.au

4. Coastal protection

Whether or not the land is affected by the operation of Section 38 or 39 of the *Coastal Protection Act 1979*, but only to the extent that the council has been so notified by the Department of Finance, Services and Innovation?

NO

4A. Certain information relating to beaches and coasts

- (1) In relation to a coastal council - whether an order has been made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

NO

- (2) In relation to a coastal council:

(a) whether the council has been notified under section 55X of the *Coastal Protection Act 1979* that temporary coastal protection works (within the

meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

(b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

NO

(3) (Repealed)

4B. Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

Whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

NO

Note. "Existing coastal protection works" are works to reduce the impact of coastal hazards on land (such as seawalls, revetments, groynes and beach nourishment) that existed before the commencement of section 553B of the Local Government Act 1993.

5. Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961?

NO

6. Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under -

(A) Division 2 of Part 3 of the Roads Act 1993; or

NO

(B) any environmental planning instrument; or

NO

(C) any resolution of council?

a) The Hills Development Control Plan 2012?

NO

b) Any other resolution of council?

NO

7. Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

- (a) adopted by council, or
- (b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council,

that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding)?

Council's policies on hazard risk restrictions are as follows:

(i) Landslip

- a) By The Hills Local Environmental Plan 2012 zoning?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

- b) By The Hills Local Environmental Plan 2012 local provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

- c) By The Hills Development Control Plan 2012 provision?

NO

No resolution has been adopted but attention is directed to the fact that there are areas within the Shire liable to landslip.

(ii) Bushfire

YES

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by bushfire. That question is answered in Section 11 of this certificate.

Council has adopted the NSW Rural Fire Service Guidelines entitled 'Planning for Bushfire Protection 2006'. Development subject to bushfire risk will be required to address the requirements in these guidelines and can be downloaded off the RFS web site www.rfs.nsw.gov.au

The Development Control Plan may also contain provisions for development on Bushfire Prone Land and Bushfire Hazard Management. Refer Part 1(3) of this certificate for the applicable Development Control Plan.

(iii) Tidal inundation

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by tidal inundation.

(iv) Subsidence

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by subsidence.

(v) Acid sulphate soils

NO

(vi) Land contamination

NO

Please note this is a statement of Council policy only and NOT a statement on whether or not the property is affected by contamination or potential contamination.

(vii) Any other risk

NO

7A. Flood related development controls information

- (1) Whether or not development on that land or part of the land for the purposes of dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (2) Whether or not development on that land or part of the land for any other purpose is subject to flood related development controls?

NO

Please note this is a statement of flood related development controls and is NOT a statement on whether or not the property is subject to flooding.

- (3) Words and expressions in this clause have the same meanings as in the standard instrument set out in the Standard Instrument (Local Environmental Plans) Order 2006.

8. Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The Hills Local Environmental Plan 2012?

NO

Any other Planning Proposal?

NO

State Environmental Planning Policy?

NO

Proposed State Environmental Planning Policy?

NO

9. Contributions plans

The name of each contributions plan applying to the land:

THE HILLS SECTION 94A

9A. Biodiversity Certified Land

Whether the land is biodiversity certified land within the meaning of Part 7AA of the Threatened Species Conservation Act 1995?

NO
10.

Biobanking Agreements

Whether the land is land to which a biobanking agreement under part 7A of the Threatened Species Conservation Act 1995 relates, (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage)?

NO
11.

Bush fire prone land

Has the land been identified as bush fire prone land?

YES

The land is identified on Council's certified Bush Fire Prone Land map as being partly or wholly bush fire prone land. For details refer to the Bush Fire Prone Land map that can be viewed on Council's website at www.thehills.nsw.gov.au

12. Property vegetation plans

Has the council been notified that a property vegetation plan under the Native Vegetation Act 2003 applies to this land?

NO

13. Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on this land (but only if the council has been notified of the order)?

NO

14. Directions under Part 3A

Whether there is a direction by the Minister in force under section 75P (2)(c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect?

NO

15. Site compatibility certificates and conditions for seniors housing

(a) Whether there is a current site compatibility certificate (seniors housing) of which council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land?

NO

(b) Whether there are any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land?

NO

16. Site compatibility certificates for infrastructure

Whether there is a valid site compatibility certificate (infrastructure), of which the council is aware, in respect of proposed development on the land?

NO

17. Site compatibility certificates and conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land?

NO

(2) Whether there are any terms of a kind referred to in clause 17(1) or 38(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land?

NO

18. Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

NO DEVELOPMENT PLAN APPLIES

(2) The date of any subdivision order that applies to the land.

NO SUBDIVISION ORDER APPLIES

(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

19. Site verification certificates

Whether there is a current site verification certificate, of which the council is aware, in respect of the land?

NO

Note. A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land - see Division 3 of Part 4AA of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

Note. The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

NO

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

NO

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

NO

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of the Act – if it is subject to such an order at the date when the certificate is issued,

NO

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of the Act – if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

NO

Note: Whether Council has been provided with a copy of any exemption under section 23 or authorisation by the Co-ordinator General under section 24 of the *Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009*?

NO

THE HILLS SHIRE COUNCIL

DAVE WALKER
GENERAL MANAGER



Per:

PLEASE NOTE: COUNCIL RETAINS THE ELECTRONIC ORIGINAL OF THIS CERTIFICATE. WHERE THIS CERTIFICATE REFERS TO INFORMATION DISPLAYED ON COUNCIL'S WEBSITE OR TO ANY EXTERNAL WEBSITE, IT REFERS TO INFORMATION DISPLAYED ON THE WEBSITE ON THE DATE THIS CERTIFICATE IS ISSUED.

ATTACHMENT 1(2)(A)

Planning Proposal 20/2015/PLP – Rural Workers Dwellings.

Planning Proposal 20/2015/PLP is to amend *The Hills Local Environmental Plan 2012* as part of a strategic review of planning controls for the Shire's rural areas. The proposal is to prohibit rural workers dwellings across all rural zones under Local Environmental Plan 2012.

The Shire's rural lands are within close proximity to the urban area and rural workers dwellings are generally only appropriate in remote locations more than 200km from major population centres and when the scale and nature of the farm necessitates on-site workers.

The changes also involve simplifying planning controls under Development Control Plan 2012, the Growth Centre Development Control Plans for the North Kellyville and Box Hill Release Areas.

The Minister for the Department of Planning and Environment has chosen to delegate the making of the plan to Council.

For further information please contact Council's Duty Planner on 9843 0469.

The above details are in keeping with the exhibited planning proposal. Please note that changes to the planning proposal may be made post exhibition. The current status and details of the planning proposal can be viewed on Council's website

www.thehills.nsw.gov.au under 'Application Tracking' on the home page or under the 'Planning & Development' menu bar.

