CAMPBELLTOWN
CITY COUNCIL

LOCAL PLANNING PANEL

16 DECEMBER 2020

MEETING NOTICE

Campbelltown City Council Local Planning Panel

The meeting of the Campbelltown City Council Local Planning will be held at the Civic Centre, Campbelltown on Wednesday 16 December 2020 at 3.00pm.

MEETING AGENDA

1. ACKNOWLEDGEMENT OF LAND

I would like to acknowledge the Traditional Custodians, the Dharawal people, whose Lands we are now meeting on. I would like to pay my respects to the Dharawal Elders, past and present and all other Aboriginal people who are here today.

2. APOLOGIES

3. DECLARATIONS OF INTEREST

General Information

The role of the Local Planning Panel is to determine development applications and provide advice on planning proposals.

When the panel is considering a report relating to a development application, the panel will receive and consider verbal submissions from the applicant and from any person that made a written submission in regard to that development application (during the notification or exhibition period).

As required by the Minister's Local Planning Panels Direction, when considering a planning proposal, the role of the panel is to provide advice to Council. The panel is the first step in the evaluation process before Council and the State Government (through the Gateway process) to decide whether to support a formal public exhibition or consultation period on the proposal. It is possible that the proposal will be modified before or as part of the consideration by Council and/or through the Gateway process. The panel will consider verbal submissions made in relation to the matter from the applicant, if there is one, and from any other person. The panel will not consider written submissions tabled at the meeting, however they will be accepted and passed on to Council officers for consideration in their report to Council.

Any person who makes a verbal submission to the panel must identify themselves and must also accept that their presentation will include their images and sounds and will be webcast and stored on Council's website for future viewing. Any person who makes a verbal submission to the panel must also declare before their submission any political contributions or donations they have made over the last four years exceeding $1,000 to any political party or candidate who contested the last Ordinary Election of Council.

If you would like to make a verbal submission to the panel, it is necessary to submit the "request to address – community access to meetings" form available on Council's website by midday the day prior to the meeting. The panel chair will invite the registered speakers to the table at the appropriate time in the agenda. Verbal submissions to the panel will be limited to five minutes each. The chairperson has the discretion to extend the period if considered appropriate. Panel members will have the opportunity to ask you questions at the end of your submission.

Recommendations of the Panel

The reports are presented to the Local Planning Panel for its consideration and recommendation.

After the panel has considered submissions made by interested parties, the panel will make recommendations to the Council. The panel's recommendations become public day following the Independent Hearing and Assessment Panel meeting.

Information

Should you require information about the panel or any item listed on the agenda, please contact Council's City Development department on 4645 4575 between 8.30am and 4.30pm.

The following reports are referred to the Local Planning Panel Panel for its consideration and recommendation.

Lindy Deitz
General Manager

4. REPORTS

4.1 Demolition of existing dwelling and structures and construction of a 27 room boarding house - 88 Rudd Road, Leumeah

Community Strategic Plan

Objective	Strategy
1 Outcome One: A Vibrant, Liveable City	1.8 - Enable a range of housing choices to support different lifestyles

Referral Criteria

In accordance with Section 4.8 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the Minister for Planning's direction dated 23 February 2018, the application is to be determined by the Local Planning Panel as the proposal is both for a sensitive development and there were more than 10 unique submissions.

Executive Summary

- Council has received a development application for the demolition of the existing dwelling and associated structures and the construction of a two storey boarding house containing 27 rooms and basement car parking.

- The subject site is zoned R3 Medium Density Residential under the provisions of the Campbelltown Local Environmental Plan 2015 (CLEP 2015). Boarding houses are permissible with consent in the R3 Medium Density Residential zone.

- The provisions of State Environmental Planning Policy (Affordable Rental Housing) 2009 (ARHSEPP) apply to the proposed development.

- The proposal was referred to NSW Police to review the proposal from a Crime Prevention Through Environmental Design (CPTED) perspective.

- The development application was publicly exhibited and notified in accordance with Council's Community Participation Plan from 20 February 2020 to 17 March 2020. In total, 17 submissions and a petition were received.

- An assessment under Section 4.15 of the EP&A Act has been undertaken and has identified a number of issues of concern with the proposed application relating to the bulk/scale of the development, its impact on adjoining properties (trees and solar access) and the method of waste management. Therefore it is recommended that the application be refused.

Officer's Recommendation

That development application 3988/2019/DA-BH for the demolition of existing dwelling and associated structures and the construction of a 27 room boarding house with basement car parking at No.88 Rudd Road, Leumeah be refused subject to the reasons in attachment 1.

Purpose

To assist the Panel in its determination of the subject application in accordance with the provisions of the EP&A Act.

Property Description	Lot B DP 376602 No.88 Rudd Road, Leumeah
Application No	3988/2019/DA-BH
Applicant	Baini Design
Owner	S6 Projects Pty Ltd
Provisions	*Environmental Planning and Assessment Act 1979*
	State Environmental Planning Policy (Affordable Rental Housing) 2009
	State Environmental Planning Policy (Infrastructure) 2007
	State Environmental Planning Policy (Sydney Region Growth Centres) 2006
	State Environmental Planning Policy No. 55 – Remediation of Land
	Campbelltown Local Environmental Plan 2015
	Draft Campbelltown Local Environmental Plan 2015 – Amendment No.24
	Campbelltown (Sustainable City) Development Control Plan 2015
Date Received	18 December 2019

History

There are no relevant development approvals relating to this site.

In recent times trees have been removed from the site however there is no record or an approval for the removal of the trees.

Application History

The development application was deferred for additional information on 9 April 2020. Amended plans were submitted on 13 May 2020. A second request for information was sent on 17 July 2020. Further amended plans were submitted to Council on 6 August 2020. Since

6 August there has been several emails sent in regards to outstanding issues relating to waste collection and basement design issues.

Report

The Site and Locality

The site is identified as Lot B in DP 376602 and is also known as No. 88 Rudd Road, Leumeah. It is located on the eastern side of Rudd Road and has a gentle slope to the front boundary. The site is rectangular in shape with 15.24m frontage to Rudd Road and has a total site area of 929.03sqm.

The site is occupied by a single storey fibro dwelling with tiled roof. There is a single detached garage located along the northern side boundary.

The subject site is adjoined by a single storey weatherboard dwelling to the north and two single storey brick dual occupancy dwellings to the south. Adjoining the site to the rear is a single storey brick dwelling.

The property is not listed as an item of Environmental Heritage, and is not located within a heritage conservation area.

An aerial photograph of the site is shown below.

Figure 1: Site location map, subject site identified with pin

The surrounding locality consists of a range of residential developments ranging from single dwellings to dual occupancies. Campbelltown North Public School is also in close proximity to the subject site.

The Proposal

The proposed development is for the demolition of the existing dwelling and structures and the construction of a 27 room boarding house with basement car parking. The proposal consists of the following:

- 18 x one adult lodger rooms
- eight x two adult lodger rooms
- Manager's room which is a single lodgers room
- 14 car parking spaces including 1 accessible space and 1 managers space/loading bay
- six motorcycle spaces
- six bicycle spaces.

The proposed boarding house is two storey with vehicular access provided via a driveway in the northern corner of the site. Each room in the boarding house would accommodate a bathroom, kitchenette, laundry and living area. A communal room has been provided on the ground floor as well as three outdoor communal areas. Each room on the ground floor has access to their own courtyard area.

There is a communal waste room provided within the basement level that holds 18 bins. Waste is proposed to be collected onsite with the waste vehicle entering the basement and parking in the manager's car space which also doubles as a loading bay for the waste vehicle.

Two existing trees on the site located within the front setback area are proposed to be removed as part of the development.

1. Vision

Campbelltown 2027 Community Strategic Plan

Campbelltown 2027 is the Community Strategic Plan for the City of Campbelltown. The Strategic Plan addresses four key strategic outcomes that Council and other stakeholders will work to achieve over the next ten years:

- Outcome 1: A vibrant, liveable city
- Outcome 2: A respected and protected natural environment
- Outcome 3: A thriving, attractive city
- Outcome 4: A successful city

Outcome 1 is most relevant to the proposed development. The relevant strategy to this proposed development is:

- 1.8 – Enable a range of housing choices to support different lifestyles.

The proposed development would provide residents with alternative and affordable housing options that would support different lifestyles and deliver a vibrant and liveable city.

2. Planning Provisions

The development has been assessed in accordance with the heads of consideration under Section 4.15 of the EP&A Act and having regard to those matters the following issues have been identified for further consideration.

2.1 State Environmental Planning Policy No.55 – Remediation of Land

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55) aims to provide a State wide planning approach for the remediation of contaminated land.

Clause 7(2) of SEPP 55 states that a consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned in accordance with the contaminated land guidelines. The subject site has predominately been used for residential purposes with the current residential dwelling existing for a number of years. The site has not been used for any purpose that is deemed to be potentially contaminated and has not been identified as being contaminated. The proposed use would not have any adverse impacts on contamination.

Given the minimal contamination risk, a preliminary investigation report is not required to be submitted. It is further considered that the proposed development would not be adversely impacted upon by contamination. Nevertheless standard conditions have been recommended in case asbestos is discovered during demolition works.

2.2 State Environmental Planning Policy (Infrastructure) 2007

The proposed development is not adjacent to or located on a classified road. The proposed development is not considered to be affected by road noise or vibration. Therefore, Clause 87 of the Infrastructure SEPP is not applicable in this instance.

The number of vehicles does not meet the requirements under Schedule 3 to be classified as traffic generating development. Therefore, referral to the RMS is not required in this instance.

2.3 Greater Metropolitan Regional Environmental Plan No.2 – Georges River Catchment

The proposed development is within the Georges River Catchment and as such this policy applies. The general aims and objectives of this plan are as follows:

a) To maintain and improve the water quality and river flows of the Georges River and its tributaries and ensure that development is managed in a manner that is in keeping with the national, State, regional and local significance of the Catchment.

b) To protect and enhance the environmental quality of the Catchment for the benefit of all users through the management and use of the resources in the Catchment in an ecologically sustainable manner.

c) To ensure consistency with local environmental plans and also in the delivery of the principles of ecologically sustainable development in the assessment of development within the Catchment where there is potential to impact adversely on groundwater and on the water quality and river flows within the Georges River or its tributaries.

d) To establish a consistent and coordinated approach to environmental planning and assessment for land along the Georges River and its tributaries and to promote integrated catchment management policies and programs in the planning and management of the Catchment.

e) (Repealed)

f) To provide a mechanism that assists in achieving the water quality objectives and river flow objectives agreed under the Water Reform Package.

The proposal does not conflict with any of the relevant provisions of the Greater Metropolitan Regional Environmental Plan No.2 – Georges River Catchment, and is therefore considered acceptable in this regard.

2.4 State Environmental Planning Policy (Sydney Region Growth Centres) 2006

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (GC SEPP) was amended on 6 December 2019 to include the Greater Macarthur Growth Area as a designated growth centre. As there are no savings provisions associated with the amendment, the GC SEPP applies to the subject development.

The GC SEPP does not include a precinct plan for the Greater Macarthur Growth Area, and therefore Clause 16 of the GC SEPP is to be considered. In this regard, the Leumeah Precinct Plan released under the Glenfield to Macarthur Urban Renewal Corridor Strategy (which is not a Precinct Plan for the purposes of the GC SEPP but is rather a structure plan) indicates that the subject site is outside of the Precinct Plan and such the GC SEPP does not apply to the proposed development.

2.5 State Environmental Planning Policy (Affordable Housing) 2009

The application for a boarding house has been made in accordance with the requirements of the ARHSEPP. The aims of the ARHSEPP are outlined as follows:

(a) to provide a consistent planning regime for the provision of affordable rental housing

(b) to facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanded zoning permissibility, floor space ratio bonuses and non-discretionary development standards

(c) to facilitate the retention and mitigate the loss of existing affordable rental housing

(d) to employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new affordable rental housing

(e) to facilitate an expanded role for not-for-profit-providers of affordable rental housing

(f) to support local business centres by providing affordable rental housing for workers close to places of work

(g) to facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation

The proposed boarding house has been assessed against the relevant provisions of the ARHSEPP and is presented below:

Clause 26 - Land to which Division applies (division of SEPP relating to boarding houses)

This Division applies to land within any of the following land use zones or within a land use zone that is equivalent to any of those zones:

(a) Zone R1 General Residential
(b) Zone R2 Low Density Residential
(c) Zone R3 Medium Density Residential
(d) Zone R4 High Density Residential
(e) Zone B1 Neighbourhood Centre
(f) Zone B2 Local Centre
(g) Zone B4 Mixed Use

The subject site is located within the R3 Medium Density Residential zone. The R3 Medium Density Residential zone is listed above as being a zone within which this division of the ARHSEPP applies. Therefore, this Division of the ARHSEPP applies to the subject land.

Clause 27 - Development to which Division applies

(1) This Division applies to development, on land to which this Division applies, for the purposes of boarding houses.

(2) Despite subclause (1), this Division does not apply to development on land within Zone R2 Low Density Residential or within a land use zone that is equivalent to that zone in the Sydney region unless the land is within an accessible area.

(3) Despite subclause (1), this Division does not apply to development on land within Zone R2 Low Density Residential or within a land use zone that is equivalent to that zone that is not in the Sydney region unless all or part of the development is within 400 metres walking distance of land within Zone B2 Local Centre or Zone B4 Mixed Use or within a land use zone that is equivalent to any of those zones.

Comment: This application proposes the construction of a boarding house in the R3 Medium Density Residential Zone and is approximately 386 metres from the bus stop on Rudd Road near Kulgoa Street. This bus stop is serviced by buses 870, 871 and 872 which satisfies the definition of an accessible area. Therefore, this Division of the ARHSEPP applies to the subject development application.

Clause 28 - Development may be carried out with consent

Development to which this Division applies may be carried out with consent.

Comment: The proposed construction of a boarding house in the R3 Medium Density Residential zone is permissible with consent.

Clause 29 - Standards that cannot be used to refuse consent

Clause 29 of the SEPP outlines a range of development standards, which, if the proposed development complies with, means that Council cannot refuse the application. An assessment of the proposal against these standards is outlined below:

(1) a consent authority must not refuse consent to development to which this Division applies on the grounds of density or scale if the density and scale of the buildings when expressed as a floor space ratio are not more than:

(a) the existing maximum floor space ratio for any form of residential accommodation permitted on the land

Comment: The maximum floor space ratio for a multi dwelling development (which is a development permissible with consent on the subject land) is 0.75:1. Therefore the maximum floor space ratio applicable to the development is 0.75:1. The proposed development has a floor space ratio of 0.82:1 and therefore does not comply with this provision. There is nothing in this section that prevents the refusal of the application based on the floor space ratio.

(b) if the development is on land within a zone in which no residential accommodation is permitted—the existing maximum floor space ratio for any form of development permitted on the land

Comment: This subclause is not applicable, as residential accommodation is permissible on the land.

(c) if the development is on land within a zone in which residential flat buildings are permitted and the land does not contain a heritage item that is identified in an environmental planning instrument or an interim heritage order or on the State Heritage Register—the existing maximum floor space ratio for any form of residential accommodation permitted on the land

(i) 0.5:1, if the existing maximum floor space ratio is 2.5:1 or less
(ii) 20 per cent of the existing maximum floor space ratio, if the existing maximum floor space ratio is greater than 2.5:1.

Comment: The land is within an R3 Medium Density Zone in which residential flat buildings are not permitted, and therefore no floor space ratio bonus is applicable.

(2) A consent authority must not refuse consent to development to which this Division applies on any of the following grounds:

(a) building height

if the building height of all proposed buildings is not more than the maximum building height permitted under another environmental planning instrument for any building on the land

Comment: The subject site has a height limit of 9 metres as specified under the Maximum Height of Buildings map in CLEP 2015. The proposed boarding house has a maximum height of 7.8 metres and as such complies.

(b) landscaped area

if the landscape treatment of the front setback area is compatible with the streetscape in which the building is located

Comment: The proposed landscape treatment within the front setback area is considered to be consistent with the streetscape of Rudd Road and provides significantly greater plantings than what is currently provided in the surrounding area.

(c) solar access

where the development provides for one or more communal living rooms, if at least one of those rooms receives a minimum of three hours direct sunlight between 9.00am and 3.00pm in mid-winter

Comment: The shadow diagrams submitted with the application show that the area of the communal rooms will not receive solar access for a minimum of three hours. There is nothing in this section therefore that prevents the refusal of the application based on the lack of solar access to communal living rooms.

(d) private open space

if at least the following private open space areas are provided (other than the front setback area):

(i) one area of at least 20sqm with a minimum dimension of three metres is provided for the use of the lodgers
(ii) if accommodation is provided on site for a boarding house manager - one area of at least eight square metres with a minimum dimension of 2.5 metres is provided adjacent to that accommodation

Comment: There are two areas of communal private open space provided with areas of 40sqm and 30sqm with minimum widths five metres and three metres. These communal areas are located to the rear of the building as well as opposite the breezeway in the middle of the lot.

Based on the capacity of the proposed boarding house, accommodation is required to be provided for a boarding house manager. Room No.8 has been designated as the onsite managers room and has a private open space area of nine square metres with a minimum width of two metres which does not comply.

(e) parking

if:

(i) in the case of development carried out by or on behalf of a social housing provider in an accessible area - at least 0.2 parking spaces are provided for each boarding room
ii) in the case of development carried out by or on behalf of a social housing provider not in an accessible area - at least 0.4 parking spaces are provided for each boarding room
(iia) in the case of development not carried out by or on behalf of a social housing provider – at least 0.5 parking spaces are provided for each boarding room, and
(iii) in the case of any development - not more than one parking space is provided for each person employed in connection with the development and who is a resident on site

Comment: The proposed boarding house is not proposed to be carried out by or on the behalf of a social housing provider and as such requires at least 0.5 parking spaces per boarding room. The proposed boarding house has 26 rooms plus one room for the manager, and therefore requires fourteen parking spaces. The proposed boarding house provides fourteen car parking spaces (including one disabled space), and therefore complies.

(f) accommodation size

if each boarding room has a gross floor area (excluding any area used for the purposes of private kitchen or bathroom facilities) of at least:

(i) 12 square metres in the case of a boarding room intended to be used by a single lodger
(ii) 16 square metres in any other case.

Comment: The 19 boarding rooms that are intended to be used by a single lodger are a minimum of 12 square metres (excluding kitchenette and ensuite). The eight boarding rooms that are intended to be used by two boarders are a minimum of 16sqm (excluding kitchenette and ensuite). The room sizes therefore comply with this standard.

(3) A boarding house may have private kitchen or bathroom facilities in each boarding room but is not required to have those facilities in any boarding room.

Comment: The proposed boarding house has a kitchenette and ensuite provided in each boarding room.

(4) A consent authority may consent to development to which this Division applies whether or not the development complies with the standards set out in subclause (1) or (2).

Comment: Noted.

Clause 30 - Standards for boarding houses

(1) A consent authority must not consent to development to which this Division applies unless it is satisfied of each of the following:

(a) if a boarding house has five or more boarding rooms, at least one communal living room will be provided

Comment: The proposed boarding house has 27 rooms and provides a communal room on the ground floor.

(b) no boarding room will have a gross floor area (excluding any area used for the purposes of private kitchen or bathroom facilities) of more than 25sqm

Comment: None of the proposed boarding rooms have a gross floor area (excluding private kitchens or bathrooms) of more than 25sqm.

(c) no boarding room will be occupied by more than two adult lodgers

Comment: The boarding rooms would not be occupied by more than two adult lodgers.

(d) adequate bathroom and kitchen facilities will be available within the boarding house for the use of each lodger

Comment: An ensuite and kitchenette have been provided within each boarding room.

(e) if the boarding house has capacity to accommodate 20 or more lodgers, a boarding room or on site dwelling will be provided for a boarding house manager

Comment: Eight of the boarding rooms are capable of accommodating two lodgers and 19 rooms accommodating single lodgers with a total of 35 lodgers being accommodated and as such a boarding room has been provided for an onsite manager.

(g) if the boarding house is on land zoned primarily for commercial purposes, no part of the ground floor of the boarding house that fronts a street will be used for residential purposes unless another environmental planning instrument permits such a use

Comment: The proposed boarding house is not on land zoned primarily for commercial purposes.

(h) at least one parking space will be provided for a bicycle, and one will be provided for a motorcycle, for every five boarding rooms.

Comment: The boarding house provides six bicycle spaces and six motorcycle spaces.

Clause 30AA – Boarding Houses in Zone R2 Low Density Residential

Clause 30AA states that the consent authority must not grant development consent to a boarding house on land within Zone R2 Low Density Residential or equivalent zone unless the boarding house has no more than 12 boarding rooms.

Comment: The site is in an R3 Medium Density Residential zone and therefore this clause does not apply to the development.

Clause 30A - Character of local area

A consent authority must not consent to development to which this Division applies unless it has taken into consideration whether the design of the development is compatible with the character of the local area.

An assessment of the proposal in terms of various aspects of its built form is provided below:

Building height – The proposed boarding house would be two-storeys in height, which is inconsistent with the height of the existing dwellings and dual occupancy developments within the surrounding locality. The local streetscape is predominately single storey with the exception of a two storey residential flat building on the corner of Rudd Road and Campbelltown Road. However, the area is currently zoned R3 medium density, and is likely be transformed into a medium density neighbourhood over time.

Building bulk and scale/site coverage – The scale of the overall development as measured by its floor space ratio is non-compliant with the provisions of the ARHSEPP, which allows the proposed boarding housing development to achieve the maximum floor space ratio applicable to residential development permissible on the land. In this case, the

floor space ratio applicable to the proposed development is 0.75:1 with the proposed development having a floor space ratio of 0.82:1 (which exceeds the FSR standard by 9.3 per cent). This variation is not supported, as there is no compelling reason to vary the standard in this instance.

Setbacks – The front and side setbacks of the proposed development are consistent with those specified by Campbelltown (Sustainable City) Development Control Plan 2015 for boarding house developments. In this regard, the proposed development has a minimum front setback of 7.7 metres, a minimum side setback of 1.5 metres, and a rear setback of 6.5 metres. Compliance with the setback requirements has given the boarding house an opportunity to provide some spatial relief from the adjoining properties however the overall density of the development exceeds the relevant standard and compliance with the standard would produce an improved experience for neighbours of the development.

Architectural style/materials – The proposed boarding house when viewed from the street would give the appearance of a double storey dwelling house and this would not be visually compatible with the existing surrounding residential development. The proposed boarding house would be constructed of face brick and render which would not be visually compatible with the existing dwellings that are predominately fibro or brick construction. The flat roof of the proposed boarding house would also not be compatible with the existing streetscape given the dwellings preference of a pitched roof. A pitched roof would be more in keeping with the architectural style of surrounding properties.

Landscaping/Fencing – The proposed landscaping area detailed on the site plan is considered to be satisfactory. Landscaping would be provided within the front, side and rear setback areas of the boarding house.

Clause 52 - No Subdivision of Boarding Houses

This clause states that the consent authority is not to grant consent to the strata subdivision or community title subdivision of a boarding house.

Comment: The subject boarding house is not proposed to be subdivided.

2.6 Campbelltown Local Environmental Plan 2015

The subject site is zoned R3 Medium Density Residential under the provisions of the Campbelltown Local Environmental Plan 2015 (CLEP 2015). The proposal involves the demolition of the existing dwelling and construction of a boarding house and associated parking, which is permissible with consent within the R3 Medium Density Residential Zone:

A boarding house is defined by the CLEP 2015 as:

a building that –

(a) is wholly or partly let in lodgings, and
(b) provides lodgers with a principal place of residence for three months or more, and
(c) may have shared facilities, such as a communal living room, bathroom, kitchen or laundry, and
(d) has rooms, some or all of which may have private kitchen and bathroom facilities, that accommodate one or more lodgers, but does not include backpackers'

accommodation, a group home, hotel or motel accommodation, seniors housing or a serviced apartment.

R3 Medium Density Residential Zone

The objectives of the R3 zone are:

- To provide for the housing needs of the community within a medium density residential environment
- To provide a variety of housing types within a medium density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To provide for a wide range of housing choices in close proximity to commercial centres, transport hubs and more.
- To enable development for purposes other than residential only if that development is compatible with the character and scale of the living area.
- To minimise overshadowing and ensure a desired level of solar access to all properties.

Whilst the boarding house will provide a variety of hosing types within a medium density residential environment and complies with the majority of the zone objectives, the proposed development fails to demonstrate that the communal living room will achieve the required level of solar access. In addition, the proposal fails to demonstrate that the adjoining properties will receive adequate solar access to their private open space areas.

Clause 4.3 Height of Building

Clause 4.3 sets out the maximum building height in accordance with the Maximum Height of Buildings map. The subject site has a maximum height limit of nine metres. The subject boarding house has a maximum height of 7.8 metres and as such complies.

Clause 4.4 Floor Space Ratio

Clause 4.4 sets out the floor space ratio requirements for all developments in accordance with the floor space ratio map. The subject site does not have a specified floor space ratio. Notwithstanding this the provisions of Clause 29(1)(a) of the ARHSEPP set the maximum FSR as the existing maximum floor space ratio for any form of residential accommodation permitted on the land. This being the case the maximum applicable FSR is 0.75:1, which is for multi dwelling housing. The proposal does not comply with the maximum FSR under the ARHSEPP.

Clause 5.6 Architectural Roof Features

The objectives of this clause are to permit variations to the maximum height standards only where roof features contribute to the building design and to ensure that the majority of the roof is contained within the maximum building height. The height of the boarding house complies and as such this clause does not apply.

Clause 7.1 Earthworks

The objectives of this clause are to ensure that required earthworks will not have a detrimental impact on environmental functions and processes. Earthworks are required for the proposed development, however will not impact on environmental functions and processes.

Clause 7.2 Flood Planning

This clause aims to reduce the flood risk to life and property, allow development on land that is compatible with the land's flood hazard and avoid significant adverse impacts on flood behaviour and the environment. The subject site is not affected by flood.

Clause 7.4 Salinity

Clause The objective of this clause is to provide for the appropriate management of land that is subject to salinity and the minimisation and mitigation of adverse impacts from development that contributes to salinity. Standard conditions of consent regarding salinity could be applied if the application was approved. For other reasons it is recommended that the application be refused.

Clause 7.10 Essential Services

This clause aims to ensure that developments have adequate arrangements for essential services such as water, electricity, disposal and management of sewage, stormwater drainage, road and vehicular access, telecommunications and supply of natural gas. The proposed development is within an established urban area and these services are available to the existing dwelling. It is considered that the site has adequate access to essential services.

Clause 7.13 Design Excellence

The objectives of this clause is to ensure that development exhibits the highest standard of architectural and urban design as part of the built environment. Development consent must not be granted unless the consent authority has given regard to the following matters:

a. whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved

Comment: The proposed development has incorporated a wide variety of façade treatments and materials which are not inconsistent with what is generally expected from a similar type of development. However an alternate design is possible that would have greater harmony with the established character of this neighbourhood.

b. whether the form and external appearance of the development will improve the quality and amenity of the public domain

Comment: The form and external façade of the boarding house is inconsistent with the built form and design of the existing dwellings within the immediate streetscape. The design of the boarding house is a modern, contemporary design with a flat roof which is inconsistent with the single storey fibro and brick dwellings with a pitched roof within the streetscape.

c. whether the development detrimentally impacts on view corridors

Comment: The proposed development does not impact any significant view corridors.

d. how the development addresses the following matters

(i) the suitability of the land for development

Comment: The site is not subject to any mine subsidence and is not flood prone or bushfire prone land.

(ii) existing and proposed uses

Comment: The proposed development is inconsistent with the existing uses within the immediate streetscape.

(iii) heritage issues and streetscape constraints

Comment: There are no heritage items within the proximity of the site.

(iv) bulk, massing and modulation of buildings

Comment: The design of the building is inconsistent with the existing streetscape and the proposed building is excessive in its bulk and does not comply with the maximum FSR standard under the ARHSEPP.

(v) street frontage heights

Comment: The proposed development complies with the maximum building height requirement however is inconsistent with the existing streetscape given the dominance of single storey dwellings.

(vi) environmental impacts such as sustainable design, overshadowing, wind and reflectivity

Comment: The proposed development fails to demonstrate that the communal living area achieves the required solar access and fails to demonstrate that the adjoining property would receive adequate solar access to its private open space area.

(vii) the achievement of the principles of ecologically sustainable development

Comment: The proposed development has been designed with consideration to ecologically sustainable development. Additionally the proposed development will need to comply with the Building Code of Australia which further encourages ecologically sustainable development.

(viii) pedestrian, cycle, vehicular and service access, circulation and requirements

Comment: The proposed development would not adversely impact on the existing pedestrian networks surrounding the site and residents would be able to enjoy the benefits of access to this network. The proposed development provides car parking that is sufficient to the development requirements at the time of lodgement.

(ix) the impact on, and any proposed improvements to, the public domain

Comment: The proposed development addresses the public domain to create visual interest.

(x) the interface with the public domain,

Comment: The proposed development addresses the public domain to create visual interest through building materials and landscaping.

(xi) the quality and integration of landscape design

Comment: The proposed landscaping enhances the streetscape and integrates well to compliment the built form.

2.7 Draft Campbelltown Local Environmental Plan 2015 – Amendment No.24

Section 4.15 – (1)(a)(ii) of the EP&A Act requires consideration of any proposed instrument that has been the subject of public consultation under the Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved).

Amendment No. 24 to Campbelltown Local Environmental Plan 2015 has been publicly exhibited and a planning proposal was considered by Council on 9 June 2020. The proposal has been forwarded to the Department of Planning, Industry and Environment. As such, the proposed amendment has a high level of certainty and imminence.

The proposed amendment includes an additional objective relating to public health in the R3 medium density residential zone and it is considered that the proposed development would not be inconsistent with this objective.

2.8 Campbelltown (Sustainable City) Development Control Plan 2015

Campbelltown (Sustainable City) Development Control Plan 2015 (SCDCP) applies to the subject land. The aims of the SCDCP are:

- To ensure that the aims and objectives of the CLEP are complemented by the Plan
- Ensure that the principles of ecological sustainability are incorporated into the design, construction and ongoing operation of development
- Facilitate innovative development of high quality design and construction in the City of Campbelltown
- Ensure that new development maintains or enhances the character and quality of the natural and built environment
- Ensure that new development takes place on land that is capable of supporting development
- Encourage the creation of safe, secure and liveable environments

- Ensure that new development minimises the consumption of energy and other finite resources, to conserve environmental assets and to reduce greenhouse gas emissions;and

- Provide for the design requirements for a variety of housing within the City of Campbelltown.

It is considered that in principle the construction of a boarding house on the subject land is not inconsistent with the relevant aims of the SCDCP. However, the subject application does not facilitate a good outcome given the non-compliances with development standards and controls relating to FSR, waste management and solar access.

Part 2 – Requirements Applying to all Types of Development

The general provisions of Part 2 of the Plan apply to all types of development. Compliance with the relevant provisions of Part 2 of the Plan is discussed below.

Site Analysis Plan – A site plan was submitted and considered to be satisfactory.

Views and Vistas – The proposed use would not impact upon views and vistas from public places of significance.

Sustainable Building Design – A Basix certificate was submitted as part of the development application with all water, thermal comfort and energy targets being met.

Landscaping – A landscape plan was submitted and is considered to not be satisfactory as the proposal does not maximise the use of indigenous species in accordance with Council's Native gardening Guide.

Weed Management – Not applicable.

Erosion and Sediment Control – An erosion and sediment control plan was submitted as part of the application and is considered to be acceptable.

Cut, Fill and Floor Levels – Not applicable.

Demolition – There are demolition works proposed and are detailed on the plans. The demolition plan is considered to be acceptable.

Water Cycle Management – The proposed development was referred to Council's Development Engineer for comment were no issues were raised.

Heritage Conservation – The subject site does not contain a heritage item and is not within a heritage conservation area.

Retaining Walls – No retaining walls are required.

Security – The proposed development was referred to NSW Police for a Crime Prevention through Environmental Design (CPTED) assessment. No issues were raised in relation to the proposed development from NSW Police.

Risk Management – The subject site is not affected by mine subsidence, contamination, salinity nor it is within a bushfire prone area.

Waste Management – A Waste Management Plan was submitted as part of the development application. The proposal was forwarded to Council's Waste Officer for comment where issues were raised in relation to the collection of waste from the site. The collection of waste would be from a private contractor using a smaller waste vehicle to collect the waste from the basement. The manager's car parking space would double as a loading bay for the vehicle to park for rubbish to be collected. This is not considered to be acceptable as separate loading areas should be provided for the collection of waste that minimise conflict with car parking and pedestrian movement. The proposed loading bay is also located away from the waste storage area which means bins would have to be wheeled across parking spaces to the parked waste vehicle. As such, the development application fails to demonstrate that acceptable waste collection methods will be provided.

Provision of Services – The site has access to suitable water, electricity and sewage services.

Work On, Over or Near Public Land – No work is required on, over or near public land.

Work on Land Adjacent to the Upper Canal Corridor – Not applicable.

Development Near or on Electricity Easements – Not Applicable.

Development on Land Adjacent to, or Affected by a Gas Easement – Not Applicable.

Part 17 – Boarding Houses

Part 17 – Boarding Houses sets out the requirements for boarding house development within the City of Campbelltown. Below is an assessment against the relevant development standards:

		Campbelltown (Sustainable City) Development Control Plan 2015	
Control	**Proposed**	**Requirement**	**Complies**
Site and Size Requirements	Subject site is within a medium density residential area 27 room proposed in an R3 Medium Density Residential zone Site is not a battle-axe allotment Site is not located within 50m of a cul-de-sac The site can accommodate on street parking Not a local, neighbourhood centre or mixed use zone	Boarding houses located within low density residential areas shall only be on sites with a minimum frontage of 700sqm and minimum frontage of 15m Maximum of 12 boarding rooms within an R2 Low Density Residential zone Not located on a battle-axe allotment Only located on a site where no part of the allotment is within 50m of a cul-de-sac Only allowed on streets that provide for on street parking Boarding houses within local, neighbourhood centres and mixed use areas are not permitted on the ground floor	Yes

		Campbelltown (Sustainable City) Development Control Plan 2015	
Control	**Proposed**	**Requirement**	**Complies**
Design Requirements	The boarding house presents as a two storey dwelling which is inconsistent with the single storey nature of the surrounding development, however this is considered acceptable given that the area is zoned R3 medium density. Site is not a corner allotment Clothes line and air conditioning units are not visible from a public area	Design shall complement the scale of surrounding development and desired character Buildings on corner sites shall address both street frontages Clothes line and air conditioning units are not to be visible from a public area	Yes
Setbacks	7.7m from street boundary No secondary street frontages Minimum 1.5m ground floor side boundary Minimum 1.5m from first floor side boundary 6.5m from ground floor rear boundary 6.5m from first floor rear boundary Basement car parking	5.5m from primary street boundary Three metres from secondary street boundary 0.9m from side boundaries at ground level 1.5m from side boundaries above ground level Five metres from rear boundary at ground level 6.5m from rear boundary above ground level (R3 zone) Any garage shall be a minimum of six metres from any street boundary	Yes

		Campbelltown (Sustainable City) Development Control Plan 2015	
Control	**Proposed**	**Requirement**	**Complies**
Shared Facilities	No shared bathrooms are proposed No shared laundry facilities are proposed No communal kitchen is proposed Clothes line provided in communal outdoor areas	Shared bathrooms to be provided at the rate of one bath/shower per 10 occupants plus one accessible toilet and shower and a closet pan and washbasin with hot and cold water Where the number of occupants is five or less, the common toilet/shower shall be accessible Toilets to be accessed separately from shower so that toilet and shower can be used by two people at the same time Communal kitchen facilities shall be provided, 8 square metres up to 10 occupants and one square metre per every two occupants thereafter Laundry and clothes drying facilities are to be provided at the rate of one washing machine and tub for every 10 occupants, one clothes dryer for every 10 occupants or one fixed clothesline of at least 30m for every 10 occupants	Yes
Indoor Communal Living Areas	Communal room is 36.7sqm	Minimum dimension of three metre and total area of 20sqm or 1.2sqm per occupant whichever is greater Required: 42sqm	No
Solar Access	Fails to demonstrate that dwellings on adjoining property to the south receives adequate solar access to the private open space area	Dwellings on adjoining properties are to receive a minimum of three hours of sunlight to habitable rooms and at least 50 per cent of the private open space area Where existing adjoining development receives less than this, there should be no unreasonable reduction in solar access	No

		Campbelltown (Sustainable City) Development Control Plan 2015	
Control	**Proposed**	**Requirement**	**Complies**
Site Services	Adequate provision of essential services Services will be located underground No visual prominence of communication devices	Location, design and construction of utility services shall satisfy Council requirements Adequate provision should be made for water, sewerage, electricity, gas, telephone, internet and stormwater drainage Site services shall be underground Communication devices locate to minimise visual prominence	Yes
Visual Privacy	No upper level window directly overlooks a habitable room of adjoining dwelling as windows on first floor have a privacy screen	No window of a habitable room or balcony to directly overlook within six metres unless screened Any upper level window of a living area shall be offset by two metres, have a sill height of 1.7m, be splayed or have translucent glazing	Yes
Signage	No signage is proposed	Signage limited to one sign per building containing only the name and address Must be affixed to front elevation Maximum area of 0.25sqm and maximum height of 0.5m Not be illuminated	Yes
Private Open Space	Provided: 73.8sqm over two separate areas with minimum three metre dimension	Minimum of one private open space area with a minimum dimension of 3 metres and an area of 20sqm however where a boarding house is not within walking distance to a park, 30sqm of communal private open space is to be provided	Yes

		Campbelltown (Sustainable City) Development Control Plan 2015	
Control	**Proposed**	**Requirement**	**Complies**
Car Parking	Basement carpark Not designed in accordance with Australian Standards No stacked car parking spaces One ingress and egress driveway provided on Rudd Road Minimum width of driveway six metres Located greater than six metres from intersection Vehicles not required to make more than a three-point turn Spaces are clearly marked and delineated	Car park setback three metres Designed in accordance with Australian Standards No required car space is to be stacked Maximum of one ingress and one egress driveway Minimum width of driveway is three metres Driveways to be located a minimum of six metres from intersection and be sealed No more than a three-point turn to exit the site in a forward direction All spaces to be clearly marked and delineated	Non-compliant in regards to driveway width and being designed in accordance with Australian Standards
Access for People with a Disability	Complies with access requirements within the BCA	Building must comply with the minimum access requirements contained within the BCA	Yes
Landscaping	Six metre wide landscaping strip provided along front and secondary boundary excluding required driveway and pedestrian access A minimum one metre wide landscape strip is not provided for the full length of the side boundaries 1.6m wide strip to the rear boundary No existing trees to be retained Basement car park Landscape plan provided	Three metre wide landscaping strip along primary and secondary street frontage (other than vehicle driveways) 1.5m wide landscape strip along full width of side and rear boundaries Native trees to be retained Car park areas to be screened by hedging Landscape Plan required	Non-compliant in regards to retaining existing trees and the width of the landscape strip along the side boundary

		Campbelltown (Sustainable City) Development Control Plan 2015	
Control	**Proposed**	**Requirement**	**Complies**
Waste Management	Space is provided for 18 bins required Not located more than 25m from the street Bins are not transported through any habitable parts of the boarding house Waste collected from basement No bulky waste storage areas proposed	Waste storage to be located behind primary setback for 4 x waste and 7 recycling bins Be no more than 25m from the street Be covered Contain a hose connection Have an impervious floor Not located where bins are required to be transported through any habitable part of the boarding house Bins to be presented to the kerbside for collection by a site manager Bulky waste storage of 10sqm, be accessible and not more than 10m from waste collection point	Partially compliant
Management Plan	Plan of Management submitted and considered to be satisfactory	Management plan shall be prepared Provide information about 24 hour contact details, staffing arrangements, safety and security measures, management practices and professional cleaning and vermin control arrangements for communal areas	Yes

The proposed development generally complies with the requirements of the SCDCP with exception to design requirements, indoor communal living areas, solar access, landscaping and waste collection. These issues are discussed further in the section below on the impacts of the proposal.

3. Planning Assessment

3.1 Impacts on the natural and built environment

Section 4.15(1)(b) of the EP&A Act requires the consent authority to assess the development's potential impacts on the natural and built environment.

The key matters for consideration when considering the development's impact on the natural and built environment in relation to the proposed development is design, size of indoor communal living areas, solar access, landscaping and waste collection.

Design Requirements

Although the proposed height of the boarding complies with the maximum height of buildings under the CLEP, the proposed boarding house is inconsistent with the height and bulk of the dwellings existing in the streetscape. Rudd Road is predominately made up of single dwellings of fibro or brick construction with the dominant roof form being a pitched roof. . However, the area is currently zoned R3 medium density, and is likely be transformed into a medium density neighbourhood over time.

The proposed boarding house is two storey and is of a modern design featuring brick and render with a flat roof. The non-compliance with the floor space ratio is not justifiable in this instance. The additional floor space has been used to maximise the number of rooms, and not for providing a better outcome for the occupants. This is evident in the proposed size and configuration of the communal living area, which does not meet the minimum required area under the SCDCP.

Indoor communal area

The size of the indoor communal living area does not comply with the SCDCP requirements. In addition, the communal living area is separated into two as the hall way that joins the buildings is located through the middle of the communal living area. This is considered to be inappropriate as it renders this part of the communal area as unsuitable for use as a communal area. It is considered that a reduction in the number of rooms proposed could potentially alleviate this issue as it would enable an alternate design with a larger and more functional area to be provided.

Waste management

The collection of waste will be by a private contractor who will collect waste from the basement as the frontage of the site is not wide enough for kerb side collection. A private contractor will need to drive a smaller size waste collection vehicle to collect the waste. The proposed loading bay for the waste vehicle is the manager's allotted car space which is located in the middle of the car park. The use of a smaller specialised vehicle means that the development would rely on the smaller waste vehicle for the life of the development and is reliant on such a vehicle being available. The gradient of the driveway does not comply with the relevant Australian Standards in regards to gradient transition and minimum clearance requirements. The use of the manager's space as a loading bay is considered an unacceptable solution as it is located away from the waste storage area requiring waste to be transported a distance and requiring relocation of the manager's vehicle during waste collection.

Arborist Report and landscaping

An Arborist report prepared by Horticultural Management Services, dated 27th July was submitted in support of the proposed development. Council's Environmental Officer reviewed the report and concluded that insufficient information was submitted to determine the impact of the proposed boarding house on the trees adjoining the site at No.86 Rudd Road and whether the excavation of the basement would impact on the Tree Protection Zones of these trees. In addition to this, the landscape plan submitted does not maximise the use of indigenous species in accordance with Council's Native Gardening Guide.

3.2 Social, economic and environmental impacts

Section 4.15(1)(b) of the EP&A Act requires the consent authority to assess the development's likely impacts of the development, including social and economic impacts in the locality. The social, economic and environmental impacts associated with the proposed are discussed below.

Solar access

The shadow diagrams submitted as part of the development demonstrate that the communal living area does not receive the required solar access. A lack of solar access in communal outdoor spaces reduces the desirability of the use of such spaces and therefore reduces the available option for residents to have access to outdoor space that is only accessible to residents. In addition, the shadow diagrams do not demonstrate that the adjoining property to the south of the subject site would achieve the required solar access to the private open space areas. This is considered to have an unsatisfactory impact to the use of these properties.

Social and Economic Impacts

Socially, the proposal would deliver an increase of housing supply that would help to improve housing choice and affordability, which is consistent with the strategic and statutory controls. The proposal was referred to the NSW Police to review the proposal from a Crime Prevention Through Environmental Design (CPTED) perspective. The NSW Police responded indicating satisfaction with the proposal, whilst providing recommended conditions that should be used if the application is approved.

Economically, the proposal would be beneficial to the overall local economy with workers being employed during the construction phase of the development, whilst providing future tenants with a form affordable housing.

The social and economic benefits are not considered to be sufficient to justify the impacts of the proposal or the exceedance of development standards identified in this report.

3.3 Suitability of the Site

Section 4.15(1)(c) of the EP&A Act requires the consent authority to assess the suitability of the site for the proposed development.

The proposed development is permissible with consent in the zone and is considered to be accessible by various modes of public transport. However, the subject application will have undesirable and unreasonable impacts on neighbouring sites and is of a scale that exceeds the maximum FSR requirement and therefore it is considered that the site is not suitable for the development as proposed.

4. Public Participation

Section 4.15(1)(d) of the EP&A Act requires the Panel to consider submissions. The development application was publicly exhibited and notified to adjoining and nearby properties from 20 February 2020 until 17 March 2020. During this time Council received 17 individual submissions and one petition containing 46 signatures. The issues raised in the submission included are reflected in the table below:

Theme	Issue	Response
Potential Residents	Anti-social behaviour from the residents given the low socio-economic background Safety concerns for children in the nearby school	A Plan of Management is required for the operation of boarding houses which sets out certain rules and regulations in respect of resident behaviours that would eliminate the concerns in respect to anti-social behaviour and safety for school children
Car Parking and Traffic	The boarding house would increase the traffic within the local street.	The increase in traffic resulting from the boarding house would not be beyond the capacity of Rudd Road. There is concern about the car space provided for the manager being used as the loading bay for waste collection. This could have the potential to create parking on the street which is not supported.
Location to the school	The location of the boarding house is too close to the local school	There are no requirements for the location of boarding houses relative to any other land uses including schools.
Noise Issues	Concerned about noise from the development	An acoustic report was submitted with the application and was referred to Council's Senior Environment Officer for comment. No issues were raised with the acoustic report with the recommendations in the acoustic report to be applied as conditions of consent should the application be approved
Devaluation of property values	The boarding house will reduce the value of houses within the street	There is no evidence to suggest that property values would be affected by the proposed boarding house
Streetscape	The boarding house is not compatible with the existing streetscape	The proposed boarding house is two storeys in height with the existing streetscape predominantly single storey dwellings. The area is an older area with the architectural style and of the boarding house being a more modern design. As such, the proposed boarding house is considered to be inconsistent with the existing streetscape, however the area is zoned R3 Medium Density under the CLEP 2015, and it is anticipated that this area will transform into a medium density

		neighbourhood over time.
Poisoning of trees	Trees in the rear yard were poisoned and trees have been cleared without approval from Council	It is clear from air photographs that trees have been removed from the site. There is no record of an approval from Council for tree removal.
Number of boarding houses in the area	There are too many boarding houses in the area currently operating	Boarding houses are permissible within a the following zones in Campbelltown LGA: R2 Low Density Residential R3 Medium Density Residential R4 High Density Residential B1 Neighbourhood Centre B2 Local Centre B4 Mixed Use There are no controls that limit this type of development within a certain geographical area, as long as they are permissible within the zone.

4. Public Interest

Section 4.15(1)(e) of the EP&A Act requires the consent authority to consider the public interest of the proposal. Public interest is separate to submissions and requires Council to consider the public interest at a broader level. Based on the assessment, the proposed boarding house is considered to be contrary to the public interest due to its non-compliance with the community's expectations for boarding houses as represented in the planning controls for the site detailed in the ARHSEPP and the SCDCP.

5. Conclusion

The application has been assessed against the provisions of Section 4.15 of the *Environmental Planning and Assessment Act 1979*. The proposed development is permissible with consent under the provisions of Campbelltown Local Environmental Plan 2015.

However, the proposed development is not considered suitable for the site and therefore should not be supported in its current form. The proposal does not comply with the maximum FSR requirements under the State Environmental Planning Policy (Affordable Rental Housing) 2009. The proposal does not provide a suitable method of waste management and the communal areas, internal and external, do not meet the required standard. It has not been demonstrated that the proposal will not have a detrimental impact to significant vegetation located on adjoining land not that it will not have a detrimental impacts to the private outdoor space of the adjoining development to the south of the site.

As the development will not provide sufficient amenity for residents, and could have a detrimental impact to the amenity of adjoining properties, it is recommended that the application be refused for the reasons details in attachment 1.

Attachments

1. Recommendations for Refusal (contained within this report)
2. Site Plan (contained within this report)
3. Site Analysis Plan (contained within this report)
4. Elevations Plan (contained within this report)
5. Section, Driveway and Streetscape Plan (contained within this report)
6. Shadow Diagrams (contained within this report)
7. Basement and Ground Floor Plan (due to confidentiality) (distributed under separate cover)
8. Level One and Roof Plan(due to confidentiality) (distributed under separate cover)

Reporting Officer

Executive Manager Urban Centres

ATTACHMENT 1

Recommended Reasons for Refusal

REASONS FOR REFUSAL

Development application 3988/2019/DA-BH for the demolition of the existing dwelling and associated structures and the construction of a 27 room boarding house with basement carpark be refused for the following reasons in accordance with Section 4.14 of the Environmental Planning and Assessment Act, 1979:

1. The proposed development does not comply with the controls of State Environmental Planning Policy (Affordable Rental Housing) 2009 with respect to the following:

- The proposed development fails to comply with the maximum floor space ratio requirement.
- It has not been demonstrated that the communal living area would receive solar access for a minimum of 3 hours.
- It is not demonstrated that the proposed development is compatible with the character of the local area in terms of bulk, scale and site coverage given the non-compliance with the floor space ratio.

2. The application does not comply with Campbelltown Local Environmental Plan 2015 with respect to the following:

- It has not been demonstrated that the proposed development would minimise and ensure a desired level of solar access to all properties.
- It has not been demonstrated that the proposed development would comply with Clause 7.13 Design Excellence in respect to providing a development that is consistent with the existing streetscape and is of an acceptable bulk and mass.

3. The proposed development does not comply with the objectives of the Campbelltown Sustainable City Development Control Plan 2015 in respect to providing a development that is capable of being supported on the land.

4. The proposed development does not comply with the controls of the Campbelltown Sustainable City Development Control Plan 2015 with respect to the following:

- The boarding house would be inconsistent with the scale of surrounding development and desired character.
- The area of the indoor communal living area is less than the required 42sqm.
- It has not been demonstrated that the adjoining property to the south would receive a minimum of 3 hours to the private open space areas.
- A 1.5m wide landscape strip has not been provided along the full length of the side boundaries.
- The species shown on the landscape plan do not maximise local indigenous species in accordance with Council's Native Gardening Guide.

5. The proposed development falls to demonstrate compliance with the relevant Australian Standards with the basement design and access for waste vehicles in respect of the following:

- The gradients of 25% for a commercial vehicle is non-compliant.

- Gradient transitions and minimum clearance heights are non-compliant.
- A Vehicle Performance Assessment is required form the manufacture of the vehicle to certify if a SRV fully loaded can negotiate grades as designed.

6. The proposed waste collection vehicle using the manager's car space as a loading bay is not acceptable. A separate loading bay is required to be provided for the waste vehicle adjacent to the waste storage area.

7. The proposed development has failed to demonstrate that excavation of the basement and construction of the boarding house would not impact on the tree protection zones of trees located on adjacent properties within close proximity to the building foot print.

8. The proposed development is not considered to be in the public interest.

END OF CONDITIONS

FOR DA APPROVAL
CONSTRUCTION OF A DOUBLE STOREY BOARDING HOUSE
88 RUDD ROAD, LEUMEAH NSW 2560
SITE PLAN
bainidesign
20020
C
DP 376602
WEATHERBOARD HOUSE
METAL ROOF
No. 86
BRICK HOUSE
TILE ROOF
No. 90
56
DP 1093525
55
DP 1093525
BRICK HOUSE
TILE ROOF
No. 90B
FENCE
TIMBER
GRASS
172°53'00"
82°53'00"
262°53'00"
352°53'00"
BENCHMARK
RL 64.9
(AHD)
KERB OUTLET
CONCRETE DRIVEWAY
RUDD
ROAD
SITE PLAN
1 : 100


FITZROY CRES
LOCAL PARK LAND
RUDD ROAD
RUDD ROAD
ROAD
RUDD
OCCASIONAL HOT SUMMER WESTERLY WINDS
COLD WINTER AND RAIN BEARING WINDS
WINTER SUNSET
SUMMER SUNSET
MIDDAY WINTER
MIDDAY SUMMER
WINTER SUNRISE
SUMMER SUNRISE
BENCHMARK RL 54.9 (A+D)
BRICK HOUSE TILE ROOF No. 90
BRICK HOUSE TILE ROOF No. 88
WEATHERBOARD HOUSE IRON ROOF No. 86
SITE ANALYSIS PLAN
1 : 200
FOR DA APPROVAL
CONSTRUCTION OF A DOUBLE STOREY BOARDING HOUSE
88 RUDD ROAD, LEUMEAH NSW 2560
SITE ANALYSIS
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Phone + 61 2 9188 9250
info@bainidesign.com.au
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PROJECT NUMBER 20020
DRAWING NUMBER 02
DATE 17/12/19
SCALE 1:100 @ A1
SCALE 1:200 @ A3
DRAWN BY GA
CHECKED BY CB
REVISION A
REV
DESCRIPTION
DATE
BY
A
SUBMITTED DA APPLICATION TO COUNCIL
17/12/19
JE

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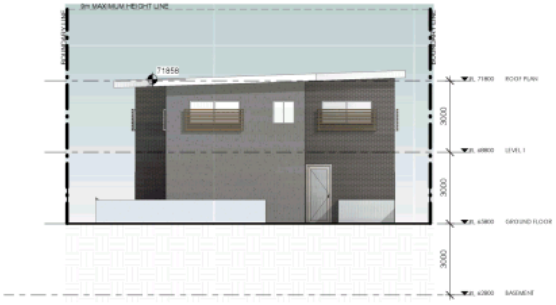
1 : 100

2 SOUTH ELEVATION
1 : 100

4 WEST ELEVATION
1 : 100



3 EAST ELEVATION
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B	SUBMITTED ADDITIONAL INFORMATION	13/05/20	JE
C	ADDITIONAL INFORMATION SUBMITTED	04/08/20	JE

FOR DA APPROVAL

bainidesign

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PROJECT TITLE
CONSTRUCTION OF A DOUBLE STOREY BOARDING HOUSE
88 RUDD ROAD, LEUMEAH NSW 2560

DRAWING TITLE
ELEVATIONS

PROJECT NUMBER	DRAWING NUMBER	DATE	REVISION
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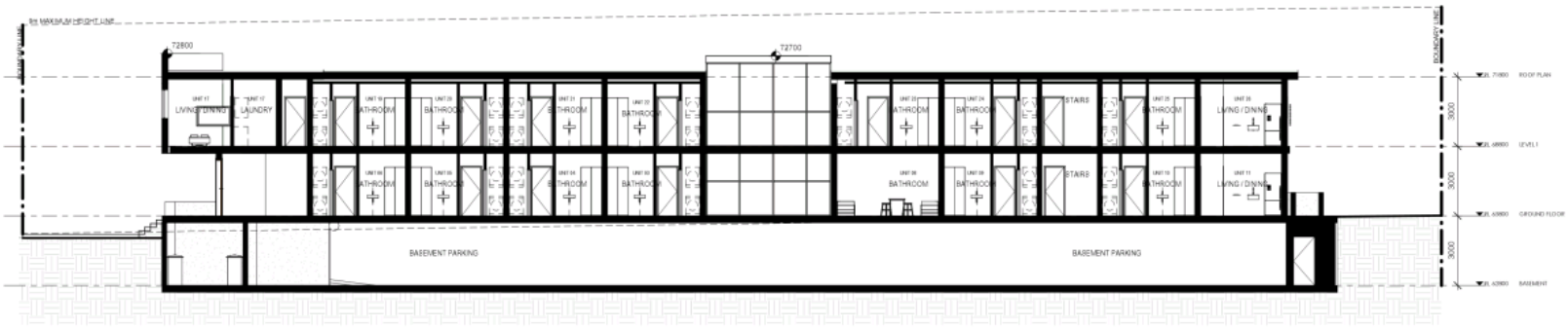
	SCALE 1:200 @ A3	GA	CB



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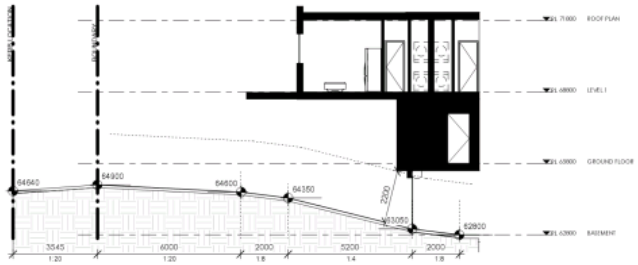

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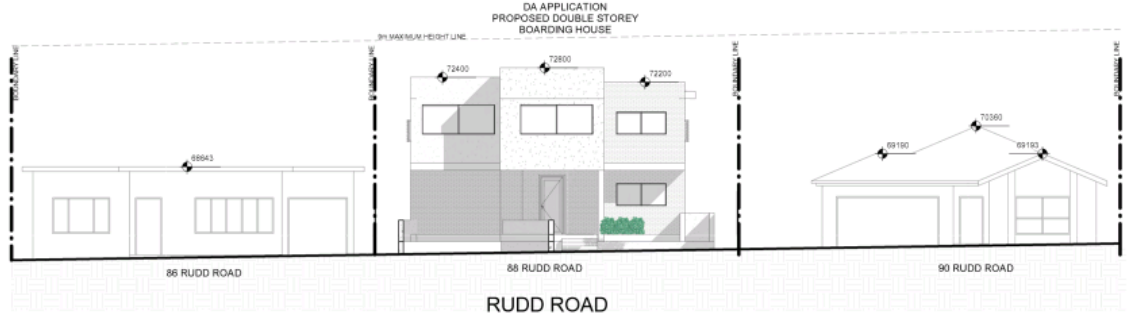

3 RUDD STREETSCAPE
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REV	DESCRIPTION	DATE	BY
A	SUBMITTED DA APPLICATION TO COUNCIL	17/07/19	JE
B	SUBMITTED ADDITIONAL INFORMATION	13/05/20	JE
C	ADDITIONAL INFORMATION SUBMITTED	04/08/20	JE

FOR DA APPROVAL

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PROJECT TITLE
CONSTRUCTION OF A DOUBLE STOREY BOARDING HOUSE
88 RUDD ROAD, LEUMEAH NSW 2560

DRAWING TITLE
SECTIONS / STREETSCAPE

PROJECT NUMBER	DRAWING NUMBER	DATE	REVISION
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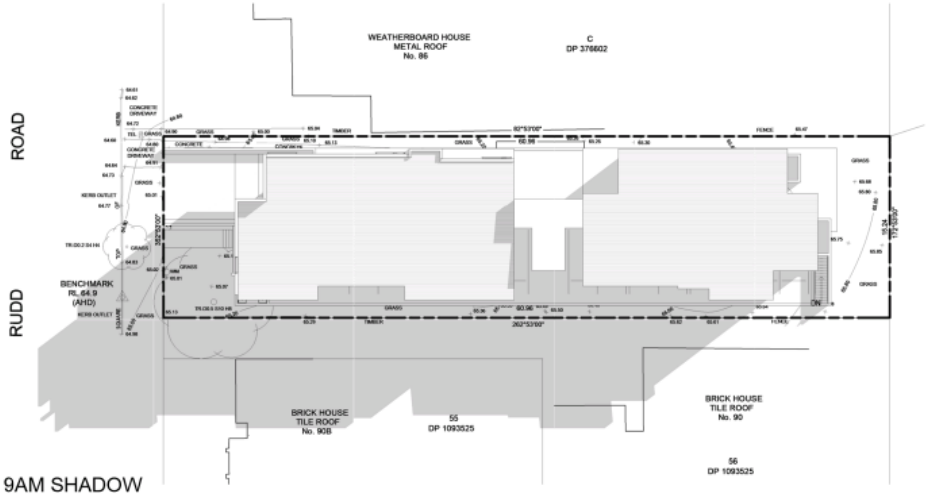
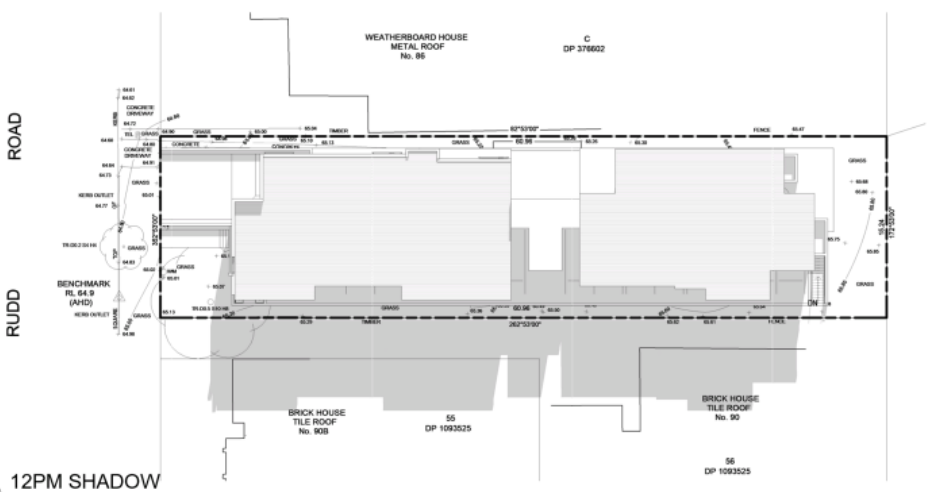


1 9AM SHADOW
1 : 200



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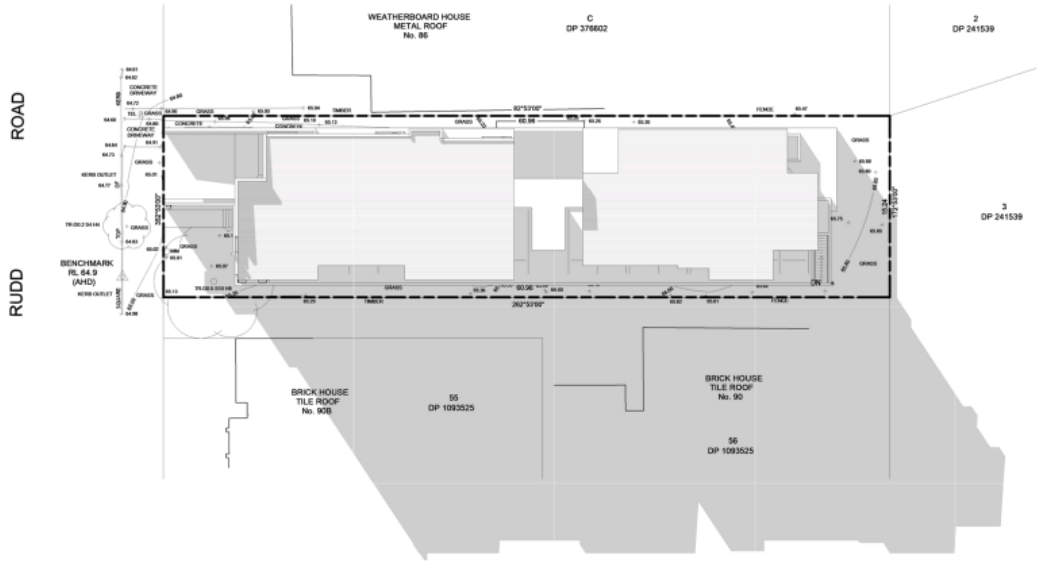

3 3PM SHADOW
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REV	DESCRIPTION	DATE	BY
A	SUBMITTED DA APPLICATION TO COUNCIL	17/12/19	JE

FOR DA APPROVAL

bainidesign
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PROJECT TITLE
CONSTRUCTION OF A DOUBLE STOREY BOARDING HOUSE
88 RUDD ROAD, LEUMEAH NSW 2560

DRAWING TITLE
SHADOW ANALYSIS

PROJECT NUMBER	DRAWING NUMBER	DATE	REVISION
20020	07	17/12/19	A
	SCALE 1:100 @ A1 / SCALE 1:200 @ A3	DRAWN BY: GA	CHECKED BY: CB

4.2 Demolition of existing structures and construction of child care facility - 139 St Johns Road, Bradbury

Community Strategic Plan

Objective	Strategy
3 Outcome Three: A Thriving, Attractive City	3.1 - Support the resilience, growth and diversity of the local economy

Referral Criteria

The original notification of this development application resulted in 13 unique submissions and therefore the development application is of a kind that meets the criteria for contentious development detailed in the Minister for Planning and Public Space's section 9.1 direction issued 30 June, 2020 and must be reported to the Campbelltown Local Planning Panel (the Panel) for determination.

Executive Summary

- This development application proposes the demolition of existing structures and the construction of a 45-place centre based child care centre at 139 St Johns Road, Bradbury.

- The subject site is zoned R2 Low Density Residential under the provisions of the Campbelltown Local Environmental Plan 2015 (CLEP 2015) and the proposed centre-based child care centre is permitted with consent.

- The development application was originally notified to adjoining owners from 6 August to 20 August 2018 and then renotified to all properties within a 100 metre radius from 5 September 2018 to 19 September 2018. A total of 13 unique submissions were received.

- When further information was received on the 18 April 2019, the application was renotified to owners within a 100m radius from 23 May 2019 to 6 June 2019. Six submissions were received.

- When the application was amended in May 2020 it was again re-notified to owners within a 100 metre radius from 17 June, 2020 for a period of 21 days followed by a further notification period from 27 July 2020 to 21 June 2020. Six submissions of objection were received.

- The main concerns raised in submissions relate to vehicular safety accessing the site and the development not being consistent with the character of the streetscape.

- Council's engineers have considered the safety of vehicle movements to and from the site and advised that sufficient sight distance is provided. The safety and adequacy of internal vehicle and pedestrian movements is also considered satisfactory.

- It is considered that the building form, scale and setbacks are compatible with the existing streetscape setting.

- Clause 7(2) of State Environmental Planning Policy No. 55 (Remediation of Land) is satisfied subject to a recommended condition of consent for a site audit statement to be issued prior to the release of the Occupation Certificate.

- An assessment under Section 4.15 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) has been undertaken and it is recommended to the Panel that the application be approved, subject to the recommended conditions of consent listed in attachment 1.

Officer's Recommendation

That development application 2401/2018/DA-C for the demolition of existing structures and the construction of a 45 place centre based child care centre at 139 St Johns Road, Bradbury, be approved subject to the recommended conditions of consent in attachment 1.

Purpose

To assist the Panel in its determination of the subject application in accordance with the provisions of the EP&A Act.

Property Description	Lot 50 DP 225520, 139 St Johns Road, Bradbury, NSW 2560
Application No	2401/2018/DA-C
Applicant	Brightest Start Early Learning Centre/RFA Architects
Owner	Mr Youssef Tleis
Provisions	Campbelltown 2027 – Strategic Community Plan
	State Environmental Planning Policy 55 - Remediation of Land
	Greater Metropolitan Regional Environmental Plan No. 2 - Georges River Catchment
	State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
	Education and Care Services National Regulations
	Child Care Planning Guideline (CCPG)
	Campbelltown Local Environmental Plan 2015 (CLEP 2015)
	Campbelltown (Sustainable City) Development Control Plan 2015 (SCDCP)
Date Received	9 July 2018

History

The Site and Surrounding Locality

The site, legally known as Lot 50 DP 225520, is a regular shaped allotment with a total area of 915.2sqm. The site has a depth of 45.74 metre and a 21.334 metre frontage to St Johns Road to the south. The site adjoins No. 141 St Johns Road to the west, No. 137 St Johns Road to the east and numbers 12 and 14 Gipps Street to the north.

The site currently contains a two storey dwelling with a detached rear double garage and is accessed from a single driveway to St Johns Road. Despite being partially 2 storey, the dwelling presents as single storey to St Johns Road. The site slopes from the front property boundary to the rear boundary by approximately 3.3 metres.

The north-eastbound carriageway and the south-westbound carriageway of St Johns Road are separated by a four metre wide central landscaped median. Vehicular access to the subject site is restricted to left in/left out. St Johns Road has a 60km/h speed limit.

In the broader context, the site is approximately 800m from Bradbury Public School and 900 metre from the Bradbury shopping area accessed via Jacaranda Avenue.

The nearest bus stop (Stop ID: 2560164) is located 400 metre from the site and is located on Briar Road after Kullaroo Avenue. The site is located 550 metre from a bus stop on St Johns Road opposite Creigan Street (Stop ID: 2560165).

On the adjoining land at 141 St Johns Road, Bradbury a development consent was issued on 3 September 2018 for the construction of a dual occupancy and subdivision into two Torrens title allotments (stamped plans provided in attachment 23). This consent also provided consent to the removal of a tree at the front of the lot that would otherwise be affected by the proposed development for a childcare centre.

Proposal

The development application proposes the demolition of existing structures, which includes a dwelling house and detached garage, and the construction of a 45-place centre-based care facility over two levels with associated car parking, tree removal and landscaping works.

The following age and number of children would attend the site:

Ages	No. of Children
2-3 years (ground floor)	15
3-5 years (lower ground floor)	30
Total	45 children

Ground Floor (2-3 years)

- Indoor and outdoor play area used exclusively for children aged 2-3 years
- Entrance area/reception area
- Waste storage area accessed externally from the car park
- Staff office/meeting area
- Staff WC
- Nappy change/bathroom facilities for children; and
- Storage located within the covered section of the outdoor play area.

Lower ground floor (3-5 years)

- Indoor and outdoor play area used exclusively for children aged 3-5 years
- Children bathroom facilities
- Staff area
- Kitchen
- Laundry
- Storage room
- Storage located within the covered area of outdoor play area
- Mechanical plant on the eastern elevation adjoining the side access stairs which provide access from the lower ground floor area to the front of the site.

Car parking area

- 12 on-site car parking spaces (including an accessible car parking space)
- A turning bay within the car parking area to facilitate forward in/forward out vehicle movements.

Acoustic fencing

- 2.1 metre vertical acoustic fence behind the building line surrounding the ground floor outdoor play area. The boundary fence also includes a one metre high by one metre deep cantilevered transparent acoustic panel
- Two metre high acoustic balustrade on the perimeter of the ground floor outdoor area
- 1.2 metre acoustic wall is proposed around the perimeter of the carpark.

Operating Hours

- Monday to Friday 7am to 6pm

Staff

- Six staff would operate the centre for compliant children/staff supervision ratios in accordance with clause 23 of the Education and Care Services National Regulations.

Access

- Vehicular access is proposed via a six metre wide combined ingress/egress. Vehicular movements are restricted to left in/left out by virtue of the existing central median within St Johns Road.
- Pedestrian access to the child care centre is proposed via a footpath adjacent to the property boundary which connects with the existing footpath on St Johns Road.

Tree Removal

- Seven trees are supported for removal (T2-T8). A *Ficus benjamina* located in the north-western corner of the site is proposed to be removed, however it is recommended that this tree be retained.

Signage

- Signage does not form part of the proposal.

Report

The development has been assessed in accordance with the heads of consideration under Section 4.15 of the EP&A Act, and having regard to those matters, the following issues have been identified for further consideration.

1. Vision

Campbelltown 2027 Community Strategic Plan

Campbelltown 2027 is the Community Strategic Plan for the city of Campbelltown. The Strategic Plan addresses four key strategic outcomes that Council and other stakeholders will work to achieve over the next ten years:

- Outcome 1: A vibrant, liveable city
- Outcome 2: A respected and protected natural environment
- Outcome 3: A thriving, attractive city
- Outcome 4: A successful city

The proposal would provide employment and contribute towards community services within a residential area which is consistent with Strategy 3.1 of Outcome 3 and this outcome requires Council to support the resilience, growth and diversity of the local economy.

As such, it is considered that the proposal is consistent with the long term vision for the Campbelltown and Macarthur Region having regard to the proposed use, and the ability to support the local economy within the City of Campbelltown.

2. Planning Provisions

2.1 State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55)

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) requires the consent authority to consider whether the subject land of any development application is contaminated. Clause 7(2) of the SEPP 55 specifies that the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned, carried out in accordance with the contaminated land planning guidelines, for an application that would involve a change of use on any of the land specified in subclause (4) which includes childcare facilities.

The application proposes a change of use from a dwelling house to a centre based childcare facility. Accordingly, a Phase 1 Preliminary Site Investigation report was provided which identified the need for a detailed site investigation (attachment 17).

Council's Senior Environmental Officer reviewed the detailed site investigation and advised that the following condition is recommended in order to satisfy clause 7(2) of SEPP 55:

- Prior to the issue of an Occupation Certificate under this consent, a category A1 site audit statement issued under the *Contaminated Land Management Act, 1997* (CLM Act), certifying that the land is suitable for the proposed childcare centre, shall be provided to the certifier.

Clause 7(2) of State Environmental Planning Policy No. 55 (Remediation of Land) is satisfied subject to the above recommended condition of consent for a site audit statement to be issued under the CLM Act prior to the issue of an Occupation Certificate.

2.2 Greater Metropolitan Regional Environmental Plan No. 2 - Georges River Catchment (GMREP)

The development site is located within the Georges River Catchment, therefore the provisions of the Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment (GMREP) apply to the subject application.

The general aims and objectives of this GMREP are as follows:

(a) To maintain and improve the water quality and river flows of the Georges River and its tributaries and ensure that development is managed in a manner that is in keeping with the national, State, regional and local significance of the Catchment.

(b) To protect and enhance the environmental quality of the Catchment for the benefit of all users through the management and use of the resources in the Catchment in an ecologically sustainable manner.

(c) To ensure consistency with local environmental plans and also in the delivery of the principles of ecologically sustainable development in the assessment of development within the Catchment where there is potential to impact adversely on groundwater and on the water quality and river flows within the Georges River or its tributaries.

(d) To establish a consistent and coordinated approach to environmental planning and assessment for land along the Georges River and its tributaries and to promote integrated catchment management policies and programs in the planning and management of the Catchment.

(e) (Repealed)

(f) To provide a mechanism that assists in achieving the water quality objectives and river flow objectives agreed under the Water Reform Package.

The proposal does not conflict with any of the relevant provisions of the GMREP and is considered satisfactory. .

2.3 State Environmental Planning Policy (Educational Establishments and Child Care Facilities)

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) (Education and Child Care SEPP) applies to all development applications for child care facilities and educational establishments in NSW and is applicable to this development proposal. The Education and Child Care SEPP seeks to facilitate the effective delivery of child care facilities throughout NSW through simplifying standards and improving regulatory certainty which in turn ensures consistency.

Clause 22 Centre-based child care facility—concurrence of Regulatory Authority required for certain development

Clause 22 of the Education and Child Care SEPP requires concurrence from the Regulatory Authority if the proposed development does not comply with the unencumbered indoor and outdoor unencumbered space requires of the Education and Care Services National Regulations.

The proposed development complies with the relevant regulations as provided below:

Regulation	Requirement	Proposed	Compliance
107. Unencumbered indoor space	The proposed development includes at least 3.25sqm of unencumbered indoor space for each child.	Ground floor: (2-3yrs) = 15 children 15 x 3.25 = 48.75sqm required 54sqm provided. Lower ground floor: (3-5yrs) = 30 children 30 x 3.25 = 97.5sqm required. 110sqm provided.	Satisfactory
108. Unencumbered outdoor space	The proposed development includes at least 7.0sqm of unencumbered outdoor space for each child.	Ground floor: (2-3 years) = 15 children 15 x 7 = 105sqm required 108sqm provided Lower ground floor: (3-5 years) = 30 children 30 x 7 = 210sqm required 225sqm provided	Satisfactory

Accordingly, concurrence from the Regulatory Authority is not required prior to determination of the development application.

Clause 23 Centre-based child care facility - matters for consideration by consent authorities

Before determining a development application for development for the purpose of a centre-based child care facility, the consent authority must take into consideration any applicable provisions of the Child Care Planning Guideline, in relation to the proposed development.

An assessment against the Child Care Planning Guideline is provided in attachment 8.

Clause 25 Centre-based child care facility - non-discretionary development standards

Clause 25 of the Education and Child Care SEPP identifies development standards for particular matters relating to a centre-based child care facility that, if complied with, prevent the consent authority from requiring more onerous standards for those matters. An assessment of the identified development standards is provided below:

Requirement	Proposed	Comment
(a) location		
the development may be located at any distance from an existing or proposed early education and care facility,	The proposed child care centre is not located in close proximity to an existing centre.	Satisfactory
(b) indoor or outdoor space		
(i) for development to which regulation 107 (indoor unencumbered space requirements) or 108 (outdoor unencumbered space requirements) of the Education and Care Services National Regulations applies—the unencumbered area of indoor space and the unencumbered area of outdoor space for the development complies with the requirements of those regulations	Compliance achieved. See clause 22 above for assessment.	Satisfactory
(c) site area and site dimensions		
the development may be located on a site of any size and have any length of street frontage or any allotment depth,	The site area complies with this requirement and in this case would also comply with clause 4.1C of CLEP 2015 which requires centre-based child care facilities on land zoned R2 to have a minimum site area of 800sqm.	Satisfactory
(d) colour of building materials or shade structures		
—the development may be of any colour or colour scheme unless it is a State or local heritage item or in a heritage conservation area.	The development proposes a suitable colour scheme. The site does not contain a heritage item and is not located within a heritage conservation area.	Satisfactory

Clause 26 Centre-based child care facility—development control plans

Clause 26 of Part 3 of the Education and Child Care SEPP provides that where a development control plan (DCP) contains provisions for centre based child care centres and specifies requirements, standards or controls in relation to any of the matters listed in within this clause then the DCP does not apply in respect of those standards. The matters listed in the clause are:

a) Operational or management plans or arrangements (including hours of operation)
b) Demonstrated need or demand for child care services
c) Proximity of the facility to other early education and care facilities
d) Any matter relating to development for the purpose of a centre based child care facility contained in

    I. The design principles set out in Part 2 of the Child Care Guideline, or

II. The matters for consideration set out in Part 3 or the regulatory requirements set out in Part 4 of that Guideline (other than those concerning building heights, side and rear setbacks or car parking rates)

Clause 26 of part 3 of the Education and Child Care SEPP is noted and has been considered throughout this report.

2.4 Education and Care Services National Regulations (National Regulation)

Part 4.6 Physical Environment of the Education and Care Services National Regulations (National Regulations) describes the specific regulations which apply to the design of centre based child care centres. The following table provides an assessment against the relevant provisions:

Education and Care Services National Regulations			
Regulation	**Requirement**	**Proposed**	**Compliance**
25. Additional information about proposed education and care service premises	Regulation 25 (d) requires one of the following— (i) a soil assessment for the site of the proposed education and care service premises; (ii) if a soil assessment for the site of the proposed education and care service premises has previously been undertaken, a statement to that effect, specifying when the soil assessment was undertaken; (iii) a statement made by the applicant that states that, to the best of the applicant's knowledge the site history does not indicate that the site is likely to be contaminated in a way that poses an unacceptable risk to the health of children;	A condition of development consent is recommended which satisfies clause 7(2) of SEPP 55.	Satisfactory
97. Emergency and evacuation procedures	Regulation 97 sets out the detail for what those procedures must cover including: • instructions for what must be done in the event of an emergency • an emergency and evacuation floor plan, a copy of which is displayed in a prominent position near each exit • a risk assessment to identify potential emergencies that are relevant to the service.	A condition has been recommended that appropriate measures are provided prior to the issue of a construction certificate.	Can comply. Recommended condition of consent.
104. Fencing or barrier that encloses outdoor spaces	Outdoor space that will be used by children will be enclosed by a fence or barrier that is of a height and design that children preschool age or under cannot go through, over or under it. Note: This clause does not apply to a centre-based service primarily for children over preschool age or a family day care residence or venue for over preschool age children.	The proposed outdoor space will be fenced appropriately.	Can comply. Recommended condition of consent.

Education and Care Services National Regulations			
Regulation	**Requirement**	**Proposed**	**Compliance**
106. Laundry and hygiene facilities	The proposed development includes laundry facilities or access to laundry facilities OR explains the other arrangements for dealing with soiled clothing, nappies and linen, including hygienic facilities for storage of soiled clothing, nappies and linen prior to their disposal or laundering. Laundry/hygienic facilities are located where they do not pose a risk to children	The proposal includes provisions for an onsite laundry facility. Further, the laundry is located in an area that can be closed off via a door which would restrict access.	Satisfactory
107. Unencumbered indoor space	The proposed development includes at least 3.25sqm of unencumbered indoor space for each child.	Ground floor: (2-3yrs) = 15 children 15 x 3.25 = 48.75sqm required - 54sqm provided. Lower ground floor: (3-5yrs) = 30 children 30 x 3.25 = 97.5sqm required - 110sqm provided.	Satisfactory
108. Unencumbered outdoor space	The proposed development includes at least 7.0sqm of unencumbered outdoor space for each child.	Ground floor: (2-3 years) = 15 children 15 x 7 = 105sqm required 108sqm provided Lower ground floor: (3-5 years) = 30 children 30 x 7 = 210sqm required 225sqm provided	Satisfactory
109. Toilet and hygiene facilities	The proposed development includes adequate, developmentally and age-appropriate toilet, washing and drying facilities for use by children being educated and cared for by the service. The location and design of the toilet, washing and drying facilities enable safe and convenient use by the children.	Toilet, washing and drying facilities are proposed in a convenient location on both the ground floor and lower ground floor.	Yes
110. Ventilation and natural light	The proposed development includes indoor spaces to be used by children that: • will be well ventilated; and • will have adequate natural light; and • can be maintained at a temperature that ensures the safety and well-being of children.	Internal solar access diagrams demonstrate that solar access is provided to the internal play areas. A mechanical plant is also provided for mechanical ventilation purposes.	Satisfactory
111. Administrative space	The proposed development includes an adequate area or areas for the purposes of conducting the administrative functions of the service; and consulting with parents of children; and conducting private	The proposed development has included sufficient space for administrative functions, with a	Satisfactory

Education and Care Services National Regulations			
Regulation	**Requirement**	**Proposed**	**Compliance**
	conversations. Note: This space cannot be included in the calculation of unencumbered indoor space – see regulation 107	designated; foyer, admin room, meeting room, staff room and store room.	
112. Nappy change facilities	The proposed development includes an adequate area for construction of appropriate hygienic facilities for nappy changing including at least one properly constructed nappy changing bench and hand cleansing facilities for adults in the immediate vicinity of the nappy change area. The proposed nappy change facilities can be designed and located in a way that prevents unsupervised access by children.	Sufficient nappy change facilities provided.	Satisfactory
113. Outdoor space—natural environment	The proposed development includes outdoor spaces that will allow children to explore and experience the natural environment.	Natural vegetation provided within each outdoor play areas.	Satisfactory
114. Outdoor space—shade	The proposed development includes adequate shaded areas to protect children from overexposure to ultraviolet radiation from the sun.	The proposal has included adequate shaded areas for both designated outdoor play areas.	Satisfactory
115. Premises designed to facilitate supervision	The proposed development (including toilets and nappy change facilities) are designed in a way that facilitates supervision of children at all times, having regard to the need to maintain the rights and dignity of the children.	The outdoor areas and indoor activity rooms have been designed in a manner that will facilitate supervision throughout the site for both age groups on each level. Indoor rooms are open plan with strong links to the outdoor space which restricts the potential for hidden corners.	Satisfactory
168. Education and care service must have policies and procedures	Clause 168 sets out the list of procedures that a care service must have, including procedures for emergency and evacuation.	A condition has been recommended that appropriate measures be demonstrated prior to the issue of a construction certificate.	Can comply. Condition of development consent recommended.

2.5 Campbelltown Local Environmental Plan 2015

The subject site is zoned R2 Low Density Residential under the provisions of CLEP 2015. The proposed Centre-based child care facilities is permitted with consent in the R2 Low Density Residential zone.

*'*Centre-based child care facilities' means:

(a) a building or place used for the education and care of children that provides any one or more of the following:

(i) long day care,
(ii) occasional child care,
(iii) out-of-school-hours care (including vacation care),
(iv) preschool care, or

(b) an approved family day care venue (within the meaning of the Children (Education and Care Services) National Law (NSW)),

Note. An approved family day care venue is a place, other than a residence, where an approved family day care service (within the meaning of the Children (Education and Care Services) National Law (NSW)) is provided.

but does not include:

(c) a building or place used for home-based child care or school-based child care, or

(d) an office of a family day care service (within the meanings of the Children (Education and Care Services) National Law (NSW)), or

(e) a babysitting, playgroup or child-minding service that is organised informally by the parents of the children concerned, or

(f) a child-minding service that is provided in connection with a recreational or commercial facility (such as a gymnasium) to care for children while the children's parents are using the facility, or

(g) a service that is concerned primarily with providing lessons or coaching in, or providing for participation in, a cultural, recreational, religious or sporting activity, or providing private tutoring, or

(h) a child-minding service that is provided by or in a health services facility, but only if the service is established, registered or licensed as part of the institution operating in the facility

The proposed development is consistent with the above definition.

R2 Low Density Residential Zone

The objectives of the R2 Low Density Residential zone are:

- To provide for the housing needs of the community within a low density residential environment.

- To enable other land uses that provide facilities or services to meet the day to day needs of residents.

- To enable development for purposes other than residential only if that development is compatible with the character of the living area and is of a domestic scale.

- To minimise overshadowing and ensure a desired level of solar access to all properties.

- To facilitate diverse and sustainable means of access and movement

The proposal is consistent with the second, third and fourth objectives by meeting the day to day needs of residents for childcare services, by being of a scale that is compatible with a domestic scale and also minimises overshadowing impacts to the adjoining residential sites.

Clause 2.7 Demolition requires consent

Clause 2.7 provides that demolition of a building or work may be carried out only with development consent. Consent is sought for demolition works as part of the development application. A demolition plan is provided as part of the architectural plans. Conditions of consent have been recommended for demolition works to be carried out in accordance with the relevant standards.

Clause 4.1C Minimum qualifying site area and lot size for certain residential and centre-based child care facility development in residential zones

Clause 4.1C(2) states that development consent may be granted to development for the purpose of a centre-based child care facility on land zoned R2 Low Density Residential if the site area is equal to or greater than 800sqm. The site area of the subject site is 915.2sqm which satisfies Clause 4.1(C)(2) of CLEP 2015. In any case, clause 25(2)(c) of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities) overrides this requirement and provides that development for centre based child care facilities may be located on a site of any size and have any length of street frontage or any allotment depth.

Clause 4.3 Height of Buildings

Clause 4.3 requires that the height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map. The maximum building height that is identified on the subject land is 8.5 metres. The proposed development has maximum height of 8.1 metres above the existing ground level. The proposed development satisfies clause 4.3 of CLEP 2015.

Clause 4.4 Floor Space Ratio

Clause 4.4 states that the maximum floor space ratio for centre-based child care development on land zoned R2 is 0.55:1. The proposed development will result in a floor space ratio of 0.47:1 (428sqm/915.2sqm) which satisfies clause 4.4 of CLEP 2015.

2.6 Campbelltown (Sustainable City) Development Control Plan 2015

Attachment 7 provides an assessment of the proposal in accordance with the relevant requirements of the SCDCP 2015. Non-compliances are discussed below:

Part 8.3.4 (b)(ii) Fencing

Part 8.3.4 (b)(ii) requires that fencing to the rear and side boundaries shall be a maximum of 2.1 metres in height (excluding retaining walls). It is noted that retaining walls are not proposed on the side property boundary. The proposed fencing height at the property boundary is 2.1 metres measured from existing ground level. In addition to the 2.1 metres height, the acoustic fence includes a one metre cantilevered section which extends one metre into the play area at an angle between 30 degrees and 45 degrees which is transparent.

The acoustic report provides optional construction materials for the acoustic barrier as follows:

- A double layer Colorbond barrier; or
- Masonry (brick or concrete) construction; or
- A minimum 9mm thick compressed fibros-cement sheeting on a timber or steel stud; or
- Other suitable material such as Perspex, ModularWalls or equivalent.

It is recommended that the side and rear acoustic fencing is constructed using a double layer Colourbond, which is consistent with the current Colourbond boundary fencing material.

The proposed fencing height does not numerically comply with Part 8.3.4 (b)(ii) of the SCDCP. Due to the numerical non-compliance, it is deemed acceptable to allow flexibility and allow reasonable alternative solutions that achieve the objectives of Part 8.3 of the SCDCP.

The relevant objectives are provided in Part 8.3 of the SCDCP as follows:

- Ensure that centre-based child care facilities within residential areas are designed to:
    - Minimise the impact of centre-based child care facilities on the amenity of the existing neighbourhood by way of noise, traffic and loss of privacy; and
    - Maintain the characteristics of residential neighbourhood.

In response to the above objectives, Part 3.5.1 of the SCDCP for residential development provides that the maximum height of residential fencing along the rear and side boundaries is 2.1 metres in height (excluding retaining walls). The vertical section of the proposed acoustic fencing around the perimeter of the lower ground play area proposes a maximum height of 2.1 metres which is consistent with side and rear boundary fencing in the R2 Low Density Residential Zone and is deemed satisfactory.

The non-compliant cantilevered portion of the acoustic fence (installed at an angle between 30 degrees and 45 degrees at the top of the 2.1 metre barrier, extending 1 metre over the play area) would be constructed from a transparent acoustic material. The additional cantilevered portion of the acoustic barrier would not cause any adverse impacts to the adjoining residential development in terms of overshadowing, bulk and scale due to the transparent nature of the cantilevered panel which is consistent with the above objectives. Additionally, the non-compliant section of the fence cannot be viewed from the street and would not impact the residential character of the locality.

The Applicant's response to the non-compliant fence height is provided in attachment 16.

8.3.8 (b) Additional Requirements – Residential Zones

Part 8.3.8 (b) requires that the child care centre shall be wholly located on the ground floor of the building (excluding offices and storage rooms).

The proposed development will be located on both the ground floor and the lower ground floor, with each floor being exclusively designated to a specific age group being years 2-3 for the ground level and ages 3-5 for the lower ground level.

The relevant objectives of Part 8.3 of the SCDCP are:

- Ensure that centre-based child care facilities are:
    - Appropriately located and designed to ensure high levels of safety, security, health and amenity for children and staff; and
    - Functional through appropriate building design.

In line with the above objectives, the proposed development is considered to provide a functional design. All site users enter the centre via the ground floor entrance, with 2-3 years accessing the internal and external play area directly from the entrance area. Children aged 3-5 years access the lower ground floor via stairs or lift. Children aged 3-5 years accessing the stairs and lift would only occur twice daily, upon arrival and departure. Staff facilities and bathroom facilities are provided on each level which is considered satisfactory.

The proposed ground floor and lower ground floor configuration of the development is considered satisfactory.

Part 8.3.8 (c)(iii) Additional Requirements – Residential Zones

Part 8.3.8 (c)(iii) requires child care centres to be setback a minimum of three metres from the side boundary.

A three metre setback is proposed for the majority of the development from the eastern property boundary. A variation is proposed for the waste storage area attached to the front elevation which is setback 1m from the eastern property boundary.

In considering the variation, the relevant objectives of Part 8.3 of the SCDCP are as follows:

- Ensure that centre-based child care facilities within residential areas are designed to:
    - Minimise the impact of centre-based child care facilities on the amenity of the existing neighbourhood by way of noise, traffic and loss of privacy; and
    - Maintain the characteristics of residential neighbourhood.

In response to the above objectives, the proposed non-compliance is not considered to adversely impact the adjoining development in terms of privacy concerns or overshadowing. Conditions of development consent have been recommended for the proper construction of the garbage room.

Part 8.5 (a) Landscaping

In accordance with Part 8.5 (a) of the SCDCP, landscaping for centre-based child care facilities shall be provided to a minimum of:

i. three metre wide strip along the primary and secondary street frontage (other than vehicle driveways); and

ii. 1.5 metre wide strip along the full length of side and rear setbacks.

CLEP 2015 provides that landscaped area means a part of a site used for growing plants, grasses and trees, but does not include any building, structure or hard paved area.

A minor 2.2sqm non-compliance to the required three metre landscaping strip to the street frontage is proposed. A minor non-compliance to the 1.5m strip along the side setbacks is also proposed.

The objectives of Part 8.5 of the SCDCP are as follows:

- To encourage the planting of native and low water consumption plants and trees.
- To enhance the existing streetscape and promote a scale and density of planting that soften the visual impact of buildings, while maintaining opportunities for passive surveillance.
- Ensure that to minimise the risk of personal injuries the appropriate species of plants are selected for the landscaping of centre-based child care facilities.

In response to the above objectives, the following is provided:

- **Front landscaping**

The landscaped setback area between the southern property boundary and the car parking area is separated by a driveway. A minor hardstand car parking encroachment of 2.2sqm is proposed to the landscape strip on the western side of the driveway, resulting in the three metre setback not achieved in this area.

The minor non-compliance is not considered to be detrimental to the streetscape setting of the development. Additionally, the landscaped setback area on the eastern side of the driveway provides a slightly greater setback than the required three metre. On balance, the proposed landscaping setback from the front property boundary is considered satisfactory.

- **Side and rear landscaping**

Landscaping is provided in sections around the perimeter of the lower ground which is considered satisfactory. A condition of development consent has been recommended for the inclusion of a 1.5 metre wide landscape strip along the rear northern property boundary to be included in the outdoor play area for the lower ground. Together with this landscape strip, the amount of landscaping provided on the perimeter and within the lower ground floor play area provides children with an opportunity to experience the natural environment.

The landscaped strip along the western property boundary adjoining the car parking area is one metre in width, a non-compliance of 0.5 metre. A condition of consent is recommended

for native screen planting to be provided in this setback with a maximum height of three metres which would provide for suitable visual relief of the car parking wall.

It is considered that there would be significant benefit to retaining a *Benjamin fig* tree located in the north western corner of the site and this is discussed in detail in section 3.1 of this report under the heading arboricultural impacts.

8.4.1 (a) Car Parking

Part 8.4.1(a) of the SCDCP requires that car parking areas shall be setback a minimum of three metres from the front boundary.

The proposed setback for the car parking area does not numerically comply with this requirement. Where there is a numerical non-compliance, the SCDCP allows consideration of reasonable alternative solutions that achieve the objectives of Part 8.4 of the SCDCP which are as follows:

- Provide adequate on-site car parking for staff and visitors that is convenient, secure and safe having regard to the traffic generated by the development.

- Ensure efficient and safe vehicular and pedestrian movements to all areas and aspects of a child care development.

- Ensure that the location and design of driveways and parking areas, waste access and collection areas are practical, easily maintained, convenient, safe and suitably landscaped.

- Provide safe convenient access for vehicles and pedestrians whilst minimising conflict between them.

The proposed car parking layout complies with the above objectives for the following reasons:

- Council's Senior Development Engineer has advised that the parking layout and turning paths complies with Australian Standards AS 2890.1 and AS 2890.2 (as amended).

- A pedestrian path is provided which is separate from the car parking and manoeuvring area, allowing safe pedestrian access from the nominated 'non-staff' car parking areas.

- Waste collection would occur from the kerb-side by a private contractor which is considered safe and appropriate.

- The setback between the car parking area and the front property boundary, although reduced by 2.2sqm, is suitably landscaped.

The minor non-compliance of the car parking setback is considered satisfactory as the objectives of Part 8.4 of the SCDCP have been satisfied.

2.7 Developer Contributions

Section 7.12 development contributions are applicable to the proposed development. Accordingly, a condition of consent has been recommended.

3 Planning Assessment

3.1 Impacts of the natural and built environment

Section 4.15(1)(b) of the EP&A Act requires the consent authority to assess the development's potential impacts on the natural and built environment.

The key matters for consideration when considering the development's potential impact on the natural and built environment are as follows:

- Acoustic Impact
- Traffic Impact
- Vehicular Access
- Internal Vehicular Manoeuvring
- Arboriculture Impacts
- Building Code of Australia and Access Requirements
- Waste Servicing
- Streetscape Character
- Environmental Health

Acoustic Impact

A Noise Emission Assessment, prepared by Acoustic Dynamics, dated 22 June 1018, was provided with the development application.

Council's Senor Environment Officer reviewed the acoustic report and supporting acoustic advice letter, prepared by Acoustic Dynamics, dated 4 May 2020. No objections were raised, subject to recommended conditions of consent which have been incorporated into attachment 1.

Traffic Impact

A Traffic and Parking Impact Statement, prepared by Thompson Stanbury Associates, dated June 2018, was provided with the development application. The report details that a minimum of six staff are required under the Australian Children's Education and Care Quality Authority (ACECQA) regulations. Further, the report details that the proposed parking provision of 12 off-street parking spaces satisfies Council's minimum parking requirements and is therefore expected to be adequate with respect to serving the peak parking demand potentially generated by the proposed use. In addition, the report notes that whilst staff and visitor parking is not differentiated within the SCDCP, it is advised that the parking proposed on site should be designed to adequately accommodate all users associated with the child care centre. In this regard, each full time staff employed by the child care centre should be provided with a parking space on site, with the remaining spaces allocated for visitors.

The report recommends the following operational requirements:

- An Operational Traffic and Pedestrian Management Plan be implemented

- Site servicing activities such as deliveries are to be conducted outside of peak operational hours of the proposed child care centre, minimising any potential conflict with student pick up/set down and staff parking activities

- Staff parking is to solely occur within the off-street parking area within the parking spaces designated as staff

- Staff who wish to utilise the site parking facilities are to arrive prior to the start and finish of the child care centre to minimise the interaction of staff vehicle movements with the peak children set-down/pick-up periods during school start and finish periods

- Student drop-off/pick-up is to be solely undertaken within the visitor spaces of the off-street car park

- Children being set-down/picked-up are not to dwell for extended periods within the off-street car park; and

- No staff parking is to occur within the parking spaces allocated for pick-up/set-down activities during the morning and afternoon peak periods.

The report concludes the following in terms of traffic impacts:

- The surrounding road network currently operates with a good level of service during peak periods

- The proposed development has been projected to generate some 36 and 32 morning and evening peak hour trips to and from the site respectively

- The surrounding road network is considered to be capable of accommodating the traffic projected to be generated by the development in a safe and efficient manner

- Implementation of an Operational Traffic and Pedestrian Management Plan (OTPM) is anticipated to ensure that the additional traffic generating potential associated with the development will not result in any unreasonable impacts on the surrounding road network and improve the overall efficiency and safety of the internal roads servicing the child care during peak school start and finish periods.

- Based on the conclusions and recommendations contained within this report, we are of the opinion that there are no traffic-related issues that should preclude approval of the subject application. Accordingly, we are in support of the proposed development.

The proposed development and associated Traffic Impact Study was reviewed by Council's engineers who raised no concerns in relation to the traffic generation from the development and its impact on the surrounding network in terms of level of service. Council's engineers were also satisfied that there is adequate sight distance.

Vehicular Access

Part 8.4.1 (l)(vi) of the SCDCP requires the following to be demonstrated:

- Evidence of adequate sight distance to be provided for vehicles existing the site;
- Evidence of adequate stopping sight distance to be demonstrated for vehicles travelling on St Johns Road; and
- Demonstrate safe pedestrian movement within the car park/site.

The following information was provided:

Sight distance diagrams have been prepared (attached as Appendix 1) based on survey plans prepared by Geographic Solutions Surveyors. This assessment indicates the following:

- The minimum stopping sight distance (SSD) required in accordance with Clause 3.2.4 of AS2890.1, being 65km/h for a public road with a 60km/h speed limit is able to be readily achieved.
- 'No Stopping' signposting is proposed along the southern site frontage for a length of 6m (i.e. distance between the western property boundary and the western side of the new access driveway), to assist with the sight line of a vehicle exiting the site.

- The abovementioned 'No Stopping' parking restrictions, being six metres in length results in the loss of one public parallel parking space. This minor loss in parking, being restricted to the site frontage, does not impede on the on- and off-street parking facilities available to adjoining developments. In this regard, the proposed 'No Stopping' parking restrictions is not expected to have any noticeable impact on the surrounding parking amenity.

- The proposed child care centre is proposed to be provided with on-site parking in accordance with Council's DCP parking requirements. In this regard, the subject development is expected to be capable of accommodating its peak parking demand on site without reliance on adjoining public parking facilities within the northern side of St Johns Road. As such, the loss of one on-street public parallel parking space adjacent to the site due to the proposed 'No Stopping' restrictions, is not expected to affect the parking needs of the proposed development.

- The proposed 'No Stopping' parking restrictions is also proposed to be restricted to between 7:00am – 9:00am and 4:00pm – 6:00pm to coincide with the likely periods of peak traffic activity generated by the child care centre. This measure is expected to further minimise the impact associated with the loss of one public parking space; and

- The minimum SSD is not affected by the crest within St Johns Road to the west of the subject site.

The following is also provided in relation to the physical characteristics of St Johns Road, prepared by Thompson Stanbury Associates, dated 25 September 2019.

- The original traffic report outlined the physical characteristics of St Johns Road in the vicinity of the subject site. A crest in the eastbound carriageway of St Johns Road in excess of 100 metre west of the subject site. The camber of St Johns Road eastbound carriageway is a typical cross-section on Council's local roads and has no direct impact on sight distance with respect to the subject site.

The above information was assessed by Council's Engineers who advised:

- Minimum sight distance of 65 metres is achievable when exiting the site. A 'No Stopping' sign is not required. A child care advance warning sign is required on approach to the site.

Arboricultural Impacts

There are nine trees located on the site that require consideration as part of the assessment of this application. There is also one tree (tree T10 in the AIA) located on the adjoining no. 141 St Johns Road that would be potentially significantly impacted by the proposed development, should it not be removed. The owner of 141 St Johns Road has the benefit of a development consent from Council for the construction of a dual occupancy and subdivision into two Torrens title allotments and this consent includes consent to remove this tree. Consent for the removal of tree T10 has been provided from the owners of no. 141 St Johns Road and submitted with the development application for the childcare centre. In these circumstances no further assessment is required in regards to tree T10.

The submitted application originally proposed to remove all of the existing trees on site (trees T1 to T9). The application was accompanied by an arboricultural impact assessment (AIA) which seeks to justify the removal of the trees. During the assessment process a revision to the arboricultural assessment was provided and the application was adjusted so that tree T9 was to be retained. Having considered the AIA it is agreed that it is appropriate to remove seven of the existing trees on the site (referenced as T2 to T8 in the AIA).

T1 as identified in the AIA however is a significant tree in the neighbourhood and is considered to be of reasonable health. This tree, a weeping fig *(Ficus benjamina)* is located in the north western corner of the site.

The applicant/arborist have identified the following risks associated with the weeping fig tree:

- Presence of minor bark inclusions
- Wind exposure
- Proposed construction levels at the rear of the property (and installation of artificial grass)
- Potential trip hazard of tree roots
- Potential choking hazard of falling fruit
- Potential for sap and leaves of the tree to be an allergen or irritant

It is considered that the weeping fig is worthy of retention. The development application does not include any evidence that minor changes to the design to retain the weeping fig were considered. The current proposed design would be detrimental to the long term retention and viability of the weeping fig tree. The following section considers in more depth the interrelationship between child care centres and trees.