ATTACHMENT 2(B)**Zone RU6 Transition****1 Objectives of zone**

- To protect and maintain land that provides a transition between rural and other land uses of varying intensities or environmental sensitivities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To encourage innovative and sustainable tourist development, sustainable agriculture and the provision of farm produce directly to the public.

2 Permitted without consent

Bed and breakfast accommodation; Extensive agriculture; Home occupations.

3 Permitted with consent

Agricultural produce industries; Animal boarding or training establishments; Aquaculture; Building identification signs; Business identification signs; Cemeteries; Child care centres; Community facilities; Dual occupancies (attached); Dwelling houses; Eco-tourist facilities; Environmental facilities; Environmental protection works; Farm buildings; Farm stay accommodation; Flood mitigation works; Garden centres; Home-based child care; Home businesses; Home industries; Information and education facilities; Intensive plant agriculture; Landscaping material supplies; Places of public worship; Plant nurseries; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Respite day care centres; Restaurants or cafés; Roads; Roadside stalls; Rural workers' dwellings; Secondary dwellings; Veterinary hospitals; Water supply systems.

4 Prohibited

Any development not specified in item 2 or 3.

NOTE: This land use table should be read in conjunction with the Dictionary at the end of The Hills LEP 2012 which defines words and expressions for the purpose of the plan.

Appendix VIII – Dial Before You Dig (DBYD)

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50

If further information is required, please contact:
Ausgrid DBYD
Phone: (02) 4951 0899
Fax: (02) 4951 0729



Emergency Phone Number 131388

Underground Cable Location Search Advice

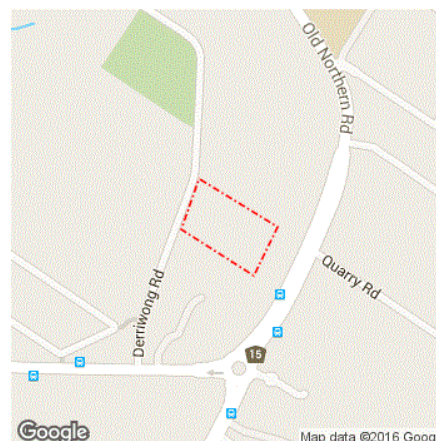
**-- Ausgrid Assets Not Recorded in the Vicinity --
(Caution Still Required)**

To:	Mr Ben Withnall A.D. Envirotech Pty Ltd 6/7 Millennium Court Silverwater NSW 2128	Phone No:	0414217615
		Issue Date:	15/02/2016

In response to your enquiry, Sequence No50833406 the records of Ausgrid **do not** disclose that there are Ausgrid underground cables in the defined search location.

This search is based on the geographical position of the dig site as denoted in the Dial Before You Dig caller confirmation sheet and an overview is provided:

Address:	7 Derriwong Road Dural NSW 2158
Job #:	10280693



****Important****

All information provided to you is ONLY VALID FOR **30 DAYS** from the date of issue

**YOU MUST READ AND UNDERSTAND THE:
IMPORTANT INFORMATION
AND
CHECKLIST FOR WORK NEAR OR AROUND UNDERGROUND CABLES
THAT ARE INCLUDED AS PART OF THIS ADVICE**

If further clarification is required, please contact:
 Endeavour Energy
 Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003



DBYD Underground Search Report

Date: 15/02/2016

DBYD Sequence No: 50833407

DBYD Job No: 10280693

ENDEAVOUR ENERGY ASSETS NOT AFFECTED

To:	Mr Ben Withnall	Company:	A.D. Envirotech Pty Ltd		
Address:	6/7 Millennium Court, Silverwater, NSW 2128				
Cust. ID:	1574323	Email:	b.withnall@adenvirotech.com.au		
Phone:	0414217615	Mobile:	Not Supplied	Fax:	Not Supplied
Enquiry Location:	7 Derriwong Road, Dural, NSW 2158				

Our Search has shown that **NO UNDERGROUND ASSETS ARE PRESENT** on our plans within the nominated enquiry location. However all persons planning excavation shall read and understand the warnings below. This search is based on the graphical position of the excavation site as denoted in the DBYD customer confirmation sheet.

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty (**20**) working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be printed and made available at the worksite where excavation is to be undertaken. Plans must be reviewed and understood by the crew on site prior to commencing excavation.

SUPPLEMENTARY MATERIAL

Material	Purpose	Location
DBYD Cover Letter	Endeavour Energy DBYD response Cover Letter	Attached
DBYD Important Information & Disclaimer	Endeavour Energy disclaimer, responsibilities and information on understanding plans	Attached
DBYD Response Plans	Endeavour Energy DBYD plans	Attached
Work Cover NSW " <i>Work near underground assets: Guide</i> "	Guideline for anyone involved in construction work near underground assets	Contact Work Cover NSW for a copy
Work Cover NSW " <i>Excavation work: Code of practice</i> "	Practical guidance on managing health and safety risks associated with excavation	URL [Click Here]
Safe Work Australia " <i>Working in the vicinity of overhead and underground electric lines guidance material</i> "	Provides information on how to manage risks when working in the vicinity of overhead and underground electric lines at a workplace	URL [Click Here]
Endeavour Energy Safety Brochures & Guides	To raise awareness of dangers of working on or near Endeavour Energy's assets	URL [Click Here]



Network Protection

Assets Affected

In reply to your enquiry, there are gas mains at the location of your intended work as per the attached map. For an explanation of the map, please see the key below. The following excavation guidelines apply.

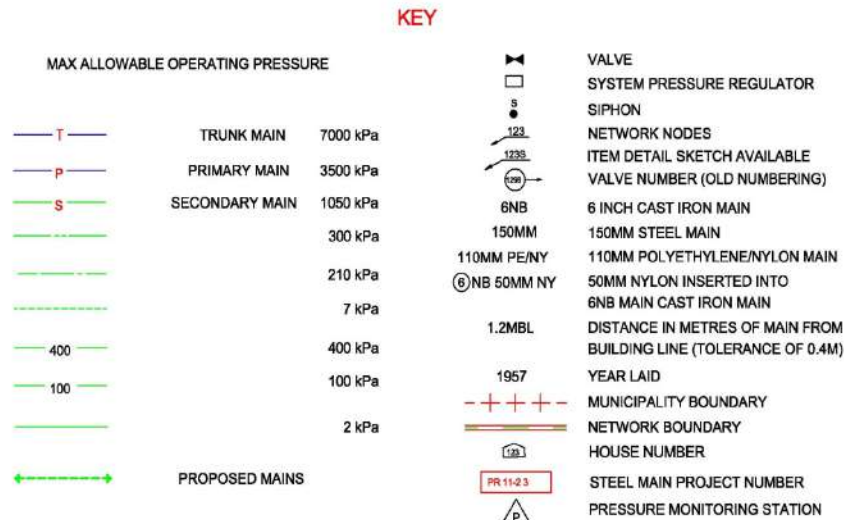
Excavation Guidelines:

It is essential the location of gas pipe/s are confirmed by carefully pot-holing by hand excavation prior to proceeding with mechanical excavation in the vicinity of gas pipes. If you cannot locate the gas main, contact the local depot.