- Requirement for Childcare Centres to incorporate natural elements

The incorporation of trees into childcare facilities is known to be an important part of a facilities accreditation approval for the Australian Childrens Education and Care Quality Authority Accreditation (ACECQA), which is related to the children's engagement with the Natural Environment as per Section 3.5 of the Operational requirements requiring natural elements to be incorporated into the centre.

Council consultated a Government Childcare facility (pers comm Gowrie NSW, 3 September 2019) to explore the retention of trees into outdoor play spaces, which indicated that trees shedding fruits, seeds or nuts is considered to be a risk directly related to the age of children using the area (which is generally associated with < two years old). Such risks can be mitigated with effective supervision plans and risk assessments. Effective mitigation measures include the centres conducting a morning and afternoon check before children use

the outdoor spaces and remove things like seeds, pods, droppings and anything else that would pose a choking risk.

Natural environments provide children with rich opportunities for learning, for example changes in nature with the seasons, as plants and trees grow and the fauna that trees attract. Depending on the environment itself, there are increased opportunities for physical play and research shows there is a calming effect on infants when they play in natural environments.

The potential for trip hazards posed by the presence of the subject trees shallow lateral tree roots could be mitigated with the incorporation of interactive landscaping design solutions, such as a large circular tree surround bench – which would serve the dual purpose of engaging the children with the natural environment and provide seating or a safe climbing area, while mitigating any potential trip hazard that might exist.

- **Consistency with the SCDCP**

The proposed removal of the weeping fig (T1) would result in the loss of a high amenity value native tree (of Australasian origins) that makes a significant contribution to the character and amenity of the area, with an urban tree canopy spanning approximately 175sqm in size.

Therefore, the development application does not comply with Section 11.2.1 of the SCDCP which requires developments to be 'sited, designed and managed to avoid any negative impact on biodiversity where possible'. The proposed development does not avoid, where possible, impacts on biodiversity.

The development application also does not comply with Section 2.5 (b) of the SCDCP, which requires landscape design to retain and enhance existing native flora and fauna characteristics of a site wherever possible. The proposed development does not retain, where possible, existing native flora, in particular those trees with high significance ratings.

Accordingly, it is considered that the weeping fig (tree T1 - (*Ficus benjamina*), and T9 – Lilli Pilli (*Syzygium (Acmena) smithii)* as identified in the Arborist report (Malcolm Bruce, dated 10 January 2019) and the Concept Landscape Plan (Conzept Landscape Architects, dated 4 May 2020).

- Tree protection measures must be implemented on site in accordance with Australian Standards AS4970 - Protection of Trees on Development Sites:

    a. All compound/ stockpile, laydown, vehicle park up and amenities shall be located in cleared areas and beyond the dripline of existing trees

    b. Prior to the commencement of any works, the area required for site access will be clearly demarcated to ensure there is no damage to native vegetation outside of the development impact zone

- The seven trees approved for removal (as identified above, in Condition 2), are required to be offset in accordance with Section 11.3.6 of the SCDCP at a minimum ratio of 1:1 replacement tree plantings.

- Prior to the issuing of a construction certificate, the following plans are required to be submitted for Councils review and written approval, including a:

a. Tree Protection Management Plan that details site specific measures to protect those trees required to be retained within close proximity of the development footprint including (T1 – Benjamina Fig - *Ficus benjamina and T9*) and T10 (Narrow-leaved Black Peppermint - *Eucalyptus nicholii*); and in relation to T1:

   i. specify any proposed selective pruning works required to alleviate weight distribution and compensate for any changes in wind flow patterns, and

   ii. develop appropriate mitigation measures to be implemented on site that adequately address perceived risks associated with T1

b. A revised Concept Landscape Plan (Conzept Landscape Architects, dated 4 May 2020) that clearly shows the retention of T1 - (*Ficus benjamina*) on site, and location and species of required replacement tree plantings (as outlined above). The replacement tree plantings are to comprise a minimum of seven native trees (species of which reach a minimum height of 6 metres).

Conditions of development consent have been recommended to reflect the above discussion on arboricultural impacts of the proposed development.

Building Code of Australia and Access Compliance

The following reports were provided in regards to the application:

- Access Design Assessment Report, prepared by Design Confidence, dated 11 March 2019; and
- BCA Design Assessment Report, prepared by Design Confidence, dated 14 March 2019.

These were reviewed Council's registered certifier who considered the information acceptable and recommended the following conditions be included on any consent:

- All building work must be carried out in accordance with the current provisions of the Building Code of Australia (National Construction Code).
- Access and services for people with disabilities shall be provided to the building in accordance with the requirements of the Access to Premises Standard 2010 and the National Construction Code. Detailed plans, documentation and specification must accompany the application for a Construction Certification to the satisfaction of the Certifying Authority.

Waste Servicing

The application was accompanied by a waste management plan (attachment 22) was referred to Council's Waste Coordinator for assessment and comment. The following response was received:

- Waste Generation
    - The proposal includes a maximum of 6 x 240L bins (3 x general waste and 3 x commingle recycling) and would be serviced twice weekly by a private contractor. The bin configuration and servicing frequency provides sufficient capacity to

accommodate the volume of waste expected to be generated at this development.

- The enclosed bin storage area attached to the front elevation of the development is of sufficient size to accommodate the required bin configuration.

- **Waste Servicing**

A letter from a private waste contractor was provided with the development application, dated 2 October 2020 (attachment 21). The letter confirmed the following:

- Confirmed ability to service the site twice weekly for 3 waste bins and 3 recycling bins.

- The contractor would wheel the bins to the curb-side for collection, the bins would be emptied and returned to the waste storage area.

Waste servicing is considered satisfactory subject to recommended conditions of consent requiring evidence of a private contractor waste servicing agreement prior to the release of the Occupation Certificate and recommended conditions relating to the construction of the waste area.

Streetscape Character

Part 8.3.3 (a) of the SCDCP requires that the design of new purpose built buildings (including facade treatments, building massing, roof design and entrance features, setbacks and landscaping) shall complement the scale of surrounding development, character and qualities of the desired streetscape.

Further, in terms of streetscape controls, the relevant objective of the Child Care Planning Guidelines is provided below:

Objective C5: To ensure that the child care facility is compatible with the local character and surrounding streetscape.

It is well established (Planning Principle: compatibility in the urban environment) that the most suitable meaning of compatible in an urban design context is capable of existing together in harmony. Compatibility is different from sameness. It is generally accepted that buildings can exist together in harmony without having the same density, scale or appearance, though as the difference in these attributes increases, harmony is harder to achieve. Accordingly, the development does not need to be the same as the residential development is the local area to compliment the character of the area.

In determining whether the design is compatible with the local character and qualities of the desired streetscape, the relationship of built form to surrounding space is required to be considered. This relationship is created by building height, setbacks, landscaping and architectural style, each of which are responded to below:

- **Building Height**

The proposed height of the development is 8.1 metres, below the maximum height specified by clause 4.3 of CLEP 2015. The height of the development is not inconsistent with adjoining development and future development anticipated in the R2 Low Density Residential zone.

- **Setbacks and Car Parking Area**

The minimum setback for a child care centre is 5.5 metres as specified by Part 8.3.8 (c)(i) of the SCDCP. The development is setback a minimum of 20.5 metres from the front property boundary which provides a compliant front building setback.

Residential development on the northern side of St Johns Road does not conform to a consistent building line setback from the front property boundary. The front setbacks are varied and individual dwellings include a staggered building line. It is considered that the proposed set back has been designed to pick-up elements from existing dwelling setbacks within the immediate locality. For example, No. 137 St Johns Road provides a staggered street back (approximately 9.3 metres to approximately 16 metres) with a hardstand area within the front setback.

Further, the proposed front building line is parallel to the front property boundary which is consistent with the setbacks of residential development in the local area.

The scale of the car parking area, as viewed from the side elevations, is not considered to adversely impact the adjoining residential properties. The car parking area is set-in from the side property boundaries by a minimum of one metre from the western property boundary, which includes landscaping, and a minimum setback of one metre to two metres to the eastern property boundary.

The area which includes the most amount of fill is located at the building line on the western portion of the car parking area. The fill in this area is not visible from the street due to the large setback and the location of adjoining residential development. Additionally, the acoustic fence on the western and eastern side of the car parking area is set-in from the side property boundaries and is not considered visually obtrusive.

- **Landscaping**

The proposed landscaping, particularly within the front setback of the development is considered sufficient to soften the appearance of the car parking area. The non-compliance of the three metre landscaped setback (2.2sqm) is considered minor. The landscaped setback on the eastern side of the driveway is slightly greater than three metres. On balance the proposed landscaping is considered satisfactory.

- **Architectural Style**

The proposed design of the development, particularly noting the roof form, is not inconsistent with architectural elements of residential development within the local context.

A photomontage of the development was provided which demonstrates the streetscape setting of the proposal. The setting of the development is not considered visually obtrusive or to be so different as to disrupt the existing streetscape character of the area.

Overall, it is considered that the proposal is compatible with the existing streetscape character. The development is not deemed so different in terms of building form, scale and setbacks that harmony is not able to be achieved within the existing streetscape setting.

Environmental Health

The application was referred to Council's Team Leader Environmental Health to review compliance of the application with the *Food Act 2003* and Food Regulation 2010, Food Standards Code Australia and New Zealand and AS 4674-2004. No issues were raised and conditions of development consent have been recommended.

3.2 Social and Economic Impacts

Section 4.15(1)(b) of EP&A Act requires the consent authority to assess social and economic impacts in the locality. It is anticipated that the centre-based child care facility would provide the surrounding residents with a child care facility which is considered to be a social benefit to the community. Economic impacts from construction and local employment are considered to be a positive impact.

3.3 Site Suitability

Section 4.15(1)(c) of the EP&A Act requires the consent authority to assess the suitability of the site for the proposed development.

The principal matters for attention have been discussed, particularly in relation to safe vehicular ingress/egress, vehicular internal manoeuvring, and compatibility of the development with the character of the local area. The development is considered satisfactory and suitable for the site.

4. Public Participation

Section 4.15(1)(d) of the EP&A Act requires the consent authority to consider submissions made to the proposal.

Initially, the development application was notified to adjoining owners from 6 August to 20 August 2018. The development application was then re-notified to property owners within a 100 metre radius of the site from 5 September 2018 to 19 September 2018. A total of 13 unique submissions were received.

Additional information was received by Council dated 18 April 2019. Subsequently, the application was re-notified to owners within a 100m radius from 23 May 2019 to 6 June 2019. Six submission of objection were received.

Amended information was provided to Council on 11 May 2020. The application was re-notified to land owners within a 100m radius from 17 June 2020 for 21 days in accordance with Council's Community Participation Plan, however all required information was not available on Council's website. Land owners within a 100m radius were then notified again of the amended application from 27 July 2020 to 21 June 2020 and all information was available on Council's website. Six submissions were received during this period.

A summary of the issues raised in submissions and a response to the issues raised is provided in the table below:

Theme	Issue	Response
Traffic report is not satisfactory	Inadequate traffic report raising the following concerns: • unsafe road • sight line assumptions ignore all possible situations such as the additional cars likely to be parked on the road, the speed motorists are travelling, tree cover proposed • sightlines have not been resolved • negative impact on the road network	Council's Engineers reviewed the Traffic Report lodged with the development application. Additional information was provided to Council regarding internal manoeuvring and sight distances from the exit of the centre. Council's Engineers reviewed the amended information (which included a sight distance assessment) and advised that the parking layout and turning paths comply with AS 2890.1 and AS 2890.2 (as amended). They also advised that the minimum sight distance of 65m is achieved (in accordance with Clause 3.2.4 of AS2890.1) when exiting the site. Sight lines are not impacted by vegetation.
Insufficient on-site parking provision	• Concerns regarding the parking area being taken up with staff parking	Car parking complies with Part 8.4.1 (b) of the SCDCP which requires one (1) on site car parking space to be provided for every four (4) children. Accordingly, the application provides 12 spaces for 45 children.
Safety concerns accessing/existing the site	• St Johns road is a winding and hilly road making it unsuitable for a child care centre • It is a dangerous section of road due to dip and curve of road and the crest of a hill • Poor line of site from cars leaving site would pose a risk for children and parents and residents	Council's Engineers are satisfied the required minimum sight distance of 65m is achieved (in accordance with Clause 3.2.4 of AS2890.1) when exiting the site. Sight lines are not impacted by vegetation. A condition of development consent recommends that a child care advance warning

Theme	Issue	Response
	• Dangerous Road to turn into the proposed site • Fast speeding drivers make it even more dangerous. 60km/hr speed limit is not always adhered to • Heavy vehicles often straddle both the main lane as well as the bicycle route lane • Traffic performing dangerous U turns at Macleay Street and Bangalla Avenue or Athel Tree Crescent • During winter it will be dark and visibility poor and a higher risk of conflict between passing vehicles and patrons to the centre • There is a tree on the adjacent property which poses restrictions on anyone leaving the parking area	sign is required on approach to the site. The applicant's traffic report details that the camber of St Johns Road eastbound carriageway is a typical cross-section on Council's local roads and has no direct impact on sight distance with respect to the subject site. The proposed development is not responsible for any existing problems like speeding drivers and illegal u turns.
Increased traffic	• Child care centre is going to increase traffic in the area • Vehicles waiting to turn into the site would cause traffic to stop on St Johns Road • A situation may arise when vehicles need to reverse into St Johns Road when drivers realise that the car park is full or other vehicles are manoeuvring. This increases the risk of conflict with passing traffic. The likelihood of parents parking on the road further raises this risk and further reduces sightlines from the crest of the hill.	The Development Application, and associated Traffic Impact Study were considered by Council's Engineers. No concerns were raised in relation to the traffic generation from the proposed development and its impact on the surrounding network in terms of level of service. The car park will be readily visible when approaching the site to determine if parking is available. The driveway entrance is of sufficient width for a vehicle to entre when one is exiting from the site.
Not compatible with the existing streetscape	• Proposed development does not complement the nature and streetscape of the adjoining development in terms of	The proposed development is considered to be compatible with the existing streetscape.

Theme	Issue	Response
	design, building material and extent of car parking within the front setback area. • The setback of the parking area does not comply with the minimum of three metres from the front boundary • Side landscaping non-compliance of • 0.5m. • The rhythm of the street has not been maintained.	The minor non-compliance with the car parking setback and the landscape setback is assessed in section 2.6 in this report and is considered satisfactory.
Parking spaces non-compliant width	• Minimum parking space size is 2.6 metre x 5.4 metre (Class 3 or Class 3A). • Accessible space does not comply with standards. • High proportion of parents with 4WDs has not been anticipated and the minimal standards of parking bays not regarded as adequate when children and strollers/prams have to be loaded/unloaded. • Parking area is barely adequate for staff and parents dropping off and picking up children and turning paths for all parking spaces has not been demonstrated as safe nor convenient.	Revised information was provided (prepared by PDC Consultants, dated 2/10/2020), including a swept path analysis, which included changes to the location of the turning bay area (attachment 11). Council's Engineers have advised that the parking layout and turning paths complies with Australian Standards *AS 2890.1 and AS 2890.2 (as amended)*.
Internal manoeuvrability concerns	• Concerns regarding vehicles unable to exit site in a forward direction if the car park is at capacity. • Lack of swept paths provided with the application.	Turning bay is provided. Revised information was provided (prepared by PDC Consultants, dated 2/10/2020), including a swept path analysis, which included changes to the location of the turning bay area (attachment 11). Council's Engineers have advised that the parking layout and turning paths

Theme	Issue	Response
		complies with Australian Standards AS 2890.1 and AS 2890.2 (as amended).
Disabled parking space management	The management of the disabled parking space has not been adequately addressed.	Council's Engineers have advised that the parking layout and turning paths complies with Australian Standards AS 2890.1 and AS 2890.2 (as amended). A recommended condition of consent requires suitable car parking line-marking be provided.
Police Safety and Security audit.	Concern advising the lack of a Safety and Security Audit undertaken by the NSW Police for the proposed development.	Not required for the subject development application.
Property values impacted	Concerns regarding development affecting property values.	Not a relevant consideration under the EP&A Act.
Inadequate photomontage provided	Concerns regarding a insufficient photomontage which would illustrate the 3.1m high fencing prospered between the adjoining properties and as seen by neighbours walking on the footpath.	A revised photomontage was provided with amended material and is considered satisfactory.
Building Material and character	Cement sheeting to the building is in contrast to the predominantly brick and brick/veneer dwellings in the street.	Building materials are considered modern and recessive.
Construction impacts	Concerns relating to noise pollution, air pollution and congestion of heavy machinery during demolition and construction works.	Condition of development consent recommended for a construction management plan to be provided prior to the issue of a construction certificate.
Overshadowing concerns	Concerns raised regarding overshadowing impacts to adjoining development.	Shadow diagrams have been provided showing no adverse overshadowing impacts to adjoining residential dwellings.
Street parking and waste collection issues	• Concerns regarding parents dropping off children parked on the street could impede waste collection for adjoining residential properties and reduce parking available for visitors of residential dwellings within the vicinity of the site.	On-site parking is provided in accordance with Part 8.4.1 (b) of the SCDCP which requires one (1) on site car parking space to be provided for every four (4) children. Accordingly, the application provides 12 spaces for 45 children.

Theme	Issue	Response
	• Concerns regarding the increased number of cars that would be parked out the front of the centre when people are picking up/dropping off children does not allow any room to avoid a potential incident.	Development is not anticipated to cause issues relating to garbage collection for adjoining residential properties as compliant on-site parking is to be provided.
Emergency evacuation	Concerns regarding the front assembly area not being sufficient.	Recommended condition of development consent for an emergency evacuation plan which complies with AS3745 to be prepared prior to the issue of an occupation certificate.
Reduced road speed limit	Request for a 40km/hr zone be put in place, if approval is granted.	No speed limit changes proposed. A recommended condition of development consent requires that a child care advance warning sign be provided on the approach to the site.
Pedestrian safety concerns	Concerns raised in relation to safe pedestrian access to the site and conflict with vehicular movements accessing the site.	Separate pedestrian access provided and considered satisfactory.
Acoustic fence causing stormwater issues	One metre cantilever section of the fence could cause a cascade of water running into adjoining properties.	The amount of water produced by running off the cantilevered fence portion is limited. For one in five year rain event, the run-off would be less than one litre/second for the entire cantilevered fence section. The flow would be spread along the length of the cantilever and therefore be similar to normal run off.
Crime Prevention Through Environmental Design principles not met.	Design of a two level building, single level at the front and open with a large carpark and closed off at the back raises concerns about security and safety.	It is considered that the site is capable of being appropriately secured. Access will be restricted by fencing and the land owner has the opportunity to provide their own surveillance if considered necessary.
Two storey design is not appropriate	Two storey design is not recommended in SCDCP or Child	The proposed development will be located on both the

Theme	Issue	Response
	Care Centre Guidelines.	ground floor and the lower ground floor, with each floor being exclusively designated to a specific age group being ages 2-3 for the ground level and ages 3-5 for the lower ground level. The proposed ground floor and lower ground floor configuration of the development is considered satisfactory.
Noise Impacts	Concerns regarding noise control impacts from children playing outside.	A Noise Emission Assessment, prepared by Acoustic Dynamics, dated 22 June 1018 and appropriate acoustic measures have been incorporated into the development subject to recommended conditions of development consent.
Lack of Fire Safety	Concerns regarding the number of exits and does not comply with the exit travel distances at the lower level.	This is a matter for the Construction Certificate rather than the development application. Nevertheless Council's Building and Fire Safety Specialist reviewed the Access and Design Assessment Report and a BCA Design Assessment Report. No concerns were raised. Appropriate condition of consent have been recommended.
Water conservation and Energy Efficiency	Concerns regarding whether the design meets current practise or standards for water conservation and reuse and energy efficiency.	Specific non-compliances not specified in the submission.
Service/delivery vehicles	• No plan for the entry and exit of service/delivery vehicles. • Industrial site servicing is not consistent with the adjoining usual weekly bin collection.	Condition of consent have been recommended for deliveries to occur on the site before/after operating hours. Waste collection would occur twice weekly which is considered satisfactory.
Children safety considering location of adjoining pools	Safety concerns with children accessing pool areas to surrounding properties. Some of	Children unlikely to traverse the 2.1 metre high acoustic fence and one metre

Theme	Issue	Response
	the play areas back onto rear fences of lots which contain a pool.	cantilevered portion. Further, the requirement for a compliant pool barrier rests with the owner of the pool, and not the owner or occupier of an adjoining site.
Clarification required concerning hours of operation	Hours of operation not provided.	Proposed operating hours are 7am to 6pm which is compliant with the core hours prescribed by the Child Care Planning Guidelines.
Notification	No DA notification sign at the site.	Photographic evidence of the amended application (notification period from 27 July 2020 to 21 June 2020) notification sign erected at the site is provided in attachment 23.

4. Public Interest

Section 4.15(1)(e) of the EP&A Act requires the consent authority to consider the public interest of the proposal. Public interest is separate to submissions and requires Council to consider the public interest at a broader level. Based on the assessment, the proposed centre-based child care facility is considered to be in the public interest in that it provides a service to the local community in an area surrounded by residents and the proposed development has been designed to be generally compliant with the guidelines and planning rules for construction of a centre based child care facility.

5. Conclusion

This application has been assessed against the provisions of Section 4.15 of the *Environmental Planning and Assessment Act 1979*. The proposed development is permissible with consent under the provisions of the Campbelltown Local Environmental Plan 2015 and is consistent with the objectives of the R2 low density residential zone.

The proposal includes minor non-compliance relating to the landscaping area within the front setback, the setback from the side boundary and the setback for the car parking area. These non-compliances have been considered and do not justify the refusal of the application.

Careful consideration has been given to the streetscape character. The design of the development and architectural features are not inconsistent with both the current and the desired future character of the neighbourhood in which the development is located. It is also considered that the scale of the car parking area does not adversely impact the residential character of the area.

The report has also considered the safety of vehicles movements to and from the site. Council's engineers have reviewed the application and advised that sufficient sight distance

is provided. The safety and adequacy of internal vehicle and pedestrian movements is also considered satisfactory.

Overall, having regard to the matters of consideration under Section 4.15 of the *Environmental Planning and Assessment Act 1979,* and relevant matters discussed within this report, it is recommended that the development for the demolition of existing structures and the construction of a 45-place child care centre at 139 St Johns Road, Bradbury, be approved subject to the recommended conditions of consent contained in attachment 1.

Attachments

1. Recommended Conditions of Consent (contained within this report)
2. Location Plan (contained within this report)
3. Architectural Plans (contained within this report)
4. Landscape Plan (contained within this report)
5. Survey Plan (contained within this report)
6. Photomontage (contained within this report)
7. Development Control Plan Compliance Table (contained within this report)
8. Child Care Planning Guideline (contained within this report)
9. Traffic Engineer Response - Site Lines (contained within this report)
10. Traffic Report (contained within this report)
11. Traffic Engineer Response - Internal Manoeuvring (contained within this report)
12. Acoustic Report (contained within this report)
13. Acoustic Advice Letter (contained within this report)
14. Access Report (contained within this report)
15. BCA Design Assement Report (contained within this report)
16. Applicants Fencing Variation Statement (contained within this report)
17. Detailed Site Investigation Report (contained within this report)
18. Statement of Environmental Effects (contained within this report)
19. Arborist Report (contained within this report)
20. Civil Works and Stormwater Plan (contained within this report)
21. Waste Servicing Letter (contained within this report)
22. Waste Management Plan (contained within this report)
23. Notification Sign Photograph (contained within this report)
24. Stamped Approved Plans - 141 St Johns Road, Bradbury (due to confidentiality) (distributed under separate cover)

Reporting Officer

Executive Manager Urban Centres

2401/2018/DA-C
Recommended Conditions of Consent

GENERAL CONDITIONS

The following conditions have been applied to ensure that the use of the land and/or building is carried out in such a manner that is consistent with the aims and objectives of the planning instrument affecting the land.

For the purpose of these conditions, the term 'applicant' means any person who has the authority to act on or benefit of the development consent.

1. Approved Development

The development shall be carried out in accordance with the approved plans and documents listed in the table below, and all associated documentation supporting this consent, except as modified in red by Council and / or any conditions within.

Title	Drawing No.	Revision	Prepared by	Date
Title page/site plan/calculations	A0000	D	RFA Architects	4/05/2020
Winter shadow diagrams	A1002b	D	RFA Architects	4/05/2020
Streetscape Analysis	A1003	D	RFA Architects	4/05/2020
Internal solar diagram - ground	A1004	D	RFA Architects	4/05/2020
Internal solar diagram – lower g	A1005	D	RFA Architects	4/05/2020
Demolition Plan	A2000	D	RFA Architects	4/05/2020
Roof Plan	A2001	D	RFA Architects	4/05/2020
Ground floor plan	A2002	D	RFA Architects	4/05/2020
Lower ground floor plan	A2003	D	RFA Architects	4/05/2020
North and south elevation	A3001	D	RFA Architects	4/05/2020
North elevation w/ bdy fence	A3001a	D	RFA Architects	4/05/2020
East and west elevation	A3002	D	RFA Architects	4/05/2020
East/west elevation w/ bdy fence	A3002a	D	RFA Architects	4/05/2020
Material study	A3003	D	RFA Architects	4/05/2020
Section	A4001	D	RFA Architects	4/05/2020
Title Page	1	E	Conzept Landscape Architects	22/10/2020
Landscape Plan [Ground Floor]	2	G	Conzept Landscape Architects	22/10/2020
Landscape Plan [Lower Ground]	3	G	Conzept Landscape Architects	22/10/2020
Specification & Detail	4	C	Conzept Landscape Architects	24/04/2020
Detail	5	B	Conzept Landscape Architects	20/03/2019

Title	Drawing No.	Revision	Prepared by	Date
Material and Proprietary Item Schedule	6	A	Conzept Landscape Architects	22/10/2020
General Notes	C00.01	F	Engineering Studio Civil & Structural	29/04/2020
Sediment and Erosion Control Plan	C01.01	F	Engineering Studio Civil & Structural	29/04/2020
Sediment and Erosion Control Details	C01.02	F	Engineering Studio Civil & Structural	29/04/2020
Stormwater Drainage Plan	C02.01	F	Engineering Studio Civil & Structural	29/04/2020
Lower Ground Stormwater Drainage Plan	C02.02	F	Engineering Studio Civil & Structural	29/04/2020
Stormwater Details Sheet 1	C02.03	F	Engineering Studio Civil & Structural	29/04/2020
Stormwater Details Sheet 2	C02.04	F	Engineering Studio Civil & Structural	29/04/2020
Bulk Excavation Plan	C03.01	F	Engineering Studio Civil & Structural	29/04/2020

2. Amended Plans

The development is to incorporate the following amendments and the amended plans are to be submitted to the Council's Executive Manager Urban Centres, for written approval, prior to the issuing of a Construction Certificate:

a. Revised north, east and west elevation plan that includes translucent glazing to the windows embedded within the outdoor play area acoustic barrier.

b. Revised plans removing fencing on the eastern property boundary forward of No. 137 St Johns Road. The revised plans are also required to include a 1.8m high fence between the front building line of No. 137 St Johns Road and the acoustic fence/barrier on the perimeter of the lower ground floor outdoor play area.

c. The following trees are permitted to be removed on site, including T2-8 as identified in the Arborist report (Malcolm Bruce, dated 10 January 2019). A revised Concept Landscape Plan (Conzept Landscape Architects, dated 4 May 2020) that clearly shows the retention of T1 - (*Ficus benjamina*) on site, and location and species of required replacement tree plantings. The seven trees approved for removal are required to be offset in accordance with Section 11.3.6 of Council's Sustainable City Development Control Plan (DCP) at a minimum ratio of 1:1 replacement tree plantings. The replacement tree plantings are to comprise a minimum of seven native trees (species of which reach a minimum height of 6 metres).

d. Revised landscaping plan is required to replace 17 x *Viburnum ororatissimum* with native screen planting species between the car parking area and the western property boundary elected from Council's Native Gardening Guide, with a maximum height of 3 metres.

e. Revised landscaping plan to provide a 1.5m landscaped strip measured from the rear property boundary in area indicated on the stamped plans (Drawing No.

LPDA 18 – 341, Page No. 3). Plantings are required to be selected from Council's Native Gardening Guide.

3. Building Code of Australia

All building work must be carried out in accordance with the provisions of the *Building Code of Australia (National Construction Code)*. In this clause, a reference to the *Building Code of Australia* is a reference to that Code as in force on the date the application for the relevant construction certificate is made.

4. Centre-based Child Care Centre Operation Approval

Prior to the commencement of use of the centre-based child care centre, the applicant must obtain a Service Approval for the operation of a centre-based child care facility from the Regulatory Authority. The centre shall be operated in accordance with the Service Approval at all times.

5. Number of Children

The centre-based child care centre is approved to cater for a maximum of 45 children within the following age groups:

Ages	No. of Children
2-3 years	15
3-5 years	30
Total	45 children

6. Tree Protection Measures

Tree protection measures must be implemented on site in accordance with *Australian Standards AS4970 - Protection of Trees on Development Sites*:

(a) All compound/ stockpile, laydown, vehicle park up and amenities shall be located in cleared areas and beyond the dripline of existing trees; and

(b) Prior to the commencement of any works, the area required for site access will be clearly demarcated to ensure there is no damage to native vegetation outside of the development impact zone.

7. Tree Retention and Removal

The following trees are required to be retained on the site:

- T1 - (*Ficus benjamina*), and T9 – Lilli Pilli (*Syzygium (Acmena) smithii)* as identified in the Arborist report (Malcolm Bruce, dated 10 January 2019) and the Concept Landscape Plan (Conzept Landscape Architects, dated 4 May 2020).

The following trees are permitted to be removed on the site:

- T2-8 as identified in the Arborist report (Malcolm Bruce, dated 10 January 2019).

8. Noise Management – Operation of the Development

(a) All noise attenuation measures (including, without limitation, covers, silencers and mufflers) provided for mechanical plant items are to be maintained for the life of the development. These plant items shall not to be operated without these measures being properly fitted and closed. All mechanical plant items are to be maintained in a manner that ensures their noise emissions do not exceed the "as new" specifications of the manufacturer.

(b) All external doors and windows are to be kept closed during ordinary operations. Suitable ventilation is to be maintained to allow for operation of the development with all external doors closed. Windows may only be open when all children are within the building and are engaged in quiet activities. Windows must be promptly closed if noise levels increase.

(c) Mechanical plant and equipment associated with this development may only be operated on site between the hours of 6:30am and 6:30pm Monday to Friday (inclusive).

(d) No play equipment associated with this development may have a height exceed 1.5m from ground level.

(e) The acoustic wall and noise advisory signage required by this consent are to be maintained for the life of the development.

(f) The maximum number of children occupying the lower outdoor play area at one time shall be 15.

(g) The maximum number of children occupying the upper outdoor play area at one time shall be 15.

(h) A register for noise related complaints shall be maintained on site. Any noise complaints received shall be:

i. Forwarded to Council within 7 days,
ii. Investigated within 14 days,
iii. Rectified within 28 days if they result from any breach of the conditions of this consent,
iv. Rectified within 90 days if they do not result from a breach of the conditions of this consent but otherwise result in a breach of a noise policy that is inforce in the State of NSW.

In all cases Council and the complainant are to be notified of the outcome of the complaint within 90 days.

Council may advise the person having benefit of this consent that a person may be regarded as a vexatious complainant for a specific period under this condition. If Council provides this advice in writing then complaints from that complainant are not subject to the requirements of this condition for the period specified in the notice.

9. Unreasonable Noise, Dust and Vibration

The construction of the development, including operation of vehicles, shall be conducted so as to avoid the generation of unreasonable noise, dust or vibration and

cause no interference to adjoining or nearby occupants. Special precautions must be taken to avoid nuisance in neighbouring residential areas, particularly from machinery, vehicles, warning sirens, public address systems and the like.

In the event of a noise related issue arising during construction, the person in charge of the premises shall when instructed by Council, cause to be carried out an acoustic investigation by an appropriate acoustical consultant and submit the results to Council. If required by Council, the person in charge of the premises shall implement any or all of the recommendations of the consultant and any additional requirements of Council to its satisfaction.

10. Waste Requirements

The development is to include the following on-going waste measures:

a) Sufficient bin capacity must be provided within the bin storage area to accommodate the volume of general waste and recycling generated at the centre during normal operations.

a) Bin collections must be undertaken regularly to prevent any issues with odour, litter, vermin and overflow of bins.

b) Used nappies must be handled, stored and disposed of in such a way that prevents the creation of any public health issues.

c) Bin storage area must be kept sufficiently cleaned and maintained at all times.

11. Landscaping

The provision and maintenance of landscaping shall be in accordance with the approved landscape plan (as amended by Condition No. 2) containing Council's approved development stamp including the engagement of a suitably qualified landscape consultant/ contractor for landscaping works.

12. External Finishes

The external finishes shall be in accordance with the approved plans and the schedule of finishes submitted with this application. Any proposed alterations to these finishes are considered to be a modification to the development consent and require separate approval by Council.

13. Garbage Room

The garbage storage room identified on the approved plans shall:

a. Be fully enclosed and shall be provided with a concrete floor, with concrete or cement rendered walls coved to the floor.

b. The floor shall be graded to an approved sewer connection incorporating a sump and galvanised grate cover or basket.

c. A hose cock shall be provided within the room.

d. Garbage rooms shall be vented to the external air by natural or artificial means.

14. Switchboards/Utilities/Air Conditioning Units

Switchboards, air conditioning units, garbage storage areas and storage for other utilities shall not be attached to the front elevations of the building or side elevations that can be seen from a public place.

15. Driveway

The gradients of driveways and manoeuvring areas shall be designed in accordance with *Australian Standard AS 2890.1 and AS 2890.2 (as amended)*.

Driveways shall be constructed using decorative paving materials such as pattern stencilled concrete, coloured stamped concrete or paving bricks. The finishes of the paving surfaces are to be non-slip and plain concrete is not acceptable.

16. Deliveries

Vehicles servicing the site, other than waste collection vehicles, shall comply with the following requirements:

a. All vehicles awaiting loading, unloading or servicing shall be parked as close as practicable to the centre and shall not obstruct adjoining residential driveways.

b. All deliveries to the centre shall be conducted outside of operating hours and occur within the car parking area.

c. All delivery vehicles are to enter and exit the site in a forward direction.

17. Advertising Signs – Separate DA Required

This consent does not permit the erection or display of any advertising signs.

Most advertising signs or structures require development consent. You should make separate enquiries with Council prior to erecting or displaying any advertising or signage.

18. Lighting

Illumination of the site is to be arranged to provide an appropriate level of lighting and in accordance with the requirements of *Australian Standard 4282 (as amended)* so as not to impact upon the amenity of the occupants of adjoining and nearby residential premises or traffic.

19. Storage of Goods

All works, storage and display of goods, materials and any other item associated with the premises shall be contained wholly within the building.

20. Graffiti Removal

In accordance with the environmental maintenance objectives of 'Crime Prevention Through Environmental Design', the owner/lessee of the building shall be responsible for the removal of any graffiti which appears on the buildings, fences, signs and other surfaces of the property within 48 hours of its application.

21. Engineering Design Works

The design of all engineering works shall be carried out in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended), Engineering Design Guide for Development (as amended)* and *Campbelltown (Sustainable City) DCP (as amended).*

22. Operating Hours

The use of the premises/business shall be limited to:

Monday to Friday	7am - 6pm
Saturday	Closed
Sunday	Closed

23. Car Parking Spaces

Twelve (12) car parking spaces shall be designed, sealed, line marked and made available to all users of the site in accordance with Australian Standards 2890.1 and 2 (as amended).

24. Rubbish/Recycling Bin Storage

The rubbish and recycling bins shall not be stored within vehicle parking, vehicle manoeuvring areas or landscaped areas.

The bin(s) shall only be stored in accordance with the approved plans.

25. Rain Water Tank(s)

Rain water tank/s shall be installed on site for the collection and storage of stormwater for irrigation and reuse purposes (eg the flushing of toilets), in accordance with the approved plans.

26. Shoring and Adequacy of Adjoining Property

If the development referred to in this development consent involves an excavation that extends below the level of the base of the footings of a building on adjoining land, the person having the benefit of the development consent must at the person's own expense:

a. Protect and support the adjoining premises from possible damage from the excavation, and

b. Where necessary, underpin the adjoining premises to prevent any such damage.

This condition does not apply if the person having the benefit of the development consent owns the adjoining land or the owner of the adjoining land has given consent in writing to that condition not applying.

27. Construction Certificate

Prior to the commencement of any works that require a construction certificate:
(a) the applicant shall appoint a Principal Certifier;

(b) the applicant shall obtain a construction certificate for the particular works; and
(c) when Council is not the Principal Certifier, the appointed Principal Certifier shall notify Council of their appointment no less than two days prior to the commencement of any works.

PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE

The following conditions of consent must be complied with prior to the issue of a construction certificate by either Campbelltown City Council or the appointed Principal Certifier. All necessary information to comply with the following conditions of consent must be submitted with the application for a construction certificate.

28. Construction Environmental Management Plan

Prior to the commencement of any works, a comprehensive site-specific Construction Environmental Management Plan (CEMP) must be prepared by a qualified and experienced professional engineer registered on the NER (or equivalent), to the satisfaction of the PCA. A copy of the CEMP shall be provided to Council for their information within 7 days of any revision made to the CEMP.

The objective of the CEMP is to provide an overarching framework to ensure that the development remains within the limits and standards required by these conditions and that works appropriately avoid, remedy or mitigate more than minor adverse environment impacts.

a. Details of all high hazard work required to facilitate construction, including Safe Work Method Statements, risk assessment and mitigation requirements and procedures, in accordance with Work Health and Safety Act and Regulations, and SafeWork NSW;
b. Key Stakeholder Register including full name, 24hr contact details, emergency contact details of the Project Manager, Officers, Superintendents, and Foreman;
c. A plan of how the community will be engaged during the construction process to provide regular updates on;
    - Any changes to pedestrian and vehicle access;
    - Construction progress and key dates for major milestones; and
    - Communication on any other matters potentially affecting residents or business operations in the vicinity of the works.
    - Placement of notice boards that clearly identify the Consent Holder and the development name, together with the name, telephone number and email address of the Site Superintendent or Project Manager
d. Project's construction schedule, including construction hours of operation;
e. Means of ensuring the safety of the general public;
f. Noise control measures and hours of operation;
g. Air and Water quality control measures (including dust management);
h. The Tree Protection Measures in accordance with *Australian Standards AS4970 - Protection of Trees on Development Sites* including:
    - All compound/ stockpile, laydown, vehicle park up and amenities shall be located in cleared areas and beyond the dripline of existing trees; and
    - Prior to the commencement of any works, the area required for site access will be clearly demarcated to ensure there is no damage to native vegetation outside of the development impact zone.

i. Hazardous material management protocols (i.e. fuel etc.) addressing storage, use, refuelling etc.;
j. Incident and emergency response protocols;
k. Competence, training and awareness procedures (ie. Environmental inductions, Toolbox talks, training and awareness);
l. Roles and responsibilities for implementing, monitoring and reviewing CEMP requirements;
m. An overview of relevant environmental management documentation;
n. Inspection, monitoring and auditing requirements for all environmental controls and adaptive management to ensure environmental mitigation measures remain effective;
o. Public Liability Certificate of Currency showing at least $20 Million;
p. Machinery types and sizes to be used, including;
q. Access and egress including wet weather provisions;
r. Location of amenities, site sheds etc.; and
s. Temporary water/electricity sources.

The environmental controls outlined in the CEMP are to form part of the site induction process and daily toolbox meetings.

29. Noise Management

The PCA shall not issue any construction certificate for this development unless it is satisfied that the proposed building:

a) Includes measures that will provide satisfactory ventilation for the proposed use to operate when all external doors are closed;
a) Includes only windows that have a minimum R_w 30 glazing;
b) Includes a 2m high balustrade on the boundary of the ground floor outdoor area; and
c) Is provided with flooring with a minimum Noise Reduction Coefficient of 0.3 to all external veranda areas.

30. Tree Protection Management Plan

Prior to Council or an appointed Principal Certifier issuing a construction certificate, the Tree Protection Management Plan is required to be submitted to Council's Executive Manager Urban Centres, for written approval. The Tree Protection Management Plan must detail site specific measures to protect those trees required to be retained within close proximity of the development footprint including (T1 – Benjamina Fig - *Ficus benjamina*) and T10 (Narrow-leaved Black Peppermint - *Eucalyptus nicholii*); and in relation to T1:

- specify any proposed selective pruning works required to alleviate weight distribution and compensate for any changes in wind flow patterns; and

- develop appropriate mitigation measures to be implemented on site that adequately address perceived risks associated with T1.

31. Utility Servicing Provisions

Prior to Council or an appointed Principal Certifier issuing a construction certificate, the applicant shall obtain a letter from both the relevant electricity authority and the relevant telecommunications authority stating that satisfactory arrangements have been made to service the proposed development.

Note: The applicant should also contact the relevant water servicing authority to determine whether the development will affect the authorities water or sewer infrastructure.

32. Bin Storage Area Construction Requirements

Prior to Council or an appointed Principal Certifier issuing a construction certificate, plans are required to demonstrate the following construction requirements for the bin storage area:

i. Have a non-slip floor constructed of concrete or other approved material at least 75mm thick and provided with a ramp to the doorway (where necessary);
i. Be graded and drained to a Sydney Waste approved drainage fitting;
ii. Have coving at all wall and floor intersections
iii. Be finished with a smooth faced, non-absorbent material(s) in a light colour and capable of being easily cleaned;
iv. be provided with an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock; and
v. have a self-closing door openable from within the room.
vi. Bin storage rooms shall be ventilated by:
    - A mechanical exhaust ventilation system; or
    - Permanent, unobstructed natural ventilation openings having direct access to external air and a total area of not less than one-twentieth ($1/20^{th}$) of the floor area of the room.
vii. All bin storage rooms and service rooms shall be constructed in such a manner to prevent the entry of vermin.

33. Plan of Management

Prior to Council or an appointed Principal Certifier issuing a construction certificate, a Plan of Management is required to be submitted to the Executive Manager of Urban Centres for written approval.

The Plan of Management must detail the following:

a) Centre operations including educator and staff numbers;

a) Waste management procedures;

b) Noise Management procedure as provided in the Noise Emission Assessment, prepared by Acoustic Dynamics, dated 4 May 2020;

c) Operational Traffic and Pedestrian Management Plan as recommended in the Traffic and Parking Impact Statement, dated June 2018;

d) Security measures; and

e) Arrival and departure procedure.

34. Waste Management – Private Collection

Prior to Council or an appointed Principal Certifier, the applicant shall submit to Council details of the collection and disposal of internal waste generated by the occupants to be arranged through a licensed authorised contractor.

35. Geotechnical Report

Prior to Council or an appointed Principal Certifier issuing a construction certificate, where proposed excavation and/or filling exceed 900mm in depth, or where the subject site is identified as being filled land, a geotechnical report prepared by a NATA registered laboratory shall be submitted which indicates that the land will not be subject to subsidence, slip, slope failure or erosion.

36. Retaining Walls

Prior to Council or an appointed Principal Certifier issuing a construction certificate, the applicant shall submit to the satisfaction of the certifying authority engineering details of all the proposed retaining walls prepared by a qualified practising structural engineer. The design shall comply with all relevant Australian Standards and be certified upon completion by the structural engineer. All retaining walls (including drainage infrastructure and footings) must be wholly contained within the property boundaries.

37. Soil and Water Management Plan

Prior to Council or the appointed Principal Certifier issuing a construction certificate, a detailed soil and water management plan shall be submitted for approval.

38. Classification of Residential Lots (Development with dwelling construction)

Prior to the appointed Principal Certifier issuing a construction certificate for any dwellings approved under this consent, all proposed residential lots are to be individually classified in accordance with guidelines contained in the Australian Standard *AS 2870-1996 Residential Slabs and Footings (as amended)*.

All slabs and footings shall be designed in accordance with the relevant site classifications and recommendations resulting from a geotechnical investigation of the site. The designing structural engineer shall certify that the design of all slabs and footings is in accordance with the geotechnical investigation and soil classification for the site.

39. Stormwater Management Plan (Development)

Prior to Council or an appointed Principal Certifier issuing a construction certificate, a plan indicating all engineering details and calculations relevant to the site regrading and the collection and disposal of stormwater from the site, building/s and adjacent catchment, shall be submitted for approval.

The design shall be generally in accordance with the stormwater drainage concept plan prepared by Engineering Studio Civil & Structural drawing number C02.01 dated 29/04/2020 Rev F.

Floor levels of all buildings shall be a minimum of 150mm above the adjacent finished site levels.

All proposals shall comply with the requirements detailed in Council's *Engineering Design Guide for Development (as amended)*.

40. Traffic Management and Control Plans

Prior to Council or an appointed Principal Certifier issuing a construction certificate, the applicant shall prepare and obtain approval from an accredited person, a Traffic Management and Control Plan (TCP) in accordance with the *State Roads Authority manual "Traffic Control at Work Sites"* and *Australian Standard AS 1742.3 (as amended)*. A copy of the approved TCP shall be kept on site for the duration of the works in accordance with *Work Cover Authority* requirements. A copy shall be submitted to Council for its records.

41. Dilapidation Report

Prior to Council or an appointed Principal Certifier issuing a construction certificate, the applicant shall submit a dilapidation report for all buildings in the vicinity of the subject works and for any other infrastructure that may be affected by the works on the subject site.

42. Civil Works under S138 Road Act

Prior to Council or an appointed Principal Certifier issuing any construction certificate, a S138 Roads Act application, including payment of plan assessment and inspection fees shall be lodged with Campbelltown City Council for construction of *stormwater drainage system, vehicle crossings in St Johns Road frontage.*

Detailed engineering plans for the proposed works in St Johns Road shall be submitted to Council for approval. Details are also required to be provided for the proposed street tree plantings which must consider the sight lines to and from the site. All works shall be carried out in accordance with Roads Act approval including the stamped approved plans and Council specifications.

43. Retaining Walls

All retaining walls shall:

a) located a minimum of 450mm from adjoining allotments,

a) retaining walls outside the parameters of exempt development or the approved plans require separate a development consent,

b) retaining wall over 800mm high shall be designed by a suitably qualified, experienced and practicing structural engineer,

c) be constructed of masonry materials and not contain timber products,

d) not cause erosion, slip or subsidence to adjoining land,

e) be located wholly within the property boundary, including footings and agricultural drainage lines, and

f) upon completion, be certified by a suitably qualified, experienced and practicing structural engineer as having been constructed in accordance with the approved design.

44. Section 7.12 Contributions

Contribution
The developer must make a monetary contribution to Campbelltown City Council in the amount of $11,873.20 for the purposes of the Local Infrastructure identified in the Campbelltown Local Infrastructure Contributions Plan 2018.

Indexation
The monetary contribution is based on a proposed cost of carrying out the development of $1,187,320 (being $1,154,792.00 as determined by Estimate 2000 Pty Ltd as submitted with the development application and subsequently indexed up to and including the September 2020 CPI index). This cost (and consequently the monetary contribution) must be further indexed between the date of this consent and the date of payment in accordance with the following formula:

$$\text{Indexed development cost (\$)} = \frac{\$C_O \times \text{Current CPI}}{\text{Base CPI}}$$

Where:

- $C_O is the original development cost estimate assessed at the time of the issue of consent.
- Current CPI is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Bureau of Statistics at the time of the quarter immediately prior to the date of payment.
- Base CPI is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Bureau of Statistics at the quarter ending immediately prior to the date of imposition of the condition requiring payment of a contribution (116.8 – September 2020 Index).

Note: The contribution payable will not be less than the contribution specified in this consent.

Time for payment
The contribution must be paid prior to the release of a construction certificate for any works authorising construction above the floor level of the ground floor.

Works in kind agreement
This condition does not need to be complied with to the extent specified, if a works in kind agreement is entered into between the developer and the Council.

45. Design for Access and Mobility

Access and services for people with disabilities shall be provided to the building in accordance with the requirements of the Access to Premises Standard 2010 and the National Construction Code. Prior to Council or an appointed Principal Certifier issuing a Construction Certificate, the applicant shall demonstrate, by way of detailed design, documentation and specification, compliance with the relevant access requirements of the BCA and AS 1428 – Design for Access and Mobility.

46. Telecommunications Infrastructure

a. If the development is likely to disturb or impact upon telecommunications infrastructure, written confirmation from the service provider that they have agreed to proposed works must be submitted to the appointed Principal Certifier prior to the issue of a Construction Certificate or any works commencing, whichever occurs first; and

b. The arrangements and costs associated with any adjustment to telecommunications infrastructure shall be borne in full by the applicant/developer.

47. Sydney Water

Prior to Council or the appointed Principal Certifier issuing a construction certificate, the approved plans must be submitted to Sydney Water via the Sydney Water Tap In service, to determine whether the development will affect any Sydney Water wastewater and water mains, stormwater drains and/or easements, and if any requirements need to be met.

An approval receipt will be issued if the building plans have been approved. The approval receipt shall be submitted to the appointed Principal Certifier prior to issue of a construction certificate.

The Sydney Water Tap In service can be accessed at www.sydneywater.com.au.

48. Dial Before You Dig

Prior to Council or an appointed Principal Certifier issuing a construction certificate, the applicant is required to obtain advice from Dial Before You Dig 1100 service in accordance with the requirements of the *Electricity Supply Act 1995 (NSW)* and associated Regulations.

PRIOR TO THE COMMENCEMENT OF ANY WORKS

The following conditions of consent have been imposed to ensure that the administration and amenities relating to the proposed development comply with all relevant requirements. These conditions are to be complied with prior to the commencement of any works on site.

49. Tree Protection Measures

Prior to the commencement of any works on the land, tree protection measures must be implemented on site in accordance with *Australian Standards AS4970 - Protection of Trees on Development Sites*:

a. All compound/ stockpile, laydown, vehicle park up and amenities shall be located in cleared areas and beyond the dripline of existing trees; and

a. Prior to the commencement of any works, the area required for site access will be clearly demarcated to ensure there is no damage to native vegetation outside of the development impact zone.

50. Erosion and Sediment Control

Prior to the commencement of any works on the land, adequate/approved erosion and sediment control measures shall be fully installed/implemented.

51. Erection of Construction Sign

Prior to the commencement of any works on the land, signs must be erected in prominent positions on the site:

a. Showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours

b. Stating that unauthorised entry to the work site is prohibited

c. Pollution warning sign promoting the protection of waterways (a digital copy is provided with this consent that can be printed, laminated and affixed to the site or a corflute sign is available for free pick up at Council's administration office)

d. Stating the approved construction hours in which all works can occur

e. Showing the name, address and telephone number of the principal certifying authority for the work.

Any such signs are to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

52. Toilet on Construction Site

Prior to the commencement of any works on the land, toilet facilities are to be provided, at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out, at the rate of one toilet for every 20 persons or part thereof. Each toilet provided must be a standard flushing toilet and be connected to:

a. A public sewer, or

b. If connection to a public sewer is not practicable, to an accredited sewage management facility approved by Council, or

c. If connection to a public sewer or an accredited sewage management facility is not practicable, to some other management facility approved by Council.

53. Trade Waste

Prior to the commencement of any works on the land, a trade waste facility shall be provided on-site to store all waste pending disposal. The facility shall be screened, regularly cleaned and accessible to collection vehicles.

54. Vehicular Access during Construction

Prior to the commencement of any works on the land, a single vehicle/plant access to the site shall be provided, to minimise ground disturbance and prevent the transportation of soil onto any public road system. Single sized aggregate, 40mm or larger and placed 150mm deep, extending from the kerb and gutter to the property boundary, shall be provided as a minimum requirement.

55. Public Property

Prior to the commencement of any works on site, the applicant shall advise Council of any damage to property controlled by Council which adjoins the site including kerbs, gutters, footpaths, walkways, reserves and the like. Failure to identify existing damage may result in all damage detected after completion of the development being repaired at the applicant's expense.

56. Fencing

An appropriate fence preventing public access to the site shall be erected for the duration of construction works.

57. Structural Engineer Details

Prior to the commencement of any works, the submission to the principal certifying authority of all details prepared by a practicing structural engineer.

58. Demolition of Existing Dwelling

Prior to the commencement of any other works, the existing dwelling and all other improvements on the land shall be demolished in accordance with the conditions of this consent.

DEVELOPMENT REQUIREMENTS DURING CONSTRUCTION

The following conditions of consent have been imposed to ensure that the administration and amenities relating to the proposed development comply with all relevant requirements. These conditions are to be complied with during the construction of the development on site.

59. Construction Work Hours

All work on site shall only occur between the following hours:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 5.00pm
Sunday and public holidays	No Work.

60. Erosion and Sediment Control

Erosion and sediment control measures shall be provided and maintained throughout the construction period in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook)*, the approved plans, Council specifications and to the satisfaction of the principal certifying authority. The erosion and sediment control devices shall remain in place until the site has been stabilised and fully revegetated.

Note: On the spot penalties up to $1,500 will be issued for any non-compliance with this requirement without any further notification or warning.

61. Work Zones

All loading, unloading and other activities undertaken during construction shall be accommodated on the development site.

Where it is not practical to load, unload or undertake specific activities on the site during construction, the provision of a 'Work Zone' external to the site may be approved by Council following an application being submitted to Council's Traffic Unit outlining the proposal for the work zone. The application is required to be made prior to the commencement of any works and is to include a suitable 'Traffic / Pedestrian Management and Control Plan' for the area of the work zone that will be affected. All costs of approved traffic / pedestrian control measures, including relevant fees, shall be borne by the applicant.

62. Excavation and Backfilling

All excavations and backfilling associated with the approved works must be executed safely and in accordance with appropriate professional standards. All excavations must be properly guarded and protected to prevent them from being dangerous to life or property.

If an excavation associated with the approved works extends below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation to be made:

a. Must preserve and protect the building from damage; and

b. If necessary, must underpin and support the building in an approved manner, and

c. Must, at least seven (7) days before excavating below the level of the base of the footings of a building on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars of the excavation to the owner of the building being erected or demolished.

The owner of the adjoining allotment of land is not liable for any part of the cost of work carried out, whether carried out on the allotment of land being excavated or on the adjoining allotment of land.

63. Fill Compaction Requirements

Any filling carried out on the site shall be compacted to a minimum dry density of 98% Standard Compaction. Density testing, which is to be certified by a qualified geotechnical engineer, shall be undertaken for every 300mm rise in vertical height, with test locations being selected randomly across the site. At least 1 test shall be taken for every 500m^2 of the filled area (minimum 1 test per 300mm layer).

64. Fill Contamination

Any landfill used on the site is to be validated in accordance with the *Environment Protection Authority's* guidelines for consultants reporting on contaminated sites. The validation report shall state in an end statement that the fill material is suitable for the proposed use on the land.

65. Dust Nuisance

Measures shall be implemented to minimise wind erosion and dust nuisance in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook)*. Construction areas shall be treated/regularly watered to the satisfaction of the principal certifying authority.

66. Certification of Location of Building during Construction

Prior to the positioning of wall panels/ bricks or block work, the applicant shall submit to the appointed Principal Certifier a qualified practicing surveyor's certificate showing the boundaries of the allotment, distances of walls and footings from the boundaries, and the dimensions of the building.

67. Certification of Location of Building upon Completion

Upon completion of the building, the applicant shall submit to the appointed Principal Certifier a qualified practicing surveyors certificate showing the boundaries of the allotment, distances of walls and footings from boundaries.

68. Certification of Levels of Building during Construction

Prior to the placement of any concrete of the basement/ground floor slab, the applicant shall submit to the appointed Principal certifier a qualified practicing surveyor's certificate showing that the formwork levels are in accordance with the approved plan.

69. Excess Material

All excess material is to be removed from the site. The spreading of excess material or stockpiling on site will not be permitted without prior written consent from Council.

70. Earth Works/Filling Works

All earthworks, including stripping, filling, and compaction shall be:

a. Undertaken in accordance with Council's *'Specification for Construction of Subdivisional Roads and Drainage Works' (as amended), AS 3798 'Guidelines for Earthworks for Commercial and Residential Development' (as amended)*, and approved construction drawings;

b. Supervised, monitored, inspected, tested and reported in accordance with *AS 3798 Appendix B 2(a) Level 1 and Appendix C* by a NATA registered laboratory appointed by the applicant. Two collated copies of the report and fill plan shall be forwarded to Council; and

c. Certified by the laboratory upon completion as complying, so far as it has been able to determine, with Council's specification and *AS 3798*.

71. Public Safety

Any works undertaken in a public place are to be maintained in a safe condition at all times in accordance with Australian Standard *AS 1742.3*. Council may at any time and without prior notification make safe any such works that are considered to be unsafe and recover all reasonable costs incurred, from the applicant.

72. Compliance with Council Specification

All design and construction work shall be in accordance with:

a. Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended);*

b. Council's *Engineering Design Guide for Development (as amended);*

c. Council's *Campbelltown (Sustainable City) DCP (as amended);*

d. *Soils and Construction (2004) (Bluebook*); and

e. Relevant Australian Standards and State Government publications.

73. Footpath Kerb and Gutter (Public Verge Area, Kerb and Gutter)

The applicant shall re-construct all damaged bays of concrete path paving and kerb & gutter, adjacent to the site, in St Johns Road. Areas not concreted shall be re-graded, topsoiled and turfed. All works shall be in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended) and Engineering Design Guide for Development (as amended).*

74. Commercial Footpath Crossing and Layback

The applicant shall provide a reinforced concrete footpath crossing and layback at the entrance to the property, in accordance with Council's *Industrial/Commercial Vehicle Crossing Specification* and *Engineering Design Guide for Development (as amended).*

A separate application for this work, which will be subject to a crossing inspection fee and inspections by Council, must be lodged with Council prior to pouring the concrete. Where necessary, conduits shall be provided under the footpath crossing, in accordance with the relevant service authority's requirements.

75. Associated Works

The applicant shall undertake any works external to the development, that are made necessary by the development, including additional road and drainage works or any other civil works directed by Council, to make a smooth junction with existing work.

76. Redundant Laybacks

All redundant laybacks shall be reinstated as conventional kerb and gutter, in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended)* and *Engineering Design Guide for Development (as amended).*

77. Demolition Work/Plan

All work shall be completed in accordance with the approved demolition work plan designed in accordance with clause 1.7.3 of *Australian Standard A52601-2001 The Demolition of Structures.*

78. Completion of Construction Works

Unless otherwise specified in this consent, all construction works associated with the approved development shall be completed within 12 months of the date of the notice of the intention to commence construction works under Section 81A of the Act.

In the event that construction works are not continually ongoing, the applicant shall appropriately screen the construction site from public view with architectural devices and landscaping to Council's written satisfaction.

79. Imported 'waste-derived' fill material

The only waste-derived fill material that may be received at the development site is:

a) virgin excavated natural material (within the meaning of the Protection of the Environment Operations Act 1997); and

b) any other waste-derived material the subject of a resource recovery exemption under cl.51A of the Protection of the Environment Operations (Waste) Regulation 2005 that is permitted to be used as fill material.

Any waste-derived material the subject of resource recovery exemption received at the development site must be accompanied by documentation as to the material's compliance with the exemption conditions and must be provided to the Principal Certifying Authority on request.

PRIOR TO THE ISSUE OF AN OCCUPATION CERTIFICATE

The following conditions of consent must be complied with prior to the issue of an occupation certificate by the appointed Principal Certifier. All necessary information to comply with the following conditions of consent must be submitted with the application for an occupation certificate.

80. Site Audit

Prior to the issue of an occupation certificate under this consent, a category A1 site audit statement issued under the Contaminated Land Management Act, 1997, certifying that the land is suitable for the proposed childcare centre, shall be provided to the certifier.

81. Noise Management

(a) All mechanical plant items are to be specified (or otherwise acoustically treated) to ensure that they collectively do not exceed a sound power level of 74 dB(A). Certification of compliance with this condition by a suitably qualified acoustic consultant is to be provided to the PCA prior to the issue of any Occupation Certificate for this development.

(b) The PCA shall not issue any occupation certificate for this development unless it is satisfied that the building includes:
   i. Measures that will provide satisfactory ventilation for the proposed use to operate when all external doors are closed;
   i. Only windows that have a minimum Rw 30 glazing;
   ii. A 2m high balustrade on the boundary of the ground floor outdoor area; and
   iii. Flooring with a minimum Noise Reduction Coefficient of 0.3 to all external veranda areas
   iv. Self closing mechanisms to all external doors

(c) The PCA shall not issue any occupation certificate for this development unless it is satisfied that a 3.1m acoustic wall (comprising a 2.1m vertical wall with a

1m high by 1m deep cantilevered transparent acoustic panel) has been provided around the perimeter of the site in the locations specified on the Roof Plan prepared by RFA Architects Pty Ltd, pro. no. 18007, dwg no A2001, Revision D, dated 4 May 2020. The subject wall is to be constructed from a double layer Colorbond (Custom Blue Orb or Equivalent) barriers.

(d) The PCA shall not issue any occupation certificate for this development unless it is satisfied that a 1.2 m acoustic wall has been provided around the perimeter of the carpark in the locations specified on the Roof Plan prepared by RFA Architects Pty Ltd, pro. no. 18007, dwg no A2001, Revision D, dated 4 May 2020.

(e) The PCA shall not issue any occupation certificate for this development unless it is satisfied that noise advisory signage has been provided at the entry to the childcare centre in accordance with the following requirements:
   v. Minimum dimensions of 20x30cm
   vi. Contain the text "Please be considerate of our neighbours and keep noise to a minimum" in red on a white background
   vii. All text to have a minimum height of 1.5cm and be in one of the following fonts:
      1. Arial
      2. Calibri
      3. Helvetica
      4. Tahoma
      5. Veranda
   viii. Be clearly visible to persons entering the centre

82. Section 73 Certificate

Prior to the appointed Principal Certifier issuing an occupation certificate (or subdivision certificate, whichever shall occur first), a Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. Early application for the certificate is suggested as this can also impact on other services and building, driveway or landscape design.

Application must be made through an authorised Water Servicing Coordinator.

For help either visit www.sydneywater.com.au > Building and developing > Developing your Land > Water Servicing Coordinator or telephone 13 20 92.

The Section 73 Certificate must be submitted to the appointed Principal Certifier prior to the issue of an occupation certificate.

83. Structural Engineering Certificate

Prior to the appointed Principal Certifier issuing an occupation certificate, the submission of a certificate from a practising structural engineer certifying that the building has been erected in compliance with the approved structural drawings, the relevant Standards Association of Australia Codes and is structurally adequate.

84. Waste Servicing Agreement

Prior to Council or an appointed Principal Certifier issuing an occupation certificate, the applicant must provide, to the appointed principal certifier, with a copy to the Campbelltown City Council's Waste Coordinator, a letter from an appropriately

licenced contractor/s confirming that the contractor/s has been engaged to service the development for the purpose of collecting general waste and recycling from the kerbside.

85. Evacuation Plan

Prior to the issue of an occupation certificate for the child care centre, an evacuation plan complying with AS3745 must be prepared and implemented. The emergency evacuation should consider:

a) The mobility of children and how this is to be accommodated during an evacuation;

a) The location of a safe congregation area, away from the evacuated building, busy roads, other hazards and the evacuation points of other residents or tenants within the building or surrounding buildings;

b) Where the Child Care Centre is part of a larger building or complex, that the emergency evacuation plan is complementary and consistent with other emergency evacuation plans in place; and

c) The supervision of children during the evacuation and at the safe congregation area with regard to the capacity of the Child Care Centre and the child/staff ratios.

d) Centres which accommodate children under 2 years of age are to have a large mobile cot (on wheels) so groups of babies can be quickly evacuated.

86. Completion of External Works Onsite

Prior to the appointed Principal Certifier issuing an occupation certificate, all external works, repairs and renovations detailed in the schedule of treatment/finishes, landscaping, driveways, fencing and retaining walls to be completed to the satisfaction of the principal certifying authority.

87. Final Inspection – Works as Executed Plans

Prior to the principal certifying authority issuing an occupation certificate, the applicant shall submit to Council a copy of a work as executed plan, certified by a qualified surveyor, which has been prepared in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended)* and *Engineering Design Guide for Development (as amended).*

88. Restoration of Public Roads

Prior to the appointed Principal Certifier issuing an occupation certificate, the restoration of public road and associated works required as a result of the development shall be carried out by Council and all costs shall be paid by the applicant.

89. Public Utilities

Prior to the appointed Principal Certifier issuing an occupation certificate, any adjustments to public utilities, required as a result of the development, shall be completed to the satisfaction of the relevant authority and at the applicant's expense.

90. Compliance Certificate

All the works on public area in relation to the development shall be completed as per the Council approved plans. A compliance certificate, approving the works, shall be obtained from Council prior to the principal certifying authority issuing an occupation certificate.

91. Council Fees and Charges

Prior to the appointed Principal Certifier issuing an occupation certificate, the applicant shall obtain written confirmation from Council that all applicable Council fees and charges associated with the development have been paid in full. Written confirmation will be provided to the applicant following Council's final inspection and satisfactory clearance of the public area adjacent the site.

92. Advance Warning Signage - Childcare Centre

Prior to the appointed Principal Certifier issuing an Occupation Certificate, approved "Childcare Centre" warning signs shall be erected along the approach roads to the proposed development. In this regard, the applicant shall liaise with Council's Traffic Engineer to determine the specific locations and the relevant wording of the signs, prior to the preparation of a detailed signage and line-marking plan.

93. Food Premises Fit-Out Inspection

Prior to the release of the occupation certificate, Council's Environmental Health Officer is to be contacted on (02) 4645 4604 to undertake an inspection of the premises to confirm compliance with this Consent, the *Food Act 2003, Food Regulation 2015*, Food Standards Code Australia and New Zealand and AS 4674-2004.

FOOD CONSTRUCTION CONDITIONS

The following conditions have been applied to ensure that all construction and fit-out of the food premises complies with the *Food Act 2003, Food Regulation 2015* Food Standards Code Australia and New Zealand and Australian Standard 4674-2004: Design, construction and fit-out of food premises.

94. Construction

The construction, fit-out and finishes of the food premises must be constructed in accordance with the *Food Act 2003*, *Food Regulation 2010*, Food Standards Code Australia and New Zealand and Australian Standard 4674-2004 Design, construction and fit-out of food premises.

95. Food Premises Fit-Out Pre-Construction Meeting and Inspection

Prior to any construction work commencing on the fit-out of the food premises, the applicant/builder/private certifier must contact Council's Environmental Health Officers on (02) 4645 4604 to arrange an onsite meeting to discuss the requirements of the fit out under this Consent.

Prior to the release of the occupation certificate, Council's Environmental Health Officer is to be contacted on (02) 4645 4604 to undertake an inspection of the premises to confirm compliance with this Consent, the *Food Act 2003, Food Regulation 2010*, Food Standards Code Australia and New Zealand and AS 4674-2004.

96. Registration

The premise is required to be registered with Council. Regular inspections will be carried out to ensure health standards are maintained. A business registration form is available on Council's website and must be completed and submitted to Council prior to the operation of the food business commencing (Food Safety Standard 3.2.2).

97. Floor Construction

The floor construction within the food preparation area/s must be finished to a smooth, even non-slip surface, graded and drained to a floor waste (AS 4674-2004, Section 3.1).

98. Coving

Feather edge skirting and non-rebated coving is not permitted. Recessed coving must be provided at all intersections of the floor with the walls/plinths within all food preparation, service and storage areas. All coving must:

a. Have a minimum concave radius of 25mm; or
b. Be tiled 50mm minimum in width and splayed at 45°.

The coving must be installed so as to be integral to the surface finish of both floor and wall in such a manner as to form a continuous, uninterrupted surface in accordance with Figure 3.1 and 3.2 of the Australian Standard (AS 4674-2004, Section 3.1.5).

99. Penetrations/Service Lines

INTEGRAL PENETRATIONS/SERVICE LINES - All service pipes, conduits and electrical wiring must be concealed in the floor, walls, plinths or ceiling (AS 4674-2004, Section 3.2.9).

EXTERNAL PENETRATIONS/SERVICE LINES - External service pipes and electrical conduit must be fixed on brackets so to provide at least 25mm clearance between the pipe and adjacent vertical surface and 100mm between the pipe or conduit and adjacent horizontal surfaces. Service pipes and electrical wiring must not be placed in the recessed toe space of plinths or of any equipment (AS 4674-2004, Section 3.2.9).

100. Wall Requirements

Cavity walls are not permitted. All walls in the food premises, including all new and existing partition walls, must be of solid construction and finished to a smooth, impervious surface that can be easily cleaned, as specified in Table 3.2 of AS 4674-2004. The finishing materials of the wall surfaces must provide an even surface, free of fixing screws, open joint spaces, cracks or crevices (AS 4674-2004, Section 3.2).

101. Window Sills

Window sills located within a food preparation area or food service area must be located 450mm above the top of any bench or sink and tiled at a splayed angle of 45°.

102. Ceiling Construction

Drop-in panel style ceilings are not permitted in food preparation areas or over areas where open food is displayed, handled or served. The ceiling in the food premises must be constructed with a rigid, non-absorbent, smooth faced material free from open joints, cracks and crevices and be painted with a light coloured washable paint. The intersection of the walls and ceiling must be tight-jointed, sealed and dust proofed (AS 4674-2004, Section 3.2).

103. Light Fittings

All fluorescent light fittings must be fitted with a smooth faced diffuser. The light fittings must be either:

a. Recessed so that the diffuser is flush with ceiling; or
b. Designed to ensure that no horizontal surface exists which would allow dust and grease to accumulate (AS 4674-2004, Section 2.6.2).

104. Hand Wash Basins

Hand wash basins must be provided in all parts of the premises where open food is handled and in utensil/equipment washing areas. The hand wash basin is to be located and installed in such a way that they are not obstructed, are at bench height either permanently fixed to a wall, to a supporting frame or set in a bench top and is accessible from no further than 5 metres away from any place where food handlers are handling open food (AS 4674-2004, Section 4.4).

The hand wash basin is to have a permanent supply of warm running potable water mixed to a temperature of at least 40°C and delivered through a single outlet. Disposable paper hand towels and soap must be provided and serviced from a dispenser adjacent to the hand wash basin. A waste receptacle for used towels must be provided (AS 4674-2004, Section 4.4).

105. Dishwashing Machines

The dishwashing/glass washing machine must be designed and able to operate in accordance with AS 4674-2004 and the Food Standards Code. All utensils and equipment must undergo a washing, sanitising and rinsing cycle. The sanitising rinse cycle must achieve a water temperature of 80°C for two minutes or 75°C for 10 minutes (AS 4674-2004, Section 4.1.6).

Appropriate ventilation must be provided over the dishwashing system and be designed and installed in accordance with Australian Standard 1668.2-2012: The use of ventilation and air conditioning in buildings - Part 2: Mechanical ventilation in buildings.

106. Equipment Wash Sinks

A double bowl wash sink must be installed and serviced with hot and cold water through a single outlet (AS4674-2004 – Section 4.1). The double bowl sink is in addition to the hand wash basin.
or
A triple bowl sink must be installed and serviced with hot and cold water through a single outlet where rinsing is required before or after sanitising e.g. wash, rinse,

sanitise procedure or wash, rinse/sanitise, rinse procedure (AS 4674-2004, Section 4.1).

107. Cleaner's Sink

A cleaner's sink is to be installed in a location outside of the food preparation area and must be serviced with hot and cold water through taps fitted with hose connectors. (AS 4674-2004, Section 4.1.8).

108. Fittings and Fixtures

All fixtures, fittings and equipment must be provided with smooth and impervious surfaces, free from cracks and crevices to enable easy cleaning (AS 4674-2004, Section 4).

All fittings and fixtures must be built into the wall and floor so to be free from joints, gaps and cavities to enable easy cleaning or alternatively, supported on one of the following in accordance with Table 4.5 of AS 4674-2004:

- Plinths must be an integral part of the floor, constructed of solid materials similar to the floor at least 75mm in height and coved at the intersection with the floor. All plinths must have a smooth and impervious finish. All fittings and fixtures must be properly sealed to the plinth so to be free from gaps, cracks and cavities.

- Fittings and fixtures can be supported on wheels or castors. The wheels and castors must be capable of supporting and easily moving a full loaded fitting. All wheels and castors must be provided with a restraining device.

- Fittings and fixtures can be supported on legs but must be constructed of non-corrosive, smooth metal or moulded plastic. All legs must be free from cracks and crevices. All legs must have a clearance space between the floor and the underside of the fitting of at least 150mm.

False bottoms under fittings are not permitted (AS 4674-2004, Sections 4.2 and 4.3).

109. Food Preparation Benches

All food preparation benches must be constructed of stainless steel. All food contact surfaces are to be smooth, continuous and flush so as to avoid any exposed screw fixtures.

110. Benches

The top and exposed edges of all benches and counters must be finished in a smooth and non-absorbent material, free of joints, cracks and crevices (AS 4674-2004, Section 4.2).

111. Storage Cabinets/Cupboards

All storage cabinets/cupboards (internal and external surfaces) must be finished in a smooth and non-absorbent material that is free of joints (AS 4674-2004, Section 4.2).

112. Shelving

All shelving must be located at least 25mm off the wall or alternatively, the intersection of the shelf and the wall is to be completely sealed. All shelving must be constructed at least 150mm from the floor level (AS 4674-2004, Section 4.2).

113. Pest Protection

Flyscreens and/or other approved means of excluding the entry of pests must be provided to all window and door openings in accordance with Section 2.1.5 of AS 4674-2004.

Where pipe work, drains, cables and ducts penetrate walls, ceilings and roofs, holes must be sealed, filled and finished to prevent the entry of pests.

Spaces between adjoining structures, such as between cool room walls and premises walls, must be accessible for inspection and cleaning or sealed with a suitable compound so that they are inaccessible to pests. Spaces between the top surface of equipment or structures, such as cool rooms, must be accessible for inspection and cleaning or sealed/boxed in so that they are inaccessible to pests.

114. Toilet Facilities and Hand Basins

A toilet for staff must be provided for the premises. The toilet cubicle must be separated from areas where open food is handled, displayed or stored by one of the following:

a. An intervening ventilated space fitted with self-closing doors; or
b. Self-closing doors and mechanical exhaust systems that operate when the sanitary compartment is in use for at least 30 seconds after the cubicle is vacated (AS 4674-2004, Section 5.2).

Toilets intended for customer use must not be accessed through areas where open food is handled, displayed or stored

A hand basin must be located within the toilet cubicle. The basin must be freestanding, serviced with hot and cold water through a single outlet, able to be mixed to a temperature of at least 40°C and fitted with a hands-off type tap set (AS 4674-2004, Section 4.4). The basin must be provided with soap and disposable paper towels from a dispenser.

115. Locker Storage for Staff Belongings and Equipment

Sufficient lockers must be provided in the food preparation area or store room specifically for the storage of cleaning materials, employees' clothing and personal belongings (AS 4674-2004, Section 5.1).

116. Hot Water Service

The hot water service must be positioned at least 75mm clear of the adjacent wall surfaces, and mounted at a minimum 150mm above the floor level on a non-corrosive metal stand. The hot water system must be of adequate size to enable a sufficient amount of hot water to all washing facilities throughout the working day (AS 4674-2004, Section 4.3).

117. Construction of the Waste Storage Areas and Rooms

The waste storage area/room must be provided with smooth and impervious surfaces (walls and floors) and coved at the intersection of the floor and walls. Floor areas must be graded and drained to a floor waste gully connected to the sewer. Waste storage rooms must be well ventilated and proofed against pests. The area or room must be provided with water service hose connectors to enable easy cleaning.

Open waste storage areas must be appropriately covered and bunded to avoid stormwater entering the sewer. The ground areas must be paved with impervious material and must be graded and drained to a waste water disposal system according to Sydney Water's requirements. A hose tap connected to a water supply must be provided (AS 4674-2004, Section 2.4).

118. Waste and Recycling Storage, Collection and Disposal

The business operator must enter into a commercial waste contract agreement for regular waste and recycling collection and disposal with a suitably licensed contractor. A copy of the waste agreement must be available for inspection upon request by Council.

All waste and recycling generated from the business are to be kept within an appropriate storage receptacle on the premises. Waste is not to be stored or placed outside of a waste storage receptacle or in such a manner that it will become a litter, odour or health nuisance.

Waste bins that are placed out on a public place for collection must only be placed out for collection on the day of the collection after 6.00pm and must be removed by 8.00am the following day. Any residual waste left on the public place as a result of bin placement must be removed within undue delay by the food business operator.

119. Grease Arrestors

All grease arrestors must be located outside of where food and equipment is handled or stored. Access to grease arrestors for emptying must not be through an area where open food is handled or stored or where food contact equipment and packaging materials are handled or stored (AS 4674-2004, Section 2.3).

Documentation supplied by Sydney Water regarding evidence of the trade waste agreement must be provided to the certifying authority prior to issue of an Occupation Certificate.

Please contact Sydney Water for information and requirements for grease arrestors by calling 13 20 92.

120. Food Preparation Sink

A food preparation sink is required where foods are prepared by immersion in water including for cleaning fruit or vegetables. All food preparation sinks must be used only for the preparation and cleaning of food. The sink is in addition to the hand basin and equipment wash sinks (AS 4674-2004, Section 4.1).

121. Store Room

The storeroom must be constructed in accordance with AS 4674-2004 by providing the following:

a. A smooth, even and non-slip floor surface
b. Walls must be provided with a smooth, even surface and painted with a light coloured washable paint to enable easy cleaning in accordance with Table 3.2 of AS 4674-2004
c. The ceiling must be constructed with a rigid, non-absorbent, smooth faced material free from open joints, cracks and crevices and be painted with a light coloured washable paint. The intersections of the walls and ceiling must be tight-jointed, sealed and dustproof (AS 4674-2004, Section 3.2)
d. Shelving or storage racks must be designed and constructed to enable easy cleaning
e. Appropriate ventilation must be provided (ducted to the external air) within the store room to allow for the escape of heat and odour that can be produced from refrigeration and freezer motor units.

ADVISORY NOTES

The following information is provided for your assistance to ensure compliance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000, other relevant Council Policy/s and other relevant requirements. This information does not form part of the conditions of development consent pursuant to Section 4.17 of the Act.

Advice 1. Environmental Planning and Assessment Act 1979 Requirements

The Environmental Planning and Assessment Act 1979 requires you to:

a. Obtain a construction certificate prior to the commencement of any works. Enquiries regarding the issue of a construction certificate can be made to Council's Customer Service Centre on 4645 4000.

b. Nominate a Principal Certifier and notify Council of that appointment prior to the commencement of any works.

c. Give Council at least two days notice prior to the commencement of any works.

d. Have mandatory inspections of nominated stages of the construction inspected.

e. Obtain an occupation certificate before occupying any building or commencing the use of the land.

Advice 2. Provision of Equitable Access

Nothing in this consent is to be taken to imply that the development meets the requirements of the *Disability Discrimination Act 1992* (DDA1992) or *Disability (Access to Premises – Buildings) Standards 2010* (Premises Standards).

Where a Construction Certificate is required for the approved works, due regard is to be given to the requirements of the *Building Code of Australia* (BCA) & the Premises Standards. In this regard it is the sole responsibility of the certifier, building developer and building manager to ensure compliance with the Premises Standards.

Where no building works are proposed and a Construction Certificate is not required, it is the sole responsibility of the applicant and building owner to ensure compliance with the DDA1992.

Advice 3. Filling on Site

Council's records in respect of this lot indicate that varying depths of filling covers the natural ground surface.

Advice 4. Covenants

The land upon which the subject building is to be constructed may be affected by restrictive covenants. Council issues this approval without enquiry as to whether any restrictive covenant affecting the land would be breached by the construction of the building, the subject of this permit. Persons to whom this permit is issued must rely on their own enquiries as to whether or not the building breaches any such covenant.

Advice 5. Inspections – Civil Works

Where Council is nominated as the principal certifying authority for civil works, the following stages of construction shall be inspected by Council.

a. EROSION AND SEDIMENT CONTROL –
    i. Direction/confirmation of required measures.
    i. After installation and prior to commencement of earthworks.
    ii. As necessary until completion of work.
a. STORMWATER PIPES – Laid, jointed and prior to backfill.
b. VEHICLE CROSSINGS AND LAYBACKS – Prior to pouring concrete.
c. FINAL INSPECTION – All outstanding work.

Advice 6. Inspection within Public Areas

All works within public areas are required to be inspected at all stages of construction and approved by Council prior to the principal certifying authority releasing the Occupation Certificate.

Advice 7. Adjustment to Public Utilities

Adjustment to any public utilities necessitated by the development, is required to be completed prior to the occupation of the premises and in accordance with the requirements of the relevant Authority. Any costs associated with these adjustments are to be borne by the applicant.

Advice 8. Asbestos Warning

Should asbestos or asbestos products be encountered during construction or demolition works you are advised to seek advice and information prior to disturbing the material. It is recommended that a contractor holding an asbestos-handling permit (issued by Work Cover NSW), be engaged to manage the proper disposal and handling of the material. Further information regarding the safe handling and removal of asbestos can be found at:

www.environment.nsw.gov.au
www.nsw.gov.au/fibro
www.adfa.org.au
www.workcover.nsw.gov.au

Alternatively, call Work Cover Asbestos and Demolition Team on 8260 5885.

Advice 9. Smoke Free Environment Act

Nothing in this consent is to be taken to imply that the development meets the requirements of the *Smoke Free Environment Act* 2000 (SFEA2000) or the *Smoke Free Environment Regulations* 2007 (SFER2007). In the event that the occupier wishes to facilitate smoking within any enclosed public place of the premises (in accordance with clause 6 of the SFER2007), the occupier must first contact NSW Department of Health to ensure that the design and construction of the area proposed to facilitate smoking fully complies with the requirements of the SFEA2000 and the SFER2007.

Advice 10. Dial before you Dig

Underground assets may exist in the area that is subject to your application. In the interests of health and safety and in order to protect damage to third party assets please contact Dial before you dig at www.1100.com.au or telephone on 1100 before excavating or erecting structures (This is the law in NSW). If alterations are required to the configuration, size, form or design of the development upon contacting the Dial before you dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via contacting the Dial before you dig service in advance of any construction or planning activities.

Advice 11. Telecommunications Act 1997 (Commonwealth)

Telstra (and its authorised contractors) are the only companies that are permitted to conduct works on Telstra's network and assets. Any persons interfering with a facility or installation owned by Telstra is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution.

Furthermore, damage to Telstra's infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may affect or impact on Telstra's assets in any way, you are required to contact: Telstra's Network Integrity Team on phone number 1800 810 443.

END OF CONDITIONS

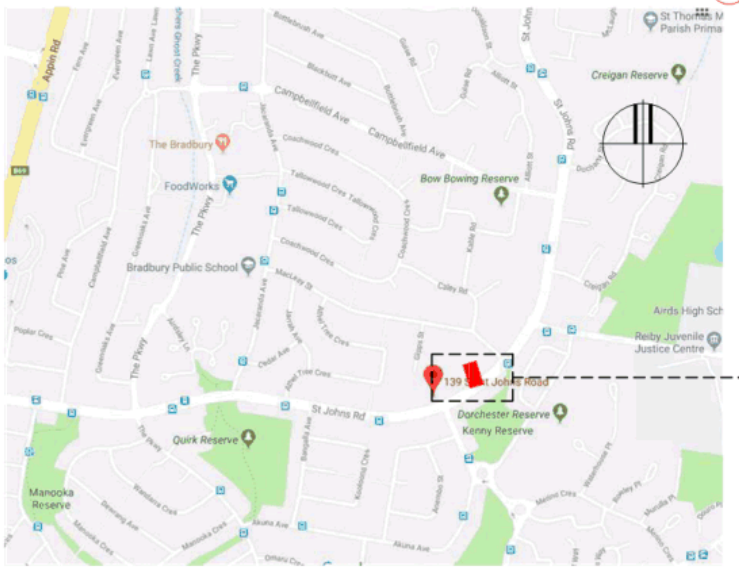
ATTACHMENT 2 – Site Plan

development application for new childcare centre

139 st johns road, bradbury NSW

ARCHITECTURAL DOCUMENTATION
PROPOSED DEVELOPMENT APPLICATION

DRAWING LIST			29/06/18	27/03/19	20/09/19	24/04/20	OCT 2020
A0000	title page / site plan / calculations	NTS	A	B	C	D	E
A1000	site survey	1:200	A	B	C	D	
A1001	site analysis plan	1:200	A	-	-	-	
A1002	shadow diagrams	NTS	A	-	-	-	
A1002a	summer shadow diagram	1:500		B	C	D	
A1002b	winter shadow diagram	1:500		B	C	D	
A1003	streetscape analysis	NTS	A	B	C	D	
A1004	internal solar diagram ground	1:200	-	-	C	C	
A1005	internal solar diagram lower ground	1:200	-	-	C	C	
A2000	demolition plan	1:200		B	C	-	
A2001	roof plan	1:200	A	B	C	D	E
A2002	ground floor plan	1:200	A	B	C	D	E
A2003	lower ground floor plan	1:200	A	B	C	D	E
A3001	south and north elevation	1:200	A	B	C	D	
A3001a	south/north elevation w/ bdy fence	1:200	-	-	C	D	
A3002	east and west elevation	1:200	A	B	C	D	E
A3002a	east/west elevation w/ bdy fence	1:200	-	-	C	D	E
A3003	material study	NTS	A	B	C	-	
A4001	section	1:200	A	B	C	D	
	evacuation plan - ground floor	1:500	A	B	C	-	
	evacuation plan - lower ground	1:500	A	B	C	-	



St Johns Childcare Centre Calculations

	code	0-2yrs	2 - 3 yrs	3yr +	OSHC	Total	
Children		0	15	30	0	**45**	**children**
staff/child ratio		1/4	1/5	1/10	1/15		
Staff req		0	3	3	0	**6**	**staff**
indoor space	3.25	0	48.75	97.5	0	**146.25**	**sqm**
oudoor space	7	0	105	210	0	**315**	**sqm**
toilets	1/15	0	1	2	0	3	
handbasins	1/15	0	1	2	0	3	
Carparking (staff)	Required	0				0	1a space
Carparking (visitors)	Required	1/4				12	3a Space
Total required carparking						12	spaces

SITE SUBJECT

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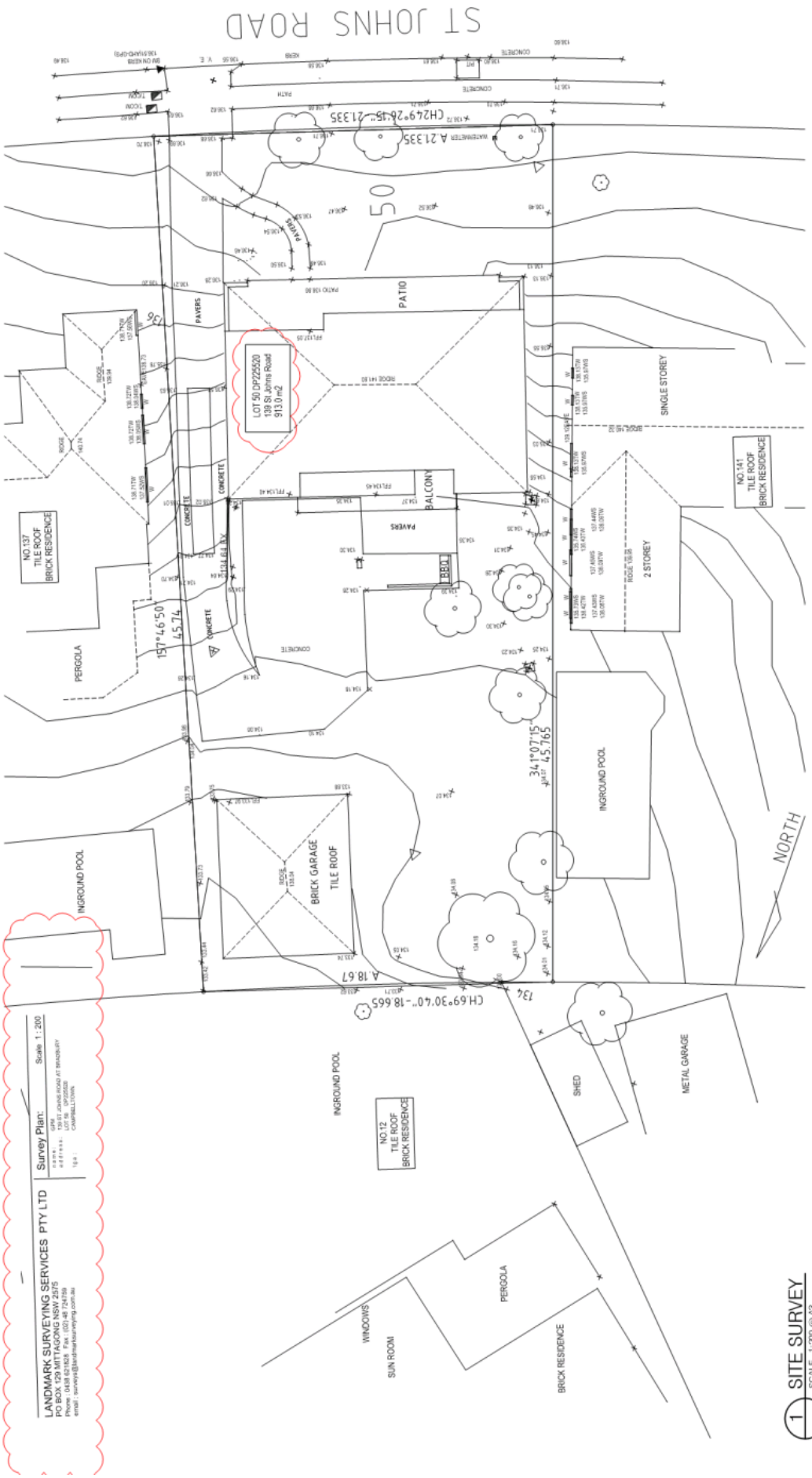
revision:

D	04.05.20	DA QUERIES
C	20.09.19	DA QUERIES
B	27.03.19	DA QUERIES
A	29.06.18	DA ISSUE



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project: new childcare centre
139 St Johns Road
Bradbury NSW

client: Brightest Start Early Learning Centre

drawing: site survey - existing

pro. no. : 18007
date: 27/05/19
scale: 1:200@a3
issue: D
dwg no. : A1000

rfa architects

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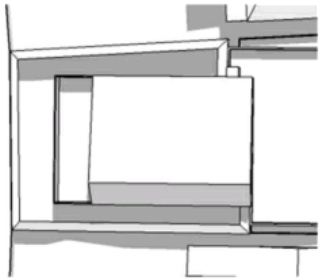

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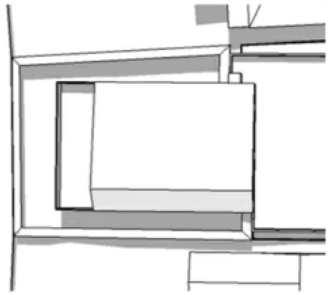

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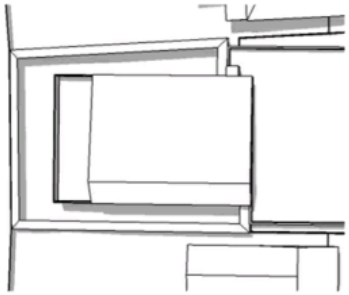

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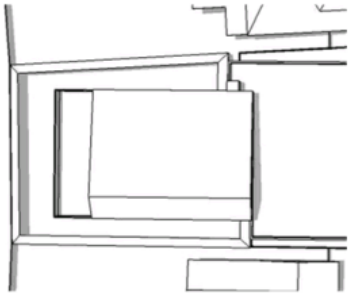

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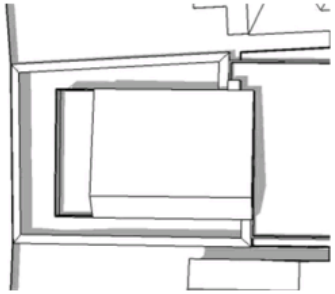

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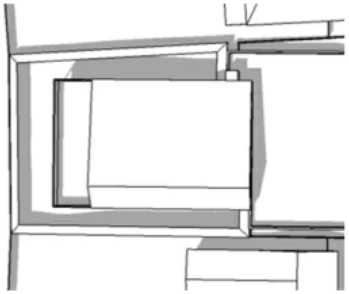

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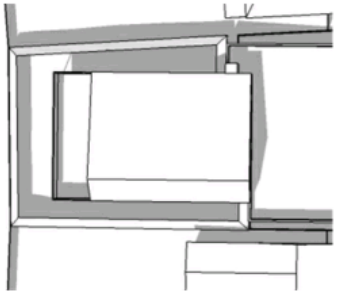

3PM

Playspace Solar Access - Summer

Total Outdoor Play Area (OPA) = 333m2

	Play Area in Direct Sunlight (m2)	% of Total OPA in Direct Sunlight
9am	106.97	32.1
10am	133.59	40.1
11am	164.46	49.4
12pm	186.52	56.0
1pm	169.80	50.9
2pm	141.86	42.6
3pm	122.89	36.9

LEGEND

Shadows after proposed alterations

SUMMER SOLSTICE | 22ND DECEMBER

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D	04.05.20	DA QUERIES
C	20.09.19	DA QUERIES
B	27.03.19	DA QUERIES
A	29.06.18	DA ISSUE

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client: Brightest Start Early Learning Centre
drawing: summer shadow diagrams

pro. no. : 18007
date: 27/03/19
scale: 1:500 @ A3
issue: D
dwg no. : A1002a

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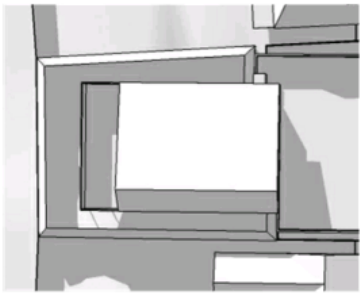

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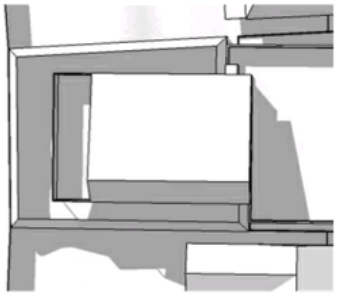

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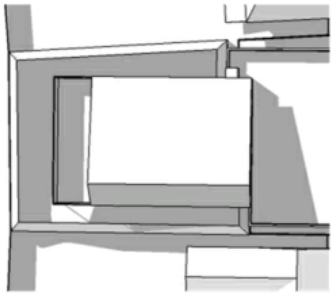

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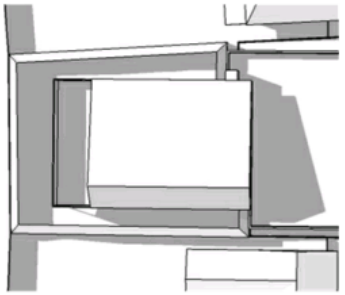

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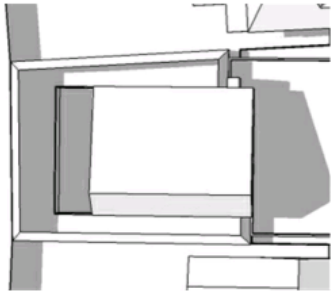

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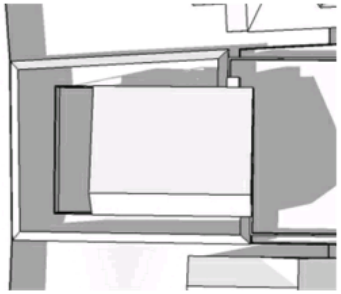

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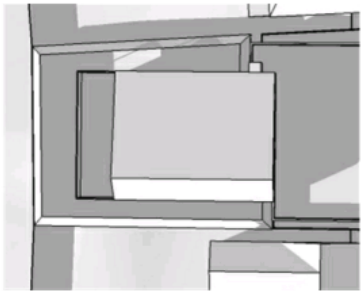

3PM

Playspace Solar Access - Winter

Total Outdoor Play Area (OPA) = 333m2

	Play Area in Direct Sunlight (m2)	% of Total OPA in Direct Sunlight
9am	96.42	28.95
10am	117.62	35.3
11am	129.52	378.89
12pm	152.25	45.7
1pm	178.58	53.63
2pm	130.18	39.09
3pm	59.57	17.89

LEGEND

Shadows after proposed alterations

WINTER EQUINOX | 22ND JUNE

preliminary only. not for construction.

Ensure all drawings are printed or copied in colour.
All dimensions to be checked on site. Any discrepancies to be referred to architect prior to proceeding. Use written dimensions only, do not scale from drawing.

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139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: winter shadow diagrams

pro. no. : 18007
date: 27/03/19
scale: 1:500 @ A3
issue: D
dwg no. : A1002b

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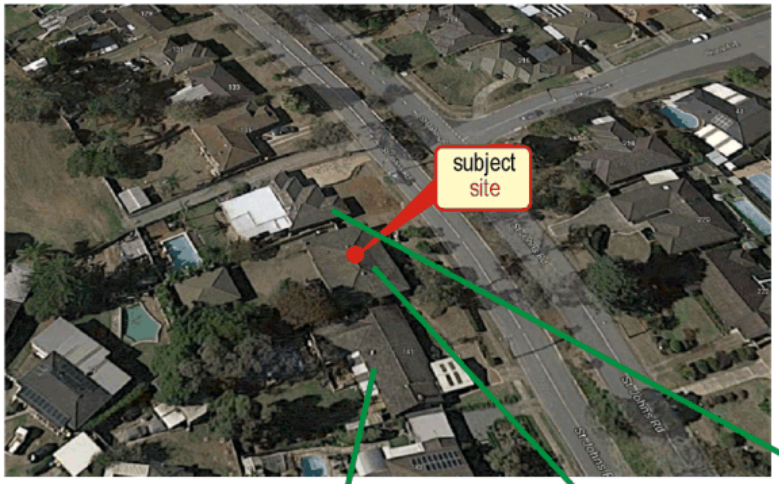
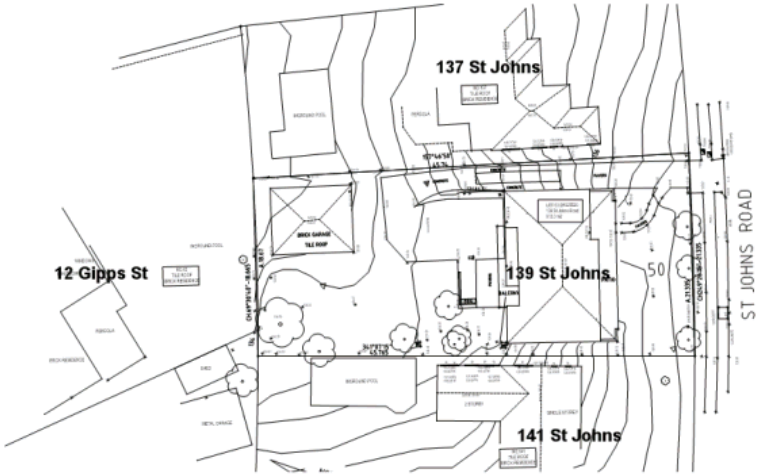
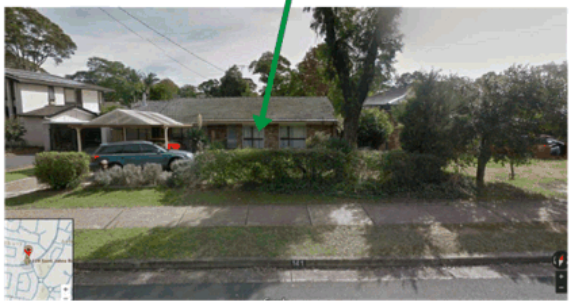


139 St Johns - subject site



Refer to Conzept Landscape Architect's drawing LPDA 18 - 34/1 for streetscape elevation drawing



141 St Johns

141 St Johns 139 St Johns

139 St Johns 137 St Johns

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project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: streetscape analysis

pro. no. : 18007
date: 27/03/19
scale: 1:500@a3
issue: D
dwg no. : A1003

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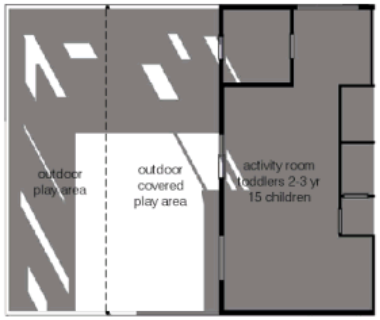
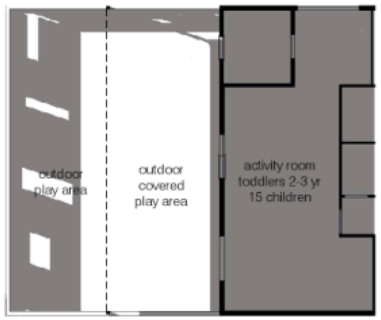


1 WINTER EQUINOX - 9AM
SCALE 1:200 @ A3



2 WINTER EQUINOX - 12PM
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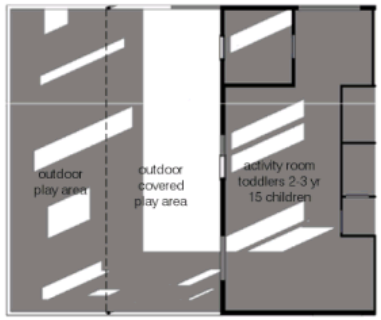

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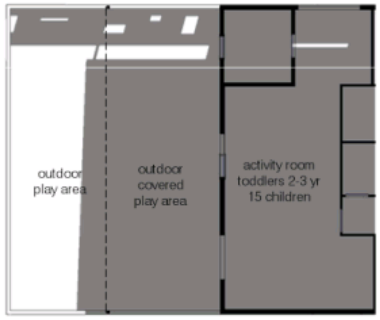

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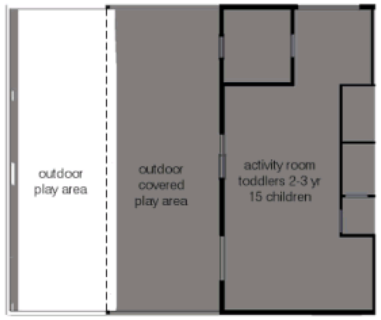

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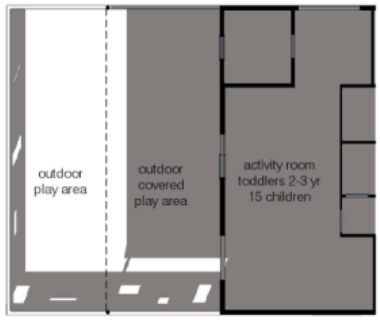

6 SUMMER SOLSTICE - 3PM
SCALE 1:200 @ A3

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revision:

D	04.05.20	DA QUERIES
C	20.09.19	DA QUERIES
B	21.03.19	DA QUERIES
A	29.06.18	DA ISSUE

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project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: **internal solar diagram - ground**

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: C
dwg no. : **A1004**

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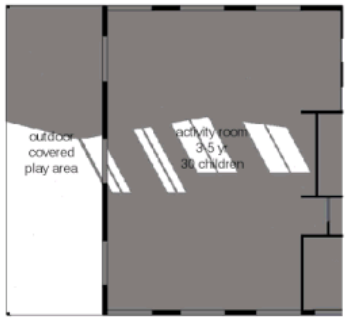
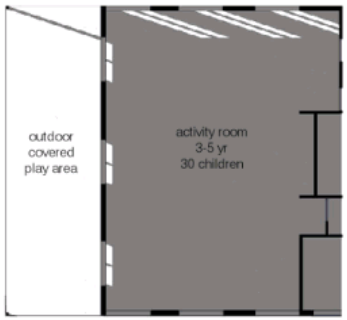
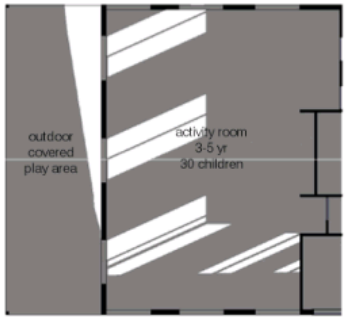


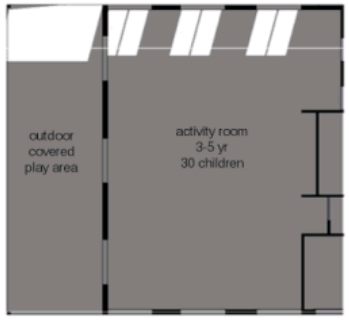
1 WINTER EQUINOX - 9AM
SCALE 1:200 @ A3



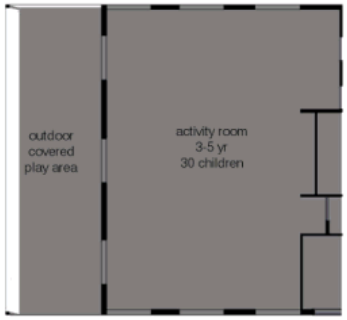
2 WINTER EQUINOX - 12PM
SCALE 1:200 @ A3



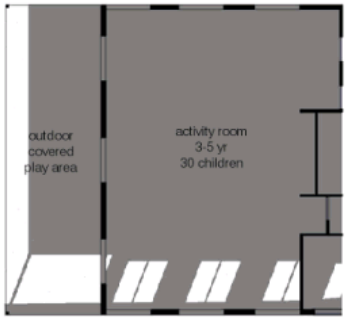
3 WINTER EQUINOX - 3PM
SCALE 1:200 @ A3



4 SUMMER SOLSTICE - 9AM
SCALE 1:200 @ A3



5 SUMMER SOLSTICE - 12PM
SCALE 1:200 @ A3



6 SUMMER SOLSTICE - 3PM
SCALE 1:200 @ A3

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A L1, 121 alexander street
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project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: **internal solar diagram - lower g**

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: C
dwg no. : **A1005**

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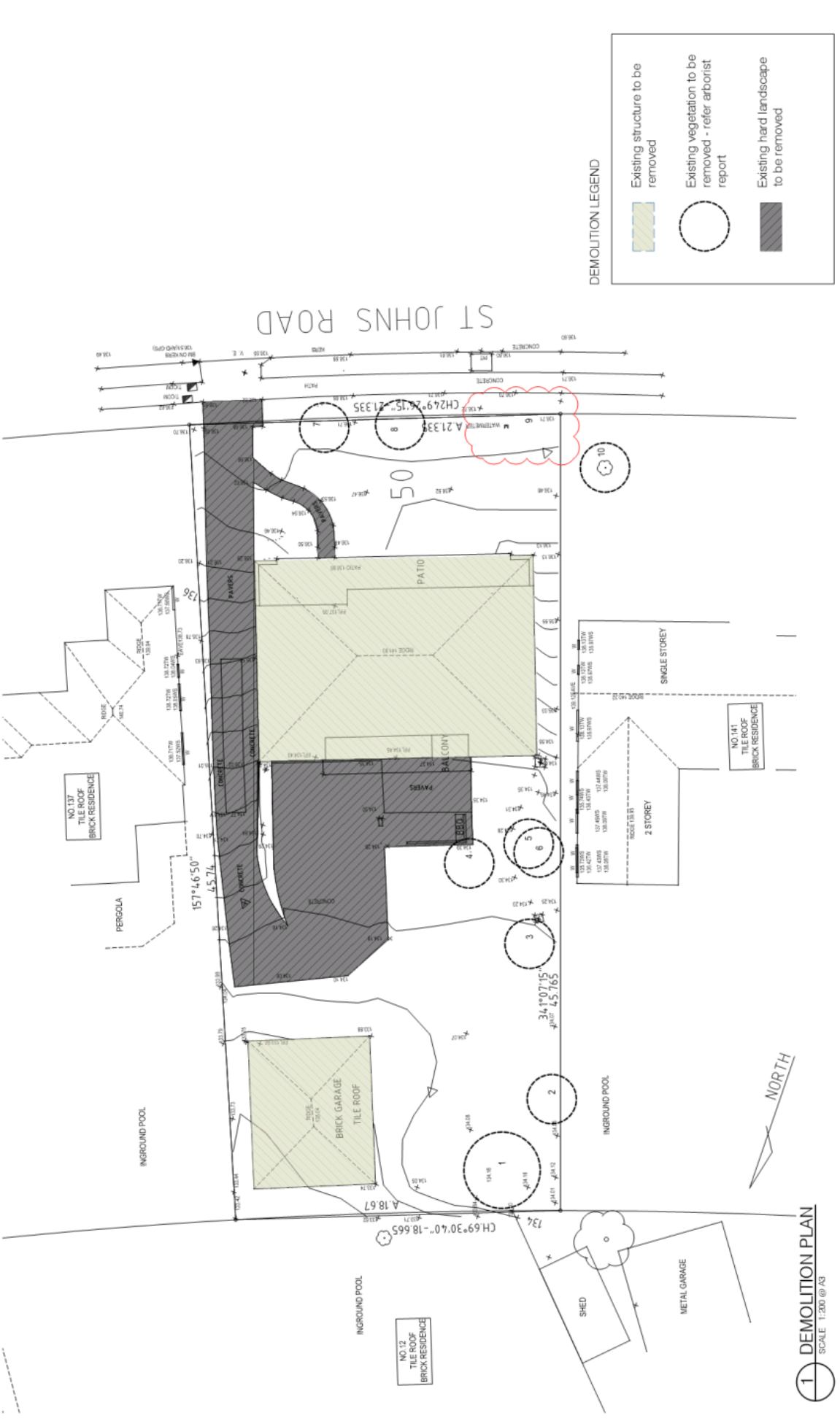

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project: new childcare centre
139 St Johns Road
Bradbury NSW

client: Brightest Start Early Learning Centre

drawing: demolition plan

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: C
dwg no. : A2000

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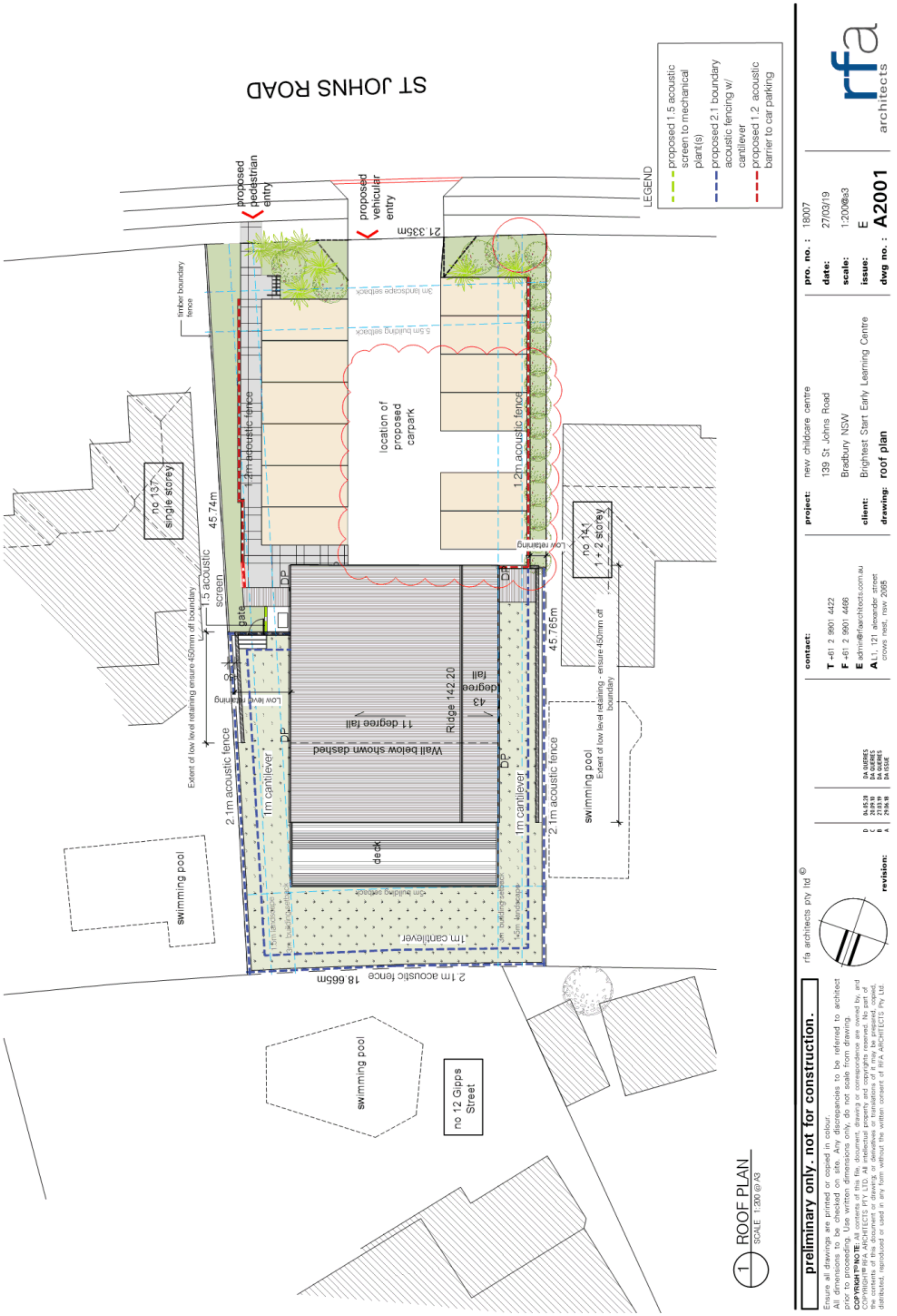
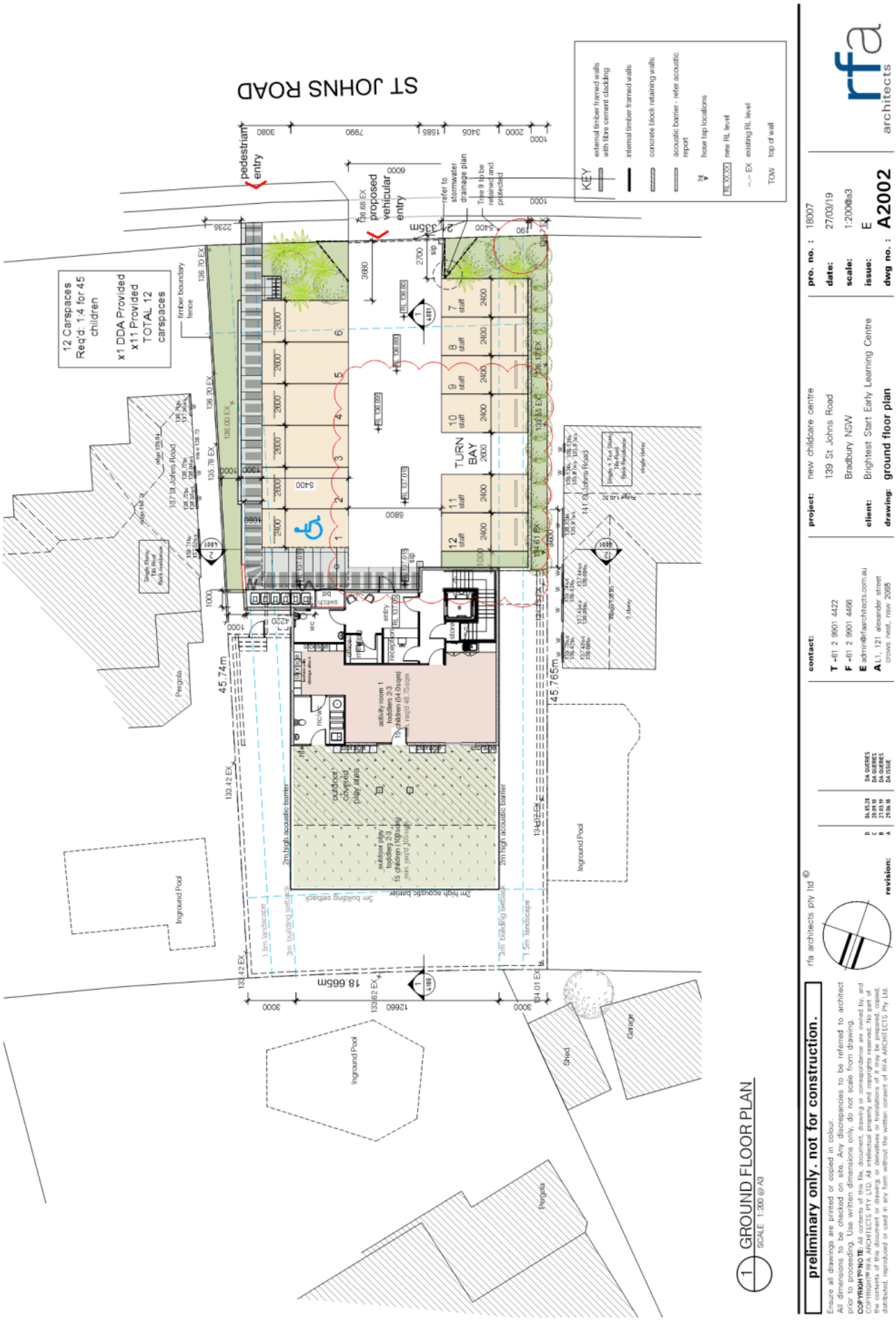
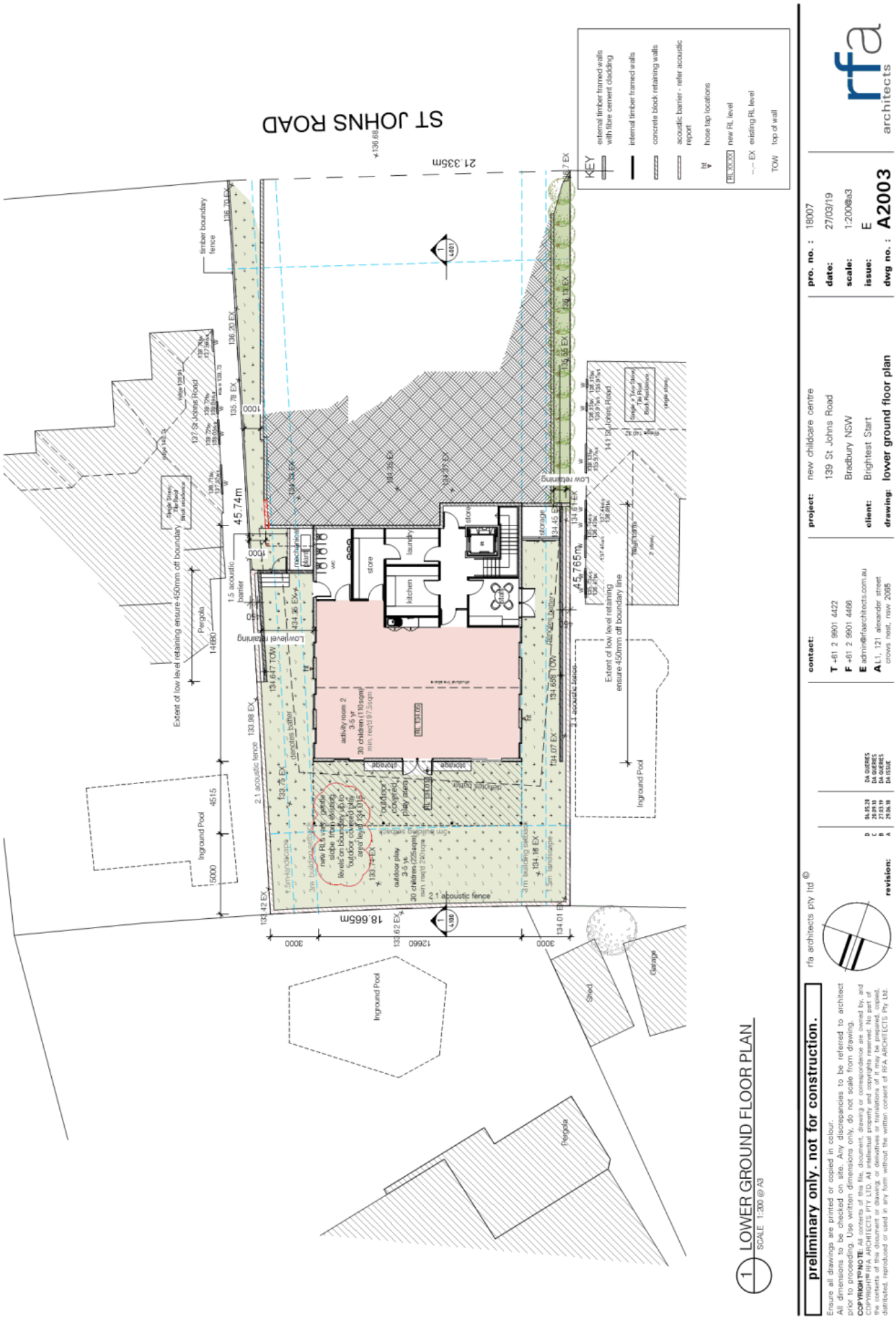


ST JOHNS ROAD
proposed pedestrian entry
proposed vehicular entry
location of proposed carpark
no 137 single storey
no 141 1 + 2 storey
no 12 Gipps Street
swimming pool
Ridge 142.20
11 degree fall
43 degree fall
Wall below shown dashed
deck
1m cantilever
2.1m acoustic fence
1.2m acoustic fence
1.5 acoustic screen
45.74m
45.765m
21.335m
18.665m
LEGEND
proposed 1.5 acoustic screen to mechanical plant(s)
proposed 2.1 boundary acoustic fencing w/ cantilever
proposed 1.2 acoustic barrier to car parking
1 ROOF PLAN SCALE 1:200 @ A3
preliminary only. not for construction.
rfa architects
project: new childcare centre 139 St Johns Road Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: roof plan
pro. no.: 18007
date: 27/03/19
scale: 1:200@a3
issue: E
dwg no.: A2001



1 GROUND FLOOR PLAN
SCALE 1:200 @ A3



1 LOWER GROUND FLOOR PLAN
SCALE 1:200 @ A3

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A	25.06.18	DA ISSUE

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project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start
drawing: lower ground floor plan

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: E
dwg no. : A2003

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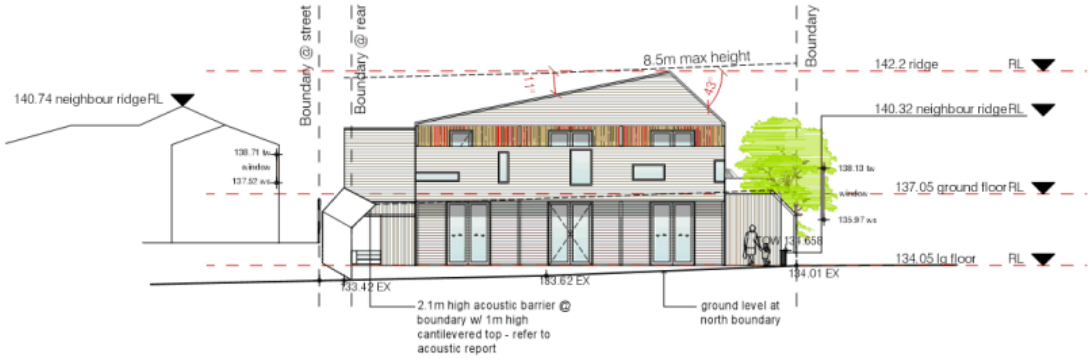
1 SOUTH ELEVATION - STREETSCAPE
SCALE 1:200 @ A3



2 NORTH ELEVATION
SCALE 1:200 @ A3

Elevation Key

- Vertical cedar cladding
- Fibre cement sheet cladding
- Metal roofing/cladding
- Planting - refer to landscape arch drawings
- Retaining wall - bluestone concrete blocks
- Timber boundary fence
- Boundary acoustic fence with cantilevered top

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Ensure all drawings are printed or copied in colour.
All dimensions to be checked on site. Any discrepancies to be referred to architect prior to proceeding. Use written dimensions only, do not scale from drawing.

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project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: north and south elevation

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: D
dwg no. : A3001

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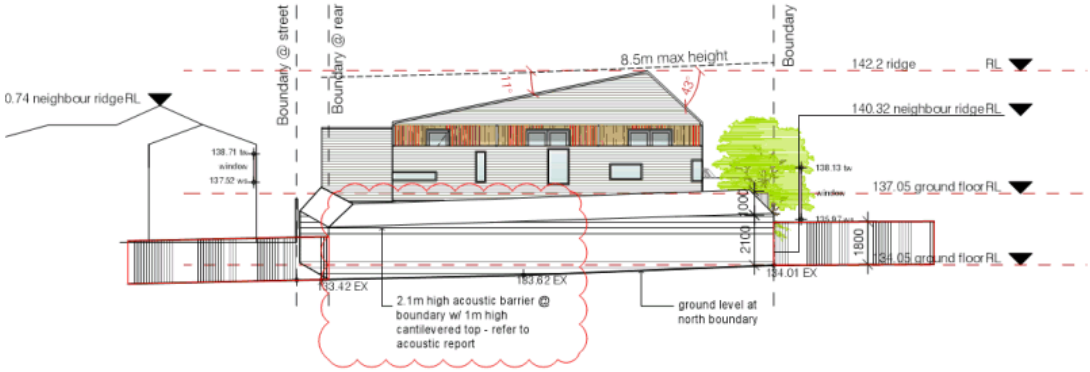

2 NORTH ELEVATION
SCALE 1:200 @ A3

Elevation Key

- Vertical cedar cladding
- Fibre cement sheet cladding
- Metal roofing/cladding
- Planting - refer to landscape arch drawings
- Retaining wall - bluestone concrete blocks
- Timber boundary fence
- Boundary acoustic fence with cantilevered top

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139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: north elevation w/ bdy fence

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: D
dwg no. : A3001a

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1 WEST ELEVATION
SCALE 1:200 @ A3

2 EAST ELEVATION
SCALE 1:200 @ A3

Elevation Key

- Vertical cedar cladding
- Fibre cement sheet cladding
- Metal roofing/cladding
- Planting - refer to landscape arch drawings
- Retaining wall - bluestone concrete blocks
- Timber boundary fence
- Boundary acoustic fence with cantilevered top

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project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: east and west elevation

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: E
dwg no. : A3002

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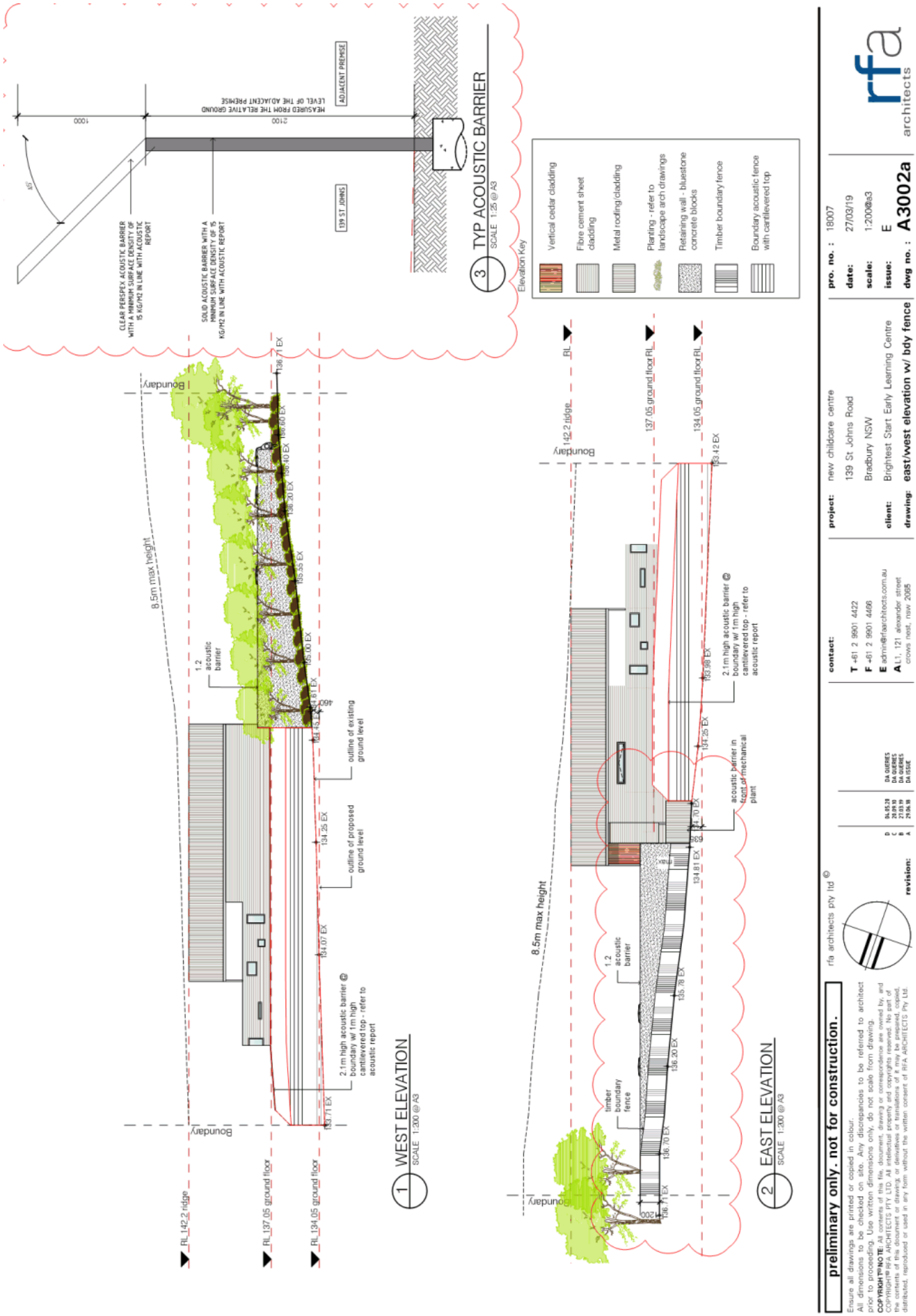
3 TYP ACOUSTIC BARRIER
SCALE 1:25 @ A3
CLEAR PERSPEX ACOUSTIC BARRIER WITH A MINIMUM SURFACE DENSITY OF 15 KG/M2 IN LINE WITH ACOUSTIC REPORT
SOLID ACOUSTIC BARRIER WITH A MINIMUM SURFACE DENSITY OF 15 KG/M2 IN LINE WITH ACOUSTIC REPORT
139 ST JOHNS
ADJACENT PREMISE
MEASURED FROM THE RELATIVE GROUND LEVEL OF THE ADJACENT PREMISE
2100
1000
45°
Elevation Key
Vertical cedar cladding
Fibre cement sheet cladding
Metal roofing/cladding
Planting - refer to landscape arch drawings
Retaining wall - bluestone concrete blocks
Timber boundary fence
Boundary acoustic fence with cantilevered top
1 WEST ELEVATION
SCALE 1:200 @ A3
8.5m max height
1.2 acoustic barrier
outline of existing ground level
outline of proposed ground level
2.1m high acoustic barrier @ boundary w/ 1m high cantilevered top - refer to acoustic report
Boundary
RL 142.2 ridge
RL 137.05 ground floor
RL 134.05 ground floor
2 EAST ELEVATION
SCALE 1:200 @ A3
timber boundary fence
acoustic barrier in front of mechanical plant
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A L1, 121 alexander street crows nest, nsw 2065
project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: east/west elevation w/ bdy fence
pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: E
dwg no. : A3002a
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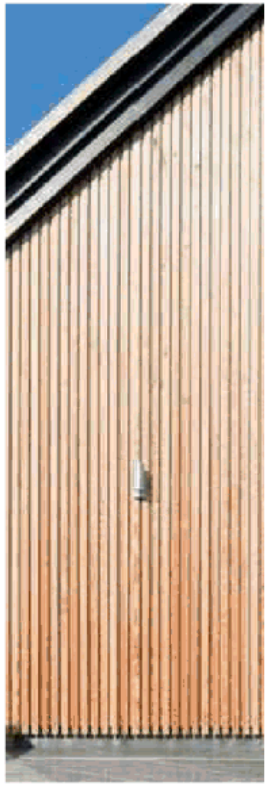
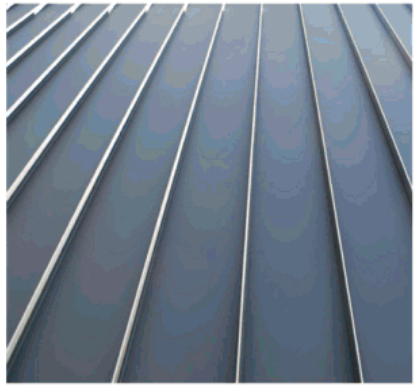
A Fibre cement sheet cladding



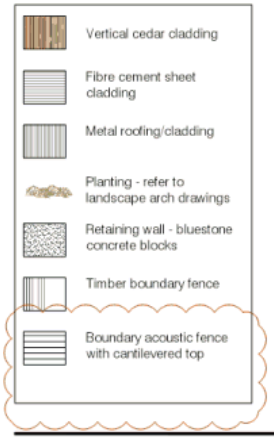
B Vertical cedar cladding



C Metal roofing

D Retaining wall - bluestone concrete blocks

E Timber boundary fence



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139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: material study

pro. no. : 18007
date: 27/03/19
scale: NTS
issue: C
dwg no. : A3003

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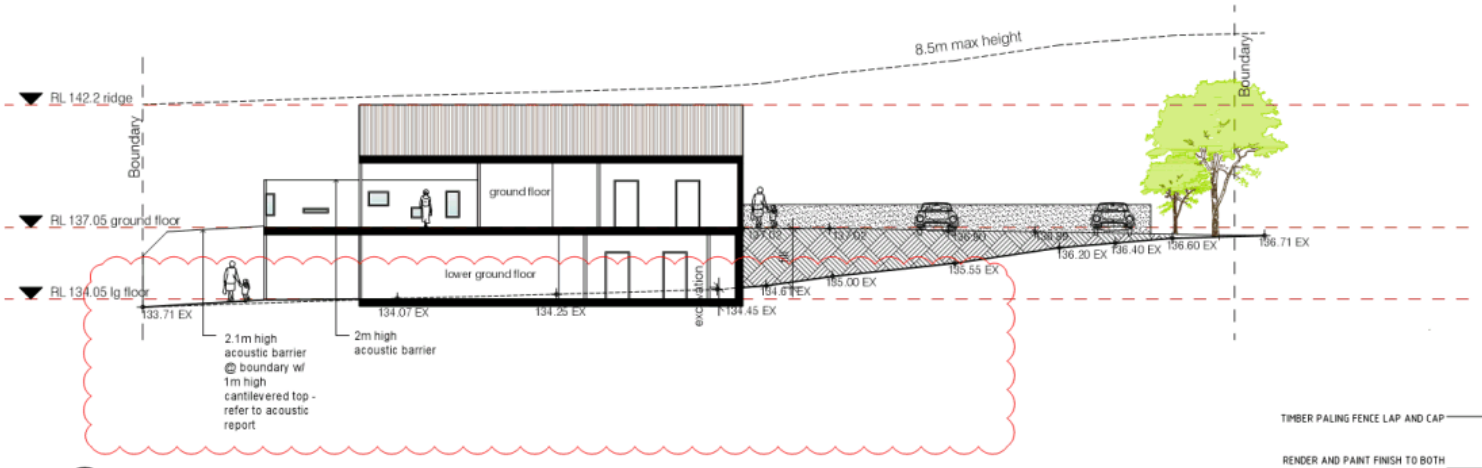
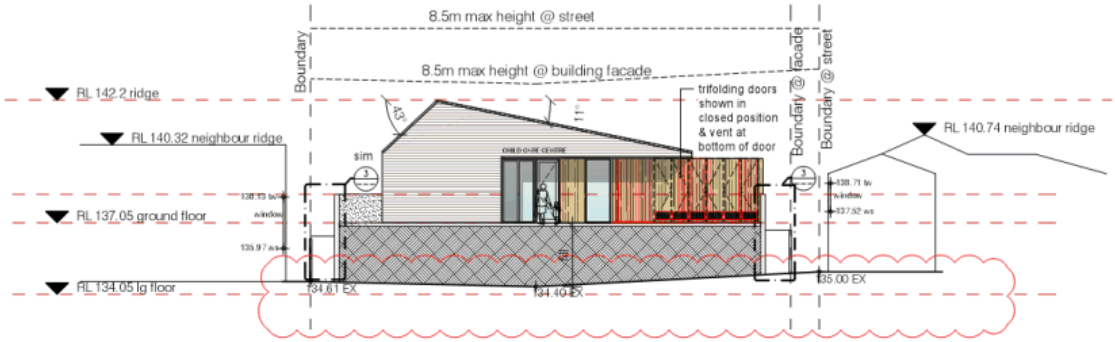
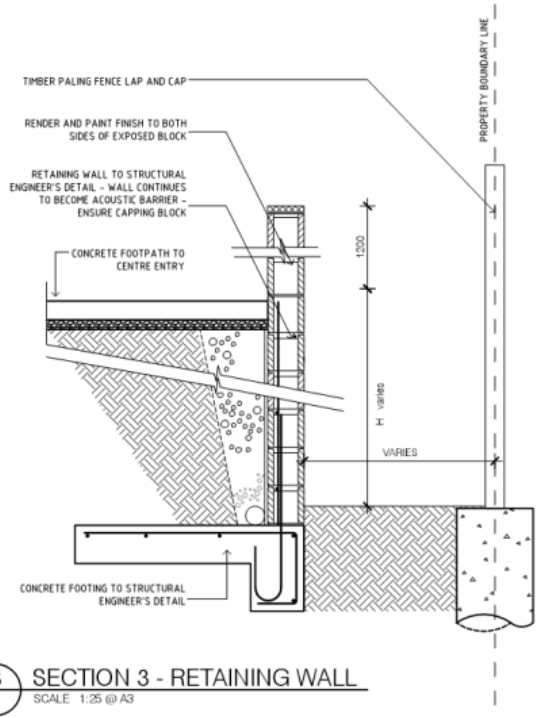


1 SECTION 1
SCALE 1:200 @ A3



2 SECTION 2
SCALE 1:200 @ A3



3 SECTION 3 - RETAINING WALL
SCALE 1:25 @ A3

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139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: section

pro. no. : 18007
date: 27/03/19
scale: 1:200@a3
issue: D
dwg no. : A4001

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NEW FRONT ELEVATION
NTS

LOCATION PLAN
Scale: NTS

REV	DATE	NOTATION/AMENDMENT
A	19.09.19	Preliminary title page prepared for review
B	27.09.19	Coordinate with architect's comments
C	12.12.19	Street tree amendments
D	04.05.20	Revised architectural plan
E	22.10.20	Revised architectural plan

PROPOSED CHILDCARE CENTRE DEVELOPMENT

139 ST JOHNS ROAD, BRADBURY

DWG No. LPDA 18 - 341 / 1

EXISTING FRONT ELEVATION

DRAWING SCHEDULE

SHEET #	DRAWING TITLE	REV.
/1	TITLE PAGE	E
/2	LANDSCAPE PLAN- LG	G
/3	LANDSCAPE PLAN- GF	G
/4	DETAIL + SPECIFICATION	C
/5	DETAIL	B
/6	MATERIAL SCHEDULE	A

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Suite 101, 506 Miller St
CAMMERAY NSW 2062
Phone: 9922 5312
Fax: 9209 4982
Mob: 0413 981 351
www.conzept.net.au
enquiries@conzept.net.au

LEGEND & SCHEDULE

NOTES:
1. ALL FINAL PLANT QUANTITIES INDICATED ON PLANS SHALL BE CHECKED AND VERIFIED BY SUCCESSFUL LANDSCAPE CONTRACTOR.
2. ANY PLANT SUBSTITUTES REQUIRED DUE TO UNAVAILABILITY SHALL BE RECOMMENDED BY THE LANDSCAPE CONTRACTOR TO BEST MATCH SUBSTITUTED PLANTS AND APPROVED PRIOR TO PURCHASING BY THE LANDSCAPE ARCHITECT.
3. WORKS CERTIFIED FOR FINAL OCCUPANCY CERTIFICATE ARE TO MATCH APPROVED LANDSCAPE PLANS.
4. LANDSCAPE CONTRACTOR SHALL LOCATE AND AVOID SITE STORM WATER & DRAINAGE SERVICES. LOCATE TREES A MINIMUM 1.28M FROM PITS
5. ALL PLANTING AROUND EXISTING TREES SHALL BE ADJUSTED TO AVOID DAMAGE AND CLASH-ING WITH SURFACE ROOTS
6. THE NATURE STRIP (STREET FRONTAGE) FOR THE SITE IS PUBLIC LAND, AND ONLY AUTHORIZED WORKS MAY OCCUR HERE. EXISTING CONDITIONS SUCH AS STREET TREES, COUNCIL PLANTING ETC SHALL BE RETAINED AND PROTECTED DURING CONSTRUCTION, UNLESS SPECIFIC APPROVAL HAS BEEN GRANTED FOR NEW WORK IN THIS AREA.

TREES

Botanical Name: *Corymbia maculata*
Common Name: Spotted Gum (Native)
Pot size: 100Lt
Mature H x S: 30m x 10m
Qty Required: 1

Botanical Name: *Acmena smithii*
Common Name: Lilly Pilly (Native)
Pot size: 75Lt
Mature H x S: 6m x 5m
Qty Required: 2

STREET TREES

Botanical Name: *Tristaniopsis laurina 'Luscious'*
Common Name: Watergum (Native)
Pot size: 75Lt
Mature H x S: 5-8m x 3-5m
Qty Required: 2

SHRUBS AND HEDGES

Botanical Name: *Viburnum odoratissimum*
Common Name: Sweet Viburnum (Exotic)
Pot size: 300mm
Mature H x S: 3m x 2m
Qty Required: 17

Botanical Name: *Rhaphiolepis indica*
Common Name: Indian Hawthorn (Exotic)
Pot size: 300mm
Mature H x S: 1.5m x 1.8m
Qty Required: 13

ACCENT PLANTS

Botanical Name: *Dietes grandiflora*
Common Name: Fortnight Lily (Exotic)
Pot size: 140mm
Mature H x S: 0.9m x 0.8m
Qty Required: 18

Botanical Name: *Doryanthes excelsa*
Common Name: Gymea Lily (Native)
Pot size: 45L
Mature H x S: 1.1m x 1m
Qty Required: 7

Botanical Name: *Liriope muscari 'Evergreen Giant'*
Common Name: *Giant Lily Turf (Exotic)*
Pot size: 150mm
Mature H x S: 0.7m x 0.65m
Qty Required: 29

Botanical Name: *Phormium tenax 'Bronze Warrior'*
Common Name: *BW New Zealand Flax (Native)*
Pot size: 300mm
Mature H x S: 1.5m x 0.9m
Qty Required: 3

GRASSES + GROUNDCOVERS

Botanical Name: *Trachelospermum Jasminoides*
Common Name: Star Jasmine (Exotic)
Pot size: 140mm
Mature H x S: 0.3m x 0.6m
Qty Required: 5/m2 (**15.3m2 total**)

AUTOMATIC IRRIGATION SHALL BE INSTALLED FOR RAISED PLANTER AREA TO ENSURE A SUSTAINABLE LANDSCAPE IS ACHIEVED. SHOP DRAWING TO BE PROVIDED BY LICENSED IRRIGATION CONSULTANTS

OTHER LANDSCAPE ITEMS

- Artifical turf area - refer detail
- Rubberised softfall
- Retaining - refer detail
- Timber wall - refer detail
- Trees proposed to be removed and replaced with new landscaping
- Existing trees proposed to be retained and protected
- 1.8m Timber boundary fence - colour and style to be nom. by client
- 1.2m Acoustic fence
- Steel edging - refer detail

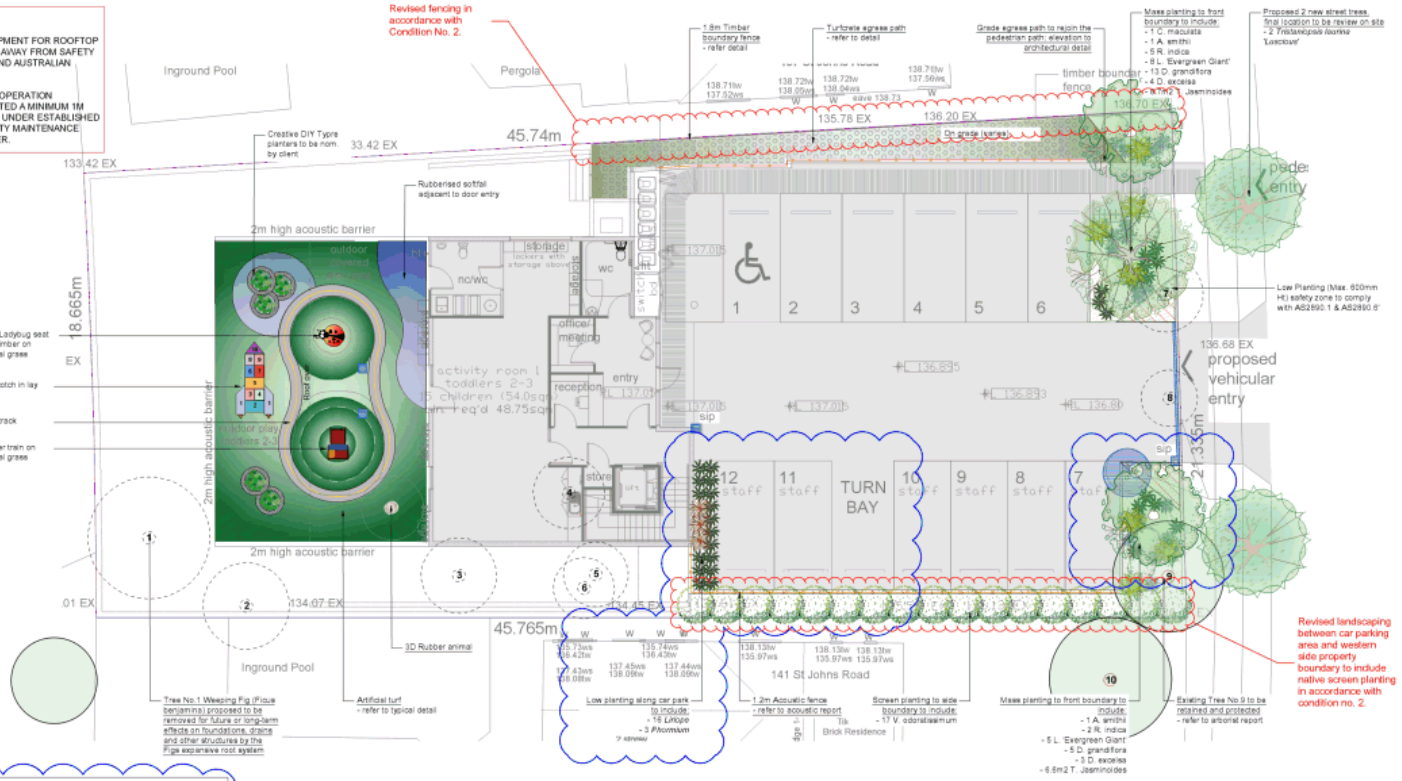
HARDSCAPE ITEMS

- DIY Tyre planters to be nom. by client
- Toddler Train to supplier's details
- Ladybug seat and dimber to supplier's details
- Hopscotch inlay to supplier's details
- 3D rubber animal to supplier's details
- Race track inlay

NOTES:

FIXED OUTDOOR FURNITURE/EQUIPMENT FOR ROOFTOP SHALL BE LOCATED A MINIMUM 1M AWAY FROM SAFETY BALUSTRADE CONFORMING BCA AND AUSTRALIAN STANDARDS.

NON-FIXED FURNITURE ADDED BY OPERATION MANAGER/OWNER SHALL BE LOCATED A MINIMUM 1M AWAY FROM SAFETY BALUSTRADE UNDER ESTABLISHED ON-GOING MONITORING AND SAFETY MAINTENANCE PLAN DEVELOPED BY THE MANAGER.



TREE SURVEY

Existing Trees based on Arborists Report by Bradshaw Consulting Arborists 21.10.20

No.#	Species	Size (Ht x Sp)	Condition	Action
1	Ficus microcarpa var. hillii	11.1x12	Fair	Remove
2*	Cinnamomum camphora	N/A	N/A	Remove
3*	Prunus persica	N/A	Poor	Remove
4	Bauhinia purpurea	8.1x9	Poor	Remove
5*	Celtis australis	N/A	N/A	Remove
6	Melia azedarach	6.5x4	Fair	Remove
7	Jacaranda mimosafolia	5.4x3	Fair	Remove
8	Callistemon viminalis	4.3x3	Fair	Remove
9	Syzygium (Acmena) smithii	3.3x2.2	Fair	Retain
10	Eucalyptus nicholii	23x11	Poor	Retain

(*) Exempt tree species refer CAMPBELLTOWN EXEMPT TREE SPECIES LIST

TREE REPLACEMENT

Council's Development Control Plan requires a minimum ratio of 1:1 replacement for tree removal.

Five (5) non-exempt trees to be removed to include:
Tree No. 1, 4, 6, 7 & 8

Proposed Seven (7) replacement trees to include:
- 2 Corymbia maculata
- 2 Acmena smithii
- 1 Waterhousia floribunda
- 2 Tristaniopsis laurina 'Luscious' (Street trees)

Nominated tree replacement & species selection has considered the following design principles:
1. Selecting species nominated on Councils recommended tree species lists
2. Placement has considered safe design principles
3. Species which will best suit the nominated locations when regarding future performance
4. Species that will offer the best amenity value & size when considering the practical operations of the facility

MATERIAL & PLANTING IMAGES

Images are diagrammatic only, final items including planting species & products may vary, as determined by Council Approval.
Similar proprietary play equipment conforming AS4685 to be nom. by client refers to manufacturer's specification.
All playground surface to conform AS 4422:2016


DIY TYRE PLANTER
(IMAGE: PINTEREST_CAROLE TEIJJER)


PRODUCT: *GIANT LADYBUG SEATS*
MATERIAL *FIBREGLASS*
SUPPLIER *ARTDINOUVEAU*

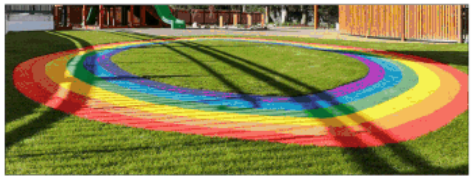

PRODUCT: *TODDLER TRAIN*
SUPPLIER: *KOMPAN*


HOPSCOTCH


Dietes grandiflora


Tristaniopsis laurina 'Luscious'


Acmena smithii


RACE TRACK IN LAY/WETPOUR (RAINBOW PATTERN OPTIONAL)

PRODUCT: *RUBBER ANIMAL*
SUPPLIER: *COMPLETEPLAYGROUNDS*


Corymbia maculata


Viburnum odoratissimum


Trachelospermum jasminoides


Rhaphiolepis indica


Liriope muscari 'Evergreen Giant'

Bar Scale 0 2 4 6 8 10m

RPA ARCHITECTS

Conzept Landscape Architects

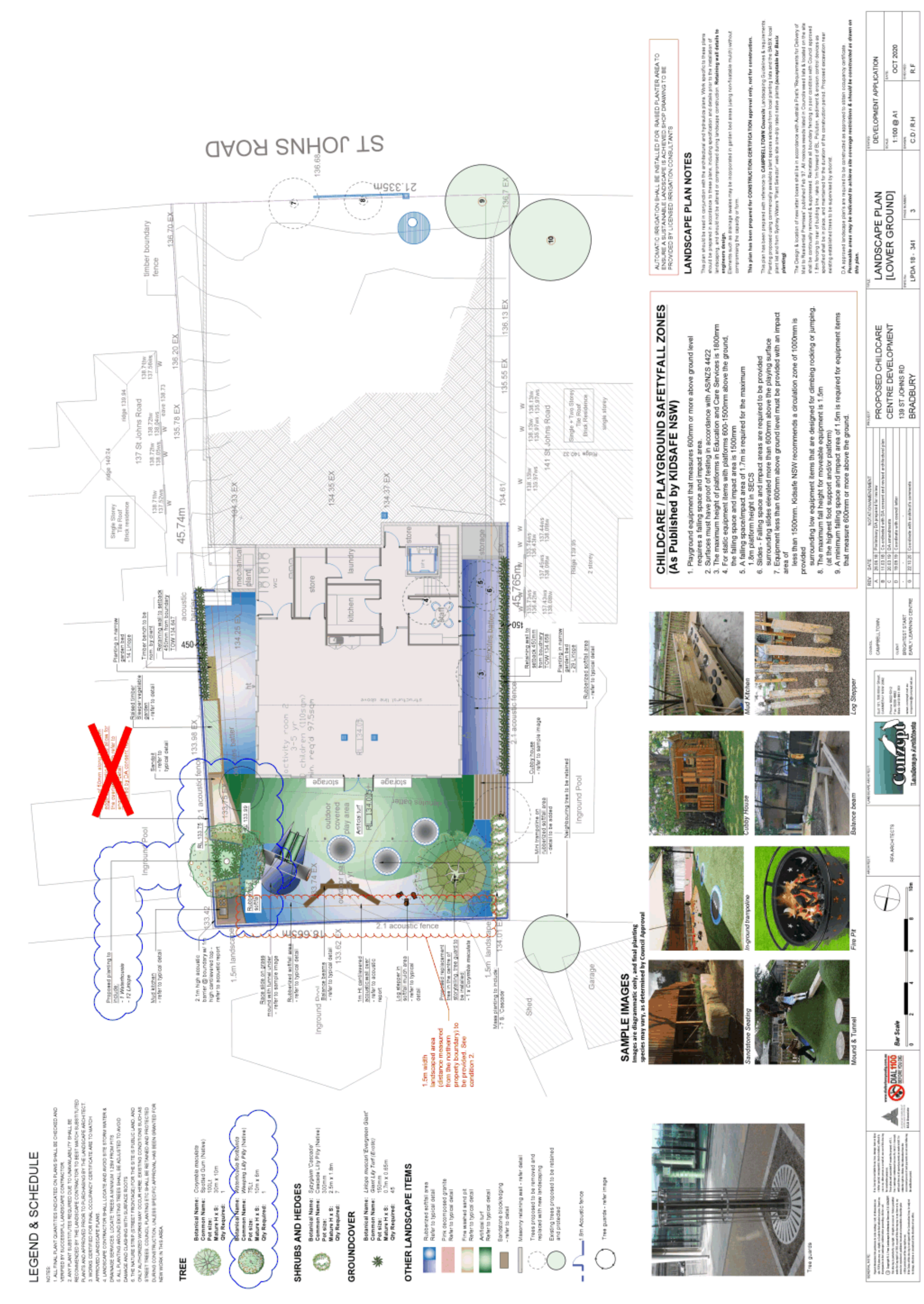
REV	DATE	NOTATION/AMENDMENT
A	26.06.18	Preliminary DA prepared for review
B	11.03.19	Co-ordinated with DA consent and revised architectural plan
C	20.03.19	DA amendments
D	19.09.19	Coordinate with council letter
E	27.09.19	Coordinate with architect's comments
F	-	-
G	22.10.20	Coordinate with architect's comments

COUNCIL: CAMPBELLTOWN
CLIENT: BRIGHTEST START EARLY LEARNING CENTRE

PROJECT: PROPOSED CHILDCARE CENTRE DEVELOPMENT
139 ST JOHNS RD
BRADBURY

TITLE: LANDSCAPE PLAN [GROUND FLOOR]

STATUS: DEVELOPMENT APPLICATION
SCALE: 1:100 @ A1
DATE: OCT 2020
DRAWING: LPDA 18 - 341
PAGE NUMBER: 2
DRAWN: C.D / R.H
CHECKED: R.F


LEGEND & SCHEDULE
TREE
SHRUBS AND HEDGES
GROUNDCOVER
OTHER LANDSCAPE ITEMS
ST JOHNS ROAD
137 St Johns Road
141 St Johns Road
activity room 2
3-5 yr
outdoor covered play area
kitchen
laundry
store
storage
mechanical plant
Inground Pool
Shed
Garage
2.1 acoustic fence
45.74m
45.765m
21.335m
18.665m
1.5m width landscaped area (distance measured from the northern property boundary) to be provided. See condition 2.
SAMPLE IMAGES
Images are diagrammatic only, and final planting species may vary, as determined by Council Approval
Sandstone Seating
In-ground trampoline
Cubby House
Mud Kitchen
Mound & Tunnel
Fire Pit
Balance beam
Log Stepper
Tree guards
CHILDCARE / PLAYGROUND SAFETYFALL ZONES
(As Published by KIDSAFE NSW)
1. Playground equipment that measures 600mm or more above ground level requires a falling space and impact area.
2. Surfaces must have proof of testing in accordance with AS/NZS 4422
3. The maximum height of platforms in Education and Care Services is 1800mm
4. For static equipment items with platforms 600-1500mm above the ground, the falling space and impact area is 1500mm
5. A falling space/impact area of 1.7m is required for the maximum 1.8m platform height in SECS
6. Slides - Falling space and impact areas are required to be provided surrounding slides elevated more than 600mm above the playing surface
7. Equipment less than 600mm above ground level must be provided with an impact area of less than 1500mm. Kidsafe NSW recommends a circulation zone of 1000mm is provided surrounding low equipment items that are designed for climbing rocking or jumping.
8. The maximum fall height for moveable equipment is 1.5m (at the highest foot support and/or platform)
9. A minimum falling space and impact area of 1.5m is required for equipment items that measure 600mm or more above the ground.
AUTOMATIC IRRIGATION SHALL BE INSTALLED FOR RAISED PLANTER AREA TO ENSURE A SUSTAINABLE LANDSCAPE IS ACHIEVED SHOP DRAWING TO BE PROVIDED BY LICENSED IRRIGATION CONSULTANTS
LANDSCAPE PLAN NOTES
PROPOSED CHILDCARE CENTRE DEVELOPMENT
139 ST JOHNS RD
BRADBURY
LANDSCAPE PLAN
[LOWER GROUND]
DEVELOPMENT APPLICATION
1:100 @ A1
OCT 2020
LPDA 18 - 341
3
C.D / R.H
R.F
Conzept Landscape Architects
Bar Scale

LANDSCAPE WORK SPECIFICATION

PREELIMINARIES

1.01 GENERAL

The following general conditions should be considered prior to the commencement of landscape works:
- The landscape plans should be read in conjunction with the architectural plans, hydraulics plans, service plans and survey prepared for the proposed development.
- All services including existing drainage should be accurately located prior to the commencement of landscape installation. Any proposed tree planting which falls close to services will be relocated on site under the instruction of the landscape architect.
- Installation of conduit for required irrigation, electrical and other services shall be completed prior to the commencement of landscape works and hardstand pours.
- All exterior lighting specified by architect or client to be installed by qualified electrician
- Anomalies that occur in these plans should be brought to our immediate attention.
- Where an Australian Standard applies for any landscape material testing or installation technique, that standard shall be followed.

1.02 PROTECTION OF ADJACENT FINISHES

The Contractor shall take all precautions to prevent damage to all or any adjacent finishes by providing adequate protection to these areas / surfaces prior to the commencement of the Works

1.03 PROTECTION OF EXISTING TREES

Existing trees identified to be retained shall be done so in accordance with NATSPEC Guide 2 "A Guide to Assessing Tree Quality". Where general works are occurring around such trees, or pruning is required, a qualified Arborist shall be engaged to ensure such works and manage tree health.
Existing trees designated on the drawing for retention shall be protected at all times during the construction period. Any soil within the drip-line of existing trees shall be excavated and removed by hand only. No stockpiling shall occur within the root zone of existing trees to be retained.

Any roots larger in diameter than 50mm shall only be severed under instruction by a qualified arborist. Roots smaller than 50mm diameter shall be cut cleanly with a saw.

Temporary fencing shall be installed around the base of all trees to be retained prior to the commencement of landscape works. Where possible this fencing will be located around the drip line of these trees, or a minimum of 2m from the trunk. The fencing shall be maintained for the full construction period.

1.04 EROSION & POLLUTION CONTROL

The Contractor shall take all proper precautions to prevent the erosion of soil from the subject site. The contractor shall install erosion & sediment control barriers and as required by council, and maintain these barriers throughout the construction period. Note that the sediment control measures adopted should reflect the soil type and erosion characteristics of the site.

Erosion & pollution control measures shall incorporate the following:
- Construction of a sediment trap at the vehicle access point to the subject site.
- Sediment fencing using a geotextile filter fabric in the location indicated on the erosion control plan or as instructed on site by the landscape architect.
- Earth banks to prevent scour of stockpiles
- Seedbag kerb sediment traps
- Straw bale & geotextile sediment filter.
- Exposed banks shall be pegged with an approved Jute matting in preparation for grass planting.

Refer to "Sitewise Reference Kit" as prepared by DLWC & WSROC (1997) for construction techniques

SOIL WORKS

2.01 MATERIALS

Specified Soil Conditioner (Generally to improve site soil)
The specified soil conditioner for site top-soil improvement shall be an organic mix, equal to "Botany Humus", as supplied by ANL. Note that for sites where soil testing indicates toxins or extremes in pH, or soils that are extremely poor, allow to excavate and supply 300mm of imported soil mix.

New gardens & proposed Planting
New garden and planting areas shall consist of a 50/50 mix of clean site soil (refer d) below) and imported "Organic Garden Mix" as supplied by ANL or approved equal. All mixes are to comply with AS 4419 Soils for landscaping & garden use, & AS 4454 Composts, Soil conditioners & mulches.

Specified Soil Mix - Turf
The specified soil mix for all turf areas shall be a min 75mm layer of imported soil mix consisting of 80% washed river sand (reasonably coarse), and 20% composted organic matter equivalent to mushroom compost or soil conditioner, or other approved lawn top dress.

Site Topsoil
Site topsoil is to be clean and free of unwanted matter such as gravel, clay lumps, grass, weeds, tree roots, rubble, rubbish and plastics, and any deleterious materials and materials toxic to plants. The topsoil must have a pH of between 5.5 and 7. Use 100% imported soil mix when site when site topsoil runs out.

2.02 INSTALLATION

a) Testing
All testing is to be conducted in accordance with AS 1289 Methods for testing soils for engineering purposes. Site soil shall be given a pH test prior to modifying to ensure conditions are appropriate for planting as stated above. Tests shall be taken in several areas where planting is proposed, and the pH shall be adjusted accordingly with sulphur or lime to suit.

Note that a soil test conducted by the "Sydney Soil Lab" or approved equal shall be prepared for all commercial, industrial and multi-unit residential sites. The successful landscape contractor shall implement the recommendations of this test.

b) Set Out of Individual Trees & Mass Planting Areas
All individual tree planting positions and areas designated for mass planting shall be set out with stakes or another form of marking, ready for inspection and approval. Locate all services.

c) Establishing Subgrade Levels
Subgrade levels are defined as the finished base levels prior to the placement of the specified material (i.e. soil conditioner). The following subgrade levels shall apply:
- Mass Planting Beds - 300mm below existing levels with specified imported soil mix.
- Turf areas - 100mm below finished surface level.

Note that all subgrades shall consist of a relatively free draining natural material, consisting of site topsoil placed previously by the Civil Contractor. No builders waste material shall be acceptable.

d) Subgrade Cultivation
Cultivate all subgrades to a minimum depth of 100mm in all planting beds and all turf areas, ensuring a thorough breakup of the subgrade into a reasonably coarse tilth. Grade subgrades to provide falls to surface and subsurface drains, prior to the placement of the final specified soil mix.

e) Drainage Works
Install surface and subsurface drainage where required and as detailed on the drawing. Grate subsurface drains to outlets provided, with a minimum fall of 1:100 to outlets and / or service pits.

f) Placement and Preparation of Specified Soil Conditioner & Mixes.
- Trees in turf & beds - Holes shall be twice as wide as root ball and minimum 100mm deeper - backfill hole with 50/50 mix of clean site soil and imported "Organic Garden Mix" as supplied by ANL or approved equal.
- Mass Planting Beds - Install specified soil conditioner to a compacted depth of 100mm. Place the specified soil conditioner to the required compacted depth and use a rotary hoe to thoroughly mix the conditioner into the top 300mm of garden bed soil. Ensure thorough mixing and the preparation of a reasonably fine tilth and good growing medium in preparation for planting.
- Turf Areas - Install specified soil mix to a minimum compacted depth of 75mm. Place the specified soil mix to the required compacted depth and grade to required finished soil levels, in preparation for planting and turfing.

PLANTING

3.01 MATERIALS

a) Quality and Size of Plant Material
All trees supplied above a 25L container size must be grown and planted in accordance with Clarke, R 1996 *Purchasing Landscape Trees: A guide to assessing tree quality*. Ndirpaxi Guide No. 2. Certification that trees have been grown to Natspec guidelines is to be provided upon request of Council's Tree Management Officer.
Above - Ground Assessment
The following plant quality assessment criteria should be followed.
Plant true to type. Good vigour and health, free from pest & disease, free from injury, self-supporting, good stem taper, has been pruned correctly, is apically dominant, has even crown symmetry, free from included bark & stem junctions, even trunk position in pot, good stem structure
Below - Ground Assessment
Good root division & direction, rootball occupancy, rootball depth, height of crown, non-suckering For further explanation and descriptors of these assessment criteria, refer to Ross Clark's book.
All Plant material shall be to the type and size specified. No substitutions of plant material shall be permitted without written prior approval by the Landscape Architect. No plant shall be accepted which does not conform to the standards listed above.

b) Stakes and Ties
Provide min. 3 No. Stakes and ties to all plants identified as trees in the plant schedule. Stakes shall be sound, unpainted, straight hardwood, free of knots and pointed at one end. They shall be 2200mm x 50mm x 50mm Hardwood, or approved alternative. Ties shall be 50mm wide hessian webbing material.

c) Fertilisers
Fertilisers shall be approved slow release fertilisers suitable for the proposed planting types. Note that for native plants, specifically Proteaceae family plants including Grevillea species, low phosphorus fertilisers shall be used.

d) Mulch
Mulch shall be an approved equal to "Forest Blend" as supplied by ANL. Mulch shall be completely free from any soil, weeds, rubbish or other debris.

e) Turf
Turf shall be "Sir Walter" Buffalo or equivalent (unless stated otherwise), free from any weeds and other grasses, and be in a healthy growing condition.

3.02 INSTALLATION

a) Setting Out
All planting set out shall be in strict accordance with the drawings, or as directed. Note that proposed tree planting located near services should be adjusted at this stage. Notify Landscape Architect for inspection for approval prior to planting.

b) Planting
All plant material shall be planted as soon after delivery as possible. Planting holes for trees shall be excavated as detailed and specified. Plant containers shall be removed and discarded, and the outer roots gently teased from the soil mass. Immediately set plant in hole and backfill with specified soil mix, incorporating the required quantity of fertiliser for each plant type. Ensure that plants are set plumb vertically and not balls set to the consolidated finished grades detailed on the drawings. Compact the backfilled soil and saturate by hand watering to expel any remaining air pockets immediately after planting.

c) Staking and Tying
Staking and tying shall be in strict accordance with the drawings and shall occur immediately following plant placement and soil backfilling. All plants identified as "Trees" on the planting schedule shall be staked with a min. 3 stakes.

d) Mulching
Mulch shall be spread so that a compacted thickness of 75mm is achieved after settlement in all planting beds and around each individual plant. Apply immediately following planting and watering in, ensuring that a 50mm radius is maintained around the trunk of each plant. There shall be no mixing of soil and mulch material.

e) Turfing
Moisten soil prior to the turf being laid. Turf shall be neatly butt jointed and true to grade to finish flush with adjacent surfaces. Incorporate a lawn fertilizer and thoroughly water in. Keep turf moist until roots have taken and sodded turf cannot be lifted. Keep all traffic off turf until this has occurred. Allow for top dressing of all turf areas. All turf shall be rolled immediately following installation.

f) Link edges
The Contractor shall install link edges as detailed on the drawings, to all mass planting beds adjoining turf or gravel mulched areas, and where required. The resultant edge shall be true to line and flush with adjacent surfaces.

g) Nature Strip Works
The nature strip (street frontage) for the site is public land, and only authorized works may occur here. Existing Conditions such as street trees, council planting etc shall be retained and protected during construction, unless specific approval has been granted for tree work in this area.

HARDSCAPE WORKS

4.01 GENERAL

The Contractor shall undertake the installation of all hardscape works as detailed on the drawing, or where not detailed, by manufacturers specification.
- Paving - refer to typical details provided, and applicable Australian Standards. *Permeable paving may be used as a suitable means of satisfying Council pre-treatment surface requirements, while providing a useable, hardwearing, practical surface.* In most instances, the client shall nominate the appropriate paving material to be used.

Australian Standards shall be adhered to in relation to all concrete, masonry & metal work. Some details are typical and may vary on site. All hardscape works shall be setout as per the drawings, and inspected and approved by the Landscape Architect prior to installation. All workmanship shall be of the highest standard. Any queries or problems that arise from hardscape construction should be brought to the attention of the Landscape Architect.
Your attention is directed to any obligations or responsibilities under the Dividing Fences Act, 1991 in respect of adjoining property owners which may arise from this application. Any enquiries in this regard may be made to the Crown Lands Division on (02) 8836 5332.

IRRIGATION WORKS

5.01 GENERAL (PERFORMANCE SPECIFICATION)

This is a general Irrigation Performance Specification only, as a guide for projects requiring irrigation systems as part of consent requirements or building contractual arrangements.
An automated irrigation system is recommended for the effective establishment of new gardens, and to assist with the success of planting areas on terraces, over slabs and in Communal Open Spaces.
The inclusion of this general specification is no guarantee that an irrigation system forms part of the landscape scope of works, which will be determined by the building contract.

New irrigation systems to planting areas shall be a Commercial Grade Irrigation System conforming to all relevant Australian standards, including AS 3500 & the Electrical Safety Act 2002, Workplace Health & Safety Act 1990, & the latest Sydney Water Code.

As automated drip-irrigation system is to be installed to all gardens, planters and lawn areas in accordance with the approved Irrigation Design.
This system shall be designed and installed by a qualified and licensed irrigation specialist, to the highest industry standards and to maximise the efficient usage of water.
The Installer is required to obtain all approvals necessary for the completion of works in accordance with the Laws of Australia, Laws of the State of NSW, Campbelltown Council By-Laws and Ordinances.

Drawings:
– The Landscape Contractor nominated Licensed Irrigation Specialist shall provide irrigation drawings for approval upon engagement.

Design Requirements:
– The irrigation system shall be installed prior to all planting works. It shall incorporate a commercially available irrigation system, with sub-surface dripper lines to irrigate all gardens, planters and lawn areas.
– It shall incorporate a suitable back flow prevention device for the scale of works, an in-line filter, check valves, and suitable high and low density poly hose fittings and PVC piping to achieve flow rates suitable for specified planting.
– The irrigation application rate shall not exceed the infiltration rate of the soil or create run-off.
– The landscape contractor shall check the existing pressures available from the ring mains and size irrigation piping to suit. Supply shall be from local hose cock where available.
– All piping and fittings shall be buried 50mm below the finished soil levels in garden and lawn areas, and excavated in position at 500mm centres with gale wire pins.
– Size of pipes shall be selected to ensure the working pressure at the end of the line does not decrease by more than 5%.

Services Co-ordination:
– Co-ordination required by Landscape Contractor or Project Manager to provide required conduit, pipe work and penetration through slabs and planter walls for water and power provisions.
– The Landscape Contractor shall be engaged with the Irrigation Specialist to co-ordinate with the Project Manager to identify the preferred service and conduit locations.
– Project Manager and Landscape Contractor to establish area suitable for irrigation control system with required area, power provision and water supply.

Testing & Defects:
Upon completion of installation, the system shall be tested, including:
– Main Line Pressure Test: The main line is pressurised to test for leaks. All valves are shut and the pressure is taken over a determined length of time.
– Dripper Pressure Test: Measurement at flushing valves are taken and the pressure gauged to make sure it conforms to the manufacturer recommendations. The test pressure is then tested under the same conditions to check it does not exceed 300kpa.
– All components are to be satisfactorily functional and operational prior to approval. Should any defect develop, or the capacity or efficiency of the system decline during the agreed maintenance system, then these faults shall be immediately rectified.

Warranty:
– A full 12 month warranty shall be included to cover labour and all parts.

Further Documentation:
– On request, a detailed irrigation performance specification report can be issued.

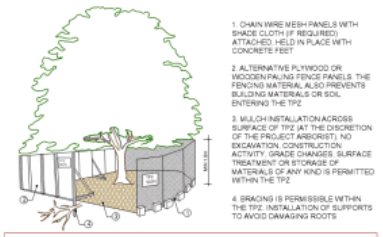
CONSOLIDATION AND MAINTENANCE

6.01 GENERAL

The consolidation and maintenance period shall be 12 months beginning from the approved completion of the specified construction work (Practical Completion). A qualified landscape maintenance contractor shall undertake the required landscape maintenance works. Consolidation and maintenance shall mean the care and maintenance of Contracted works by accepted landscaping or horticultural practices, ensuring that all plants are in optimum growing conditions and appearance at all times, as well as rectifying any defects that become apparent in the contracted works.

This shall include, but not be limited to, the following items where and as required:
- Watering of planting and lawn areas / irrigation maintenance.
- Clearing litter and other debris from landscaped areas.
- Removing weeds, pruning and general plant maintenance.
- Replacement of damaged, stolen or unhealthy plants.
- Make good areas of soil subsidence or erosion.
- Topping up of mulched areas.
- Spray / treatment for insect and disease control.
- Fertilising with approved fertilizers at correct rates.
- Mowing lawns & trimming edges each 14 days in summer or 18 days in winter
- Adjusting ties to Stakes
- Maintenance of all paving, retaining and hardscape elements.

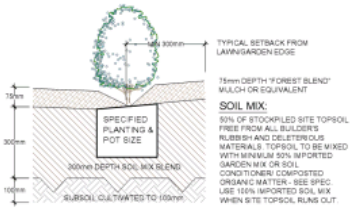
On the completion of the maintenance period, the landscape works shall be inspected and at the satisfaction of the superintendent or landscape architect, the responsibility will be signed over to the client.



PROVIDE FENCING AS DETAILED TO ALL TREES PROPOSED TO BE RETAINED ON THE SUBJECT SITE FENCING TO BE LOCATED TO THE DRIP LINE OF TREES OR AS INDICATED ON PLANS OR DIRECTED ON-SITE BY ARBORIST. NO STOCKPILING WITHIN FENCE PERIMETERS.

TREE PROTECTION ZONE

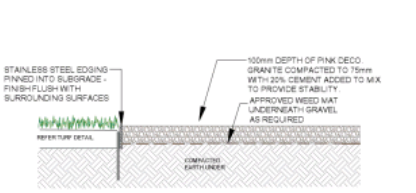
N.T.S



TYPICAL GARDEN PREPARATION DETAIL

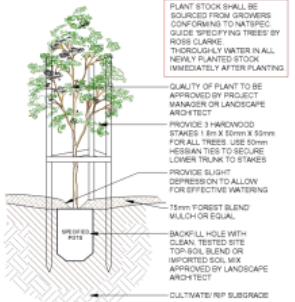
SCALE 1:10

(ONLY APPLICABLE FOR PLANTING AREA OUTSIDE TREE PROTECTION ZONE OF TREES TO BE RETAINED. NO CHANGES ARE TO OCCUR TO EXISTING LEVELS, INCLUDING RIPPING/CULTIVATING OF THE SOIL WITHIN THE TPZ OF TREES TO BE RETAINED ON SITE)



TYPICAL COMPACTED DECO GRANITE DETAIL

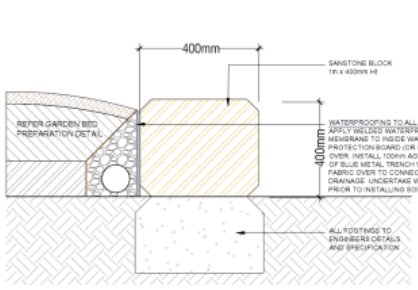
SCALE 1:10



TREE PLANTING DETAIL

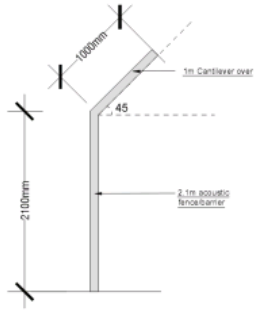
SCALE: 1:10

(ONLY APPLICABLE FOR PLANTING AREA OUTSIDE TREE PROTECTION ZONE OF TREES TO BE RETAINED. NO CHANGES ARE TO OCCUR TO EXISTING LEVELS, INCLUDING RIPPING/CULTIVATING OF THE SOIL WITHIN THE TPZ OF TREES TO BE RETAINED ON SITE)



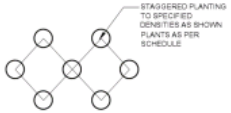
SANDSTONE BLOCK RETAINING WALL

SCALE 1:10



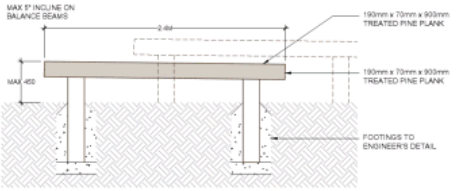
ACOUSTIC FENCE DETAIL (REFER TO ACOUSTIC REPORT)

SCALE: 1:25



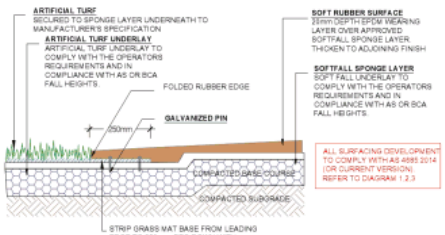
MASS PLANTING SETOUT

N.T.S



BALANCE BEAMS TYPICAL DETAIL

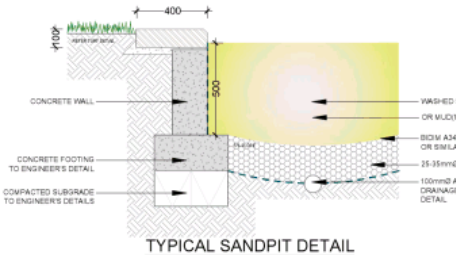
SCALE: 1:25



*ALL ARTIFICIAL GRASS INSTALLED BY MANUFACTURE'S SPEC & DETAIL

TYPICAL (PERMEABLE) RUBBERISED SOFTFALL AND SYNTHETIC TURF IN NATURAL SOIL

SCALE: NTS



TYPICAL SANDPIT DETAIL

SCALE 1:10

GENERAL NOTE

DIAL 1100 BEFORE YOU DIG

ARCHITECT: RFA ARCHITECTS

LANDSCAPE ARCHITECT: Conzept Landscape Architects
Suit 101, 308 Miller Street, CAMMERAY NSW 2062
Phone: 9922 1312
Fax: 8203 4802
Mob: 0410 661 351
www.conzept.net.au
enquiries@conzept.net.au

COUNCIL: CAMPBELLTOWN

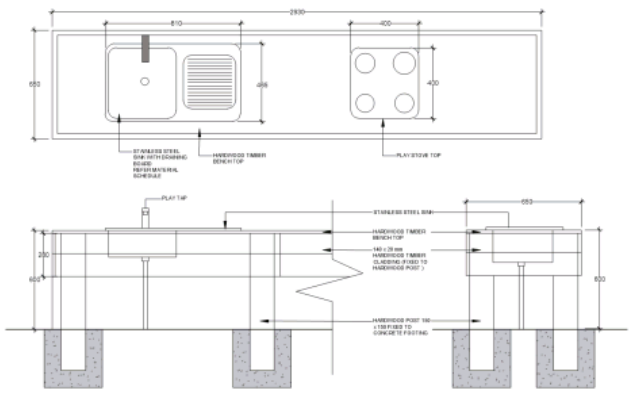
CLIENT: BRIGHTEST START EARLY LEARNING CENTRE

REV	DATE	NOTATION/AMENDMENT
A	26.06.19	Preliminary DA prepared for review
B	20.03.19	DA amendments
C	24.04.20	Amendments

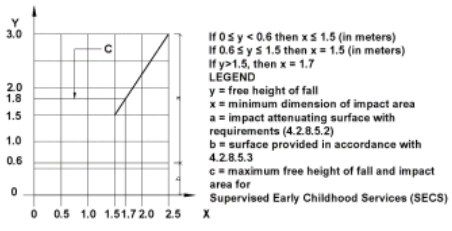
PROJECT: PROPOSED CHILDCARE CENTRE DEVELOPMENT
139 ST JOHNS RD
BRADBURY

TITLE: SPECIFICATION & DETAIL

STATUS: DEVELOPMENT APPLICATION
SCALE: AS SHOWN @ A1
DATE: OCT 2020
DRG No: LPDA 18 - 341
PAGE NUMBER: 4
DRAWN: C.D / R.H
CHECKED: R.F



MUD KITCHEN
SCALE 1:10



If 0 ≤ y < 0.6 then x ≤ 1.5 (in meters)
If 0.6 ≤ y ≤ 1.5 then x = 1.5 (in meters)
If y>1.5, then x = 1.7
LEGEND
y = free height of fall
x = minimum dimension of impact area
a = impact attenuating surface with requirements (4.2.8.5.2)
b = surface provided in accordance with 4.2.8.5.3
c = maximum free height of fall and impact area for
Supervised Early Childhood Services (SECS)

DIAGRAM 1: IMPACT AREA
AS 4685:2014 (OR CURRENT VERSION)

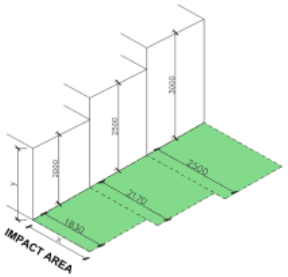
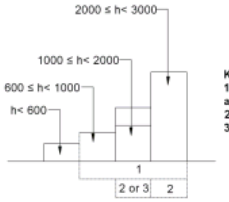
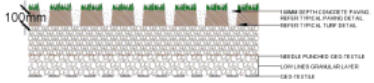


DIAGRAM 2: FALLING SPACE
AS 4685:2014 (OR CURRENT VERSION)

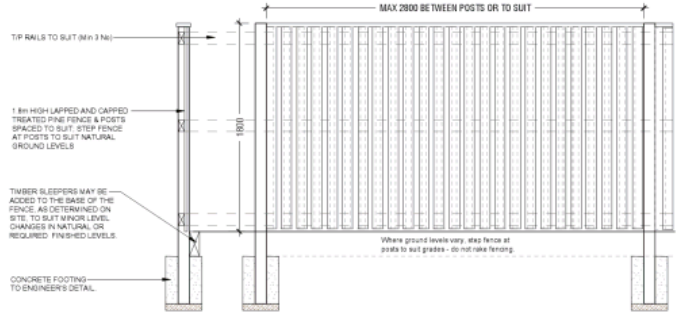


KEY
1 Surfacing in accordance with 4.2.8.5
2 Barriers required
3 Guardrail required

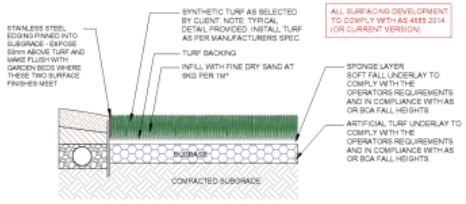
DIAGRAM 3: NOT EASILY ACCESSIBLE EQUIPMENT
AS 4685:2014 (OR CURRENT VERSION)



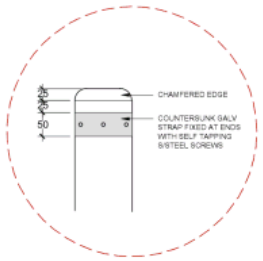
TYPICAL TURFCRETE DETAIL
SCALE 1:15



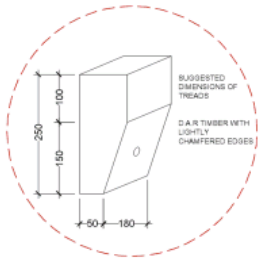
1.8m BOUNDARY LAPPED AND CAPPED T/P TIMBER FENCING
SCALE: 1:20



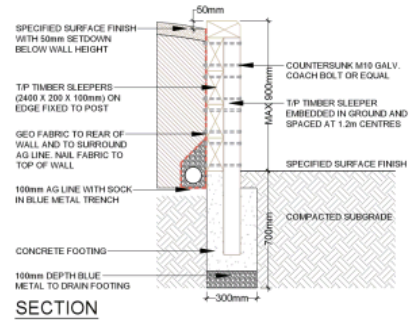
TYPICAL ARTIFICIAL TURF & STEEL EDGING DETAIL SCALE: 1:10



INSERT PLAN 1
SCALE: 1:10

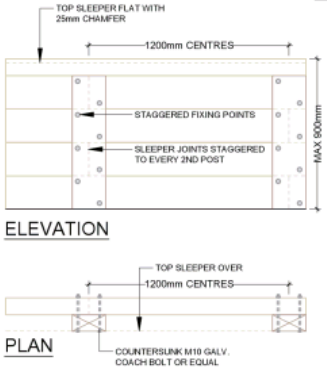


INSERT PLAN 2
SCALE: 1:10



SECTION

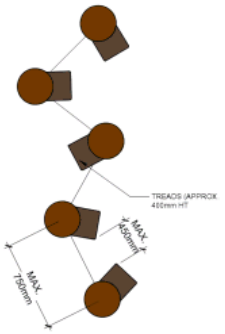
TIMBER SLEEPER RETAINING WALL
SCALE 1:10



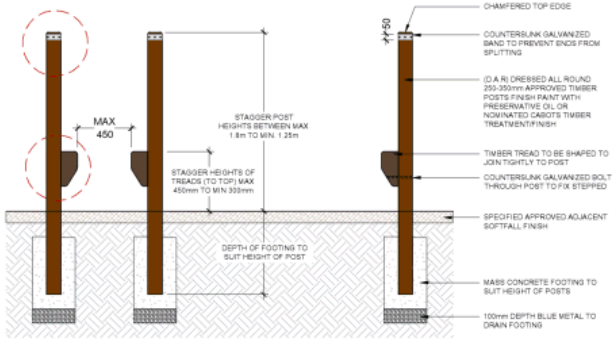
ELEVATION

PLAN

NOTE: TYPICAL DETAIL ONLY. ALL WALLS WHICH FORM PART OF DRAINAGE WORKS MUST BE BUILT AS DETAILED BY THE HYDRAULIC ENGINEER. ALL WALLS EXCEEDING 900mm HEIGHT SHALL BE DETAILED BY A QUALIFIED ENGINEER. INSTALL WALL TO SUIT SITE LEVELS AND TO MANUFACTURE'S SPECIFICATION.



PLAN
SCALE: 1:20



SECTION
SCALE: 1:20

TYPICAL LOG STEPPER
SCALE 1:20

GENERAL NOTE

ARCHITECT: RFA ARCHITECTS

LANDSCAPE ARCHITECT: Concept Landscape Architects

COUNCIL: CAMPBELLTOWN

CLIENT: BRIGHTEST START EARLY LEARNING CENTRE

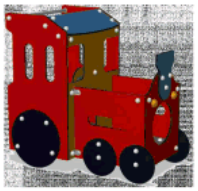
REV	DATE	NOTATION/AMENDMENT
A	26.05.18	Preliminary DA prepared for review
B	26.03.19	DA amendments

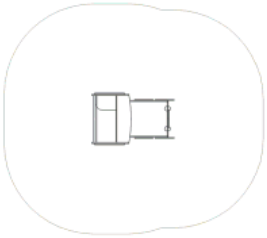
PROJECT: PROPOSED CHILDCARE CENTRE DEVELOPMENT
139 ST JOHNS RD
BRADBURY

TITLE: DETAIL

STATUS: DEVELOPMENT APPLICATION
SCALE: AS SHOWN @ A1
DATE: MARCH 2019
DWG No: LPDA 18 - 341
PAGE NUMBER: 5
DRAWN: C.D / R.H
CHECKED: R.F

NOTE
IMAGES FOR CONCEPT ONLY, NOT FOR CONSTRUCTION.
FINAL ITEMS MAY VARY SUBJECT TO APPROVAL BY COUNCIL AND CLIENT'S SELECTION.
SIMILAR PROPRIETARY PLAY EQUIPMENT CONFORMING AS4685 TO BE NOMINATED BY CLIENT TO MANUFACTURER'S SPECIFICATION.
ALL PLAYGROUND SURFACE TO CONFORM AS 4422:2016





MANUFACTURER: KOMPAN

PRODUCT NAME: Toddler train

ITEM NUMBER:M53600-3018P (SURFACE)
M53600-3418P (INGROUND 60CM)

ITEM: Synthetic grass

IMAGE BY: Royal Grass

INSTALLATION AS PER SUPPLER'S SPECIFICATION

ITEM: 3D rubber creations

IMAGE BY: Completeplaygrounds

INSTALLATION AS PER SUPPLER'S SPECIFICATION

ITEM: Rubberised softfall

IMAGE BY: Surfacedesigns or similar

PRODUCT NAME: Rosehill TPV® INPLAY

INSTALLATION AS PER SUPPLER'S SPECIFICATION

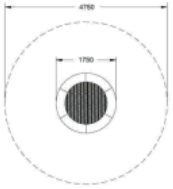
ITEM: Cubby House

IMAGE BY: AARONS OUTDOOR LIVING

PRODUCT NAME: Custom-made to be nom by client

MATERIAL: natural timber finish with preservative timber coating & Colourbond roof (colours TBC)

INSTALLATION AS PER SUPPLER'S SPECIFICATION



ITEM: In-ground Trampoline

IMAGE BY: ModuPlay

INSTALLATION AS PER SUPPLER'S SPECIFICATION

PRODUCT NAME *Giant ladybug seats*

MATERIAL:*Fibreglass*

DIMENSION: 0.54m Ht x 0.73m W x 1m L

IMAGE BY: *ArtDinouveau*

INSTALLATION AS PER SUPPLER'S SPECIFICATION

ITEM: Sandstone block as seating

SIZE: 1000 x 500 x 500 (mm) or 500 cube

INSTALLATION: Installed as detailed with 150mm of block base beneath softfall finishes to allow for maximum 350mm Ht

IMAGE BY: Gosford quarries

ITEM: Mound & tunnel

IMAGE BY: Moduplay Commercial Systems

INSTALLATION AS PER SUPPLER'S SPECIFICATION

ARCHITECT: RFA ARCHITECTS

LANDSCAPE ARCHITECT: Conzept Landscape Architects

COUNCIL: CAMPBELLTOWN

CLIENT: BRIGHTEST START EARLY LEARNING CENTRE

REV	DATE	NOTATION/AMENDMENT
A	22.10.29	For submission

PROJECT: PROPOSED CHILDCARE CENTRE DEVELOPMENT
139 ST JOHNS RD
BRADBURY

TITLE: MATERIAL & PROPRIETARY ITEM SCHEDULE

STATUS: DEVELOPMENT APPLICATION

SCALE	DATE
AS SHOWN @ A1	MARCH 2019

DWG No.	PAGE NUMBER	DRAWN	CHECKED
LPDA 18 - 341	6	E.W/C.D / R.H	R.F


MGA
AREA LOT 50 : 915.2m²
ST JOHNS ROAD
50
49
51
201
2
134
DP 225520
DP 225520
DP 1130165
DP 1080761
BRICK RESIDENCE TILE ROOF No 139
BRICK RESIDENCE TILE ROOF No 137
BRICK RESIDENCE TILE ROOF No 141
BRICK GARAGE TILE ROOF
BALCONY
(ROOMS UNDER)
PATIO
PERGOLA
INGROUND POOL
2 STOREY
SINGLE STOREY
SHED
METAL GARAGE
SUN ROOM
BRICK RESIDENCE
EASEMENT FOR STORMWATER DRAINAGE (0.915 WIDE) K40909
157° 46' 50"
45.74(SURV)
45.72(TITLE)
45.72(TITLE)
45.765(SURV)
341° 07' 15"
A 24.335
A 18.61
MIKE MORRIS (ID8613)
REGISTERED SURVEYOR
LANDMARK SURVEYING SERVICES PTY LTD
PO BOX 78 WOONONA NSW 2517
Phone : 0438 621828
email : surveys@landmarksurveying.com.au
SURVEY PLAN
SCALE 1 : 200
NAME: YOUSSEF TLEIS
ADDRESS: 139 ST JOHNS ROAD AT BRADBURY
LOT 50 DP225520

139 St Johns Road, Bradbury

22 Oct 2020 (Proj Number 18007)

rfa architects

ATTACHMENT 7 – Campbelltown City Council (Sustainable City) Development Control Plan 2015 Compliance Table

The SCDCP 2015 is broken down into several volumes and parts which relate to specific localities and various developments. Volume 1, Part 2 relates to development controls for all types of development and Part 8 relating to centre-based child care facilities.

Part	Requirement	Proposed	Compliance
2. Requirements Applying to All Types of Development			
2.3 Views and Vistas			
(a)	a) Development shall appropriately respond to Campbelltown's important views and vistas to and from public places.	The development would not impact views/vistas.	Satisfactory
(b)	District views and existing significant view corridors as viewed to and from public places shall be protected	The development would not impact Campbelltown's district views and existing view corridors.	Satisfactory
2.4 Sustainable Building Design			
2.4.1 (b) Rain Water Tanks	A rain water tank shall be provided for all new buildings containing a roof area greater than 100sqm for all development not specified by BASIX. The rain water tank shall have a minimum capacity in accordance with Table 2.4.1.	5000L water tank is provided below ground, underneath the car park.	Satisfactory
2.4.2 (a) Natural Ventilation	a) The design of new buildings shall be encouraged to maximise opportunities for cross flow ventilation, where practical, thus minimising the need for air conditioning.	The proposed development maximises opportunities for cross flow ventilation, when children are engaged in quiet activities.	Satisfactory
2.4.3 (a) Light Pollution	Outdoor lighting shall be designed to minimise pollution from the unnecessary dispersion of light into the night sky and neighbouring properties.	Recommended condition of consent.	Can comply. Recommended condition of consent.
2.5 Landscaping			
(a)	Landscape design shall enhance the visual character of the development and complement the design/use of spaces within and adjacent to the site.	The proposed landscaping between the property boundary and the car park is considered satisfactory.	Satisfactory
(b)	Landscape design shall retain and enhance the existing native fora and fauna characteristics of a site wherever possible.	See section 3.1 of the report for details. T1 Benjamina Fig is proposed to be removed,	Can comply – recommended condition of consent.

Part	Requirement	Proposed	Compliance
		however is required to be retained.	
(c)	Landscape design shall add value to the quality and character of the streetscape.	A satisfactory landscaping plan was provided as viewed from the street.	Satisfactory
(d)	A Landscape Concept Plan is required to be submitted with a development application for child care centres.	A revised landscape plan is required to be provided prior to the issue of a construction certificate which shows the retention of T1 – Benjamina Fig.	Can comply – recommended condition of consent.
(e)	The Landscape Concept Plan shall illustrate mature height, spread of species, trees to be removed/retained and shall be prepared by a Suitably qualified person.	A revised landscape plan is required to be provided prior to the issue of a construction certificate which shows the retention of T1 – Benjamina Fig and the replacement of tree plantings which are to comprise a minimum of seven native trees.	Can comply – recommended condition of consent.
(f)	Landscaping shall maximise the use of locally indigenous and other drought tolerant native plants and avoid the use of invasive species.	Revised landscape plan required as provided above.	Can comply – recommended condition of consent.
2.7 Erosion and Sediment Control			
(a)	An Erosion and Sediment Control Plan shall be prepared and submitted with a development application proposing construction and/or activities involving the disturbance of the land surface.	Erosion and sediment control notes provided. Conditions of consent are imposed to ensure the proposed development would comply with Part 2.7 of the *CSCDCP 2015*.	Can comply – recommended condition of development consent.
2.8 Cut, Fill and Floor Levels			
(a)	A Cut and Fill Management Plan (CFMP) shall be submitted with a development application where the development incorporates cut and/or fill operations.	A Cut and Fill Management Plan has been submitted.	Satisfactory
(c)	Any excavation within the zone of influence of any other structure requires a 'dilapidation report' (prepared by a suitably qualified person) demonstrating that adequate ameliorative measures are to be implemented to protect the integrity of any structure.	A dilapidation report has not been provided – recommended condition of development consent.	Satisfied through a recommended condition of development consent.
(e)	All fill shall be 'Virgin Excavated Natural Material' (VENM).	Details not provided. Condition of development consent recommended.	Can comply – condition of development consent.