In accordance with clause 34(5) of the Gas Supply (Safety and Network Management) Regulation 2013 (NSW), you should be informed that all excavation, (including pot-holing by hand to confirm the location of pipes) should be performed in accordance with “**Work Near Underground Assets Guideline**” published in 2007 by the Work Cover Authority.

A copy of this Guideline is available at: www.workcover.nsw.gov.au

DBYD Administration 1300 880 906



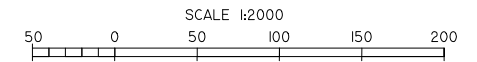
Warning: The enclosed plans show the position of Jemena Gas Networks (NSW) Ltd's underground gas mains and installations in public gazetted roads only. **Individual customers' services and services belonging to other third parties are not included** on these plans. These plans have been prepared solely for the use of Jemena Gas Networks (NSW) Ltd and Jemena Asset Management Pty Ltd (together “**Jemena**”) and any reliance placed on these plans by you is entirely at your own risk. The plans may show the position of underground mains and installations relative to fences, buildings etc., as they existed at the time the mains etc were installed. The plans may not have been updated to take account of any subsequent change in the location or style of those features since the time at which the plans were initially prepared. Jemena makes no warranty as to the accuracy or completeness of the enclosed plans and does not assume any duty of care to you nor any responsibility for the accuracy, adequacy, suitability or completeness of the plans or for any error, omission, lack of detail, transmission failure or corruption in the information provided. Jemena does not accept any responsibility for any loss that you or anyone else may suffer in connection with the provision of these plans, however that loss may arise (including whether or not arising from the negligence of Jemena, its employees, agents, officers or contractors). The recipient of these plans must use their own care and diligence in carrying out their works and must carry out further surveys to locate services at their work site. Persons excavating or carrying out other earthworks will be held responsible for any damage caused to Jemena's underground mains and equipment. In accordance with the Work Near Underground Assets Guideline published in 2007 by Work Cover Authority, Jemena recommends that you carry out pot-holing by hand to accurately confirm the location of gas mains and installation prior to commencing excavations.

In case of Emergency Phone 131 909 (24 hours)

Admin
1300 880 906

*Jemena Asset Management Pty Ltd ABN 53 086 013 461
for and on behalf of Jemena Gas Networks (NSW) Ltd ABN 87 003 004 322*

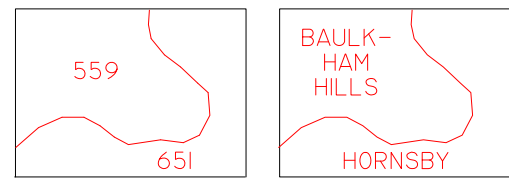
DURAL 4D



THIS MAP UPDATED ON 11/12/2014
 THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES
 SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
 DATE ALTERED:..... BY:.....