Part	Requirement	Proposed	Compliance
(f)	No fill shall be deposited in the vicinity of native vegetation.	Fill not proposed in the vicinity of native vegetation to be retained.	Satisfactory
(g)	All basement excavation shall be setback a minimum of 900mm from the property boundaries.	Basement not proposed.	N/A
2.9 Demolition			
(a)	A development application involving demolition shall be considered having regard to the following information: i) a detailed work plan prepared by a suitably qualified person, in accordance with AS2601-2001- The Demolition of Structures (as amended); ii) details of the licensed demolition contractor engaged to carry out the work (including name, address and building licence number); iii) a hazardous materials report that lists details of methods to prevent air, noise and water pollution and the escape of hazardous substances into the public domain; iv) details of any asbestos or other hazardous substances to be removed from the site and/or damaged during demolition; and v) a dilapidation report where any demolition work is to be undertaken within the zone of influence of any other structure.	Recommended condition of consent.	Satisfactory
2.10 Water Cycle Management			
2.10.2 Stormwater			
(a)	All stormwater systems shall be sized to accommodate the 100-year ARI event (refer to Section 4 of Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au.	Stormwater concept provided and assessed. Development engineer provided conditions.	Satisfactory
(h)	Stormwater collected on a development site shall be disposed of(under gravity) directly to the street or to another Council drainage	Stormwater concept plan provided and assessed. Development engineer provided conditions.	Satisfactory

Part	Requirement	Proposed	Compliance
	system/device. Where stormwater cannot be discharged directly to a public drainage facility, a drainage easement of a suitable width shall be created over a downstream property(s) allowing for the provision of a drainage pipe of suitable size to adequately drain the proposed development to a public drainage facility.		
(i)	All proposed drainage structures incorporated within new development shall be designed to maintain public safety at all times.	A stormwater and drainage plan was provided. Conditions of consent are imposed.	Satisfactory
(j)	Development shall not result in water run-off causing flooding or erosion on adjacent properties.	A stormwater and drainage plan was provided. Conditions of consent are imposed.	Satisfactory
(k)	Stormwater run-off shall be appropriately channelled into a stormwater drain in accordance with Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au.	A stormwater and drainage plan was provided. Conditions of consent are imposed.	Satisfactory
(l)	Where applicable, the development shall incorporate the creation of an appropriate easement to manage stormwater in accordance with Council's Engineering Design Guide for Development available from Council's website at www.campbelltown.nsw.gov.au.	Not required.	N/A
2.10.3 Stormwater Drainage			
(a)	A stormwater Drainage Concept Plan shall be prepared by a suitably qualified person, and submitted with all development applications, involving construction (except for internal alterations/fitouts), demonstrating to Council how the stormwater will be collected and discharged from the site.	A stormwater and drainage plan was provided. Conditions of consent are imposed.	Satisfactory

Part	Requirement	Proposed	Compliance
(b)	The stormwater concept plan shall include the following information as a minimum: i) locations, layouts and sizes of stormwater pipes and pits; ii) minimum grades and capacity of stormwater pipes; and iii) existing and proposed easements, site contours and overland flow path/s.	A stormwater and drainage plan was provided. Conditions of consent are imposed.	Satisfactory
2.12 Retaining Walls			
(b)	In the case of retaining walls constructed to support proposed fill of an allotment, the following design criteria shall apply: i) No filling shall be permitted within 2 metres of any property boundary unless sufficient details are submitted to Council illustrating how privacy, overshadowing stormwater management and access issues have been addressed to Council's satisfaction.	Filling is proposed for the at-grade car parking area. The area of fill does not contain a structure other than a car parking area and 1.2m acoustic fence. Overshadowing impacts to adjoining development is considered satisfactory.	Satisfactory
(c)	In the case of retaining walls constructed to support proposed cut on an allotment, the following design criteria shall apply: i) The retaining wall shall be setback a minimum 450mm from the rear and side boundary of the lot containing the cut.	Retaining walls constructed to support cut located on the lower ground open space area are located 450mm from the side property boundary.	Satisfactory
(f)	Any excavation within the zone of influence for any other structure or building requires a Structural Engineering Report demonstrating that adequate and appropriate measures are to be implemented to protect the integrity of any structure.	Structural Engineering Report not provided.	Can comply. Recommended condition of consent.
i)	Retaining walls higher than 900mm shall be designed by a structural engineer and made from appropriate material.	Recommended conditions of consent for retaining walls higher than 900mm to be designed and certified by a structural engineer.	Can comply. Recommended condition of consent.
2.13 Security			
(a)	Development shall be designed to:	The development would provide casual	Satisfactory

Part	Requirement	Proposed	Compliance
	i) maximise, where possible, casual surveillance opportunities to the street and surrounding public places; ii) minimise dead ends and other possible entrapment areas; iii) clearly identify and illuminate access points to buildings and designated public places; and iv) clearly differentiate between private and public space.	surveillance to St Johns Road from the entrance and reception area. Entry points to the site are clear. Front fencing is not proposed.	
(b)	External lighting shall be designed to: i) encourage the use of safe areas; ii) define safe corridors for movement of people; and iii) allow facial recognition of approaching pedestrians at 15 metres.	External lighting has not been proposed with the development application. Conditions of consent are recommended.	Can comply – recommended condition of consent.
(c)	Development shall incorporate appropriate landscaping, fencing and security devices to assist in crime prevention.	Clear lines of site are provided between the centre entrance and St Johns Road.	Satisfactory
(d)	Commercial and industrial buildings that are not secured from public access after close of business shall have external finishes that are graffiti resistant.	Conditions of consent are imposed.	Satisfactory
2.14 Risk Management			
2.14.1 Contaminated Land	a) The requirements of Managing Land Contamination Planning Guidelines, SEPP 55 – Remediation of Land (EPA, DUAP, 1998) shall be satisfied on sites known to have, or may give Council reason to suspect, a potential for previous contamination.	See section 2.1 of report. For assessment under the provisions of SEPP 55.	Can be satisfied by recommended conditions of consent.
2.14.3 Bushfire	Development applications relating to land identified on the Bushfire Prone Land Map shall be accompanied by a Bushfire Hazard Assessment Report prepared by a suitably qualified person.	The development is not located within bushfire prone land.	Not applicable
2.14.4 Subsidence	Any development on a site located within South Campbelltown Mine Subsidence District, or Appin	The development is not located within a mine subsidence district.	Not applicable

Part	Requirement	Proposed	Compliance
	Mine Subsidence District may be at risk of the effects of subsidence from past and/or future underground mining. An appropriate engineering outcome shall be achieved.		
2.15 Waste Management			
2.15.1 Waste Management Plan			
(a)	A detailed 'Waste Management Plan' (WMP) shall accompany development applications for certain types of development/land uses, as detailed in Table 2.15.1.	Satisfactory waste management plan provided.	Satisfactory
2.16 Provision of Services			
2.16.1 Water			
(a)	Where connection to the reticulated water supply system is not available, development shall be provided with: i) sufficient water storage to cater for all relevant activities of the proposed use of the development; ii) sufficient storage for fire fighting purposes in accordance with Planning for Bushfire Protection 2006, NSW Rural Fire Service.	Existing services are available, subject to standard conditions.	Satisfactory
2.16.2 Electricity			
(a)	Details of the proposed method of power supply shall be provided as part of the development application for any development involving the construction of a building within rural and environmental protection zones.	The development would be connected to existing services.	Satisfactory
2.17 Work on, Over or Near Public Land			
2.17.1 Approval Required Prior to Working On or Over Public Land			
(a)	Written approval shall be obtained from Council, prior to the commencement of any works, activities or occupancy upon public land, including roads, road related areas, stormwater connections, Council car parks, footpaths or nature strips.	Works within the public area are proposed. Section 138 condition is recommended.	Can be satisfied through a condition of development consent.
8.2 Licence Requirements			

Part	Requirement	Proposed	Compliance
(a)	In order to operate a Centre-based Child Care Facility in Campbelltown, the applicant needs to obtain: i) a development consent from Council under the EP&A Act; and ii) a licence to operate from the NSW Department of Family and Community Services.	A licence was not provided. Recommended condition of consent.	Condition of development consent recommended.
8.3.1 Locality Requirements			
(a) (i)	Child care centres shall not be located on an allotment that is accessed from a State road (refer to Table 8.3.1 for a list of State roads in Campbelltown LGA).	The site is not accessed from a state road.	Satisfactory
(a) (ii)	Child care centres shall not be located on an allotment that is within 100 metres of the intersection of a State road.	The subject site is not located within 100m of an intersection of a State road.	
(a) (iii)	Child care centres shall not be located on an allotment that is within a no through road.	The subject site is not located on a no-through road. St Johns Road is a through road.	Yes
(a) (iv)	Child care centres shall not be located on an allotment that has vehicular access to a road where the carriageway is less than 6.5 metres in width.	The width of St Johns Road carriageway is >6.5m.	Yes
(a) (v)	Child care centres shall not be located on an allotment that has a building erected upon it that is constructed of materials that contain asbestos or lead paint.	All existing structures on the site are proposed to be demolished.	Yes
(a) (vi)	Child care centres shall not be located on an allotment that is adjacent to a: -potentially hazardous industry, hazardous industry, potentially offensive industry, offensive industry, agricultural produce industries, livestock processing industries, heavy industrial storage establishments; or waste or resource management facility.	The site adjoins residential development.	Satisfactory

Part	Requirement	Proposed	Compliance
(a) (vii)	Child care centres shall not be located on an allotment that is within a 150 metre radius of a sex restricted premises; sex services premises or home occupation (sex services);	The subject site is not located within 150m radius of a known sex restricted premises, sex services premises or home occupation (sex services).	Satisfactory
(a) (viii)	Child care centres shall not be located on an allotment that presents a potential safety hazard for vehicle and pedestrian traffic, unless it can be demonstrated to Council's satisfaction that there would be no vehicular/ pedestrian conflict (refer to Figure 8.3.1);	Site considered safe for vehicle and pedestrian access. See part 3.1 of report for discussion.	Satisfactory
(b)	Child care centres shall not be located within a basement of a building (excluding storage rooms and offices ancillary to the child care centre).	The proposed development would not be contained within a basement of a building. The development would consist of a ground floor and lower ground floor building.	Satisfactory
(c) (i)	Child care centres shall not be permitted on a local street, unless it can be demonstrated to Council's satisfaction that the proposed child care centre will not impact negatively on the local traffic network.	The application was referred to Council's City Delivery section which advised that the traffic generation from the proposed development and the impact on the surrounding network in terms of level of service is insignificant (36 trips per hour in peak hour).	Satisfactory
(c) (ii)	Child care centres shall not be permitted on a local street, unless it can be demonstrated to Council's satisfaction that the proposed child care centre has adequate on-site parking and manoeuvring/ turning spaces.	Adequate on-site parking and manoeuvring.	Satisfactory
(c) (iii)	Child care centres shall not be permitted on a local street, unless it can be demonstrated to Council's satisfaction that the amenity of the surrounding properties is maintained.	Amenity of the residential area is maintained. See section 3.1 of the report for discussion.	Satisfactory

Part	Requirement	Proposed	Compliance
(d) (i)	Where a child care centre is proposed to be located in a building on land within Business zones, the child care centre (excluding storage rooms and offices) shall be directly accessible by car.	The proposed centre is located within R2 Low Density Residential zone.	N/A
(d) (ii)	Where a child care centre is proposed to be located in a building on land within Business zones, the child care centre (excluding storage rooms and offices) shall not occupy more than one (1) storey.	The proposed centre is located within R2 Low Density Residential zone.	N/A
(d) (iii)	Where a child care centre is proposed to be located in a building on land within Business zones, the child care centre (excluding storage rooms and offices) shall be located no higher than the first floor to ensure the easy evacuation of children in case of emergency.	The proposed centre is located within R2 Low Density Residential zone.	N/A
8.3.2 Site Requirements			
(a)	Child care centres shall only be developed on an allotment having a minimum width of 20 metres.	Subject site provides an allotment width is 21.34m.	Satisfactory
(b)	Despite clause 8.3.2 a) Council may consider a proposal for a child care centre within an existing building on sites within areas zoned B3, B4 or B5 that do not necessarily meet the site width requirement.	The proposed centre is located within R2 Low Density Residential zone.	N/A
8.3.3 Streetscape			
(a)	The design of new purpose built buildings (including facade treatments, building massing, roof design and entrance features, setbacks and landscaping) shall complement the scale of surrounding development, character and qualities of the desired streetscape.	The scale of the proposed built form of the development, as viewed from the street is compatible with the scale of the adjoining residential development.	Satisfactory

Part	Requirement	Proposed	Compliance
(b)	Notwithstanding Clause 8.3.1 a) viii) new buildings on corner sites shall incorporate facade treatments that address both street frontages and achieve positive articulation in building design.	The proposed development would not be located on a corner site.	N/A
(c)	Clothes lines and air conditioning units shall be screened and not visible by the public when viewed from a public area.	Recommended condition of consent for air conditioning units to be screened and not visible from the street.	Satisfactory
(d)	The built form, design and layout of all outdoor play areas shall relate to the natural land form and setting to ensure that the amenity (visual and acoustic privacy) of adjoining properties is protected.	The child care centre building and the lower ground level outdoor play area generally relates to the natural land form. The level of fill proposed for the car parking area does not create amenity concerns for the adjoining residential development.	Satisfactory
8.3.4 Fencing			
(a) (i)	Fencing along the primary and secondary street boundaries shall not be constructed of bonded sheet metal.	Bonded sheet metal fencing is not proposed.	N/A
(a) (ii)	Fencing along the primary and secondary street boundaries shall not be higher than 1.2 metres.	The site does not include a secondary street.	N/A
(a) (iii)	Fencing along the primary and secondary street boundaries shall be articulated, incorporate landscape treatments and complement the design and finish of the development.	Fencing is not proposed along the primary street boundary.	N/A
(b) (i)	Fencing to the rear and side boundaries shall be located behind the primary and secondary street setbacks.	The proposed side and rear acoustic fencing is located behind the front building line.	Satisfactory

Part	Requirement	Proposed	Compliance
(b) (ii)	Fencing to the rear and side boundaries shall be a maximum of 2.1 metres in height (excluding retaining walls).	Retaining walls are not proposed on the side property boundary. The proposed fencing height at the property boundary is 2.1m measured from existing ground level. In addition to the 2.1m height, the acoustic fence includes a 1m cantilevered section. See section 2.6 of the report for discussion.	Non-compliance. Considered satisfactory.
(c) (i)	Bonded sheet metal fencing shall only be permitted where all of the following criteria have been met the fence is located behind a 1.5 metre wide landscaped buffer.	Bonded sheet metal fencing is not proposed.	N/A
(c) (ii)	Bonded sheet metal fencing shall only be permitted where all of the following criteria have been met the fence is located behind the building line of all street frontages.	Bonded sheet metal fencing is not proposed.	N/A
8.3.5 Hours and Days of Operation			
(a)	In residential and rural areas, the hours and days of operation shall be limited to: i) 7:00 am to 7:00 pm Monday to Friday; ii) 7:00 am to 6:00 pm on Saturdays; and iii)no operation on Sundays or public holidays.	The proposed hours of operation are 7am to 6pm Monday to Friday.	Satisfactory
8.3.6 Visual and Acoustic Privacy			

Part	Requirement	Proposed	Compliance
(a)	An acoustic report prepared by a suitably qualified person shall be submitted with all child care centre development applications demonstrating : i) that the noise levels generated from the child care centre, when measured over a 15 minute period, does not exceed the background noise by more than 5 dBA; ii)that the noise levels comply with the requirement of the Protection of The Environment Operations Act 1997; and iii)illustrating ways to minimise the impacts of noise on adjoining properties.	A Noise Emission Assessment has been provided with the development application, prepared by Acoustic Dynamics, dated 4 May 2020. In accordance with the recommendations of the acoustic report, a 2.1m acoustic fence is provided on the property boundary, located behind the property boundary. A 1m high cantilevered canopy at the top of the 2.1m barrier (extending 1m over the play area) is required along the eastern, western and northern boundary adjacent to the lower ground outdoor play area.	Satisfactory – recommended conditions of development consent to comply with the recommendations of the Noise Emissions Assessment. Prepared by Acoustic Dynamics, dated 4 May 2020.
(b) (i)	Direct views to and from neighbouring and surrounding properties shall be minimised through appropriate building design and location of outdoor play areas; and	Outdoor play areas are appropriately located. A 2.1m high fence with a 1m cantilevered portion is proposed surrounding the lower ground floor outdoor play area. Additionally, a 2m high acoustic barrier is proposed around the perimeter of the ground floor outdoor play area.	Satisfactory
(b) (ii)	Direct views to and from neighbouring and surrounding properties shall be minimised through the use of fencing and landscaping buffers.	Overlooking is not anticipated to/from the lower ground floor. A variety of window shapes are provided in the acoustic barrier for the outdoor play area on the ground floor. A condition of consent has been recommended for the windows in the acoustic screen to be translucent glazing. Overlooking is not anticipated.	Satisfactory
8.3.7 Waste Management			

Part	Requirement	Proposed	Compliance
(a)	Waste storage, collection areas and service/ delivery areas shall be screened from public view and located to minimise adverse impacts on adjoining properties.	Satisfactory location within the car parking area. Screened satisfactorily.	Satisfactory
(b)	The waste collection area shall be located and designed to minimise safety hazards for any person within the site or within the adjacent private/public areas.	Waste bins to be presented to the curb-side and collected from the street.	Satisfactory
(c)	A waste management plan shall be submitted for all child care centre developments including information with regard to the storage and disposal of used nappies, general waste and recycling.	A Waste Management Plan was provided and is considered satisfactory by Council's Waste Coordinator.	Satisfactory
8.3.8 Additional Requirements - Residential Zones			
(a)	A maximum of 50 children shall occupy a child care centre on any single allotment.	The proposed child care centre would cater for 45 children of the following age categories: -15 children aged 2-3 -30 children aged 3-5 years Total = 45 children. Further, clause 26 of SEPP Child Care states that the number of children cannot be limited within a DCP.	Satisfactory
(b)	The child care centre shall be wholly located on the ground floor of the building (excluding offices and storage rooms).	The child care centre is proposed on the ground floor and lower ground floor.	Non-compliance. Considered satisfactory.
(c) (i)	Child care centres shall be setback a minimum of -5.5 metres from the primary street boundary;	Minimum setback 20.5m from street boundary.	Satisfactory
(c) (ii)	Child care centres shall be setback a minimum of - 5 metres from the rear boundary.	5m proposed to the rear ground floor play area (2-3 year olds).	Satisfactory

Part	Requirement	Proposed	Compliance
(c) (iii)	Child care centres shall be setback a minimum of -3.0 metres from the side boundary; and	3m setback is proposed for the main child care centre. A variation is proposed to the waste storage area attached to the front elevation, 1m from the eastern property boundary. No adverse impacts anticipated from the minor non-compliance.	Minor non-compliance. Considered satisfactory.
(c) (iv)	Child care centres shall be setback a minimum of: 3 metres from any secondary street boundary.	No secondary street boundary.	N/A
8.4 Car Parking and Access			
8.4.1 Car Parking			
(a)	Car parking areas shall be setback a minimum of 3 metres from the front boundary and any secondary boundary.	Minor non-compliance. 2.2sqm encroachment of a parking space within the landscaped setback area.	Minor non-compliance.
(b)	A minimum of one (1) on site car parking space shall be provided for every four (4) children approved to attend the child care centre.	45/4 = 11.25 12 provided (including an accessible space).	Satisfactory
(c)	Off street parking and loading shall be designed in accordance with Australian Standards 2890.1 and 2 (as amended), except as otherwise provided by this Plan.	Senior Development Engineer advised that the car parking area is complaint with AS 28901 and 2 (as amended).	Satisfactory
(d)	No required car parking space shall be designed in a stacked configuration.	The development does not propose car parking spaces to be designed in a stacked configuration.	Satisfactory
(e)	Parking spaces that are stacked will not be considered for the purpose of parking calculations.	The development does not propose car parking spaces to be designed in a stacked configuration.	N/A
(f)	Pedestrian access shall be separated from vehicular access with clearly defined paths to and from the building.	Clearly defined pedestrian path provided from the visitor spaces to the building entrance.	Satisfactory

Part	Requirement	Proposed	Compliance
(g)	Each site shall have a maximum of one ingress and one egress driveway.	Combined egress/ingress proposed.	Satisfactory
(h)	The minimum width of a driveway shall be: i) three (3) metres for one way traffic movement; and ii) 6 metres for two way traffic movement.	The proposed two way traffic movement driveway is 6m.	Satisfactory
(i)	Driveways shall be located a minimum distance of six (6) metres from the tangent point of any unsignalled intersection.	The proposed driveway combined ingress/egress is located more than 6 metres from the tangent point of an unsignalled intersection.	Satisfactory
(j)	Sufficient space shall be provided on site so that no vehicle shall be required to make more than a three-point turn to exit the site in a forward direction.	The proposed car parking area includes a turning bay.	Satisfactory
(k)	All car parking spaces shall be line marked and delineated with appropriate signage and pavement marking.	Recommended condition of development consent.	Can comply. Recommended condition of development consent.

Part	Requirement	Proposed	Compliance
(l)	Development applications child care centres catering for 20 or more children shall include a Traffic Impact Statement, prepared by a suitably qualified person addressing the following criteria: i) the existing traffic environment; ii) anticipated traffic generation from the proposed development; iii) the potential cumulative impact on the locality; iv) the need for local traffic improvements in the locality; v) traffic egress/ingress; and vi) sight distance and other relevant safety issues including vehicular/pedestrian movements.	A Traffic Impact Statement was provided. See section 3.1 of the report for assessment comments.	Satisfactory
8.4.2 Access for People with Disabilities			
(a)	Child care centres shall comply with the minimum access requirements contained within the BCA, the Disability (Access to Premises — Buildings) Standards 2010 and *Australian Standard 14 28 – Design for Access and Mobility* (as amended).	BCA and Access Report provided. Recommended condition of consent for the following: -All building work to be carried out in accordance with the current provisions of the Building Code of Australia (National Construction Code). -Access and services for people with disabilities must be provided to the building in accordance with the requirements of the Access to Premises Standard 2010 and the National Construction Code.	Satisfactory
8.4.3 Emergency Evacuation			

Part	Requirement	Proposed	Compliance
(a)	Development applications for child care centres catering for 20 or more children shall include an Emergency Evacuation Plan prepared by a suitably qualified person in accordance with *Australian Standard 3745 Emergency Control Organization and Procedures for Buildings, Structures and Workplaces* (as amended).	A condition will be recommended be included in the determination to ensure that an appropriate Plan is provided.	Can comply. Recommended condition of development consent.
8.5 Landscaping			
(a)	Landscaping shall be provided to a minimum of a: i) 3 metre wide strip along the primary and secondary street frontage (other than vehicle driveways); and ii) 1.5 metre wide strip along the full length of side and rear setbacks.	The landscaped setback is separated by a driveway. A minor non-compliance of 2.2sqm proposed to the landscape strip on the western side of the driveway. The area is provided as part of a car parking space, instead of landscaped area.	Non-compliance. Considered satisfactory. See section 2.6 of the report for discussion.
(b)	Native mature trees on site shall be retained.	T1 - (*Ficus benjamina*), and T9 – Lilli Pilli (*Syzygium (Acmena) smithii)* are required to be retained on the site.	Can comply. Recommended condition of consent.
(c)	Development applications for child care centres shall include a Landscape Plan and report, prepared by a suitably qualified person addressing the following: i) species, location and mature height of proposed planting; ii) location of play equipment; iii) separation from car parking spaces and driveway areas; iv) fencing height and materials; and v) surfaces (sand, grass or the like).	Revised landscape plan required to be provided as required by (b) above.	Can comply. Recommended condition of consent.

Part	Requirement	Proposed	Compliance
(d)	All existing vegetation on the site and on adjoining sites shall be assessed to ensure that the plants: i) are not toxic or dangerous (refer to Appendix 7 for a list of Unsuitable Plant Species); and ii) do not impose a safety hazard such as personal injury from falling branches and seeds, poisoning and/or choking.	A condition of consent has been recommended for Tree Protection Management Plan to development appropriate mitigation measures to be implemented on site that adequately address the perceived risks associated with T1. The trees to be retained (Benjamina Fig and Black Peppermint) are not listed in Appendix 7.	Satisfactory
8.6 Play Areas			
(a) (i)	Child care centre play areas shall comply with the Children (Education and Care Services) Supplementary Provisions Regulation 2004 (as amended);	See Part 2.4 of the report for assessment.	Satisfactory
(a) (ii)	Child care centre play areas shall be appropriately designed and located to minimise noise impacts to adjoining properties; and	A Noise Emission Assessment has been provided with the development application, prepared by Acoustic Dynamics, dated 4 May 2020. The play areas are suitably located.	Satisfactory – recommended conditions of development consent to comply with the recommendations of the Noise Emissions Assessment. Prepared by Acoustic Dynamics, dated 4 May 2020.
(a) (iii)	Child care centre play areas shall be naturally lit and ventilated.	The centre is considered to have natural light and ventilation opportunities.	Satisfactory
(b)	The siting of outdoor play areas shall: i) be located on a predominantly fat gradient; ii) allow direct supervision from within the centre; and iii) provide adequate fencing.	i) Both play areas are located on predominantly flat gradients. ii) Direct supervision is capable of taking place. iii) 2.1m high fencing is proposed on the property boundaries enclosing the rear outdoor play area.	Satisfactory

Part	Requirement	Proposed	Compliance
(c)	Where a child care centre is proposed to be located on the first floor of a building (in the case of a child care centre proposed within a comprehensive centre zone), the designated play areas shall: i) be provided on the same level and directly accessible from the child care centre; ii) have a minimum ceiling height of 2.7 metres; and iii) be physically separated from the indoor space area.	The proposed child care centre is not to be located within the first floor of a building. Both the ground floor and lower ground floor is provided with a designated indoor and outdoor play area which are appropriately separated from each other. The designated play areas on both levels are provided for designated age groups i.e. ground floor is for 2-3 year olds and the lower ground floor is the designated 3-5 year olds area.	Development is not within a comprehensive centre zone, however the play areas are considered appropriately provided on the ground floor and lower ground floor.
8.7 Advertising Signs			
(a)	a) Despite any other provision of this Plan, a Centre-based Child Care Facility shall have a limit of one (1) business identification sign in accordance with the following: i) not an illuminated sign; ii) the sign shall be located at the building or mounted within the front landscaped area no higher than 1 metre from the natural ground level of the landscaped area; iii) the sign shall only include the name of the centre and business related information such as opening hours, type of Centre-based Child Care Facility and the owners of the centre and any other accreditation relevant to the Centre-based Child Care Facility. iv) the sign shall not exceed 1.0 square metres in area.	Signage not proposed.	N/A

Part	Requirement	Proposed	Compliance
(b)	An advanced warning sign that is approved by Council shall be provided on each road approach, warning motorists that they are approaching a child care facility. The sign shall be provided and erected by Council at the applicant's expense.	Details not provided.	Can comply. Recommended condition of development consent.
Part 11 Vegetation and Wildlife Management			
Part 11.2.1 Management of Native Vegetation and Wildlife Habitat			
(a)(i)	For sites containing native vegetation and/or fauna habitat the development shall be sited, designed and managed to avoid any negative impact on biodiversity where possible.	The proposed development does not avoid, where possible, impacts on biodiversity.	Can be satisfied. Recommended conditions of consent for T1 to be retained.

ATTACHMENT 8 – Child Care Planning Guidelines Compliance Table

In accordance with clause 23 of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities), prior to determining a development application for development for the purpose of a centre-based child care facility, the consent authority must take into consideration any applicable provisions of the *Child Care Planning Guideline*, in relation to the proposed development. A compliance table is provided below assessing the development against the provisions of the Child Care Planning Guideline.

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
3.1 Site Selection and Location			
To ensure that appropriate zone considerations are assessed when selecting a site.	C1 - For proposed developments in or adjacent to a residential zone, consider: -the acoustic and privacy impacts of the proposed development on the residential properties -the setbacks and siting of buildings within the residential context -traffic and parking impacts of the proposal on residential amenity.	The development application has considered the acoustic and privacy impacts of the development which are considered satisfactory. The setbacks of the development, including the minor-non-compliance of the car parking setback, is considered to satisfactorily respond to the residential setting and context of the locality. The traffic and parking impacts are also considered satisfactory. See section 3.1 of the report for further discussion.	Satisfactory
To ensure that the site selected for a proposed child care facility is suitable for the use.	C2 - When selecting a site, ensure that: • the location and surrounding uses are compatible with the proposed development or use • the site is environmentally safe including risks such as flooding, land slip, bushfires, coastal hazards	The required parking for the development is accommodated on the subject site. The site in environmentally safe, with the inclusion of a recommended site audit statement condition. The site is suitable for the scale and of the proposed	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	• there are no potential environmental contaminants on the land, in the building or the general proximity, and whether hazardous materials remediation is needed • the characteristics of the site are suitable for the scale and type of development proposed having regard to: - size of street frontage, lot configuration, dimensions and overall size - number of shared boundaries with residential properties - the development will not have adverse environmental impacts on the surrounding area, particularly in sensitive environmental or cultural areas • where the proposal is to occupy or retrofit an existing premises, the interior and exterior spaces are suitable for the proposed use • there are suitable drop off and pick up areas, and off and on street parking • the type of adjoining road (for example classified, arterial, local road, cul-de-sac) is appropriate and safe for the proposed use • it is not located closely to incompatible social activities and uses such as restricted premises, injecting rooms, drug clinics and the like, premises licensed for alcohol or gambling such as hotels, clubs, cellar door premises and sex services premises.	development. The site has sufficient width to accommodate suitable vehicular and pedestrian access to the site. The development is not considered to result in any adverse environmental impacts on surrounding residential allotments. The site is not located closely to incompatible social activities and uses such as restricted premises, injecting rooms, drug clinics and the like, premises licensed for alcohol or gambling such as hotels, clubs, cellar door premises and sex services premises. Access to and from St Johns Road is considered appropriate and safe, specifically in relation to available sight lines.	

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
To ensure that sites for child care facilities are appropriately located.	C3 - A child care facility should be located: • near compatible social uses such as schools and other educational establishments, parks and other public open space, community facilities, places of public worship • near or within employment areas, town centres, business centres, shops • with access to public transport including rail, buses, ferries • in areas with pedestrian connectivity to the local community, businesses, shops, services and the like	The subject site is in close proximity to Macleay Reserve to the north west of the site (approximately 80m). The site is located approximately 800m to the Bradbury Public School and 900m to the Bradbury Shops (zoned B1) located on Jacaranda Avenue. The nearest bus stop (Stop ID: 2560164) is located 400m from the site and is located on Briar Road after Kullaroo Avenue. The site is located 550m from a bus stop on St Johns Road opposite Creigan Street (Stop ID: 2560165).	Satisfactory
To ensure that sites for child care facilities do not incur risks from environmental, health or safety hazards.	C4 - A child care facility should be located to avoid risks to children, staff or visitors and adverse environmental conditions arising from: • proximity to: - heavy or hazardous industry, waste transfer depots or landfill sites - LPG tanks or service stations -water cooling and water warming systems -odour (and other air pollutant) generating uses and sources or sites which, due to prevailing land use zoning, may in future accommodate noise or dour generating uses	The subject site is not located in close proximity to: -heavy or hazardous industry waste transfer depots or landfill sites -LPG tanks or service stations -water cooling or water warming systems -odour generating uses or odour sources or sites	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
3.2 Local Character, Streetscape and the Public Domain Interface			
To ensure that the child care facility is compatible with the local character and surrounding streetscape.	C5 - The proposed development should: • contribute to the local area by being designed in character with the locality and existing streetscape • reflect the predominant form of surrounding land uses, particularly in low density residential areas • recognise predominant streetscape qualities, such as building form, scale, materials and colours • include design and architectural treatments that respond to and integrate with the existing streetscape • use landscaping to positively contribute to the streetscape and neighbouring amenity • integrate car parking into the building and site landscaping design in residential areas.	The proposed bulk and scale of the proposed building is considered to be of a similar scale to residential dwellings in the locality. The photomontage provided shows the development within the streetscape. The development appears recessive and non-dominant. The car parking is located within the front building setback, creating a setback to the physical building. The setback of the building complies with the numerical provisions contained within Council's (Sustainable City) Development Control Plan and is considered to be compatible with the existing residential dwellings in the local context. See section 3.1 of the report for further discussion.	Can comply and considered satisfactory with recommended conditions of development consent.
To ensure clear delineation between the child care facility and public spaces.	C6 - Create a threshold with a clear transition between public and private realms, including: • fencing to ensure safety for children entering and leaving the facility • windows facing from the facility towards the public domain to provide passive surveillance to the street as a safety measure and connection between the facility and the community • integrating existing and proposed landscaping with fencing.	An appropriate transition between the public and private area is created through landscaping within the front setback.	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
To ensure clear delineation between the child care facility and public spaces.	C7 - On sites with multiple buildings and/or entries, pedestrian entries and spaces associated with the child care facility should be differentiated to improve legibility for visitors and children by changes in materials, plant species and colours.	The design incorporates a clear pedestrian entrance.	Satisfactory
To ensure clear delineation between the child care facility and public spaces.	C8 - Where development adjoins public parks, open space or bushland, the facility should provide an appealing streetscape frontage by adopting some of the following design solutions: • clearly defined street access, pedestrian paths and building entries • low fences and planting which delineate communal/ private open space from adjoining public open space • minimal use of blank walls and high fences.	The subject site does not adjoin public parks, open space or bushland.	N/A
To ensure that front fences and retaining walls respond to and complement the context and character of the area and do not dominate the public domain.	C9 - Front fences and walls within the front setback should be constructed of visually permeable materials and treatments.	The subject site is not listed as a heritage listed site or located adjacent to a heritage listed item or within a conservation area. Front fencing is not proposed on the property boundary or within the car parking area setback. The proposed acoustic retaining walls are 1.2m from the finished level of the car park. The design is considered to be relatively unobtrusive and would not dominate the streetscape.	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
To ensure that front fences and retaining walls respond to and complement the context and character of the area and do not dominate the public domain.	C10 - High solid acoustic fencing may be used when shielding the facility from noise on classified roads. The walls should be setback from the property boundary with screen landscaping of a similar height between the wall and the boundary.	Front acoustic fencing not proposed.	N/A
3.3 Building Orientation, Envelope and Design			
To respond to the streetscape and site, while optimising solar access and opportunities for shade.	C11 - Orient a development on a site and design the building layout to: • ensure visual privacy and minimise potential noise and overlooking impacts on neighbours by: - facing doors and windows away from private open space, living rooms and bedrooms in adjoining residential properties - placing play equipment away from common boundaries with residential properties - locating outdoor play areas away from residential dwellings and other sensitive uses • optimise solar access to internal and external play areas • avoid overshadowing of adjoining residential properties • minimise cut and fill • ensure buildings along the street frontage define the street by facing it • ensure that where a child care facility is located above ground level, outdoor play areas are protected from wind and other climatic conditions.	The orientation of the development is considered satisfactory. The outdoor play areas are considered satisfactorily located with appropriate acoustic screening. Solar access is provided to internal and external play areas on both the ground floor and the lower ground floor mid winter. Overshadowing impacts to the adjoining properties is not considered significant. The proposed building presents to the street, providing a clear entrance. Cut and fill for the proposed building is considered minimal. The car park does require fill to provide an at-grade car parking area which is considered satisfactory. The outdoor play area on the ground floor (which is located above lower ground) is considered	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
		satisfactorily protected from climatic conditions.	
To ensure that the scale of the child care facility is compatible with adjoining development and the impact on adjoining buildings is minimised.	C12 - The following matters may be considered to minimise the impacts of the proposal on local character: • building height should be consistent with other buildings in the locality • building height should respond to the scale and character of the street • setbacks should allow for adequate privacy for neighbours and children at the proposed child care facility • setbacks should provide adequate access for building maintenance • setbacks to the street should be consistent with the existing character.	• Building height is consistent with other residential dwellings in the locality. • Building height is less than the maximum height of 8.5m prescribed by clause 4.3 of CLEP 2018. • Side setbacks provide for adequate access for building maintenance. • The proposed setbacks for the child care centre building comply with Council's (Sustainable City Development Control Plan), however a minor variation is proposed to the waste storage area attached to the front elevation which is considered satisfactory. • Setbacks to the street are considered satisfactory within the existing streetscape context. The development is not deemed so different in terms of building form and setbacks that harmony is not able to be achieved within the existing streetscape context. See section 3.1 for further discussion.	
To ensure that setbacks from the boundary of a child care facility are consistent with the predominant development within	C13 - Where there are no prevailing setback controls minimum setback to a classified road should be 10 metres. On other road frontages where there are existing buildings within 50 metres, the setback should	Part 8 of Council's (Sustainable City) Development Control, Plan requires that child care centres shall be setback a minimum of 5.5 metres from the primary street	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
the immediate context.	be the average of the two closest buildings. Where there are no buildings within 50 metres, the same setback is required for the predominant adjoining land use.	boundary. The proposed setback of approximately 20m complies with the DCP requirement.	
To ensure that setbacks from the boundary of a child care facility are consistent with the predominant development within the immediate context.	C14 - On land in a residential zone, side and rear boundary setbacks should observe the prevailing setbacks required for a dwelling house.	Rear setbacks comply with Part 8.3.8 (c)(ii) of the DCP and is considered satisfactory. A minor side setback non-compliance is proposed to the eastern property side boundary where the waste storage area is proposed.	Satisfactory
To ensure that the built form, articulation and scale of development relates to its context and buildings are well designed to contribute to an area's character.	C15 - The built form of the development should contribute to the character of the local area, including how it: • respects and responds to its physical context such as adjacent built form, neighbourhood character, streetscape quality and heritage • contributes to the identity of the place • retains and reinforces existing built form and vegetation where significant • considers heritage within the local neighbourhood including identified heritage items and conservation areas • responds to its natural environment including local landscape setting and climate • contributes to the identity of place	The proposed built form respects the privacy of adjoining developments. A condition of consent is recommended for the rear established tree to be retained. The site is not in proximity to items of heritage significance. The bulk and scale of the built form is considered to be of a similar scale to residential dwellings in the locality. The front setback between the car parking area and the front property boundary is sufficiently landscaped to soften the visual impact of the hardstand area.	Satisfactory
To ensure that buildings are designed to create	C16 - Entry to the facility should be limited to one secure point which is:	• The centre includes one identifiable entry point which can be	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
safe environments for all users.	• located to allow ease of access, particularly for pedestrians • directly accessible from the street where possible • directly visible from the street frontage • easily monitored through natural or camera surveillance • not accessed through an outdoor play area. • in a mixed-use development, clearly defined and separate from entrances to other uses in the building.	accessed by pedestrians and site users arriving by car. • The entry is not accessed through an outdoor play area. • The entry could easily be monitored though camera surveillance. • The entry can be naturally surveillanced from the reception area as shown on the plans.	
To ensure that child care facilities are designed to be accessible by all potential users.	C17 - Accessible design can be achieved by: • providing accessibility to and within the building in accordance with all relevant legislation • linking all key areas of the site by level or ramped pathways that are accessible to prams and wheelchairs, including between all car parking areas and the main building entry • providing a continuous path of travel to and within the building, including access between the street entry and car parking and main building entrance. Platform lifts should be avoided where possible • minimising ramping by ensuring building entries and ground floors are well located relative to the level of the footpath.	Recommended condition of development consent has been recommended for access and services for people with disabilities shall be provided to the building in accordance with the requirements of the Access to Premises Standard 2010 and the National Construction Code. Detailed plans, documentation and specification must accompany the application for a Construction Certification to the satisfaction of the Certifying Authority. The proposed two levels of the development with eac level designated for a specific age group, is considered satisfactory. Children would only be required to move through the	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
		building to the lower ground floor upon arrival and pick-up.	
3.4 Landscaping			
To provide landscape design that contributes to the streetscape and amenity.	C18 - Appropriate planting should be provided along the boundary integrated with fencing. Screen planting should not be included in calculations of unencumbered outdoor space. Use the existing landscape where feasible to provide a high quality landscaped area by: • reflecting and reinforcing the local context • incorporating natural features of the site, such as trees, rocky outcrops and vegetation communities into landscaping.	Satisfactory landscape design is proposed. The retention of T1, an existing established tree in the rear north western corner of the site is recommended to be retained.	Satisfactory
To provide landscape design that contributes to the streetscape and amenity.	C19 - Incorporate car parking into the landscape design of the site by: • planting shade trees in large car parking areas to create a cool outdoor environment and reduce summer heat radiating into buildings • taking into account streetscape, local character and context when siting car parking areas within the front setback • using low level landscaping to soften and screen parking areas.	Appropriate landscaping is provided within the front setback between the property boundary and the car parking area.	Satisfactory
3.5 Visual and Acoustic Privacy			
To protect the privacy and security of children attending the facility.	C20 - Open balconies in mixed use developments should not overlook facilities nor overhang outdoor play spaces.	The proposed development is not mixed use.	N/A
To protect the privacy and security	C21 - Minimise direct overlooking of indoor rooms	The outdoor and indoor play areas are	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
of children attending the facility.	and outdoor play spaces from public areas through: • appropriate site and building layout • suitably locating pathways, windows and doors • permanent screening and landscape design.	located in the rear of the development. Overlooking from public areas is not anticipated.	
To minimise impacts on privacy of adjoining properties.	C22 - Minimise direct overlooking of main internal living areas and private open spaces in adjoining developments through: • appropriate site and building layout • suitable location of pathways, windows and doors • landscape design and screening.	No privacy concerns in relation to direct overlooking of adjoining properties from the centre are anticipated. The ground floor window on the east elevation of the internal play area is a highline window (1.7m sill height above FFL). The ground floor outdoor play area includes a 2m high acoustic balustrade which includes. A condition of development consent has been recommended for the window sections of the acoustic balustrade to be translucently glazed.	Satisfactory
To minimise the impact of child care facilities on the acoustic privacy of neighbouring residential developments.	C23 - A new development, or development that includes alterations to more than 50 per cent of the existing floor area, and is located adjacent to residential accommodation should: • provide an acoustic fence along any boundary where the adjoining property contains a residential use. (An acoustic fence is one that is a solid, gap free fence).	A Noise Emission Assessment has been provided with the development application, prepared by Acoustic Dynamics, dated 4 May 2020. In accordance with the recommendations of the acoustic report, a 2.1m acoustic fence is provided on the property boundary, located behind the property boundary. A 1m high cantilevered	Satisfactory – recommended conditions of development consent to comply with the recommendations of the Noise Emissions Assessment. Prepared by Acoustic Dynamics, dated 4 May 2020.

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	• ensure that mechanical plant or equipment is screened by solid, gap free material and constructed to reduce noise levels e.g. acoustic fence, building, or enclosure.	canopy at the top of the 2.1m barrier (extending 1m over the play area) is required along the eastern, western and northern boundary adjacent to the lower ground outdoor play area. Mechanical plant equipment is proposed on the eastern elevation of the proposed centre and is considered in the noise assessment report. A condition of development consent requires that the mechanical plant associated with the development may only be operated on site between the hours of 6:30am and 6:30pm Monday to Friday (inclusive) and that the plant cannot exceed a sound power level of 74 dB(A).	
To minimise the impact of child care facilities on the acoustic privacy of neighbouring residential developments.	C24 - A suitably qualified acoustic professional should prepare an acoustic report which will cover the following matters: • identify an appropriate noise level for a child care facility located in residential and other zones • determine an appropriate background noise level for outdoor play areas during times they are proposed to be in use • determine the appropriate height of any acoustic fence to enable the noise criteria to be met.	A satisfactory Noise Emissions Assessment, prepared by Acoustic Dynamics, dated 4 May 2020 was provided with the development application.	Satisfactory - recommended conditions of development consent to comply with the recommendations of the Noise Emissions Assessment. Prepared by Acoustic Dynamics, dated 4 May 2020.
3.6 Noise and Air Pollution			

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
To ensure that outside noise levels on the facility are minimised to acceptable levels.	C25 - Adopt design solutions to minimise the impacts of noise, such as: • creating physical separation between buildings and the noise source • orienting the facility perpendicular to the noise source and where possible buffered by other uses • using landscaping to reduce the perception of noise • limiting the number and size of openings facing noise sources • using double or acoustic glazing, acoustic louvers or enclosed balconies (wintergardens) • using materials with mass and/or sound insulation or absorption properties, such as solid balcony balustrades, external screens and softs • locating cot rooms, sleeping areas and play areas away from external noise sources.	Internal noise levels are considered appropriate.	Satisfactory - recommended conditions of development consent to comply with the recommendations of the Noise Emissions Assessment. Prepared by Acoustic Dynamics, dated 4 May 2020.
To ensure that outside noise levels on the facility are minimised to acceptable levels.	C26 - An acoustic report should identify appropriate noise levels for sleeping areas and other non-play areas and examine impacts and noise attenuation measures where a child care facility is proposed in any of the following locations: • on industrial zoned land • where the ANEF contour is between 20 and 25, consistent with AS 2021 – 2000	Appropriate noise levels for the sleeping areas are achieved as provided in the Noise Emissions Assessment, prepared by Acoustic Dynamics, dated 4 May 2020.	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	• along a railway or mass transit corridor, as defined by State Environmental Planning Policy (Infrastructure) 2007 • on a major or busy road • other land that is impacted by substantial external noise.		
To ensure air quality is acceptable where child care facilities are proposed close to external sources of air pollution such as major roads and industrial development.	C27 - Locate child care facilities on sites which avoid or minimise the potential impact of external sources of air pollution such as major roads and industrial development.	The site is located in a residential area. Air pollution is not considered to be an impact.	Satisfactory
To ensure air quality is acceptable where child care facilities are proposed close to external sources of air pollution such as major roads and industrial development.	C28 - A suitably qualified air quality professional should prepare an air quality assessment report to demonstrate that proposed child care facilities close to major roads or industrial developments can meet air quality standards in accordance with relevant legislation and guidelines. The air quality assessment report should evaluate design considerations to minimise air pollution such as: • creating an appropriate separation distance between the facility and the pollution source. The location of play areas, sleeping areas and outdoor areas should be as far as practicable from the major source of air pollution • using landscaping to act as a filter for air pollution generated by traffic and industry. Landscaping has the added benefit of improving aesthetics and minimising visual intrusion from an adjacent roadway	The development site is not considered to be close to external sources of air pollution.	N/A

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	• incorporating ventilation design into the design of the facility.		
3.7 Hours of Operation			
To minimise the impact of the child care facility on the amenity of neighbouring residential developments.	C29 - Hours of operation within areas where the predominant land use is residential should be confined to the core hours of 7.00am to 7.00pm weekdays. The hours of operation of the proposed child care facility may be extended if it adjoins or is adjacent to non-residential land uses.	The hours of operations are proposed as 7.00am to 6.00pm Monday to Friday which is consistent with the core hours.	Satisfactory
To minimise the impact of the child care facility on the amenity of neighbouring residential developments.	C30 - Within mixed use areas or predominantly commercial areas, the hours of operation for each child care facility should be assessed with respect to its compatibility with adjoining and co-located land uses.	The development site is within a residential area.	N/A
3.8 Traffic, Parking and Pedestrian Circulation			
To provide parking that satisfies the needs of users and demand generated by the centre.	C31 - Off street car parking should be provided at the rates for child care facilities specified in a Development Control Plan that applies to the land.	Off-street car parking rates are contained with Council's (Sustainable City) Development Control Plan 2015 as per Part 8.4.1 b) below: A minimum of one (1) on site car parking space shall be provided for every four (4) children approved to attend the child care centre. 45 children / 4 = 11.25. 12 car parking spaces provided (including one accessible parking space).	Satisfactory
To provide parking that satisfies the needs of users and demand generated by the centre.	C32 - In commercial or industrial zones and mixed use developments, on street parking may only be considered where there are no conflicts with adjoining uses, that is, no high levels of vehicle movement or	The site is zoned R2 and is not located within a commercial, industrial or mixed use zone.	N/A

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	potential conflicts with trucks and large vehicles.		
To provide parking that satisfies the needs of users and demand generated by the centre.	C33 - A Traffic and Parking Study should be prepared to support the proposal to quantify potential impacts on the surrounding land uses and demonstrate how impacts on amenity will be minimised. The study should also address any proposed variations to parking rates and demonstrate that: • the amenity of the surrounding area will not be affected • there will be no impacts on the safe operation of the surrounding road network.	A Traffic and Parking Impact Statement, prepared by Thompson Stanbury Associates, dated June 2018, was provided with the development application. Council's City Delivery section advised that no concern was raised regarding traffic impact due to the subject development.	Satisfactory
To provide vehicle access from the street in a safe environment that does not disrupt traffic flows.	C34 - Alternate vehicular access should be provided where child care facilities are on sites fronting: • a classified road • roads which carry freight traffic or transport dangerous goods or hazardous materials.	Alternate vehicle access is not required to be provided. St Johns Road is not a classified Road and is considered unlikely to carry fright traffic or transport dangerous goods or hazardous materials.	N/A
To provide vehicle access from the street in a safe environment that does not disrupt traffic flows.	C35 - Child care facilities proposed within cul-de-sacs or narrow lanes or roads should ensure that safe access can be provided to and from the site, and to and from the wider locality in times of emergency.	Council's City Delivery section advised that no concern is raised regarding traffic impact due to the subject development. Specifically, no concerns were raised in relation to the traffic generation from the proposed development and its impact on the surrounding network in terms of level of service.	Satisfactory
To provide a safe and connected environment for pedestrians both on and around the site.	C36 - The following design solutions may be incorporated into a development to help	A separate pedestrian line marked path is provided along the northern section of the car parking are to	Satisfactory

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	provide a safe pedestrian environment: • separate pedestrian access from the car park to the facility • defined pedestrian crossings included within large car parking areas • separate pedestrian and vehicle entries from the street for parents, children and visitors • pedestrian paths that enable two prams to pass each other • delivery and loading areas located away from the main pedestrian access to the building and in clearly designated, separate facilities • in commercial or industrial zones and mixed use developments, the path of travel from the car parking to the centre entrance physically separated from any truck circulation or parking areas • vehicles can enter and leave the site in a forward direction.	facilitate safe access from the car parking area to the entrance of the centre.	
To provide a safe and connected environment for pedestrians both on and around the site.	C37 - Mixed use developments should include: •driveway access, maneuvering areas and parking areas for the facility that are separate to parking and maneuvering areas used by trucks • drop of and pick up zones that are exclusively available for use during the facility's operating hours with spaces clearly marked	Not a mixed use development.	N/A

Child Care Planning Guidelines			
Objective	**Provision**	**Proposed**	**Compliance**
	accordingly, close to the main entrance and preferably at the same floor level. Alternatively, direct access should avoid crossing driveways or maneuvering areas used by vehicles accessing other parts of the site • parking that is separate from other uses, located and grouped together and conveniently located near the entrance or access point to the facility.		
To provide a safe and connected environment for pedestrians both on and around the site.	C38 - Car parking design should: • include a child safe fence to separate car parking areas from the building entrance and play areas • provide clearly marked accessible parking as close as possible to the primary entrance to the building in accordance with appropriate Australian Standards • include wheelchair and pram accessible parking.	• The car parking area is separated from the play areas. • A pedestrian pathway is provided along the northern property boundary to facilitate safe pedestrian access from the car parking spaces and the street to the entrance of the centre. • An accessible car parking space is provided, close to the entrance of the centre.	Satisfactory

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General Manager
Campbelltown City Council ('Council')
PO Box 57
CAMPBELLTOWN
NSW 2560

14 January 2020

Attention: Emma Page, Senior Development Planner Your ref: 2401/2018/DA-C

Dear Sir,

PROPOSED 45 PLACE CHILD CARE CENTRE DEVELOPMENT AT 139 ST JOHNS ROAD, BRADBURY

I refer to your recent comments via email dated 18 November 2019 and discussions with Council's Senior Development Engineer (Iraj Shrestha) in relation to the subject development. This Practice has been commissioned by Brightest Start Early Learning Centre to respond to these comments, as outlined in this correspondence, which are repeated as follows with my responses:

1) *The applicant have only referred to AS 2890.1 for sight distance requirement of 65m and provided a google map photo but have not backed up with site specific calculations and reference. Plan view reference of vehicle at exit location needs to be analysed with worst case scenario (vehicles parked on parking lane up to the driveway) to see any requirements of vehicle parking restrictions requirements on either side of the driveway.*

Response to Comment 1

Sight distance diagrams has been prepared (attached as **Appendix 1**) based on survey plans prepared by Geographic Solutions Surveyors. This assessment indicates the following:

- The minimum stopping sight distance (SSD) required in accordance with Clause 3.2.4 of AS2890.1, being 65km/h for a public road with a 60km/h speed limit is able to be readily achieved;
- 'No Stopping' signposting is proposed along the southern site frontage for a length of 6m (i.e. distance between the western property boundary and the western side of the new access driveway), to assist with the sight line of a vehicle exiting the site;
- The abovementioned 'No Stopping' parking restrictions, being 6m in length results in the loss of one public parallel parking space. This minor loss in parking, being restricted to the site frontage, does not impede on the on- and off-street parking facilities available to adjoining developments. In this regard, the proposed 'No Stopping' parking restrictions is not expected to have any noticeable impact on the surrounding parking amenity;

- The proposed child care centre is proposed to be provided with on-site parking in accordance with Council's DCP parking requirements. In this regard, the subject development is expected to be capable of accommodating its peak parking demand on site without reliance on adjoining public parking facilities within the northern side of St Johns Road. As such, the loss of one on-street public parallel parking space adjacent to the site due to the proposed 'No Stopping' restrictions, is not expected to affect the parking needs of the proposed development;

- The proposed 'No Stopping' parking restrictions is also proposed to be restricted to between 7:00am – 9:00am and 4:00pm – 6:00pm to coincide with the likely periods of peak traffic activity generated by the child care centre. This measure is expected to further minimise the impact associated with the loss of one public parking space; and

- The minimum SSD is not affected by the crest within St Johns Road to the west of the subject site.

2) *Shared area for disable parking spot doesn't comply with the AS2890.6 – currently the shared area required for the disable parking is being used as pedestrian walkway, shared area needed as per Australian standard should be used provided only for accessibility of disable parking spot.*

Response to Comment 2

Clause 1.3.2 of AS2890.9 states the following with respect to the use of the shared area adjoining a disabled parking space as a pedestrian walkway:

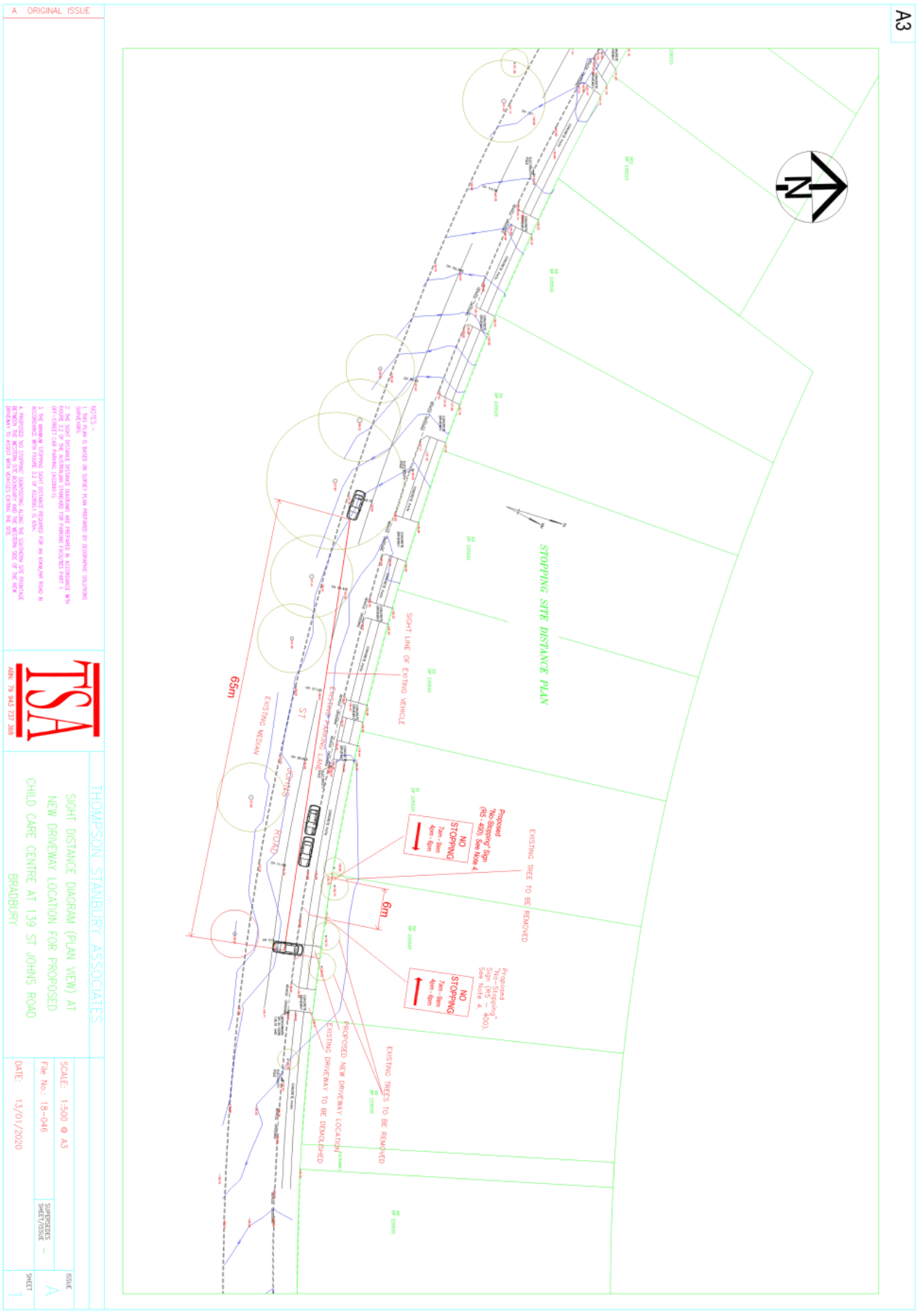
"1.3.2 Shared Area
An area adjacent to a dedicated space provided for access or egress to or from a parked vehicle and which may be shared with any other purpose that does not involve other than transitory obstruction of the area, e.g. a walkway, a vehicular aisle, dual use with another adjacent dedicated space."

It would be appreciated if the information contained within this correspondence could be incorporated in Council's assessment of the subject application.

Yours faithfully,

David Thompson
Principal/Transport Planner/Lead Road Safety Auditor

APPENDIX 1


A ORIGINAL ISSUE
A3
NOTES:-
1. THIS PLAN IS BASED ON SURVEY PLAN PREPARED BY GEOGRAPHIC SOLUTIONS SURVEYORS.
2. THE SIGHT DISTANCE DISTANCE REQUIRED ARE PROVIDED IN ACCORDANCE WITH FIGURE 3.2 OF THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 1: OFF-STREET CAR PARKING (AS2890.1).
3. THE MINIMUM STOPPING SIGHT DISTANCE REQUIRED FOR AN ROAD IN ACCORDANCE WITH FIGURE 3.2 OF AS2890.1 IS 65m.
4. PROPOSED 'NO STOPPING' SIGNPOSTING ALONG THE SOUTHERN SITE FRONTAGE BETWEEN THE WESTERN SITE BOUNDARY AND THE WESTERN SIDE OF THE NEW DRIVEWAY TO ASSIST WITH VEHICLES EXITING THE SITE.
TSA
ABN: 79 943 337 368
THOMPSON STANBURY ASSOCIATES
SIGHT DISTANCE DIAGRAM (PLAN VIEW) AT
NEW DRIVEWAY LOCATION FOR PROPOSED
CHILD CARE CENTRE AT 139 ST JOHNS ROAD
BRADBURY
SCALE: 1:500 @ A3
File No.: 18-046
DATE: 13/01/2020
SUPERSEDES SHEET/ISSUE: -
ISSUE: A
SHEET: 1
STOPPING SITE DISTANCE PLAN
SIGHT LINE OF EXISTING VEHICLE
65m
EXISTING MEDIAN
ST JOHNS ROAD
EXISTING PARKING LANE
Proposed "No-Stopping" Sign (RS - 400). See Note 4.
NO STOPPING 7am - 9am 4pm - 6pm
6m
EXISTING TREE TO BE REMOVED
Proposed "No-Stopping" Sign (RS - 400). See Note 4.
NO STOPPING 7am - 9am 4pm - 6pm
EXISTING DRIVEWAY TO BE DEMOLISHED
PROPOSED NEW DRIVEWAY LOCATION
EXISTING TREES TO BE REMOVED

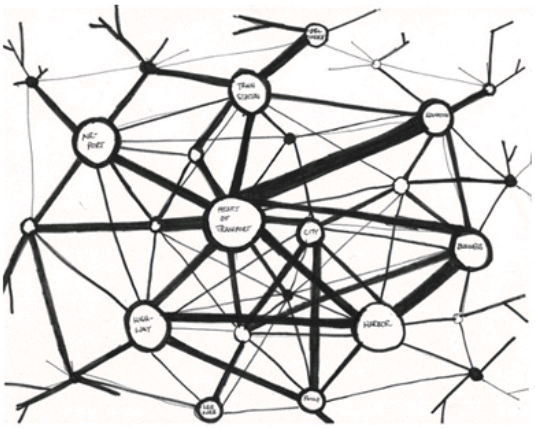
A ORIGINAL ISSUE
A3
NOTES:-
1. THIS PLAN IS BASED ON SURVEY PLAN PREPARED BY GEOGRAPHIC SOLUTIONS SURVEYORS.
2. THE SIGHT DISTANCE DISTANCE DIAGRAMS ARE PREPARED IN ACCORDANCE WITH FIGURE 3.2 OF THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 1: OFF-STREET CAR PARKING (AS2890.1).
3. THE MINIMUM STOPPING SIGHT DISTANCES REQUIRED FOR AN 60KM/HR ROAD IN ACCORDANCE WITH FIGURE 3.2 OF AS2890.1 IS 65M.
4. THE DRIVER'S EYE HEIGHT AND THE HEIGHT OF THE VEHICLE IS TAKEN AS 1.15M ABOVE THE ROAD SURFACE IN ACCORDANCE WITH FIGURE 3.2 OF AS2890.1.
TSA
ABN: 79 943 339 368
THOMPSON STANBURY ASSOCIATES
SIGHT DISTANCE DIAGRAM (LONGITUDINAL SECTION) AT NEW DRIVEWAY LOCATION FOR PROPOSED CHILD CARE CENTRE AT 139 ST JOHNS ROAD BRADBURY
SCALE: 1:500 @ A3
File No:- 18-046
DATE: 13/01/2020
SUPERSEDES SHEET/ISSUE -
ISSUE A
SHEET 2
LONGITUDINAL SECTION ST JOHNS ROAD
SEE NOTE 4
SIGHT LINE OF EXITING VEHICLE
65m
SEE NOTE 4
N

TSA

ABN: 79 943 737 368

TRAFFIC AND PARKING IMPACT STATEMENT

139 ST JOHNS ROAD, BRADBURY (PROPOSED CHILD CARE CENTRE)



RFA review 08 June 2018

Date:
5 June 2018

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TABLE OF CONTENTS

1. INTRODUCTION

This Practice has been commissioned by Brightest Start Early Learning Centre to undertake a traffic and parking impact assessment, which is to form part of a Development Application ('DA') to be submitted to Campbelltown City Council ('Council'). The subject proposal involves the demolition of the existing residential dwelling to make way for the construction of a child care centre, proposed to accommodate up to 45 children, located at 139 St Johns Road, Campbelltown.

The purpose of this report is to assess the likely traffic and parking implications associated with the proposed development, and where necessary, recommend appropriate treatment measures to ameliorate any adverse impacts. In particular this study will assess the following:

- Appropriateness of the proposed access arrangements and internal circulation patterns including ingress / egress movements to and from the eastbound carriageway of St Johns Road;
- Proposed on-site parking provision as it relates to Council's requirements;
- Existing road network conditions within the vicinity of the site including traffic volumes, parking availability and general traffic safety
- Potential external traffic generated by the proposed development; and
- The ability of the surrounding road network to accommodate additional traffic and parking projected by the proposed development.

Reference has been made to the following documents in this report:

- The Roads & Maritime Services' *Guide to Traffic Generating Developments*;
- Campbelltown City Council's *Campbelltown (Sustainable City) Development Control Plan 2015* (DCP 2015); and
- The Australian Standard for *Parking Facilities Part 1: Off Street Car Parking* (AS2890.1-2004).

This report should be read in conjunction with architectural plans accompanying the subject DA prepared by RFA Architects.

2. SITE DETAILS

2.1 Site Location

The subject site is situated on the northern side of St Johns Road, directly opposite its junction with Akuna Avenue, Bradbury. This location is shown in the context of its surrounding road network and local land use in **Figures 1** and **2** overleaf.

2.2 Site Description

The subject site provides a legal property description of Lot 50 in Deposited Plan 225520 and a street address of 139 St Johns Road, Campbelltown. The subject allotment primarily forms a rectangular shaped parcel of land, providing a single frontage to St Johns Road of approximately 21m and a depth of 45m, extending to the north, away from St Johns Road. The total area of the site is approximately 918m^2.

2.3 Existing Uses

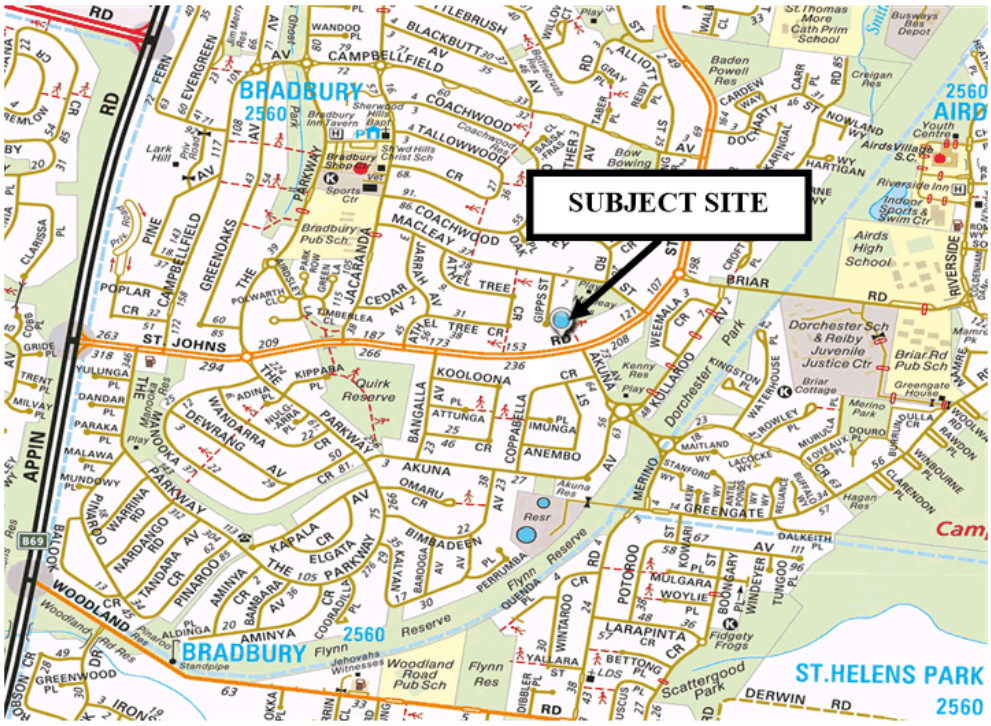
The subject site currently accommodates a single detached residential dwelling, serviced by an existing vehicular crossing connecting with St Johns Road at the south-eastern corner of the site.

The existing on-site development is to be removed as part of the subject DA.

2.4 Surrounding Uses

Low density detached residential development occupy the land in the general vicinity of the site.

FIGURE 1
SITE LOCATION – SURROUNDING ROAD NETWORK CONTEXT



Source: http://www.street-directory.com.au (Accessed 1/06/18)

FIGURE 2
SITE LOCATION – LOCAL LAND USE CONTEXT

Source: Six Maps (Accessed 1/06/18)

3. PROPOSED DEVELOPMENT

3.1 Built Form

Development consent is sought from Council for the demolition of existing site structures to enable the establishment of a child care centre facility comprising the following components:

- Separate indoor playrooms and outdoor play areas for children of different age groups;
- An administration office area;
- A kitchen; and
- Storage and other amenities

The abovementioned development is proposed to be serviced by an at-grade passenger vehicle parking area containing 12 car parking spaces. Vehicular access to the off-street car parking area is proposed via a new driveway supporting a combined ingress/egress function off St Johns Road.

3.2 Proposed Enrolment /Staff Employment

The child care centre is proposed to accommodate up to 45 children comprising the following age groups:

2 to 3 years	15 places
3 to 5 years	30 places

TOTAL	**45 places**

The Australian Children's Education & Care Quality Authority (ACECQA) regulate the following minimum staff requirements for child care centres in NSW:

Birth to 24 months (2 years) - 1 employee / 4 children

Older than 24 months (2 years) and younger than 36 months (3 years) - 1 employee / 5 children

Older than 36 months (3 years) and up to and including Pre-school age - 1 employee / 10 children

Applying the above rates, a minimum of six (6) staff members are required under ACECQA requirements.

The child care centre is proposed to operate between the hours of 7am and 6pm Monday to Friday.

3.3 Off-street Parking

The proposed development is proposed to provide a total of 12 passenger vehicle parking spaces within an at-grade car park, located within the southern portion of the site.

Campbelltown City Council specifies locally sensitive parking requirements for new developments, located on land under the jurisdiction of the local government within Development Control Plan 2015 (DCP 2015). Volume 1 of DCP 2008 establishes the following parking requirements, specifically relating to child care centres:

> *A minimum of one (1) on site car parking space shall be provided for every four (4) children approved to attend the Centre-based Child Care Facility.*

Based on the proposed student enrolment threshold of 45 children, up to 12 passenger vehicle parking spaces is required to be provided in accordance with DCP 2015.

The proposed parking provision of 12 off-street parking spaces satisfies Council's minimum parking requirements and is therefore expected to be adequate with respect to servicing the peak parking demand potentially generated by the proposed use. In addition, it is noted that whilst staff and visitor parking is not differentiated within Council's DCP, it is advised that the parking proposed on site should be designed to adequately accommodate all users associated with the child care centre. In this regard, each full time staff employed by the child care centre should be provided with a parking space on site, with the remaining spaces allocated for visitors.

3.4 Access Arrangements

3.4.1 Vehicular Access

Access to the off-street car parking and manoeuvring area is proposed from St Johns Road via a new driveway, providing a combined ingress/egress width of 6m at the centre of the southern property boundary. Access movements are restricted to left in/left out by virtue of the existing central median within St Johns Road.

In order to undertake an assessment of the suitability of the proposed access driveway arrangements, reference is made to AS2890.1-2004. This Australian Standard provides driveway design specifications based on a number of site and access roadway characteristics such as the operational land-use, the number of parking spaces serviced by the driveway and the functional order of the frontage road. The site and adjoining public roadways have the following characteristics, which are pertinent in the determination of the appropriate driveway design specified within AS2890.1-2004:

- The driveway services less than 25 passenger vehicle parking spaces;
- The proposed parking provision is expected to accommodate both employee (User Class 1A) and visitor parking (User Class 3); and
- St Johns Road is considered to perform a local (non-arterial) road function.

Based on the above attributes, AS2890.1-2004 specifies, at minimum, a Category 1 type driveway to service the site, which requires the driveway to provide a combined ingress/egress width of between 3-5.5m. The width of the proposed access driveway specified above, exceeds the minimum AS2890.1-2004 requirements and accordingly is considered to be fit to service passenger vehicles.

3.4.2 Pedestrian Access

Pedestrian access to the child care centre is proposed via a formal footpath adjacent to the northern property boundary, which connects with the existing footpath forming part of the northern St Johns Road verge at the south-eastern corner of the site, separate to the abovementioned vehicular access driveway.

3.5 Internal Manoeuvrability and Circulation

Upon entering the site from the access driveway, passenger vehicles can proceed in a forward direction to access the on-site parking area, which provides two rows of 90 degree angled parking, separated by a single parking aisle. The internal circulation of the internal parking and manoeuvring area have been designed to accord with the relevant requirements of AS2890.1-2004 providing the following base dimensions (minimum):

- Standard 90 degree staff parking space width = 2.4m;
- Standard 90 degree visitor parking space width = 2.6m;
- Standard and disabled parking space length = 5.4m;
- Parking aisle width adjoining 90 degree parking spaces = 5.8m;
- Two-way straight roadway / ramp width = 5.8m; and
- Parking aisle extension past the end space of a dead end aisle = 1.0m.

Further, a turnaround bay is proposed adjacent to parking space No. 12 to assist with turnaround manoeuvring to exit the site, when all parking spaces are occupied.

The above compliance with the relevant AS2890.1-2004 specifications is anticipated to result in safe and efficient internal manoeuvring and parking space accessibility. The proposed internal circulation arrangements are therefore considered to be satisfactory.

The private nature of the basement car park combined with the low traffic volumes within this off-street parking area is such that the likelihood of conflict between pedestrians and small children with vehicles in this area is envisaged to also be low. Further, children are not expected to dwell within this area for any prolonged period of time. As such, the constant supervision of parents / guardians and staff will ensure that there is sufficient awareness concerning the safety of children in this space.

4. EXISTING TRANSPORT CONDITIONS

4.1 Road Network

St Johns Road performs a local collector function under the care and control of Campbelltown City Council. It provides a northeast / southwest connection between Colonial Street/Waminda Avenue and Appin Road, with which it intersects under a one-lane circulating roundabout and traffic signal control respectively.

St Johns Road forms an 18m wide pavement within a 26m wide road reserve in the immediate vicinity of the site. It accommodates one through lane of traffic in each direction in conjunction with a parking lane between formalised kerb and guttering. The north-eastbound carriageway and the south-westbound carriageway are separated by a 4m wide central landscaping median. In this regard, access to the subject and adjoining properties within St Johns Road are restricted to left in/left out.

Traffic flow within St Johns Road is governed by a sign posted speed limit of 60km/h.

4.2 Existing Traffic Volumes

This Practice has undertaken recent midblock peak hour traffic surveys within St Johns Road north-eastbound carriageway, immediately adjacent to the subject site. These surveys were undertaken between 7.00am – 9.00am and 4.00pm – 6.00pm (with the peak hour period containing the heaviest flows occurring between 7:30am – 8:30am and 4:30pm – 5:30pm) on the 1 June 2018. **Figure 3** provides a graphical representation of the surveyed peak hour traffic volumes. It is noted that these survey times were selected to reflect the traffic conditions within the adjoining road network corresponding to the peak drop-off/pick-up periods of the proposed child care centre.

FIGURE 3
EXISTING WEEKDAY PEAK HOUR TRAFFIC VOLUMES
ST JOHNS ROAD

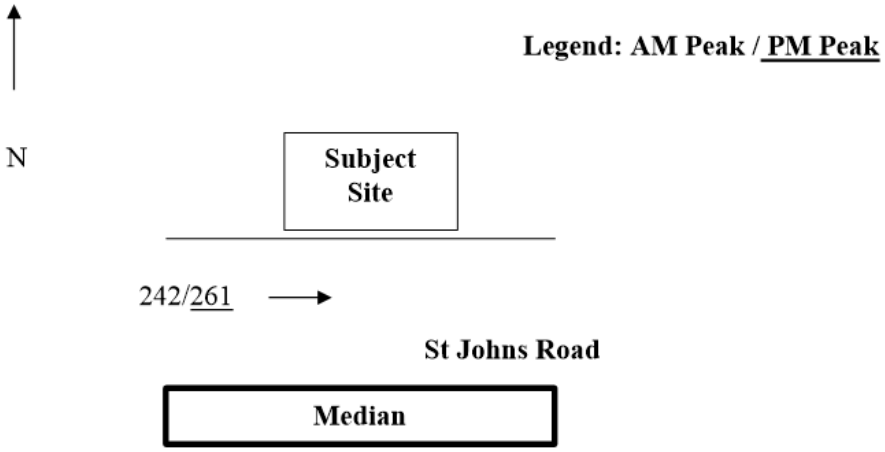


Figure 3 indicates that St Johns Road carry traffic demands within its north-eastbound carriageway in the order of between 200 – 300 vehicles during peak hour periods.

4.3 Existing Road Network Operation

In order to undertake an assessment of the operational performance of the surveyed St Johns Road, reference has been made to the Roads & Maritime Services' (RMS) *Guide to Traffic Generating Developments*. The *Guide* outlines the use of mid-block Level of Service (LoS), a qualitative measure, to describe the potential for delay during traffic operation, usually in peak demand situations. Midblock LoS is designated by assigning the letters A to F, with LoS A representing the best and F the worst. This publication specifies that a two-lane two-way road accommodating peak hour traffic volumes in the order of between 200 – 380 vehicles per hour per direction provides a level of service (LoS) 'A/B'.

Such LoS indicates free flow where drivers are virtually unaffected by others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is high, and the general level of comfort and convenience provided is excellent. Further, RMS' *Guide to Traffic Generating Developments* states that the typical midblock capacity for a kerbside lane with an adjacent parking lane is 900 vehicles per hour. Our recent surveys presented in the previous section of this report have shown the existing peak hour traffic flow to be 242 and 261 vehicles for the morning and evening peak period respectively. Such volumes signify that the section of St Johns Road in the immediate vicinity of the site has additional capacity to accommodate greater traffic demands. With respect to this and the above, it has been observed that motorists are able to access and exit adjoining properties with a good level of safety and efficiency.

5. PROJECTED TRANSPORT CONDITIONS

5.1 Traffic Generation

The Roads and Maritime Services (RMS) has established vehicular generation rates based on surveys of existing uses throughout the Sydney metropolitan area. Traffic generation rates for child care centres, as presented in the *Guide to Traffic Generating Developments* (2002), are detailed in **Table 3**. Whilst the below rates are somewhat dated in that they rely on surveys done many years ago, it is understood that these rates are still held to be acceptable and consistent with child care centre traffic generation rates and generally accords with our own observations of various child care facilities.

TABLE 3
TRAFFIC GENERATION RATES
CHILD CARE CENTRES

	Peak Vehicle Trips/Child		
Centre Type	**7.00-9.00am**	**2.30-4.00pm**	**4.00-6.00pm**
Pre-school	1.4	0.8	-
Long-day care	0.8	0.3	0.7
Before/after care	0.5	0.2	0.7

The proposed child care centre is best described as a long day care centre, accommodating 45 children. Utilising the abovementioned RMS average traffic generation rates, the site is likely to generate:

- 36 peak vehicle trips between 7.00am – 9.00am,
- 14 peak vehicle trips between 2.30pm – 4.00pm and
- 32 peak vehicle trips between 4.00pm – 6.00pm.

In the morning peak hour period, therefore, the child care centre could be expected to generate approximately 36 peak hour vehicle trips, comprising 18 ingress movements to the site and 18 egress movements associated with child drop off.

Similarly during the evening period between 4.00-6.00pm, the proposed child care centre could be expected to generate 32 peak vehicle trips, comprising 16 ingress and 16 egress movements associated with the pick-up of children in the evening period.

During the afternoon period coinciding with the time of school finishing, the proposed child care centre could generate traffic in the order of 14 peak hour vehicle trips between 2.30pm and 4.00pm. This could be expected to comprise seven (7) ingress movements and seven (7) egress movements to and from the site, associated with the collection of children.

In addition to the above, it has been previously presented that the existing site use is that of a single residential dwelling. According to the *Guide to Traffic Generating Developments*, a single residential dwelling generates an average of 0.85 peak hour trips. The net traffic generation resulting from the proposal is therefore more likely to be in the order of 35 vehicular movements during the morning peak and 31 vehicular movements during the evening peak. However, in order to create an absolute worst

case scenario, the abovementioned traffic generation of 36 and 32 morning and evening peak hour trips will be used for the purposes of this assessment.

5.2 General Discussion of Projected Traffic Impact

The proposed development has been projected to generate up to 36 additional peak hour vehicle trips to and from the site over and above that currently generated. It has previously been presented that the adjoining road network currently operates with a good level of service with spare capacity and provides safe and efficient connectivity to the surrounding road network. The previously presented level of additional traffic, representing a maximum of approximately one vehicle trip every one (1) to two (2) minutes during peak periods, is therefore not envisaged to have any noticeable impacts on the efficiency of the surrounding road network.

The impacts of the subject development are therefore expected to be a factor of the safety associated with the proposed site access arrangements, which is generally a factor of the provision of sight distance between the frontage road and the site access driveway. In this regard, the consistent vertical and horizontal alignment of St Johns Road in the vicinity of the site is envisaged to result in good sight distance provisions between the site access and the frontage road. Further, the left in/left out access arrangement imposed by the existing median within St John Road is anticipated to assist with the safe and efficient manoeuvring to and from the site.

In a broader context, it is noted that the positive intersection controls afforded within St Johns Road in the vicinity of the subject site (e.g. roundabouts at Briar Road and The Parkway to the east and west of the subject site, signals at Appin Road, etc.) is anticipated to provide motorists with efficient connectivity to the State Road network, with which to access / egress the precinct.

5.3 Environmental Capacity

The proposed 45 place child care centre has been assessed to generate a maximum of 36 vehicle movements corresponding to the morning peak hour period.

The Roads & Maritime Services (RMS) within their *Guide to Traffic Generating Developments* provide environmental capacity performance standards to measure the level of amenity experienced by the general community, not just motorists. RMS *Guide* specify an environmental capacity for local roads of 300 vehicles in any one hourly period.

The existing peak hour traffic demands within St Johns Road adjacent to the site frontage during the morning peak period have been identified to be 242 vehicles per hour. This existing demand, coupled with the additional 36 peak hour vehicles likely to be generated by the proposed development, maintains the identified threshold for local roads of 300 vehicles per hour, as per RMS' *Guide to Traffic Generating Developments* specifications.

With regards to the above, it is reiterated that whilst the proposed development is expected to introduce some additional traffic activity within the abovementioned adjoining road hierarchy, it is however, unlikely to generate any noticeable impacts for

traffic flow within the surrounding local roads that would compromise the existing residential amenity in the surrounding area.

In addition to the above, an Operational Traffic and Pedestrian Management Plan (OTPMP) has been prepared in the subsequent section of this report, which the operator of the child care centre should adopt, in order minimise traffic and parking impacts on the surrounding residential amenity. The OTPMP will include a series of measures intended to promote safe and efficient circulation within the site in order to limit disturbance of the adjoining road network and on-street parking facilities.

6. INTERNAL OPERATIONAL TRAFFIC & PEDESTRIAN MANAGEMENT PLAN

In order to ensure safe and efficient school operations during peak start and finish periods, it is recommended that an Operational Traffic & Pedestrian Management Plan (OTPMP) be implemented. The following subsections of this report provide a summary of the key strategies which should be incorporated within the Plan, the requirement for which could be reasonably imposed by Council as a condition of Development Consent.

6.1 Operational Traffic & Pedestrian Management

6.1.1 General Items

- A Management & Safety Committee is to be established to implement the operational traffic and pedestrian management measures incorporated within this Plan and to develop further guidelines in order to ensure that on-site and off-site vehicular and pedestrian safety is maximised.

  The Committee shall comprise the child care centre staff and principal, a parent's representative, a Council representative and a police representative to provide initial assistance in the implementation of the Plan and subsequent periodic guidance in ongoing review of the Plan.

- The Management & Safety Committee shall ensure that the procedures contained within the OTPMP are put in place with respect to: on and off-site traffic and pedestrian management and safety issues.

- The Committee shall put in place measures which should ensure parent / guardian compliance with the Plan. These should take the form of specific instructions via student newsletters and indications that such instructions are to be observed as may be applicable to any private property and could therefore form part of the initial enrolment procedures.

- The Plan should also be subject to periodic review by the school (in consultation with Council for endorsement), to ensure that road safety issues as they relate to the public roads close the school, are appropriately documented and implemented in accordance with sound traffic engineering and road safety practices.

6.1.2 Internal Staff Parking

- Staff parking are to solely occur within the off-street parking area within the parking spaces designated as staff, which are separate to the parking spaces allocated for children pick-up and drop-offs.

- Staff who wish to utilise the site parking facilities are to arrive prior to the start and finish of the child care centre to minimise the interaction of this vehicle movements with the peak children set-down / pick-up periods during school start and finish periods.

6.1.3 Internal Student Pickup/Set Down

- Student drop-off / pick-up is to be solely undertaken within the visitor spaces of the off-street car park.
- Children being set-down/picked-up are not to dwell for extended periods within the off-street car park.
- No staff parking is to occur within the parking spaces allocated for pick-up/set-down activities during the morning and afternoon peak periods.

6.1.4 Site Servicing

Site servicing activities on site such as deliveries are to be conducted outside of peak operational hours of the proposed child care centre, thus minimising any potential conflict with student pick up/set down and staff parking activities.

7. CONCLUSION

This Practice has undertaken an assessment of the potential traffic related consequences resulting from a proposed long day child care centre development on land located at 139 St Johns Road, Bradbury. Based on our assessment, the following conclusions are now made:

- The proposed off-street parking provision suitably accords with Council's relevant DCP requirements and is accordingly considered to be satisfactory;
- The proposed child care centre access arrangements and internal circulation arrangements are anticipated to provide motorists with safety and efficient vehicle and pedestrian conditions;
- The surrounding road network currently operates with a good level of service during peak periods;
- The proposed development has been projected to generate some 36 and 32 morning and evening peak hour trips to and from the site respectively;
- The surrounding road network is considered to be capable of accommodating the traffic projected to be generated by the development in a safe and efficient manner; and
- Implementation of an Operational Traffic & Pedestrian Management Plan (OTPM) is anticipated to ensure that the additional traffic generating potential associated with the development will not result in any unreasonable impacts on the surrounding road network and improve the overall efficiency & safety of the internal roads servicing the child care during peak school start and finish periods.

Based on the conclusions and recommendations contained within this report, we are of the opinion that there are no traffic-related issues that should preclude approval of the subject application. Accordingly, we are in support of the proposed development.

Thanks!

Ref: 0307r01v02

2/10/2020

Brightest Start ELC
27 Conway Road
Bankstown NSW 2200

Attention: Youssef Tlies

RE: 139 ST JOHNS ROAD, BRADBURY
LETTER OF RESPONSE TO COUNCIL

Dear Youssef,

We refer to recent correspondence with RFA Architects concerning the abovementioned development, and in particular the subject Development Application, 2401/2018/DA-C, which is currently under assessment by Campbelltown City Council (Council).

Council's Senior Development Planner issued a letter dated 28/08/2020 which raises several concerns regarding the development, including traffic and parking. This letter has been written to address issues raised under the heading 'Engineering' relating to traffic and parking. For clarity, we have reproduced and highlighted the relevant comments from Council's letter below, with our response provided underneath.

Previously identified issues of swept path conflicting with the wall have not been addressed.

a. *Swept paths are required to detail the type of vehicle used, provide clearance offset line as per Australian Standard (required to be shown on the revised plans);*
a. *Swept path conflict issues has not been addressed. No measures has been considered to prevent vehicles reversing into pedestrians using the walkway. Demonstrate safe environment for pedestrians as reversing manoeuvre conflicts with the pedestrian area near the entrance; and*
b. *Swept paths for entry and exit for all car parking spots is required to be provided.*

2. *The above issues have not been addressed. The 300mm clearance line as per AS2890.1-2004 has not been provided. It is evident that the body of the vehicle is touching the wall at the turning bay and no clearance is achieved. It is also evident that the reversing manoeuvre at the turning bay create a risk to pedestrians near the entrance of the centre as there is not sufficient clearance with the pedestrian walkway.*

CAR PARK LAYOUT

The proposed car parking layout has been amended to relocate the vehicle turn bay between Car Spaces 10 and 11, which in turn improves manoeuvrability and circulation of the parking areas. The amended architectural drawing is provided as **Attachment 1** for reference.

PDC Consultants
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+61 2 7900 6514 | Suite 202 / 27-39 Abercrombie St, Chippendale NSW 2008

The proposed modification addresses conflict issues with the pedestrian walkway and building wall by increasing the distance between these features and the turn bay. The relocated turn bay also results in safer turn manoeuvres, as the reversing movement occurs into the turn bay as opposed to in the direction of the pedestrian walkway. Vehicles accessing the turn bay are also not required to do so from the opposing traffic lane within the car park, as they were under the previous arrangement.

In relocating the turn bay, a 1.0 metre blind aisle extension has been provided beyond Car Space 12, in accordance with Figure 2.3 of AS 2890.1.

SWEPT PATH ANALYSIS

Swept path analysis has been undertaken to assess the vehicle movements to and from the turn bay using a B99 Design Vehicle, as defined by AS 2890.1. The results included in **Attachment 2** confirm satisfactory vehicle manoeuvring to and from the turn bay and more importantly, vehicles can exit (and enter) the site in a forward direction.

It is not common practice to undertake swept path analysis for every space within a car park if the car park is complaint with the requirements of AS 2890.1. This exercise is typically reserved for car parking arrangements where the layout is atypical and does not generally conform to Figure 2.2 of AS 2890.1.

In this case, all parking modules including car space, aisle width, blind aisle and turn bay requirements are generally compliant with AS 2890.1, and as such swept path analysis of every space has not been undertaken or considered necessary.

We trust the above satisfactorily addresses the traffic issues raised in the letter from Council's Senior Development Planner dated 28/08/2020. Please contact the undersigned should you have any queries or require anything further.

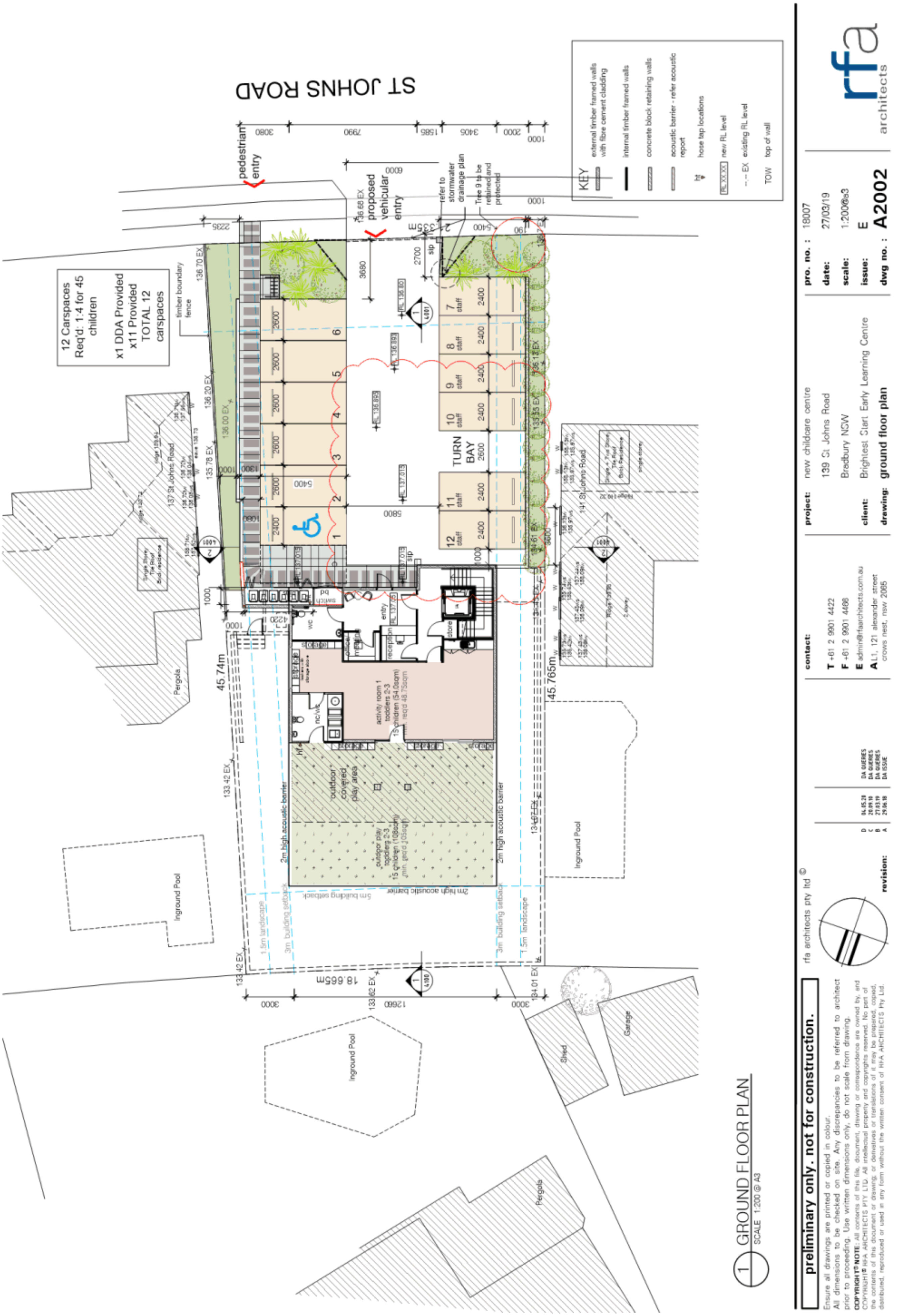
Yours sincerely,

Ben Midgley
Principal Traffic Engineer, PDC Consultants

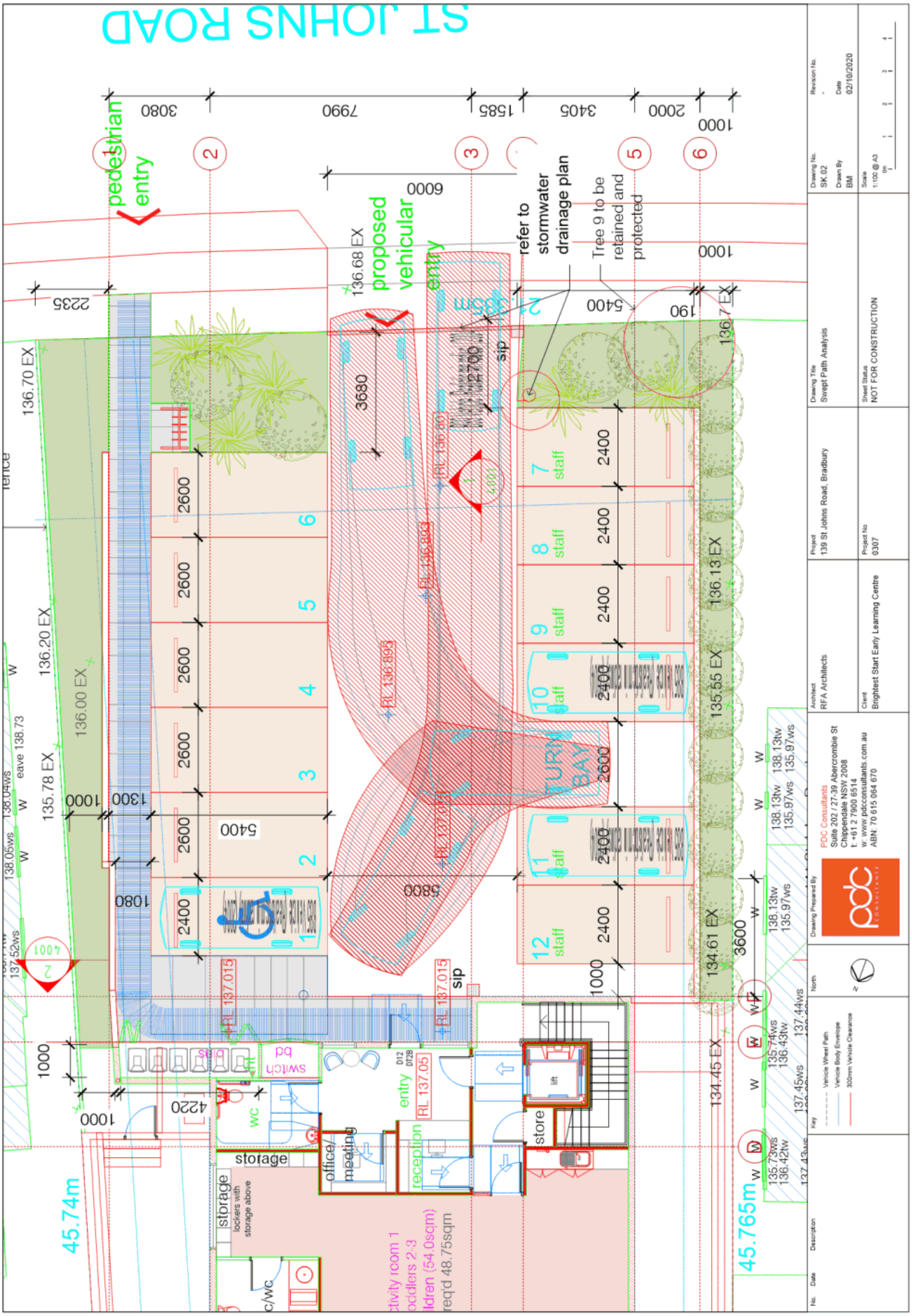
Email: bmidgley@pdcconsultants.com.au

Attachments:
1) Amended Architectural Drawings
2) Swept Path Drawings

Attachment 1


ST JOHNS ROAD
pedestrian entry
proposed vehicular entry
12 Carspaces Req'd: 1:4 for 45 children
x1 DDA Provided x11 Provided TOTAL 12 carspaces
TURN BAY
45.74m
45.765m
18.665m
outdoor covered play area
2m high acoustic barrier
Inground Pool
Pergola
Shed
Garage
GROUND FLOOR PLAN
SCALE 1:200 @ A3
preliminary only. not for construction.
project: new childcare centre
139 St Johns Road
Bradbury NSW
client: Brightest Start Early Learning Centre
drawing: ground floor plan
pro. no.: 18007
date: 27/03/19
scale: 1:200@a3
issue: E
dwg no.: A2002
rfa architects

Attachment 2


ST JOHNS ROAD
pedestrian entry
proposed vehicular entry
refer to stormwater drainage plan
Tree 9 to be retained and protected
TURN BAY
staff
store
storage
entry
reception
office/ meeting
PDC Consultants
Suite 202 / 27-39 Abercrombie St
Chippendale NSW 2008
Architect
RFA Architects
Client
Brightest Start Early Learning Centre
Project
139 St Johns Road, Bradbury
Project No
0307
Drawing Title
Swept Path Analysis
Sheet Status
NOT FOR CONSTRUCTION
Drawing No.
SK 02
Drawn By
BM
Scale
1:100 @ A3
Date
02/10/2020

Noise Emission Assessment

Proposed Child Care Centre
139 St Johns Rd, Bradbury, NSW

Brightest Start
Early Learning Centre Pty Ltd

4 May 2020

acousticdynamics

acousticdynamics

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Association of Australasian Acoustical Consultants

Client	Brightest Start Learning Centre Pty Ltd
Contact	Mr Youssef Tleis
C/o-	Ms Kara Moeller (RFA architects)
Address	Suite 1, 121 Alexander Street, Crows Nest NSW 2065
Phone	02 9901 4422
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Document	Revision	Date	Prepared	Checked	Approved
4317R001.LB.180606	0	19 June 2018	LB	RH	RH
4317R001.LB.180621	1	21 June 2018	LB	RH	RH
4317R001.LB.180621	2	22 June 2018	LB	RH	RH
4317R001.LB.190717	3	26 September 2019	LB	RH	RH
4317R001.LB.200429	4	4 May 2020	LB	RH	

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CONTENTS

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GLOSSARY

NOISE

Noise is produced through rapid variations in air pressure at audible frequencies (20 Hz – 20 kHz). Most noise sources vary with time. The measurement of a variable noise source requires the ability to describe the sound over a particular duration of time. A series of industry standard statistical descriptors have been developed to describe variable noise, as outlined in Section 2.1.2 below.

NOISE DESCRIPTORS

L_{eq} – The sound pressure level averaged over the measurement period. It can be considered as the equivalent continuous steady-state sound pressure level, which would have the same total acoustic energy as the real fluctuating noise over the same time period.

$L_{Aeq(15\ min)}$ – The A-weighted equivalent continuous sound level over a 15 minute period.

L_{A90} – The A-weighted noise level that has been exceeded for 90% of the measurement duration.

dB – Decibels. The fundamental unit of sound, a Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell. Probably the most common usage of the Decibel in reference to sound loudness is dB sound pressure level (SPL), referenced to the nominal threshold of human hearing. For sound in air and other gases, dB(SPL) is relative to 20 micropascals (μPa) = 2×10^{-5} Pa, the quietest sound a human can hear.

A-WEIGHTING

"A-weighting" refers to a prescribed amplitude versus frequency curve used to "weight" noise measurements in order to represent the frequency response of the human ear. Simply, the human ear is less sensitive to noise at some frequencies and more sensitive to noise at other frequencies. The A-weighting is a method to present a measurement or calculation result with a number representing how humans subjectively hear different frequencies at different levels.

NOISE CHARACTER, NOISE LEVEL AND ANNOYANCE

The perception of a given sound to be deemed annoying or acceptable is greatly influenced by the character of the sound and how it contrasts with the character of the background noise. A noise source may be measured to have only a marginal difference to the background noise level but may be perceived as annoying due to the character of the noise. Acoustic Dynamics' analysis of noise considers both the noise level and sound character in the assessment of annoyance and impact on amenity.

1 INTRODUCTION

1.1 SUMMARY

Acoustic Dynamics is engaged by **Brightest Start Early Learning Centre Pty Ltd** to prepare an acoustic assessment of the cumulative noise emission associated with the proposed Child Care Centre located at 139 St Johns Rd, Bradbury NSW, in accordance with the requirements of Campbelltown Council.

This document provides an assessment of noise emission levels from the various noise sources associated with the proposed Child Care Centre at nearby receivers, and is prepared in accordance with the various acoustic assessment requirements of Campbelltown Council, the NSW Environment Protection Authority (EPA), and the assessment guidelines of the Association of Australasian Acoustical Consultants (AAAC).

1.2 LOCATION AND DESCRIPTION OF PROPOSAL

1.2.1 PROPOSED CHILD CARE CENTRE

The proposed Child Care Centre is to be located at 139 St Johns Rd, Bradbury NSW. The proposed development is a two-storey building with a street level car park area on the southern boundary.

The subject development site has one road frontage with St Johns Rd to the south. The northern boundary is shared with a residential receiver at 12 Gipps St and the eastern and western boundaries are shared with residential receivers at 137 and 141 St Johns Rd. The surrounding area is zoned R1 – General Residential.

In regards to acoustic assessment, the following are deemed to be the nearest potentially affected receiver locations:

- Residential receiver located at 137 St Johns Rd;
- Residential receiver located at 141 St Johns Rd; and
- Residential receiver located at 12 Gipps St.

The Child Care Centre will include the following spaces internally:

- A reception, administration office and office meeting room;
- A staff room, kitchen, laundry, bin store, pram store and toilets;
- Two activity spaces (for toddlers 2-3 years old) with adjoining toilets; and
- Two activity spaces (for pre-school 3-5 years old) with adjoining toilets.

The Child Care Centre includes two outdoor play areas located on the ground and lower ground levels, at the northern end of the proposed development.

Acoustic Dynamics is advised of the following information relating to the proposed operations of the subject Child Care Centre:

- The operating hours of the Child Care Centre are:
    - 7:00am to 6:00pm, Monday to Friday.

Staff members will generally arrive 30mins prior and 30mins after the operating hours of the Child Care Centre. Additionally, there would be occasions where staff would stay until 8pm for meetings and training purposes. Gardening and maintenance may also be conducted on the weekends when the Child Care Centre is not operational.

Acoustic Dynamics understands the proposed Child Care Centre will have 45 places including:

- 15 children aged 2-3 years old (toddlers); and
- 30 children aged 3-5 years old (pre-school).

In addition, the proposed Child Care Centre will operate with 6 staff members, inclusive of the following car parking amenities:

- 11 car parking spaces for staff & visitors; and
- 1 DDA car parking space for large vehicles.

Acoustic Dynamics assumes that outdoor play times for the proposed Child Care Centre will be between the hours of 7:00am and 6:00pm for all children. Differing age groups will utilize the outdoor play areas throughout the day.

Acoustic Dynamics advises that mechanical plant information was not available at the time this report was prepared and has made the assumption that any mechanical plant required for the use and operation of the proposed Child Care Centre will be located along the eastern facade.

The proposed Child Care Centre and nearest noise sensitive receivers are shown in the Location Map, Aerial Photograph and Drawings presented within **Appendix A**.

1.3 SCOPE

Acoustic Dynamics has been engaged to provide an assessment of noise emission levels from noise sources associated with the development at nearby residential receivers.

The scope of the assessment is to include the following:

- Review Council, NSW EPA, the AAAC Guidelines for Childcare centres, and any other standards relating to noise emission and noise intrusion for a childcare centre;

- Assessment of noise measurements based on data obtained from long-term unattended noise logging and short-term operator-attended noise monitoring; and

- Conduct analysis and calculations to assess noise emission associated with the Child Care Centre, and determine noise intrusion and where appropriate, provide recommendations for design measures and management procedures.

2 ASSESSMENT CRITERIA AND STANDARDS

To determine the criteria and requirements applicable to the subject development, Acoustic Dynamics has conducted a review of the criteria and requirements outlined in Campbelltown Council's planning controls, the NSW Environment Protection Authority (EPA) and the assessment guidelines of the Association of Australasian Acoustical Consultants (AAAC). The relevant criteria and requirements are presented below.

2.1 CAMPBELLTOWN COUNCIL

2.1.1 LOCAL ENVIRONMENT PLAN

A review of Campbelltown Council Local Environment Plan (LEP) 2015 was conducted yet did not yield specific acoustic information or criteria relating to child care centres.

2.1.2 DEVELOPMENT CONTROL PLANS

A review of Campbelltown Council Development Control Plan (DCP) 2015 was conducted. References to acoustic requirements and relevant noise criteria are reproduced below:

> ***"PART 8 Centre-based Child Care Facilities***
>
> ***8.3.5 Visual and Acoustic Privacy***
>
> ***Design Requirements***
>
> *a) An acoustic report prepared by a suitably qualified person shall be submitted with all Centre-based Child Care Facility development applications demonstrating:*
>
> *i) that the noise levels generated from the Centre-based Child Care Facility, when measured over a 15 minute period, does not exceed the background noise by more than 5 dBA;*
>
> *ii) that the noise levels comply with the requirement of the Protection of The Environment Operations Act 1997; and*
>
> *iii) illustrating ways to minimise the impacts of noise on adjoining properties.*

8.6 Play Areas

Design Requirements

a) Centre-based Child Care Facility play areas shall:

ii) be appropriately designed and located to minimise noise impacts to adjoining properties."

2.2 PROTECTION OF THE ENVIRONMENT OPERATIONS (POEO) ACT 1997

In addition to the noise emission requirements of Campbelltown Council, we advise that noise emission from the proposed Child Care Centre must also comply with the requirements of the relevant legislation, being the Protection of the Environment Operations (POEO) Act 1997. The POEO Act 1997 requires that the noise emission associated with the proposed Child Care Centre must not generate "offensive noise". Offensive noise is defined as follows:

*"**"offensive noise"** means noise:*

(a) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:
(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or
(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or

(b) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations."

2.3 NSW ENVIRONMENT PROTECTION AUTHORITY (EPA)

Acoustic Dynamics has conducted a review of the NSW EPA's Noise Policy for Industry (NPfI, 2017). The various relevant acoustic criteria of the NSW EPA are detailed within **Section 2.3** below.

2.3.1 EXTERNAL NOISE EMISSION CRITERIA

The EPA, in its NPfI document, outlines and establishes noise criteria for industrial or other noise sources in various zoning areas.

To determine the appropriate intrusive noise emission criteria in accordance with the assessment guidelines of the EPA's NPfI, an unattended noise logger was deployed at the property boundary of the nearest sensitive residential receiver. The logger recorded data between Thursday 10 May and Thursday 17 May 2018. All extraneous data was removed prior to processing. Short term operator-attended measurements were conducted during deployment and retrieval of the noise logger and were used to supplement the unattended

logger data. Acoustic Dynamics advises the selected measurement locations are likely to be representative of the existing noise environment of the nearest receivers to the subject development site.

Acoustic Dynamics advises that the assessment of the proposed Child Care Centre has been based on the **lowest** background noise levels in the area during typical **maximum** operations of the proposed development. Acoustic Dynamics advises that such an assessment is conservative and will ensure no loss of amenity to the nearby residential and commercial receivers.
Following the general procedures outlined in the EPA's NPfI, a summary of the established noise environment and relevant environmental noise criteria is presented in **Table 2.1**.

Table 2.1 Summary of Measured Noise Levels and Noise Emission Criteria

Location	Time of Day[3]	L_{A90} Rating Background Noise Level (RBL) [dB]	Measured L_{Aeq} [dB]	Project Intrusiveness Noise Level [dB]
Nearest Residential Receivers	Daytime (7am to 6pm)	38	62	43
	Evening Shoulder (6pm to 6:30pm)[1]	35	54	40
	Morning Shoulder (6:30am to 7am)[1]	35	43	40

Note: 1) Acoustic Dynamics advises that the proposed child care centre opens at 7:00am and closes at 6:00pm, with staff arrivals and departure the only activity happening between 6:30am to 7:00am in the morning shoulder period and 6.00pm to 6.30pm in the evening shoulder period. Furthermore, staff on some occasions may stay up to 8pm for meetings and training.

The EPA's NPfI specifies additional noise emission level corrections that should be applied when a noise source is determined to include "modifying factors" that can vary the perceived intrusiveness of a noise source. Such modifying factors include tonal, low frequency, impulsive, or intermittent noise.

2.4 AAAC'S TECHNICAL GUIDELINE FOR CHILD CARE NOISE ASSESSMENT

Member firms of the Association of Australasian Acoustical Consultants (AAAC) have prepared the "Guideline for Child Care Centre Acoustic Assessment" (September 2010) to assist members and local councils in accurately and fairly assessing the external noise intrusion impact on children in child care facilities, and the assessing the noise impact from child care facilities.

Contained within the guideline are recommendations of noise objectives to be used for the assessment of both the impact of external noise on children within child care facilities, and the impact of noise emission from child care facilities to nearby receivers.

Section 2.4 outlines the relevant criteria applicable to external noise intrusion into the Child Care Centre, as well as the criteria applicable to noise emission levels from noise sources associated with the development at nearby residential receivers.

2.4.1 EXTERNAL NOISE INTRUSION CRITERIA

The AAAC's recommended external noise intrusion objectives for child care facilities have been reproduced in **Table 2.2** below.

Table 2.2 AAAC's Internal Noise Level Objectives $L_{Aeq(1hr)}$

Area	Time of Day	Internal Noise Level Objective $L_{Aeq(1hr)}$ [dB]
Indoor Play or Sleeping Area	When in use	**40**[1]
Outdoor Play or Activity Area	When in use	**55**

Note: 1) Acoustic Dynamics assumes that this guideline noise level applies to windows closed, therefore guideline noise level with windows open would be 50dB.

Acoustic Dynamics advises that the AAAC recommended external noise intrusion into indoor play area objectives are in line with the NSW EPA's NPfI recommended L_{Aeq} internal noise criterion.

2.4.2 EXTERNAL NOISE EMISSION CRITERIA

The results of the operator-attended noise monitoring and unattended noise logging conducted at the subject site have been used to determine the appropriate noise emission objectives, in accordance with the guideline. A summary of the environmental noise emission objectives for the Child Care Centre is presented in **Table 2.3** below.

Note should be made that Acoustic Dynamics assumes no activity (or noise emission) related to the proposed development will take place outside of the proposed operating hours i.e. from 6:00pm to 7:00am.

Table 2.3 Summary of AAAC's Noise Emission Objectives & Measured Noise Levels (15 minute)

Location	Time of Day	Intrusive $L_{Aeq(15min)}$ Noise Objectives	
		Outdoor Play Area (used ≤ 2 hrs per day) [dB]	Outdoor Play Area (used ≥ 2 hrs per day) [dB]
Nearest Residential Receivers	Daytime (7am to 6pm)	38 (Daytime L_{A90}) + 10 = 48	38 (Daytime L_{A90}) + 5 = 43

The AAAC's guideline also provides noise objectives for the assessment of noise emission from off-site road traffic activity associated with the child care facility:

- Off-site road traffic noise emission shall comply with an $L_{Aeq(1\ hr)} \leq 50$ dB.

Further to the above, achieving compliance with the AAAC's objective for the assessment of noise emission from off-site road traffic activity will also achieve compliance with the NSW EPA's Road Noise Policy.

Based on our experience with various Child Care Centre developments, as well as the extensive research conducted by the AAAC, Acoustic Dynamics advises that the noise emission objectives presented within the AAAC's guideline is the most appropriate methodology for assessment of such developments, and achieving the noise emission objectives detailed within the AAAC's "Guidelines for Childcare Centre Acoustic Assessment" will ensure that the subject development will not adversely affect the nearby and surrounding residential receivers.

Accordingly, this report presents an assessment of the Child Care Centre in accordance with the AAAC's guidelines. We advise that achieving compliance with the noise emission assessment objectives detailed within the AAAC's guideline will generally ensure compliance with the acoustic requirements of Campbelltown Council and the NSW EPA.

2.4.3 THE EPA'S SLEEP DISTURBANCE CRITERION

Acoustic Dynamics advises that sleep disturbance is a complex issue and the potential for sleep disturbance to occur depends on both the level of noise at a residential receiver and the number of events that occur.

The EPA has in the past investigated overseas and Australian research on sleep disturbance. The method of assessing noise for sleep disturbance relies on the application of a screening that indicates the potential for this to occur. The EPA's Noise Guide for Local Government, provides the following guidance for such a screening test:

> *"Currently, there is no definitive guideline to indicate a noise level that causes sleep disturbance and more research is needed to better define this relationship. Where likely disturbance to sleep is being assessed, a screening test can be applied that indicates the potential for this to occur. For example, this could be where the subject noise exceeds the background noise level by more than 15 dB(A). The most appropriate descriptors for a source relating to sleep disturbance would be $L_{A1(1\ minute)}$ (the level exceeded for 1% of the specified time period of 1 minute) or L_{Amax} (the maximum level during the specified time period) with measurement outside the bedroom window."*

Additionally, the guidelines of the NSW EPA's NPfI provide the following additional information:

> *"Where the subject development/premises night-time noise levels at a residential location exceed:*

- *$L_{Aeq,15min}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or*
- *L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is greater*

Further to the above information, the following summarizes the sleep disturbance criterion:

L_{Amax} or $L_{A1(1\ minute)}$ < L_{A90} + 15 dB or 52 dB(A), whichever is greater

In addition to the above, the EPA has published the following additional information relating to findings of significant research carried out for sleep disturbance:

> *"Maximum internal noise levels below 50-55 dBA are unlikely to cause awakening reactions… One or more noise events per night, with maximum internal noise levels of 65-70 dBA, are not likely to affect health and wellbeing significantly."*

Based on the measured background noise level, the following sleep disturbance screening criterion was determined:

Sleep Disturbance Criterion = = 52 dB

3 NOISE MEASUREMENT STANDARDS

All measurements are conducted in accordance with Australian Standard 1055.1-1997, *"Acoustics – Description and Measurement of Environmental Noise Part 1: General Procedures"*. Acoustic Dynamics' sound measurements are conducted using precision sound level meters conforming to the requirements of IEC 61672-2002 *"Electroacoustics: Sound Level Meters – Part 1: Specifications"*.

Table 3.1 Noise Survey Instrumentation

Type	Serial Number	Instrument Description
2270	2664115	Brüel & Kjaer Modular Precision Sound Level Meter
4189	2650956	Brüel & Kjaer 12.5 mm Prepolarised Condenser Microphone
4231	1730737	Brüel & Kjaer Acoustic Calibrator
EL-215	194444	Environmental Noise Logger

The reference sound pressure level was checked prior to and after the measurements using the acoustic calibrator and remained within acceptable limits.

4 ASSESSMENT

The following section provides an assessment of external noise intrusion into the Child Care Centre, as well as an assessment of contributed noise emission levels from noise sources associated with the development at nearby residential receivers.

4.1 EXTERNAL NOISE INTRUSION ASSESSMENT

Operator-attended noise monitoring measurements were conducted at a representative location within the subject site. **Table 4.1** presents the maximum predicted noise intrusion levels from the measured L_{Aeq} noise data obtained from the operator-attended noise monitoring measurement.

Table 4.1 Maximum Predicted L_{Aeq} Noise Intrusion Levels at the Subject Child Care Centre

Location	Maximum Predicted L_{Aeq} Noise Level [dB]	L_{Aeq} Criterion [dB]	Achieves Compliance?
Indoor Play or Sleeping Areas	≤ 28 (windows closed) ≤ 38 (windows open)	40	**Windows closed – Yes** **Windows open – Yes**
Outdoor Play or Activity Area	≤ 45	55	**Yes**

Note. 1) Acoustic Dynamics assumes that this guideline noise level applies to windows closed; therefore, guideline noise level with windows open would be 50 dB.

Based on Acoustic Dynamics' noise measurements, we advise that the Child Care Centre meets the assessment guideline values of the Association of Australasian Acoustical Consultants (AAAC).

4.2 EXTERNAL NOISE EMISSION ASSESSMENT

Based on the drawings and information provided by the proponent, Acoustic Dynamics has undertaken noise modelling and calculations to determine the maximum predicted contributed noise emission levels at the nearest receiver locations.

Calculations and noise modelling indicate the following two (2) operating scenarios will achieve compliance. The predicted noise emission levels presented above in **Table 4.2.1 and Table 4.2.2** include allowances for relevant distance, direction and shielding losses.

4.2.1 OUTDOOR PLAY GREATER THAN TWO (2) HOURS PER DAY

If the proposed duration of outdoor play is greater than two (2) hours per day more stringent criteria (background noise level plus 5 dB) will be applicable to noise emission from the Child Care Centre. As such, the number of children in the outdoor play area will need to be limited.

Acoustic Dynamics has performed calculations and noise modelling based on the following scenarios and group numbers:

- This scenario includes the following play groups occurring simultaneously:

  Scenario A
  - 15 x 2-3 year old's playing outdoors on upper (covered) area;
  - 15 x 3-5 year old's playing outdoors on lower area; and
  - 15 x 3-5 year old's playing indoors on lower ground (windows closed).

- The arrival and/or egress of 12 children and parents/guardians per 15-minute period (maximum of 12 events in a 15-minute period) during the daytime;

- The arrival and/or egress of 6 staff per 15-minute period and the arrival and/or egress of 20 children and parents/guardians per 15-minute period during the morning/evening shoulder periods (maximum of 26 events in a 15-minute period);

- Off-site traffic activity associated with the Child Care Centre based on the conservative assumption that a maximum of 45 vehicle passbys will occur in front of any one house along St Johns Rd within a one hour period; and

- Mechanical plant (including air conditioning condenser units) has been assumed to be located on the eastern facade facing 137 St Johns Rd.

Note should be made that Acoustic Dynamics understands activity between the hours of 6.30am to 7:00am and 6.00pm to 6:30pm related to the proposed Child Care Centre will be associated with staff arrivals and departures only. Staff members will generally arrive 30mins prior and 30mins after the operating hours of the Child Care Centre. Additionally, there would be occasions where staff would stay until 8pm for meetings and training purposes. Gardening and maintenance may also be conducted on the weekends when the Child Care Centre is not operational.

The calculated maximum noise emission levels at the nearest residential receiver locations resulting from the various noise sources associated with the Child Care Centre are presented against the relevant noise emission assessment objectives detailed within the **Section 2** above and incorporate the recommendations as outlined in **Section 5.**

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Table 4.2.1 Calculated Noise Emission Levels and Noise Emission Criteria (>2hrs Outdoor Play)

Receiver Location	Activity / Noise Source (Assessed over a 15-minute period)	Quietest Period Source Operates	Relevant $L_{Aeq(15min)}$ Objective [dB][1]	Calculated Maximum $L_{Aeq(15min)}$ Noise Level [dB][2]	Achieves Objective / Complies?
R1 Side Boundary at 137 St Johns Rd (East)[3]	• Children in Outdoor Play Areas • Children in Indoor Play Areas (play area windows closed) • Air conditioner condenser units	Daytime (7am to 6pm)	43	40	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements			37	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements	Shoulders (6:30am to 7am & 6pm to 6:30pm)	40	39	**Yes**
R2 Side Boundary at 141 St Johns Rd (West)[3]	• Children in Outdoor Play Areas • Children in Indoor Play Areas (play area windows closed) • Air conditioner condenser units	Daytime (7am to 6pm)	43	40	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements			35	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements	Shoulders (6:30am to 7am & 6pm to 6:30pm)	40	37	**Yes**
R3 Rear Boundary at 12 Gipps St (North)[3]	• Children in Outdoor Play Areas • Children in Indoor Play Areas (play area windows closed) • Air conditioner condenser units	Daytime (7am to 6pm)	43	41	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements			< 20	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements	Shoulders (6:30am to 7am & 6pm to 6:30pm)	40	< 20	**Yes**

Notes: 1) Criteria assessment period is 1hr rather than 15min.

2) Calculated L_{Aeq} noise level is the max noise level within a 1hr period between operating hours (7:00am and 6:00pm).

3) Compliance with the above receivers will ensure compliance with all other receiver locations located further away.

Note should be made that the above calculated noise emission levels are based on **maximum capacity operations** (i.e. worst case scenario) for the proposed Child Care Centre. Acoustic Dynamics advises that the actual operational noise emission generated by the proposed development is likely to be below the noise emission levels presented above, for the majority of the time.

Based on the above, Acoustic Dynamics advises that the proposed Child Care Centre, incorporating the recommendations in **Section 5** below, will achieve compliance with the relevant acoustic requirements of the NSW EPA, Campbelltown Council and the AAAC's *"Guidelines for Childcare Centre Acoustic Assessment"*.

4.2.2 OUTDOOR PLAY LIMITED TO TWO (2) HOURS PER DAY

If the duration of outdoor play is limited to two (2) hours per day more relaxed criteria (background noise level plus 10 dB) will be applicable to the Child Care Centre. Due to this, the number of children in the outdoor play area can be increased to the maximum capacity. Acoustic Dynamics have performed calculations and noise modelling based on the following scenarios and group numbers:

- This scenario includes the following play groups occurring simultaneously:

  Scenario B
  - 15 x 2-3 year old's playing outdoors on upper (covered) area; and
  - 30 x 3-5 year old's playing outdoors on lower area.

- The arrival and/or egress of 12 children and parents/guardians per 15-minute period (maximum of 12 events in a 15-minute period) during the daytime;

- The arrival and/or egress of 6 staff per 15-minute period and the arrival and/or egress of 20 children and parents/guardians per 15-minute period during the morning/evening shoulder periods (maximum of 26 events in a 15-minute period);

- Off-site traffic activity associated with the child care centre based on the conservative assumption that a maximum of 45 vehicle passbys will occur in front of any one house along St Johns Rd within a one hour period; and

- Mechanical plant (including air conditioning condenser units) has been assumed to be located on the eastern facade facing 137 St Johns Rd.

Note should be made that Acoustic Dynamics understands activity between the hours of 6.30am to 7:00am and 6.00pm to 6:30pm related to the proposed Child Care Centre will be associated with staff arrivals and departures only. Staff members will generally arrive 30mins prior and 30mins after the operating hours of the Child Care Centre. Additionally, there would be occasions where staff would stay until 8pm for meetings and training purposes. Gardening and maintenance may also be conducted on the weekends when the Child Care Centre is not operational.

The calculated maximum noise emission levels at the nearest residential receiver locations resulting from the various noise sources associated with the Child Care Centre are presented against the relevant noise emission assessment objectives detailed within the **Section 2** above and incorporate the recommendations as outlined in **Section 5**.

Table 4.2.2 Calculated Noise Emission Levels and Noise Emission Criteria (<2hrs Outdoor Play)

Receiver Location	Activity / Noise Source (Assessed over a 15-minute period)	Quietest Period Source Operates	Relevant $L_{Aeq(15min)}$ Objective [dB][1]	Calculated Maximum $L_{Aeq(15min)}$ Noise Level [dB][2]	Achieves Objective / Complies?
R1 Side Boundary at 137 St Johns Rd (East)[3]	• Children in Outdoor Play Areas • Children in Indoor Play Areas (play area windows closed) • Air conditioner condenser units	Daytime (7am to 6pm)	48	43	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements			37	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements	Shoulders (6:30am to 7am & 6pm to 6:30pm)	40	39	**Yes**
R2 Side Boundary at 141 St Johns Rd (West)[3]	• Children in Outdoor Play Areas • Children in Indoor Play Areas (play area windows closed) • Air conditioner condenser units	Daytime (7am to 6pm)	48	43	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements			35	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements	Shoulders (6:30am to 7am & 6pm to 6:30pm)	40	37	**Yes**
R3 Rear Boundary at 12 Gipps St (North)[3]	• Children in Outdoor Play Areas • Children in Indoor Play Areas (play area windows closed) • Air conditioner condenser units	Daytime (7am to 6pm)	48	43	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements			< 20	**Yes**
	• Arrival and Egress of Staff, Children & Guardians • Car Park Movements	Shoulders (6:30am to 7am & 6pm to 6:30pm)	40	< 20	**Yes**

Notes: 1) Criteria assessment period is 1hr rather than 15min.

2) Calculated L_{Aeq} noise level is the max noise level within a 1hr period between operating hours (7:00am and 6:00pm).

3) Compliance with the above receivers will ensure compliance with all other receiver locations located further away.

Note should be made that the above calculated noise emission levels are based on **maximum capacity operations** (i.e. worst case scenario) for the proposed Child Care Centre. Acoustic Dynamics advises that the actual operational noise emission generated by

the proposed development is likely to be below the noise emission levels presented above, for the majority of the time.

Based on the above, Acoustic Dynamics advises that the proposed Child Care Centre, incorporating the recommendations in **Section 5** below, will achieve compliance with the relevant acoustic requirements of the NSW EPA, Campbelltown Council and the AAAC's *"Guidelines for Childcare Centre Acoustic Assessment"*.

4.2.3 OFF-SITE ROAD TRAFFIC ACTIVITY

Calculated maximum noise emissions for off-site traffic are presented in **Table 4.3** below, the calculations are based on 45 vehicles per hour and include allowances for relevant distance, direction and shielding losses.

Table 4.3 Off-site Road Traffic Noise Emission Levels

Receiver Location	Activity / Noise Source	Quietest Period Source Operates	Relevant $L_{Aeq(1hr)}$ Objective [dB]	Calculated Maximum $L_{Aeq(1hr)}$ Noise Level [dB]	Achieves Objective / Complies?
Residential receivers along St Johns Rd	Offsite Traffic	Morning/Evening Shoulders	50	41[1]	**Yes**

Note. 1) Calculated LAeq noise level is the maximum noise level within a 1hr period between proposed operating hours (7:00am and 6:00pm).

Based on the above, Acoustic Dynamics advises that the noise emission due to additional traffic as a result of the activity of the proposed Child Care Centre will achieve compliance with the AAAC's *"Guidelines for Childcare Centre Acoustic Assessment"* and the NSW EPA's Road Noise Policy.

4.2.4 SLEEP DISTURBANCE CRITERIA

Acoustic Dynamics has determined the potential maximum $L_{A1(60\ Sec)}$ noise emission from the proposed Child Care Centre to be **46 dB** from the activities commonly associated with staff arrival during the early night time / day time shoulder period i.e. 6:30am to 7:00am. These activities assessed include the closing of car doors along St Johns Rd and within the Child Care Centre car park, during early morning shoulder period. The predicted noise associated with these activities achieves compliance with the EPA's sleep disturbance screening criterion of $\mathbf{L_{A1(60sec)} \leq 52\ dB}$ during the early morning shoulder period 6:30am to 7:00am. It is advised that by achieving compliance with the nearest residential receiver locations, compliance will also be achieved at all other residential receiver locations further away.

Acoustic Dynamics advises that the above calculated noise emission levels are conservatively based on the maximum source noise levels and maximum capacity operations (i.e. worst case scenario) at the proposed Child Care Centre. Acoustic Dynamics advises that such a scenario is unlikely to occur for the majority of the time and the predicted maximum noise emission associated with the operation of the proposed Child Care Centre complies with the relevant noise emission criteria.

5 RECOMMENDATIONS

Acoustic Dynamics' calculations and analysis indicate the following recommendations are required to be incorporated into the development to ensure compliance is achieved with the various relevant acoustic assessment criteria.

5.1 ACOUSTIC BARRIERS/SCREENS

Acoustic Dynamics advises that acoustic barriers/screens are required to be incorporated into the development, as detailed below:

Screens/Barriers Required For The Proposed Child Care Centre Boundary

Acoustic Dynamics advises that acoustic screens/barriers are required along the eastern, western and northern boundary of the proposed Child Care Centre site as indicated in the mark-up provided in **Appendix A**, measured from the relative ground level of the adjacent premise.

2.1m high acoustic screens/barriers are to be erected along the eastern, western and northern boundary of the proposed Child Care Centre site as indicated in the mark-up provided in **Appendix A**, measured from the relative ground level of the adjacent premise. The barriers should be continuous from the southern facade of the subject development. A 1 metre high cantilevered canopy (installed at an angle between 30° and 45° at the top of the 2.1m barrier, extending a minimum of 1m over the play area), or 3.1 metre high straight barrier, will be required along the eastern, western and northern boundary adjacent to the lower ground outdoor play area, indicated in the mark-up provided in **Appendix A**, measured from the relative ground level of the adjacent premise.

Acoustic barriers/ screens must meet the following specifications:

- Where there are inconsistent ground levels along the boundaries, the barriers must utilise the highest elevation points along the residential boundary (i.e. be constructed on higher ground);
- The acoustic barriers/screens must contain **no gaps** along the surface area of the screen, and be **close fitting (ie within 30mm) to the ground** (to prevent the transmission of noise below the barrier); and
- The acoustic barrier(s) must provide a minimum surface density of **15 kg/m^2** and contain **no gaps** along the surface of the barrier(s). All gaps are to be adequately sealed using a flexible mastic sealant. Acoustic Dynamics advises that the acoustic barrier(s) could be constructed to be:
  - A double layer Colorbond™ (Custom Blue Orb® or equivalent) barrier(s); or
  - Masonry (brick or concrete) construction; or
  - A minimum 9mm thick compressed fibros-cement sheeting on a timber or steel stud; or

- Other suitable material (minimum surface density of **15 kg/m^2**) such as Perspex, ModularWalls™ or equivalent; and

- Design of the barrier supports of the acoustic barrier(s) must be verified by a suitably qualified contractor to ensure sufficient structural and wind loading support is provided.

Acoustic Dynamics advises the above acoustic screens/barriers will adequately reduce noise emission to the adjacent receivers, achieving compliance with the various relevant acoustic criteria and objectives. The position of the acoustic barriers/screens is shown within **Appendix A**.

5.2 CAR PARK AREA

Acoustic Dynamics understands that the eastern and western boundaries of the carpark are to be enclosed with a landscaped retaining wall. To adequately mitigate noise emission associated with patron and staff ingress and egress, it is recommended that the proposed Child Care Centre incorporate the following measures relating to the car park area:

1. The retaining wall should be constructed along the eastern and western boundary of the car park area at a minimum height of 1200mm from the car park floor;

2. The retaining wall should extend continuously from the northern boundary of the car park to the adjacent entrance on St Johns Rd (See **Appendix A** for location) with **no gaps** between the retaining wall, the subject building facade and the acoustic barrier/screen; and

3. Patrons and staff should be encouraged to enter and exit the car park area in a quiet manner to minimise any potential impacts on the surrounding amenity.

5.3 MECHANICAL PLANT

Detailed mechanical plant specifications are yet to be determined, however Acoustic Dynamics advises that all mechanical plant has been modelled along the eastern facade at a maximum height of 1m above ground level behind the acoustic barrier. Acoustic Dynamics advises that noise emission from any mechanical plant is likely to have noise impact on the surrounding sensitive receivers. We recommend that mechanical plant associated with the operation of the proposed Child Care Centre incorporates the following:

- All mechanical plant (air-conditioning unit(s) should not exceed a total sound power level (SWL) of **74 dB(A)**.

Notwithstanding the above, noise emission resulting from the operation of the subject mechanical plant can be appropriately conditioned to protect the acoustic amenity of the adjacent sensitive receivers.

5.4 WINDOWS

Acoustic Dynamics advises that the proposed Child Care Centre should incorporate the following measures relating to windows:

1. The glazing of all windows of the proposed Child Care Centre should be constructed using 6.38mm laminated glass with a minimum $\mathbf{R_w}$ **30**;

2. During designated playtimes, the windows of the playroom should remain closed;

3. During times when children are sleeping and there is activity in the rear outdoor play area, windows of the playroom should remain closed; and

4. During times of quiet activity in a playroom, windows may be opened for natural ventilation.

5.5 REAR OUTDOOR PLAY AREA

Acoustic Dynamics advises that the proposed Child Care Centre should incorporate the following measures relating to the rear outdoor play area:

1. The number of children playing simultaneously in the outdoor play area are to be a no greater than the maximum numbers detailed in the modelling assumptions in **Section 4.2**;

2. There should be consideration given to carefully position and limit elevated play areas and play equipment as to minimise direct line of sight from a child at play and the nearest residential receiver. Acoustic Dynamics notes that the current design includes a 2m high balustrade on the boundary of the ground floor outdoor area which will provide acoustic mitigation between that area and the adjacent receivers;

3. Where there are hard floor surfaces within the play area and the outdoor veranda, there should be consideration to cover these areas with impact resistant material (e.g. rubber matting) where feasible; and

4. Consideration may be given to installing weather-proof absorptive panels to the internally facing wall and ceiling areas of the upper and lower ground external activity areas to reduce the reverberant build-up of sound energy within those areas.

6 CONCLUSION

Acoustic Dynamics has conducted an acoustic assessment of the proposed Child Care Centre at 139 St Johns Rd, Bradbury NSW, in accordance with the requirements of Campbelltown Council and NSW EPA.

The relevant criteria and requirements used in the assessment are presented in **Section 2**, while the assessment itself is presented in **Section 4**. In addition, recommendations for noise control are provided in **Section 5**.

Acoustic Dynamics advises that the predicted operational noise emission associated with the development will achieve compliance with the relevant acoustic design requirements and objectives of Campbelltown Council, NSW EPA and the AAAC if the recommendations outlined in **Section 5** are implemented.

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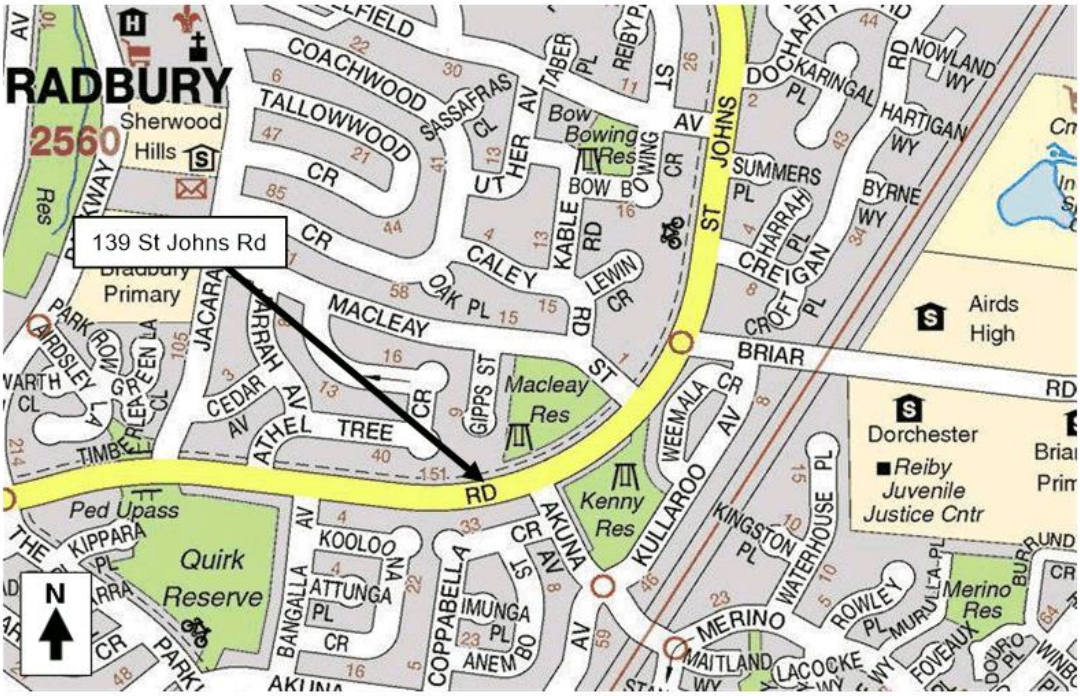
APPENDIX A – LOCATION MAP, AERIAL PHOTO & DRAWINGS

A.1 LOCATION MAP



A.2 AERIAL PHOTO

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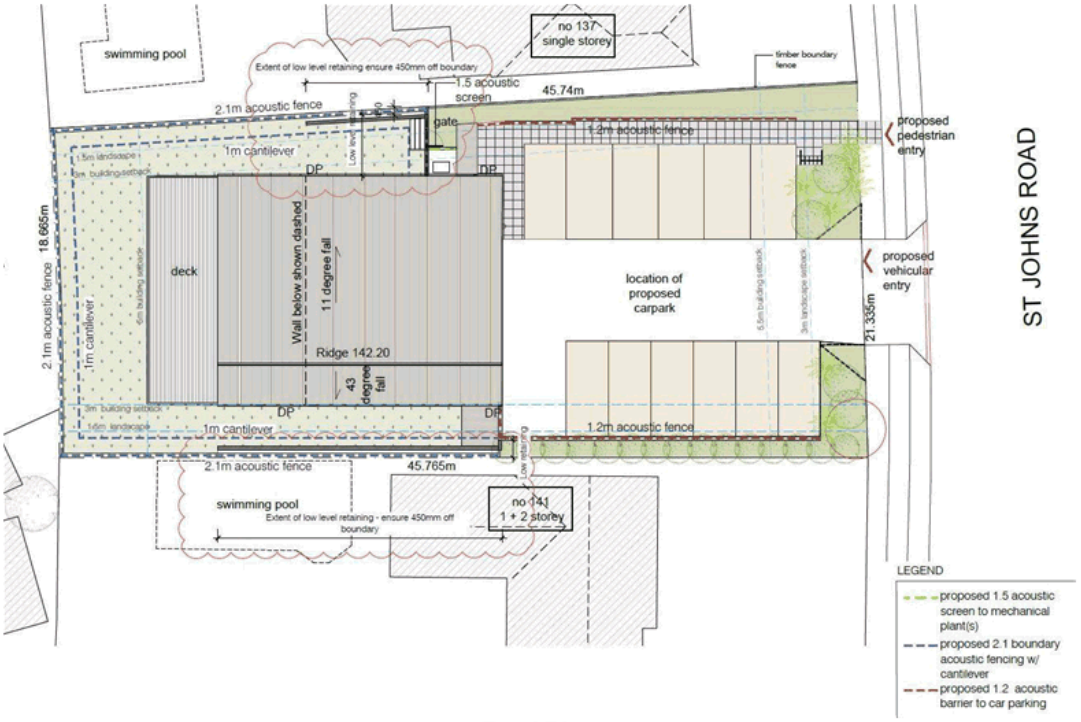
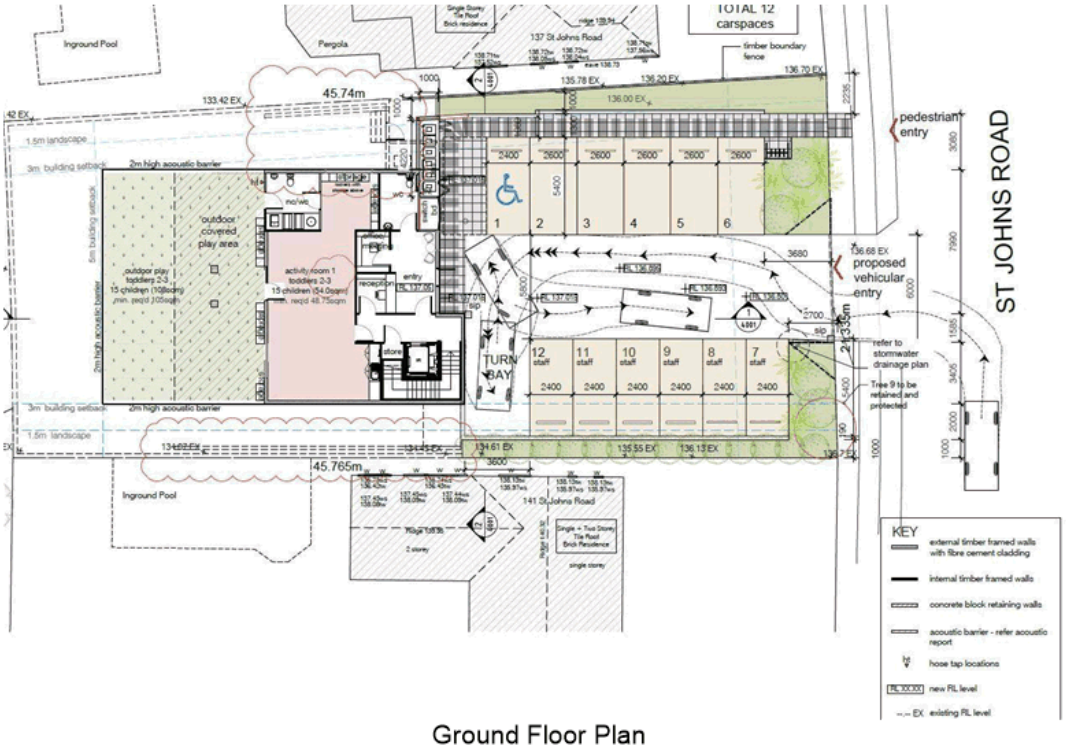
A.3 DRAWINGS



Roof Plan



Ground Floor Plan

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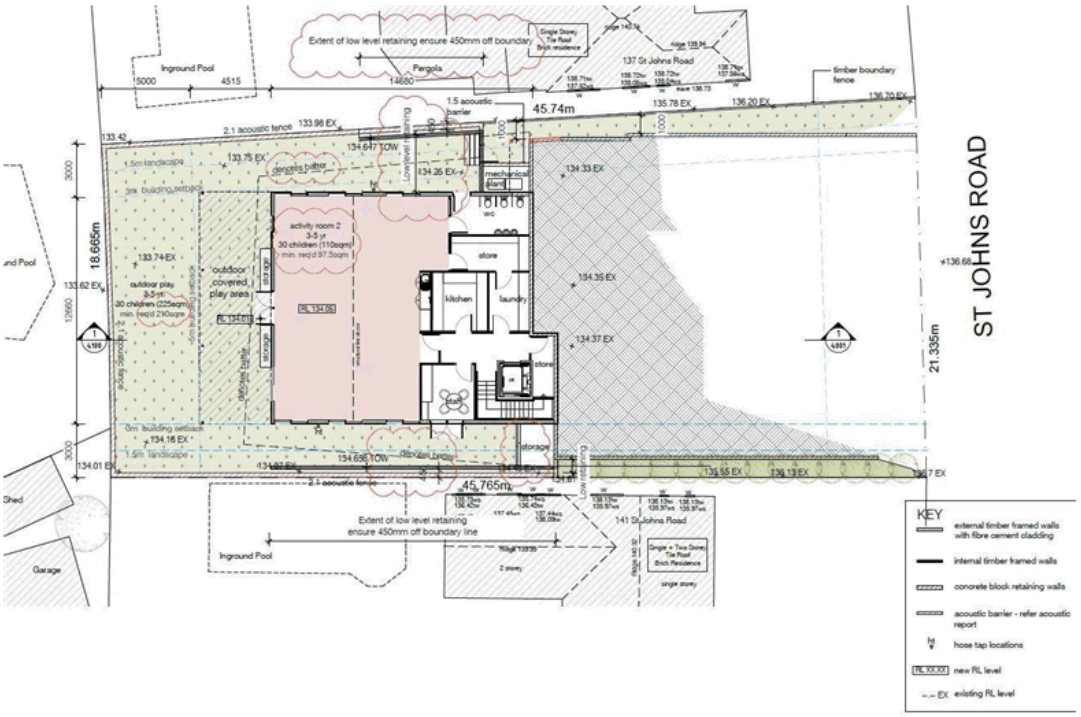
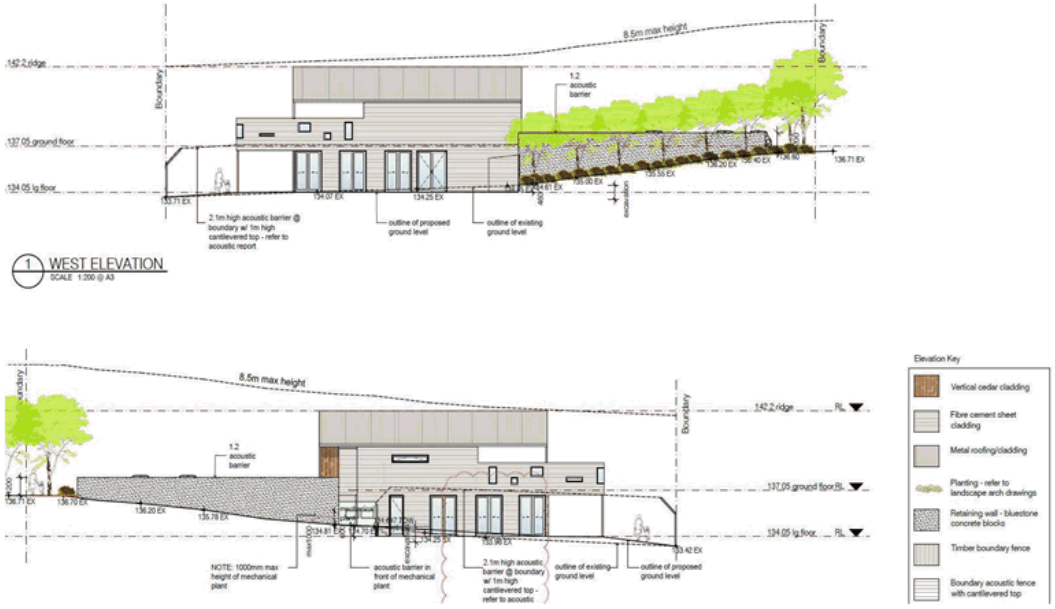


Lower Ground Floor Plan

1 SOUTH ELEVATION - STREETSCAPE
SCALE 1:200 @ A3

2 NORTH ELEVATION
SCALE 1:200 @ A3

South and North Elevation

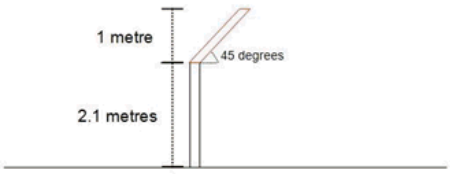


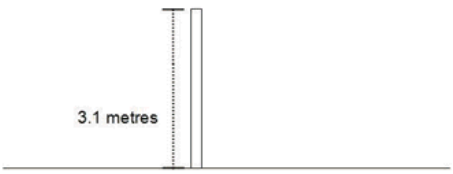
West and East Elevation

Table A.1 Drawing List

Drawing Title	Drawing Number	Date
Roof Plan	A2001	27/03/2019
Ground Floor Plan	A2002	27/03/2019
Lower Ground Floor Plan	A2003	27/03/2019
North and South Elevation	A3001	27/03/2019
East and West Elevation	A3002	27/03/2019

A.3.1 BARRIER DESIGN





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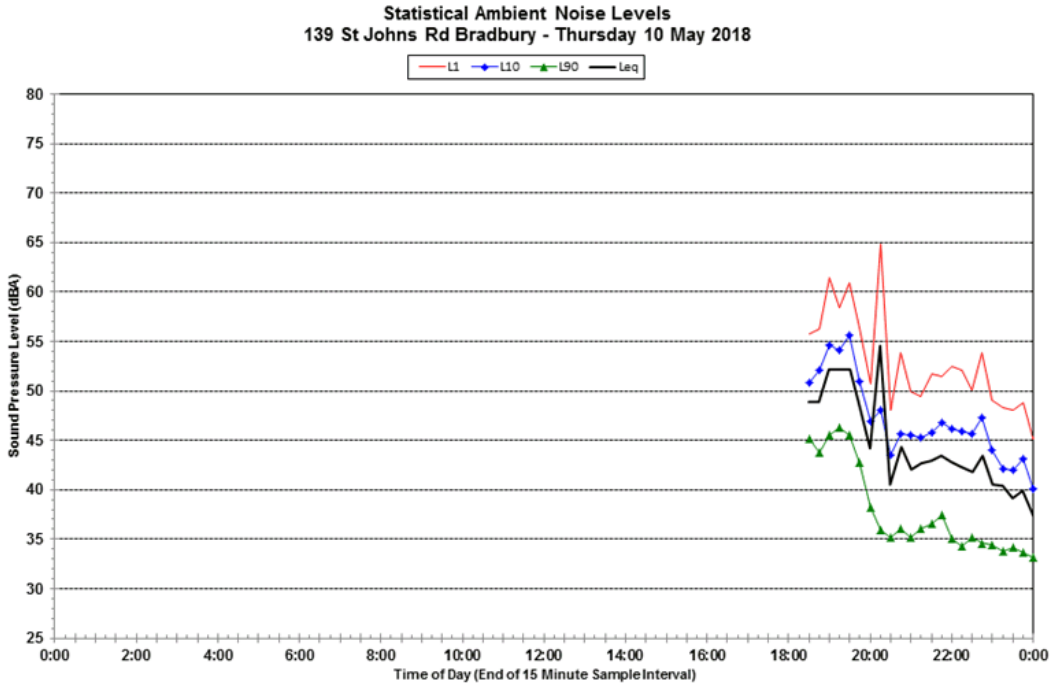
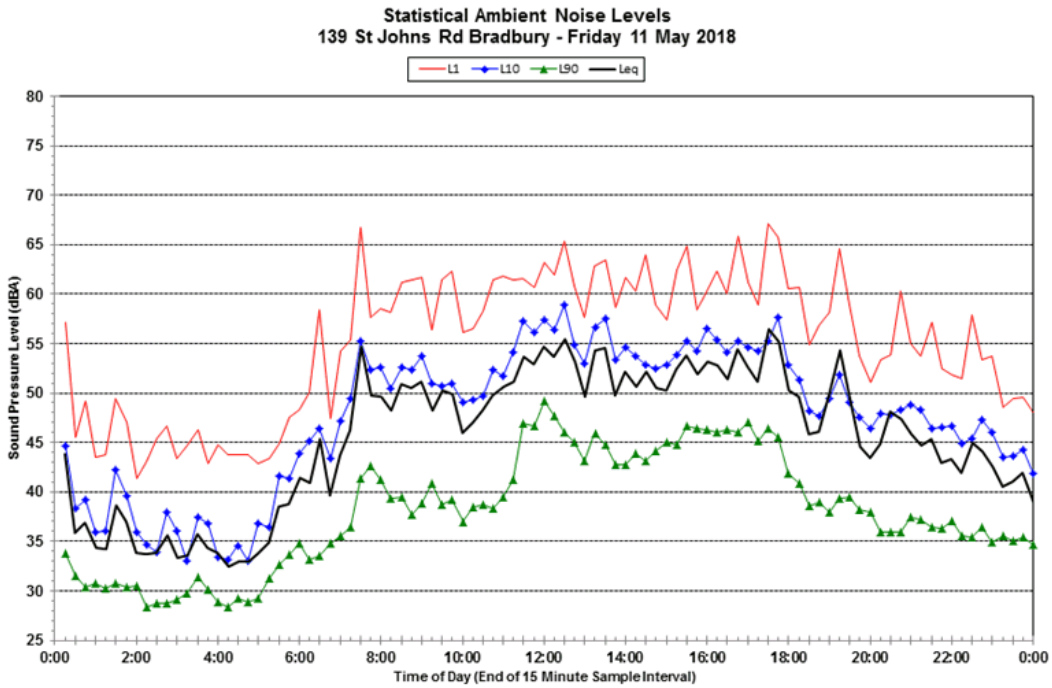
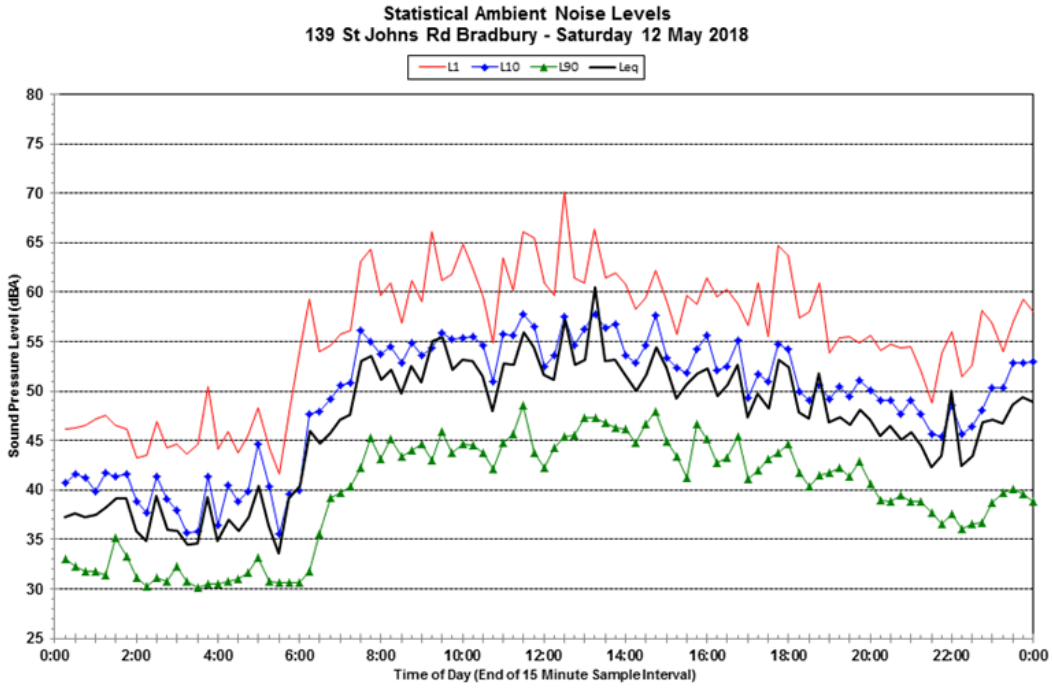
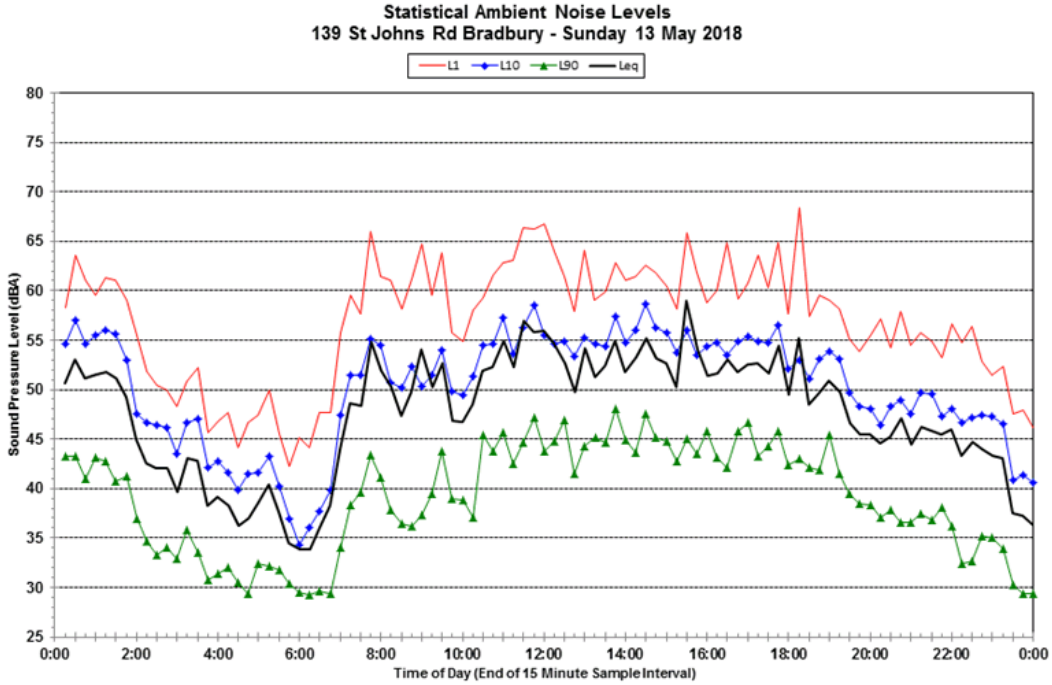
APPENDIX B – NOISE LOGGER DATA

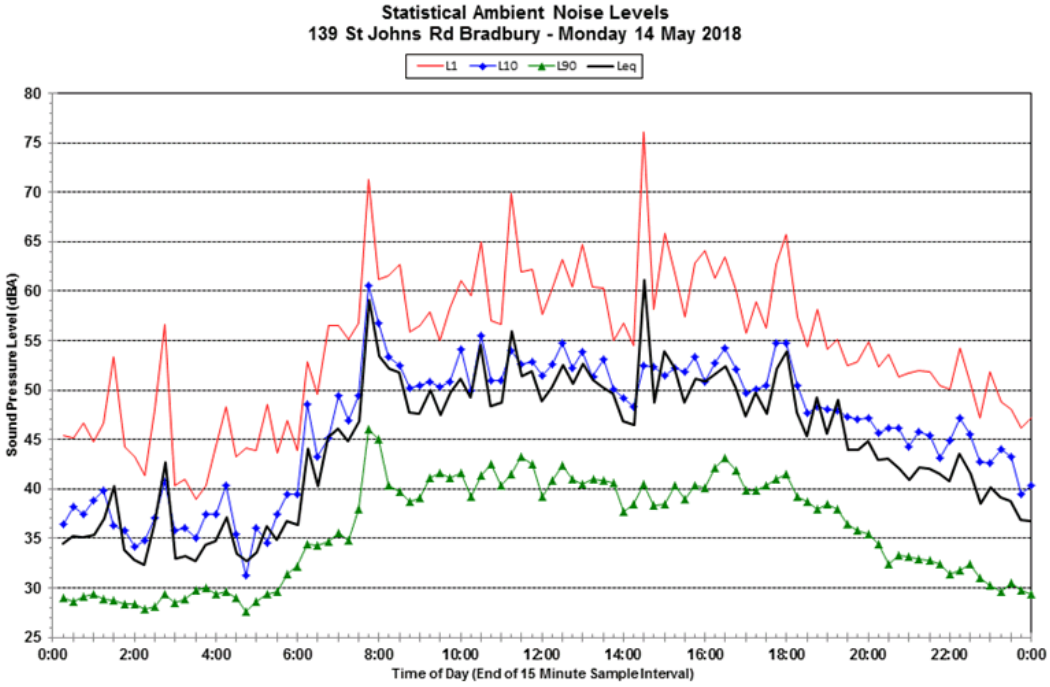
B.1 LOGGER DATA

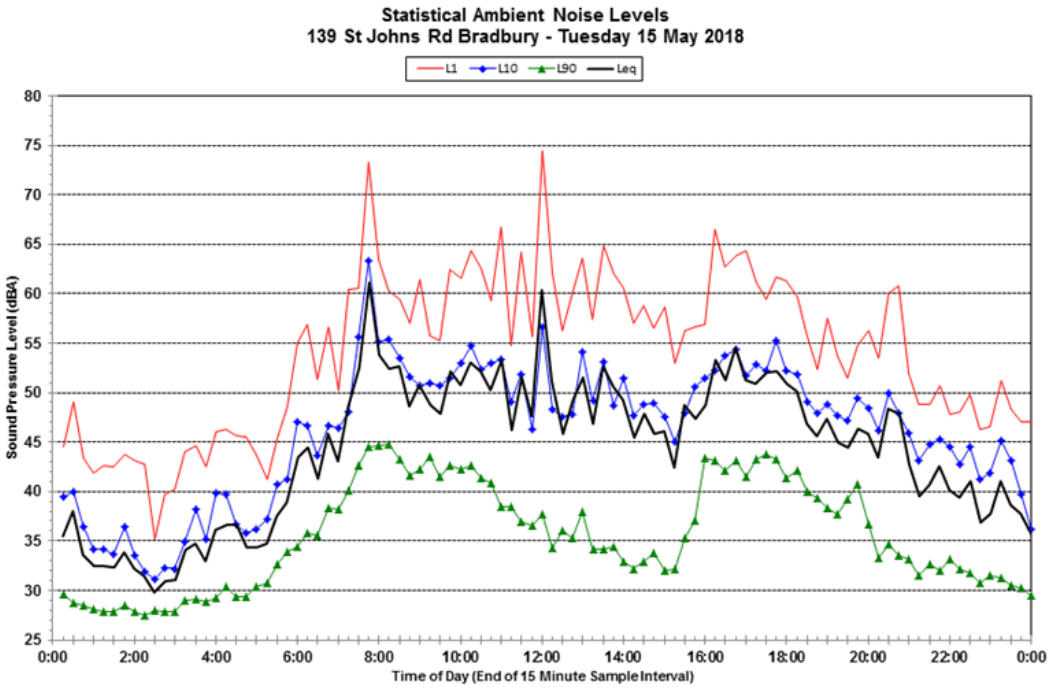





Statistical Ambient Noise Levels
139 St Johns Rd Bradbury - Saturday 12 May 2018
L1
L10
L90
Leq
Sound Pressure Level (dBA)
80
75
70
65
60
55
50
45
40
35
30
25
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
Time of Day (End of 15 Minute Sample Interval)


Statistical Ambient Noise Levels
139 St Johns Rd Bradbury - Sunday 13 May 2018
L1
L10
L90
Leq
Sound Pressure Level (dBA)
80
75
70
65
60
55
50
45
40
35
30
25
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
Time of Day (End of 15 Minute Sample Interval)


Statistical Ambient Noise Levels
139 St Johns Rd Bradbury - Monday 14 May 2018
L1
L10
L90
Leq
Sound Pressure Level (dBA)
80
75
70
65
60
55
50
45
40
35
30
25
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
Time of Day (End of 15 Minute Sample Interval)


Statistical Ambient Noise Levels
139 St Johns Rd Bradbury - Tuesday 15 May 2018
L1
L10
L90
Leq
Sound Pressure Level (dBA)
80
75
70
65
60
55
50
45
40
35
30
25
0:00
2:00
4:00
6:00
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16:00
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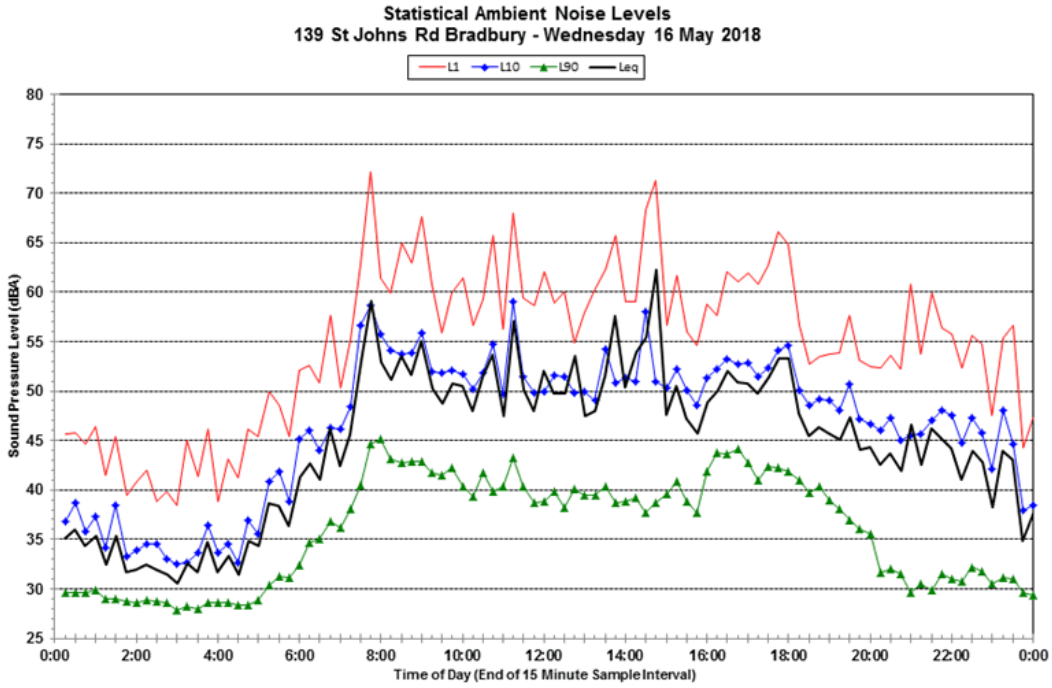
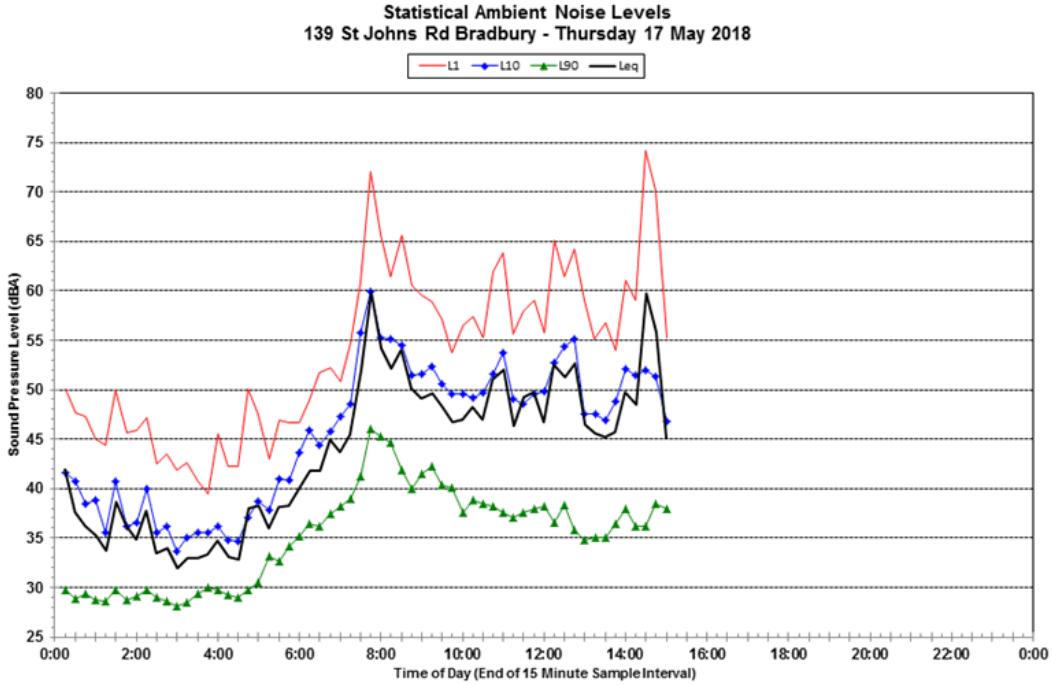
20:00
22:00
0:00
Time of Day (End of 15 Minute Sample Interval)


Statistical Ambient Noise Levels
139 St Johns Rd Bradbury - Wednesday 16 May 2018
L1
L10
L90
Leq
Sound Pressure Level (dBA)
80
75
70
65
60
55
50
45
40
35
30
25
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
Time of Day (End of 15 Minute Sample Interval)


Statistical Ambient Noise Levels
139 St Johns Rd Bradbury - Thursday 17 May 2018
L1
L10
L90
Leq
Sound Pressure Level (dBA)
80
75
70
65
60
55
50
45
40
35
30
25
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
Time of Day (End of 15 Minute Sample Interval)

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Association of Australasian Acoustical Consultants

Project 4317
4 May 2020

Campbelltown City Council
C/o- RFA Architects
Attention: Ms Kara Moeller
Level 1, 121 Alexander Street
CROWS NEST NSW 2065

Email: kara@rfaarchitects.com.au
Ph: 02 9901 4422

Dear Kara

139 ST JOHNS RD BRADBURY – PROPOSED CHILD CARE CENTRE
ADDITIONAL INFORMATION AND ACOUSTICS ADVICE – LETTER 03

1 INTRODUCTION

Acoustic Dynamics is engaged by **Brightest Start Early Learning Centre** to provide an acoustic assessment for the proposed child care centre, located at 139 St Johns Road, Bradbury NSW.

Acoustic Dynamics has been provided with a request from Campbelltown City Council for further information regarding the acoustic assessment for the proposed child care centre. The request from Council (dated 11 March 2020) is presented below:

> *"I advise that an initial assessment of your application has been undertaken. As a result, the following information is considered necessary to be submitted to Council to allow the further consideration of your application:*
>
> ***Acoustic Fencing***
>
> 23. *The proposed 3.1m high acoustic barrier around the rear yard of the development is required to achieve satisfactory outcomes. The proposed fence height does not comply with Part8.3.4 b)ii) which states that fencing to the rear and side boundaries shall be a maximum of 2.1 metres in height. A written justification for this non-compliance has not been provided. A written justification is required which address the objectives of Part 8.3 of Council's SCDCP.*
>
> 24. *Drawing No. A3001 provides a notation that the acoustic barrier as 2.1m, which in not consistent with the acoustic report.*
>
> 25. *Drawing No. A4001 (section 1) incorrectly labels the acoustic barrier as being 2.1m high.*

26. *Acoustic report states that the acoustic barriers/screens must contain no gaps along the surface barriers (to prevent the transmission of noise below the barrier). However, there is a notation on the landscape plan (LPDA 18-341) as follows:*

    "A gap of 50mm along the bottom edge of acoustic fence to allow f or the overland flow path refer to engineering detail required by DA consent No. 3."

27. *Please advise whether this notation is relevant to the subject development application.*

Upper Level Outdoor Play Area – Acoustic Concerns

28. *Concern is raised in relation to the semi-enclosed nature of the upper level outdoor play area which could result in a louder reverberant noise level than would be expected if it were a truly open play area. It is also located above the proposed boundary acoustic walls, so some of the reverberated noise will not be attenuated. Provide calculations to determine the sound absorption coefficient "a" values for each surface of this part of the development.*

2 ACOUSTIC DYNAMICS RESPONSE

Acoustic Dynamics response to the clarifications required from Council is presented below:

23. Acoustic Dynamics understands that a written justification for the 3.1 metre high acoustic barrier is to be provided by the client (or representative of the client). Acoustic Dynamics provides the following ancillary information regarding an acoustic barrier greater than 2.1 metres high.

    a) In general, the higher that an acoustic barrier is constructed the greater noise attenuation it will provide and the better the level of acoustic privacy that can be achieved for neighbouring residents;
    b) The use of a 1 metre high cantilever atop a 2.1 metre high barrier could provide a more acceptable visual condition for neighbouring residents; and
    c) Based on the noise modelling results conducted for the assessment, a 3.1 metre barrier is predicted to achieve up to 5 dB greater noise attenuation than a 2.1 metre high barrier constructed to the same specifications.

24. Acoustic Dynamics advises that our noise modelling and calculations are based on a 2.1 metre high barrier with an additional 1 metre high cantilever, or a 3.1 metre high barrier. Drawings been updated and amended within the acoustic report to include the barrier height.

25. Acoustic Dynamics advises that our noise modelling and calculations are based on a 2.1 metre high barrier with an additional 1 metre high cantilever, or a 3.1 metre high barrier. Drawings been updated and amended within the acoustic report to include the barrier height.

26. See response for item 27 below.

27. As per Acoustic Dynamics letter *4317L002.LB.190503* (Item 3, dated 10 May 2019), Acoustic Dynamics has performed additional modelling to assess the potential increase in noise emission at the nearest residential receivers inclusive of a proposed 50mm gap along the bottom edge of the acoustic barriers. To allow for the overland flow path and to reduce the potential for impacts on adjacent or downstream properties, a gap of 50mm is permissible along the bottom edge of the acoustic barriers with no predicted increase in noise emission levels at the adjacent residential receivers.

28. Acoustic Dynamics advise the absorption values used for noise modelling and calculations to conduct the assessment is conservative and absorption values are likely to be higher once fitout is complete. When conducting noise modelling and calculations Acoustic Dynamics has used the following absorption data for barriers and other surfaces within the semi-enclosed external areas:

Table 2.1 Octave Band Absorption Data for Level 1 Semi-Enclosed External Areas

Surface	Octave Band Absorption Data (Hz)								
	31.5	63	125	250	500	1000	2000	4000	8000
Walls, Ceiling and Barriers	0.00	0.00	0.02	0.02	0.03	0.03	0.04	0.05	0.00
Floors	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.00

In addition, Acoustic Dynamics has made recommendations (within the acoustic report) to further control the build-up of reverberant energy or regenerated noise within the semi-enclosed external areas. Such controls could include:

a) Hard floor surfaces within the semi-enclosed external areas could be covered using an impact resistant material (e.g. rubber matting) where feasible;

b) Installing weather-proof absorptive panels to the internally facing wall and ceiling areas of the semi-enclosed external activity areas to reduce the reverberant build-up of sound energy within those areas; and

c) To further control noise emission from semi-enclosed external areas, Acoustic Dynamics understand that staff will supervise all outdoor activities and will be trained to control children to prevent overly noisy behaviour.

We trust that the above information meets with your requirements and expectations. Please do not hesitate to contact us on 02 9908 1270 should you require more information.

Yours Faithfully
ACOUSTIC DYNAMICS

LUCAS BROOKER

Document	Revision	Date	Prepared	Reviewed	Authorised	Approved
4317L004.LB.200501	0	4 May 2020	LB	MW	RH	

DESIGN CONFIDENCE

RFA Architects

Access Design Assessment Report

New Childcare Centre
139 St Johns Road
Bradbury NSW 2560

ACCESSIBILITY | BUILDING REGULATIONS | FIRE ENGINEERING | MANAGEMENT SERVICES

DESIGN CONFIDENCE

CONTENTS

DESIGN CONFIDENCE

Project:	New Childcare Centre 139 St Johns Rd, Bradbury NSW 2560
Document Type:	Access Design Assessment Report
Report Number:	P218_013-2 (ACCESS) JLS

The following report register documents the development and issue of this and each subsequent report(s) undertaken by Design Confidence (Sydney) Pty Ltd.

Revision History—

OUR REFERENCE	REMARKS	ISSUE DATE
P218_013-1 (ACCESS) JLS	Draft report issued to client	12 February 2019
P218_013-2 (ACCESS) JLS	Final DA report issued to client	11 March 2019

DESIGN CONFIDENCE

1.0 INTRODUCTION

1.1 General

This report has been prepared at the request of RFA Architects and relates to the proposed New Childcare Centre at 139 St Johns Rd, Bradbury NSW 2560.

1.2 Purpose of Report

The purpose of this report is to identify the extent to which the architectural design documentation complies with the *accessibility provisions* of the Building Code of Australia 2016 (hereinafter referred to as the BCA), as are principally contained within Parts D3, E3.6 & F2.4.

This report is based upon, and limited to, the information depicted in the documentation provided for assessment and does not make any assumptions regarding design intention or the like.

1.3 Documentation Provided for Assessment

This assessment is based upon the architectural documentation prepared by RFA Architects and listed within **Appendix 1**.

1.4 Report Exclusions

It is conveyed that this report should not be construed to infer that an assessment for compliance with the following has been undertaken—

(i) Work Health & Safety Act and Regulations; and

(ii) WorkCover Authority requirements; and

(iii) Structural and Services Design Documentation; and

(iv) The Disability Discrimination Act (DDA) 1992; and

(v) Any parts of the BCA or any standards other than those directly referenced in this report.

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2.0 DEVELOPMENT DESCRIPTION

2.1 General

In accordance with the BCA, the assessment undertaken relates to the construction of a new Childcare Centre.

2.2 Building Description

In the context of this report and the BCA the building use can be described as follows—

CLASS OF BUILDING	DESCRIPTION
Class 7a	Carparking
Class 9b	Assembly Building / School / University / Early Childhood Centre / Sporting / Public Transport Building / Indoor Swimming Pool

STOREYS CONTAINED (INCLUDING BASEMENT LEVEL/S)
Two (2)

2.3 BCA Assessment – Interpretation Notes

To provide the reader with additional context the following information regarding assessment methodology used in this assessment is provided below—

(i) The following rooms / areas and associated accessways have been afforded the concession under D3.4 and access for people with disabilities need not be provided to these areas—

- Store (x3)
- NC/WC
- Laundry
- WC (lower ground)
- Kitchen

(ii) Moveable furniture, such as tables and chairs, is the ongoing responsibility of tenants who should maintain appropriate circulation spaces between and around furnishings.

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3.0 BCA ACCESS DESIGN ASSESSMENT SUMMARY

3.1 General

The following table summarises the compliance status of the architectural design in terms of each *applicable* prescriptive provision of the BCA and indicates a capability for compliance with the BCA.

It should be recognised that in the following table instances exist where *prescriptive non-compliance* occurs or *design detail* is required; such instances should not necessarily be considered BCA deficiencies, but rather matters which need to be considered by the design team and any assessment authority at relevant stages of design and/or assessment.

For those instances of either *Does not Comply* or *Design Detail*, a detailed analysis and commentary is provided within **Section 4.0** of this report.

3.2 Part D3 – Access for People with Disabilities

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
D3.1	General building access requirements	✓		
D3.2	Access to buildings			✓
D3.3	Parts of buildings to be accessible			✓
D3.5	Accessible carparking			✓
D3.6	Signage			✓
D3.7	Hearing augmentation			✓
mD3.8	Tactile indicators			✓
D3.9	Wheelchair seating spaces in Class 9b assembly buildings	N/A		
D3.10	Swimming pools	N/A		
D3.11	Ramps	N/A		
D3.12	Glazing on an accessway			✓

3.3 Part E3 – Lift Installations

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
E3.6	Passenger lifts			✓

3.4 Part F2 – Sanitary and Other Facilities

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
F2.4	Accessible sanitary facilities			✓

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4.0 BCA DETAILED ASSESSMENT

4.1 General

With reference to the Assessment Summary contained within **Section 3.0** of this report the following detailed analysis and commentary is provided.

This commentary is formulated to enable the design documentation to be further progressed and for the purpose of evidencing the attainment of compliance with the relevant *accessibility provisions* of the BCA.

Access is required to and throughout the building to the extent nominated within the BCA and as identified below.

4.2 Part D3 – Access for People with Disabilities

D3.1 General building access requirements

Access within Class 9b early childhood centres is required to and within all areas normally used by the occupants (excluding those areas identified within **Section 2.3** above).

D3.2 Access to buildings

An accessway is provided from the site boundary to the east of the car park.

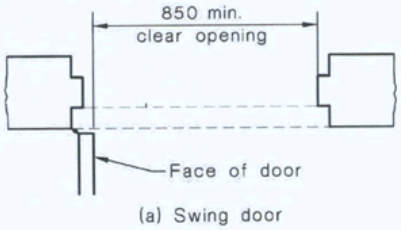
The following items are raised, not as discrepancies, but as items to be addressed during design progression—

(i) An accessway complying with AS1428.1-2009 will be required from the main points of pedestrian entry at the allotment boundary (being St Johns Road);

(ii) An accessway complying with AS1428.1-2009 will be required from any required accessible car parking space on the allotment;

Doorways / doors / gates

(i) All doors and gates on the continuous accessible path to have a minimum 850mm clear width and appropriate hinge and latch side clearance compliant with AS1428.1-2009; (See **Figure 1** below)—



(a) Swing door

Figure 1 – Door clear opening width

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D3.2 Access to buildings

(ii) Doors to be located on level landing areas with maximum 1:40 grade fall over a 1450mm depth clearance;

(iii) Doors to have minimum 1450mm clearances between open door swings within airlocks/vestibules and other similarly enclosed spaces;

(iv) Door operational force to be lightweight in design to satisfy the operational requirements of AS1428.1-2009. Where this cannot be achieved, automatic or power-operated doors are required;

(v) All doorways shall have a minimum luminance contrast of 30% between—

- door leaf and door jamb;
- door leaf and adjacent wall;
- architrave and wall;
- door leaf and architrave; or
- door jamb and adjacent wall.

(vi) The minimum width of the area of luminance contrast shall be 50mm; and

(vii) Provide compliant door hardware located at a suitable location in accordance with AS1428.1-2009.

Floor or ground surfaces

(i) A continuous accessible path of travel and any circulation spaces shall have a slip-resistant surface. The texture of the surface shall be traversable by people who use a wheelchair and those with ambulant or sensory disability;

(ii) Abutment of surfaces shall have a smooth transition. Design transition shall be 0mm, however, construction tolerances are as follows—

- 0 ±3mm vertical change in level; and
- 0 ±5mm change in level provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping.

(iii) Matting recessed within an accessible path of travel—

- Where of metal and bristle type construction or similar, its surface shall be no more than 3mm if vertical or 5mm if rounded or bevelled, above or below the surrounding surface; and
- Where of a mat or carpet type material, shall have the fully compressed surface level with or above the surrounding surface with a level difference no greater than 3mm if vertical or 5mm if rounded or bevelled.

(iv) Grates within an accessible path of travel—

- Circular openings shall be not greater than 13 mm in diameter;

DESIGN CONFIDENCE

D3.2 Access to buildings

- Slotted openings shall be not greater than 13 mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel; and
- Where slotted openings are less than 8 mm, the length of the slots may continue across the width of paths of travel.

Threshold ramps

Threshold ramps at doorways shall—

(i) Have a maximum rise of 35mm;

(ii) Have a maximum length of 280mm;

(iii) Have a maximum gradient of 1:8; and

(iv) Be located within 20mm of the door leaf.

Step ramps

Step ramps shall—

(i) Have a maximum rise of 190mm;

(ii) Have a maximum length of 1900mm;

(iii) A maximum gradient of 1:10; and

(iv) The edges of the ramp shall have a 45° splay where there is pedestrian cross-traffic, otherwise it shall have a suitable barrier of minimum 450mm height or a kerb/kerb rail where there is an open balustrade.

D3.3 Parts of buildings to be accessible

The following matters are raised, not as deficiencies, but items to be addressed during design progression.

Paths of travel

(i) The minimum width of the continuous accessible path to be 1000mm, with a minimum unobstructed height of 2000mm, or 1980mm at doorways;

(ii) Turning spaces for wheelchair 180° turns require 1540mm wide by 2070mm (in the direction of travel) within 2m of the ends of accessways and at maximum 20m intervals;

(iii) 90° turns on the continuous accessible path of travel to have minimum circulation space of 1500 x 1500mm (inside corner can be splayed); and

(iv) Where the width of the continuous accessible path is less than 1200mm, 30° - 60° turns to have a splay of 500 x 500mm on the internal corner of the turn, refer to AS1428.1-2009 Figure 4.

DESIGN CONFIDENCE

D3.3 Parts of buildings to be accessible

Doorways / doors

(i) All doors to have a minimum 850mm clear width and appropriate hinge and latch side clearance compliant with AS1428.1-2009; (See **Figure 1** above in section D3.2)—

(ii) Doors to be located on level landing areas with maximum 1:40 grade fall over a 1450mm depth clearance;

(iii) Doors to have minimum 1450mm clearances between open door swings within airlocks/vestibules and other similarly enclosed spaces;

(iv) Door operational force to be lightweight in design to satisfy the operational requirements of AS1428.1-2009. Where this cannot be achieved, automatic or power-operated doors are required;

(v) All doorways shall have a minimum luminance contrast of 30% between—

- door leaf and door jamb;
- door leaf and adjacent wall;
- architrave and wall;
- door leaf and architrave; or
- door jamb and adjacent wall.

(vi) The minimum width of the area of luminance contrast shall be 50mm; and

(vii) Provide compliant door hardware located at a suitable location in accordance with AS1428.1-2009.

Floor or ground surfaces

(i) A continuous accessible path of travel and any circulation spaces shall have a slip-resistant surface. The texture of the surface shall be traversable by people who use a wheelchair and those with ambulant or sensory disability;

(ii) Abutment of surfaces shall have a smooth transition. Design transition shall be 0mm, however, construction tolerances are as follows—

- 0 ±3mm vertical change in level; and
- 0 ±5mm change in level provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping.

(iii) Where carpets or any soft flexible materials are used on the ground or floor surface—

- The pile height or pile thickness, shall not exceed 11mm and the carpet backing thickness shall not exceed 4mm;
- Exposed edges of floor covering shall be fastened to the floor surface and shall have a trim along the entire length of any exposed edge; and

DESIGN CONFIDENCE

D3.3 Parts of buildings to be accessible

- At the leading edges, carpet trims and any soft flexible materials shall have a vertical face no higher than 3mm or a rounded bevelled edge no higher than 5mm or above that height a gradient of 1:8 up to a total maximum height of 10mm.

(iv) Matting recessed within an accessible path of travel—

- Where of metal and bristle type construction or similar, its surface shall be no more than 3mm if vertical or 5mm if rounded or bevelled, above or below the surrounding surface; and
- Where of a mat or carpet type material, shall have the fully compressed surface level with or above the surrounding surface with a level difference no greater than 3mm if vertical or 5mm if rounded or bevelled.

(v) Grates within an accessible path of travel—

- Circular openings shall be not greater than 13 mm in diameter;
- Slotted openings shall be not greater than 13 mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel; and
- Where slotted openings are less than 8 mm, the length of the slots may continue across the width of paths of travel.

Stairway/s

(i) Stair located within internal corridors to be recessed one (1) tread-width and handrail extension with downturn to avoid protrusion into transverse path of travel

(ii) Any riser contained within a stairway must be opaque;

(iii) Riser to have a maximum vertical splay of 25mm from the nosing;

(iv) Stair nosing profiles shall:

- be chamfered up to 5 mm × 5 mm; or
- have a sharp intersection; or
- be rounded up to 5 mm radius.

(v) At the nosing, each tread shall have a strip not less than 50 mm and not more than 75mm deep across the full width of the path of travel with 30% luminance contrast to the background;

(vi) The contrast strip may be set back a maximum of 15mm from the front of the nosing;

(vii) Stairways, except a fire-isolated stairway, must comply with clause 11 and 12 of AS1428.1-2009 This may require an offset tread (see **Figure 3** below);

DESIGN CONFIDENCE

D3.3 Parts of buildings to be accessible

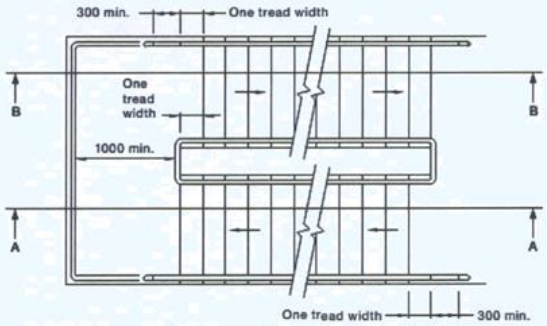

Figure 3 – Offset tread within stairs

Controls, Switches and GPOs

(i) Intercoms and door release devices to be located between 900-1250mm from FFL and no less than 500mm from an internal corner, compliant with AS1428.1-2009;

(ii) Power-operated doors to have raised buttons of 25mm in diameter. Controls to be located between 1-2m of door in its open position, 900-1250mm from FFL and no less than 500mm from an internal corner in accordance with AS1428.1-2009;

(iii) All light switches in accessible sanitary compartments shall be located at least 500mm from internal corners. The centre-line of all light switches shall be horizontally aligned with the centre-line of all door handles;

(iv) All general purpose outlets in accessible sanitary facilities shall be located not less than 600mm and not more than 1100mm above the FFL and at least 500mm from internal corners;

(v) Rocker action and toggle light switches in accessible sanitary compartments shall have a minimum dimension of 30mm x 30 mm; and

(vi) All push pad switches shall have a minimum diameter of 25mm.

Detail shall be provided within future design progression for compliance assessment and comment by this office.

D3.5 Accessible carparking

A total of twelve (12) car bays have been provided, with one (1) being accessible in accordance with AS/NZS 2890.6-2009.

The following items are raised, not as discrepancies, but as items to be addressed during design progression—

(i) Accessible car space and associated shared zone to have a minimum vertical clearance no less than 2500mm. The vertical clearance leading to the accessible car space may not be less than 2200mm;

DESIGN CONFIDENCE

D3.5 Accessible carparking

(ii) The dedicated space shall be outlined with yellow unbroken lines 80mm-100mm wide on all sides and identified by means of a white symbol of access in accordance with AS1428.1-2009 between 800mm-1,000mm high placed on a blue rectangle with no side more than 1,200mm, placed in the centre of the space between 500mm-600mm from its entry point and;

(iii) The shared area shall be outlined with yellow unbroken lines 80mm-100mm wide on all sides and marked with diagonal stripes 150mm-200mm wide at 45° with spaces 200mm-300mm between stripes; and

(iv) A bollard shall be located at the front of the shared area, centred on the area and 800mm ± 50mm from the front of the area.

Detail shall be provided within future design progression for compliance assessment and comment by this office.

D3.6 Signage

Clear and legible Braille and tactile signage complying with Specification D3.6 of the BCA and incorporating the international symbol of access or deafness, in accordance with AS1428.1-2009 and located between 1200-1600mm from the floor must identify—

(i) Each accessible unisex sanitary facility identifying if the facility is for left-handed use;

(ii) Each door in the building required by BCA Provision E4.5 is to be provided with an exit sign stating 'Exit' and 'Level' and either the floor level number (or floor level descriptor); and

(iii) Areas with a hearing augmentation system.

Signage detail and location is required during design progression to enable a thorough compliance assessment by this office.

D3.7 Hearing augmentation

Hearing augmentation systems are required where in inbuilt amplification system, other than one used for emergency warning is installed.

If any room is provided with an inbuilt amplification system then it is to be provided with a hearing augmentation system complying with one of the following, in accordance with BCA Provision D3.7—

(i) An induction loop provided to not less than 80% of the floor area of the room/space served by the inbuilt amplification system; or

(ii) A system requiring the use of receivers or the like available to not less than 95% of the floor area of the room or space served by the inbuilt amplification system. The number of receivers

DESIGN CONFIDENCE

D3.7 Hearing augmentation

provided shall be calculated based upon the number of persons accommodated within the area.

(iii) Any screen or scoreboard associated with a Class 9b building and capable of displaying public announcements must be capable of supplementing any public address system, other than a public address system used for emergency warning purposes only.

Detail shall be provided within future design progression for compliance assessment and comment by this office.

D3.8 Tactile indicators

Tactile ground surface indicators complying with sections 1 and 2 of AS1428.4.1-2009 must be provided to warn people who are blind or have a vision impairment that they are approaching—

(i) A stairway (other than a fire isolated stairway);

(ii) An overhead obstruction (other than a doorway) less than 2m above floor level in the absence of a suitable barrier; and

(iii) An accessway meeting a vehicular way adjacent to any pedestrian entrance to a building.

Tactile ground surface indicators shall be designed in accordance with AS1428.4.1:2009. Warning indicators should be installed as follows—

(i) For the full width of the path of travel;

(ii) Perpendicular to the direction of travel when approaching the hazard;

(iii) Set back 300 ±10mm from the edge of the hazard (except at railways and wharves);

(iv) Integrated warning TGSIs which are required to be detected by a person approaching at an angle to the continuous path of travel should be arranged over a minimum depth of 600-800mm from the direction of approach (and in accordance with AS1428.4.1:2009 Figure 2.1);

(v) Discrete warning TGSIs used over a depth of 300-400mm require a minimum of 6 truncated cones, provided in the direction of travel (and in accordance with AS1428.4.1:2009 Figure 2.1);

(vi) Where discrete warning TGSIs need to be detected by a person approaching at an angle to the continuous accessible path, a minimum of 12 truncated cones are required in the direction of travel (and in accordance with AS1428.4.1:2009 Figure 2.1).

At stairways —

DESIGN CONFIDENCE

D3.8 Tactile indicators

(i) Where a landing is 3000mm or more to the nosing edge the warning indicators should be over a distance of 600-800mm;

(ii) Where a landing is less than 3000mm to the nearest nosing edge, indicators shall be over a distance of 300-400mm;

(iii) Where handrails are continuous on both sides of the landing and the landing is less than 3000mm to the nearest nosing edge TGSIs are not required.

Detail shall be provided within future design progression for compliance assessment and comment by this office.

D3.9 Wheelchair seating spaces in Class 9b assembly buildings

Not applicable to the scope of this project.

D3.10 Swimming pools

No swimming pools are provided within the subject proposal.

D3.11 Ramps

See **section D3.3** above.

D3.12 Glazing on an accessway

Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid contrasting line, in accordance with Clause 6.6 of AS1428.1-2009—

(i) The contrasting line shall be not less than 75mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900mm and 1000mm above the plane of the finished floor level; and

(ii) Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2m of the glazing on the opposite side.

Detail shall be provided within future design progression for compliance assessment and comment by this office.

4.3 Part E3 – Lift Installations

E3.6 Passenger lifts

A passenger lift has been provided, which provides an accessible path of travel to and from the lower and ground floors, compliant with the BCA.

DESIGN CONFIDENCE

E3.6 Passenger lifts

Every passenger lift provided must comply with the following the internal dimensions and locations of fixtures and fittings as specified by AS1735.12-1999—

(i) Passenger lifts to be an approved type in accordance with BCA Clause E3.6;

(ii) Passenger lifts travelling less than 12m requires minimum internal dimensions of 1100mm wide x 1400mm deep;

(iii) Not rely on a constant pressure device for its operation if the lift car is fully enclosed;

(iv) All lifts shall be provided with a handrail complying with Clause 5.3 AS1735.12-1999 (i.e. not more than 500mm from any button or operating device and between 850-950mm above the floor);

(v) All lifts shall have minimum clear width of car door openings of 900mm in accordance with Section 2 of AS1735.12-1999;

(vi) All lifts with a power-operated door shall have a passenger protection system in accordance with Clause 4.2 of AS1735.12-1999;

(vii) Have lift call buttons at landings in accordance with Section 7 of AS1735.12-1999 (i.e. located between 900mm and 1200mm above the floor and not less than 500mm from any corner or obstruction);

(viii) Have internal lift car control buttons in accordance with Section 7 of AS1735.12-1999 (i.e. located between 700mm and 1250mm above the floor;

(ix) Have lighting to the lift car in accordance with Section 10 of AS1735.12-1999 (i.e. compliant with AS/NZS1680.0-2009);

(x) Have emergency hands-free communication, including a button to alert a call centre of a problem and a light to signal that the call has been received.

Detail should be provided within future design progression for compliance assessment and comment by this office.

4.4 Part F2 – Accessible sanitary and other facilities

F2.4 Sanitary Facilities

Accessible Sanitary Facilities

The internal dimensions and locations of fixtures and fittings shall comply with Clause 15 of AS1428.1-2009—

(i) WC seat to be of the full, round type, be securely fixed in position when in use, have seat fixings that create lateral stability for the seat when in use, be load-rated to 150kg and have a minimum

DESIGN CONFIDENCE

F2.4 Sanitary Facilities

luminance contrast of 30% with the background (e.g. pan wall or floor);

(ii) The front edge of the centre of the backrest is to be positioned to achieve an angle of between 94 – 100 degrees back from the seat hinge. Backrest to be capable of withstanding a force in any direction of 1100N;

(iii) Grabrails to be specified and installed in accordance with AS1428.1-2009 Clause 15.2.7;

(iv) Water taps to have lever handles, sensor plates or other similar controls, where separate taps are provided for hot and cold water the hot is to be located to the left of the hot water in horizontal configurations, or above the cold water tap in vertical configurations. Where hot water is provided, the water shall be delivered though a mixing sprout;

(v) Hand-operated flushing controls are to be located 600mm min 1000mm max from the floor and within 500mm from the centre-line of the WC pan when located on the back wall, or 600mm min 1000mm max. from the floor and 300mm max in both directions from the front of the WC pan when located on the side wall. The flushing control is to be proud of the surface and shall activate the flush before becoming level with the surrounding surface; and

(vi) Toilet roll dispensers are to be located 700mm max from the floor and 300mm max from the front of the WC pan. The dispenser should not encroach upon grabrail clearances.

Report By

[redacted]

John La Scala
Associate | Accessibility
For Design Confidence (Sydney) Pty Ltd

Verified By

[redacted]

Luke Sheehy
Principal
For Design Confidence (Sydney) Pty Ltd

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APPENDIX 1

This accessibility assessment was based upon the architectural documentation prepared by RFA Architects, namely—

DRAWING NUMBER	DESCRIPTION	DATE
A0000 Rev A	Title Page	29.06.2018
A1000 Rev A	Site Survey	29.06.2018
A1001 Rev A	Site Analysis Plan	29.06.2018
A1002a Rev B	Shadow Diagrams	29.06.2018
A1002b Rev B	Shadow Diagrams	29.06.2018
A1003 Rev B	Streetscape Analysis	29.06.2018
A2000 Rev B	Demolition Plan	29.06.2018
A2001 Rev B	Roof Plan	29.06.2018
A2002 Rev B	Ground Floor Plan	29.06.2018
A2003 Rev B	Lower Ground Floor Plan	29.06.2018
A3001 Rev B	South & North Elevation	29.06.2018
A3002 Rev B	East & West Elevation	29.06.2018
A3003 Rev B	Material Study	29.06.2018
A4001 Rev B	Section	29.06.2018

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RFA Architects

BCA Design Assessment Report

New Childcare Centre
139 St Johns Road
Bradbury NSW 2560

ACCESSIBILITY | BUILDING REGULATIONS | FIRE ENGINEERING | MANAGEMENT SERVICES

DESIGN CONFIDENCE

CONTENTS

DESIGN CONFIDENCE

Project: New Childcare Centre, 139 St Johns Rd, Bradbury, NSW, 2560
Document Type: BCA Design Assessment Report
Report Number: P218_013-2 (BCA) HM

The following report register documents the development and issue of this and each subsequent report(s) undertaken by Design Confidence (Sydney) Pty Ltd.

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Revision History:

		ISSUE DATE
P218_013-1(BCA) HM	DRAFT report issued to client for comment	12 January 2019
P218_013-2 (BCA) HM	Final DA report issued to client	14 March 2019

DESIGN CONFIDENCE

1.0 INTRODUCTION

1.1 General

This BCA Design Assessment report has been prepared at the request of RFA Architects and relates to the proposed New Childcare Centre at 139 St Johns Road, Bradbury NSW 2560.

1.2 Purpose of Report

The purpose of this report is to identify the extent to which the architectural design documentation complies with the relevant prescriptive provision of the Building Code of Australia (BCA) Volume 1, edition 2016 Amendment 1.

This report is based upon, and limited to, the information depicted in the documentation provided for assessment, and does not make any assumptions regarding 'design intention' or the like.

1.3 Documentation Provided for Assessment

This assessment is based upon the Architectural documentation prepared by RFA Architects and listed within Appendix 1.

1.4 Report Exclusions

It is conveyed that this report should not construed to infer that an assessment for compliance with the following has been undertaken –

(i) Occupational Health & Safety Act and Regulations;

(ii) WorkCover Authority requirements;

(iii) Structural and Services Design Documentation;

(iv) The individual requirements of service authorities (i.e. Telecommunication Carriers, Sydney Water, Energy Australia);

(v) The Disability Discrimination Act (DDA) 1992;

(vi) The relevant energy efficiency provisions of the BCA 2016, as are principally contained within Section J of the code; and

(vii) The relevant accessibility provisions of BCA 2016, as are principally contained within Part D3, F2.4 & E3.6.

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2.0 DEVELOPMENT DESCRIPTION

2.1 General

In accordance with the BCA, the assessment undertaken relates to the construction of a new Childcare Centre at 139 St Johns Road, Bradbury NSW 2560.

For the purpose of the Building Code of Australia (BCA) the subject building may be described as contained below.

2.2 Building Description

Table 1 – Building Characteristics

DESCRIPTION OR REQUIREMENT		
Building Classification	Early Childhood Centre	9b
Rise in Storeys	Two (2)	
Construction Type	Type B	
Effective Height	~8.5m	
Floor Area	~133.8m^2	Ground Floor
	~197.3m^2	Lower Ground Floor

2.3 BCA Interpretation Notes

To provide the reader with additional context, the following information regarding the assessment used in this assessment is provided below –

(i) The exit from the staff room at lower ground level has not been treated as an exit given it does not allow for direct access from garden to the public road.

(ii) The childcare centre has been treated as having no more than 10 employees and no more than 45 children at any one time.

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3.0 BCA ASSESSMENT SUMMARY

3.1 General

The following table summarises the compliance status of the architectural design in terms of each *applicable* prescriptive provision of the BCA and indicates a capability for compliance with the BCA.

Although, it should be recognised that instances exist where 'Prescriptive non-compliance' occurs, or 'Additional design input' is required.

Such instances should not necessarily be considered BCA deficiencies; but matters which need to be considered by the design team and any assessment authority at relevant stages of design and/or assessment.

For those instances of either 'prescriptive non-compliance' or 'additional design input', a detailed analysis and commentary is provided within Part 4 of this report.

3.2 Section B: Structure

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
B1.1	resistance to actions			✓
B1.2	determination of individual actions			✓
B1.4	materials and form of construction			✓
B1.6	construction of buildings in flood hazard areas			✓

3.3 Section C: Fire Resistance

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
C1.1	fire resisting construction			✓
C1.8	lightweight construction			✓
C1.9	non-combustible building elements			✓
C1.10	fire hazard properties			✓
C1.14	ancillary elements			✓
C2.2	general floor area & volume limitations	✓		
C2.12	separation of equipment			✓
C2.13	electricity supply system			✓
C3.12	openings in floors and ceilings for services			✓
C3.15	openings for service installations			✓
C3.16	construction joints			✓
C3.17	Columns protected with lightweight constitution to achieve an FRL			✓

3.4 Section D: Access & Egress

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
D1.2	number of exits required		✓	

DESIGN CONFIDENCE

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
D1.3	when fire-isolated stairways and ramps are required	✓		
D1.4	exit travel distances		✓	
D1.5	alternative exits			✓
D1.6	dimensions of exits and paths of travel to exits			✓
D1.10	discharge of exits	✓		
D1.17	access to lift pits			✓
D2.3	non-fire-isolated stairways and ramps			✓
D2.7	installation in exits and paths of travel			✓
D2.13	goings and risers			✓
D2.14	landings			✓
D2.15	thresholds			✓
D2.16	balustrades and other barriers			✓
D2.17	handrails			✓
D2.19	doorways and doors			✓
D2.20	swinging doors	✓		
D2.21	operation of latch			✓
D2.24	protection of openable windows			✓

3.5 Section E: Services & Equipment

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
E1.6	portable fire extinguishers			✓
E2.2	smoke hazard management			✓
E3.1	lift installations			✓
E3.3	warning against use of lifts in fire			✓
E3.5	landings			✓
E4.2	emergency lighting			✓
E4.5	exit signs			✓
E4.6	direction signs			✓

3.6 Section F: Health & Amenity

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
F1.0	external weatherproofing			✓
F1.1	storm water drainage			✓
F1.4	external above ground membranes			✓
F1.5	roof coverings			✓
F1.6	sarking			✓
F1.7	waterproofing of wet areas in buildings			✓
F1.9	damp-proofing			✓
F1.10	damp-proofing of floors on the ground			✓
F1.13	glazed assemblies			✓

DESIGN CONFIDENCE

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
F2.3	facilities in class 3 and 9 buildings			✓
F2.5	construction of sanitary compartments			✓
F3.1	heights of rooms and other spaces			✓
F4.1	provision of natural light			✓
F4.2	methods and extent of natural light			✓
F4.4	artificial lighting			✓
F4.5	ventilation of rooms			✓
F4.8	restriction on location of sanitary compartments	✓		

3.7 Section G – Ancillary Provisions

BCA CLAUSE		COMPLIES	DOES NOT COMPLY	DESIGN DETAIL
G1.3	outdoor play spaces			✓
G5.1	construction in bushfire prone areas			✓

DESIGN CONFIDENCE

4.0 BCA DETAILED ASSESSMENT

4.1 General

With reference to the 'BCA Assessment Summary' contained within Part 3 of this report, the following detailed analysis and commentary is provided.

This commentary is formulated to enable the design documentation to be further progressed, for the purpose of evidencing the attainment of compliance with the relevant provisions of the BCA.

4.2 BCA Section B – Structural Provisions

Cl. B1.1 The resistance of a building or structure must be greater than the most critical action effect from different combinations of actions determined pursuant to BCA Cl. B1.2 & AS/NZS 1170.0 & BCA Cl. B1.4.

Cl. B1.2 The structural design of the building must be determined in accordance with the individual "actions" considerations contained within this clause (i.e. permanent actions, imposed actions, wind / snow / earthquake and other actions).

Cl. B1.4 The structural resistance of materials and forms of construction must be determined in accordance with the following:

- Masonry - AS3700-2011
- Concrete construction - AS3600-2009
- Steel construction - AS4100-1998 or AS/NZS4600-2005
- Timber construction - AS1720.1-2010 and/or AS1684 -2010
- Termite Risk Management - AS3660.1-2000 or AS3660.1-2014
- Piling - AS2159-2009
- Glazed assemblies - AS2047-2014 (external) and/or AS1288-2006 (internal)
- Metal roof sheeting – AS1562.1-1992

Cl. B1.6 If the building is located in a flood hazard area, the building must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.

4.3 BCA Section C – Fire Resistance

Cl. C1.1 The building elements must incorporate the following fire resistance levels (FRL) and characteristics -

(i) *External Walls*

(i) FRL of 120/90/60 or --/90/60 (if non-loadbearing), where located 1.5m to less than 3m from a fire-source feature (i.e. adjoining allotment boundary);

(ii) FRL of 120/30/30, where located 3m to less than 9m more from a fire-source feature (i.e. adjoining allotment boundary); and

(iii) FRL of 120/30/--, where located 9m to less than 18m more from a fire-source feature (i.e. adjoining allotment boundary).

DESIGN CONFIDENCE

Cl. C1.1 Cont'd

(ii) *External columns*

FRL of 120/--/-- for loadbearing columns, where located less than 18m from a fire source feature.

(iii) *Other loadbearing internal walls, internal beams, trusses and the columns*

FRL of 120/--/--.

(iv) *Floor*

(i) Nil FRL for floor laid directly on the ground;

(ii) FRL of 90/90/90 for intermediate floors (excl. floors within the same unit).

(v) *Roof*

Nil on the basis the roof covering is non-combustible.

(vi) *General notes*

(i) Internal walls required to have an FRL must extend:

- To the underside the floor next above;
- To the underside of a roof covering if it is non-combustible and must not be crossed by timber or other combustible building elements, expect for roof battens with dimensions of 75mm x 50mm or less or sarking-type material; or
- A ceiling that is immediately below the roof and has a resistance to the incipient spread of fire to the roof space between the ceiling and the roof of not less than 60 minutes;

(ii) Any loadbearing internal wall and a loadbearing fire wall (including shafts) is required to be of concrete or masonry or fire-protected timber;

(iii) External walls, the flooring and floor framing of lifts pits are required to be non-combustible;

(iv) A non-loadbearing internal wall required to achieve an FRL is required to be of non-combustible construction;

(v) The attachment of a facing or finish to a part of a building required to have an FRL is required to not impair the required FRL of that part; and

(vi) Building elements are required to achieve an FRL from both sides.

Cl. C1.8 Lightweight construction used in a wall system required to have an FRL or a lift, stair or service shaft (refer to Spec C1.1 above) must comply with BCA Specification C1.8.

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Cl. C1.9 The following building elements and their components must be non-combustible –

(i) External walls, including all components incorporated in them including the façade covering, framing and insulation;

(ii) The flooring and floor framing of lift pits; and

(iii) Non-loadbearing internal walls where they are required to be fire-resisting.

Cl. C1.10 The fire hazard properties for materials are as follows:

- *Floor linings and floor coverings*

  (i) A critical radiant flux not less than 2.2kW/m² for any floor materials;

  (ii) A maximum smoke development rate of 750 percent-minutes; and

  (iii) Group 1 or 2 for any portion of the floor covering that continues more than 150mm up a wall.

- *Wall linings and ceiling linings*

  A material used as a finish, surface, lining or attachment to a wall or ceiling is required to:

  (i) Be a Group 1 material for fire isolated exits;

  (ii) Be a Group 1 or Group 2 material for public corridors and ceilings in specific areas (i.e. classrooms);

  (iii) Be a Group 1 or Group 2 or Group 3 material for walls in specific areas (i.e. classrooms) and ceilings in other areas; and

  (iv) Have a smoke growth rate index of not more than 100 or an average specific extinction area less than 250m²/kg.

- *Air-handling ductwork*

  Rigid and flexible ductwork is required to comply with the fire hazard properties set out in AS4254-2012 Parts 1 and 2.

- *Lift cars*

  (i) Floor linings and floor coverings must have a critical radiant flux not less than 2.2kW/m²; and

  (ii) Wall and ceiling linings must be either a Group 1 or 2 material in accordance with AS5637.1.

- *Other materials*

  (i) Materials and assemblies in fire isolated exits are required to have a Spread-of-Flame Index of not more than 0 and a Smoke-Developed Index of not more than 2;

11 |

DESIGN CONFIDENCE

C1. C1.10 Cont'd

(ii) Sarking-type materials are required to have a Flammability index not more than 5; and

(iii) Other materials and insulation materials are required to have a Spread-of-Flame Index of not more than 9 and a Smoke-Developed Index of not more than 8 if the Spread-of- Flame Index is more than 5.

C1. C1.14 An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the elements permitted under this clause.

Cl. C3.12 Where a service passes through a floor/ceiling required to achieve an FRL, that service is required to be protected by either a shaft which has been construction in accordance with BCA Spec C1.1 (listed above) or in accordance with C3.15 (see below).

Cl. C3.15 Any proposed service penetrations (electrical, mechanical, plumbing, etc.) that penetrates a building element which is required to be of fire resisting construction is required to be protected.

Cl. C3.16 Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner identical with a prototype tested in accordance with AS1530.4 to achieve
the required FRL.

4.4 BCA Section D – Access and Egress

Cl. D1.2 The subject building will be used as an early childcare centre and therefore each storey / floor is requried to be provided with access to at least two exits, currently only a single exit has been provided on the ground floor.

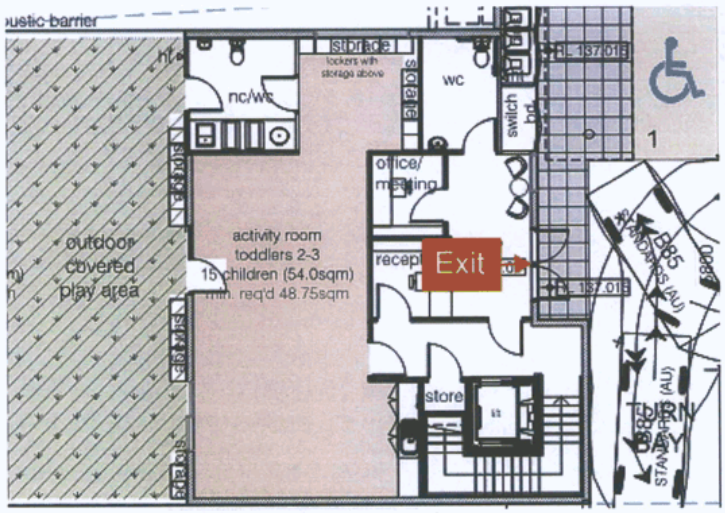

Figure D1.2a – Exit on Ground Floor

To address this BCA DtS variation the proposed design will be supported in principle by a fire engineering performance solution which will justify the current exit arrangement, being a single exit from the ground level.

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Cl. D1.4 The total distance required to travel to a single exit from the ground floor level exceeds 20m, being ~22.43m

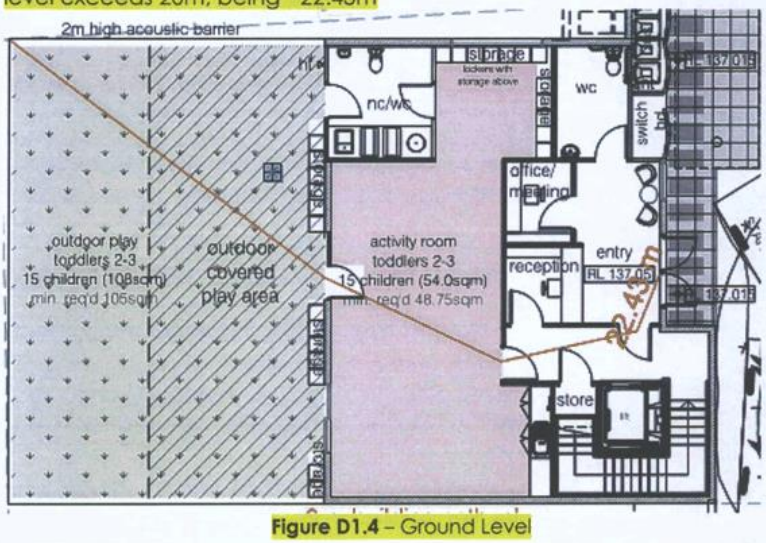

Figure D1.4 – Ground Level

To address the above BCA DtS variation the proposed design will be supported in principle by a fire engineering performance solution which will justify the current exit arrangement, being a single exit from the ground level.

Cl. D1.5 To assist with addressing / resolving the BCA DtS variations identified in D1.2 & D1.4 above, the following advice is provided which relates to the design / positioning of exits.

(i) Distributed as uniformly practical within or around the storey and located where unobstructed access is available from all point of the floor (including lift lobby areas);

(ii) Not less than 9m apart;

(iii) Not more than 60m apart; and

(iv) Located so that alternative paths of travel do not converge such that they become less than 6m apart.