D4A	D4B	D5A
D4C	D4D	D5C
D7A	D7B	D8A

ADJOINING MAPS



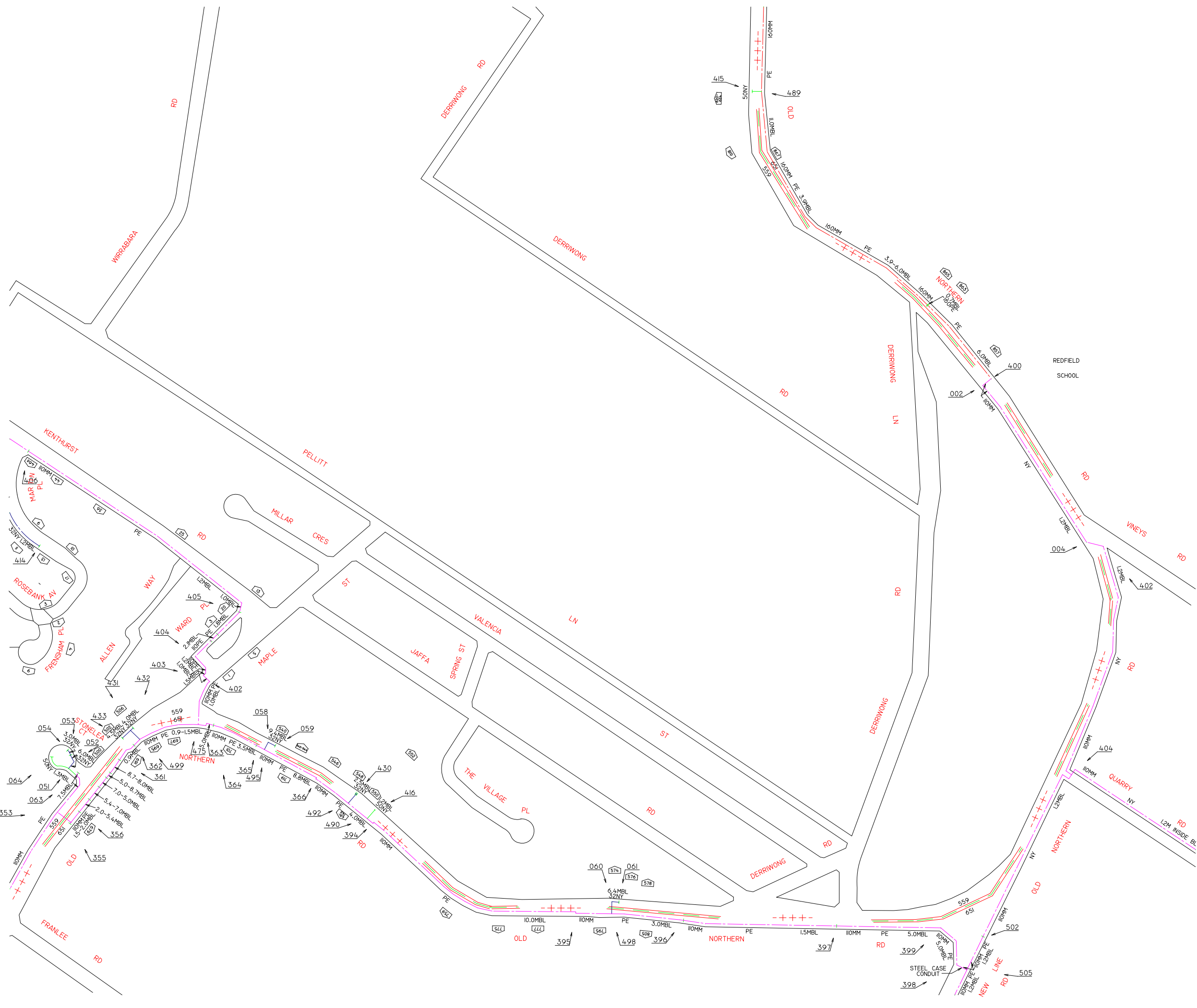
NETWORK AREA MUNICIPALITY AREA

Jemena

KEY

- | MAX ALLOWABLE OPERATING PRESSURE | |
|----------------------------------|--|
| — T — | TRUNK PIPELINE 7000 kPa |
| — P — | PRIMARY MAIN 3500 kPa |
| — S — | SECONDARY MAIN 1050 kPa |
| — 400 — | NETWORK MAIN 400 kPa |
| — 300 — | NETWORK MAIN 300 kPa |
| — 210 — | NETWORK MAIN 210 kPa |
| — 100 — | NETWORK MAIN 100 kPa |
| — 30 — | NETWORK MAIN 30 kPa |
| — 7 — | NETWORK MAIN 7 kPa |
| — 2 — | NETWORK MAIN 2 kPa |
| — + + + — | PROPOSED MAINS |
| PR II-2 3 | STEEL MAIN PROJECT NUMBER |
| △ | PRESSURE MONITORING STATION |
| ▽ | VALVE |
| □ | SYSTEM PRESSURE REGULATOR |
| • | SIPHON |
| 123 | NETWORK NODE |
| 123S | NETWORK VALVE NODE |
| 123 | VALVE NUMBER |
| 6NB | 6 INCH CAST IRON MAIN |
| 150MM | 150MM STEEL MAIN |
| 110MM PE/NY | 110MM POLYETHYLENE/NYLON MAIN |
| ⊗NB 50MM NY | 50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN |
| 1.2MBL | DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE |
| 1957 | YEAR LAID |
| — + + + — | MUNICIPALITY BOUNDARY |
| — + + + — | NETWORK BOUNDARY |
| 123 | HOUSE NUMBER |

DURAL 4D





Level 17, PIPE Networks House, 127 Creek Street, Brisbane 4000
PH:(07) 3233 9895 FAX:(07) 3233 9885

DBYD ENQUIRY RETURN:

PIPE Networks **DOES** own or operate telecommunications network infrastructure within the request area detailed above.

The affected network infrastructure is contained within the **Telstra** duct network and can be found listed on the appropriate **Telstra** duct Network plans.

THIS NETWORK IS VITAL TO OUR OPERATIONS AND AS SUCH, IT IS CRITICAL THAT **NO WORKS** COMMENCE WITHIN THE AREA UNTIL YOU HAVE RECEIVED AND APPRAISED THE TELSTRA DUCT PLANS FOR THIS AREA.

Due to continued network expansion, this network information can only be considered valid and accurate for 28 days from issue.

PIPE Networks will seek compensation for any damage to its network through negligence or ignorance of your duty of care.

PIPE NETWORKS
Ph (07) 3233 9895
Email: dbyd@pipenetworks.com
(for information specifically on this job only)



Response Cover Letter

Date: 15/02/2016

PIPE Networks
Level 17, 127 Creek St
Brisbane QLD 4000
Phone: +61 732339895
Fax: +61 732339880

To:

Mr Ben Withnall - Customer ID: 1574323
A.D. Envirotech Pty Ltd - Mr Ben Withnall
6/7 Millennium Court
Silverwater
NSW
2128

Email: b.withnall@adenvirotech.com.au
Phone: 0414217615
Fax: Not Supplied
Mobile: Not Supplied

Dear Mr Ben Withnall

The following is our response to your Dial Before You Dig enquiry.

Assets Affected: Telstra

Sequence Number: 50833405

Location: 7 Derriwong Road
Dural
NSW 2158

Commencement Date: 18/02/2016

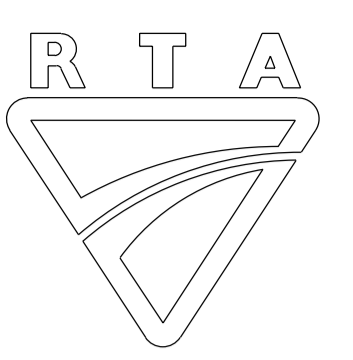
Please read over the attached documents for more information about your enquiry.

DISCLAIMER: No responsibility/liability is taken by PIPE Networks for any inaccuracy, error, omission or action based on the information supplied in this correspondence.

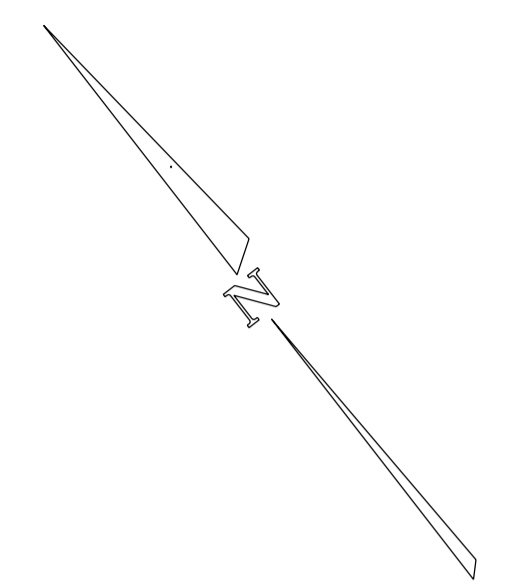
Note: If the works fall in an area that adjacent to PIPE Networks infrastructure, a pre-inspection is required prior to commencement of works. Contact PIPE Networks to arrange an inspection time. **NO WORKS TO COMMENCE PRIOR TO INSPECTION.**