Cl. D1.6 The path of travel to an exit and any required exit is to have an unobstructed height throughout of not less than 2m (except a doorway, which can be 1980mm) and an unobstructed width not less than 1m (except a doorway, which can be 750mm in an area not required to be accessible and 850mm in an area required to accessible).

Cl. D1.10 The discharge points of the exits shall have an unobstructed width of 1m and be via a stairway, ramp or other incline having a gradient of no steeper than 1:8 or complying with AS1428.1-2009 (where required to be accessible for people with a disability).

Cl. D1.17 Access to the lift pit must be through the lowest landing doors, where the pit depth is not more than 3m.

Where the lift pit is more than 3m, access must be provided through an access doorway complying with the requirements of this clause.

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DESIGN CONFIDENCE

Cl. D2.3 The required non-fire isolated stairway (including landings and any supporting building elements) must be constructed in accordance with D2.2, or only of –

(i) Reinforced or prestressed concrete; or

(ii) Steel in no part less than 6mm thick; or

(iii) Timber that –

- Has a finished thickness of not less than 44mm;
- Has an average density of not less than 800 kg/m3 at a moisture content of 12%; and

(iv) Has not been joined by means of glue unless it has been laminated and glued with resorcinol formaldehyde or resorcinol phenol formaldehyde glue.

Cl. D2.7 Any services or equipment (being electrical meters, distribution boards, or the like) must not be installed in path of travel making a required exit, unless the equipment is enclosed by non-combustible construction or a fire-protective covering.

Gas and fuel services must not be installed in a required exit.

Cl. D2.13 The going, riser and steepness dimension of the stairways are required to be designed within the following range:

Riser (R)		Going (G)		Slope Relationship (2R+G)	
Max	**Min**	**Max**	**Min**	**Max**	**Min**
190	115	355	250	700	550

(i) The risers and goings are required to be constant throughout the flight except variations of no greater than 5mm are permitted between adjacent risers or goings and no greater than 10mm are permitted between the smallest and largest goings or risers in a flight; and

(ii) The stair treads are required to have a surface or nosing strip achieving a slip-resistance classification of P3 or R10 in dry or P4 or R11 in wet tested in accordance with AS4586-2013.

Cl. D2.14 Stair landings are required to be a minimum of 750mm long with a gradient not steeper than 1:50 and have a slip-resistance surface or strip.

The surface or strip is required to achieve a slip-resistance classification of P3 or R10 in dry or P4 or R11 in wet tested in accordance with AS4586-2013.

Cl. D2.15 The threshold of a doorway is not permitted to incorporate a step or ramp at any point closer to the doorway than the width of the door leaf.

That is unless the doorway opens to a road or open space and:

- In a building required to be accessible, is provided with a threshold or step ramp in accordance with AS1428.1-2009; or
- In all other cases, the door sill is not more than 190mm above the finished surface of the ground.

DESIGN CONFIDENCE

Cl. D2.16 Balustrades are required to be constructed as follows:

(i) To a height not less than 865mm above the nosings of the stair treads or the floor of a ramp;

(ii) 1000mm above the floor of any access path, balcony, landing or the like;

(iii) Any opening does not permit a 125mm sphere to pass through it and for stairs, the space is measured above the nosings; and

(iv) For floors more than 4m above the surface beneath, any horizontal or near horizontal elements between 150mm and 760mm must not facilitate climbing.

Cl. D2.17 Handrails are required along one (1) side of each stairway flight and ramp, unless required to assist people with a disability in accordance with Clause D3.3.

The handrails are required to fixed at a height of not less than 865mm measured above the nosings of the stair treads or ramp and be continuous such that no obstruction on or above them will tend to break a hand hold.

Cl. D2.19 A power operated door in the path of travel to a required exit, must be able to be opened manually under a force of not more than 110N if there is a malfunction or failure of the power source.

Cl. D2.21 Any door in a required exit, forming part of a required exit or in the path of travel to a required exit are required to be readily operable without a key from the side that faces a person seeking egress and:

- By a single hand pushing or downward action on a single device located between 900mm and 1100mm from the floor;
  - Be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch; and
  - Have a clearance between the handle and the back plate or door face at the centre grip section of the handle of not less than 35mm nor more than 45mm; or
  - A single hand pushing action on a single device which is located between 900mm and 1.2m above the floor.
- By operating a fail-safe control switch, not contained with a protective enclosure, to actuate a device to unlock the door;
- Is fitted with a fail-safe device which automatically unlocks the door upon activation of any smoke or any other detector deemed suitable in accordance with AS1670.1-2015.

DESIGN CONFIDENCE

Cl. D2.24 Window openings require protection, if the floor below the window is 2m above the surface beneath.

Protection need not be provided where the lowest level of the window is 1.7m or more above the finished floor level.

(i) Protection can be in the form of the following:

- The openable portion of the window must be protected with a device to restrict the window opening or a screen with secure fittings;
- The device or screen must not permit a sphere greater than 125mm is permitted to pass through;
- Resist the outward horizontal action of 250N against the window or screen;
- Have a child resistant release mechanism is able to be removed, unlocked or over ridden; and

(ii) A barrier with a height of not less than 865mm above the floor is required to an openable window:

- In addition, to window protection as per (i) above;
- Where the floor below the window is 4m or more above the floor or if the window is not covered above; and
- Any horizontal or near horizontal elements between 150mm and 760mm must not facilitate climbing and have no gaps greater than 125mm.

DESIGN CONFIDENCE

4.5 BCA Section E – Services & Equipment

Cl. E1.6 Portable extinguishers must be provided in accordance with Table E1.6 to cover risk classes within the basement level and throughout the whole building where internal fire hydrants are provided.

Where internal hydrants are provided, portable fire extinguishers complying with AS2444-2001 are required as follows:

(i) 2.5kg ABE type portable fire extinguishers are required to the residential part of the building where one (1) or more internal hydrants are installed. The travel distance to an extinguisher must not exceed 10m from the entrance doorway of each sole-occupancy unit; and

(ii) To cover Class B (if more than 50L excluding vehicle fuel tanks is stored); and

(iii) Class AE or E fire risks associated with emergency service switchboards.

Cl. E2.2 Automatic shutdown of any air-handling system (other than non-ducted individual room units with a capability not more than 1000l/s and miscellaneous exhaust air systems installed in accordance with Sections 5 and 11 of AS/NZS1668.1-2015) on activation of smoke detectors complying with Clause 5 of Specification of E2.2a.

Cl. E3.1 The electric passenger lift installation or an electrohydraulic passenger lift installation are required to comply with Specification E3.1.

Cl. E3.3 A warning sign must be displayed where it can be readily seen near every call button for a passenger lift and comply with the details and dimensions of Figure E3.3 of the BCA.

Cl. E4.2 Emergency lighting complying with AS2293.1-2005 must be installed within the common areas, i.e. in every passageway, corridor or the like that is part of the path of travel to an exit.

Cl. E4.5 Exit signs complying with AS2293.1-2005 are required to be installed above or adjacent to any doorways serving as required exits from the enclosed stairways or passageway, at the level of discharge to the road or open space.

Cl. E4.6 If an exit is not readily apparent to persons occupying or visiting either the building, then exit signs complying with AS2293.1-2005 are required to be installed in appropriate positions in corridors, hallways, lobbies and the like, indicating the direction to a required exit.

4.6 BCA Section F – Health & Amenity

Cl. F1.0 Weatherproofing of external wall(s) are required to comply with Verification Method FV1 (i.e. certificate of conformity).

Cl. F1.1 Stormwater drainage must comply with AS/NZS3500.3.

Cl. F1.4 Waterproofing membranes for above ground use (i.e. balconies above ground) must comply with AS4654 parts 1 & 2.

DESIGN CONFIDENCE

Cl. F1.5 The roof must be covered with –

(i) Concrete roof tiles complying with AS2049-2002 and fixed, except in cyclonic areas in accordance with AS2050-2002, as appropriate; or

(ii) Terracotta roof tiles complying with AS2049-2002 and fixed, except in cyclonic areas in accordance with AS2050-2002, as appropriate; or

(iii) Cellulose cement corrugated sheeting complying with AS/NZS 2908.1-2000 and installed in accordance with AS/NZS 1562.2-1992; or

(iv) Metal sheet roofing complying with AS1562.1-1992; or

(v) Plastic sheet roofing designed and installed in accordance with AS/NZS4256-1994 Parts 1, 2, 3, AS/NZS 4256-1996 Part 5 and AS/NZS 1562.3-1996; or

(vi) Asphalt shingles complying with ASTM D3018-90-1994, Class A.

Cl. F1.6 Any sarking-type materials used for weatherproofing of roofs and walls must comply with AS/NZS4200 parts 1 and 2.

Cl. F1.7 Building elements in wet areas must be water-resistant or waterproof in accordance with Table F1.7 and AS3740.

Cl. F1.9 Where a damp-proof course is provided, it must consist of a material that complies with AS/NZS2904 or impervious sheet material in accordance with AS3660.1.

Cl. F1.10 A floor laid directly onto ground or fill must be provided with a vapour barrier complying with AS2870-2011.

Cl. F1.13 Glazed assemblies in an external wall must comply with AS2047 requirements for resistance to water penetration.

Cl. F2.3 In addition to the provision of water closets and washbasins the childcare centre requires the following additional sanitary facilities

(i) The kitchen is required to contain a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with:

- The facilities protected by a door or gate with childproof latches to prevent unsupervised access to the facilities by children younger than 5 years old; and
- The ability to facilitate supervision of children from the facilities, as children younger than 2 years old are accommodated;

(ii) One bath, shower or shower-bath solely for children;

(iii) If the center accommodates children younger than 3 years old:

- A laundry facility comprising a washtub and space in a the same room for a washing machine;
- A bench type baby bath, which is within 1m of the nappy change bench; and

DESIGN CONFIDENCE

Cl. F2.3 Cont'd (iv) A nappy changing bench, which:

- Is within 1m of separate adult hand washing facilities and bench type baby bath;
- Must be not less than 0.9m2 in area and at a height of not less than 850mm, but not more than 900mm above the finished floor level;
- Must have a space not less than 800mm high, 500mm wide and 800mm deep for the storage of steps; and
- Is positioned to permit a staff member changing a nappy to have visibility of the play areas at all times.

Cl. F2.5 The door to a fully enclosed sanitary compartment must –

(i) open outwards; or

(ii) slide; or

(iii) be readily removable from the outside of the sanitary compartment unless there is a clear space of 1.2m between the closet pan and the doorway (i.e. lift off hinges).

The facilities for use by children must have each sanitary compartment screened by a partition which, except for the doorway is opaque for a height of at least 900mm but not more than 1.2m above the floor.

Cl. F3.1 Unobstructed ceiling heights are required as follows:

(i) Habitable rooms excluding kitchens and the like – 2.4m;

(ii) Above a stairway, ramp, landing or the like – 2m; and

(iii) Public corridors, sanitary facilities, kitchens, laundries, car parking area, storerooms and the like – 2.1m.

Cl. F4.1 Natural light must be provided to all playrooms (activity rooms) in the childcare centre.

Methods of providing natural right is to be in accordance with Clause F4.2.

Cl. F4.2 All habitable rooms are required to have natural lighting provided by either –

(i) Window(s) having a light transmitting area of not less than 10% of the floor area of the room, which are open to the sky or face a court or other space open to the sky or an open veranda , carport or the like; or

(ii) Roof light(s) having a light transmitting area of not less than 3% of the floor area of the room and open to the sky.

Cl. F4.4 Where compliant natural lighting is not provided to non-habitable rooms, artificial lighting complying with AS/NZS1680.0-2009 is required to be installed.

DESIGN CONFIDENCE

Cl. F4.5 Any habitable room, sanitary compartment, bathroom, laundry and any other room occupied by a person for any purpose must have either;

(i) Natural ventilation via permanent openings, windows or doors having an openable area of not less than 5% of the floor area of the room (refer F4.6 & F4.6); or

(ii) Mechanical ventilation complying with AS1668.2.

(iii) A combination of both.

In addition, 50% of windows in playrooms must be located not more than 500mm above the floor level.

Cl. F4.12 Any kitchen exhaust hood to the kitchen in the childcare centre is required to comply with this clause.

4.7 BCA Section G – Ancillary Provisions

Cl. G1.3 The outdoor play areas are required to be enclosed on all sides with a barrier complying with AS1926.1-2012.

The barrier is required to restrict children from existing the premises without the knowledge of staff in the childcare centre.

Cl. G5.1 If the building is located in a designated bushfire prone area, the residence must comply with AS3959-2009.

Report By

[redacted]

Holly Morgan
Consultant | Building Regulations
For Design Confidence (Sydney) Pty Ltd

Verified By

[redacted]

Luke Sheehy
Principle
For Design Confidence (Sydney)Pty Ltd

DESIGN CONFIDENCE

APPENDIX 1

The BCA Design Assessment report was based upon the architectural documentation prepared by RFA Architects, namely –

DRAWING NUMBER	DESCRIPTION	REVISION	DATE
A0000	Title Page	B	05.03.2019
A1000	Site Survey	B	05.03.2019
A2000	Demolition Plan	B	05.03.2019
A2001	Roof Plan	B	05.03.2019
A2002	Ground Floor Plan	B	05.03.2019
A2003	Lower Ground Floor Plan	B	05.03.2019
A3001	South & North Elevation	B	05.03.2019
A3002	East & West Elevation	B	05.03.2019
A4001	Section	B	05.03.2019

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18 October 2020

General Manager
Campbelltown City Council
PO Box 57
Campbelltown NSW 2560

Ref. No. 2401/2018/DA-C, proposed child care centre at 139 St Johns Road Bradbury

We refer to the above matter and Council's letter dated 28 August 2020 requesting further information in relation to the proposal.

This letter provides the Applicant's town planning justification for fence height variation in relation to Acoustic Fencing.

- *Acoustic Fencing – justification for fence height variation*

Comment: Section 8.3.4(b)(ii) of Campbelltown Development Control Plan (CDCP) 2015 requires a maximum side and rear fence height of 2.1m excluding retaining walls. The solid component of the proposed side and rear boundary fencing is 2.1m in height. However, an additional 1m high clear Perspex component is proposed on top, cantilevered inwards at 45 degrees, in order to mitigate potential acoustic amenity impacts to nearby residential receivers in accordance with the submitted Acoustic Report.

The relevant objectives of the control are:

■ *Ensure that Centre-based Child Care Facilities within residential areas are designed to:*

• *minimise the impact of Centre-based Child Care Facilities on the amenity of the existing neighbourhood by way of noise, traffic and loss of privacy; and*

• *maintain the characteristics of residential neighbourhoods.*

Whilst the proposal seeks a numerical variation to the permitted 2.1m fence height, it is considered that the relevant objectives of the control are achieved notwithstanding strict non-compliance given:

- The proposed fencing maintains the characteristics of residential neighbourhoods as the 2.1m portion of acoustic fencing to the side and rear boundaries is consistent with the height of an otherwise permitted residential boundary fence;

- The use of clear Perspex for the 1m portion on top cantilevered inwards at 45 degrees will ensure no adverse amenity impacts to adjoining properties in terms of solar access and visual bulk impacts as viewed from adjoining private open space areas; and

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- The fencing is necessary to ensure no adverse acoustic amenity impacts arise to adjoining residential properties.

Accordingly, noting Section 4.15(3A) requires the consent authority to be flexible in the application of DCP provisions and allow reasonable alternative solutions that achieve the objectives of the standard, the proposed fencing is considered acceptable in the circumstances given no adverse streetscape or amenity impacts arise and the proposal maintains the residential character of the neighbourhood.

Should you have any queries, please do not hesitate to contact me.

Yours truly,

Eltin Miletic
Director / Principal Planner
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Detailed Site Investigation

139 St Johns Road, Bradbury NSW 2560

Prepared for: Brightest Start Early Learning Centre c/o RFA Architects Pty Ltd
EP1535.001_v1 9 March 2020

APPROVED COMPANY ISO 9001 Quality Management Systems QMS Certification Services

APPROVED COMPANY AS/NZS 4801 OH&S Management Systems QMS Certification Services

APPROVED COMPANY ISO 14001 Environmental Management Systems QMS Certification Services

EP RISK

Detailed Site Investigation

139 St Johns Road, Bradbury NSW 2560

Brightest Start Early Learning Centre c/o RFA Architects Pty Ltd
Level 1, 121 Alexander Street
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via email: kara@rfaarchitects.com.au

9 March 2020

Our Ref: EP1535.001_v2

LIMITATIONS

This Detailed Site Investigation was conducted on the behalf of Brightest Start Early Learning Centre c/o RFA Architects Pty Ltd for the purpose/s stated in **Section 1**.

EP Risk has prepared this document in good faith, but is unable to provide certification outside of areas over which EP Risk had some control or were reasonably able to check. The report also relies upon information provided by third parties. EP Risk has undertaken all practical steps to confirm the reliability of the information provided by third parties and do not accept any liability for false or misleading information provided by these parties.

It is not possible in a Detailed Site Investigation to present all data, which could be of interest to all readers of this report. Readers are referred to any referenced investigation reports for further data.

Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

All work conducted and reports produced by EP Risk are based on a specific scope and have been prepared for Brightest Start Early Learning Centre c/o RFA Architects Pty Ltd and therefore cannot be relied upon by any other third parties unless agreed in writing by EP Risk.

The report(s) and/or information produced by EP Risk should not be reproduced and/or presented/reviewed except in full.

QUALITY CONTROL

Version	Author	Date	Reviewer	Date	Quality Review	Date
v.1	H. Chapman	21.02.2020	K. Guenther	21.02.2020	A. Thomson	21.02.2020
v.2	H. Chapman	09.03.2020	K. Guenther	09.03.2020	A. Thomson	09.03.2020

DOCUMENT CONTROL

Version	Date	Reference	Submitted to
v.1	*19.02.2020*	*EP1535.001_RFA Bradbury DSI_v1*	*Brightest Start Early Learning Centre c/o RFA Architects Pty Ltd*
v.2	*09.03.2020*	*EP1535.001_RFA Bradbury DSI_v2*	*Brightest Start Early Learning Centre c/o RFA Architects Pty Ltd*

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Executive Summary

RFA Architects ('RFA') engaged EP Risk Management Pty Ltd ('EP Risk') on behalf of Brightest Start Early Learning Centre to undertake a Phase 2 Detailed Site Investigation ('DSI') of a residential property, located at 139 St Johns Road, Bradbury NSW 2560 ('the Site') as shown in **Appendix A– Figure 1**.

The Site is legally defined as Lot 50 of DP225520 and covers an area of 975 m^2. Under the Campbelltown Local Environmental Plan ('CLEP') 2015, the Site is zoned as R2: Low Density Residential.

Brightest Start Early Learning Centre is proposing to construct a childcare centre on-site. Campbelltown City Council ('Council') has requested a Phase 2 Detailed Site Investigation ('DSI') be undertaken to assess the potential contamination status of the Site, following recommendations from the Phase 1 Preliminary Site Investigation ('PSI') conducted by Coffey Services Australia Pty Ltd ('Coffey') (Coffey, 2019[1]).

Following a review of the PSI (Coffey, 2019), EP Risk attended the Site on 30 January 2020 to conduct an inspection on the Site and undertake soil sampling. A summary of the findings of the DSI are as follows:

- The Site was part of a large paddock possibly used for grazing up to the early to mid-1960s. The creek/waterway on-site was filled between 1965 and 1970. A residential property was constructed on-site between 1970 and 1984. A brick building (garage) in the north-east of the site was constructed between 1984 and 1994.
- The surrounding area comprised greenfield land likely used for grazing until circa 1965 when the area was subdivided into multiple smaller lots. From 1965 to 1970 low density residential properties were constructed in all directions of the Site and Macleay Reserve to the north-east of the Site remained undeveloped. From 1970 to present there has been continued construction of low-density residential properties surrounding the Site.
- During the site inspection, the topography of the Site was observed to slope down to the North and flatten out towards the northern boundary. The former creek/waterway flowed to the north-east towards Macleay Reserve and remains a likely water course during high rainfall events. The Site appeared consistent with the properties to the south, east and west. However, areas to the north of the Site were observed to slope to the south meeting at the former creek/waterway.
- There was no visual evidence of contamination and no odours that would be associated with contamination encountered during soil investigation works. The Site falls within the moderate salinity potential data coverage for the Department of Infrastructure, Planning and Natural Resources map of the Salinity Potential in Western Sydney (2002). Soil sampling was conducted to assess the Site for the presence of saline soils which found that the in-situ soils are classified as non-saline in accordance with the DLWC(2002). An appropriate Saline Soils Management Options and Strategy for future development at the Site is provided within **Appendix F.**

[1] Coffey, *Phase 1 Preliminary Site Investigation, 139 St Johns Road, Bradbury NSW*, reference: SYDEN234191-R01, dated 13 September 2019 (Coffey, 2019).

- The soil sampling program was designed to provide sufficient site coverage and address AOCs identified in the PSI (Coffey, 2019) to characterise contamination on-site, if present. Concentrations of TRH, BTEX, PAH, OCP, OPP and PCB within the soil samples were generally reported below laboratory LOR. Concentrations of metals, TRH, BTEX, PAH, OCP, OPP and PCB concentrations below the adopted human health and ecological criteria for in-situ soils.
- One (1) fragment of bonded (non-friable) ACM in the form of a fibre cement fragment was observed on the surface of the Site. However, the fragment was removed during sampling and further asbestos was not observed on the surface of the Site or within boreholes and asbestos was not detected in the soil samples. As such EP Risk considers the fragment of bonded (non-friable) asbestos (MS01) to be an isolated fragment that is not associated with the in-situ soil.
- The investigation was limited vertically in the area of potential historically imported fill materials, of unknown origin and quality, due to refusal on natural mudstone gravels at relatively shallow depths (0.3 – 0.5 mBGL). Based on the low concentrations of CoPCs detected within the samples collected from the area and the small quantities of anthropogenic material observed in the area, EP Risk considers the potential historical fill in the area to pose a low risk to human health.
- Based on the age of the buildings on-site EP Risk considers it likely asbestos containing materials ('ACM') were used in the construction. Suspected bonded (non-friable) ACM in the form of fibre cement sheeting in good condition with no visible damage was observed in the eaves of the house and garage buildings. Observations of the internal aspects of the buildings on-site were not possible as access was not provided.

Based on the data from the DSI, the concentrations of CoPCs within soils would not preclude material remaining on-site under the current / future residential A land use and the potential risk to current / future users of the Site is considered low, provided the recommendations below are implemented:

- Due to the vertical limitations on the investigation in the area of potential historically imported fill materials and the isolated fragment of bonded (non-friable) ACM observed on the surface of the Site, it is recommended an Unexpected Finds Procedure is implemented during any future development and/or excavation activities across the Site.
- Based on the age of the buildings on-site EP Risk and the suspected bonded (non-friable) ACM in the form of fibre cement sheeting in good condition with no visible damage observed in the eaves of the house and garage buildings, it is recommended a hazardous materials assessment be conducted before demolition, intrusive maintenance and/or renovation works are undertaken on buildings on-site. In accordance with the Work Health and Safety Regulation 2017, the SafeWork NSW Code of Practice: How to Manage and Control Asbestos in the Workplace 2019; and AS2621 - Australian Standard for Demolition of Structures 2001.
- Although saline soils were not observed on-site, the Site is still within an area of moderate salinity potential. As such the recommendations provided within the Saline Soils Management Options and Strategy (**Appendix F**), should be followed to minimise saline soils forming on-site in the future.

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List of Appendices

1 Introduction

RFA Architects Pty Ltd ('RFA') engaged EP Risk Management Pty Ltd ('EP Risk') on behalf of Brightest Start Early Learning Centre to undertake a Phase 2 Detailed Site Investigation ('DSI') of a residential property, located at 139 St Johns Road, Bradbury NSW 2560 ('the Site') as shown in **Appendix A– Figure 1.**

The Site is legally defined as Lot 50 of DP225520 and covers an area of approximately 975 m^2. Under the Campbelltown Local Environmental Plan ('CLEP') 2015 (pub. 20.7.2018), the Site is zoned as R2: Low Density Residential.

It is understood RFA has been engaged by Brightest Start Early Learning Centre to submit a Development Approval ('DA') submission for the construction of a childcare centre at the Site. Campbelltown City Council ('Council') has requested a Phase 2 Detailed Site Investigation ('DSI') be undertaken to assess the potential contamination status of the Site, and Areas of Concern ('AoC') identified within the Phase 1 Preliminary Site Investigation ('PSI') conducted by Coffey Services Australia Pty Ltd ('Coffey') (Coffey, 2019[2]).

1.1 Objectives

The objective of the DSI was to assess if there is an on-site risk to human health and the environment from concentrations of Contaminants of Potential Concern ('CoPC') in soil under the current and proposed land use and determine, where present, the extent of contamination. The DSI report for the Site will be submitted as part of a DA and will inform the potential future development, requirements for additional investigations and/or management plans, in accordance with ASC NEPM (2013)[3].

1.2 Scope of Work

The scope of work completed was performed in general accordance with the EP Risk's fee proposal EP12917, dated 16 January 2020 (EP Risk 2020[4]), which comprised:

Preliminaries

- Preparation of a health and safety plan ('HASP') and safe work method statement ('SWMS') for the works.
- Identification of areas and contaminants of potential concern ('CoPCs') for the Site based upon a review of the Coffey (2019) PSI.
- Application for Dial Before You Dig ('DBYD') plans.
- A site inspection to observe on-site and off-site conditions.

Soil Contamination Assessment

[2] Coffey (2019), *Phase 1 Preliminary Site Investigation, 139 St Johns Road, Bradbury NSW*, reference: SYDEN234191-R01, dated 13 September 2019 (Coffey, 2019).
[3] National Environmental Protection Council (NEPC), *National Environment Protection (Assessment of Site Contamination) Measure (NEPM)* 1999 (April 2013) (ASC NEPM 2013).
[4] EP Risk (2020), *Fee Proposal for a Detailed Site Investigation & HAZMAT Assessment - 139 St Johns Road, Bradbury NSW 2560*, reference: EP12917_v1, dated 16 January 2020 (EP Risk, 2020).

- Underground service location of the seven (7) sampling locations at the Site.
- Advancement of seven (7) boreholes and collection of soil samples to a maximum depth of 1.6 metres below ground level ('mBGL').
- Collection of one (1) suspected bonded (non-friable) asbestos-containing material ('ACM') sample and one (1) soil sample adjacent to the material and submission to a National Association of Testing Authorities('NATA') accredited laboratory for asbestos identification analysis.
- Screening of soil samples using a photoionisation detector ('PID').
- Submission of one (1) surface soil sample from seven (7) boreholes and one (1) deeper soil sample from five (5) borehole locations (for a total of 12 primary soil samples), to a NATA accredited laboratory for analysis of the CoPCs as identified in **Section 6.9**.
- Preparation of this report in general accordance with Office of Environment and Heritage ('OEH') *Guideline for Consultants Reporting on Contaminated Sites* (2011) (OEH 2011).

1.3 Site Identification

Details of the Site are provided in **Table 1**.

Table 1 – Site Identification

Item	Description
Address	139 St Johns Road, Bradbury NSW 2560
Legal Description	Lot 50 of DP225520
Approximate Area	975 m^2
Municipality	Campbelltown City Council
Zoning	R2: Low Density Residential (CLEP, 2015)
Proposed Land Use	Childcare Centre

2 Site History Summary

The information provided in the following section is a summary of the information from the PSI conducted by Coffey (Coffey 2019).

2.1 Council and Regulatory Records

A summary of the information presented by Coffey 2019 is provided in **Table 2** below.

Table 2 – Council and Regulatory Records Search

Database	Findings
Topography and Elevation	The topography of the Site slopes down towards the north/north east, with an approximate elevation of 134m to 137m Australian Height datum ('AHD') across the Site. During the Site inspection the site was observed to slope down to the north. A concrete driveway was present on the eastern side of the property which continued to a concrete hardstand and brick barbeque area at the rear of the house. The surface cover on the rest of the Site comprised grass and garden landscaping. During a rainfall event it is anticipated surface water runoff will flow in a northerly direction over the sealed surface before turning north-west close to the site boundary. Infiltration of surface water is considered likely in unsealed areas. Stormwater not infiltrating or entering the Sites drainage system is anticipated to flow off-site to the north-east towards the stormwater drain located in Macleay Reserve.
Geology	According to the NSW Department of Planning & Environment 1:100,000 scale Wollongong – Port Hacking Geology Map (1985) (ref: sheet 9029, 1st Edition, 1985), the Site is underlain by laminate and dark-grey siltstone of the Wianamatta Group. The NSW Department of Planning & Environment Wollongong-Port Hacking 1:100,000 Soil Landscape Map (2018) indicates that the site locality is underlain by residual Blacktown soils.
Hydrogeology	Groundwater is anticipated to be present within shale/siltstone bedrock. It is considered likely additional perched, discontinuous lenses of groundwater will be present within overlying soil. The inferred groundwater flow direction is north/north-east following the general topography of the region. The nearest surface water features are Fishers Ghost Creek located approximately 750 m west of the site and Georges River located approximately 1.4 km to the east of the site. There is one (1) groundwater well within 1 km of the Site which is located 918 m to the north-west. There is no publicly available data regarding groundwater conditions within this well.
Acid Sulfate Soils	The NSW Department of Planning, Industry & Environment Prospect/Parramatta River 1:25,000 Acid Sulfate Soil Risk Map (1998) indicates the Site is located in an area of low probability of occurrence of acid sulfate soils (ASS).
Mining Subsidence	No Mining Subsidence Districts have been identified within 1 km of the Site.

Table 2 – Council and Regulatory Records Search	
Database	**Findings**
Coastal Protection Act 1979	The land and areas within 1km of the Site were not subject to the operation of State Environmental Planning Policy ('SEPP') 14 or SEPP 71 of the Coastal Protection Act 1979.
Contaminated Land	The Site was not listed as contaminated under the Contaminated Land Management Act ('CLM Act') 1997. As of 4 February 2020, the Site was not listed on the NSW Environment Protection Authority ('NSW EPA') Record for Contaminated Sites notified to the NSW EPA in accordance with the CLM Act 1997. There were no records of Contaminated Sites notified to the NSW EPA or Sites listed as contaminated under the CLM Act 1997 within 1 km of the Site.
State Environmental Planning Policy ('SEPP') Major Developments	There were no records of SEPP Major Developments identified within 1 km of the Site.
SEPP Strategic Land Use Areas	There were no records of a SEPP Strategic Land Use Area identified within 1 km of the Site.
Former Gasworks	There were no records of former gasworks identified within 1 km of the Site.
Waste Management Facilities	There were no records of waste management facilities identified within 1 km of the Site.
Licensed Activities Under POEO Act 1997	There were no records of Licensed Activities Under POEO Act 1997 identified within 1 km of the Site.
Delicensed Activities Still Regulated by NSW EPA	There were no records of Delicensed Activities Still Regulated by NSW EPA identified within 1 km of the Site.
Former Licensed Activities under the POEO Act 1997, now Surrendered	Four (4) former licensed activities under the POEO Act 1997, were identified within 1 km of the Site. All licenses related to the application of herbicides throughout NSW and the Campbelltown City Council Area. The closest activities were carried out 693 m to the north-west of the Site in the area adjacent Fishers Ghost Creek.
Heritage	There were no records of State Heritage Items identified within 1 km of the Site. There were two (2) records of Local Heritage Items within 1 km of the Site: • Briar Cottage – located 453 m east of the Site; and • Raith – located 958 m north-west of the Site.
Bushfire Prone Area	The Site was not within a bushfire prone area; however, areas within 1 km of the Site to the north-east and south-east are categorised as bushfire prone land. The closest bushfire prone land is a classified as a Vegetation Buffer and is located 683 m north-east of the Site.

Table 2 – Council and Regulatory Records Search	
Database	**Findings**
Dryland Salinity	According to Salinity Potential in Western Sydney dataset from the Department of Infrastructure, Planning and Natural Resources (2002) Salinity Potential the Site lies within an area of moderate salinity potential.
Ecology	According to NSW OEH, no ecological constraints were identified on-site. However, a very highly disturbed area of Cumberland plains woodland was identified 30 m west (upgradient) of the Site. Several other areas of native vegetation were identified at greater than 400 m from the Site including: • A very highly disturbed area of Cumberland plains woodland, 535 m north-west; and • A highly disturbed River Flat Eucalypt Forest, 704 m north-west. No RAMSAR wetlands were identified on-site or within 1 km of the Site.

2.2 Site History Summary

A detailed Site history summary is provided in Coffey (2019) and is summarised below.

Based on a review of available aerial photographs and council regulatory records, the Site comprised a large paddock likely used for grazing up to circa 1965. Development on the Site began between 1965 and 1970 when the creek/waterway on-site was filled. A residential property was constructed on-site between 1970 and 1984. With the exception of the construction of an additional garage building on the northern portion of the Site between 1984 and 1994, the Site has remained largely unchanged since 1984.

The surrounding area comprised greenfield land likely used for grazing until circa 1965 when the area was subdivided into multiple smaller lots and St Johns Rd was constructed. From 1965 to 1970 low density residential properties were constructed in all directions of the Site and Macleay Reserve to the north-east of the Site remained undeveloped. From 1970 to present there has been continued construction of low-density residential properties surrounding the Site. Macleay Reserve to the north-west has remained relatively unchanged with the exception of the remainder of the creek/waterway being filled circa 1994.

Planning certificates and databases maintained by the NSW EPA indicate the site and land immediately surrounding the site has not been subject to notices issued under the Contaminated Land Management Act 1997.

3 Site Condition and Surrounding Environment

3.1 Site and Surrounding Inspection

On 30 January 2020, EP Risk conducted an inspection of the Site and immediate surroundings prior to intrusive sampling works. The following features were observed:

- The Site appeared to be in a similar condition to that described by Coffey (2019).
- Site access was available from St Johns Road located on the southern border of the Site where the driveway joined the road. The southern border of the Site was not fenced.
- The Site comprised a residential building with a grass covered front and back lawn with some patches of exposed soil.
- A concrete driveway was present on the eastern side of the building that lead to a concrete parking area at the rear of the house. A brick garage / shed was present on the north-eastern boundary of the Site.
- The northern, eastern and western boundaries were fenced with corrugated metal fencing with wooden skirting.
- The topography of the Site was observed to slope downwards to the North and flatten out towards the northern boundary, where the historical creek/waterway was filled. Two boreholes (BH06 and BH07) were progressed into the area of suspected fill to assess the contamination status of the material.
- A strip drain was observed across the access to the garage. Gutter downpipes from the residential building were observed to flow into drains located at the northern (rear) wall of the building.
- Domestic waste including furniture, discarded metal and plastics were observed on the western side of the property between the residential building and the fence and on the northern border of the site between the garage and the fence. Further domestic waste including metal plates, ceramic pipe and a discarded barbeque was observed in a garden bed on the western boundary of the Site at the rear of the residential building.
- Car batteries noted during the inspection conducted by Coffey (2019) were not observed on-site.
- Based on the age of the buildings on-site EP Risk considers it likely that ACM were used in the construction. Suspected bonded (non-friable) ACM in the form of fibre cement sheeting in good condition with no visible damage was observed in the eaves of the house and garage buildings. Observations of the internal aspects of the buildings on-site were not possible as access was not provided.
- One (1) fragment of suspected bonded (non-friable) ACM in the form of a fibre cement fragment in fair condition was identified on the surface in the south-east corner of the site, nearby BH02 as shown in **Appendix A – Figure 1**.
- Some areas of bare soil and stressed grass were observed across the Site.

- There was no evidence of underground fuel storage infrastructure observed on-site.
- No evidence of septic systems was observed on-site.
- There was no observed staining, odour, pooled liquid, at the time of inspection.

Site photographs taken during the Site inspection and soil sampling are provided as **Appendix C**.

3.2 Surrounding Land Use

The Site is located in a low-density residential area of Bradbury, NSW 2560 and is predominantly surrounded by residential properties. Two (2) areas of parkland, Macleay Reserve and Kenny Reserve, are located to the north-east and south-east respectively.

As of 30 January 2020, land uses surrounding the Site comprised the following:

To the North

- Residential swimming pool directly adjacent northern border;
- Residential properties further north; and
- Macleay Reserve parkland, approximately 20 m to the north-east.

To the South

- St Johns Road directly adjacent southern border;
- Residential properties further south; and
- Kenny Reserve parkland, approximately 75 m to the south-east.

To the East

- Residential properties directly adjacent eastern border and further east;
- St Johns Road; and
- Kenny Reserve parkland.

To the West

- Residential properties directly adjacent eastern border and further west; and
- A service station approximately 1 km to the west.

3.3 Topography and Drainage

Observations regarding the topography and drainage on-site were generally consistent with Coffey 2019.

The topography of the Site was observed to slope down to the North and flatten out towards the northern boundary, where the historical creek/waterway was filled. The Site appeared consistent with the properties to the south, east and west. Areas to the north of the Site were observed to slope to the south meeting at the former creek/waterway.

A strip drain was observed across the access to the garage on the north-eastern portion of the Site. Gutter downpipes from the residential building were observed to flow into drains located at the northern (rear) wall of the building.

4 Previous Environmental Reports

Coffey was engaged by Brightest Start Early Learning Centre to conduct a Phase 1 PSI at the Site to support a DA for the proposed development of the site into a childcare centre. The following is a summary of the findings and AoC highlighted within the investigation.

- The Site was previously part of a large paddock of unknown purpose, although is considered likely to have been used for grazing.
- Between 1960 and 1965 the on-site creek line was filled before construction of buildings on-site. The source and quality of the fill is unknown.
- The buildings on-site comprised a split-level residential dwelling constructed between 1970 and 1984 and a single level garage building constructed between 1984 and 1994. Due to the age of these structures there is potential for hazardous building materials to be used in their construction.
- During the Site inspection, Coffey observed domestic waste stored on the western side of the dwelling and the northern side of the garage. Several lead acid batteries were stored in areas adjacent to the residential dwelling. One battery, stored adjacent to the fence on the eastern boundary, was observed to be leaking.
- The Site was found to be located in an area of moderate salinity potential according to the Western Sydney dataset from the Department of Infrastructure, Planning and Natural Resources (2002).
- Coffey considered the potentially impacted media was shallow soil. Groundwater was considered unlikely to be impacted due to the low permeability of the soil.
- Coffey recommended a DSI be conducted to assess the condition of soils and the suitability of the Site for the proposed childcare centre development. It was recommended sampling for salinity be conducted within the DSI to inform the necessary controls to manage salinity issues on-site.
- Other recommendations included:
    - A hazardous building materials survey be completed prior to the demolition of each structure on-site.
    - A Construction Environmental Management Plan ('CEMP') to inform contractors of environmental constraints and contamination on-site (if present).

5 Preliminary Conceptual Site Model

A preliminary conceptual site model ('CSM') has been developed based upon the information provided within the Coffey (2019) PSI.

The following CSM identifies potential source-pathway-receptor ('SPR') linkages in consideration of the Site history and current land uses. A SPR linkage occurs where there is a contamination source, a pathway and a receptor present. The development of a CSM is an essential part of all site assessments and remediation activities.

ASC NEPM (2013) identified the essential elements of a CSM as including:

- Known and potential sources of contamination and contaminants of concern including the mechanism(s) of contamination.
- Potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air).
- Potential and complete exposure pathways.
- Human and ecological receptors.
- Any potential preferential pathways for vapour migration (if potential for vapours identified).

5.1 Known and Potential Contamination Sources

The known and potential sources of contamination at the Site and in the vicinity of the Site are summarised in **Table 3**.

Table 3 – Known and Potential Contamination Sources

Location	Source	CoPCs
On-site	Historically imported fill materials of unknown origin and quality.	Metals (Arsenic ('As'), Cadmium ('Cd'), Chromium ('Cr'), Copper ('Cu'), Lead ('Pb'), Nickel ('Ni'), Mercury ('Hg') and Zinc ('Zn')), Total Recoverable Hydrocarbons ('TRH'), Benzene, Toluene, Ethylbenzene and Xylene ('BTEX'), Polycyclic Aromatic Hydrocarbons ('PAH') and Asbestos
	Historical use of the Site for agricultural / farming purposes.	Metals, TRH, BTEX, PAH, Organochlorine Pesticides ('OCP'), Organophosphate Pesticides ('OPP')
	Potential use of pesticides and chemicals during maintenance of the Site.	OCP and OPP
	Storage of domestic waste (including lead-acid batteries) on-site	Metals, PAH, Volatile Organic Compounds ('VOCs')
	Construction and weathering of the buildings on-site.	Metals and Asbestos

5.2 Potential Affected Media

The current potential affected media at the Site is Soil. Soil vapour, groundwater and surface water may be impacted if contamination is present within the soil and concentrations of CoPC have leached into the underlying groundwater table or surface waters. However, based on a review of the Coffey (2019) PSI, it is considered unlikely groundwater and surface water are affected.

5.3 Potential Transport Pathways

The following potential exposure pathways for the CoPCs have been identified to exist for potential contamination sources based on review of Coffey (2019):

- Inhalation of fugitive dust during high wind events and/or future construction and/or remediation works on-site and off-site.
- Direct contact and ingestion during normal residential use of the Site involving disturbance of the soil and/or construction and remediation works on-site.
- Surface water run-off which may pool on-site, continue downgradient off-site to the north-east and/or infiltrate into subsurface soils and groundwater.

5.4 Potential Human and Ecological Receptors

Potential human and ecological receptors at and near the Site are considered to be:

- On-site receptors:
    - Current and future construction and maintenance workers.
    - Current and future users and visitors of the Site.
    - Current and future fauna and flora in landscaped/unsealed areas.
- Off-site receptors:
    - Current and future construction and maintenance workers at surrounding residential properties.
    - Current and future users and visitors of surrounding residential properties.
    - Current and future users of Macleay Reserve.
    - Current and future terrestrial flora and fauna in the nearby areas.

5.5 Potential and Complete Exposure Pathways

The following potential and complete exposure pathways have been identified:

- Access to exposed soil and gardens was observed on-site. Therefore, a potential complete exposure pathway exists for direct contact, inhalation and ingestion of surficial soils by current and future site users for potential CoPCs identified within shallow soil.
- Excavation of on-site soils during future development will create a complete exposure pathway for direct contact and ingestion of soils and inhalation of fugitive dusts by future construction and maintenance workers and neighbouring site users and visitors.

- During high rainfall events surface water run-off may transport surficial soils off-site, likely following the former creek/waterway to the north-east through surrounding residential properties to Macleay Reserve. A potentially complete pathway exists for direct contact and ingestion of potentially contaminated soils and impacted surface water by current and future construction and maintenance workers, users and visitors and fauna and flora at residential properties to the north-east of the Sites and Macleay Reserve.

5.6 CSM Summary

Based on the components of the above CSM, the potential risk to human health and/or the environment is considered moderate prior to further investigation.

It should also be noted the Site is in an area of moderate salinity potential. If saline soils are present on-site, they may impact buildings and the surrounding environment, however saline soils are considered to be of low risk to human health.

A CSM summary table is provided in **Table 4** below.

Table 4 – Potential Exposure Pathways

Location	Primary Sources	Affected Media	Pathway	On-Site			Off-Site			
				Current and future construction/maintenance workers	Current and future users and visitors of the Site	Terrestrial fauna and flora at the Site	Construction and maintenance workers	Current and future occupants and visitors of surrounding residential properties	Current and future users of Macleay Reserve.	Terrestrial fauna and flora in surrounding areas
On-site	Historically imported fill materials of unknown origin and quality.	Soil	Direct contact, Ingestion, and Inhalation.	Yes	Yes	No	No	No	No	No
	Historical use of the Site for agricultural / farming purposes.		Direct contact, Ingestion, and Inhalation.	Yes	Yes	Yes	No	No	No	No
	Storage of domestic waste (including lead-acid batteries) on-site		Direct contact, Ingestion, and Inhalation.	Yes	Yes	No	No	No	No	NA
	Potential use of pesticides and chemicals during maintenance of the Site.		Direct contact, Ingestion, and Inhalation.	Yes	Yes	Yes	No	No	No	No
	Demolition, Maintenance and weathering of hazardous building materials on-site.	Buildings/ Soil	Direct contact, Ingestion, and Inhalation.	Yes	Yes	No	NA	Yes	NA	NA
	Surface water run-off during high rainfall events that may transport impacted sediments off-site	Surface Water / Soil	Direct Contact and Ingestion	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes:

Yes	Current and future potential
No	Unlikely Current and future potential

Potential Exposure Pathway:

Soil
Groundwater
Soil Vapour

6 Sampling and Analysis Plan

6.1 Data Quality Objectives

To assess whether an appropriate sampling strategy was adopted for the assessment, EP Risk has adopted the data quality objectives ('DQOs') planning process as:

- Recommended in ASC NEPM (2013);
- Required within the NSW Department of Environment and Conservation 2017, *Guidelines for the NSW Site Auditors Scheme* (3rd Edition) (NSW EPA, 2017);
- With consideration to technical details outlined in United State Protection Agency: *Guidance on Systematic Planning Using the Data Quality Objectives Process*, ref: EPA QA/G-4 (US EPA, 2006); and
- AS 4482.1 2005, *Guide to the investigation and sampling of sites with potentially contaminated soil – Part 1: Non-volatile and semi-volatile compounds.*

6.2 State the Problem

The DSI was required to assess the soil contamination status of the Site to determine the potential risk to human health and/or the environment at the Site under the current residential use and proposed commercial use, prior to development.

6.3 Identify the Decision

To assess the in-situ soil conditions at the Site, the following decisions need to be addressed:

- Has soil been assessed against relevant health investigation levels ('HILs') and health screening levels ('HSLs'), and has potential for migration of contamination from soils to groundwater been considered?
- Is the in-situ fill material deemed suitable to remain onsite?
- Are there any issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed in the Site assessment?
- Are there any impacts of chemical mixtures?
- Are there any potential human health and/or ecological risks to the identified Site receptors?
- Is there any evidence of, or potential for, migration of contaminants off-site?
- Is there sufficient information to accurately characterise the site contamination?
- Is a site management strategy including post-remediation environmental plans (Remediation Action Plan ('RAP'), Asbestos Management Plan or Environmental Management Plan ('EMP')) required?

6.4 Identify Inputs into the Decision

The inputs required to make the decision include the following:

- Site history information;
- Environmental data as collected by sampling and analysis of soil and site observations made during the investigation;
- Assessment criteria to be achieved on the Site are based on the intended land use and project objectives, as defined by assessment criteria nominated in **Section 6**; and
- Confirmation data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality assurance / quality control ('QA/QC') as per the data quality indicators ('DQIs') established in **Section 5.7**.

6.5 Define the Boundaries of the Study

The study boundary is limited to the Site boundaries as described in **Section 1.3** and **Section 3** and as shown by **Appendix A– Figure 1.**

The vertical extent of the soil investigation was to approximately 0.3 – 1.6 mBGL.

The investigation was conducted to assess soil contamination only. Sampling of groundwater and soil vapour was not conducted.

The investigation was undertaken during a single site inspection and sampling event conducted on 30 January 2020.

6.6 Develop a Decision Rule

Laboratory analytical data will be assessed against NSW EPA endorsed criteria as identified in **Section 6**. The decision rules adopted to answer the decision identified in **Section 5.3** are summarised in **Table 5**.

Table 5 – Summary of Decision Rules

Decision	Rule
1. Has soil been assessed against relevant HILs / HSLs, and has potential for migration of contamination from soils to groundwater been considered?	The nature and extent of soil impacts will be assessed, and soil analytical data will be compared against the adopted health and ecological criteria. Additionally, the soil leachate analytical data (where required) will be compared against the adopted criteria (refer to **Section 7**). The following statistical criteria was adopted with respect to soils and soil leachate: Either: the reported concentrations are all below the adopted site criteria; Or: the average site concentration for each analyte must be below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted site criterion; and the standard deviation of the results must be less than 50% of the site criteria. And: the 95% upper confidence limit ('UCLmean') of the average concentration for each analyte must be below the adopted site criterion. If the statistical criteria stated above are satisfied, and an assessment of risk indicates no unacceptable risks, the decision is Yes, the soil has been assessed and No there is no potential for migration of contamination. Otherwise, the decision is Yes and Yes there is potential for migration of contamination and further assessments may be required to determine the risk of groundwater contamination at the Site.
2. Is the in-situ fill material deemed suitable to remain onsite?	Are any CoPCs above the adopted health and ecological criteria? If there is, the decision is No. Otherwise, the decision is Yes.
3. Are there any issues relating to local area background soil concentrations that exceed relevant investigation levels and have they been adequately addressed in the Site assessment?	If the 95% UCL of natural soils, that are considered to not be impacted by potential sources of contamination, exceed adopted health and ecological concentrations, the decision is Yes. Otherwise the decision is No.
4. Are there any impacts of chemical mixtures?	Is more than one chemical within a group of contaminants considered to have a similar mode of action present which increase the risk of harm? If there is, a hazard quotient ('HQ') and Hazard Index ('HI') should be calculated from the analytical results for each sample in accordance with NEPM 2013. If the HI is calculated to be greater than 1, the decision is Yes. Otherwise, the decision is No.

Table 5 – Summary of Decision Rules	
Decision	**Rule**
5. Are there any potential human health and/or ecological risks to the identified Site receptors?	Soil impacts will be assessed, and data will be compared to the adopted criteria (**Section 6**). The decisions will be made based on Decisions 1 and 2 above. And: If the reported concentrations are all below the adopted site criteria and an assessment of risk indicates no unacceptable risks, the decision is No. Otherwise, the decision is Yes.
6. Is there any evidence of, or potential for, migration of contaminants off-site?	Are chemical contaminants present within natural soil at concentrations exceeding the adopted site criteria? And: is there a potential transport pathway/mechanism If yes, the answer to the decision is Yes. Otherwise, if contaminants are not chemical in nature and are unable to migrate off-site alone, the answer to the decision is No.
7. Is there sufficient information to accurately characterise the site contamination?	If the total number of samples collected is greater than or equal to the recommended number of sample points in accordance with NSW EPA (1995) *Sampling Design Guidelines*; And: the likelihood of on-site soil contamination impacting soil vapour, groundwater, surface water and off-site receptors is considered unlikely. And: no areas which exceeded the adopted criteria require further characterisation. Then the decision is Yes, there is sufficient information to accurately characterise the Site contamination Otherwise, the decision is No.
8. Is a site management strategy including Remediation Action Plan ('RAP'), Asbestos Management Plan or Environmental Management Plan ('EMP') required?	Is the answer to any of the above decisions Yes? If yes, a site management strategy may be required to be developed. If no, a site management strategy is not required.

6.7 Specify Acceptable Limits of Decision Errors

This step is to establish the decision maker's tolerable limits on decision errors, which are used to establish performance goals for limiting uncertainty in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA, ASC NEPM 2013 and appropriate indicators of data quality (DQIs used to assess QA/QC).

The acceptable limits will be as follows:

I. 95% of the data will satisfy the Data Quality Indicators ('DQIs') which were determined for completeness, representativeness, precision and accuracy of both field and laboratory data. Therefore, the limit on the decision error will be 5% that a conclusive statement may be incorrect.

II. A comprehensive Quality Assurance/Quality Control ('QA/QC') program will be undertaken including representative sampling and sampling at an appropriate density for the purpose of the investigation.

The pre-determined DQIs established for the project are discussed below in relation to precision, accuracy, representativeness, comparability and completeness ('PARCC parameters'), and are shown in **Table 6**.

Data Representativeness

Expresses the accuracy and precision with which sample data represents an environmental condition. Data representativeness is achieved by the collection of samples at an appropriate pattern and density as well as consistent and repeatable sampling techniques and procedures.

Completeness

Refers to, the percentage of data that can be considered valid data. Sufficient data is required to enable an assessment of the Decision Rules.

Comparability

A qualitative comparison of the confidence with which one data set can be compared to another. This is achieved through consistent sampling and analytical testing and reporting techniques.

Precision

Is a measure of the reproducibility of on measurements under a given set of conditions? The relative percent difference (RPD) has been adopted to assess the precision of data between duplicate sample pairs according to the following equation.

$$RPD\% = \frac{[\mathrm{Cp} - \mathrm{Cd}]}{\mathrm{Cp} + \mathrm{Cd}} \times 200$$

Where:
Cp = Primary sample
Cd = Duplicate Sample

An acceptance criterion of ±30% had been adopted for inorganic field duplicates and triplicates and ±50% for organic field duplicates and triplicates as specified in **Table 6** below. However, it should be noted that exceedances of these criteria are common for heterogeneous soil or fill or for low analyte concentrations.

Accuracy

Is a measure of the bias in the analytical results and can often be attributed to field contamination; insufficient preservation or sample preparation; or inappropriate analytical techniques. Accuracy of the analytical data is assessed by consideration of laboratory control samples, laboratory spikes and analytical techniques in accordance with appropriate standards.

DQO Requirements and Indicators

If any of the DQIs are not met, further assessment will be necessary to determine whether the non-conformance will significantly affect the usefulness of the data. Corrective actions may include requesting further information from samplers and/or analytical laboratories, downgrading of the quality of the data or alternatively, re-collection of the data.

Table 6 – DQO Requirements and Indicators

DQO	Requirement	DQI
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines	Meet requirement
Intra-laboratory duplicates	1 per 20 samples	RPDs < 30 - 50%
Inter-laboratory duplicates	1 per 20 samples	RPDs < 30 - 50%
Laboratory duplicates	Minimum of 1 per batch per analyte	RPDs < 30 - 50%
Accuracy		
Laboratory matrix spikes	1 per batch per volatile/semi-volatile analyte	Recoveries 50% to 150%
Laboratory surrogate spikes	1 per volatile/semi-volatile analyte sample (as appropriate)	Recoveries 70% to 130%
Laboratory control/method blank samples	At least 1 per batch per analyte tested for	Result < laboratory reporting limit
Rinsate blanks	1 per day	Result < laboratory reporting limit
Trip blanks	1 per lab batch for volatile analytes	Result < laboratory reporting limit
Trip spikes	1 per lab batch for volatile analytes	Recoveries 60-100%
Representativeness		
Sampling methodology - preservation	Appropriate for the sample type and analytes	Meet requirement
Samples extracted and analysed within holding times	Specific to each analyte	Meet requirement
Field equipment calibration	All field equipment calibrated and calibration records provided.	Meet requirement
Comparability		
Sampling approach	Consistent for each sample	Meet requirement
Analysis methodology	Consistent methodology for each sample	Meet requirement

Table 6 – DQO Requirements and Indicators		
DQO	**Requirement**	**DQI**
Handling conditions and sampler	Consistent for each sample	Meet requirement
Field observations and analytical	Field observations to support analytical results	Meet requirement
Consistent laboratory reporting limit	Consistent between primary and secondary laboratories	Meet requirement
Completeness		
Sampling staff	Consistent sampling staff used.	Meet requirement
Laboratory accreditation	NATA Accredited laboratory for methods used	Meet requirement
Accredited methods	NATA accredited methods used appropriate for each analyte.	Meet requirement
ASC NEPM (2013) lab methods	Lab methods consistent with the ASC NEPM (2013).	Meet requirement
Laboratory reporting limit	Laboratory reporting limit consistent and appropriate	Meet requirement
Consistent weather / field conditions	Consistent	Meet requirement
Chain of custody documentation	Appropriately completed	Meet requirement
Field sampling documentation	Appropriately completed	Meet requirement

6.8 Optimise the Design for Obtaining Data

A systematic and targeted sampling program was adopted based on the Site history study and site observations in accordance with NSW EPA (1995) *Sampling Design Guidelines*. Samples locations were selected to provide representative coverage of the Site while targeting specific AOCs identified within Coffey 2019. A comprehensive suite of CoPCs was selectively adopted for the assessment of the Site to provide characterisation of the status of soil contamination (if any).

6.9 Sampling and Analysis Methodology

The fieldwork was undertaken on **30 January 2020** by experienced EP Risk Environmental Consultants.

The soil sampling program was designed to identify potential contamination in shallow soil at the Site. In accordance with NSW EPA (1995) *Sampling Design Guidelines,* a minimum of six (6) samples are required for a Site with an area of 0.975 ha. The program consisted of the following:

- Collection of soil samples from seven (7) locations across the Site (including three (3) boreholes located within three (3) targeted AOC as described below) based on a systematic and targeted sampling regime.
- Analysis of one (1) surface soil samples and one (1) sub-surface soil sample, where possible, from each borehole at a NATA accredited laboratory for the analytical schedule provided in **Table 7**.

Investigation locations are illustrated in attached **Appendix A - Figure 1**.

Targeted sampling for the AOCs were based on the historically imported fill materials of unknown origin and quality, areas used for storage of domestic waste and areas surrounding buildings suspected to comprise hazardous building materials.

Samples collected for Site coverage were based on a systematic approach to assess whether significant soil contamination is identified and to determine the need for further investigation, remediation or ongoing management.

The sampling density and laboratory analytical schedule is provided in **Table 7**.

Table 7 – In-situ Soil Sampling Regime and Analytical Schedule

Location / Purpose	Number of Sampling Locations	Laboratory Analysis
Site coverage – shallow soils (0.0 – 0.3 mBGL)	7	Broad Suite[1] – 7 Reduced Suite[2] - 5[3]
Targeted AOC Sampling – lead-acid batteries, domestic waste and fill of unknown quality	3	Broad Suite – 1
Site coverage – Salinity	6	Salinity Suite[4] - 6

[1] Broad suites typically consist of: TRH, BTEX, PAH, Metals (As, Cd, Cr, Cu, Pb, Ni, Hg and Zn), Polychlorinated Biphenyls ('PCB'), OCP, OPP and Asbestos (0.1 g/kg).
[2] Reduced suites typically consist of TRH, BTEX, PAH and Metals (As, Cd, Cr, Cu, Pb, Ni, Hg and Zn).
[3] Sub-surface samples were collected where possible unless refusal occurred before 0.5 mBGL.
[4] Salinity suites typically consist of: Cation Exchange Capacity ('CEC'), Exchangeable Sodium Percent ('%ESP'), Exchangeable Cations and Electrical Conductivity ('EC').

In-Situ Soil Sampling Methodology

- Prior to initiating field work, each location was cleared of underground services using a suitably accredited underground services locator.
- Boreholes were advanced with a hand auger and soil samples were collected from each borehole at depths of 0.2 mBGL, 0.5 mBGL, 1.0 mBGL and every 0.5 m thereafter until a target depth of 2.0 mBGL or 0.5 m into natural soils or borehole refusal (whichever is encountered first).
- Soil was logged at each location in accordance with the Unified Soil Classification System (USCS). Each location and sample were also examined for signs of contamination. Details of the investigation and sample collection intervals are provided in the bore logs as **Appendix D**.
- Soil sampling tools were decontaminated between each location using a solution of Decon90®, and dedicated nitrile gloves were used at each sample location, to prevent cross contamination.
- All samples were screened with a calibrated photoionisation detector ('PID') to identify the presence of Volatile Organic Compounds ('VOC'), which might indicate contamination. The PID calibration certificate is included as **Appendix G**.
- Samples were placed into laboratory prepared glass sampling jars with Teflon® lined screw-on caps. Sample identification details were added to the label on each jar. Asbestos soil samples

were placed into laboratory prepared plastic Ziplock sampling bags, corresponding sample identification details were added to the individual bag labels.

- The sample jars were placed on ice immediately after sampling and transported to a National Association of Testing Authorities ('NATA') accredited laboratory under appropriate chain-of-custody ('CoC') documentation.
- Each borehole was backfilled with soil cuttings and completed at the surface to match the surroundings.
- One (1) duplicate and one (1) triplicate soil sample were collected and submitted to different NATA accredited laboratories for a reduced suite of analysis.
- One (1) rinsate sample was collected by pouring laboratory supplied de-ionised ('DI') water over sampling equipment, following completion of decontamination, into laboratory provided water sampling jars and submitted to a NATA accredited laboratory for a reduced suite of analysis.
- One (1) sample of suspected ACM in the form of a fibre cement fragment (MS01) and one (1) additional soil sample from the surface adjacent MS01 (ASB01) were collected and submitted to a NATA accredited laboratory for asbestos gravimetric analysis.
- One (1) surface soil sample from each borehole was submitted to a NATA Accredited laboratory for a broad suite of CoPCs and a salinity suite as defined within **Table 7**.
- One (1) selected sub-surface sample from each borehole, where possible, was submitted to a NATA Accredited laboratory for a reduced suite of CoPCs as defined within **Table 7**.

6.10 Analytical Testing Program

Samples were analysed for CoPCs by Eurofins MGT Pty Ltd (Primary) and ALS Environmental (Secondary) which are both NATA accredited laboratories for the analysis undertaken. **Table 8** below summarises the analysis completed:

Table 8 – Analytical Summary

Analyte	Number of Samples Analysed	
	Primary Samples	QA/QC Samples
Broad Suite	7	-
Reduced Suite	5[1]	1 Duplicate and Triplicate 1 Rinsate
Salinity Suite	6	-

[1] Refusal occurred before 0.5 mBGL in two (2) boreholes (BH05 and BH07)

7 Assessment Criteria

To assess the potential risk to human health and the environment posed by site conditions, analytical results are compared to published investigation and screening level criteria. The NSW and Australian framework against which analytical results are compared to is detailed herein.

7.1 Soil Assessment Criteria

For the purposes of assessing the results of analytical testing of soils at the Site, the following guidelines were considered:

- NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (Third Edition);
- ASC NEPM (2013); and
- NSW EPA Waste Framework under NSW Environment Protection Authority ('EPA') *Waste* Classification *Guidelines: Part 1 – Classifying Waste*, (2014) (NSW EPA Waste Classification Guidelines, 2014).
- Department of Land and Water Conservation ('DLWC'), *Site Investigations for Urban Salinity* (2002).

Soil concentrations were compared against the following soil investigation levels ('SILs'):

- **Health-based Criteria for the current and future land use**: ASC NEPM (2013) HILs for residential A land use, Res A/B Soil HSL for Vapour Intrusion and the CRC Care (2011) HSLs for Direct Contact Residential A land use.
- **Management Limits**: ASC NEPM (2013) Management Limits for Residential / Parkland land use ('Management Limits').
- **Ecological Criteria for the current and proposed land use**: in the absence of site-specific data and biota study generic ASC NEPM (2013) Ecological Screening Levels ('ESLs') for Urban Residential and Ecological Investigation Levels ('EILs') for Urban Residential & Public Open Space land use were adopted as a conservative approach, suitable for due diligence purposes.

Although the proposed childcare centre is a commercial land use, residential A land use criteria were adopted as a conservative measure due to the potential for childcare activities to involve disturbance of soils and the sensitive nature of potential receptors.

7.2 Asbestos Assessment Criteria

Asbestos Forms

Asbestos contamination can occur in a range of forms, sizes and degrees of deterioration. ASC NEPM 2013 separates asbestos contamination into the following forms:

- Bonded (non-friable) ACM – Asbestos bound in a matrix, and in sound condition e.g. vinyl floor tiles, cement sheeting;
- Fibrous Asbestos ('FA') – Friable asbestos material such as weathered ACM and loose fibrous material (insulation products); and

- Asbestos Fines ('AF') – Free fibres of asbestos, small fibre bundles and ACM fragments that can pass through a 7 mm x 7 mm sieve.

Asbestos - Health Screening Levels

No visible asbestos in any form on the soil surface was adopted for the purposes of this assessment. Further, surface soil samples were analysed in accordance with AS 4964 – 2004[5] and an additional criterion of 'no asbestos detected' was adopted to screen for the presence of asbestos. If quantities of asbestos were identified on the surface, or within soil samples then additional assessment may have been required.

7.3 Saline Soils Criteria

The severity of the salinity of in-situ soils will be assessed using both the soil salinity rating, which is a measure of the total amount of salts present in the soil, and the sodicity, which is a measure of relative amounts of exchangeable sodium ions to other salts present in the soil. No human health or ecological criteria are available for saline soils based on specific land use criteria. As such, the severity of salinity on-site will be determined and used to inform the management options and strategy provided as **Appendix F.**

[5] AS 4964 – 2004 is a qualitative method with a nominal limit of reporting of 0.01% (w/w).

Salinity can be quantified by measuring the electrical conductivity of the soil in solution, as presented in **Table 9**[6]. It is noted these values provided in DWLC (2002) were derived for agricultural purposes, as no structure-based classification system classification exists at present.

Table 9 – Soil Salinity Classification

Soil Salinity Rating	ECe[7] (dS/m)	Comments
Non-saline	<2	Salinity effects mostly negligible
Slightly saline	2-4	Yields of very sensitive crops may be affected
Moderately saline	4-8	Yields of many crops affected
Very saline	8-16	Only tolerant crops yield satisfactorily
Highly saline	>16	Only a few very tolerant crops yield satisfactorily

Sodicity can be characterised by measuring the soils exchangeable sodium percentage, a summary of the sodicity ratings shown in DWLC (2002) is presented in **Table 10**.

Table 10 – Sodicity Ratings for Soil

ESP %	Sodicity Rating
<5	Non-Sodic
5-15	Sodic
>15	Highly Sodic

[6] Sourced from DLWC (2002).
[7] ECe – electrical conductivity of a saturated soil extract.

8 Quality Assurance and Quality Control

8.1 Data Quality Indicators

The data quality objectives, requirements and indicators for the assessment are summarised in **Table 11 ,** analytical laboratory reports are provided in **Appendix E** and field QA/QC summary tables are provided in **Appendix B** - **Table T2**.

Table 11 – DQO, Requirements and Indicators

QC Element	Frequency	Acceptance Criteria
Precision		
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines	YES
Laboratory duplicates	Minimum of 1 per batch per analyte	YES - RPDs < 50%
Intra-laboratory Duplicates	1 per 20 samples	YES - RPDs < 50%[1]
Inter-laboratory Duplicates	1 per 20 samples	YES - RPDs < 50%[1]
Accuracy		
Laboratory matrix spikes	1 per batch per volatile / semi volatile analyte	Recoveries 70% to 130% YES
Laboratory surrogate spikes	1 per volatile / semi-volatile analyte sample (as appropriate)	Recoveries 70% to 130% YES
Laboratory method blanks	At least 1 per batch per analyte tested for	Result < limit of reporting YES
Trip blanks	1 per lab batch for volatile analytes	Result < limit of reporting YES
Trip spikes	1 per day batch for volatile analytes	Recoveries 60-100% YES
Rinsate blanks	1 per day	Result ≤ limit of reporting YES
Representativeness		
Sampling methodology	Appropriate for the sample type and analytes	YES
Samples extracted and analysed within holding times	Specific to each analyte	YES
Field equipment calibration	All field equipment calibrated, and calibration records provided.	YES
Comparability		
Sampling approach	Consistent for each sample	YES
Analysis methodology	Consistent methodology for each sample	YES
Handling conditions and sampler	Consistent for each sample	YES
Field observations and analytical results	Field observations to support analytical results	YES
Consistent laboratory reporting limit	Consistent between primary and secondary laboratories	YES

Table 11 – DQO, Requirements and Indicators		
QC Element	**Frequency**	**Acceptance Criteria**
Completeness		
Chain-of-custody documentation	Appropriately completed	YES
Field sampling documentation	Appropriately completed	YES
Satisfactory QA/QC procedures	In accordance with relevant guidance	YES

[1] RPD values of greater than 50% were obtained for lead and zinc in both the intra (DUP01) and inter (TRP01) lab duplicates of BH01_0.3. This is due to heterogeneity inherent within the fill material at the Site. The concentrations of each sample were within an order of magnitude and were less than the adopted criteria. As such, the outcome of the assessment is considered not to be materially affected by the elevated RPDs.

8.2 Quality Assurance

QA measures included:

- Using experienced and consistent field personnel throughout the investigation program.
- Using licenced and experienced subcontractors.
- Using calibrated field equipment.
- Following internal Standard Operating Procedures to ensure consistent sample handling and preservation techniques.
- Using analytical laboratories accredited for the analysis undertaken and ensuring that the laboratory internal quality checks indicated consistent, nonbiased results.
- Adhering to applicable guidelines, standards and best practice assessment and sampling methods.

8.3 Quality Control

The following QC sampling was completed:

Soil

- One (1) intra-laboratory blind duplicate soil sample (DUP01) was collected as an external laboratory check against primary sample BH01_0.2.
- One (1) inter-laboratory blind triplicate soil sample (TRP01) was collected as a check against primary sample BH01_0.2.
- One (1) rinsate blank (RIN01) sample was collected using deionised water used for decontamination of the field equipment used for soil sampling.
- One (1) trip blank sample (TBLK01) and one (1) trip spike sample (TSPK01) were prepared by the primary laboratory Eurofins prior to commencement of fieldwork and transported with the samples to check for potential cross-contamination.

Laboratory Internal Quality Control

The internal quality controls used by the laboratories indicated appropriate procedures and results, and reliable data.

8.4 Summary

Based on the results of the QA/QC assessment, the data was appropriate for the objectives of the assessment. Given the level of field and laboratory QA measures adhered to, the level of QC analysis conducted was considered appropriate and as such the DQIs outlined in **Table 6** are considered to have been met.

9 Results

The DSI was conducted to assess the Site, in general accordance with the current and future recreational land use. The NATA certified laboratory reports are included as **Appendix E.** Laboratory results are summarised below and in **Appendix B – Analytical Summary Tables**.

9.1 Field Observations

Soil Description Conditions – Fill and Natural Soil

Soil lithology encountered during intrusive investigation generally comprised a layer of gravelly silty sand FILL underlain by a layer of natural silty SAND and CLAY at depth.

The depth of the fill layer varied across the Site but was generally present from approximately 0.0 to 0.5 mBGL. The fill layer generally comprised Silty sand, medium grained, brown, sub-angular gravels, dry, medium dense with some anthropogenic materials including concrete and gravels, decreasing with depth.

The underlying natural soils generally comprised Silty SAND, medium grained, brown, dry, medium dense, medium grained, stiff to hard, very dry to slightly moist with some gravel inclusions.

The material within the area of suspected historically imported fill materials of unknown origin and quality was observed to be similar to fill material observed across the Site and comprised Silty sand, medium grained, brown, sub-angular gravels, dry, medium dense with a high amount of mudstone gravels and sandstone gravels to cobbles.

Borehole logs detailing the field observations are provided as **Appendix D.**

VOC Screening

A PID was used to screen for VOC from the head space of each soil sample collected. The results indicated volatile contaminants were generally not present within fill material or natural soil across the Site, with the exception of BH06_0.5 which returned a reading of 8.4 ppm. This reading is relatively low and was considered to be associated with the camphor laurel tree root encountered during hand augering, and not the in-situ soil, based on the distinctive smell and fragments of wood recovered on the auger head.

Visual and Olfactory Observations – Boreholes

A fragment of suspected bonded (non-friable) ACM in the form of a fibre cement fragment in fair condition was observed on the surface of the Site nearby BH02. A sample of the material and underlying soil was collected and sent to a NATA accredited laboratory for asbestos identification analysis.

There was no visual evidence of contamination and no odours that would be associated with contamination encountered during soil investigation works.

There was no visual evidence of high salinity soils including surficial salt crusting and excessive corrosion of buildings/structures. Stressed grasses were observed on-site however this was likely due to the extended drought conditions affecting the area at the time of the assessment.

No evidence of underground storage tanks ('USTs') were observed at the Site.

9.2 Soil Analytical Results

Laboratory results are summarised below and in **Appendix B – Analytical Summary Tables**.

Metals

Concentrations of metals within soil samples were reported less than the laboratory limit of reporting ('LOR') or below the adopted human health and ecological criteria for in-situ soil samples

Organic Analytes

Concentrations of TRH, BTEX, PAH, OCP, OPP and PCB within soils samples were reported to be less than the adopted human health and ecological criteria and/or the laboratory LOR.

Asbestos

One (1) fibre cement fragment (MS01) was collected from the ground surface nearby BH01 during site inspection. A sample of the surficial soil underlying the fragment was collected (ASB01) and both samples were scheduled for asbestos identification analysis. MS01 was found to be positive for chrysotile (white), amosite (brown) and crocidolite (blue) asbestos, however asbestos was not detected at the laboratory LOR (0.1 g/kg) within the underlying soil sample (ASB01).

Asbestos was not detected within any other soil samples analysed at the laboratory LOR (0.1 g/kg).

Salinity

The results of the salinity testing of all soil samples indicated that the soil on-site is non-saline. A summary of the salinity results is presented in **Table 12.**

Table 12 – Summary of Salinity Results

Sample ID	Soil Description	Landform	EC (dS/m)	Multiplication Factor[8]	ECe (dS/m)	Salinity Rating
BH01_0.2	FILL: Silty SAND	Crest	0.100	14	1.400	Non-saline
BH02_0.2	FILL: Silty SAND	Crest	0.110	14	1.540	Non-saline
BH03_0.2	FILL: Silty SAND	Slope	0.050	14	0.700	Non-saline
BH04_0.2	FILL: Silty SAND	Channel	0.064	14	0.896	Non-saline
BH05_0.2	FILL: Silty SAND	Channel	0.050	14	0.700	Non-saline
BH06_0.2	FILL: Silty SAND	Channel	0.057	14	0.798	Non-saline

Results for all soil samples tested were non-sodic with the exception of BH01_0.2 which was sodic. A summary of the sodicity results is presented in **Table 13**.

Table 13 – Summary of Sodicity Results

Sample ID	Soil Description	Landform	ESP (%)	Sodicity Rating
BH01_0.2	FILL: Silty SAND	Crest	12.0	Sodic
BH02_0.2	FILL: Silty SAND	Crest	0.5	Non-Sodic
BH03_0.2	FILL: Silty SAND	Slope	0.6	Non-Sodic
BH04_0.2	FILL: Silty SAND	Channel	0.6	Non-Sodic
BH05_0.2	FILL: Silty SAND	Channel	3.6	Non-Sodic
BH06_0.2	FILL: Silty SAND	Channel	1.9	Non-Sodic

[8] Multiplication factor sourced from in Table 6.1 DLWC (2002): Site Investigations for Urban Salinity.

10 Summary of Findings

The findings of the assessment of soil can be summarised as follows:

- CoPCs in soil samples analysed were less than adopted human health and ecological screening levels.
- Asbestos was not detected above the LOR (0.1 g/kg) within the soil samples analysed.
- One (1) fragment of bonded (non-friable) ACM was identified on the ground surface nearby BH02 which was found to contain chrysotile (white), amosite (brown) and crocidolite (blue) asbestos.
- Although the Site is located in an area of moderate salinity potential, results from soil sampling indicate the in-situ soils are not saline.

11 Discussion

Based on the decision-making process for assessing urban redevelopment sites detailed in the NSW EPA 2017, modified to meet the specific project objectives, a number of decisions are to be considered as presented in Section 5.3 each of which is discussed below.

Has soil been assessed against relevant health-based investigation / screening levels, and has potential for migration of contamination from soils to groundwater been considered?

Results have been compared to the adopted assessment criteria as discussed in **Section 7**. All chemical CoPCs within the in-situ soil samples were reported to be less than the adopted criteria. As such, the risk of on-site contamination leaching into and impacting underlying groundwater on-site is considered to be low.

Asbestos was not identified in the soil samples above the laboratory LOR (0.1 g/kg). One (1) bonded (non-friable) fragment of ACM in the form of fibre cement sheeting was identified on the ground surface nearby BH02 and found to be positive for chrysotile (white), amosite (brown) and crocidolite (blue) asbestos. However, due to the nature of asbestos contamination, and the presence of bonded (non-friable) asbestos in surficial soils only, migration of contaminants from soils to groundwater is considered unlikely.

Is the In-Situ fill material deemed suitable to remain on-site?

Concentrations of CoPC within the soil samples analysed were reported to be less than the adopted site assessment criteria for remaining on-site under a Residential land use.

Asbestos was not identified in the soil samples above the laboratory LOR (0.1 g/kg).

One (1) bonded (non-friable) fragment of ACM in the form of fibre cement sheeting in fair condition (MS01) was identified on the ground surface nearby BH02. However, as the fragment was removed during sampling and further asbestos was not observed on the surface of the Site or boreholes and asbestos was not detected in any of the soil samples, EP Risk considers the fragment of bonded (non-friable) asbestos (MS01) to be an isolated fragment that is not associated with the in-situ soil.

As all chemical CoPCs were detected at concentrations below the adopted criteria and asbestos observed on the surface of the Site has been removed during sampling, there is no evidence to preclude the material from remaining on-site, based on the current and future Residential land use. However, EP Risk recommends an unexpected finds protocol be implemented for future works on-site likely to involve disturbing the soil.

Are there any issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed in the Site assessment?

Based on a review of the Coffey (2019) PSI and the results of soil samples collected across the Site were reported at concentrations below the adopted site assessment criteria Residential A land use. As such, issues relating to local area background soil concentrations that exceed relevant investigation levels are considered not to affect this Site.

Are there any impacts of chemical mixtures?

TRH, BTEX, PAH, OCP and OPP were generally not detected within the soil samples at concentrations above the LOR. The Site is therefore considered to not be impacted chemical mixtures from these groups.

Low concentrations of Metals were detected within all soil samples. The sample with the highest concentration of metals and therefore the highest risk of impact due to chemical mixtures was BH01_0.2 with a concentration of 150 mg/kg for lead. The hazard quotient ('HQ') and hazard index ('HI') was calculated in general accordance with NEPM 2013 as shown in **Table 14**.

Table 14 – BH01_0.2 Metals HQ/HI Calculation

Metal	As	Cd[1]	Cr	Cu	Hg[1]	Pb	Ni	Zn	HI
HILs Res A Soil (mg/kg)	100	20	100	6,000	40	300	400	7,400	
BH01_0.2 (mg/kg)	4.2	0.2	12	22	0.05	150	5.9	81	
HQ	0.042	0.010	0.120	0.004	0.001	0.500	0.015	0.011	**0.703**

[1]A Non Detect Multiplier of 0.5 LOR has been applied.

As the HI for the sample considered to have the highest risk of impact due to chemical mixtures was less than 1, impacts due to chemical mixtures on-site is considered unlikely.

Are there any potential human health and/or ecological risks to the identified Site receptors?

CoPCs were detected at concentrations less than the adopted criteria and one (1) isolated fragment of bonded (non-friable) asbestos was observed on the soil surface of the Site and was removed during sampling. As such, EP Risk considers the soil on-site to pose a low risk to current and future human health and ecological receptors on-site.

However, based on the age of the buildings on-site EP Risk considers it likely that hazardous building materials including ACM were used in the construction. Therefore, EP Risk considers a moderate risk to human health of construction/maintenance workers to exist due to potential inhalation of asbestos fibres during proposed redevelopment works that involve disturbance of building materials on-site.

The potential risks may be mitigated by proper implementation of the recommendations provided and of an unexpected finds protocol during the proposed works at the Site.

Is there any evidence of, or potential for, migration of contaminants off-site?

Soil results did not exceed Site assessment criteria for residential land use, with the exception of the isolated fragment of bonded (non-friable) ACM observed on the surface of the Site, since removed. Consequently, it is considered there is no evidence of potential, for migration of contaminants off-site based on the condition of the Site as of 30 January 2020.

However, during redevelopment works that involve disturbance of building materials on-site there is potential for fugitive dust to carry asbestos fibres off-site. EP Risk considers this to pose a moderate risk to human health of current and future residents at surrounding properties.

The potential risks may be mitigated by proper implementation of the recommendations provided and of an unexpected finds protocol during the proposed works at the Site.

Is there sufficient information to accurately characterise the site contamination?

In accordance with NSW EPA (1995) *Sampling Design Guidelines,* a minimum of six (6) samples are required for a Site with an area of 0.975 ha. During the investigation, seven (7) surface samples and five (5) subsurface sampled were collected and analysed, thus exceeding the sampling requirements.

No contamination was identified on-site requiring further delineation.

Sample locations were considered to be distributed across the Site to suitably provide coverage of the area and provide sufficient information to accurately characterise the site contamination. However, it should be noted that refusal was encountered on natural mudstone gravels at relatively shallow depths (0.3 – 0.5 mBGL) in boreholes BH05 to BH07 in the area of potential historically imported fill materials of unknown origin and quality. Based on the low concentrations of CoPCs detected within the samples collected from the area and the small quantities of anthropogenic material observed in the area, EP Risk considers the potential historical fill in the area to pose a low risk to human health. However, as the investigation in this area was limited vertically, it is recommended an unexpected finds protocol is implemented during any future development and/or excavation activities in the northern portion of the Site where there is potential for the presence of historical fill materials.

Is a site management strategy required?

Based on analytical outcomes of the investigation a site management strategy is not required.

As previously mentioned, an Unexpected Finds Procedure is recommended to be implemented during any future development and/or excavation activities across the Site, due to the detection of ACM at the surface of the Site.

It should also be noted that this assessment has not assessed any material for waste classification purposes. Where any Site materials require disposal, these should be assessed in accordance with NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste* and / or any current Resource Recovery Orders made under the *Protection of the Environment (Waste) Regulation* (2014).

12 Refined Conceptual Site Model

12.1 Known and Potential Contamination Sources

Potential on and off-site contaminating activities, contamination sources and CoPCs are summarised in **Table 15**. The potential sources and CoPCs have been updated based on the analytical results.

Table 15 – Known and Potential Contamination Sources

Location	Source	CoPCs
On-site	Historically imported fill materials of unknown origin and quality.	Metals, TRH, BTEX, PAH and Asbestos
	Historical use of the Site for agricultural / farming purposes.	Metals.
	Construction and weathering of the buildings on-site.	Metals, PCBs and Asbestos

12.2 Affected Media

The current potential affected media at the Site includes soil. However, due to the low concentrations of CoPCs at the Site, soil was considered unlikely to pose a risk to humans and the environment. Groundwater, soil vapour and surface water were considered unlikely to be affected based on a review of the site history and the low concentrations of CoPCs reported in the laboratory results.

12.3 Potential Transport Pathways

The following potential exposure pathways for the CoPCs are still considered relevant for known and potential contamination sources based on review of historical investigations and the additional data collected within the investigation:

- Fugitive dust during high wind events and/or future construction and/or remediation works on-site.
- Normal residential use of the Site involving disturbance of the soil and/or construction and remediation works on-site.

12.4 Human and Ecological Receptors

Based on the current use of the Site, potential receptors and exposure pathways comprise:

- On-site receptors:
    - Current and future construction and maintenance workers.
    - Current and future users and visitors of the Site.
    - Current and future fauna and flora in landscaped/unsealed areas.

- Off-site receptors:
    - Current and future construction and maintenance workers at surrounding residential properties.
    - Current and future users and visitors of surrounding residential properties.
    - Current and future users of Macleay Reserve.
    - Current and future terrestrial flora and fauna in the nearby areas.

However, based on this investigation and the low concentrations of CoPCs present at the Site affected media are unlikely to pose a risk to the potential human and ecological receptors.

12.5 Potential and Complete Exposure Pathways

EP Risk considers it unlikely soil on-site could pose a risk to human and ecological receptors due to the low concentrations of CoPCs within in-situ soils. As such the potential complete exposure pathway proposed in the preliminary CSM is no longer considered likely.

Future development at the site to construct the proposed childcare centre will involve demolition of on-site buildings likely to contain hazardous building materials and create a potential complete exposure pathway for direct contact, inhalation and ingestion of CoPC by future construction and maintenance workers. Further, fugitive dust from demolition may impact surrounding properties and it is considered a potential complete exposure pathway exists for current and future users and visitors of surrounding residential properties.

Due to the low concentrations of CoPCs within in-situ soils, it is considered unlikely that CoPCs could impact surface water and groundwater in high enough concentrations to pose a risk to human health and ecological receptors. As such the potential infiltration and surface water run-off pathways proposed in the preliminary CSM are no longer considered likely.

12.6 CSM Summary

Overall, based on the components of the above CSM, EP Risk considered there to be a low risk of exposure to human or ecological receptors by affected media.

A Refined CSM summary table, which addresses all potential exposure pathways included in the preliminary CSM is provided in **Table 16** below.

Table 16 – Refined Potential Exposure Pathways

Location	Primary Sources	Affected Media	Pathway	On-Site			Off-Site			
				Current and future construction/maintenance workers	Current and future users and visitors of the Site	Terrestrial fauna and flora at the Site	Construction and maintenance workers	Current and future occupants and visitors of surrounding residential properties	Current and future users of Macleay Reserve.	Terrestrial fauna and flora in surrounding areas
On-site	Historically imported fill materials of unknown origin and quality.	Soil	Direct contact, Ingestion, and Inhalation.	No	No	No	No	No	No	No
	Historical use of the Site for agricultural / farming purposes.		Direct contact, Ingestion, and Inhalation.	No	No	No	No	No	No	No
	Storage of domestic waste (including lead-acid batteries) on-site		Direct contact, Ingestion, and Inhalation.	No	No	No	No	No	No	NA
	Potential use of pesticides and chemicals during maintenance of the Site.		Direct contact, Ingestion, and Inhalation.	No	No	No	No	No	No	No
	Demolition, Maintenance and weathering of hazardous building materials on-site.	Buildings/ Soil	Direct contact, Ingestion, and Inhalation.	Yes	No	No	NA	Yes	NA	NA
	Surface water run-off during high rainfall events that may transport impacted sediments off-site	Surface Water / Soil	Direct Contact and Ingestion	No	No	No	No	No	No	No

Notes:

Yes	Current and future potential
No	Unlikely Current and future potential

Potential Exposure Pathway:

Soil
Groundwater
Soil Vapour

13 Conclusion

The DSI was undertaken to assess whether the Site is suitable for its current residential land use and proposed childcare centre and to identify if any risks are present to human health and/or the environment. The findings of the investigation, which comprised a desktop review of the Coffey (2019) PSI, a site inspection and soil sampling analysis program, are presented below.

- The Site was part of a large paddock possibly used for grazing up to the early to mid-1960s. The creek/waterway on-site was filled between 1965 and 1970. A residential property was constructed on-site between 1970 and 1984. A brick building (garage) in the north-east of the site was constructed between 1984 and 1994.
- The surrounding area comprised greenfield land likely used for grazing until circa 1965 when the area was subdivided into multiple smaller lots. From 1965 to 1970 low density residential properties were constructed in all directions of the Site and Macleay Reserve to the north-east of the Site remained undeveloped. From 1970 to present there has been continued construction of low-density residential properties surrounding the Site.
- During the site inspection, the topography of the Site was observed to slope down to the North and flatten out towards the northern boundary. The former creek/waterway flowed to the north-east towards Macleay Reserve and remains a likely water course during high rainfall events. The Site appeared consistent with the properties to the south, east and west. However, areas to the north of the Site were observed to slope to the south meeting at the former creek/waterway.
- There was no visual evidence of contamination and no odours that would be associated with contamination encountered during soil investigation works. The Site falls within the moderate salinity potential data coverage for the Department of Infrastructure, Planning and Natural Resources map of the Salinity Potential in Western Sydney (2002). Soil sampling was conducted to assess the Site for the presence of saline soils which found that the in-situ soils are classified as non-saline in accordance with the DLWC(2002). An appropriate Saline Soils Management Options and Strategy for future development at the Site is provided within **Appendix F.**
- The soil sampling program was designed to provide sufficient site coverage and address AOCs identified in the PSI (Coffey, 2019) and to characterise contamination on-site, if present. Concentrations of metals, TRH, BTEX, PAH, OCP, OPP and PCB concentrations were reported below laboratory LOR and/or the adopted human health and ecological criteria for in-situ soil samples analysed.
- One (1) fragment of bonded (non-friable) ACM in the form of a fibre cement fragment was observed on the surface of the Site. However, as the fragment was removed during sampling and further asbestos was not observed on the surface of the Site or within boreholes and asbestos was not detected in the soil samples, EP Risk considers the fragment of bonded (non-friable) asbestos (MS01) to be an isolated fragment that is not associated with the in-situ soil.
- The investigation was limited vertically in the area of potential historically imported fill materials, of unknown origin and quality, due to refusal on natural mudstone gravels at

relatively shallow depths (0.3 – 0.5 mBGL). Based on the low concentrations of CoPCs detected within the samples collected from the area and the small quantities of anthropogenic material observed in the area, EP Risk considers the potential historical fill in the area to pose a low risk to human health.

- Based on the age of the buildings on-site EP Risk considers it likely asbestos containing materials ('ACM') were used in the construction. Suspected bonded (non-friable) ACM in the form of fibre cement sheeting in good condition with no visible damage was observed in the eaves of the house and garage buildings. Observations of the internal aspects of the buildings on-site were not possible as access was not provided.

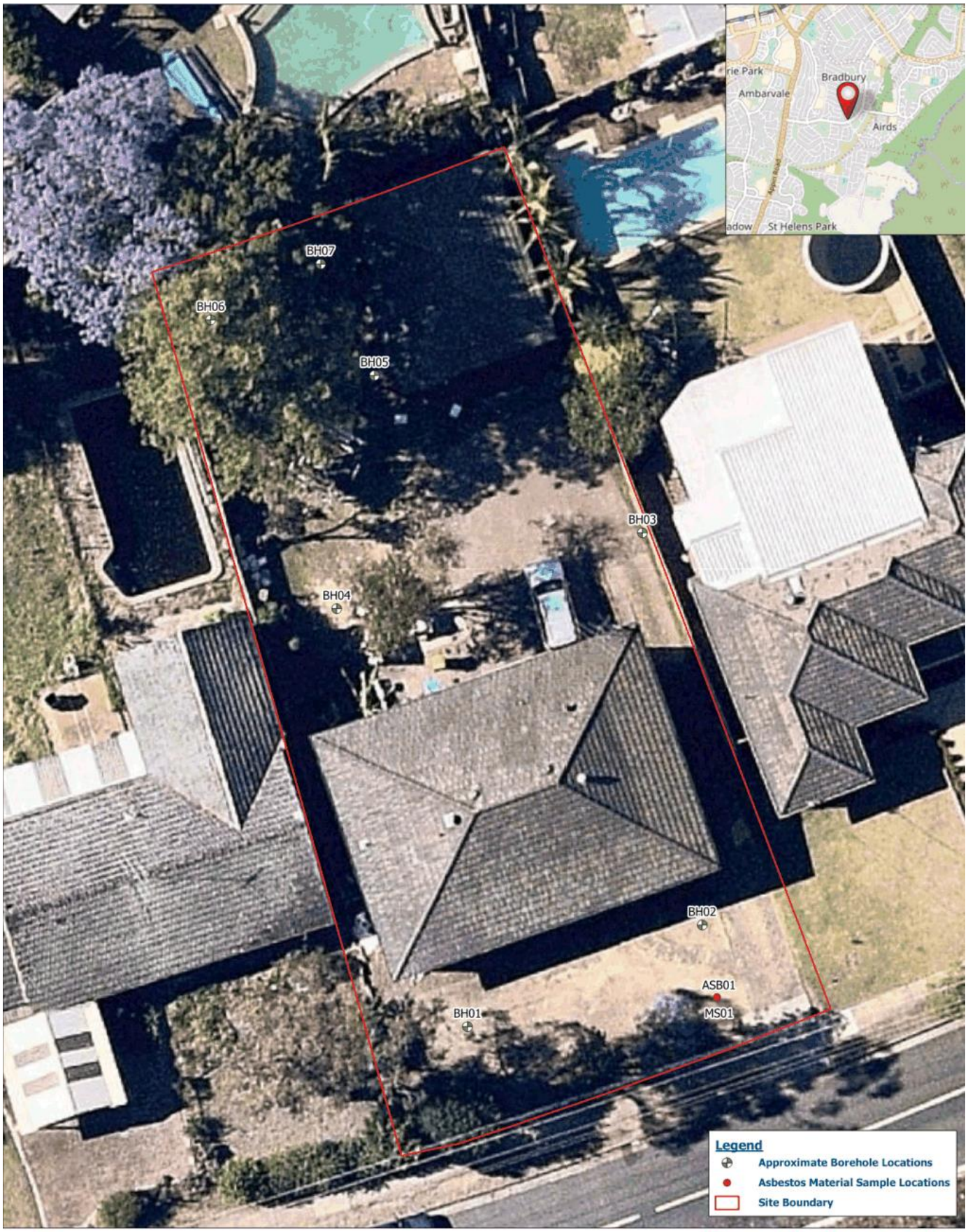
Based on the data from the DSI, the concentrations of CoPCs within soils would not preclude material remaining on-site under the current / future low density residential land use and the potential risk to current / future users of the Site is considered low, provided the recommendations listed in **Section 13** are carried out.

14 Recommendations

Based on the findings of the DSI, EP Risk recommends the following:

- Due to the vertical limitations on the investigation in the area of potential historically imported fill materials and the isolated fragment of bonded (non-friable) ACM in the form of a fibre cement fragment observed on the surface of the Site and removed during sampling, it is recommended an Unexpected Finds Procedure is implemented during any future development and/or excavation activities across the Site.
- Based on the age of the buildings on-site EP Risk and the suspected bonded (non-friable) ACM in the form of fibre cement sheeting in good condition with no visible damage observed in the eaves of the house and garage buildings, it is recommended that a hazardous materials assessment be conducted before demolition, intrusive maintenance and/or renovation works are undertaken on buildings on-site. In accordance with the Work Health and Safety Regulation 2017, the SafeWork NSW Code of Practice: How to Manage and Control Asbestos in the Workplace 2019; and AS2621 - Australian Standard for Demolition of Structures 2001.
- Although saline soils were not observed on-site, the Site is still within an area of moderate salinity potential. As such the recommendations provided within the Saline Soils Management Options and Strategy (**Appendix F**), should be followed to minimise saline soils forming on-site in the future.
- This investigation has not assessed soil for waste classification purposes to allow for off-site disposal of soils. Where any Site materials require disposal, these should be assessed in accordance with NSW EPA (2014).

Appendix A
FIGURES



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Soil Contamination Assessment
139 Saint Johns Rd, Bradbury, NSW 2560

Figure 1 - Site Layout an Sample Locations

Job No: EP1535
Date: 13/02/2020
Drawing Ref: Fig 1
Version No: v1

N

0 1 2 3 4 5 m
Approximate Scale Only

Coordinate System: WGS 84
Drawn by: HC Checked by: AT
Scale of regional map not shown
Source: Nearmap / Open Street Maps

Appendix B
ANALYTICAL TABLES

EP RISK

Table T1 - Analytical Summary Table

EP1535 - RFA Architects - 1395t Johns Rd, Bradbury SCA

	Asbestos	TRH							BTEX						Metals							
	Asbestos fibre identification (AS 4964)**	C10-C16 (F2 minus Naphthalene)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C40 (sum of total)	C16-C34	C34-C40	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Arsenic	Cadmium	Chromium (VI)	Copper	Lead	Mercury	Nickel	Zinc
Comment		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		50	20	20	50	100	100	100	0.1	0.1	0.1	0.2	0.1	0.3	2	0.4	5	5	5	0.2	5	5
NEPM 2013 Table 1A(3) Res A/B Soil HSL for vapour intrusion, Sand																						
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space															100							
NEPM 2013 Table 1B(6) ESLs for Urban Res. Coarse Soil																						
NEPM 2013 Table 1A(1) HILs Res A Soil															100	20	100	6,000	300	40	400	7,400
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil			700		1,000		2,500	10,000														
CRC Care HSL-A Residential (Low Density)			4,400		3,300		4,500	6,300	100	14,000	4,500			12,000								
Field ID	Matrix Type	Date																				
BH01_0.2	Soil	30/01/2020	ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	4.2	<0.4	12	22	150	<0.1	5.9	81
BH01_1.5	Soil	30/01/2020	-	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	9.7	<0.4	6.3	23	15	<0.1	<5	32
BH02_0.2	Soil	30/01/2020	ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	4.4	<0.4	13	13	22	<0.1	6.7	31
BH02_1.0	Soil	30/01/2020	-	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	9.7	<0.4	12	30	22	<0.1	<5	37
BH03_0.2	Soil	30/01/2020	ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	8.1	<0.4	18	29	72	<0.1	10	88
BH03_0.5	Soil	30/01/2020	-	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	11	<0.4	17	32	26	<0.1	9.1	47
BH04_0.2	Soil	30/01/2020	ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	8.8	<0.4	20	26	34	<0.1	12	54
BH04_0.5	Soil	30/01/2020	-	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	7.0	<0.4	22	22	27	<0.1	14	47
BH05_0.2	Soil	30/01/2020	ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	7.0	<0.4	21	29	43	<0.1	14	77
BH06_0.2	Soil	30/01/2020	ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	6.3	<0.4	13	20	34	<0.1	9.7	61
BH06_0.5	Soil	30/01/2020	-	62	<20	<20	62	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	6.8	<0.4	14	27	28	<0.1	12	77
BH07_0.2	Soil	30/01/2020	-	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	6.4	<0.4	16	26	46	<0.1	11	73
ASB01	Soil	30/01/2020	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MS01	Fibre Cement	30/01/2020	AD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																								
Number of Results			8	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Number of Detects			1	1	0	0	1	0	0	0	0	0	0	0	0	0	12	0	12	12	12	0	10	12
Minimum Concentration			ND	<50	<20	<20	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	4.2	<0.4	6.3	13	15	<0.1	<5	31
Minimum Detect			-	62	ND	ND	62	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.2	ND	6.3	13	15	ND	5.9	31
Maximum Concentration			AD	62	<20	<20	62	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	11	<0.4	22	32	150	<0.1	14	88
Maximum Detect			-	62	ND	ND	62	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	22	32	150	ND	14	88
Average Concentration *			-	28	10	10	28	50	50	50	0.05	0.05	0.05	0.1	0.05	0.15	7.4	0.2	15	25	43	0.05	9.1	59
Median Concentration *			-	25	10	10	25	50	50	50	0.05	0.05	0.05	0.1	0.05	0.15	7	0.2	15	26	31	0.05	9.85	57.5
Standard Deviation *			-	11	0	0	11	0	0	0	0	0	0	0	0	0	2.1	0	4.5	5.2	37	0	4	20
95% UCL (Student's-t) *			-	33.62	10	10	33.62	50	50	50	0.05	0.05	0.05	0.1	0.05	0.15	8.512	0.2	17.7	27.64	62.38	0.05	11.17	69.22

* A Non Detect Multiplier of 0.5 has been applied.

** AS 4964 is qualitative method with a nominal reporting limit of 0.01 % (w/w).

ND = Non-Detect, **AD** = Asbestos Detect.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil

DoE, 2000, CRC Care HSL-A Residential (Low Density)

EP RISK

Table T1 - Analytical Summary Table

EP1535 - RFA Architects - 1395t Johns Rd, Bradbury SCA

			PAH																				Halogenated Benzenes
			Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	Hexachlorobenzene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																							
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																170							
NEPM 2013 Table 1B(6) ESLs for Urban Res. Coarse Soil																							
NEPM 2013 Table 1A(1) HILs Res A Soil																			3	3	3	300	10
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																							
CRC Care HSL-A Residential (Low Density)																1,400							
Field ID	Matrix Type	Date																					
BH01_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
BH01_1.5	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-
BH02_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
BH02_1.0	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-
BH03_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
BH03_0.5	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-
BH04_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
BH04_0.5	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-
BH05_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
BH06_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
BH06_0.5	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-
BH07_0.2	Soil	30/01/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	-
ASB01	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MS01	Fibre Cement	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																							
Number of Results			12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	6
Number of Detects			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	0	0	0
Minimum Concentration			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	1.2	ND	ND	ND
Maximum Concentration			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.05
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	1.2	ND	ND	ND
Average Concentration *			0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	0.025
Median Concentration *			0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	0.025
Standard Deviation *			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *			0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	0.025

* A Non Detect Multiplier of 0.5 has been applied.

** AS 4964 is qualitative method with a nominal reporting limit of 0.01 % (w/w).

ND = Non-Detect, **AD** = Asbestos Detect.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil

DoE, 2000, CRC Care HSL-A Residential (Low Density)

EP RISK

Table T1 - Analytical Summary Table

EP1535 - RFA Architects - 1395t Johns Rd, Bradbury SCA

			Organochlorine Pesticides																								
			Other organochlorine pesticides EPAVic	Organochlorine pesticides EPAVic	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1
NEPM 2013 Table 1A(3) Res A/B Soil HSL for vapour intrusion, Sand																											
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space													180														
NEPM 2013 Table 1B(6) ESLs for Urban Res. Coarse Soil																											
NEPM 2013 Table 1A(1) HILs Res A Soil								6		50				240					10				6		300	20
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																											
CRC Care HSL-A Residential (Low Density)																											
Field ID	Matrix Type	Date																									
BH01_0.2	Soil	30/01/2020	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
BH01_1.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.2	Soil	30/01/2020	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
BH02_1.0	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_0.2	Soil	30/01/2020	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
BH03_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_0.2	Soil	30/01/2020	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
BH04_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2	Soil	30/01/2020	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
BH06_0.2	Soil	30/01/2020	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
BH06_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_0.2	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB01	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MS01	Fibre Cement	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																											
Number of Results			6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Number of Detects			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration			<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<1
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *			0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.5
Median Concentration *			0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.5
Standard Deviation *			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *			0.05	0.05	0.025	0.025	0.025	0.025	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.5

* A Non Detect Multiplier of 0.5 has been applied.

** AS 4964 is qualitative method with a nominal reporting limit of 0.01 % (w/w).

ND = Non-Detect, **AD** = Asbestos Detect.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil

DoE, 2000, CRC Care HSL-A Residential (Low Density)

EP RISK

Table T1 - Analytical Summary Table

EP1535 - RFA Architects - 1395t Johns Rd, Bradbury SCA

			Organophosphorous Pesticides																																
			Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.2	0.2	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2
NEPM 2013 Table 1A(3) Res A/B Soil HSL for vapour intrusion, Sand																																			
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space																																			
NEPM 2013 Table 1B(6) ESLs for Urban Res. Coarse Soil																																			
NEPM 2013 Table 1A(1) HILs Res A Soil							160																												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																			
CRC Care HSL-A Residential (Low Density)																																			
Field ID	Matrix Type	Date																																	
BH01_0.2	Soil	30/01/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH01_1.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.2	Soil	30/01/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH02_1.0	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_0.2	Soil	30/01/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH03_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_0.2	Soil	30/01/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH04_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2	Soil	30/01/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH06_0.2	Soil	30/01/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BH06_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07_0.2	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB01	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MS01	Fibre Cement	30/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistics																																			
Number of Results			6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Number of Detects			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *			0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1
Median Concentration *			0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1
Standard Deviation *			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *			0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1

* A Non Detect Multiplier of 0.5 has been applied.