DRAWN BY CADD
DO NOT AMEND MANUALLY

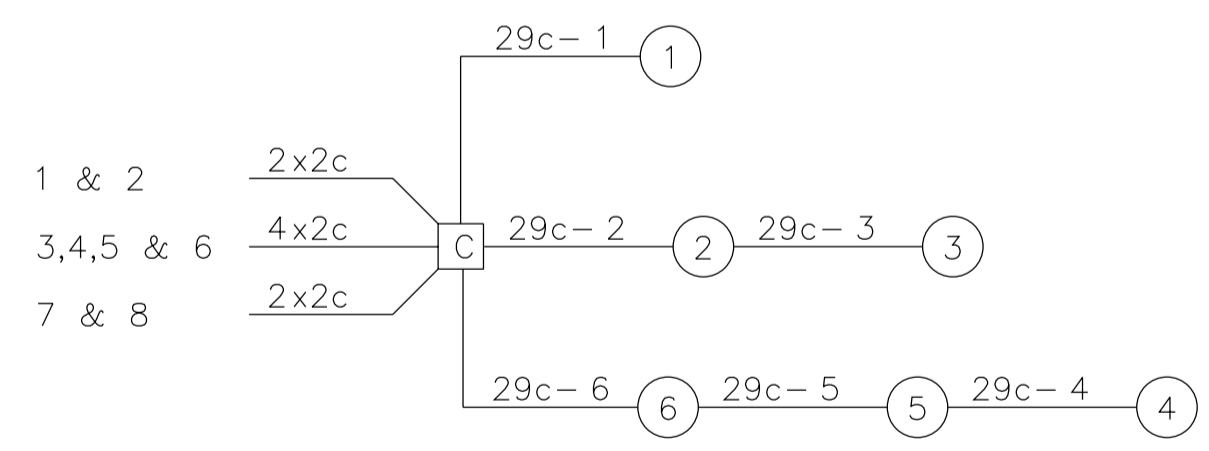
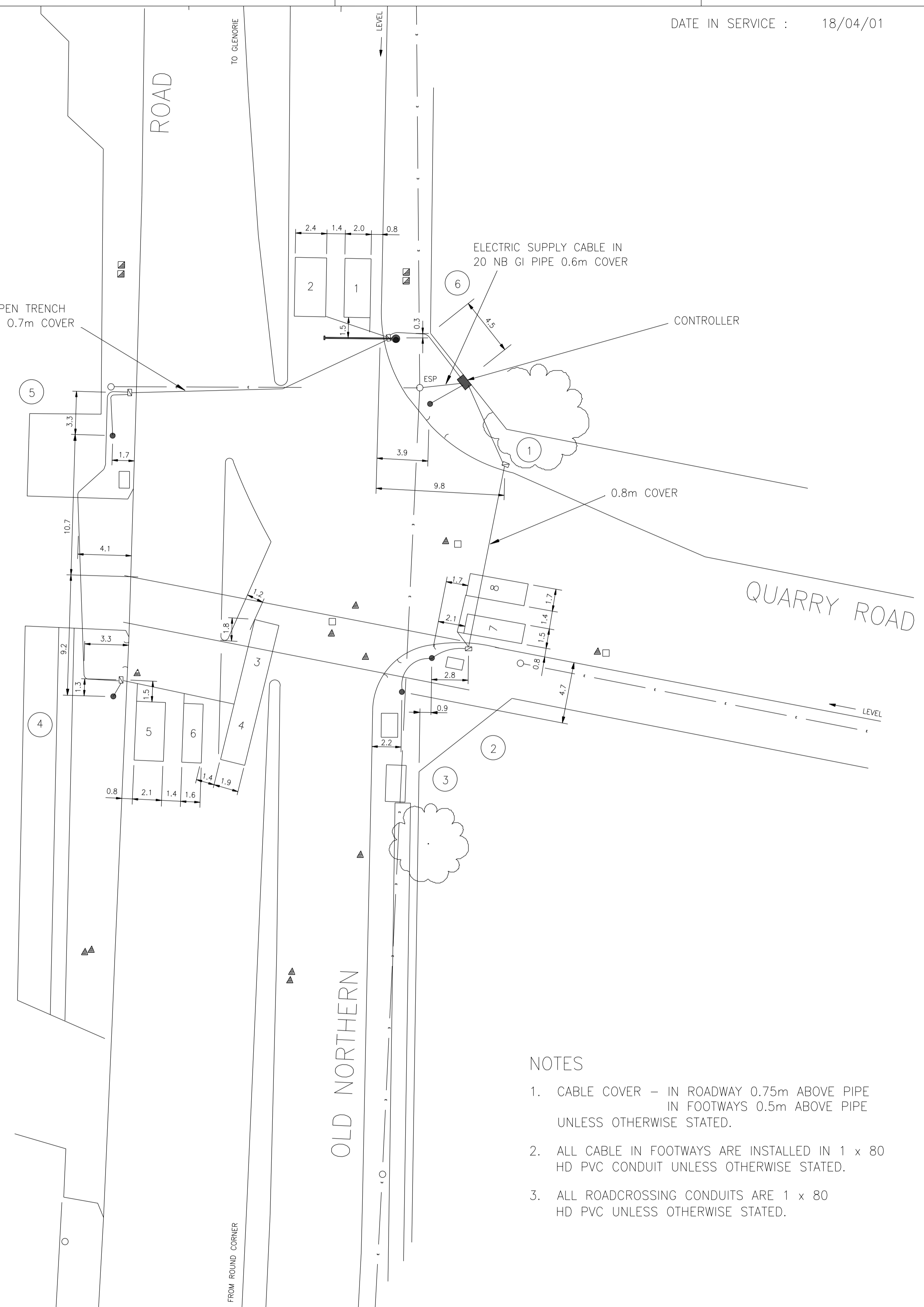
DATE IN SERVICE : 18/04/01



0160.201.WV.2684



PIPE INSTALLED BY OPEN TRENCH
APPROX. 11.0m LONG 0.7m COVER



CABLE LAYOUT

NOTES

1. CABLE COVER - IN ROADWAY 0.75m ABOVE PIPE
IN FOOTWAYS 0.5m ABOVE PIPE
UNLESS OTHERWISE STATED.
2. ALL CABLE IN FOOTWAYS ARE INSTALLED IN 1 x 80
HD PVC CONDUIT UNLESS OTHERWISE STATED.
3. ALL ROADCROSSING CONDUITS ARE 1 x 80
HD PVC UNLESS OTHERWISE STATED.

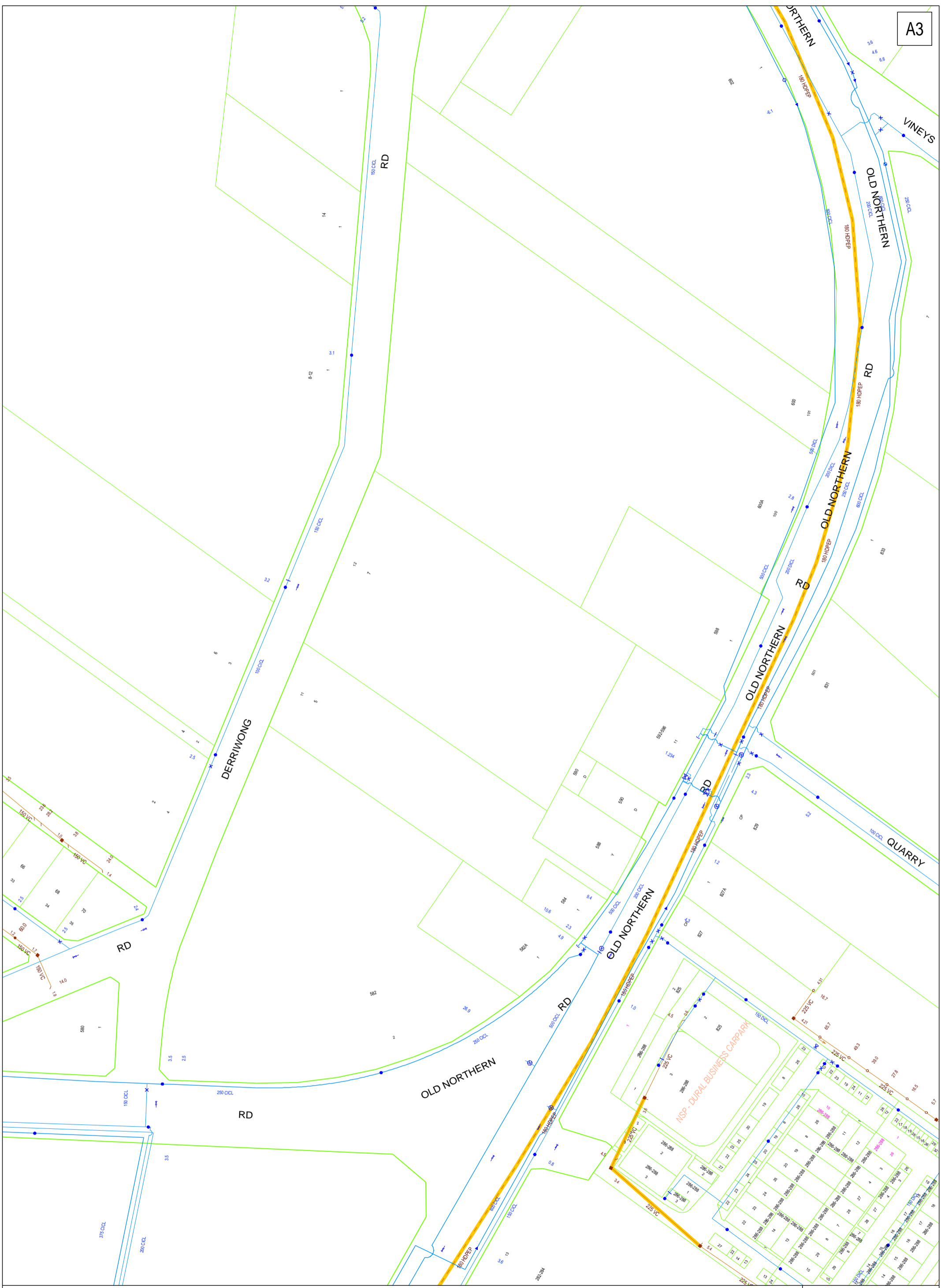
A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS		U.B.D. Ref 1996 Map 131/M13	
HYDRANT	□	SYMBOLS/ABBS.	VD003-6	I.S.G. E:	
STOP VALVE	▲	STD. POSIT.	VD001-5	CO-OROS N:	
GAS VALVE	≡	DET. SCHED EXP.	VD018-10	DESIGNED B.D.S.E.	
SEWER MANHOLE	⊕	PRES. DETECT	VC005-17	CHECKED LEN CLAY	
TELECOM PIT	⊞	SSG DIS. SEQ.	VD018-8	W.McCOURT	
ELECT. LIGHT POLE	○	DESIGN.	SHEET 1	SITE CHECKED	
POWER POLE	○	CABLE CHART	SHEET 3	RECOMMENDED	
STAY POLE	⊙				
TELEPHONE BOX	⊞	SURVEYOR :			
TELECOM PILLAR	●	DATE :			

APPROVED
R.C. Bird
NAME: R.C. BIRD
ELECT. DESIGN MANAGER
POSITION
DATE: 09/05/01

Roads and Traffic Authority, N.S.W.
HORNSBY SHIRE COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF
OLD NORTHERN ROAD &
QUARRY ROAD
DURAL
CABLE INSTALLATION
TCS No 2684

DESIGN OFFICE PARRAMATTA - SYDNEY TECHNICAL SERVICES	
CADD FILE: WV2684_2B_INS.dgn	
SCALE 5 0 (1:200) 5 10	ISSUE
FILE 201 TS 394	SUPERSEDES SHEET/ISSUE 2A
REGN. 0160.201.WV.2684	SHEET 2



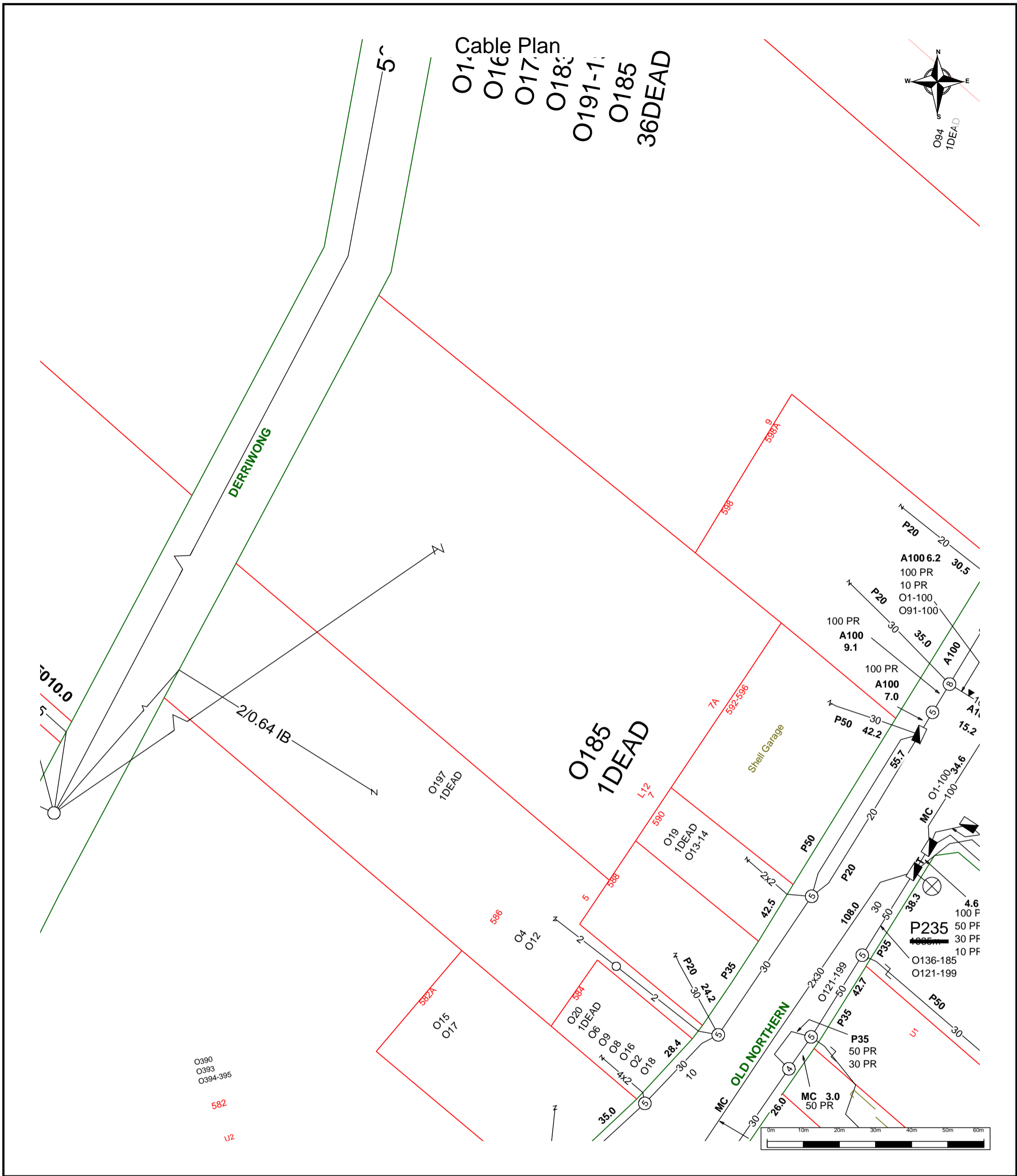
DBYD Address:
7 Derriwong Road
Dural NSW 2158