** AS 4964 is qualitative method with a nominal reporting limit of 0.01 % (w/w).

ND = Non-Detect, **AD** = Asbestos Detect.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil

DoE, 2000, CRC Care HSL-A Residential (Low Density)

EP RISK

Table T1 - Analytical Summary Table

EP1535 - RFA Architects - 1395t Johns Rd, Bradbury SCA

			PCBs								Pesticides	
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	Parathion	Pirimiphos-methyl
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand												
NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space												
NEPM 2013 Table 1B(6) ESLs for Urban Res. Coarse Soil												
NEPM 2013 Table 1A(1) HILs Res A Soil										1		
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil												
CRC Care HSL-A Residential (Low Density)												
Field ID	Matrix Type	Date										
BH01_0.2	Soil	30/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
BH01_1.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
BH02_0.2	Soil	30/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
BH02_1.0	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
BH03_0.2	Soil	30/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
BH03_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
BH04_0.2	Soil	30/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
BH04_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
BH05_0.2	Soil	30/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
BH06_0.2	Soil	30/01/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
BH06_0.5	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
BH07_0.2	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
ASB01	Soil	30/01/2020	-	-	-	-	-	-	-	-	-	-
MS01	Fibre Cement	30/01/2020	-	-	-	-	-	-	-	-	-	-
Statistics												
Number of Results			6	6	6	6	6	6	6	6	6	6
Number of Detects			0	0	0	0	0	0	0	0	0	0
Minimum Concentration			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration *			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1
Median Concentration *			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1
Standard Deviation *			0	0	0	0	0	0	0	0	0	0
95% UCL (Student's-t) *			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1

* A Non Detect Multiplier of 0.5 has been applied.

** AS 4964 is qualitative method with a nominal reporting limit of 0.01 % (w/w).

ND = Non-Detect, **AD** = Asbestos Detect.

Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil

DoE, 2000, CRC Care HSL-A Residential (Low Density)

EP RISK

Table T2 - Field and Laboratory Duplicate QA/QC Summary Table

EP1535 - RFA Architects - 139 St Johns Rd, Bradbury SCA

			Field ID	BH01_0.2	DUP01		BH01_0.2	TRP01	
			Matrix Type	Soil	Soil		Soil	Soil	
			Date	30/01/2020	30/01/2020	RPD	30/01/2020	30/01/2020	RPD
	Unit	EQL							
TRH									
C10-C16 (F2 minus Naphthalene)	mg/kg	50		<50	<50	0	<50	<50	0
C6-C10	mg/kg	10		<20	<20	0	<20	<10	0
C6-C10 (F1 minus BTEX)	mg/kg	10		<20	<20	0	<20	<10	0
C10-C16	mg/kg	50		<50	<50	0	<50	<50	0
C10-C40 (Sum of total)	mg/kg	50		<100	<100	0	<100	<50	0
C16-C34	mg/kg	100		<100	<100	0	<100	<100	0
C34-C40	mg/kg	100		<100	<100	0	<100	<100	0
BTEX									
Benzene	mg/kg	0.1		<0.1	<0.1	0	<0.1	<0.2	0
Toluene	mg/kg	0.1		<0.1	<0.1	0	<0.1	<0.5	0
Ethylbenzene	mg/kg	0.1		<0.1	<0.1	0	<0.1	<0.5	0
Xylene (m & p)	mg/kg	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Xylene (o)	mg/kg	0.1		<0.1	<0.1	0	<0.1	<0.5	0
Xylene Total	mg/kg	0.3		<0.3	<0.3	0	<0.3	<0.5	0
Metals									
Arsenic	mg/kg	2		4.2	5.5	27	4.2	7	50
Cadmium	mg/kg	0.4		<0.4	<0.4	0	<0.4	<1	0
Chromium (VI)	mg/kg	2		12	18	40	12	18	40
Copper	mg/kg	5		22	20	10	22	22	0
Lead	mg/kg	5		150	25	143	150	27	139
Mercury	mg/kg	0.1		<0.1	<0.1	0	<0.1	<0.1	0
Nickel	mg/kg	2		5.9	8.9	41	5.9	7	17
Zinc	mg/kg	5		81	33	84	81	28	97
PAH									
Acenaphthene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Acenaphthylene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Anthracene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Benz[a]anthracene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a) pyrene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Benzo(b+j)fluoranthene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Benzo(g,h,i)perylene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Benzo(k)fluoranthene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Chrysene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Dibenz(a,h)anthracene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Fluoranthene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Fluorene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Naphthalene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Phenanthrene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Pyrene	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5		0.6	0.6	0	0.6	0.6	0
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		1.2	1.2	0	1.2	1.2	0
Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5		<0.5	<0.5	0	<0.5	<0.5	0
PAHs (Sum of total)	mg/kg	0.5		<0.5	<0.5	0	<0.5		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 30 x EQL); 50 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

EP RISK

Table T3 - Field Blanks and Spikes Summary Table EP1535 - RFA Architects - Bradbury SCA

			Field ID	RIN01	TBLK01	TSPK01
			Matrix Type	Water	Soil	Soil
			Date	30/01/2020	30/01/2020	30/01/2020
	Unit	EQL		mg/L	mg/kg	Recovery %
TRH						
C10-C16 (F2 minus Naphthalene)	µg/L	50		<50		
C6-C10	µg/L	20		<20		
C6-C10 (F1 minus BTEX)	µg/L	20		<20		
C10-C16	µg/L	50		<50		
C10-C40 (Sum of total)	µg/L	100		<100		
C16-C34	µg/L	100		<100		
C34-C40	µg/L	100		<100		
BTEX						
Benzene	µg/L	1		<1	<0.1	100
Toluene	µg/L	1		<1	<0.1	100
Ethylbenzene	µg/L	1		<1	<0.1	100
Xylene (m & p)	µg/L	2		<2	<0.2	100
Xylene (o)	µg/L	1		<1	<0.1	100
Xylene Total	µg/L	3		<3	<0.3	100
Metals						
Arsenic (filtered)	mg/L	0.001		<0.001		
Cadmium (filtered)	mg/L	0.0002		<0.0002		
Chromium (VI) (filtered)	mg/L	0.001		<0.001		
Copper (filtered)	mg/L	0.001		<0.001		
Lead (filtered)	mg/L	0.001		<0.001		
Mercury (filtered)	mg/L	0.0001		<0.0001		
Nickel (filtered)	mg/L	0.001		<0.001		
Zinc (filtered)	mg/L	0.005		<0.005		
PAH						
Acenaphthene	µg/L	1		<1		
Acenaphthylene	µg/L	1		<1		
Anthracene	µg/L	1		<1		
Benz(a)anthracene	µg/L	1		<1		
Benzo(a) pyrene	µg/L	1		<1		
Benzo(b+j)fluoranthene	mg/L	0.001		<0.001		
Benzo(g,h,i)perylene	µg/L	1		<1		
Benzo(k)fluoranthene	µg/L	1		<1		
Chrysene	µg/L	1		<1		
Dibenz(a,h)anthracene	µg/L	1		<1		
Fluoranthene	µg/L	1		<1		
Fluorene	µg/L	1		<1		
Indeno(1,2,3-c,d)pyrene	µg/L	1		<1		
Naphthalene	µg/L	1		<1		
Phenanthrene	µg/L	1		<1		
Pyrene	µg/L	1		<1		
PAHs (Sum of total)	µg/L	1		<1		

EP RISK

Table T4 - Salinity Analytical Summary Table

EP1535 - RFA Architects - 139 St Johns Road, Bradbury SCA

			Inorganics						
			Exchangeable Calcium	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Conductivity (1:5 aqueous extract)	Exchangeable Sodium Percent	CEC
			meq/100g	meq/100g	meq/100g	meq/100g	uS/cm	%	meq/100g
EQL			0.1	0.1	0.1	0.1	10	0.1	0.05
DLWC 2002 Table 6.1/6.2 Soil Salinity - Slightly Saline							142		
DLWC 2002 Table 6.1/6.2 Soil Salinity - Moderately Saline							284		
DLWC 2002 Table 6.1/6.2 Soil Salinity - Highly Saline							1,142		
DLWC 2002 Sodicity Table p. 14 - Sodic								5	
DLWC 2002 Sodicity Table p. 14 - Highly Sodic								15	
Field ID	**Date**	**Matrix**							
BH01_0.2	30/01/2020	Soil	7.5	5.1	0.3	1.8	100	12	15
BH02_0.2	30/01/2020	Soil	24	1.0	0.6	0.1	110	0.5	26
BH03_0.2	30/01/2020	Soil	32	2.3	0.4	0.2	50	0.6	35
BH04_0.2	30/01/2020	Soil	22	2.6	0.8	0.1	64	0.6	26
BH05_0.2	30/01/2020	Soil	10	4.3	1.1	0.6	50	3.6	16
BH06_0.2	30/01/2020	Soil	8.0	2.0	0.7	0.2	57	1.9	11
Statistics									
Number of Results			6	6	6	6	6	6	6
Number of Detects			6	6	6	6	6	6	6
Minimum Concentration			7.5	1	0.3	0.1	50	0.5	11
Minimum Detect			7.5	1	0.3	0.1	50	0.5	11
Maximum Concentration			32	5.1	1.1	1.8	110	12	35
Maximum Detect			32	5.1	1.1	1.8	110	12	35
Average Concentration *			17	2.9	0.65	0.5	72	3.2	22
Median Concentration *			16	2.45	0.65	0.2	60.5	1.25	21
Standard Deviation *			10	1.5	0.29	0.66	26	4.5	9
95% UCL (Student's-t) *			25.63	4.14	0.887	1.046	93.55	6.881	28.91

* A Non Detect Multiplier of 0.5 has been applied.

Appendix C
SITE PHOTOGRAPHS

EP RISK

Attachment 2

Plate 1 – Overview of BH01 facing west, surface cover comprised grass with some bare soil.
Date: 30/01/2020

Plate 2 – Material observed in BH01. Getting deeper towards the bottom of the photo.
Date: 30/01/2020

Attachment 2

Plate 3– Fragment of ACM (MS01) observed on the surface of the Site adjacent BH02
Date: 30/01/2020

Plate 4 – Overview of BH04, facing north toward the area of potential historical fill.
Date: 30/01/2020

Attachment 2

Plate 5 – Material observed in BH06 within the area of potential historical fill.
Date: 30/01/2020

Plate 6 – Example of residential waste located adjacent BH04 and observed in multiple locations across the Site.
Date: 30/01/2020

Appendix D

BORE LOGS AND BOREHOLE LOGS

SOIL INVESTIGATION BOREHOLE BH01

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH01
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
	BH01_0.2	Y	0.5			FILL: Silty sand, medium grained, light brown, sub-angular gravels, dry, medium dense.	Some anthropogenic materials including concrete and gravels, decreasing with depth.
0.5	BH01_0.5	N	0.4		SM	Silty SAND: medium grained, brown, dry, medium dense.	Minor clay inclusions, red/brown, dry.
1	BH01_1.0	N	0.3		SM	Silty SAND: medium grained, grey, sub-angular gravels, dry, dense.	Minor clay inclusions, grey/yellow, dry, Petrified wood, mudstone gravels, increasing size with depth. Increasing clay content with depth.
1.5	BH01_1.5	Y	0.3		CL	Sandy CLAY: low plasticity, grey, dry, very dense.	
						Borehole End @1.6 mBGL (Refusal on Mudstone)	

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SOIL INVESTIGATION BOREHOLE BH02

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH02
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
0.5	BH02_0.2	Y	0.2			FILL: Silty sand, medium grained, light brown, sub-angular gravels, dry, medium dense.	Some anthropogenic materials including concrete and gravels, decreasing with depth.
	BH02_0.5	N	0.6		SM	Silty SAND: medium grained, brown, dry, medium dense.	Minor clay inclusions, red/brown, dry.
1	BH02_1.0	Y	1.0		SM	Silty SAND: medium grained, grey, dry, medium dense.	Minor clay inclusions, grey/yellow, dry, Petrified wood, mudstone gravels, increasing size with depth. Increasing clay content with depth.
1.5						Borehole End @1.3 mBGL (0.5 m into Natural Material)	

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SOIL INVESTIGATION BOREHOLE BH03

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH03
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
	BH03_0.2	Y	0.4			FILL: Silty sand, medium grained, brown, sub-angular gravels, slightly moist, medium dense.	Some anthropogenic materials including concrete and gravels, decreasing with depth.
0.5	BH03_0.5	Y	0.4		SM	Silty SAND: medium grained, brown, slightly moist, medium dense.	Minor clay inclusions, red/brown, dry.
1	BH03_1.0	N	0.3		CL	Sandy CLAY: medium grained, grey mottled red, slightly moist, dense.	Minor clay inclusions, grey/yellow, dry, Petrified wood, mudstone gravels, increasing size with depth. Increasing clay content with depth.
1.5						Borehole End @1.4 mBGL (0.5 m into Natural Material)	

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SOIL INVESTIGATION BOREHOLE BH04

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH04
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
	BH04_0.2	Y	0.3			FILL: Silty sand, medium grained, brown, sub-angular gravels, dry, medium dense.	Some anthropogenic materials including concrete and gravels, decreasing with depth.
0.5	BH04_0.5	Y	0.4		SM	Silty SAND: medium grained, dark brown, dry, medium dense.	Minor clay inclusions, red/brown, dry.
1	BH04_1.0	N	0.3		SM	Silty SAND: medium grained, brown, dry, dense.	Minor clay inclusions, red/brown, dry.
1.5						Borehole End @1.3 mBGL (0.5 m into Natural Material)	

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SOIL INVESTIGATION BOREHOLE BH05

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH05
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
	BH05_0.2	Y	0.3			FILL: Silty sand, medium grained, brown, sub-angular gravels, dry, medium dense.	Some anthropogenic gravels, and mudstone gravels
0.5						Borehole End @ 0.3 mBGL (refusal on mudstone)	
1							
1.5							

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SOIL INVESTIGATION BOREHOLE BH06

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH06
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
	BH06_0.2	Y	0.3			FILL: Silty sand, medium grained, brown, sub-angular gravels, dry, medium dense.	High amount of mudstone gravels, sandstone gravels to cobbles.
0.5	BH06_0.5	Y	0.4		SM	Silty SAND: medium grained, brown, dry, medium dense.	Minor clay inclusions, red/grey, dry.
1						Borehole End @0.5 mBGL (Refusal on Tree Root)	
1.5							

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SOIL INVESTIGATION BOREHOLE BH07

PROJECT NUMBER EP1535	**DRILLING DATE** 30/01/2020	**BOREHOLE ID** BH07
CLIENT RFA Architects	**DRILLING COMPANY** EP Risk	**LOGGED BY** Harry Chapman
ADDRESS 139 St Johns Rd, Bradbury, NSW	**DRILLER** Harry Chapman	**CHECKED BY** Alex Thomson
	DRILLING METHOD Hand Auger	
	TARGET DEPTH 2 mBGL	

COMMENTS

Depth (m)	Samples	Analysed	PID	Graphic Log	USCS	Material Description	Additional Observations
	BH07_0.2	Y	0.2			FILL: Silty sand, medium grained, brown, sub-angular gravels, dry, medium dense.	Some anthropogenic gravels, and mudstone gravels
0.5						Borehole End @ 0.3 mBGL (refusal on mudstone)	
1							
1.5							

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Appendix E
LABORATORY ANALYTICAL REPORTS

CHAIN OF CUSTODY RECORD

Company	EP Risk Management Pty Ltd	Project Nº	EP1535
Address	109/283 Alfred Street, North Sydney NSW 2060	Project Name	EP1535
Contact Name	Harry Chapman / Alex Thomson	Project Report Format	EP1535 Esdat
Phone Nº	0432 620 442 / 0433 309 328	Relinquished by	Harry Chapman 30/01/2020
Special Direction	Send to: harry.chapman@eprisk.com.au; alex.thomson@eprisk.com.au	Email for Results	
Purchase Order Quote ID Nº	181023EPR	Turn Around Requirements	Overnight (9am)* 1 Day* 2 Day* 3 Day* [X] 5 Day Other ( )

Analysis (Note: Where metals are requested, please specify "Total" or "Filtered")

Nº	Client Sample ID	Date	Matrix	Suite B7 - TRH, BTEXN, PAH, Metals 8	Suite B15 - OCP, OPP, PCB	Suite B20 - CEC, %ESP, Exchangeable Cations	Conductivity (EC) (1:5 Aqueous Extract)	Asbestos Identification in Soil (AS 4964)	BTEX	HOLD	1L Plastic	500mL Plastic (PFAS)	60mL Plastic	200mL Amber Glass	40mL vial	125mL Amber Glass	Jar	Other (FM Plastic Bag)	Sample Comments / Hazard Warning DG
1	BH01_0.2	30/01/20	Soil	X	X	X	X	X									1	1	
2	BH01_0.5	30/01/20	Soil							X							1	1	
3	BH01_1.0	30/01/20	Soil							X							1	1	
4	BH01_1.5	30/01/20	Soil	X													1	1	
5	BH02_0.2	30/01/20	Soil	X	X	X	X	X									1	1	
6	BH02_0.5	30/01/20	Soil							X							1	1	
7	BH02_1.0	30/01/20	Soil	X													1	1	
8	BH03_0.2	30/01/20	Soil	X	X	X	X	X									1	1	
9	BH03_0.5	30/01/20	Soil	X													1	1	
10	BH03_1.0	30/01/20	Soil							X							1	1	
11	BH04_0.2	30/01/20	Soil	X	X	X	X	X									1	1	
12	BH04_0.5	30/01/20	Soil	X													1	1	
13	BH04_1.0	30/01/20	Soil							X							1	1	
14	BH05_0.2	30/01/20	Soil	X	X	X	X	X									1	1	
15	BH06_0.2	30/01/20	Soil	X	X	X	X	X									1	1	
16	BH06_0.5	30/01/20	Soil	X													1	1	
17	BH07_0.2	30/01/20	Soil	X													1	1	
18	MS01	30/01/20	Fibe Cement					X										1	
19	ASB01	30/01/20	Soil					X										1	
20	RIN01	30/01/20	Water	X								1	1	1	2				
21	TSPK01 (Unlabeled trip spike)	30/01/20	Soil						X						2				
	TBLK01 (Unlabeled trip blank)	30/01/20	Soil						X						2				
	DUP01	30/01/20	Soil	X													1		
	TRP01	30/01/20	Soil	FORWARD TO ALS FOR THE FOLLOWING ANALYSIS - TRH, BTEXN, PAH, Metals 8													1		
22																			
			Total Counts	14	6	6	6	8	2	5		1	1	1	6		19	19	

Method of Shipment: Courier (#) Hand Delivered Postal

Laboratory Use Only	Received By	Luca D	(Syd) MEL PER ADL	Signature	Date 30/01/20	Time 5:37 pm	Temperature 2.9 °C
	Received By		MEL PER ADL	Signature	Date	Time	Report Nº 699364

Harry Chapman - Signature, Date 30/01/2020

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

EP Risk Management (NSW)
109/283 Alfred Street
North Sydney
NSW 2060

Attention:	Harry Chapman
Report	699364-AID
Project Name	EP1535
Project ID	EP1535
Received Date	Jan 30, 2020
Date Reported	Feb 06, 2020

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

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Project Name EP1535
Project ID EP1535
Date Sampled Jan 30, 2020
Report 699364-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH01_0.2	20-Ja30559	Jan 30, 2020	Approximate Sample 158g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH02_0.2	20-Ja30560	Jan 30, 2020	Approximate Sample 64g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH03_0.2	20-Ja30561	Jan 30, 2020	Approximate Sample 60g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH04_0.2	20-Ja30562	Jan 30, 2020	Approximate Sample 83g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH05_0.2	20-Ja30563	Jan 30, 2020	Approximate Sample 84g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
BH06_0.2	20-Ja30564	Jan 30, 2020	Approximate Sample 86g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
MS01	20-Ja30573	Jan 30, 2020	Approximate Sample 4g / 40x30x4mm Sample consisted of: Grey compressed fibre cement fragment	Chrysotile, amosite and crocidolite asbestos detected.
ASB01	20-Ja30574	Jan 30, 2020	Approximate Sample 260g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jan 30, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Jan 30, 2020	Indefinite

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Australia

Melbourne
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Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: EP1535
Project ID: EP1535

Order No.:
Report #: 699364
Phone: 02 99225021
Fax:

Received: Jan 30, 2020 5:37 PM
Due: Feb 6, 2020
Priority: 5 Day
Contact Name: Harry Chapman

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	BH01_0.2	Jan 30, 2020		Soil	S20-Ja30559	X				X	X	X	X	
2	BH02_0.2	Jan 30, 2020		Soil	S20-Ja30560	X				X	X	X	X	
3	BH03_0.2	Jan 30, 2020		Soil	S20-Ja30561	X				X	X	X	X	
4	BH04_0.2	Jan 30, 2020		Soil	S20-Ja30562	X				X	X	X	X	
5	BH05_0.2	Jan 30, 2020		Soil	S20-Ja30563	X				X	X	X	X	
6	BH06_0.2	Jan 30, 2020		Soil	S20-Ja30564	X				X	X	X	X	
7	BH01_1.5	Jan 30, 2020		Soil	S20-Ja30565							X	X	
8	BH02_1.0	Jan 30, 2020		Soil	S20-Ja30566							X	X	
9	BH03_0.5	Jan 30, 2020		Soil	S20-Ja30567							X	X	
10	BH04_0.5	Jan 30, 2020		Soil	S20-Ja30568							X	X	

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Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
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NSW 2060

Project Name: EP1535
Project ID: EP1535

Order No.:
Report #: 699364
Phone: 02 99225021
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Contact Name: Harry Chapman

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
11	BH06_0.5	Jan 30, 2020		Soil	S20-Ja30569							X	X	
12	BH07_0.2	Jan 30, 2020		Soil	S20-Ja30570							X	X	
13	RIN01	Jan 30, 2020		Water	S20-Ja30571									X
14	DUP01	Jan 30, 2020		Soil	S20-Ja30572							X	X	
15	MS01	Jan 30, 2020		Building Materials	S20-Ja30573		X							
16	ASB01	Jan 30, 2020		Soil	S20-Ja30574	X								
17	TSPK01	Jan 30, 2020		Soil	S20-Ja30575				X					
18	TBLK01	Jan 30, 2020		Soil	S20-Ja30576				X					
19	BH01_0.5	Jan 30, 2020		Soil	S20-Ja30578			X						
20	BH01_1.0	Jan 30, 2020		Soil	S20-Ja30579			X						
21	BH02_0.5	Jan 30, 2020		Soil	S20-Ja30580			X						
22	BH03_1.0	Jan 30, 2020		Soil	S20-Ja30581			X						

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Company Name:	EP Risk Management (NSW)	**Order No.:**	**Received:** Jan 30, 2020 5:37 PM
Address:	109/283 Alfred Street North Sydney NSW 2060	**Report #:** 699364 **Phone:** 02 99225021 **Fax:**	**Due:** Feb 6, 2020 **Priority:** 5 Day **Contact Name:** Harry Chapman
Project Name:	EP1535		
Project ID:	EP1535		

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
23	BH04_1.0	Jan 30, 2020		Soil	S20-Ja30582			X						
Test Counts						7	1	5	2	6	6	13	13	1

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Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to "non-bonded / friable".
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

EP Risk Management (NSW)
109/283 Alfred Street
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: Harry Chapman

Report 699364-S
Project name EP1535
Project ID EP1535
Received Date Jan 30, 2020

Client Sample ID			BH01_0.2	BH02_0.2	BH03_0.2	BH04_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30559	S20-Ja30560	S20-Ja30561	S20-Ja30562
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	112	95	82	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

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Client Sample ID			BH01_0.2	BH02_0.2	BH03_0.2	BH04_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30559	S20-Ja30560	S20-Ja30561	S20-Ja30562
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	113	85	109	81
p-Terphenyl-d14 (surr.)	1	%	109	83	112	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	149	89	142	109
Tetrachloro-m-xylene (surr.)	1	%	75	76	77	79
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

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Client Sample ID			BH01_0.2	BH02_0.2	BH03_0.2	BH04_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30559	S20-Ja30560	S20-Ja30561	S20-Ja30562
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	135	97	136	121
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	149	89	142	109
Tetrachloro-m-xylene (surr.)	1	%	75	76	77	79
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	100	110	50	64
Exchangeable Sodium Percentage (ESP)	0.1	%	12	0.5	0.6	0.6
Magnesium (exchangeable)	0.1	meq/100g	5.1	1.0	2.3	2.6
Potassium (exchangeable)	0.1	meq/100g	0.3	0.6	0.4	0.8
Sodium (exchangeable)	0.1	meq/100g	1.8	0.1	0.2	0.1
% Moisture	1	%	7.4	9.6	14	16
Heavy Metals						
Arsenic	2	mg/kg	4.2	4.4	8.1	8.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	12	13	18	20
Copper	5	mg/kg	22	13	29	26
Lead	5	mg/kg	150	22	72	34

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Client Sample ID			BH01_0.2	BH02_0.2	BH03_0.2	BH04_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30559	S20-Ja30560	S20-Ja30561	S20-Ja30562
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	5.9	6.7	10	12
Zinc	5	mg/kg	81	31	88	54
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	7.5	24	32	22
Cation Exchange Capacity	0.05	meq/100g	15	26	35	26

Client Sample ID			BH05_0.2	BH06_0.2	BH01_1.5	BH02_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30563	S20-Ja30564	S20-Ja30565	S20-Ja30566
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	102	84	115	103
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

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Client Sample ID			BH05_0.2	BH06_0.2	BH01_1.5	BH02_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30563	S20-Ja30564	S20-Ja30565	S20-Ja30566
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	84	89	93	92
p-Terphenyl-d14 (surr.)	1	%	94	98	91	101
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	-
Toxaphene	1	mg/kg	< 1	< 1	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	120	142	-	-
Tetrachloro-m-xylene (surr.)	1	%	80	88	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Coumaphos	2	mg/kg	< 2	< 2	-	-
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	-
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	-

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Client Sample ID			BH05_0.2	BH06_0.2	BH01_1.5	BH02_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30563	S20-Ja30564	S20-Ja30565	S20-Ja30566
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	-
EPN	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Monocrotophos	2	mg/kg	< 2	< 2	-	-
Naled	0.2	mg/kg	< 0.2	< 0.2	-	-
Omethoate	2	mg/kg	< 2	< 2	-	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	-
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	-
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	130	137	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	120	142	-	-
Tetrachloro-m-xylene (surr.)	1	%	80	88	-	-
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	50	57	-	-
Exchangeable Sodium Percentage (ESP)	0.1	%	3.6	1.9	-	-
Magnesium (exchangeable)	0.1	meq/100g	4.3	2.0	-	-
Potassium (exchangeable)	0.1	meq/100g	1.1	0.7	-	-
Sodium (exchangeable)	0.1	meq/100g	0.6	0.2	-	-
% Moisture	1	%	16	9.7	13	14
Heavy Metals						
Arsenic	2	mg/kg	7.0	6.3	9.7	9.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	21	13	6.3	12
Copper	5	mg/kg	29	20	23	30
Lead	5	mg/kg	43	34	15	22

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Client Sample ID			BH05_0.2	BH06_0.2	BH01_1.5	BH02_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30563	S20-Ja30564	S20-Ja30565	S20-Ja30566
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	14	9.7	< 5	< 5
Zinc	5	mg/kg	77	61	32	37
Cation Exchange Capacity						
Calcium (exchangeable)	0.1	meq/100g	10	8.0	-	-
Cation Exchange Capacity	0.05	meq/100g	16	11	-	-

Client Sample ID			BH03_0.5	BH04_0.5	BH06_0.5	BH07_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30567	S20-Ja30568	S20-Ja30569	S20-Ja30570
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	50	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	100	57	54	55
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	62	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	62	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

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Client Sample ID			BH03_0.5	BH04_0.5	BH06_0.5	BH07_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30567	S20-Ja30568	S20-Ja30569	S20-Ja30570
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	95	102	98	92
p-Terphenyl-d14 (surr.)	1	%	98	109	96	96
% Moisture	1	%	20	17	12	13
Heavy Metals						
Arsenic	2	mg/kg	11	7.0	6.8	6.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	17	22	14	16
Copper	5	mg/kg	32	22	27	26
Lead	5	mg/kg	26	27	28	46
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	9.1	14	12	11
Zinc	5	mg/kg	47	47	77	73

Client Sample ID			DUP01	R20 TSPK01	TBLK01
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30572	S20-Ja30575	S20-Ja30576
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	< 50	-	-
BTEX					
Benzene	0.1	mg/kg	< 0.1	100	< 0.1
Toluene	0.1	mg/kg	< 0.1	100	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	100	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	100	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	100	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	100	< 0.3
4-Bromofluorobenzene (surr.)	1	%	80	99	113
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene N02	0.5	mg/kg	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	-	-
TRH C6-C10 less BTEX (F1) N04	20	mg/kg	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	-	-
TRH >C10-C16 less Naphthalene (F2) N01	50	mg/kg	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	-	-

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Client Sample ID			DUP01	R20 TSPK01	TBLK01
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S20-Ja30572	S20-Ja30575	S20-Ja30576
Date Sampled			Jan 30, 2020	Jan 30, 2020	Jan 30, 2020
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C34-C40	100	mg/kg	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	-	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-
Benzo(b&j)fluoranthene N07	0.5	mg/kg	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	93	-	-
p-Terphenyl-d14 (surr.)	1	%	96	-	-
% Moisture	1	%	12	-	-
Heavy Metals					
Arsenic	2	mg/kg	5.5	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-
Chromium	5	mg/kg	18	-	-
Copper	5	mg/kg	20	-	-
Lead	5	mg/kg	25	-	-
Mercury	0.1	mg/kg	< 0.1	-	-
Nickel	5	mg/kg	8.9	-	-
Zinc	5	mg/kg	33	-	-

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite B7 (filtered metals)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 04, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 04, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 04, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 04, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 04, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Eurofins | mgt Suite B15			
Organochlorine Pesticides	Melbourne	Feb 04, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Melbourne	Feb 04, 2020	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)			
Polychlorinated Biphenyls	Melbourne	Feb 04, 2020	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Conductivity (1:5 aqueous extract at 25°C as rec.)	Melbourne	Feb 04, 2020	7 Days
- Method: LTM-INO-4030 Conductivity			
Magnesium (exchangeable)	Melbourne	Feb 06, 2020	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Potassium (exchangeable)	Melbourne	Feb 06, 2020	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Sodium (exchangeable)	Melbourne	Feb 06, 2020	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity and ESP			
Cation Exchange Capacity	Melbourne	Feb 06, 2020	180 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
Exchangeable Sodium Percentage (ESP)	Melbourne	Feb 06, 2020	28 Days
- Method: LTM-MET-3060 - Cation Exchange Capacity (CEC) & Exchangeable Sodium Percentage (ESP)			
% Moisture	Melbourne	Jan 30, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			
Eurofins | mgt Suite B7			
Metals M8	Melbourne	Feb 04, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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IANZ # 1290

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: EP1535
Project ID: EP1535

Order No.:
Report #: 699364
Phone: 02 99225021
Fax:

Received: Jan 30, 2020 5:37 PM
Due: Feb 6, 2020
Priority: 5 Day
Contact Name: Harry Chapman

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	BH01_0.2	Jan 30, 2020		Soil	S20-Ja30559	X				X	X	X	X	
2	BH02_0.2	Jan 30, 2020		Soil	S20-Ja30560	X				X	X	X	X	
3	BH03_0.2	Jan 30, 2020		Soil	S20-Ja30561	X				X	X	X	X	
4	BH04_0.2	Jan 30, 2020		Soil	S20-Ja30562	X				X	X	X	X	
5	BH05_0.2	Jan 30, 2020		Soil	S20-Ja30563	X				X	X	X	X	
6	BH06_0.2	Jan 30, 2020		Soil	S20-Ja30564	X				X	X	X	X	
7	BH01_1.5	Jan 30, 2020		Soil	S20-Ja30565							X	X	
8	BH02_1.0	Jan 30, 2020		Soil	S20-Ja30566							X	X	
9	BH03_0.5	Jan 30, 2020		Soil	S20-Ja30567							X	X	
10	BH04_0.5	Jan 30, 2020		Soil	S20-Ja30568							X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
11	BH06_0.5	Jan 30, 2020		Soil	S20-Ja30569							X	X	
12	BH07_0.2	Jan 30, 2020		Soil	S20-Ja30570							X	X	
13	RIN01	Jan 30, 2020		Water	S20-Ja30571									X
14	DUP01	Jan 30, 2020		Soil	S20-Ja30572							X	X	
15	MS01	Jan 30, 2020		Building Materials	S20-Ja30573		X							
16	ASB01	Jan 30, 2020		Soil	S20-Ja30574	X								
17	TSPK01	Jan 30, 2020		Soil	S20-Ja30575				X					
18	TBLK01	Jan 30, 2020		Soil	S20-Ja30576				X					
19	TS LAB	Jan 30, 2020		Soil	S20-Ja30577				X					
20	BH01_0.5	Jan 30, 2020		Soil	S20-Ja30578			X						
21	BH01_1.0	Jan 30, 2020		Soil	S20-Ja30579			X						
22	BH02_0.5	Jan 30, 2020		Soil	S20-Ja30580			X						

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Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
23	BH03_1.0	Jan 30, 2020		Soil	S20-Ja30581			X						
24	BH04_1.0	Jan 30, 2020		Soil	S20-Ja30582			X						
Test Counts						7	1	5	3	6	6	13	13	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Exchangeable Sodium Percentage (ESP)	%	< 0.1			0.1	Pass	
Magnesium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Potassium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Sodium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Cation Exchange Capacity							
Calcium (exchangeable)	meq/100g	< 0.1			0.1	Pass	
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	75			70-130	Pass	
TRH C10-C14	%	72			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	107			70-130	Pass	
m&p-Xylenes	%	113			70-130	Pass	
Xylenes - Total	%	112			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			70-130	Pass	
TRH C6-C10	%	76			70-130	Pass	
TRH >C10-C16	%	72			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	101			70-130	Pass	
Acenaphthylene	%	104			70-130	Pass	
Anthracene	%	105			70-130	Pass	
Benz(a)anthracene	%	102			70-130	Pass	
Benzo(a)pyrene	%	89			70-130	Pass	
Benzo(b&j)fluoranthene	%	87			70-130	Pass	
Benzo(g.h.i)perylene	%	100			70-130	Pass	
Benzo(k)fluoranthene	%	94			70-130	Pass	
Chrysene	%	102			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	107			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	125			70-130	Pass	
Naphthalene	%	101			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	%	102			70-130	Pass	
Pyrene	%	107			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	116			70-130	Pass	
4.4'-DDD	%	91			70-130	Pass	
4.4'-DDE	%	84			70-130	Pass	
4.4'-DDT	%	80			70-130	Pass	
a-BHC	%	113			70-130	Pass	
Aldrin	%	80			70-130	Pass	
b-BHC	%	116			70-130	Pass	
d-BHC	%	82			70-130	Pass	
Dieldrin	%	110			70-130	Pass	
Endosulfan I	%	87			70-130	Pass	
Endosulfan II	%	108			70-130	Pass	
Endosulfan sulphate	%	115			70-130	Pass	
Endrin	%	94			70-130	Pass	
Endrin aldehyde	%	85			70-130	Pass	
Endrin ketone	%	111			70-130	Pass	
g-BHC (Lindane)	%	89			70-130	Pass	
Heptachlor	%	98			70-130	Pass	
Heptachlor epoxide	%	108			70-130	Pass	
Hexachlorobenzene	%	84			70-130	Pass	
Methoxychlor	%	80			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	90			70-130	Pass	
Dimethoate	%	74			70-130	Pass	
Ethion	%	103			70-130	Pass	
Fenitrothion	%	94			70-130	Pass	
Methyl parathion	%	100			70-130	Pass	
Mevinphos	%	88			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	106			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	86			80-120	Pass	
Cadmium	%	88			80-120	Pass	
Chromium	%	92			80-120	Pass	
Copper	%	89			80-120	Pass	
Lead	%	96			80-120	Pass	
Mercury	%	109			75-125	Pass	
Nickel	%	87			80-120	Pass	
Zinc	%	87			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M20-Fe00426	NCP	%	75			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M20-Fe00426	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	M20-Fe02064	NCP	%	112			70-130	Pass	
4.4'-DDD	M20-Fe02064	NCP	%	116			70-130	Pass	
4.4'-DDE	M20-Fe02064	NCP	%	114			70-130	Pass	
4.4'-DDT	M20-Fe02064	NCP	%	83			70-130	Pass	
a-BHC	M20-Fe02064	NCP	%	105			70-130	Pass	
Aldrin	M20-Fe02064	NCP	%	116			70-130	Pass	
b-BHC	M20-Fe02064	NCP	%	80			70-130	Pass	
d-BHC	M20-Fe02064	NCP	%	99			70-130	Pass	
Dieldrin	M20-Fe02064	NCP	%	99			70-130	Pass	
Endosulfan I	M20-Fe02064	NCP	%	88			70-130	Pass	
Endosulfan II	M20-Fe02064	NCP	%	101			70-130	Pass	
Endosulfan sulphate	M20-Fe02064	NCP	%	102			70-130	Pass	
Endrin	M20-Fe02064	NCP	%	117			70-130	Pass	
Endrin aldehyde	M20-Fe02064	NCP	%	117			70-130	Pass	
Endrin ketone	M20-Fe02064	NCP	%	99			70-130	Pass	
g-BHC (Lindane)	M20-Fe02064	NCP	%	117			70-130	Pass	
Heptachlor	M20-Fe02064	NCP	%	89			70-130	Pass	
Heptachlor epoxide	M20-Fe02064	NCP	%	104			70-130	Pass	
Hexachlorobenzene	M20-Fe02064	NCP	%	114			70-130	Pass	
Methoxychlor	M20-Fe02064	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M20-Fe03077	NCP	%	126			70-130	Pass	
Dimethoate	M20-Fe03077	NCP	%	76			70-130	Pass	
Ethion	M20-Fe03077	NCP	%	124			70-130	Pass	
Fenitrothion	M20-Fe03077	NCP	%	105			70-130	Pass	
Methyl parathion	M20-Fe03077	NCP	%	96			70-130	Pass	
Mevinphos	M20-Fe03077	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M20-Ja30810	NCP	%	88			70-130	Pass	
Aroclor-1260	M20-Ja30810	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Ja30563	CP	%	89			75-125	Pass	
Cadmium	S20-Ja30563	CP	%	84			75-125	Pass	
Chromium	S20-Ja30563	CP	%	92			75-125	Pass	
Copper	S20-Ja30563	CP	%	98			75-125	Pass	
Lead	S20-Ja30563	CP	%	96			75-125	Pass	
Mercury	S20-Ja30563	CP	%	97			70-130	Pass	
Nickel	S20-Ja30563	CP	%	89			75-125	Pass	
Zinc	S20-Ja30563	CP	%	93			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S20-Ja30565	CP	%	87			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S20-Ja30565	CP	%	106			70-130	Pass	
Toluene	S20-Ja30565	CP	%	124			70-130	Pass	
Ethylbenzene	S20-Ja30565	CP	%	115			70-130	Pass	
m&p-Xylenes	S20-Ja30565	CP	%	123			70-130	Pass	
o-Xylene	S20-Ja30565	CP	%	116			70-130	Pass	
Xylenes - Total	S20-Ja30565	CP	%	120			70-130	Pass	
Spike - % Recovery									

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S20-Ja30565	CP	%	110			70-130	Pass	
TRH C6-C10	S20-Ja30565	CP	%	80			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-Ja30565	CP	%	101			70-130	Pass	
Acenaphthylene	S20-Ja30565	CP	%	101			70-130	Pass	
Anthracene	S20-Ja30565	CP	%	98			70-130	Pass	
Benz(a)anthracene	S20-Ja30565	CP	%	99			70-130	Pass	
Benzo(a)pyrene	S20-Ja30565	CP	%	90			70-130	Pass	
Benzo(b&j)fluoranthene	S20-Ja30565	CP	%	86			70-130	Pass	
Benzo(g.h.i)perylene	S20-Ja30565	CP	%	101			70-130	Pass	
Benzo(k)fluoranthene	S20-Ja30565	CP	%	91			70-130	Pass	
Chrysene	S20-Ja30565	CP	%	88			70-130	Pass	
Dibenz(a.h)anthracene	S20-Ja30565	CP	%	94			70-130	Pass	
Fluoranthene	S20-Ja30565	CP	%	102			70-130	Pass	
Fluorene	S20-Ja30565	CP	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ja30565	CP	%	92			70-130	Pass	
Naphthalene	S20-Ja30565	CP	%	101			70-130	Pass	
Phenanthrene	S20-Ja30565	CP	%	99			70-130	Pass	
Pyrene	S20-Ja30565	CP	%	102			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M20-Fe01306	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M20-Fe01306	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M20-Fe01306	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M20-Fe01306	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M20-Fe01306	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M20-Fe01306	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25°C as rec.)	S20-Ja32230	NCP	uS/cm	130	130	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-Ja30560	CP	%	9.6	9.6	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M20-Ja24229	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

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Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ja30562	CP	mg/kg	8.6	8.7	2.0	30%	Pass	
Cadmium	S20-Ja30562	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ja30562	CP	mg/kg	20	21	1.0	30%	Pass	
Copper	S20-Ja30562	CP	mg/kg	26	26	1.0	30%	Pass	
Lead	S20-Ja30562	CP	mg/kg	34	33	1.0	30%	Pass	
Mercury	S20-Ja30562	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ja30562	CP	mg/kg	12	12	1.0	30%	Pass	
Zinc	S20-Ja30562	CP	mg/kg	54	55	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ja30563	CP	mg/kg	7.0	7.1	1.0	30%	Pass	
Cadmium	S20-Ja30563	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ja30563	CP	mg/kg	21	21	<1	30%	Pass	
Copper	S20-Ja30563	CP	mg/kg	29	29	2.0	30%	Pass	
Lead	S20-Ja30563	CP	mg/kg	43	44	2.0	30%	Pass	
Mercury	S20-Ja30563	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ja30563	CP	mg/kg	14	15	2.0	30%	Pass	
Zinc	S20-Ja30563	CP	mg/kg	77	78	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ja30564	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ja30564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-Ja30564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-Ja30564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-Ja30564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S20-Ja30564	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-Ja30564	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Ja30564	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

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Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S20-Ja30564	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S20-Ja30564	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S20-Ja30564	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S20-Ja30564	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S20-Ja30564	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

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Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Tokuthion	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S20-Ja30564	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-Ja30570	CP	%	13	12	9.0	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Alena Bounkeua	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)
Scott Beddoes	Senior Analyst-Inorganic (VIC)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

EP Risk Management (NSW)
109/283 Alfred Street
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: Harry Chapman

Report 699364-W
Project name EP1535
Project ID EP1535
Received Date Jan 30, 2020

Client Sample ID			RIN01
Sample Matrix			Water
Eurofins Sample No.			S20-Ja30571
Date Sampled			Jan 30, 2020
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	91
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001

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Client Sample ID			RIN01
Sample Matrix			Water
Eurofins Sample No.			S20-Ja30571
Date Sampled			Jan 30, 2020
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	111
p-Terphenyl-d14 (surr.)	1	%	89
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite B7 (filtered metals)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 03, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Feb 03, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 03, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 03, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 03, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Melbourne	Feb 03, 2020	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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NATA # 1261 Site # 20794

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: EP Risk Management (NSW)
Address: 109/283 Alfred Street
North Sydney
NSW 2060

Project Name: EP1535
Project ID: EP1535

Order No.:
Report #: 699364
Phone: 02 99225021
Fax:

Received: Jan 30, 2020 5:37 PM
Due: Feb 6, 2020
Priority: 5 Day
Contact Name: Harry Chapman

Eurofins Analytical Services Manager : Alena Bounkeua

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	BH01_0.2	Jan 30, 2020		Soil	S20-Ja30559	X				X	X	X	X	
2	BH02_0.2	Jan 30, 2020		Soil	S20-Ja30560	X				X	X	X	X	
3	BH03_0.2	Jan 30, 2020		Soil	S20-Ja30561	X				X	X	X	X	
4	BH04_0.2	Jan 30, 2020		Soil	S20-Ja30562	X				X	X	X	X	
5	BH05_0.2	Jan 30, 2020		Soil	S20-Ja30563	X				X	X	X	X	
6	BH06_0.2	Jan 30, 2020		Soil	S20-Ja30564	X				X	X	X	X	
7	BH01_1.5	Jan 30, 2020		Soil	S20-Ja30565							X	X	
8	BH02_1.0	Jan 30, 2020		Soil	S20-Ja30566							X	X	
9	BH03_0.5	Jan 30, 2020		Soil	S20-Ja30567							X	X	
10	BH04_0.5	Jan 30, 2020		Soil	S20-Ja30568							X	X	

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Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
11	BH06_0.5	Jan 30, 2020		Soil	S20-Ja30569							X	X	
12	BH07_0.2	Jan 30, 2020		Soil	S20-Ja30570							X	X	
13	RIN01	Jan 30, 2020		Water	S20-Ja30571									X
14	DUP01	Jan 30, 2020		Soil	S20-Ja30572							X	X	
15	MS01	Jan 30, 2020		Building Materials	S20-Ja30573		X							
16	ASB01	Jan 30, 2020		Soil	S20-Ja30574	X								
17	TSPK01	Jan 30, 2020		Soil	S20-Ja30575				X					
18	TBLK01	Jan 30, 2020		Soil	S20-Ja30576				X					
19	TS LAB	Jan 30, 2020		Soil	S20-Ja30577				X					
20	BH01_0.5	Jan 30, 2020		Soil	S20-Ja30578			X						
21	BH01_1.0	Jan 30, 2020		Soil	S20-Ja30579			X						
22	BH02_0.5	Jan 30, 2020		Soil	S20-Ja30580			X						

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Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	BTEX	Eurofins | mgt Suite B15	Eurofins | mgt Suite B20	Moisture Set	Eurofins | mgt Suite B7	Eurofins | mgt Suite B7 (filtered metals)
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X	X		X				X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
23	BH03_1.0	Jan 30, 2020		Soil	S20-Ja30581			X						
24	BH04_1.0	Jan 30, 2020		Soil	S20-Ja30582			X						
Test Counts						7	1	5	3	6	6	13	13	1

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	110			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	89			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	86			70-130	Pass	
m&p-Xylenes	%	88			70-130	Pass	
Xylenes - Total	%	88			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	95			70-130	Pass	
TRH C6-C10	%	88			70-130	Pass	
TRH >C10-C16	%	78			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	83			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	75			70-130	Pass	
Benz(a)anthracene	%	102			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	78			70-130	Pass	
Benzo(g.h.i)perylene	%	102			70-130	Pass	
Benzo(k)fluoranthene	%	75			70-130	Pass	
Chrysene	%	73			70-130	Pass	
Dibenz(a.h)anthracene	%	92			70-130	Pass	
Fluoranthene	%	71			70-130	Pass	
Fluorene	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	102			70-130	Pass	
Naphthalene	%	78			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M20-Fe01335	NCP	%	103			70-130	Pass	
TRH C10-C14	M20-Fe00407	NCP	%	88			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M20-Fe01335	NCP	%	97			70-130	Pass	
Toluene	M20-Fe01335	NCP	%	96			70-130	Pass	
Ethylbenzene	M20-Fe01335	NCP	%	91			70-130	Pass	
m&p-Xylenes	M20-Fe01335	NCP	%	92			70-130	Pass	
o-Xylene	M20-Fe01335	NCP	%	94			70-130	Pass	
Xylenes - Total	M20-Fe01335	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M20-Fe01335	NCP	%	86			70-130	Pass	
TRH C6-C10	M20-Fe01335	NCP	%	82			70-130	Pass	
TRH >C10-C16	M20-Fe00407	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M20-Ja30318	NCP	%	89			70-130	Pass	
Acenaphthylene	M20-Ja30318	NCP	%	111			70-130	Pass	
Anthracene	M20-Ja30318	NCP	%	90			70-130	Pass	

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Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benz(a)anthracene	M20-Ja30318	NCP	%	114			70-130	Pass	
Benzo(a)pyrene	M20-Ja30318	NCP	%	101			70-130	Pass	
Benzo(b&j)fluoranthene	M20-Ja30318	NCP	%	86			70-130	Pass	
Benzo(g.h.i)perylene	M20-Ja30318	NCP	%	74			70-130	Pass	
Benzo(k)fluoranthene	M20-Ja30318	NCP	%	126			70-130	Pass	
Chrysene	M20-Ja30318	NCP	%	112			70-130	Pass	
Dibenz(a.h)anthracene	M20-Ja30318	NCP	%	102			70-130	Pass	
Fluoranthene	M20-Ja30318	NCP	%	88			70-130	Pass	
Fluorene	M20-Ja30318	NCP	%	117			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M20-Ja30318	NCP	%	112			70-130	Pass	
Naphthalene	M20-Ja30318	NCP	%	127			70-130	Pass	
Phenanthrene	M20-Ja30318	NCP	%	119			70-130	Pass	
Pyrene	M20-Ja30318	NCP	%	127			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M20-Ja30953	NCP	%	102			70-130	Pass	
Cadmium (filtered)	M20-Ja30953	NCP	%	90			70-130	Pass	
Chromium (filtered)	M20-Ja30953	NCP	%	94			70-130	Pass	
Copper (filtered)	M20-Ja30953	NCP	%	90			70-130	Pass	
Lead (filtered)	M20-Ja30953	NCP	%	91			70-130	Pass	
Mercury (filtered)	M20-Ja30953	NCP	%	80			70-130	Pass	
Nickel (filtered)	M20-Ja30953	NCP	%	91			70-130	Pass	
Zinc (filtered)	M20-Ja30953	NCP	%	91			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M20-Fe01678	NCP	mg/L	0.12	0.14	16	30%	Pass	
TRH C10-C14	M20-Fe00406	NCP	mg/L	0.16	0.11	40	30%	Fail	Q15
TRH C15-C28	M20-Fe00406	NCP	mg/L	< 0.1	0.2	71	30%	Fail	Q15
TRH C29-C36	M20-Fe00406	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M20-Fe01678	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M20-Fe01678	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M20-Fe01678	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M20-Fe01678	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M20-Fe01678	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	M20-Fe01678	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M20-Fe01678	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M20-Fe01678	NCP	mg/L	0.12	0.14	16	30%	Pass	
TRH >C10-C16	M20-Fe00406	NCP	mg/L	0.25	0.27	8.0	30%	Pass	
TRH >C16-C34	M20-Fe00406	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M20-Fe00406	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

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Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Benzo(k)fluoranthene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M20-Ja30317	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	M20-Ja30953	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	M20-Ja30953	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M20-Ja30953	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	M20-Ja30953	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	M20-Ja30953	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	M20-Ja30953	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	M20-Ja30953	NCP	mg/L	0.007	0.007	2.0	30%	Pass	
Zinc (filtered)	M20-Ja30953	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Alena Bounkeua	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2003115**	Page	: 1 of 6
Client	: **EP Risk Management**	Laboratory	: Environmental Division Sydney
Contact	: Harry Chapman	Contact	: Kane Vorwerk
Address	: 109/283 Alfred St NORTH SYDNEY NSW 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: (02) 9922 5021	Telephone	: +6138549 9652
Project	: EP1535	Date Samples Received	: 31-Jan-2020 15:15
Order number	: ----	Date Analysis Commenced	: 03-Feb-2020
C-O-C number	: ----	Issue Date	: 10-Feb-2020 10:34
Sampler	: Harry Chapman		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.

Page	: 3 of 6
Work Order	: ES2003115
Client	: EP Risk Management
Project	: EP1535

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRP01	----	----	----	----
				Client sampling date / time	30-Jan-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2003115-001	--------	--------	--------	--------
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		12.4	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		7	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		18	----	----	----	----
Copper	7440-50-8	5	mg/kg		22	----	----	----	----
Lead	7439-92-1	5	mg/kg		27	----	----	----	----
Nickel	7440-02-0	2	mg/kg		7	----	----	----	----
Zinc	7440-66-6	5	mg/kg		28	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----

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Work Order : ES2003115
Client : EP Risk Management
Project : EP1535

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRP01	-----	-----	-----	-----
				Client sampling date / time	30-Jan-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2003115-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**85.8**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**83.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**68.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**94.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**83.8**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**93.4**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**92.7**	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		**100**	----	----	----	----

Page	: 5 of 6
Work Order	: ES2003115
Client	: EP Risk Management
Project	: EP1535

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)				Client sample ID	**TRP01**	-----	-----	-----	-----
				Client sampling date / time	30-Jan-2020 00:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES2003115-001**	--------	--------	--------	--------
					Result	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**99.7**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Appendix F

SALINE SOILS MANAGEMENT OPTIONS AND STRATEGY

Saline Soil Management Options and Strategy

The relevant guidance to single lot sized developments in localities with moderate salinity potential is outlined in the following documents:

- Western Sydney Regional Organisation of Councils Ltd (2003, Amended 2004) Western Sydney Salinity Code of Practice.
- Department of Infrastructure, Planning and Natural Resources (2003): Building in a Saline Environment.
- Department of Infrastructure, Planning and Natural Resources (2003): Roads and Salinity.
- Department of Infrastructure, Planning and Natural Resources (2004): Waterwise Parks and Gardens.
- Department of Land and Water Conservation (2002): Site Investigations for Urban Salinity.
- Relevant local environmental plans - Campbelltown Local Environment Plan ('CLEP') (2015).

Based on the analytical results of salinity tests of in-situ soils, the soils on-site are classified as non-saline in accordance with the Department of Land and Water Conservation: *Site Investigations for Urban Salinity* 2002. However, the recommendations of the management of soils on single lot developments with moderate salinity risk from the documents above should still be followed to prevent the on-set of saline soils at the Site. The management options recommended for future development are outlined herein.

Earthworks

Care must be taken to avoid the reversing or mixing the soil profile and disturbance of natural drainage patterns during earthworks operations across the Site which may negatively impact on the salinity profile.

Consideration should be given to the requirements of the CLEP (2015) regarding management of salinity issues and discussion with council officers is recommended prior to commencing earthworks. EP Risk considers salinity issues are highly dependent on the nature of the proposed development and prior consent from Council should be sought for the proposed methodology.

Water Inputs

Underground water carrying pipes (including wastewater) and on-site sewerage systems (if relevant) should be properly installed to eliminate leaks with regular maintenance and/or checking for leaks. Changes to the on-site water balance may have an adverse effect to salinity potential.

Stormwater drainage systems should be installed and maintained to prevent infiltration of stormwater on-site.

Permanent water storage including water features and ponds should be lined and regularly maintained to prevent infiltration. Consideration should be given to salinity when designing and installing swimming pools.

Stormwater and Drainage

The following should be considered in the design of stormwater and drainage systems on-site (if required):

- The design slope of exposed/open concrete slabs and surrounding areas should be designed to minimise ponding and the potential for increased infiltration.
- Slab, foundations and retaining wells designed to allow good drainage / minimise water logging.
- Existing areas of waterlogging and poor drainage should be remedied prior to development construction.
- Design and layout of retaining walls, driveways and service connections reduces cut, minimises impediment of natural groundwater flows and provides for good drainage.
- Guttering and down pipes properly connected and maintained.

Vegetation

The following should be considered in the design in regard to vegetation on the Site:

- Areas of established vegetation are to be maintained and protected.
- Landscaping plans should adopt principles outlined in the Department of Infrastructure, Planning and Natural Resources (2004): Waterwise Parks and Gardens document.
- Irrigation systems should be properly installed to avoid leakage and 'smart' sprinkler systems considered.
- In-situ gardens should be designed so they are not adjacent to buildings on-site.

Building Construction and Design

Given the Site is located in an area of moderate risk of saline soils, it is recommended that the exposure of building materials to in-situ soils be minimised to protect structures if saline soils increase over time. Where buildings are to be constructed directly on susceptible or exposed areas, then consideration of the following precautions should be adopted in the construction process:

- Install a properly constructed damp proof course beneath buildings, paths and driveways.
- Consideration should be given to the need for salt resistant bricks and construction materials where applicable.
- Susceptible construction materials should be avoided, i.e. porous materials.

Appendix G
CALIBRATION CERTIFICATES

AES sensing safety

Calibration and Service Report – PID

Company:	EP Risk Management Pty Ltd	**Manufacturer:**	Ion Science	**Serial #:**	T-112364
Contact:	Harry Chapman	**Instrument:**	PHOCHECK TIGER SN: T-1123	**Asset #:**	
Address:	Level 1, Suite 109 283 Alfred Street Noth NORTH SYDNEY	**Model:**	TIGER	**Part #:**	
		Configuration:	VOC 11.7EV	**Sold:**	22.01.2020
		Wireless:		**Last Cal:**	29.01.2020
Phone:	0432 620 442	**Network ID:**		**Job #:**	82063
Fax:		**Unit ID:**		**Cal Spec:**	
Email:	harry.chapman@eprisk.com.au	**Details:**		**Order #:**	PO007761

Item	Test	Pass/Fail	Comments	Serial Number
Battery	NiCd, NiMH, Dry cell, LiIon	P		
Charger	Power Supply	P		
	Cradle, Travel Charger	P		
Pump	Flow	P	>200ml/min	
Filter	Filter, fitting, etc	P		
Alarms	Audible, visual, vibration	P		
Display	Operation	P		
Switches	Operation	P		
PCB	Operation	P		
Connectors	Condition	P		
Firmware	Version	P		
Datalogger	Operation	-		
Monitor Housing	Condition	P		
Case	Condition / Type	-		
Sensors				
PID	Lamp	P		
PID	Sensor	P		
THP				

Engineer's Report

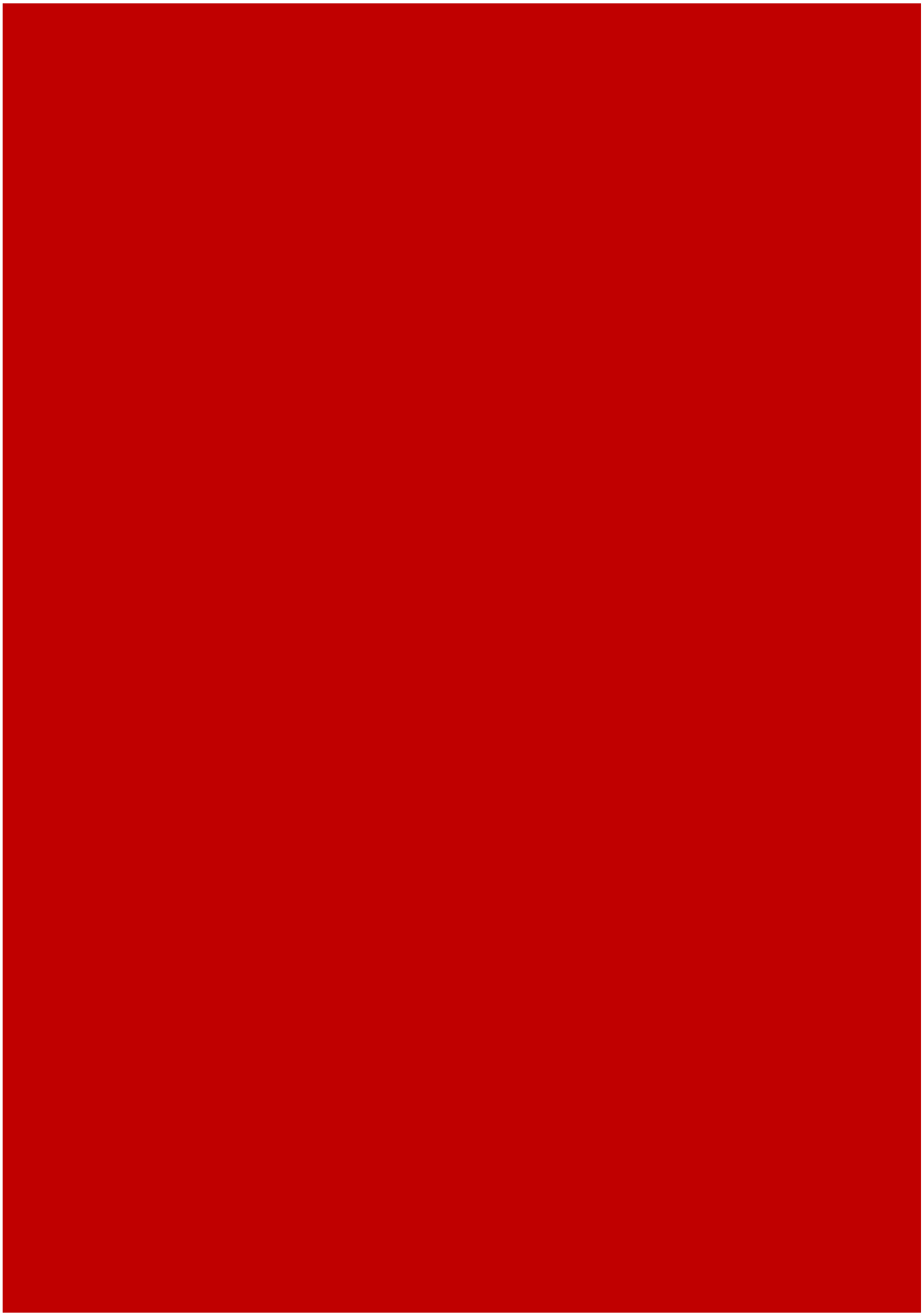
Cleaned inlet probe
Replaced filter disc
Cleaned lamp and electrode
Checked unit settings, configuration and PC comm
Unit serviced and calibrated.

AES
sensing safety

Calibration Certificate

Sensor	Type	Serial No.	Span Gas	Concentration	Traceability Lot #	CF	Reading	
							Zero	Span
Oxygen								
LEL								
PID	11.7eV lamp		Isobutylene	100ppm	Lot: 779718 Cyl: 46		0	100.5
Battery								
Toxic 1								
Toxic 2								
Toxic 3								
Toxic 4								
Toxic 5								
Toxic 6								

Calibrated/Repaired by: JERRY JI Date: 29.01.2020 Next Due: 29.07.2020



STATEMENT OF ENVIRONMENTAL EFFECTS
Campbelltown City Council

Proposed construction of forty-five (45) place child care centre, car parking, fencing and associated site works at Lot 50, DP 225520, 139 St Johns Road Bradbury

Applicant: Bright Start c/o- RFA Architects

Date: 11 November 2020

Revision E

MMDC Pty Ltd

Prepared and published by:

Miletic-Mieler Development Consultants Pty Ltd

ABN 47 605 925 353

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DISCLAIMER

Printed November 2020

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1.0 EXECUTIVE SUMMARY

This report has been prepared to accompany a Development Application on behalf of Brightest Start for a proposed 45 place, double-storey child care centre and associated car parking at 139 St Johns Road, Bradbury.

The applicant is a reputable, licensed child care provider with an established track record of operating numerous facilities throughout Sydney under the business name 'Brightest Start'. Their philosophy is based on high quality 'Play Based Programs' reflecting the 'Early Years Learning Framework' and the regulatory requirements of the National Quality Standards.

The proposed child care centre seeks to cater for a total of 45 children, being 15 x 2-3 year olds and 30 x 3-5 year olds, and 6 staff operating from 6:30am to 6.30pm, Monday to Friday. Suitable internal and external activity areas are proposed for each age group, along with associated facilities and amenities, in accordance with the Education and Care Services National Regulation. A total of 12 car spaces will be provided on-site. A landscaped area averaging 3m wide is proposed within the front setback. Signage will be provided under Exempt Development provisions.

The site is zoned R2 Low Density Residential under Campbelltown Local Environmental Plan 2015. The proposed development is a permissible use and meets the objectives of the R2 zone by providing suitable services for residents in a convenient location whilst minimising any potential adverse impacts. The proposal generally complies with the main essential criteria set out in the Campbelltown DCP 2015 with the exception of retaining walls, cut and fill and landscaped area. These variations are considered acceptable in the circumstances given no adverse overshadowing, privacy, amenity or stormwater impacts and extensive planting and landscape treatment proposed to soften the appearance of the development.

The proposed development has been assessed against the matters for consideration listed in Section 4.15 of the Environmental Planning & Assessment Act 1979 and is considered to be satisfactory. The proposal is considered satisfactory with regard to relevant matters such as Urban Design, Acoustic, Access, Traffic Impact, Drainage, ESD, Site Contamination, Amenity, Social and Economic Impacts and the like, subject to the imposition of suitable conditions of any consent to satisfactorily control the development. In this regard, it is considered that the subject site is suitable for the proposed development and that the proposal, providing much needed child care services in the locality, is in the public interest.

2.0 INTRODUCTION

This report has been prepared to accompany a Development Application on behalf of Brightest Start for a proposed 45 place, double-storey child care centre and associated car parking at 139 St Johns Road, Bradbury.

The applicant is a reputable, licensed child care provider with an established track record of operating numerous facilities throughout western Sydney under the business name 'Bright Start'. Their philosophy is based on high quality 'Play Based Programs' reflecting the 'Early Years Learning Framework' and the regulatory requirements of the National Quality Standards.

The proposed child care centre is permissible with consent in the R2 Low Density Residential under Campbelltown Local Environmental Plan 2015. The development is defined as a:

> ***centre-based child care facility*** *means:*
> *(a) a building or place used for the education and care of children that provides any one or more of the following:*
> *(i) long day care,*
> *(ii) occasional child care,*
> *(iii) out-of-school-hours care (including vacation care),*
> *(iv) preschool care, or*
> *(b) an approved family day care venue (within the meaning of the Children (Education and Care Services) National Law (NSW)),*
> ***Note.***
> *An approved family day care venue is a place, other than a residence, where an approved family day care service (within the meaning of the Children (Education and Care Services) National Law (NSW)) is provided.*
>
> *but does not include:*
> *(c) a building or place used for home-based child care or school-based child care, or*
> *(d) an office of a family day care service (within the meanings of the Children (Education and Care Services) National Law (NSW)), or*
> *(e) a babysitting, playgroup or child-minding service that is organised informally by the parents of the children concerned, or*
> *(f) a child-minding service that is provided in connection with a recreational or commercial facility (such as a gymnasium) to care for children while the children's parents are using the facility, or*
> *(g) a service that is concerned primarily with providing lessons or coaching in, or providing for participation in, a cultural, recreational, religious or sporting activity, or providing private tutoring, or*

(h) a child-minding service that is provided by or in a health services facility, but only if the service is established, registered or licensed as part of the institution operating in the facility.

The locality is a mix of nearby residential uses with associated recreational, educational and commercial areas, comprising single and double storey detached and attached dwellings and townhouses. The proposed development will be compatible with the existing and likely future form of development.

This statement will address the proposal in the context of the applicable planning legislation including:

- *State Environmental Planning Policy No. 55 – Contaminated Land;*
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;*
- *Campbelltown Local Environmental Plan 2015; and*
- *Campbelltown Development Control Plan 2015.*

The proposal has also been designed in accordance with the requirements of the *Education and Care Services National Regulations 2012*.

This report is to be read in conjunction with the following associated documents and plans prepared as a part of this Development Application:

- *Architectural Site Analysis, Floor Plans, Roof Plans, Sections and Elevations*
- *Landscape Concept Plan*
- *Survey Plan*
- *Waste Management Plan*
- *Stormwater Management Plan and Erosion and Sediment Control Plan*
- *Notification Plan*
- *Traffic Report*
- *Acoustic Report*
- *Completed DA form, checklists and owner's consent*

3.0 BACKGROUND

3.1 Previous DA

Development Application No. 1588/2017/DA-C was withdrawn from Council in April 2018 in response to Council's letter dated 9 October 2017 requesting the submission of amended plans and additional information. The current scheme has been prepared in response to the issues raised in Council's previous correspondence regarding the withdrawn DA.

3.2 Pre-DA Advice

On 17 April 2017, Council provided preliminary comments in relation to the revised proposal which have been addressed to the greatest extent possible in the current submission.

The proposal for a 45 place child care centre now complies with the requirement for 12 car spaces exclusive of a turning bay. As shown on the submitted DA plans, retaining walls and cut and fill are proposed within the site in order to accommodate the design level requirements for access and drainage whilst minimising any adverse overshadowing, privacy, amenity, stormwater and streetscape impacts. All works inclusive of retaining walls are proposed wholly within the subject site and as such, no works necessitate adjoining owner's consent. Detailed landscaping is also provided in order to soften the appearance of the development as viewed from the street and adjoining properties.

4.0 SITE LOCATION

4.1 Context and Location

The subject site is located on the northern side of St Johns Road, with Airds High School and Briar Road Public School approximately 700m to the north-east. Four existing child care centres are located in the vicinity as shown in the figure below.

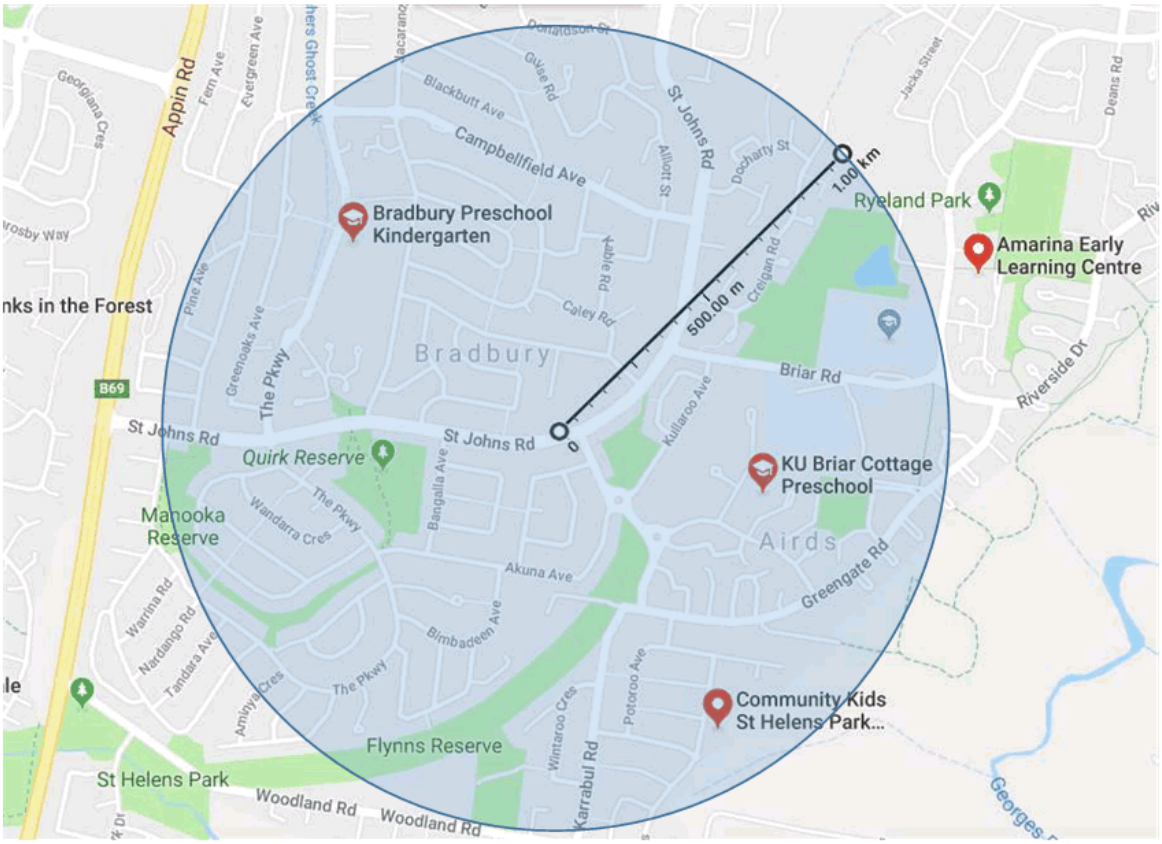

Figure 1: Site Context (Source Google Maps)

The area surrounding the site is predominantly characterised by a mix of residential uses with associated recreational, educational and commercial areas. The existing built form in the locality comprises a mixture of established residences and newer double storey detached dwellings and townhouses.

The subject site is well serviced by nearby bus public transport and enjoys vehicular access to the nearby surrounding regional road network of the Appin Road and the M5 via St Johns Road.

The subject site is not in the vicinity of any hazardous industries, LP gas sites, mobile telephone base stations and towers, and is considered to be safe from any other environmental health hazards, such as high lead levels, hazardous industries or proximity to cooling tower drift in high rise building areas.

The accompanying Traffic Report prepared by Thompson Stanbury Associates confirms that St Johns Road is classified as a local street with low traffic through-flows and ample availability of on-street parking based on the recent traffic surveys undertaken.

In light of the above context and lack of constraints, the subject site is considered to meet the Campbelltown DCP criteria for site location and selection.

4.2 Site Details

The subject land, being Lot 50 in DP 225520, is regular in shape and has a total area of 915.2sqm (by survey) or 910.5sqm (by title). The land is bounded by St Johns Road to the south and residential properties to the north, east and west and has a depth of 45.74m with a 21.335m wide frontage to St Johns Road.

Figure 3: Aerial Photo (Source Six Maps)

The proposed development site currently contains a single storey dwelling with a detached rear garage and existing trees to the rear. All existing trees within the site are proposed to be removed as a part of the proposal in order to accommodate the proposal and ensure a safe outdoor play environment. Suitable landscaping with replacement trees within the front setback is proposed to soften the appearance of the development.

Adjoining properties contain single and double storey residential dwellings with associated structures and outbuildings located at the rear. The land is unaffected by any site contamination, bushfire, flooding, riparian corridor or heritage constraints.

The topography of the development site falls generally from front (south) to rear (north) across the with approximately 3.4m fall.

No easements affect the subject site. Power, sewer and water are available.

5.0 DEVELOPMENT PROPOSAL

The proposal seeks development consent for the following:

- The construction of a 45 place, two-storey child care centre and 12 space car park
- Associated site works, shade structures, 2.1m side and rear fencing, 1.2m car park fencing forward of the building line, retaining walls, drainage and landscaping works

The proposed child care centre seeks to cater for 15 x 2-3 year olds and 30 x 3-5 year olds, and 6 staff operating from 7am to 6pm (with staff 'shoulder periods' from 6:30am to 6:30pm), Monday to Friday.

The overall height of the building is 8.13m to the ridgeline (based on an existing ground level of RL 134.07 with finished floor levels of RL137.05 at ground level and RL134.05 at lower ground level. The building maintains minimum setbacks of 3m and 5m to the sides and rear, respectively, and a front setback of approximately 20m.

Unencumbered internal activity areas of 56sqm for 2-3 year olds at ground level and 110sqm for 3-6 year olds at lower ground level are proposed, along with associated nappy change, bottle preparation, sleeping facilities, age appropriate toilets, storage areas, kitchen, administration, laundry, staff room and storage, in accordance with the Education and Care Services National Regulation 2012. Separate outdoor play areas for each age group totalling 377sqm have been provided with suitable shading and finished with soft fall and artificial turf surfaces. A landscaped area averaging 3m wide is proposed within the front setback and variable 1m to 2.2m wide landscaped screening is proposed to the side boundary adjacent to the car park. Signage will be provided under Exempt Development provisions.

The building will be constructed of brick, timber, glazing and lightweight cladding generally with a painted render finish and colourbond rooves. Appropriate colour selections for the windows, gutters and fascias will be utilised to provide variation to the external appearance of the development, which will be further complemented by detailed landscaping. Details of the proposed external colours and finishes and retaining walls will be provided prior to issue of any construction certificate.

In accordance with the accompanying Acoustic Report prepared by Acoustics Dynamics, 2.1m (along sides and rear boundaries behind the building line) and 1.2m (adjacent to the car park forward of the building line) high imperforate acoustic barrier fencings are required as a part of the proposal. Details of the proposed fencing materials and finishes are envisaged to include solid timber or masonry with clear Perspex affixed on top, which will be provided prior to issue of any construction certificate.

The proposed child care centre will provide a total of 12 car spaces, including one accessible space with shared zone. To facilitate vehicular access, a single two-way driveway is proposed off St Johns Road. Stormwater drainage is proposed via a pit and pipe system to control the discharge to the existing drainage system within the street. Fill and retaining walls of up to 2.6m are proposed within the car park in order to achieve the design level requirements for access and drainage.

All existing trees within the site are proposed to be removed as a part of the proposal in order to accommodate the proposal and ensure a safe outdoor play environment. Suitable landscaping with replacement trees within the front setback is proposed to soften the appearance of the development.

6.0 PLANNING CONTROLS

6.1 STATE PLANNING FRAMEWORK

6.1.1 State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

The above SEPP and associated Child Care Planning Guidelines aim to ensure a consistent approach to facilitating the provision of child care services across NSW and establishes Design Guidelines consistent with the requirements of the National Quality Framework.

The proposal is consistent with the requirements of the SEPP as follows:

Clause 22 Centre-based child care facility—concurrence of Regulatory Authority required for certain development

(1) This clause applies to development for the purpose of a centre-based child care facility if:

(a) the floor area of the building or place does not comply with regulation 107 (indoor unencumbered space requirements) of the Education and Care Services National Regulations, or

(b) the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations.

Comment: Not Applicable – the proposed indoor and outdoor play areas comply with the unencumbered space requirements.

Clause 23 Centre-based child care facility—matters for consideration by consent authorities

Before determining a development application for development for the purpose of a centre-based child care facility, the consent authority must take into consideration any applicable provisions of the Child Care Planning Guideline, in relation to the proposed development

Comment: Complies – refer to discussion below and Appendix A for compliance under the National Regulations.

Clause 25 Centre-based child care facility—non-discretionary development standards

(1) The object of this clause is to identify development standards for particular matters relating to a centre-based child care facility that, if complied with, prevent the consent authority from requiring more onerous standards for those matters.

(2) The following are non-discretionary development standards for the purposes of section 4.15 (2) and (3) of the Act in relation to the carrying out of development for the purposes of a centre-based child care facility:
(a) location—the development may be located at any distance from an existing or proposed early education and care facility,
(b) indoor or outdoor space
(i) for development to which regulation 107 (indoor unencumbered space requirements) or 108 (outdoor unencumbered space requirements) of the Education and Care Services National Regulations applies—the unencumbered area of indoor space and the unencumbered area of outdoor space for the development complies with the requirements of those regulations, or
(ii) for development to which clause 28 (unencumbered indoor space and useable outdoor play space) of the Children (Education and Care Services) Supplementary Provisions Regulation 2012 applies—the development complies with the indoor space requirements or the useable outdoor play space requirements in that clause,
(c) site area and site dimensions—the development may be located on a site of any size and have any length of street frontage or any allotment depth,
(d) colour of building materials or shade structures—the development may be of any colour or colour scheme unless it is a State or local heritage item or in a heritage conservation area.
(3) To remove doubt, this clause does not prevent a consent authority from:
(a) refusing a development application in relation to a matter not specified in subclause (2), or
(b) granting development consent even though any standard specified in subclause (2) is not complied with.

Comment: Complies with indoor and outdoor unencumbered space requirements and the subject site is considered suitable for the proposed use given no adverse streetscape or amenity impacts arise.

Clause 26 Centre-based child care facility—development control plans

(1) A provision of a development control plan that specifies a requirement, standard or control in relation to any of the following matters (including by reference to ages, age ratios, groupings, numbers or the like, of children) does not apply to development for the purpose of a centre-based child care facility:
(a) operational or management plans or arrangements (including hours of operation),
(b) demonstrated need or demand for child care services,
(c) proximity of facility to other early education and care facilities,
(d) any matter relating to development for the purpose of a centre-based child care facility contained in:

(i) the design principles set out in Part 2 of the Child Care Planning Guideline, or
(ii) the matters for consideration set out in Part 3 or the regulatory requirements set out in Part 4 of that Guideline (other than those concerning building height, side and rear setbacks or car parking rates).
(2) This clause applies regardless of when the development control plan was made.

Comment: Complies – refer to discussion below and Appendix A for compliance under the National Regulations.

Child Care Planning Guideline

The proposal is consistent with the design quality principles of Context, Built form, Adaptive Learning Spaces, Sustainability, Landscape, Amenity and Safety and the following matters for consideration under the Child Care Planning Guideline which override the requirements of a DCP as follows:

Matters for consideration

3.1 Site selection and location

Council's DCP provisions relating to the suitability of the site for the purpose of child care centres do not apply. The site is suitably zoned R2 low density residential and environmentally safe from potential risks and hazards with suitable access available from St John Road. The proposal complies with the building height and setback requirements under the Campbelltown DCP, and is supported by individual Acoustic and Traffic Reports prepared by suitably qualified consultants confirming that the proposal will not result in any adverse acoustic or traffic impacts. Accordingly, the site is considered suitable for the proposal.

3.2 Local character, streetscape and the public domain interface

The proposal has been designed to be compatible with the local character and surrounding streetscape. In this regard, the bulk, form, and massing of the proposal is consistent with the requirements of Campbelltown DCP and provides a high degree of contextual fit within the streetscape as shown in the extract below. 1.2m high acoustic fencing on top of retaining walls to the eastern and western sides of the car park will be suitably softened by landscaping within the front setback as viewed from the street whilst maintaining opportunities for passive surveillance.

3.3 Building orientation, envelope, building design and accessibility

The proposal has been designed to comply with the local building height and setback controls whilst minimising any potential adverse overshadowing or amenity impacts. The proposal is considered to achieve compatibility with the desired future built form character of the locality and this section of St Johns Road. Whilst a larger front setback is provided compared to adjoining properties, this is considered not to have any adverse impact on the streetscape, noting that any two-storey dwelling permitted under complying development provisions could also provide a larger front setback than adjoining properties given the front setback requirement is only expressed as a minimum. The siting and design of the building is considered to be a reasonable design response that is not excessive or overbearing in the immediate context and necessary to accommodate safe and convenient access and car parking provision. The design of the proposal provides for a safe environment accessible by all potential users and suitable outdoor play areas with a northerly aspect and shading that responds to the natural environment.

3.4 Landscaping

The proposal provides a landscape design that contributes to the streetscape and amenity through a landscaped front setback and screen planting to side boundaries. The proposal involves the removal of nine (9) existing trees, generally of moderate retention value and/or exotic garden species, to be replaced with suitable replacement tree planting.

3.5 Visual and acoustic privacy

The proposal has been designed to ensure no adverse visual or acoustic privacy impacts to adjoining properties through the provision of suitable fencing preventing visual overlooking and acoustic amenity impacts from the indoor and outdoor play areas.

3.6 Noise and air pollution

The proposal is accompanied by an Acoustic Report which provides suitable noise mitigation measures to ensure that outside noise levels are minimised to acceptable levels during operation. Potential impacts from external road noise will also be suitably mitigated as a part of the proposal. The proposal is not adversely affected by potential air pollution.

3.7 Hours of operation

Standard hours of operation from 7am to 6pm Monday to Friday are proposed with staff 'shoulder times' of 6:30am to 6:30pm compatible with the residential nature of the locality.

3.8 Traffic, parking and pedestrian circulation

The proposal complies with Council's car parking requirement of 12 car spaces and is accompanied by a Traffic Report which confirms that the proposal has been designed to satisfactorily and safely accommodate the anticipated car parking demands of the use and that no adverse traffic impacts will arise as a result of the proposal.

6.1.2 State Environmental Planning Policy No. 55 (Remediation of Land)

SEPP 55 specifies certain considerations for development on land with respect to the potential for contamination, particularly for sensitive land uses such as development for residential, educational or recreational purposes. The subject site has been used for residential purposes with accessible soils and as such, is suitable for the proposed child care centre use in accordance with the requirements of the SEPP.

Relevantly, Clause 7 states:

(1) A consent authority must not consent to the carrying out of any development on land unless:
(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.

(3) The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.

(4) The land concerned is:
(a) land that is within an investigation area,

(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,

(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land:
(i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and

(ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).

The subject site is not within an investigation area, is currently used for residential purposes and has historically been used for residential purposes. Therefore, it is considered that the requirements of Clause 7 – "Contamination and remediation to be considered in the determination of development applications" have been satisfactorily addressed.

6.2 LOCAL PLANNING FRAMEWORK

6.2.1 Campbelltown Local Environmental Plan 2015

The subject site is zoned R2 Low Density Residential pursuant to Campbelltown Local Environmental Plan 2015 as shown in Figure 4 below. The proposed development, being a child care centre, is permissible with consent in this zone.

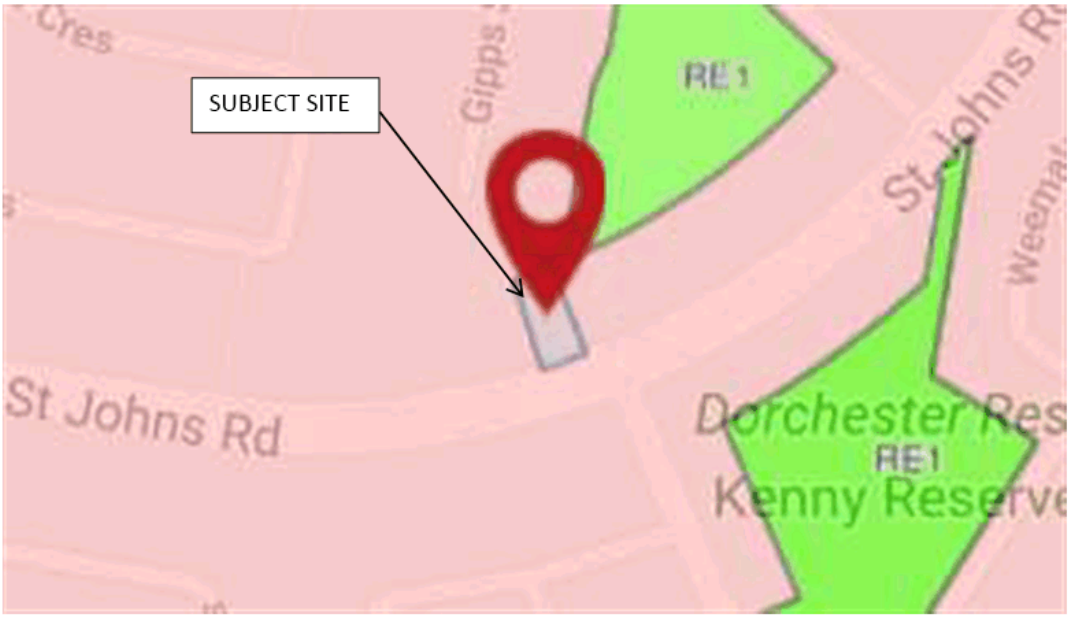

Figure 4: Zoning under Campbelltown Local Environmental Plan 2015

The R2 Low Density Residential objectives of the zone are as follows:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To enable development for purposes other than residential only if that development is compatible with the character of the living area and is of a domestic scale.*
- *To minimise overshadowing and ensure a desired level of solar access to all properties.*
- *To facilitate diverse and sustainable means of access and movement.*

The proposed child care centre will provide essential child care services to meet the day to day needs of residents while minimising any adverse impacts on the residential area and maintaining a built form compatible with the residential character of the locality.

Clause 4.1C Minimum qualifying site area and lot size for certain residential and centre-based child care facility development in residential zones and 4.3 Height of Buildings apply to the proposed development. The minimum site area if 800sqm. The Height of Building Map provides that a building is not to exceed a maximum height of 8.5m. In this instance the proposed development provides a maximum height of 8.12m and has a site area of 915.2sqm (by survey) or 910.5sqm (by title) and as such, complies with these standards.

6.2.2 Campbelltown Development Control Plan 2015

The Campbelltown Development Control Plan 2015 was prepared and exhibited in accordance with the Environmental Planning and Assessment Act 1979. It is a detailed document providing controls and design recommendations for all land as defined pursuant to the DCP. The DCP covers performance and design guidelines and controls related to environmental performance, social performance, amenity issues and design elements. Noting the operation of the SEPP and associated Child Care Planning Guideline override provisions related to location, site selection, distance separation, capacity, landscaping, location of indoor and outdoor play areas, and play area design, the subject proposal has been assessed against the applicable controls and guidelines of the DCP and is considered to be compliant with the principle standards and consistent with the intent of the development standards. The findings of that assessment are tabulated in Table 1 below.

Table 1: Compliance Table: Campbelltown Development Control Plan 2015

Development Standard	DCP	PROPOSAL	COMPLIANCE
Site Area	800sqm	915.2sqm (by survey) or 910.5sqm (by title)	YES
Building Height	2 storeys	2 storeys	YES
Building Setbacks: **Front** **Side** **Rear**	 5.5m 3m 5m	 20m 3m 5m	 YES YES YES
Carparking: **1 per 4 children for Staff and Visitors**	Min. 1:5 (2-3yr), 1:10 (3-6yr) = 15/5 + 30/10 = 12 in total	TOTAL = 12	YES
Landscape Area	Min 1.5m wide to side Min 3m width to front	1m to 2.2m to sides Average of 3m to front	NO but landscaping is considered acceptable due to satisfactory streetscape appearance and no adverse amenity impacts

Noting the proposed variation to the minimum landscaped area requirements above, Section 8.5 of Campbelltown DCP 2015 provides the following objectives:

> *Objectives:*
>
> ■ *To encourage the planting of native and low water consumption plants and trees.*
>
> ■ *To enhance the existing streetscape and promote a scale and density of planting that softens the visual impact of buildings, while maintaining opportunities for passive surveillance.*

■ *Ensure that to minimise the risk of personal injuries the appropriate species of plants are selected for the landscaping of Centre-based Child Care Facilities.*

Notwithstanding strict numerical non-compliance, the proposal is considered to maintain satisfactory landscaping to the front, side and rear setbacks given suitable species have been selected to soften the appearance of the development and enhance the existing streetscape whilst maintaining opportunities for passive surveillance. Further, the proposed landscape design is considered to satisfy the landscaping requirements of the Child Care Planning Guidelines, which prevails over the requirements of a DCP.

In addition, it is noted that the consent authority is required to take a flexible approach in the application of DCP provisions, such as landscape area, and allow reasonable alternative solutions that achieve the object of those standards given the circumstances of the case pursuant to section 4.15(3A) of the Environmental Planning and Assessment Act 1979. It is contended that the relevant objectives of these provisions have been achieved in this instance, noting that suitable landscaping is maintained as a part of the proposal that allows for softening of the development while maintaining passive surveillance and the likely impacts of the proposed development, such as bulk and scale, privacy and overshadowing, and stormwater runoff, have been adequately addressed through the design of the development.

6.3 Section 4.15 Environmental Planning and Assessment Act 1979

This section undertakes an assessment of the proposal in the context of the heads of consideration set out in Section 4.15(1) of the Environmental Planning and Assessment Act as follows:

HEADS OF CONSIDERATION	RESPONSE
(a) the provisions of – *(i) any environmental planning instrument, and* *(ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and* *(iii) any development control plan, and* *(iv) any matters prescribed by the regulations, that apply to the land to which the development application relates,*	The proposal's compliance and consistency with the provisions of the SEPP, Campbelltown Local Environmental Plan 2015 have been addressed in detail at Sections 6.1 and 6.2 of this Statement. In general terms the child care centre development is permissible within the R2 zone and is consistent with the aims and objectives of the SEPP, CLEP and CDCP.
(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	The likely impact of the proposal have been addressed in detail at Section 6.1.2 and Section 7 of this Statement. The proposal is considered satisfactory with regard to relevant matters such as Built Form, Access, Amenity, Privacy, Traffic Impact, Stormwater Drainage, ESD and the like, subject to the imposition of suitable conditions of consent to satisfactorily control the development.
(c) the suitability of the site for the development	The site being a rectangular allotment recently registered to be used for residential purposes has frontage to St Johns Road with moderate through traffic flows. This promotes the site as a relatively safe site for a child care centre. The proposed development is designed with respect to the slope of the site and adjoining residential uses, while the proposed vegetation details are noted on the Landscape Plan accompanying this application.
(d) any submissions made in accordance with this Act or the regulations,	This matter would relate to Council's public exhibition of the development.
(e) the public interest.	The proposed development provides essential child care services to the community that is in keeping with the desired character of the area, and as such in considered to be in the public interest.

7.0 KEY CONSIDERATIONS

7.1 Design & Planning Principles

The proposed development has been designed to reflect current trends and to accommodate a building form which will be compatible with the Council's vision for the locality. The design has particular regard to:

- the scale and form of development on nearby and adjoining lands;
- the existing and future form of development along St Johns Road;
- the appearance and scale of the buildings when viewed from St Johns Road;
- the high accessibility of the site and likely minimal amenity impacts.

The outcome of these considerations is, it is contended, a development which:

- will be of a high quality appearance and finish;
- compliments the existing and likely scale of development on adjoining land; and
- has minimal impact on the amenity of the locality due to its positioning and orientation.

7.2 Traffic and Pedestrian Access/Circulation

The proposed development is for a 45 place child care centre and the traffic generation is considered to be acceptable in this residential location with a local distributor road and adequate sight distances in a low speed residential environment, as set out in the traffic report. The subject land is located off St Johns Road, which is a local collector street with low traffic through-flows in the existing road network. It is thus considered that the development as proposed is an acceptable form of development within this precinct and generates vehicular movements capable of being catered for by the existing road system in this locality.

The proposed development has been designed in order to promote easy accessibility within the development as well as by the general public. Sufficient car parking has been provided to cater for the expected traffic generation of the development.

7.3 Streetscape Appearance

The existing streetscape of this locality comprises one and two storey detached and semi-detached dwellings along St Johns Road and in the suburb generally. Nearby streets are characterized by new one and two storey residential buildings.

The finished elevations for the proposed building will be generally compatible with mixed material finishes, brick, timber, colorbond and cladding of existing built form in this locality. The proposed child care centre will be compatible with the scale of built form in this locality. The final design has resulted

in a development which will be of a high quality finish and has interesting articulation and material finish variations and variety in its openings. Whilst the proposal provides a 20m front setback in order to accommodate the required 12 car spaces in accordance with Council's car parking requirements, the single storey structure as viewed from the street will be compatible, or capable of existing together in harmony (which is different from sameness), with the existing and desired future character of the street and locality generally.

This will be further complemented by providing suitable landscaping, as a landscape buffer to soften the appearance of the development. Therefore, the proposal will maintain a consistent relationship with the anticipated scale and character of the streetscape.

7.4 Solar Access & Shading

The height and setback of the proposed development ensures that adequate solar access is maintained and no adverse overshadowing impacts will arise given a minimum of 3 hours solar access is maintained to internal living areas and 50% of minimum private open space to adjoining properties between 9am and 3pm at midwinter as shown on the shadow diagrams accompanying this application. In accordance with the requirements of the Education and Care Services National Regulations 2012, appropriate shading has been provided based on 2.5sqm per child at the critical protection time of 12pm December 22.

7.5 Privacy & Amenity

The design of the development has had regard to the orientation and design of adjoining buildings in determining the final built form with the intent of minimizing any potential adverse impacts for existing neighbours where possible. In this regard, acoustic mitigation measures in accordance with the recommendations of the Acoustic Report will be provided in order to mitigate any potential acoustic amenity impacts on adjoining residential properties. Details will be provided prior to the issue of any construction certificate.

7.6 Waste Management

The proposed waste collection system for the development shall be controlled by operators of the child care centre and will be undertaken in accordance with the submitted Waste Management Plan. It is proposed that garbage storage will be provided in a bin enclosure, as illustrated in the development plans, and this will be easily serviced and accessible for users.

All builders waste during the construction phase will be removed from the site at regular intervals and disposed of at an approved waste dump in accordance with the waste management plan attached to this development application. The site will be kept clean and tidy at all times.

7.7 Stormwater Drainage

A stormwater drainage scheme has been prepared and submitted as part of the development plans for this proposal. The Stormwater Concept Plan attached to the development application provides for the collection of any runoff from the roofs, comprising eaves gutters designed to a 20 year ARI standard. The surface runoffs are collected via pits and pipes and transferred to the existing drainage system within St Johns Road.

7.8 General Services

7.8.1 Sewer and Water

Reticulated water and sewer is available to the site, with necessary adjustments and servicing of the proposed development to be in accordance with Sydney Water requirements.

7.8.2 Electricity Supply

Electricity is available to the site and will be connected to the building additions in accordance with the Authority requirements.

7.9 Cut and Fill

The subject development site falls approximately 3.4m to the rear, which will necessitate retaining walls up to 2.4m high and fill at the worst point within the car park forward of the building line in order to achieve the required design levels for the development. However, this is considered acceptable as the retaining wall has been set back 1m to 2.2m from the side boundaries and screened with landscaped planting to ensure no adverse amenity or stormwater impacts arise. Minor boundary retaining walls wholly contained within the subject property are proposed up to 650mm high to retain minor cut adjacent to the building platform. Therefore, the proposed extent of cut and fill across the site is considered acceptable given the constraint of site slope and the need to achieve level building platforms for ease of access and useability for indoor and outdoor children's play areas.

8.0 CONCLUSION

The proposed development has been assessed against the matters for consideration listed in Section 4.15 of the Environmental Planning & Assessment Act 1979 and is considered to be satisfactory. In this regard it is considered that the subject site is considered suitable for the proposed development and that the proposal, providing much needed child care services, is in the public interest.

The proposal is consistent with the objectives of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017, Campbelltown Local Environmental Plan 2015 and is permissible in the R2 zone with development consent. The proposal also complies with the main essential criteria set out in the Campbelltown Development Control Plan 2015, and is considered satisfactory with regard to relevant matters such as Urban Design, Access, Traffic Impact, Stormwater Drainage, ESD, Site Contamination, Amenity, Overshadowing, Social and Economic Impacts and the like subject to the imposition of suitable conditions of consent to satisfactorily control the development

9.0 APPENDIX A – Child Care Regulations

Education and Care Services National Regulation 2012 **Part 4.3 Physical environment**		
Clause	**Requirement**	**Comment**
103 Premises, furniture and equipment to be safe, clean and in good repair	(1) The approved provider of an education and care service must ensure that the education and care service premises and all equipment and furniture used in providing the education and care service are safe, clean and in good repair.	All equipment to be installed in accordance with relevant Australian Standards and properly maintained.
104 Fencing	(1) The approved provider of an education and care service must ensure that any outdoor space used by children at the education and care service premises is enclosed by a fence or barrier that is of a height and design that children preschool age or under cannot go through, over or under it.	Suitable fencing with child proof locking mechanism shown on plan
105 Furniture, materials and equipment	The approved provider of an education and care service must ensure that each child being educated and cared for by the education and care service has access to sufficient furniture, materials and developmentally appropriate equipment suitable for the education and care of that child.	Sufficient furniture, equipment and materials have been provided.
106 Laundry and hygiene facilities	(1) The approved provider of an education and care service must ensure that the service has— (a) laundry facilities or access to laundry facilities; or (b) other arrangements for dealing with soiled clothing, nappies and linen, including hygienic facilities for storage prior to their disposal or laundering— that are adequate and appropriate for the needs of the service. (2) The approved provider of the service must ensure that laundry and hygienic facilities are located and maintained in a way that does not pose a risk to children.	Laundry provided onsite.
107 Space requirements—indoor space	3.25sqm unencumbered space per child (exc. Passageways, door swings, toilets, hygiene facilities, nappy change or bottle prep rooms, cot storage, storage, staff or admin rooms, kitchen)	45*3.25 = 146.25sqm required >146.25sqm provided

108 Space requirements—outdoor space	7sqm unencumbered space per child (exc. Passageways, thoroughfares, storage areas, carparking, landscaping, any other space not suitable for children)	45*7 = 315qm required >315sqm provided
109 Toilet and hygiene facilities	(a) adequate, developmentally and age-appropriate toilet, washing and drying facilities are provided for use by children being educated and cared for by the service; and (b) the location and design of the toilet, washing and drying facilities enable safe use and convenient access by the children.	Provided on plans.
110 Ventilation and natural light	The approved provider of an education and care service must ensure that the indoor spaces used by children at the education and care service premises— (a) are well ventilated; and (b) have adequate natural light; and (c) are maintained at a temperature that ensures the safety and wellbeing of children.	Provided.
111 Administrative space	The approved provider of a centre-based service must ensure that an adequate area or areas are available at the education and care service premises for the purposes of— (a) conducting the administrative functions of the service; and (b) consulting with parents of children; and (c) conducting private conversations.	Provided.
112 Nappy change facilities	(1) This regulation applies if a centre-based service educates and cares for children who wear nappies. (2) The approved provider of the service must ensure that adequate and appropriate hygienic facilities are provided for nappy changing. (3) Without limiting subregulation (2), the approved provider of the service must ensure that the following are provided— (a) if any of the children are under 3 years of age, at least 1 properly constructed nappy changing bench; and (b) hand cleansing facilities for adults in the immediate vicinity of the nappy change area. Penalty: $1000. (4) The approved provider of the service must ensure that nappy change facilities are designed, located and maintained in a way that prevents unsupervised access by children.	Provided.

113 Outdoor space—natural environment	The approved provider of a centre-based service must ensure that the outdoor spaces provided at the education and care service premises allow children to explore and experience the natural environment.	Sandpits and detailed landscapinghave been provided.
114 Outdoor space—shade	The approved provider of a centre-based service must ensure that outdoor spaces provided at the education and care service premises include adequate shaded areas to protect children from overexposure to ultraviolet radiation from the sun.	A minimum of 2.5sqm of shade per child and employee has been provided at 12pm on summer solstice.
115 Premises designed to facilitate supervision	The approved provider of a centre-based service must ensure that the education and care service premises (including toilets and nappy change facilities) are designed and maintained in a way that facilitates supervision of children at all times that they are being educated and cared for by the service, having regard to the need to maintain the rights and dignity of the children.	Layout facilitates supervision at all times.

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ARBORICULTURAL IMPACT ASSESSMENT OF TREES LOCATED ON OR NEAR 139 ST JOHNS ROAD, BRADBURY

Malcolm Bruce

Contents

1. Introduction

1.1. Location of the subject site (See Figure 1)

Figure 1: Location of Subject Site (From SixMaps viewed 2019)

1.2 The subject site was inspected on 1/1/2019;

1.3 This report was prepared for RFA Architects.

1.4 Council has provide the following instruction is letter dated 10th December 2018 in relation to the report:-

"***Vegetation Removal/Retention***

46 Provide an Arborists Report which details the trees to be removed and advise tree protection measures for the trees to be retained including trees on adjoining properties that are likely to me impacted by the proposed development.

47 In accordance with Part 8.5 (d) of Councils (Sustainable City) DCP, the Arborist Report must provide an assessment of the existing vegetation to be retained on the subject site and on adjoining sites and the proposed vegetation on the subject site to ensure that the plants

a are not toxic or dangerous (refer to Appendix 7 for a list of Unsuitable Plant Species) and

b do not impose a safety hazard such as personal injury from falling branched and seeds poisoning and/or toxic"

2 Aims

2.1 To examine the nominated trees and assess the trees' health, structure and environmental conditions;

2.2 To identify and describe any health, structural or environmental issues relating to the subject trees;

2.3 To assess the required Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) for the trees;

2.4 To provide and recommend workable solutions to ameliorate and health, structural or environmental issue detected during the assessment process and to recommend suitable actions for the trees, if necessary.