DBYD Job No: 10280693
DBYD Sequence No: 50833410

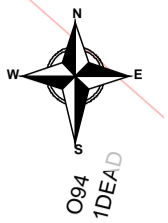
Copyright Reserved Sydney Water 2016
No warranty is given that the information shown is complete or accurate.
SYDNEY WATER CORPORATION

Scale: 1:1500
Date of Production: 15/02/2016

Plan 1 of 1



O1 Cable Plan
 O16
 O17
 O18
 O191-1
 O185
 36DEAD



O185
 1DEAD

O390
 O393
 O394-395

582
 U2



For all Telstra DBYD plan enquiries -
 email - Telstra.Plans@team.telstra.com
 For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 15/02/2016 10:43:46

Sequence Number: 50833408

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

The above plan must be viewed in conjunction with the Mains Cable Plan on the following page

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.

Mains Cable Plan



1xP32 SUBDUCTS (AA)
 102:YY-BQ/1-60 60F/- SMOF FNPEHJ/STD <- (A)
 c21:M1-1200 1200/0.40 CPIUT <- (BA)

AB
 AA
P1

DERRIWONG

c17:M1-1700 2400/0.40 CPIUT
 c17:M1801-2300
 100DEAD
 100DEAD
 c1:M1-1200 1400/0.51 PIUT UA
 100DEAD
 c1:M1301-1400
 <C CAST 11:Z01/J1-100 800 PIUT
 c10:M101-600
 <C CAST 11:Z01/J601-700
 c10:M701-800
 200DEAD 200 PIUT
 c17:M1801-1900 100/0.40 PIUT
 c19:M1-100 100/0.40 CPFUT
 c17:M2001-2700 100/0.40 PIUT
 c17:M1701-1800 100/0.40 PIUT
 c17:M2301-2400 100/0.40 PIUT
 3004:AC-AE/1-84 84F/- SMOF FNPEHJ
 CAST/1003:BQ-CG/1-60 60F/- SMOF FNPEHJ/STD <-
 3001:AD-AE/1-60 60F/- SMOF FNPEHJ/STD
 F CAST 210:CAST YY-YY/1-36 36F/- SMOF FNPEHJ/STD <-
 256:YY-AE/1-36 36F/- SMOF FNPEHJ/STD
 106:BY-AE/1-6 6F/- MMOF FNPEHJ/STD
 123:YY-AE/1-6 6F/- SMOF FNPEHJ/STD
 4xDIST

1xP32 SUBDUCTS (AA)
 102:YY-BQ/1-60 60F/- SMOF FNPEHJ/STD <- (AA1)
 c21:M1-1200 1200/0.40 CPIUT <- (BA)

AB BB
 AA BA
P100

1xP32 SUBDUCTS (AA)
 102:YY-BQ/1-60 60F/- SMOF FNPEHJ/STD <- (AA1)
 c21:M1-1200 1200/0.40 CPIUT <- (BA)

<C CAST 11:Z01/J1-100 800 PIUT (AC)
 c10:M101-600
 <C CAST 11:Z01/J601-700
 c10:M701-800
 F CAST 210:CAST YY-YY/1-36 36F/- SMOF FNPEHJ/STD <- (AC)
 DIST (AC)

AB BB
 AA BA
P100

AC CC
A100

F CAST 1003:BQ-CG/1-60 60F/- SMOF FNPEHJ/STD (AA)
 3001:AE-BV/1-12 12F/- SMOF FNPEHJ/STD <- (AA)
 1xP32 SUBDUCTS (AA)
 102:YY-BQ/1-60 60F/- SMOF FNPEHJ/STD <- (AA1)
 c21:M1-1200 1200/0.40 CPIUT <- (BA)

AB BB
 AA BA
P100

P235 300
 c17:M2301-240
 1935m
 DA235

200DEAD 200 PIUT (AA)
 c17:M1801-1900 200/0.40 CPFUT PE (AA)
 100DEAD
 c3004:AE-BW/1-36 36F/- SMOF FNPEHJ (BA)

AA BA
A100

c17:M1501-1600 100/0.40 CPFUT MBHJ (DB)
 c1:M1-1200 1200/0.40 CPFUT (EA)
 DIST (EA)

DB
 DA EA
P100

200DEAD 200 PIUT (AA)

OLD NORTHERN

Shell Garage



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TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

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WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

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Appendix IX – NSW WorkCover

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenvirotech.com.au
e-mail info@ADenvirotech.com.au

ABN:

520 934 529 50



SafeWork NSW

SafeWork NSW
92-100 Donnison Street, Gosford, NSW, 2250
Locked Bag 2906, Lisarow, NSW, 2252 |
Customer Service Centre 13 10 50
licensing@safework.nsw.gov.au | www.safework.nsw.gov.au

Our Ref: D16/525156
Your Ref: Evan Webb

17 February 2016

Attention: Evan Webb
AD Envirotech Pty Ltd
6/7 Millenium Court
Silverwater NSW 2128

Dear Mr Webb,

RE SITE: 7 Derriwong Rd Dural NSW

I refer to your site search request received by SafeWork NSW on 9 February 2016 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above mentioned premises.

For further information or if you have any questions, please call our Customer Service Centre on 13 10 50 or email licensing@safework.nsw.gov.au

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Brent Jones'.

Brent Jones
Customer Service Officer
Customer Service Centre - Operations
SafeWork NSW

Appendix X – EPA Contaminated Sites Register

New South Wales Office:

A. D. Envirotech Australia Pty Ltd
Unit 6/7 Millennium Court
Silverwater, NSW 2128

Queensland Office:

A. D. Envirotech Australia Pty Ltd
P.O. Box 288
Upper Coomera, QLD 4209

Telephone:

NSW: (02) 8541 7214
QLD: (07) 5519 4610

Internet:

site: www.ADenirotech.com.au
e-mail info@ADenirotech.com.au

ABN:

520 934 529 50



[Home](#) > [Contaminated land](#) > [Record of notices](#)

Search results

Your search for:LGA: Baulkham Hills Shire Council

Matched 5 notices relating to 1 site.

[Search Again](#)

[Refine Search](#)

Suburb	Address	Site Name	Notices related to this site
Kenthurst	137 Annangrove Road	Annangrove Climbers	5 former

Page 1 of 1

30 June 2015

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DRUMMOYNE	Caltex Service Station 191-195 Lyons ROAD	Service Station	Under assessment
DRUMMOYNE	Former Dry Cleaners 225 Victoria ROAD	Chemical Industry	Under assessment
DRUMMOYNE	Shell Coles Express Drummoyne (Westbound) 35-51 Victoria ROAD	Service Station	Under assessment
DRUMMOYNE	Shell Coles Express Drummoyne (Eastbound) 36 - 46 Victoria ROAD	Service Station	Under assessment
DUBBO	BP Service Station, Dubbo 105 Erskine STREET	Service Station	Under assessment
DUBBO	Lowes Petroleum BP-Branded (former Mobil) Depot 107 Erskine STREET	Other Petroleum	Under assessment
DUBBO	Former Shell Depot 109-111 Erskine STREET	Other Petroleum	Under assessment
DUBBO	Caltex Service Station 119 Bourke STREET	Service Station	Under assessment
DUBBO	Shell Coles Express Service Station 131-133 Cobra STREET	Service Station	Under assessment
DUBBO	Dubbo Police Station 153 Brisbane STREET	Other Petroleum	Under assessment
DUBBO	Former Ambulance Station 165 Brisbane STREET	Other Petroleum	Contamination formerly regulated under the CLM Act
DUBBO	Service Station at Harvey Norman Centre 219-233 Cobra STREET	Service Station	Under assessment
DUBBO	Former Mobil depot 40-44 Morgan STREET	Other Petroleum	Regulation under CLM Act not required
DUBBO	Shell Coles Express Service Station 45-49 Whylandra STREET	Service Station	Under assessment
DUBBO	Caltex Service Station, Dubbo 60 Windsor PARADE	Service Station	Regulation under CLM Act not required
DUBBO	Caltex Service Station, Dubbo Cnr Brisbane Street and Cobra STREET	Service Station	Contamination currently regulated under CLM Act
DUBBO	Caltex Service Station Phillip St Cnr Fitzroy STREET	Service Station	Under assessment
DUBBO WEST	Mobil Service Station Corner Whylandra Street and Victoria STREET	Service Station	Under assessment
DULWICH HILL	Former Tyre Recapping 115-117 Constitution ROAD	Other Industry	Regulation under CLM Act not required
DULWICH HILL	Denison Road Playground 194 Denison ROAD	Landfill	Regulation under CLM Act not required
DUNEDOO	Former Shell Depot Corner Bolaro Street and Redbank STREET	Other Petroleum	Under assessment
DUNGOG	Lot 54 Common Rd 54 Common ROAD	Unclassified	Regulation under CLM Act not required
DUNMORE	Equestrian Centre 71 Fig Hill LANE	Unclassified	Regulation under CLM Act not required
DURAL	Caltex Service Station 530 Old Northern ROAD	Service Station	Regulation under CLM Act not required

DURAL	Woolworths Service Station 532 Old Northern ROAD	Service Station	Under assessment
DURAL	BP Service Station 582 Old Northern ROAD	Service Station	Under assessment
DURAL	Caltex Service Station 917-923 Old Northern ROAD	Service Station	Under assessment
EAGLE VALE	BP Service Station Corner Eagle Vale Drive and Gould ROAD	Service Station	Under assessment
EARLWOOD	RTA Land 3 Jackson PLACE	Unclassified	Contamination currently regulated under CLM Act
EARLWOOD	Wolli Creek Aqueduct Unwin STREET	Unclassified	Regulation under CLM Act not required
EAST BALLINA	Caltex East Ballina Service Station 34 Links AVENUE	Service Station	Regulation under CLM Act not required
EAST GOSFORD	Mobil Service Station 44 Victoria STREET	Service Station	Contamination currently regulated under CLM Act
EAST GOSFORD	Presbyterian Aged Care Facility 8-18 Enid CRESCENT	Landfill	Regulation under CLM Act not required
EAST MAITLAND	Mobil Service Station 250 Newcastle STREET	Service Station	Under assessment
EAST MAITLAND	Former Gasworks Site Corner Melbourne Street and Brisbane STREET	Gasworks	Regulation under CLM Act not required
EAST MAITLAND	Caltex Service Station Newcastle Rd Cnr William STREET	Service Station	Under assessment
EAST TAMWORTH	Caltex Service Station 358 New England HIGHWAY	Service Station	Under assessment
EASTERN CREEK	Caltex Service Station M4 Motorway Westbound M4 Westbound	Service Station	Regulation under CLM Act not required
EASTERN CREEK	Caltex Service Station M4Eastbound MOTORWAY	Service Station	Under assessment
EASTERN CREEK	Pioneer Road Services Old Walgrove ROAD	Other Industry	Under assessment
EASTLAKES	Budget Petroleum Eastlakes 102 Maloney STREET	Service Station	Contamination currently regulated under CLM Act
EASTLAKES	Former Shell Rosebery service station and adjacent land 275-279 Gardeners ROAD	Service Station	Contamination formerly regulated under the CLM Act
EASTLAKES	Eastlakes Reserve Evans AVENUE	Service Station	Contamination formerly regulated under the CLM Act
EASTWOOD	Mobil Service Station 5 Trelawney STREET	Service Station	Under assessment
EDEN	Caltex Service Station 159 Imlay STREET	Service Station	Under assessment
EDEN	Caltex Service Station 80-86 Imlay STREET	Service Station	Under assessment
EDENSOR PARK	Mobil Service Station Corner Cowpasture Road and Elizabeth DRIVE	Service Station	Under assessment
EDGECLIFF	Shell Coles Express Service Station 67 New South Head ROAD	Service Station	Under assessment
EDGEWORTH	Caltex Service Station 662 Main ROAD	Service Station	Under assessment