3 Methods

3.1 The Crown Width was measured, by a laser distance measuring instrument, from the centre of the tree out to the edge of the crown along the four points of the compass, North, South, East and West;

3.2 The diameter of the trunk is measured at 1.4 metres above the soil by measuring the diameter using a diameter tape. This is the Diameter at Breast Height (DBH). (AS 4970-2009). Additionally the diameter of the trunk at above the start of the root buttress is measured using a diameter tape. This Root Buttress Diameter (RBD) is for the calculation of the Structural Root Zone or Root Plate;

3.3 The height was calculated by multiplying the percentage angle, measured by a Suunto Inclinometer, by a distance from the tree, measured by a laser distance measuring instrument;

3.4 Tree Protection Zone (TPZ) is the principal means for protecting trees on development sites. It is an area isolated from the construction disturbance so that the tree remains viable.

The TPZ is calculated using the formula: -

TPZ = DBH (diameter at breast height) *x* 12

Where multiple trunks the DBH is calculated as:-

$$DBH = \sqrt{(DBH_1)^2 + (DBH_2)^2 + \text{++++} + (DBH_x)^2}$$

The TPZ is the above formula expressed in terms of a radius from the trunk of the tree. For palms the TPZ is Crown Width plus 2 metres (From AS 4970-2009);

3.5 The Structural Root Zone (SRZ) is the area required for tree stability.
Structural Root Zone (SRZ) is calculated using the formula: -
SRA Radius = $(RBD \times 50)^{0.42} \times 0.64$

The SRA expressed in terms of a radius from the trunk of the tree. (From AS 4970-2009);

3.6 Health of the trunk and branches was assessed by examination for insect and pathogen invasion, scarring, bark splitting and excess shedding, death of major branches and known structural weakness indicators, using the Visual Tree Assessment Method (VTA) to Stage 1, which includes use of a sounding (acoustic) hammer. (Mattheck & Breloer 1994, pp. 12–13, 145). No internal examination of any trees was conducted;

3.7 Crown Health was assessed by examination for excessive leaf drop, sparse crowing, small and medium branch death, yellow or discolouration of the leaves and insect and pathogen invasion of the leaves. Additionally Crown Health was assigned a number based on comparison with illustrations in Figure 2: Crown Health Assessment. Within this comparison system the lower the number the better the health of the tree's crown. The assessed number has can be found in Table 3;

3.8 Soil compaction was arbitrarily assessed by pushing a 200mm flat bladed screw driver into the soil;

3.9 The tree assessment has been conducted using the SULE method (Barrel 2001) (See Table 1);

3.10 Size of the impact has been calculated using the devise located in http://www.proofsafe.com.au/tpz_incursion_calculator.html

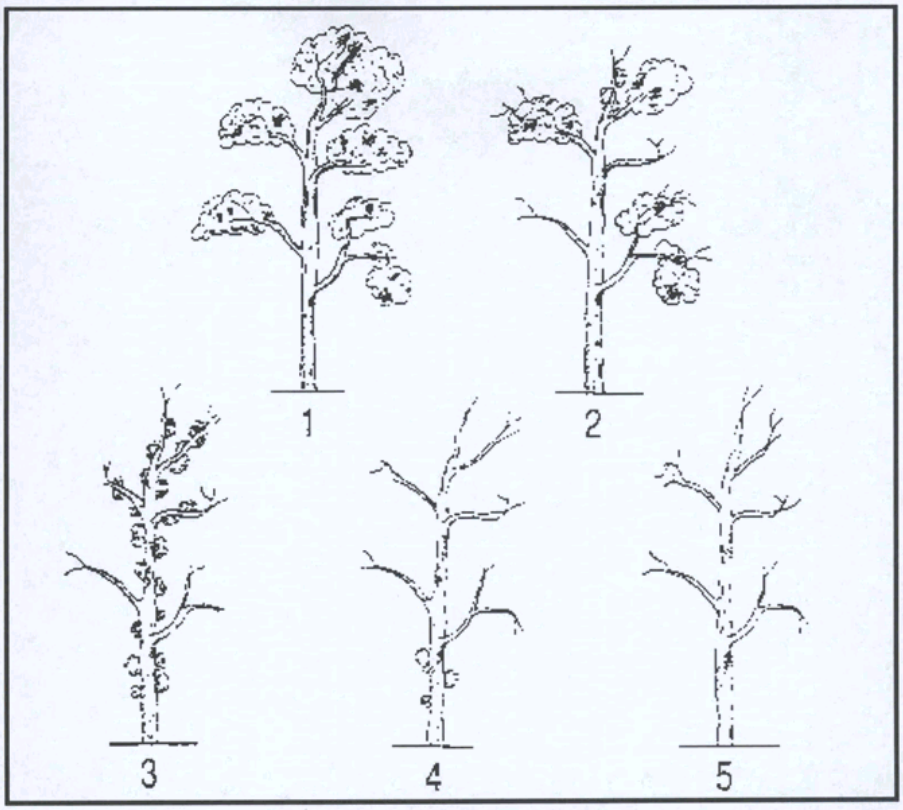

Figure 2: Crown Health Assessment

Table 1: SULE Table (After Barrel 2001)

	1	2	3	4	5
	Long:	**Medium:**	**Short:**	**Remove**	**Small, Young or Regularly Pruned**
	Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk	**Trees that appeared to be retainable at the time of assessment for 15–40 years with an acceptable level of risk**	**Trees that appeared to be retainable at the time of assessment for 5–15 years with an acceptable level of risk**	**Trees which should be removed in the next 5 years**	**Tree that can be reliably removed moved or replaced**
A	Structurally sound trees in positions that can accommodate future growth	Trees which may only live between 15 and 40 years.	Trees which may only live between 5 and 15 years.	Dead, dying, suppressed or declining trees because of disease or inhospitable conditions	Small trees less than 5m in height
B	Trees which could be made suitable for long-term retention by remedial care	Tree which may live for more than 40 years but would be removed for safety or nuisance reasons	Trees which may live for more than 15 years but would be removed for safety or nuisance reasons.	Dangerous trees because of instability or recent loss of adjacent trees	Young trees less than 15 years old but over 5m in height
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention	Trees which may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting	Trees which may live for more than 15 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting	Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form	Formal hedges and trees intended for regular pruning to artificially control growth
D		Trees which could be made suitable for retention in the medium term by remedial care	Trees which require substantial remedial tree care and are only suitable for retention in the short term	Damaged trees that are clearly not safe to retain	Damaged trees that are clearly not safe to retain
E				Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting	Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting
F					Trees that are damaging or may cause damage to existing structures within 5 years
G					Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f)
H					Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review

4 Observations

4.1 Results

Table 2: Tree Data and TPZ Calculations

No	Scientific Name	Common Name	Estimate Age(years)	Tree Height (metres)	Crown Width (Metres)				Trunk Diameter (metres)	Calculated TPZ radius	Root Buttress Diameter	Calculated SRA radius
					N	S	E	W				
1	*Ficus microcarpa var. hillii*	Hills Fig	40 Plus Years	11.1	5.88	4.20	6.00	5.01	0.5 0.2	6.5	0.5	2.5
2	*Cinnamomum camphora*	Camphor Laurel	NSW Statewide Priority Weed-remove									
3	*Prunus persica*	Chinese Elm	Completely hollow, only shell of trunk, dangerous remove									
4	*Bauhinia purpurea*	Butterfly Tree	40 plus years	8.1	5.99	3.20	4.80	3.21	0.13 0.12 0.15 0.14	3.3	0.50	2.5
5	*Celtis australis*	European hackberry	NSW Statewide Priority Weed-remove									
6	*Melia azedarach*	White Cedar	20 plus years	6.5	1.50	2.40	2.00	1.50	0.13	1.6	0.24	1.8
7	*Jacaranda mimosafolia*	Jacaranda	10 plus years	5.4	1.20	1.56	1.36	1.53	0.09	1.1	0.15	1.5
8	*Callistemon viminalis*	Weeping Bottlebrush	10 plus years	4.3	1.00	2.20	1.50	1.40	0.11	1.3	0.20	1.7
9	*Syzygium (Acmena) smithii*	Lilli Pilli	10 plus years	3.3	1.25	1.00	1.20	1.00	0.04 0.04 0.02	0.7	0.12	1.4
10	*Eucalyptus nicholii*	Narrow-leafed Black Peppermint	50 plus years	23.2	5.82	5.82	4.46	6.12	0.7	8.4	0.87	3.1

Table 3: Tree Health Assessment

No	Scientific Name	Common Name	Trunk and Branch Health	Crown Health	Crown health Assessment Code	Overall Health	SULE Rating	Observed Issues
1	*Ficus microcarpa var. hillii*	Hills Fig	Fair	Fair	1	Fair	1B	Some poor branch architecture. Some minor bark inclusions
2	*Cinnamomum camphora*	Camphor Laurel	Priority Weed for NSW					
3	*Prunus persica*	Chinese Elm	Poor	Poor	2	Poor	4C	Hollowed by decay, unstable
4	*Bauhinia purpurea*	Butterfly Tree	Fair	Poor	3	Poor	4A	Appears to be in the Mortality Spiral
5	*Celtis australis*	European hackberry	Priority Weed for NSW					
6	*Melia azedarach*	White Cedar	Fair	Fair	1	Fair	4A	Supressed tree
7	*Jacaranda mimosafolia*	Jacaranda	Fair	Fair	1	Fair	4A	Poor growth form, hazard beam
8	*Callistemon viminalis*	Weeping Bottlebrush	Fair	Good	1	Fair	1A	Reasonable condition
9	*Syzygium (Acmena) smithii*	Lilli Pilli	Good	Good	1	Good	1A	Multi-trunked reasonable
10	*Eucalyptus nicholii*	Narrow-leafed Black Peppermint	Poor	Poor	2	Poor	4A	Tree in Mortality Spiral, on adjoining allotment

4.2 Location of Tree

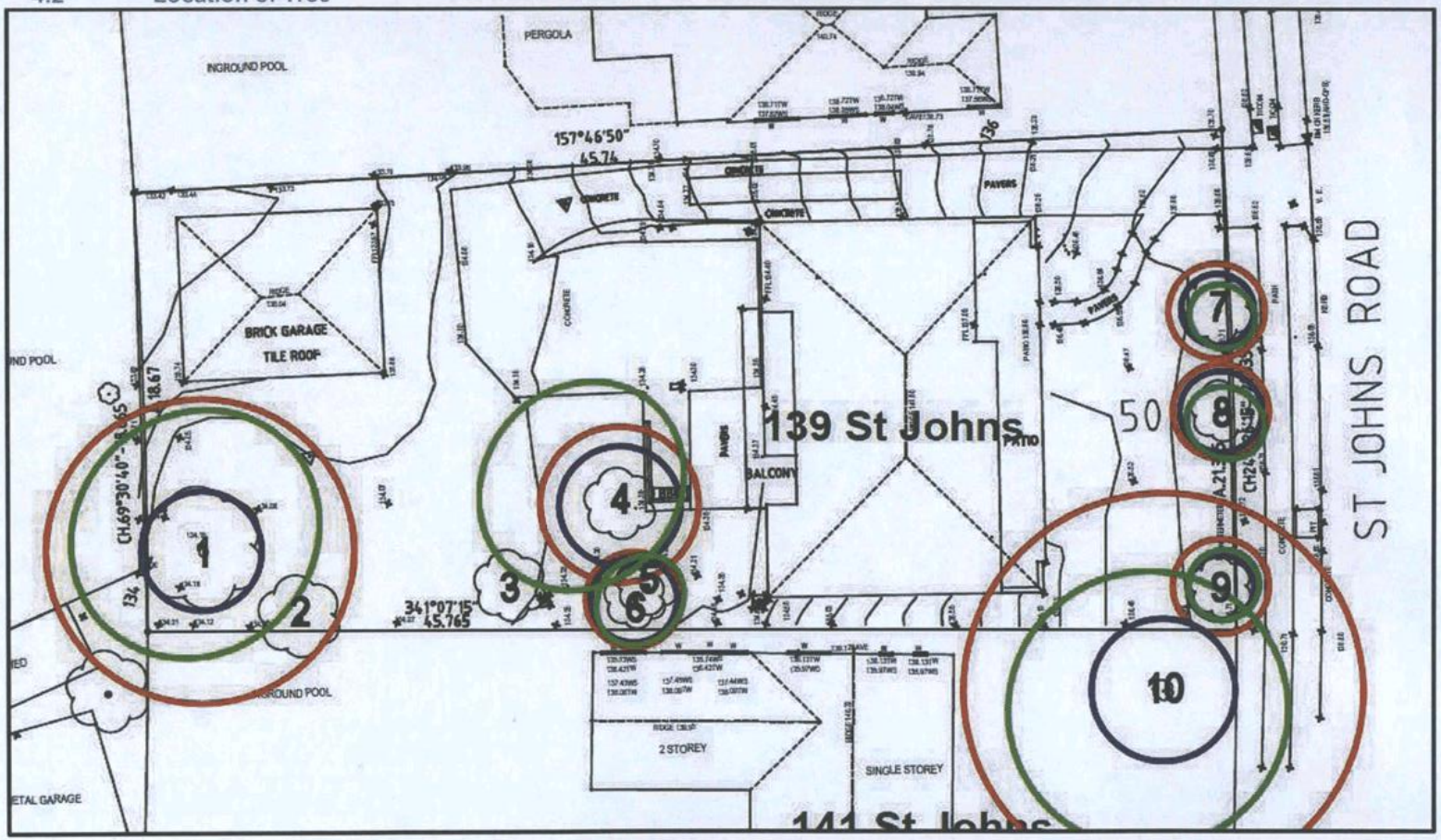

Figure 3: Position of the tree with calculated Tree Protection Zone outlined in red and the calculated Structural Root Zone outlined in blue, Scale 1:250. From Site Survey-Existing 139 St Johns Road, Bradbury, by RFA Architects, dated 29/6/2016

4.3 Geology and Soils

4.3.1 The soil, surrounding the subject trees, is classified as Blacktown Soil Landscape (See Figure 4) Hazelton and Tille (1990) describe the Blacktown Soil Landscape as being "*Gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes usually >5%. Broad rounded crests and ridges with gently inclined slopes. Cleared Eucalypt woodland and tall open-forest (dry schlerophyll forest).*"

Figure 4: Subject site, showing Blacktown soil landscapes (From eSpade V2 2019)

5 Observations and Discussion of the Tree and Environment

5.1 Tree 1 is a maturing *Ficus microcarpa var Hilli* (Hills Fig). (See Figure 5) The Fig is in reasonable condition but is displaying some development of bark inclusions, also described as compression forks. This is an issue with some specimens of this species. The included compression fork has been described by Mattheck as potentially dangerous (Mattheck and Breloer, 1994, P.60 and Mattheck, 2007, P.21). Lonsdale (2000) P. 20, supports Mattheck stating "*unions with included bark are most likely to fail in trees on exposed sites (especially if exposure has increased, as when surrounding trees are removed), or in dominant trees whose height makes them rather exposed. Gusts blowing between the forks are most likely to cause failure* ". Additionally, this Fig produces large quantities of fruit, between 15 and 20 mm in diameter, twice per year. These small fruit could be considered dangerous to small children. The Campbelltown (Sustainable City) Development Control Plan 2015, P 380 does state: - "*Note: Child care centres must consider plant use very carefully, and omit any plants that are known to be toxic, where any parts of which can cause serious skin irritations, illness or death if taken in adequate quantities. This includes leaves, seeds, fruits, flowers, bark and sap. Planting design should also limit species with profuse flowers, sharp or spiny leaves, berries or seeds that could cause a choking hazard, or those known to shed branches in heat or windy conditions*" (Campbelltown City Council, 2018) This Fig has the potential to drop both small and large branches in high wind conditions and does produce fruit that could be a choking hazards. If the proposal to construct a child minding centre is approved, this Fig will have to be removed;

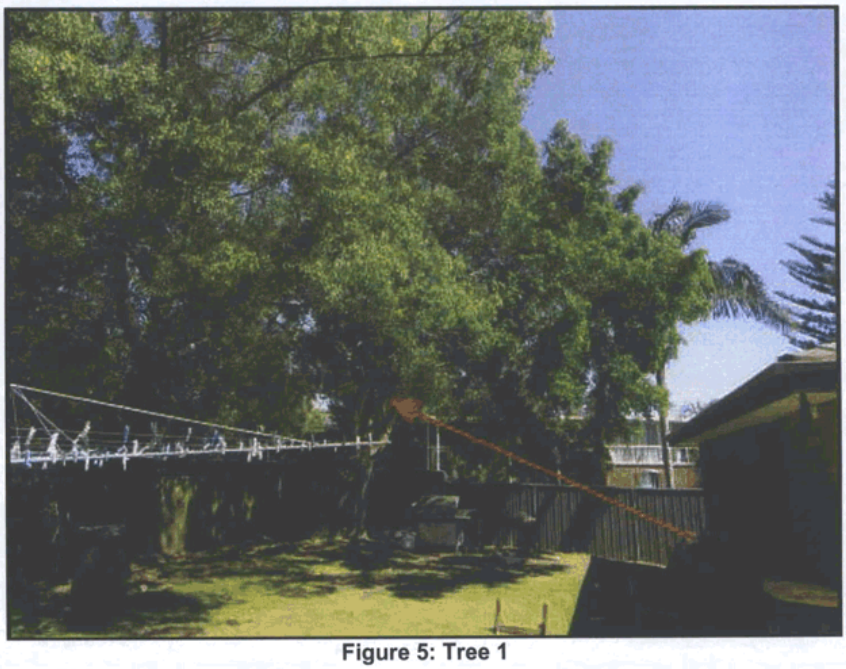

Figure 5: Tree 1

5.2 Tree 2 is a *Cinnamomum camphora* (Camphor Laurel). (See Figure 6) Camphor Laurel has been scheduled under the *Biosecurity Act*, 2015. The weed list schedule of the *NSW Biosecurity Act 2015* describes Camphor Laurel a "*Weed of NSW*" with "*General Biosecurity Duty to prevent, eliminate or minimise any biosecurity risk they may pose.*" (DPI 2017a) The explanatory document "*General Biosecurity Duty, Biosecurity Act 2015, What does the General Biosecurity Duty mean?*" (DPI 2016) does state "*If a weed poses a biosecurity risk in a particular area, but is not the subject of any specific legislation, the General Biosecurity Duty would apply to manage that weed or prevent its spread.*" None of the Department of Primary Industries' documentation makes mention of any exemptions. This tree must be removed;

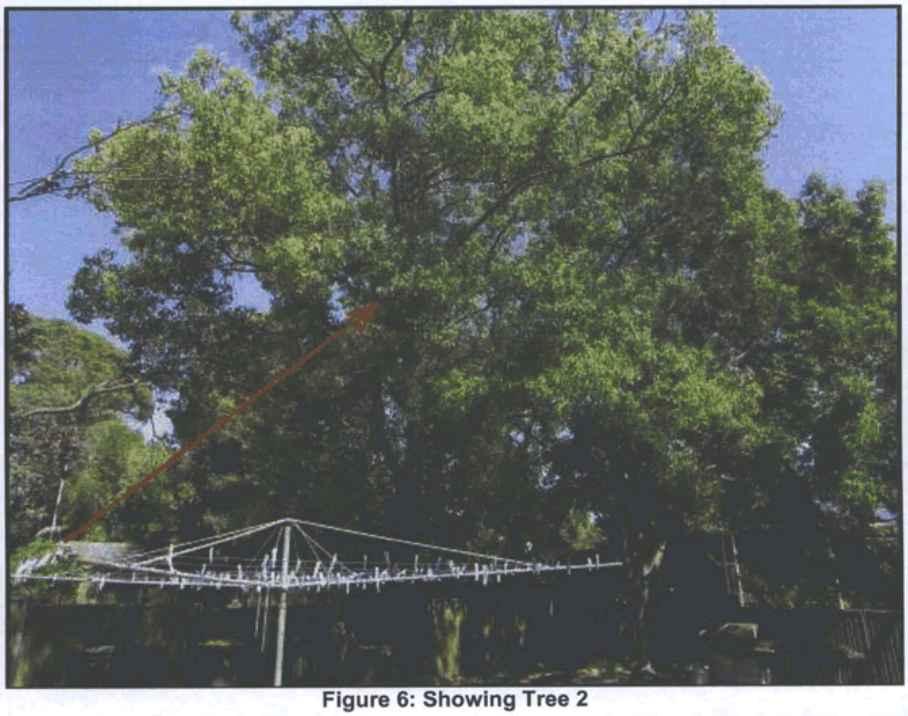

Figure 6: Showing Tree 2

5.3 Tree 3 is a *Prunus persica* (Ornamental Peach). This Peach is in very poor condition with a hollowed trunk that has openings through the bark and vascular cambium. (See Figure 7) Kane et al (2001) P.80 state "*Decurrent trees infected with decay, on the other hand, usually fail at branch attachments where the stem decay extends into large subordinate branches*". Also, Kane et al (2001) suggest that where the trunk is not circular shape of the trunk can fail under compression where the hollow is located. Additionally, Ornamental Peaches are scheduled as an undesirable species, under *Prunus oersica* within Campbelltown (Sustainable City) Development Control Plan 2015, P 378. (Campbelltown City Council, 2018) Tree 3 should be removed;

Figure 7: Tree 3 showing the hollowed lower trunk

5.4 Tree 4 is an overly mature *Bauhinia purpurea* (Butterfly Tree). Much of Tree 4's crown has died and the tree appears to in the final stages of the "Mortality Spiral" (Harris et al, 2004). (See Figure 8) Further, *Bauhinia purpurea* produce leguminous pods, similar in size to *Vicia faba* (Broad Bean). The seeds are also similar in size to Broad Bean seeds. The seeds of *Bauhinia purpurea* could be considered a choking hazard. As has been described in Point 5.1, although not listed, this species in terms of the statement on P.380 of Campbelltown (Sustainable City) Development Control Plan 2015, must be considered as undesirable. Considering the state of health of Tree 4 and the potential as a choking hazard, this tree should be removed;

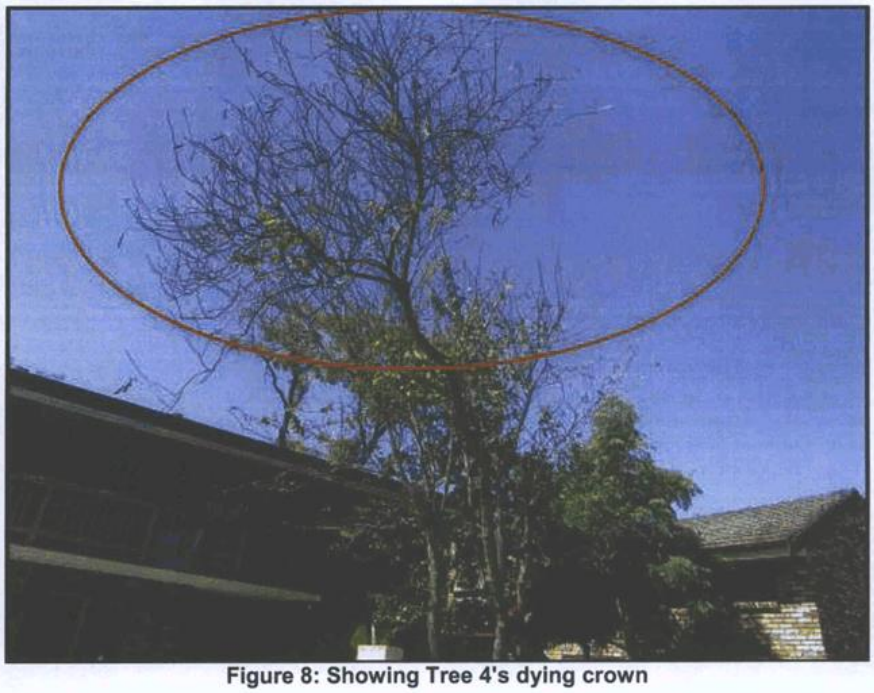

Figure 8: Showing Tree 4's dying crown

5.5 Tree 5 is an immature *Celtis australis* (European Huckleberry). (See Figure 9) *Celtis australis* has been scheduled as a NSW Statewide Weed under the *Biosecurity Act 2015.* (DPI 2017b) Tree 5 must be removed;

Figure 9: Trees 5 and 6

5.6 Tree 6 is a small *Melia azedarach* (White Cedar). (See Figure 9) *Melia azedarach* is scheduled as an undesirable species within Campbelltown (Sustainable City) Development Control Plan 2015, P 378. (Campbelltown City Council, 2018) Tree 3 should be removed;

5.7 Tree 7 is a small, immature *Jacaranda mimosafolia* (Jacaranda). The tree is in poor structural condition. (See Figure 10) The trunk has developed poorly and has formed as a hazard beam. Further, Jacarandas can produce copious quantities of flowers and form large woody capsules, containing winged seeds. The tree has the potential to pose a risk for small children as outline on P. 380 of Campbelltown (Sustainable City) Development Control Plan 2015 (Campbelltown City Council, 2018) and should be removed;

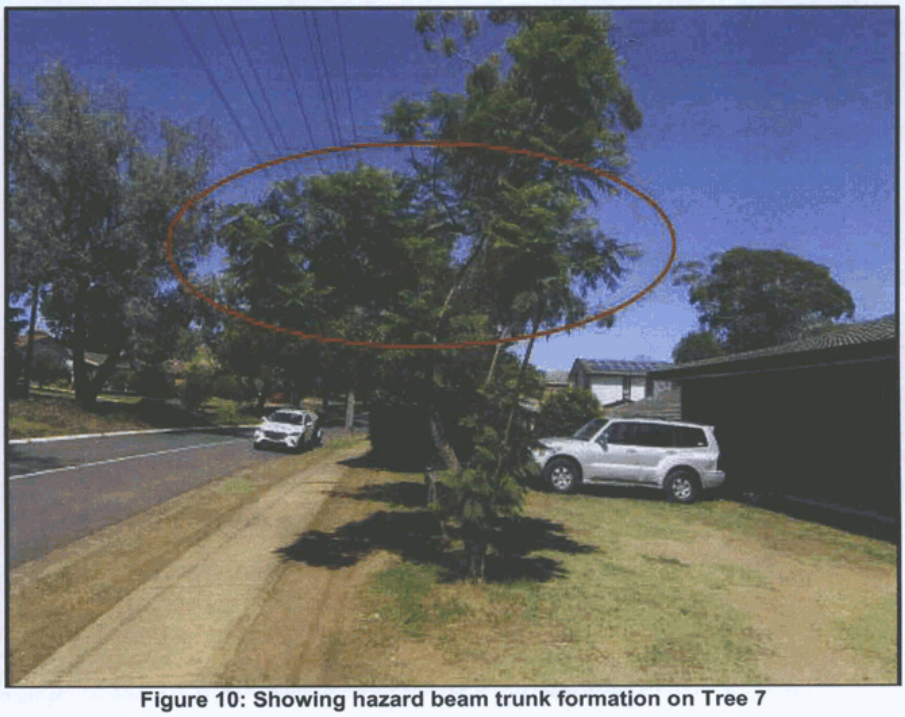

Figure 10: Showing hazard beam trunk formation on Tree 7

5.8 Tree 8 is a small *Callistemon viminalis* (Weeping Bottlebrush). (See Figure 11) The Tree Removal/Tree Pruning Application Form states "*An application to remove or prune a tree higher than 10 metres must include written evidence from a qualified arborist that states why the tree needs to be removed or pruned*". (Campbelltown City Council, 2018b) This does imply that trees less than 10 metres can be removed without reason. Tree 7 is 4.3 metres. The tree is in conflict with the proposal and can be removed;

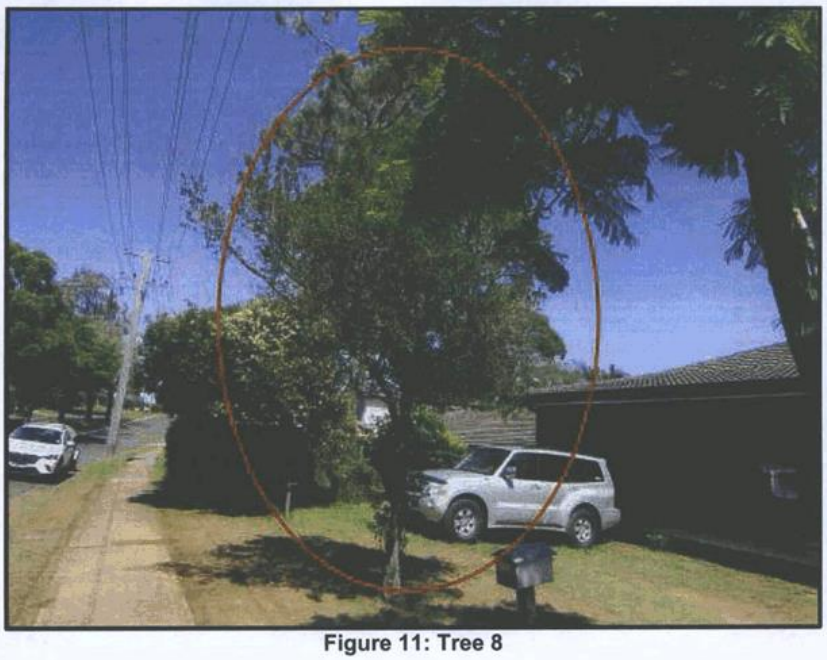

Figure 11: Tree 8

5.9 Tree 9 is a small, immature *Syzygium (Acmena) smithii* (Lilli Pilli). (See Figure 12) The Lilli Pilli is less than 4 metres in height and produces small fruit, which could be considered a choking hazard. As this is less than 10 metres and a potential risk for small children, as outline on P. 380 of Campbelltown (Sustainable City) Development Control Plan 2015 (Campbelltown City Council, 2018), Tree 9 should be removed;

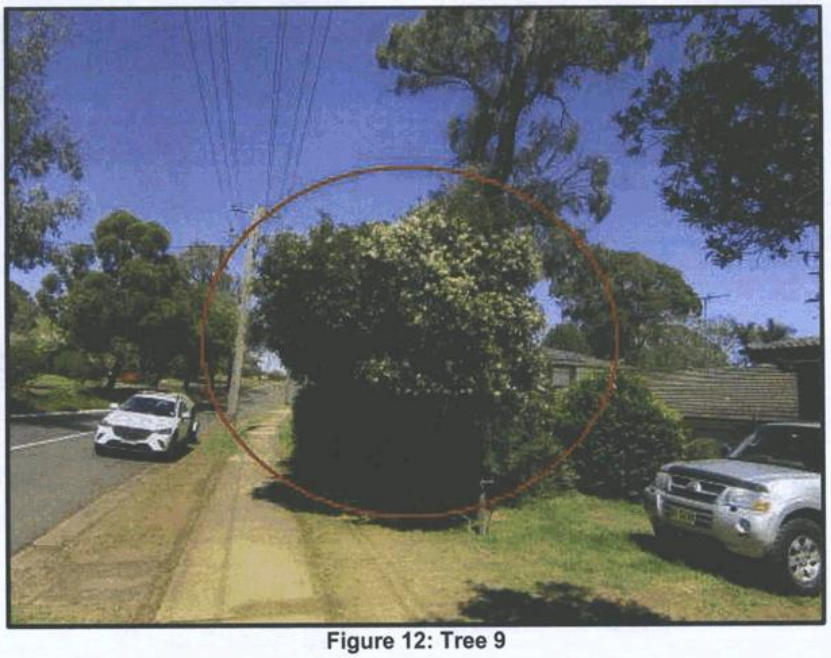

Figure 12: Tree 9

5.10 Tree 10 is mature *Eucalyptus nicholii* (Narrow-leafed Black Peppermint). The Peppermint is growing on the adjoining allotment, 141 St Johns Road. The Peppermint has a large Tree Protection Zone (TPZ) of 8.4 metres. The current proposal will impact on 20% of Tree 10's TPZ. (See Figure 13)This is an excessive impact and would result in the tree declining. However, the Peppermint is displaying signs of having entered the "Mortality Spiral" as described by Harris et al, 2004, P.42 who contention that "*tree death often involves a predictable path termed a mortality spiral".* Harris et al (2004). P.42 state that "*in its general form a mortality spiral describes the sequence of events as a tree's conditions changes for healthy to stressed to declining to death*". (See Figure 14). The Peppermint is showing signs of outer crown death, with the retention of dead branches. (See Figure 15) Kino is weeping from fissures and other wounds on the trunk, suggesting canker development from around beetle larvae borer holes. Although discussing decay in Chestnuts, Bhagwandin (2009) states "*Scolytid beetles are the primary invaders in dying plant material and thus function as vectors of the decay process in forest ecology*." From this statement inference can be made that the longicorn beetle larvae may also acts as a vector for several decay causing fungi. The extensive holes bored by the larvae of these beetles would allow the decay fungus to avoid compartmentalisation in the attacked tree. The combination of the pathogen and the beetle larvae appears to have overcome the four CODIT walls (Shigo 1979). There is a large, dead area on the trunk, derived from a topped first order branch. (See Figure 16) This dead branch and subsequent dead section of the trunk may have set off the reactions that have led to the "Mortality Spiral". Iles and Gleason (1999) should be taken into consideration "*Large branch stubs that result from topping are open invitations to insects and wood-rotting pathogens. In particular, opportunistic pathogens find the living, but virtually defenceless stub an inviting and plentiful source of food. Unable to receive substantial amounts of energy from other parts of the tree, stubs lack the capacity to wall-off or compartmentalize the wound, allowing decay-causing organisms' easy access. Once decay has entered the branch stub, it may progress into the main trunk eventually killing the tree and creating a hazardous situation for people*." The tree will continue to decline and will eventually require to be removed in 5 years. The best option would be to negotiate the removal of this tree with the owner and provide a suitable replacement specimen;

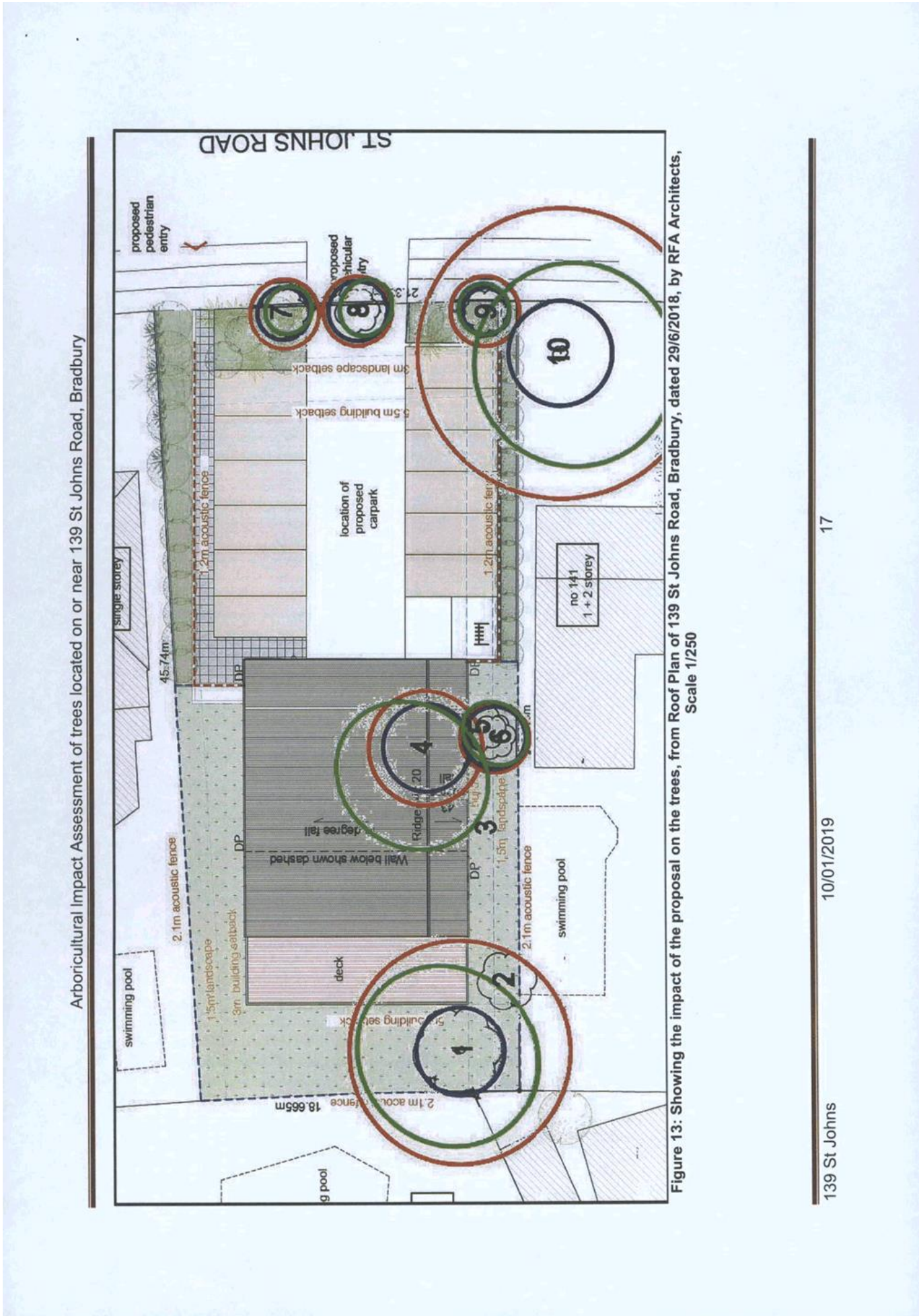

Figure 13: Showing the impact of the proposal on the trees, from Roof Plan of 139 St Johns Road, Bradbury, dated 29/6/2018, by RFA Architects, Scale 1/250

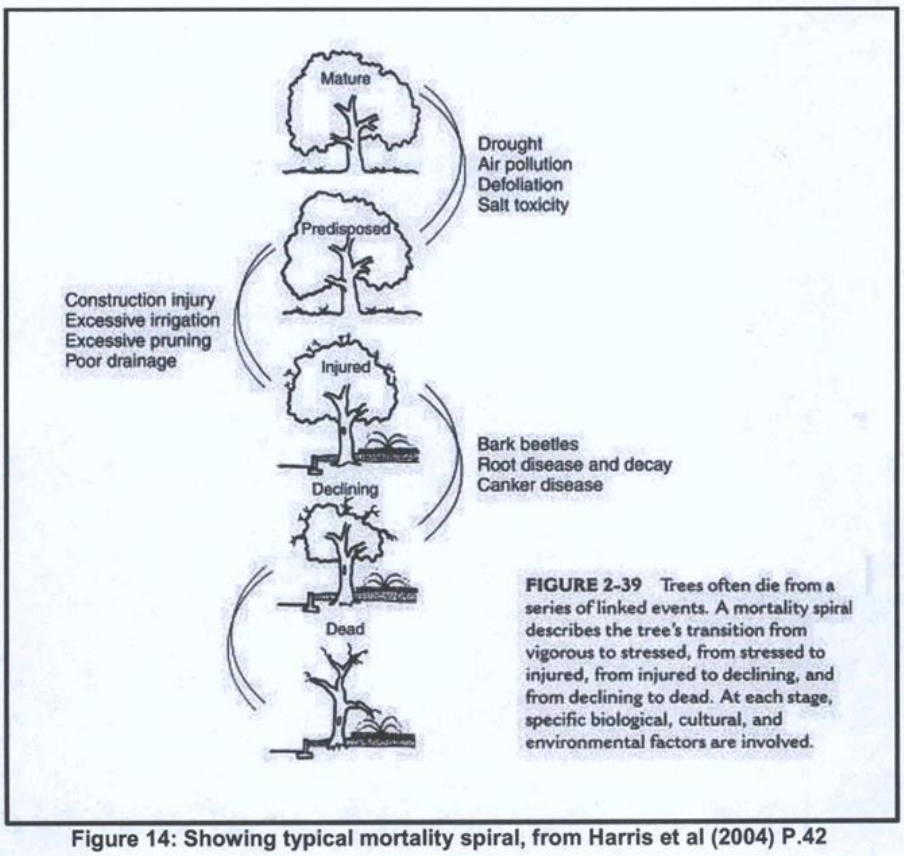

Figure 14: Showing typical mortality spiral, from Harris et al (2004) P.42

Figure 15: Showing the tip death on the crown of Tree 10

Figure 16: Showing the dead part of the trunk from the topped branch on Tree 10

5.11 Council has requested information on proposed replacement plantings for trees removed from the allotment. Considering the requirements expressed in the Campbelltown (Sustainable City) Development Control Plan 2015, P 380 (Campbelltown City Council, 2018), then a suitable replacement species may be *Backhousia citriodora* (Lemon Myrtle). This species does not produce either large hard or fleshy fruits. Lemon Myrtles produce a small capsule. Another group of small trees that may be considered are the *Callistemon Spp* (Bottlebrush). Most Bottlebrushes retain their fruit on the older wood.

6 Recommendations

6.1 Trees 1, 2, 3, 4, 5, 6, 7, 8 and 9 should be removed for reasons outlined in Part 5, of this report;

6.2 Discussion should be entered into with the owners of Tree 10; to obtain the removal this tree should be removed. If agreement is obtained, then permission should be sort from Council;

6.2.1 A replacement tree should be provided to replace Tree 10 and grown to Natspec Specifications (Clark 2003) or as specified in AS 2303 of 2015 *Tree stock for landscape use* (Standards Australia, 2015), in a 200 litre containers and between 2 and 4 metres in height

6.3 Where trees are removed, the trees should be replaced. The replacement trees should be *Backhousia citriodora* or a *Callistemon spp* or a species agreed to by Council;

6.3.1 Replacement trees should be grown to Natspec Specifications (Clark 2003) or as specified in AS 2303 of 2015 *Tree stock for landscape use* (Standards Australia, 2015), in a 100 litre containers and between 1 and 2 metres in height;

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Diploma of Arboriculture (Distinction) (Ryde TAFE)

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PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY

GENERAL

01 These drawings shall be read in conjunction with all architectural and other consultants drawings and specifications and with such other written instructions and sketches as may be issued during the course of the Contract. Any discrepancies shall be referred to the Superintendent before proceeding with any related works. Construction from these drawings, and their associated consultants drawings is not to commence until approved by the Local Authorities.

02 All materials and workmanship shall be in accordance with the relevant and current Standards Australia codes and with the By-Laws and Ordinances of the relevant building authorities except where varied by the project specification.

03 All setout dimensions shall be obtained from Architect's and Engineer's details. All discrepancies shall be referred to the Architect and Engineer for decision before proceeding with/related work.

04 During construction the structure shall be maintained in a stable condition and no part shall be overstressed. Temporary bracing shall be provided by the builder/subcontractor to keep the works and excavations stable at all times.

05 Unless noted otherwise levels are in metres and dimensions are in millimetres.

06 The alignment and level of all services shown are approximate only. The contractor shall confirm the position and level of all services prior to commencement of construction. Any damage to services shall be rectified at the contractors expense.

07 Any substitution of materials shall be approved by the Engineer and included in any tender.

08 All services, or conduits for servicing shall be installed prior to commencement of pavement construction.

09 Subsoil drainage, comprising 100 agricultural pipe in geo-sleeking to be placed as shown and as may be directed by the superintendent. Subsoil drainage shall be constructed in accordance with the relevant local authority construction specification.

010 The structural components detailed on these drawings have been designed in accordance with the relevant Standards Australia codes and Local Government Ordinances for the following loadings. Refer to the Architectural drawings for proposed floor usage. Refer to drawings for live loads and superimposed dead loads.

DRAINAGE NOTES

D1 All drainage levels to be confirmed on site, prior to any construction commencing.

D2 All pipes within the property to be a minimum of 100 dia u.n.o. @ 1% minimum grade, u.n.o.

D3 All pits within the property are to be fitted with "weldlok" or approved equivalent grates:
- Light duty for landscaped areas
- Heavy duty where subjected to vehicular traffic

D4 All pits within the property to be constructed as one of the following:
1) Precast concrete pits
2) Cast in situ concrete concrete
3) Cement rendered 230mm brickwork subject to the relevant local authority construction specification.

D5 Ensure all grates to pits are as close as finished surface level within the property. Top of pit RLs are approximate only and may be varied subject to approval of the engineer. All invert levels are to be achieved.

D6 Any pipes beneath relevant local authority road to be rubber ring jointed RCP, u.n.o.

D7 All pits in roadways are to be fitted with heavy duty grates with locking bolts and continuous hinge.

D8 Provide step irons to stormwater pits greater than 1200m in depth.

D9 Trench back fill in roadways shall comprise sharp, clean granular back fill in accordance with the relevant local authority specification to non-trafficable areas to be compacted by vibrating and tamping using a flat plate vibrator.

D10 Where a high early discharge (hed) pit is provided all pipes are to be connected to the hed pit, u.n.o.

D11 Down pipes shall be a minimum of dn100 for grade up to or 100 x 100 colorbond zincalume steel, uno.

D12 Colorbond or zincalume steel box gutters shall be a minimum of >300 wide x 150 deep.

D13 Eaves gutters shall be a minimum of 125 wide x 100 deep (or of equivalent area) colorbond or zincalume steel, uno.

D14 Subsoil drainage shall be provided to all retaining walls & embankments, with the lines feeding into the stormwater drainage system, uno.

EROSION AND SEDIMENT CONTROL NOTES

E1 These notes are to be read in conjunction with erosion and sediment control details in this drawing set.

E2 The contractor shall implement all soil erosion and sediment control measures as necessary and to the satisfaction of the relevant local authority prior to the commencement of and during construction. No disturbance to the site shall be permitted other than in the immediate area of the works and no material shall be removed from the site without the relevant local authority approval. All erosion and sediment control devices to be installed and maintained in accordance with standards outlined in nsw department of housing's "managing urban stormwater - soils and constructions".

E3 Place silcae bales length wise in a row as parallel as possible to the site contours, uno. Bale ends to be tightly butted. Bales are to be placed so that ridges are parallel to the row. Bales are to be placed 1.0m to 2m downslope from the toe of the disturbed batter, uno.

E4 Council approved filter fabric to be entrenched 100mm deep upslope towards disturbed surface. Fabric to be a minimum SF2000 or better. Fix fabric to posts with wire ties or as recomended with manufacturer's specifications. Fabric joints to have a minimum of 150mm overlap. Note to be strung between posts with filter fabric overlap to prevent sagging.

E5 Stabilised entry and points to remain intact until finished driveway is complete. Construction of entry and points to be maintained and repaired as required so that its function is not compromised. Construction of entry and points to be in accordance with the detail contained within this drawing set.

E6 All drainage pipe inlets to be capped until:
- downpipes connected
- pits constructed and protected with silt barrier

E6 Provide and maintain silt traps around all surface inlet pits until catchment is revegetated or paved.

E7 The contractor shall regularly maintain all erosion and sediment control devices and remove accumulated silt from such devices such that more than 60% of their capacity is lost. All fine silts to be placed outside the limit of works. The period for maintaining these devices shall be unless until all disturbed areas are revegetated and further as may be directed by the superintendent or council.

E8 The contractor shall implement dust control by regularly wetting down (but not saturating) disturbed area.

E9 Topsoil shall be stripped and stockpiled outside hazard areas such as drainage lines. This topsoil shall be reserved later on areas to be revegetated and stabilised only, (i.e. all footpaths, batters, site regarding areas, basins and catchments). Topsoil shall not be reserved on any other areas unless specifically instructed by the superintendent. If they are to remain for longer than one month stockpiles shall be protected from erosion by covering them with a mulch and by loosening and, if necessary, by locating banks or drains down stream of a stockpile to retard dif fusion runoff.

E10 Lay 300 wide minimum turf s flip on 100 topsoil behind all kerb and gutter with 1000 long returns every 6000 and around structures immediately after backfilling as per the relevant local authority specification.

E11 The contractor shall grass seed all disturbed areas with an approved mix as soon as practicable after completion of earthworks and regrading.

E12 Revegetate all trenches immediately upon completion of backfilling.

E13 When any devices are to be handed over to council they shall be in clean and stable condition.

STANDARD LINE TYPES AND SYMBOLS

- PROPOSED KERB & GUTTER
- EXISTING KERB & GUTTER
- PROPOSED BIDIVIDUAL PIPELINE
- PROPOSED SUSPENDED PIPELINE
- EXISTING PIPELINE
- SS — SUBSOIL DRAINAGE LINE
- PROPOSED KERB INLET PIT
- EXISTING KERB INLET PIT
- PROPOSED JUNCTION OR INLET PIT
- EXISTING JUNCTION OR INLET PIT
- DESIGN CENTRELINE
- EXISTING EDGE OF BITUMEN
- T — TELECOMMUNICATION CONDUIT
- G — GAS MAIN
- W — WATER MAIN
- S — SEWER MAIN
- V — UNDERGROUND ELECTRICITY CABLES
- PERMANENT MARK & SGM.
- BENCH MARK, SURVEY STATION

STANDARD LINE TYPES AND SYMBOLS

- OVERLAND FLOW PATH
- GUTTER DRAINAGE DIRECTION
- DOWN PIPE
- DOWN PIPE WITH DISCHARGE OVERFLOW
- PERVIOUS (GRASSED) AREAS
- RL= ??? — EXISTING (PRE-DEVELOPMENT) RL
- RL= ??? — POST DEVELOPMENT RL
- GRADED IMPERVIOUS AREA (ROOF, CONC SLABS ETC)
- SEDIMENT FENCE
- CROSSING PIPES
- 1 — NODE POINT

LEGEND

AHD	Australian height datum	SS	Stainless steel
AG	Ag-pipe (Sub soil drainage)	SW	Box gutter sump
ARI	Average recurrence interval	TW	Top of wall
BG	Box Gutter	TWL	Top water level
BWL	Bottom water level	U/S	Underside of slab
C.L	Cover level	VG	Valley gutter
CO	Clean out inspection opening	WM	Wiress mesh otherwise
DCP	Discharge control pit		
DP	Down pipe		
DRP	Dropper pipe		
EBG	Existing box gutter		
EDP	Existing down pipe		
EEG	Existing eaves gutter		
EG	Eaves gutter		
FRC	Fiber reinforced concrete		
F/V	Floor waste		
GB	Grated drain		
GSIP	Grated surface inlet pit		
HED	High early discharge		
HP	High point of gutter		
IL	Invert level		
IO	Inspection opening		
O/F	Overflow		
OSD	On-site detention		
PSD	Permissable site discharge		
P1	Pipe 1		
RCP	Reinforced concrete pipe		
RHS	Rectangular hollow section		
RL	Reduced level		
RRJ	Rubber ring joint		
RRT	Rainwater re-use tank		
RWH	Rain water head		
RWO	Rain water outlet		
SLAP	Sealed lid access pit		
SP	Spreader pipe		
SPR	Sprinkler		

RECOMMENDED MAINTENANCE SCHEDULE

DISCHARGE CONTROL PIT (DCP)	FREQUENCY	RESPONSIBILITY	PROCEDURE
Inspect flap valve and remove any blockage.	Six monthly	Owner	Remove grate. Ensure flap valve moves freely and remove any blockages or debris.
Inspect screen and clean.	Six monthly	Owner	Re-vive grate and screen if required and clean it.
Inspect & remove any blockage of orifice.	Six monthly	Owner	Remove grate & screen to inspect orifice. see plan for location of dcp.
Inspect dcp sump & remove any sediment/sludge.	Six monthly	Owner	Remove grate and screen. Remove sediment/sludge build-up and check orifice and flap valve clear.
Inspect grate for damage or blockage.	Six monthly	Owner	Check both sides of grate for corrosion, (especially corners and welds) damage or blockage.
Inspect exit pipe from storage and return any blockage.	Six monthly	Owner	Remove grate and screen, ventilate underground storage if present, open flap valve and remove any blockages in exit pipe. Check for sludge debris on upstream side of the tank/pit.
Inspect outlet pipe and remove any blockage.	Six monthly	Maintenance Contractor	Remove grate and screen, ventilate underground storage if present. Check orifice and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge debris on upstream side of the tank/pit.
Check fixing of step irons is secure.	Six monthly	Maintenance Contractor	Remove grate and ensure fixings secure prior to placing weight on step iron.
Inspect overflow weir & remove any blockage.	Six monthly	Maintenance Contractor	Remove grate and open cover to ventilate underground storage if present. ensure weir clear of blockages.
Empty basket at overflow weir (if present).	Six monthly	Maintenance Contractor	Remove grate and ventilate underground storage chamber if present. Empty basket, check fixings secure and not corroded.
Check attachment of orifice plate to wall of pit (gaps less than 5 mm).	Annually	Maintenance Contractor	Remove grate and screen, ensure plate mounted securely, tighten fixings if required, seal gaps as required.
Check attachment of screen to wall of pit.	Annually	Maintenance Contractor	Remove grate and screen, ensure screen fixings secure. repair as required.
Check screen for corrosion.	Annually	Maintenance Contractor	Remove grate and examine screen for rust or corrosion, especially at corners or welds.
Check attachment of flap valve to wall of .	Annually	Maintenance Contractor	Remove grate. Ensure fixings of valve are secure.
Check flap valve seals against f wall of pit.	Annually	Maintenance Contractor	Remove grate. fill pit with water and check that flap seals against side of pit with minimal leakage.
Check any hinges of flap valve move freely.	Annually	Maintenance Contractor	Remove grate. Test valve hinge by moving flap to full extent.
Inspect dcp walls (internal and external, if appropriate) for cracks or spalling.	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Check step irons for corrosion.	Annually	Maintenance Contractor	Remove grate. Examine step irons and repair any corrosion or damage.
Check orifice diameter correct and retains sharp edge.	Five yearly	Maintenance Contractor	Compare diameter to design (see work-as- executed) and ensure edge is not rolled or damaged.
STORAGE			
Inspect & remove any blockage of orifice.	Six monthly	Owner	Remove grate and screen, remove sediment/sludge build-up.
Check orifice diameter correct and retains sharp edge.	Six monthly	Owner	Remove blockages from grate and check if pit blocked.
Inspect screen and clean.	Six monthly	Owner	Remove debris and floatable material likely to be carried to grates.
Check attachment of orifice plate to wall of pit (gaps less than 5 mm).	Annually	Maintenance	Remove grate to inspect internal walls, repair as required, clear vegetation from external walls if necessary and repair as required.
Check attachment of screen to wall of pit.	Five yearly	Maintenance Contractor	Compare actual storage available with work-as- executed plans. If volume loss is greater than 5%, arrange for reconstruction to replace the volume lost. Council to be notified of the proposal.
Check attachment of screen to wall of pit.	Five yearly	Maintenance Contractor	Check along drainage lines and all pits for subsidence likely to indicate leakages.

NOTE: DO NOT SCALE OFF DRAWINGS. REFER TO ARCHITECTURAL PLANS. VERIFY DIMENSIONS ON SITE

REV	DATE	DESCRIPTION	BY
F	28.04.20	REVISED TO SUIT COUNCIL COMMENTS	T.L
E	20.09.19	REVISED TO SUIT COUNCIL COMMENTS	T.L
D	13.03.19	REVISED TO SUIT ARCHITECTURAL PLANS	T.L
C	08.02.19	REVISED TO SUIT COUNCIL COMMENTS	T.L
B	21.06.18	RE-ISSUED FOR APPROVAL	B.M.

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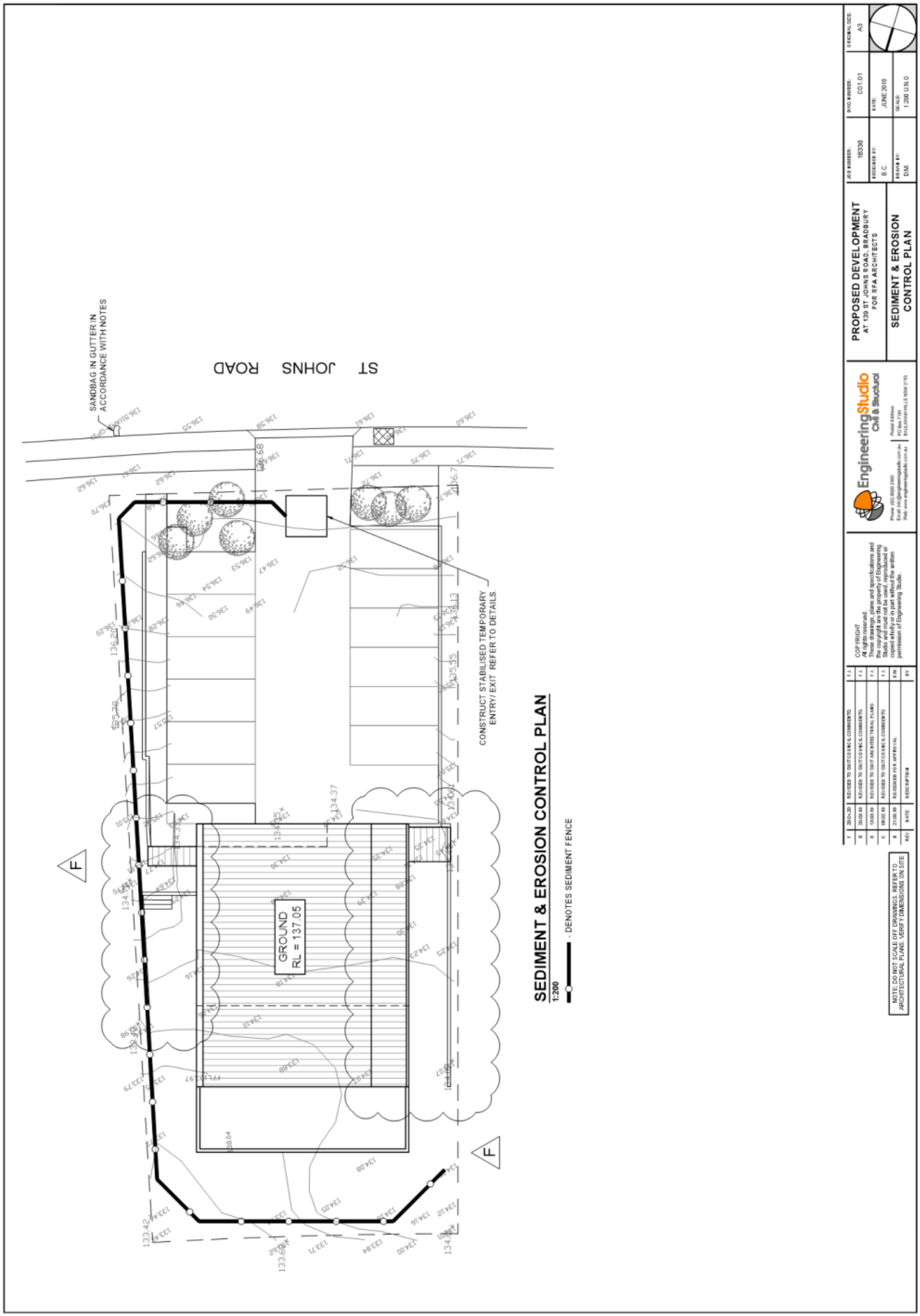
PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS

GENERAL NOTES

JOB NUMBER:	DWG NUMBER:	ORIGINAL SIZE:
18336	C00.01	A3
DESIGNED BY: B.C.	DATE: JUNE 2018	
DRAWN BY: D.M.	SCALE: N.T.S	


ST JOHNS ROAD
SANDBAG IN GUTTER IN ACCORDANCE WITH NOTES
CONSTRUCT STABILISED TEMPORARY ENTRY/ EXIT REFER TO DETAILS
GROUND RL = 137.05
F
F
SEDIMENT & EROSION CONTROL PLAN
1:200
- DENOTES SEDIMENT FENCE
PROPOSED DEVELOPMENT AT 139 ST JOHNS ROAD, BRADBURY FOR RFA ARCHITECTS
SEDIMENT & EROSION CONTROL PLAN
EngineeringStudio Civil & Structural
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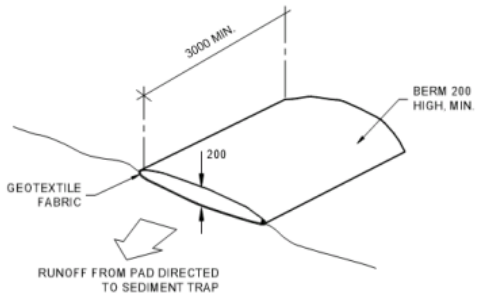
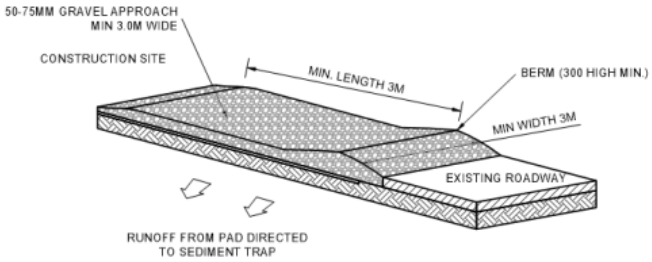
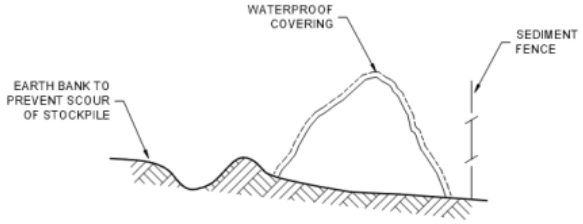


OPTION 1 - EXISTING DRIVEWAY TO REMAIN



OPTION 2 - DRIVEWAY TO BE RENEWED



VEHICLE ACCESS TO SITE

NTS

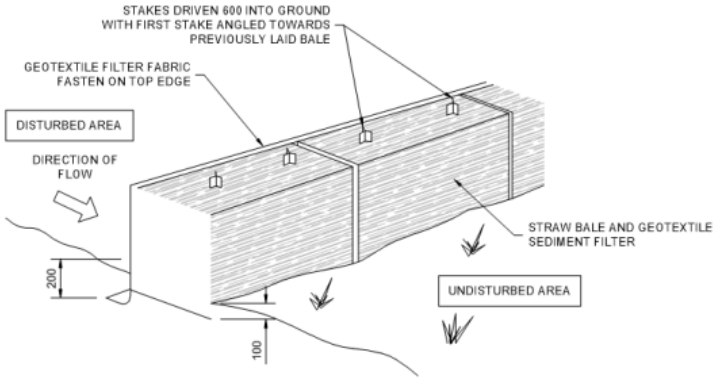
VEHICLE ACCESS TO THE BUILDING SITE SHOULD BE RESTRICTED TO A SINGLE POINT SO AS TO REDUCE THE AMOUNT OF SOIL DEPOSITED ON THE STREET PAVEMENT.

BUILDING MATERIAL STOCKPILES

N.T.S

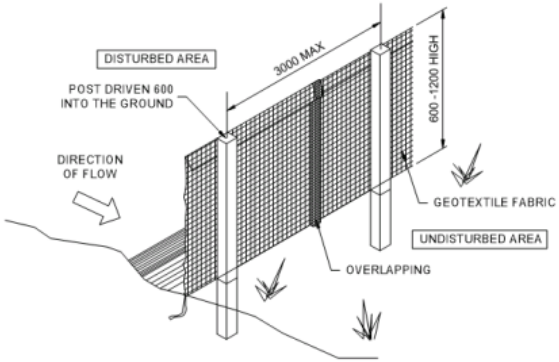
ALL STOCKPILES OF BUILDING MATERIAL SUCH AS SAND AND SOIL MUST BE PROTECTED TO PREVENT SCOUR AND EROSION.

THEY SHOULD NEVER BE PLACED IN THE STREET GUTTER WHERE THEY WILL WASH AWAY WITH THE FIRST RAINSTORM.



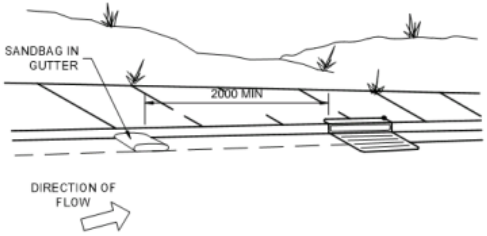
STRAW BALE DETAIL

N.T.S



SEDIMENT AND EROSION FENCE DETAIL

N.T.S



SANDBAG KERB SEDIMENT TRAP

N.T.S

IN CERTAIN CIRCUMSTANCES EXTRA SEDIMENT TRAPPING MAY BE NEEDED IN THE STREET GUTTER.

REV	DATE	DESCRIPTION	BY
F	28.04.20	REVISED TO SUIT COUNCIL COMMENTS	F.I.
E	20.09.19	REVISED TO SUIT COUNCIL COMMENTS	F.I.
D	13.03.19	REVISED TO SUIT ARCHITECTURAL PLANS	F.I.
C	08.02.19	REVISED TO SUIT COUNCIL COMMENTS	F.I.
B	21.06.18	RE-ISSUED FOR APPROVAL	B.M.

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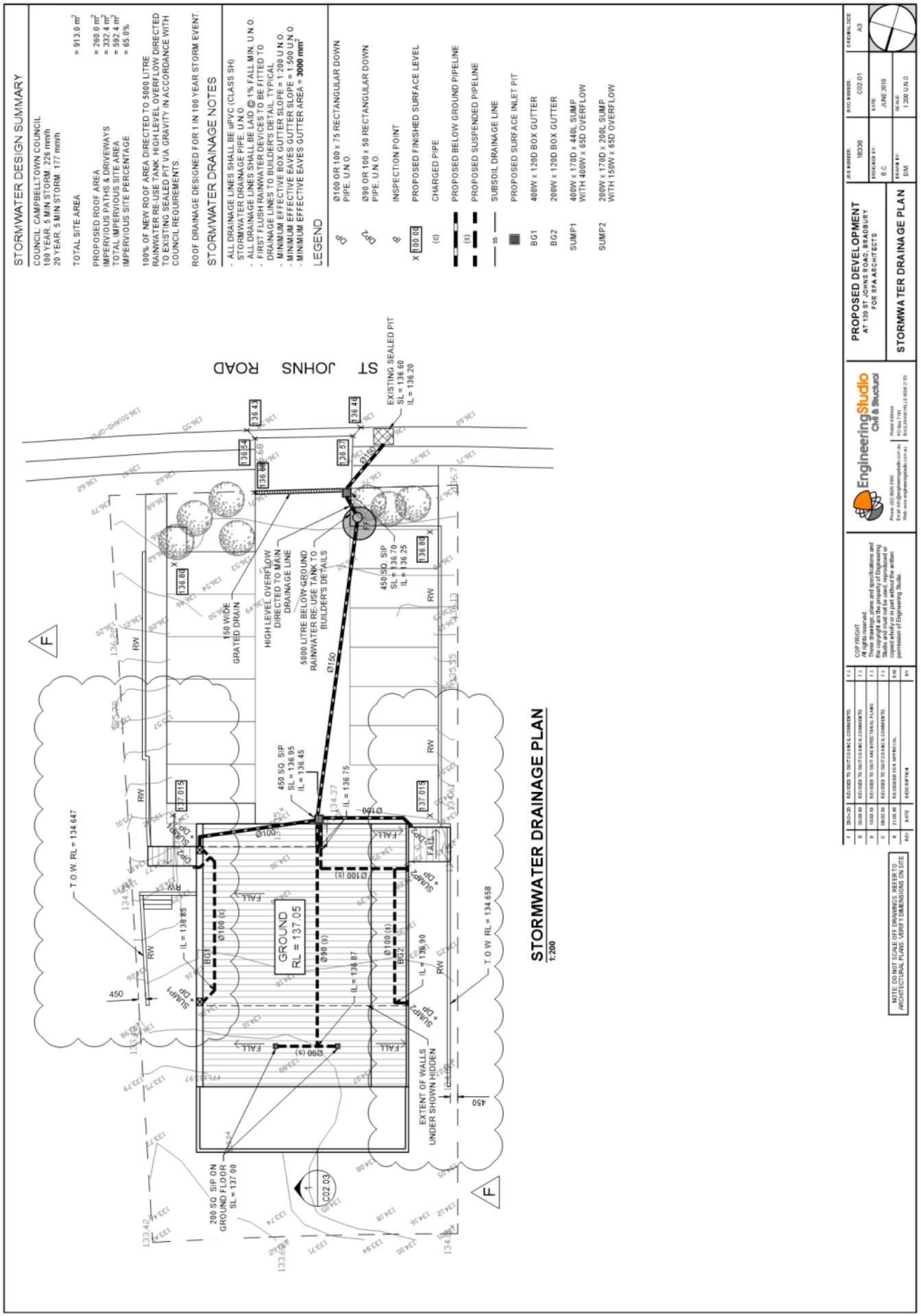
PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS

SEDIMENT & EROSION CONTROL DETAILS

JOB NUMBER:	DWG NUMBER:	ORIGINAL SIZE:
18336	C01.02	A3
DESIGNED BY: B.C.	DATE: JUNE 2018	
DRAWN BY: D.M.	SCALE: 1:20 U.N.O	


STORMWATER DESIGN SUMMARY
COUNCIL: CAMPBELLTOWN COUNCIL
100 YEAR, 5 MIN STORM: 226 mm/h
20 YEAR, 5 MIN STORM: 177 mm/h
TOTAL SITE AREA = 913.0 m²
PROPOSED ROOF AREA = 260.0 m²
IMPERVIOUS PATHS & DRIVEWAYS = 332.4 m²
TOTAL IMPERVIOUS SITE AREA = 592.4 m²
IMPERVIOUS SITE PERCENTAGE = 65.0%
100% OF NEW ROOF AREA DIRECTED TO 5000 LITRE RAINWATER RE-USE TANK. HIGH LEVEL OVERFLOW DIRECTED TO EXISTING SEALED PIT VIA GRAVITY IN ACCORDANCE WITH COUNCIL REQUIREMENTS.
ROOF DRAINAGE DESIGNED FOR 1 IN 100 YEAR STORM EVENT.
STORMWATER DRAINAGE NOTES
- ALL DRAINAGE LINES SHALL BE uPVC (CLASS SH) STORMWATER DRAINAGE PIPE, U.N.O.
- ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, U.N.O.
- FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL.
- MINIMUM EFFECTIVE BOX GUTTER SLOPE = 1:200 U.N.O.
- MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500 U.N.O.
- MINIMUM EFFECTIVE EAVES GUTTER AREA = 3000 mm²
LEGEND
Ø100 OR 100 x 75 RECTANGULAR DOWN PIPE, U.N.O.
DP2 Ø90 OR 100 x 50 RECTANGULAR DOWN PIPE, U.N.O.
INSPECTION POINT
X 100.00 PROPOSED FINISHED SURFACE LEVEL
(c) CHARGED PIPE
PROPOSED BELOW GROUND PIPELINE
(s) PROPOSED SUSPENDED PIPELINE
ss SUBSOIL DRAINAGE LINE
PROPOSED SURFACE INLET PIT
BG1 400W x 120D BOX GUTTER
BG2 200W x 120D BOX GUTTER
SUMP1 400W x 170D x 440L SUMP WITH 400W x 65D OVERFLOW
SUMP2 200W x 170D x 200L SUMP WITH 150W x 65D OVERFLOW
ST JOHNS ROAD
EXISTING SEALED PIT SL = 136.60 IL = 136.20
HIGH LEVEL OVERFLOW DIRECTED TO MAIN DRAINAGE LINE
150 WIDE GRATED DRAIN
5000 LITRE BELOW GROUND RAINWATER RE-USE TANK TO BUILDER'S DETAILS
450 SQ. SIP SL = 136.70 IL = 136.25
450 SQ. SIP SL = 136.95 IL = 136.45
IL = 136.75
GROUND RL = 137.05
T.O.W. RL = 134.647
T.O.W. RL = 134.658
IL = 136.85
IL = 136.87
IL = 136.90
EXTENT OF WALLS UNDER SHOWN HIDDEN
200 SQ. SIP ON GROUND FLOOR SL = 137.00
STORMWATER DRAINAGE PLAN
1:200
PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS
STORMWATER DRAINAGE PLAN
JOB NUMBER 18336
DWG NUMBER C02.01
DESIGNED BY: B.C.
DATE: JUNE 2018
DRAWN BY: D.M.
SCALE: 1:200 U.N.O.
STD SCALE SIZE A3
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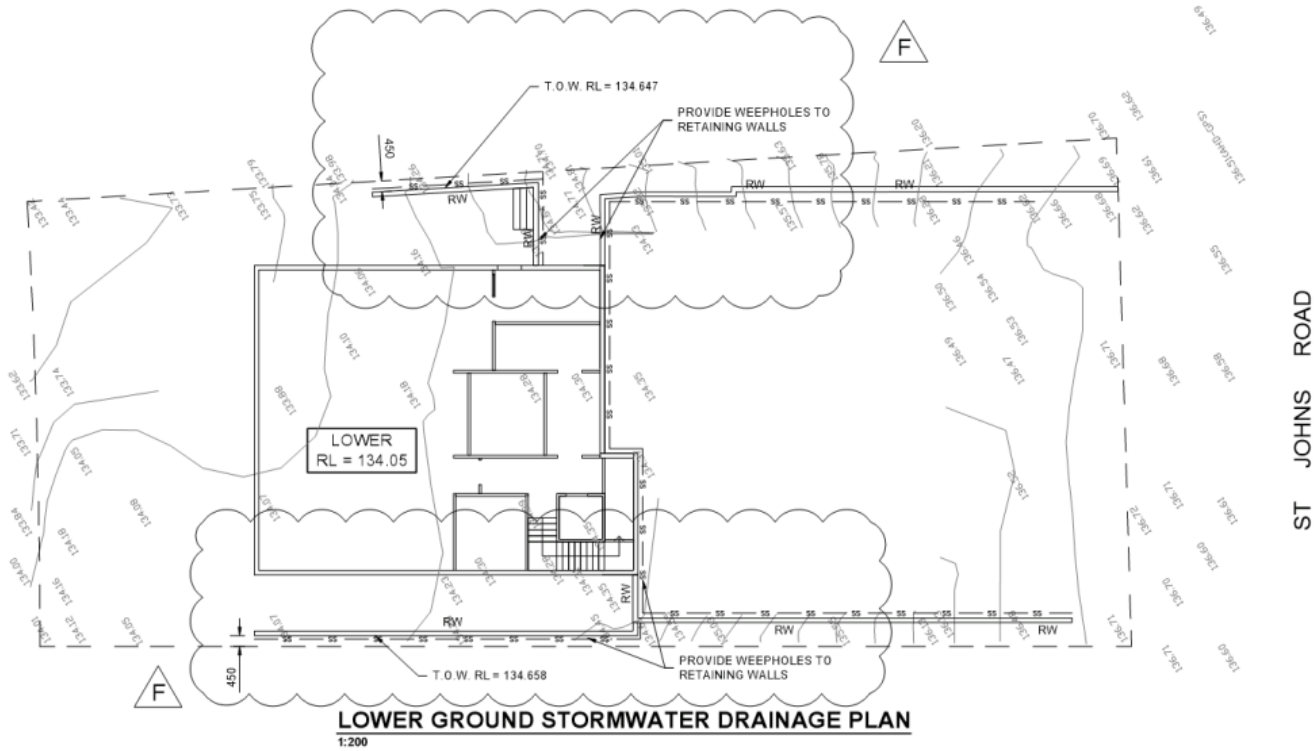

LOWER GROUND STORMWATER DRAINAGE PLAN

1:200

STORMWATER DRAINAGE NOTES

- ALL DRAINAGE LINES SHALL BE uPVC (CLASS SH) STORMWATER DRAINAGE PIPE, U.N.O.
- ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN. U.N.O.
- FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL.
- MINIMUM EFFECTIVE BOX GUTTER SLOPE = 1:200 U.N.O.

LEGEND

PROPOSED BELOW GROUND PIPELINE

SUBSOIL DRAINAGE LINE

PROPOSED SURFACE INLET PIT

NOTE: DO NOT SCALE OFF DRAWINGS. REFER TO ARCHITECTURAL PLANS. VERIFY DIMENSIONS ON SITE

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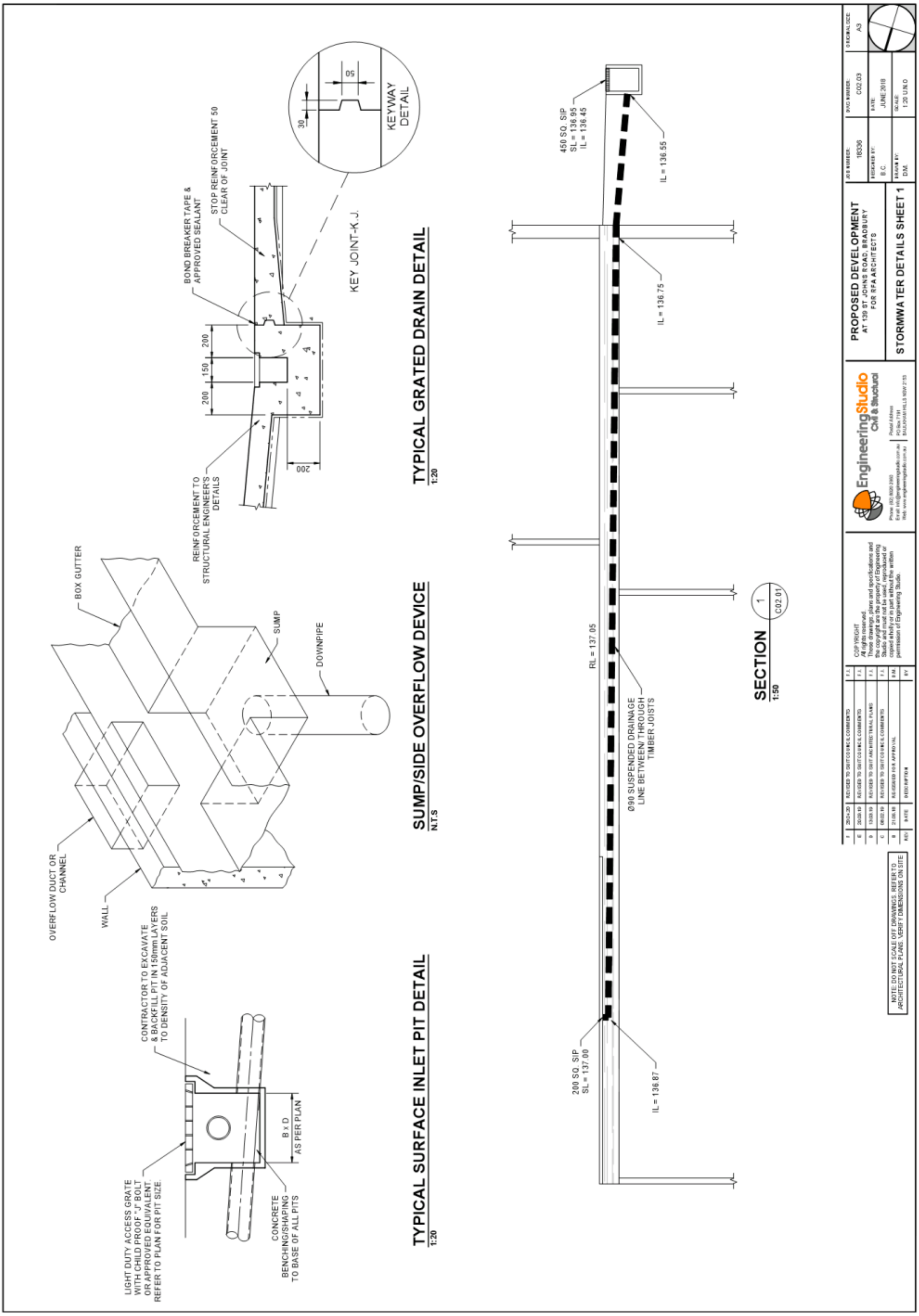
PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS

LOWER GROUND STORMWATER DRAINAGE PLAN

JOB NUMBER:	DWG NUMBER:	ORIGINAL SIZE:
18336	C02.02	A3
DESIGNED BY: B.C.	DATE: JUNE 2018	
DRAWN BY: D.M.	SCALE: 1:200 U.N.O	


TYPICAL SURFACE INLET PIT DETAIL
1:20
LIGHT DUTY ACCESS GRATE WITH CHILD PROOF "J" BOLT OR APPROVED EQUIVALENT. REFER TO PLAN FOR PIT SIZE.
CONTRACTOR TO EXCAVATE & BACKFILL PIT IN 150mm LAYERS TO DENSITY OF ADJACENT SOIL
CONCRETE BENCHING/SHAPING TO BASE OF ALL PITS
B x D AS PER PLAN
SUMP/SIDE OVERFLOW DEVICE
N.T.S
OVERFLOW DUCT OR CHANNEL
WALL
BOX GUTTER
SUMP
DOWNPIPE
TYPICAL GRATED DRAIN DETAIL
1:20
REINFORCEMENT TO STRUCTURAL ENGINEER'S DETAILS
BOND BREAKER TAPE & APPROVED SEALANT
STOP REINFORCEMENT 50 CLEAR OF JOINT
KEY JOINT-K.J.
KEYWAY DETAIL
200
150
30
50
450 SQ. SIP
SL = 136.95
IL = 136.45
IL = 136.55
IL = 136.75
RL = 137.05
Ø90 SUSPENDED DRAINAGE LINE BETWEEN/ THROUGH TIMBER JOISTS
200 SQ. SIP
SL = 137.00
IL = 136.87
SECTION
1:50
1
C02.01
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PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS
STORMWATER DETAILS SHEET 1
18036
C02.03
JUNE 2018
1:20 U.N.O
A3

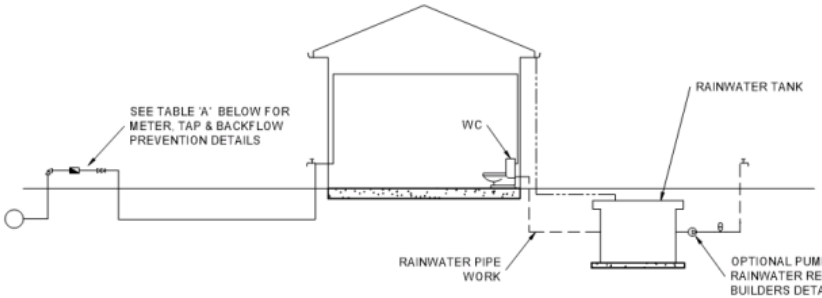


TABLE A			
RAINWATER TANK LOCATION	METER SIZE (mm)	TYPE OF TAP	TYPE OF BACKFLOW PREVENTION
ABOVE GROUND	20	BALL VALVE	DUAL CHECK VALVE (COMBINED WITH METER)
	25	BALL VALVE	DUAL CHECK VALVE
	> 32	BALL VALVE	DUAL CHECK VALVE
BELOW GROUND	20	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	25	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	> 32	BALL VALVE	TESTABLE DOUBLE CHECK VALVE

LEGEND

- PRESSURE VESSEL
- METER
- BALL VALVE RIGHT ANGLE TYPE
- DUAL CHECK VALVE
- PUMP
- GARDEN TAP
- DRINKING WATER SUPPLY PIPES
- RAINWATER SUPPLY PIPES
- DOWN PIPES

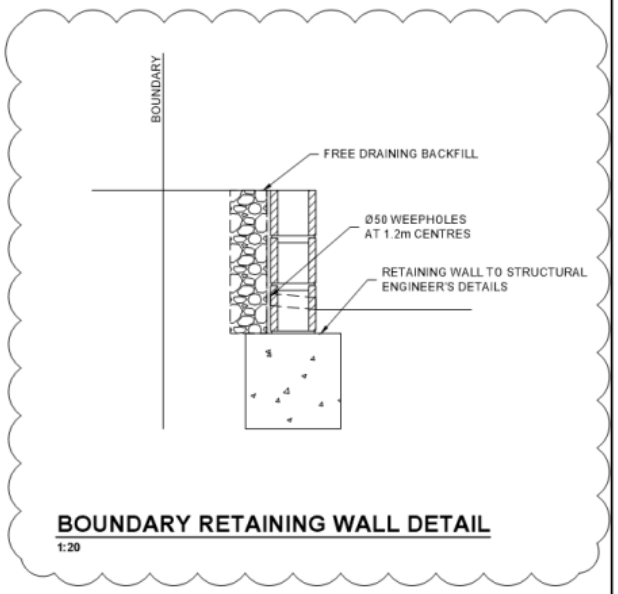
DIAGRAM NOTES:

1 DRAWING TO BE READ IN CONJUNCTION WITH SYDNEY WATER PLUMBING REQUIREMENTS
2 FOR TANKS 10,000 LITRES OR LESS, COUNCIL DEVELOPMENT CONSENT IS NOT REQUIRED, IF THEIR CONDITIONS FOR INSTALLATION ARE FOLLOWED.
3 FOR TANKS GREATER THAN 10,000 LITRES COUNCIL DEVELOPMENT CONSENT IS GENERALLY REQUIRED.
4 FOR TANKS MORE THAN 10,000 LITRES APPROVAL IS REQUIRED FOR BUILDING OVER SEWERS.
5 SYDNEY WATER'S APPROVAL IS REQUIRED FOR ANY TOP UP FROM DRINKING WATER SUPPLY, REGARDLESS OF TANK SIZE. NO DIRECT CONNECTION IS ALLOWED BETWEEN THE DRINKING WATER SUPPLY AND THE RAINWATER TANK SUPPLY.
6 RAINWATER PIPEWORK IS SHOWN ON THE DIAGRAM AS SUPPLYING INTERNAL AND EXTERNAL RAINWATER USES. CUSTOMERS MAY WANT ONE OR THE OTHER.
7 ANY DESIGNED ACCESS LID INTO RAINWATER RE-USE TANK IS TO HAVE A LOCKABLE LID. IF THE LID IS DESIGNED TO BE ACCESSED BY A MAINTENANCE PERSON, IT MUST BE AT LEAST 600 mm x 900 mm IN SIZE.

DUAL DRINKING WATER & RAINWATER SUPPLY DIAGRAM

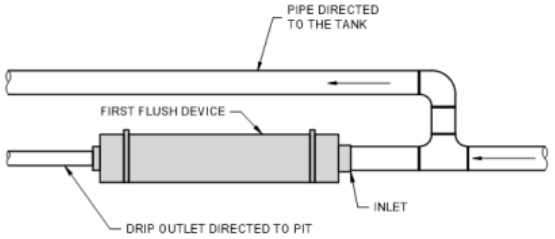
N.T.S.

F



BOUNDARY RETAINING WALL DETAIL

1:20



TYPICAL FIRST FLUSH DETAIL

N.T.S.

REV	DATE	DESCRIPTION	BY
F	28.04.20	REVISED TO SWITCO COUNCIL COMMENTS	F.I.
E	20.09.19	REVISED TO SWITCO COUNCIL COMMENTS	F.I.
D	13.03.19	REVISED TO SWIT ARCHITECTURAL PLANS	F.I.
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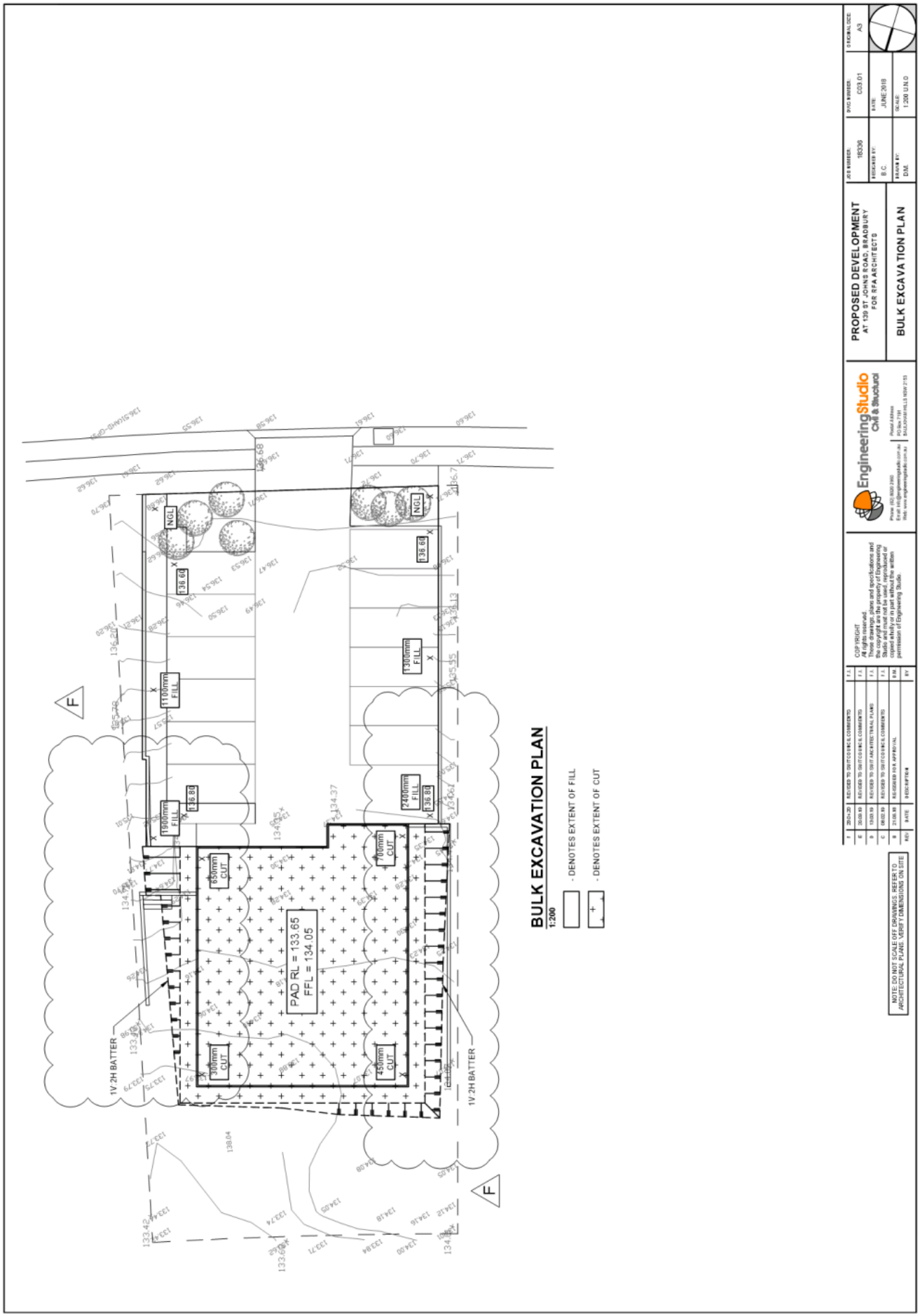
BAULKHAM HILLS NSW 2153

PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS

STORMWATER DETAILS SHEET 2

JOB NUMBER:	DWG NUMBER:	ORIGINAL SIZE:
18336	C02.04	A3
DESIGNED BY: B.C.	DATE: JUNE 2018	
DRAWN BY: DM.	SCALE: 1:20 U.N.O	


BULK EXCAVATION PLAN
1:200
- DENOTES EXTENT OF FILL
- DENOTES EXTENT OF CUT
PAD RL = 133.65
FFL = 134.05
1V 2H BATTER
1V 2H BATTER
NGL
1100mm FILL
1900mm FILL
1300mm FILL
2400mm FILL
700mm CUT
650mm CUT
300mm CUT
450mm CUT
136.80
136.60
PROPOSED DEVELOPMENT
AT 139 ST JOHNS ROAD, BRADBURY
FOR RFA ARCHITECTS
BULK EXCAVATION PLAN
EngineeringStudio
Civil & Structural
JOB NUMBER 18336
DRG NUMBER C03.01
DESIGNED BY: B.C
DATE JUNE 2018
DRAWN BY: D.M.
SCALE 1:200 U.N.O.
SCALE@A3
NOTE: DO NOT SCALE OFF DRAWINGS. REFER TO ARCHITECTURAL PLANS. VERIFY DIMENSIONS ON SITE.

2 October 2020

Brightest Start
139 St Johns Road
Bradbury NSW 2560
Australia

Dear Youssef,
Re: Quotation for Brightest

Veolia is pleased to submit our pricing for waste management and disposal services.

Veolia offers extensive knowledge and experience across water, waste and energy operations enabling your company to not only achieve sustainability goals in waste management, but to move into achieving sustainability goals in energy efficiency and water use as well.

We are pleased to provide the following pricing (all prices excl. GST):

6 x 240L (3x Waste Bins - Red lid and 3x Recycling Bins - Yellow lid) - $260.00 per collection + $6.00 weekly site fee – scheduled to be picked up twice a week.

We understand there are council regulations in place for your site. We understand the bins will be housed behind doors at the front of the property. Our drivers will be able to access and wheel these bins out to the curb-side for collection. These bins will be emptied and returned to their original location by our driver.

We look forward to working with you throughout this selection process and into the future. If you have any queries or require further clarification in regards to our submission, please do not hesitate to call me directly on 0448 758 861 or via email at: sotiri.abouyanni@veolia.com

Kind Regards,

Sotiri Abouyanni
Area Sales Manager
0448 758 861
sotiri.abouyanni@veolia.com

Brightest Start Early Learning Centre

Waste Management Plan

SEPTEMBER 2020

WASTE AUDIT AND CONSULTANCY SERVICES
Level 21 / 133 Castlereagh Street
Sydney, NSW 2000

Telephone (02) 9199 4521
www.wasteaudit.com.au

This report contains confidential information. It has been compiled by Waste Audit and Consultancy Services (Aust) Pty Ltd on behalf of rfa architects for the Brightest Start Early Learning Centre development.

This Waste Management Plan is not a substitute for legal advice on the relevant environmental legislation, which applies to rfa architects, its contractors or other bodies. Accordingly, Waste Audit and Consultancy Services (Aust) Pty Ltd will not be liable for any loss or damage that may arise out of this project, other than loss or damage caused as a direct result of Waste Audit and Consultancy Services (Aust) Pty Ltd's negligence.

Table of contents

1 Introduction

This Waste Management Plan (WMP) has been prepared on behalf of rfa architects to accompany a Development Application for Brightest Start Early Learning Centre located at 139 St Johns Road, Bradbury NSW.

The Plan has been developed with consideration of Campbelltown Council's and other Authority's requirements. It is intended to inform the design of the waste services by identifying the estimated waste profile for the development and providing the total area required by the recommended equipment/systems.

In doing so this Plan, which includes waste estimates and related management requirements, has been developed in accordance with the Campbelltown (Sustainable City) Development Control Plan 2015

In relation to this waste management plan, the key components of the new development are:

- 45 children childcare centre
- Surrounding landscaping and outdoor play area

Waste audit and management strategies are recommended for new developments to provide support for the building design and promote strong sustainability outcomes for the building. All recommended waste management plans will comply with council codes and any statutory requirements.

To assist building management in achieving effective waste and recycling management, this waste management plan has three key objectives:

i. **to minimise the environmental impacts of the operations of the development** – this will be achieved by ensuring maximum diversion of waste from landfill; correct containerisation and transport of materials; correct segregation of materials into appropriate management streams; awareness among tenants of waste avoidance practices.

ii. **to minimise the impact of the management of waste within the development on local residents** – this will be achieved by ensuring waste is managed so as to avoid odour and litter and collected during suitable times.

iii. **to ensure waste is managed so as to reduce the amount landfilled and to minimise the overall quantity generated** – this will be achieved by implementing systems that assist tenants to segregate appropriate materials that can be recycled; displaying signage in all tenant areas to remind and encourage avoidance and recycling to staff; and through associated signage in the commercial areas to reinforce these messages.

2 Waste Generation

2.1 Waste Streams

Based on the development profile, the following waste streams would be expected:

- General waste;
- Commingled recycling;

2.2 Waste Generation Estimates

Based on averages for quantity of waste generated and composition as determined by industry data (i.e. data/information provided by WACS' waste audits conducted in a broad range of sectors) as well as consideration of the waste generation rates as detailed by the Campbelltown Council's Campbelltown (Sustainable City) Development Control Plan 2015. It is estimated that the entire development will generate a total of **2,794 litres** of waste and recyclables per week.

The following table summarises the expected quantities of waste and recyclables generated for the development in terms of weight and volume per week.

Table 1 – Waste/recycling generation

	L/week
General Waste	1,397
Commingled Recycling	1,397
Total	**2,794**

Note: The weights and volumes are based on correct segregation of waste and recyclables.

3 Waste Management Systems and Spatial Requirements

3.1 Waste Systems and Bin Requirements

The following tables show the recommended systems required to manage the estimated waste profile as detailed in the above table for the development. The systems refer to the ground floor waste storage system rather than the internal bins that may be used within the development.

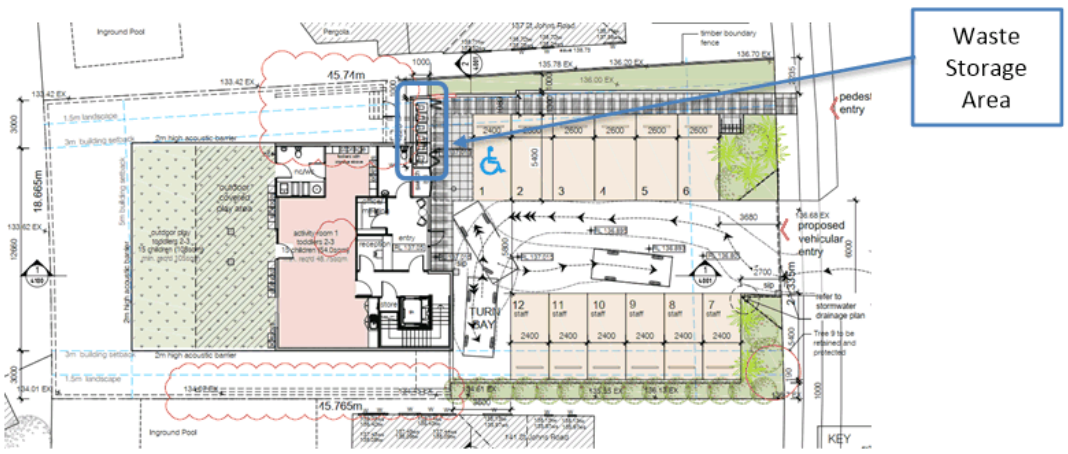
Table 2 – Waste Systems

Waste Stream	Bin Size	No. of bins	Clearance (frequency/week)	Capacity (Weekly)	Estimated Volume/Week
General waste	240	3	2	1,440	1,397
Recycling	240	3	2	1,440	1,397
TOTAL		**3**		**2,880**	**2,794**

3.2 Waste Storage

The following diagram illustrates the location of waste storage area.

Diagram 1 – Waste Storage Area – Ground level



As per Council requirements, the waste storage area is located in a position that is convenient for occupants and waste collection staff. The path for wheeling bins between the waste storage enclosure and collection vehicle is free of steps or kerbs, with a maximum gradient that is below 1V:8H.

The waste and recycling bins will be colour coded and clearly signed. Each stream will be located in a designated area. This will assist in easy identification of correct bins by tenants and cleaners.

This principle will apply to the waste storage enclosure – signage will clearly indicate where to deposit materials.

3.3 Storage Design

In keeping with best practice sustainability programs, all waste areas; reuse areas and waste and recycling bins will be clearly differentiated through appropriate signage and colour coding to Australia Standards to reflect the materials contained.

There will be a need to ensure that there is sufficient space to allow for bin movement. As a general rule, it is recommended that an additional 30% of the estimated footprint for bins be allocated to this.

The waste and recycling bins will be colour coded and clearly signed. Each stream will be located in a designated area. This will assist in easy identification of correct bins by cleaners and staff.

Photographs 1 & 2 - Examples of childcare outside bin enclosure and colour-coded signage

4 Waste Management Systems

The following summarises the recommended waste and recycling systems that will be implemented. These recommendations are based on Campbelltown Council requirements and systems implemented for similar developments (ie., types of tenants and residential areas).

4.1 Systems

All childcare and cleaning staff (and contractors) will be briefed on the proper use of waste management systems. Recycling streams will be monitored and reported by cleaners/building management, as it is imperative that they remain free of contamination to ensure compliance with Campbelltown Council and the appointed waste service contractor collection protocols. Staff will be encouraged to maximise the separation of general waste and mixed recyclables to aid the proper disposal of all materials.

Used nappies will be sealed in plastic bags before disposal into waste bin. Scented nappy disposal bags can be used to control odour. See Appendix B for examples of nappy wrapper systems.

Waste/recyclables from the childcare building will be collected on a daily basis by childcare staff and cleaners and transported to the waste storage enclosure. An appointed contractor will then provide waste and recycling collection services. Utilising an appointed contractor affords the Childcare Centre greater flexibility regarding collection schedules and the appropriate collection frequencies will be determined in consultation with the waste contractor once appointed – however once operational, collection schedules may need to be adjusted accordingly depending on actual waste generation.

Waste collection services will be provided by a private waste contractor. Private waste contractor will access the bins from waste storage enclosure, wheel bins out to kerbside for collection, service the bins and then return the bins to waste storage enclosure.

Any green waste produced onsite will be removed from the site and correctly disposed of by contractors.

In addition, tenants will be provided with ad hoc recycling systems such as e-waste; batteries; mobile phones etc. Systems for these streams will be located within each tenancy or in common areas or be available upon request from building management.

Signage will be a crucial element of the waste management system. Appendix A contains examples of signage. These are the type of signs that should be used throughout the centre and waste storage area(s).

4.2 Summary of management process

The following summarises the management system for the wastes and recyclables for the commercial tenants.

Table 3 – Overview of management process

Stream	System	Comment
Comingled Recycling	240L MGBs	Childcare and cleaning staff separate commingled materials and deposit directly into MGBs, located in the waste storage enclosure for collection.
General Waste	240L MGBs	Childcare and cleaning staff separate general waste and deposit directly into the MGBs, located in the waste storage enclosure for collection.

4.3 Disposal of Wastes/Recyclables

The following summarises the disposal pathway for the wastes and recyclables generated once the development is operational. Note though that this management summary cannot specify the actual locations until the waste/recycling contractor is appointed.

Table 4 – Waste Management Systems

Type of material	Destination
Commingled recycling	Transported to a recycling facility for recycling by the appointed contractor
General waste	Transported to a landfill facility by the appointed contractor

5 Waste Stream Acceptance Criteria

5.1 Acceptance Criteria

General Waste:

General waste bins will be 240L MGBs. The lids and signage should be colour-coded red. The general waste stream does not include hazardous material (such as batteries, fluorescent light tubes, light bulbs and/or toner cartridges), recyclable material or electronic equipment such as computers, TVs and mobile phones.

Comingled (Mixed Recycling):

The commingled recycling system will be 240L MGBs and should accept all recyclable plastic containers, aluminium containers, glass bottles and steel cans, paper and cardboard. Comingled recycling bin lids and signage should be colour-coded yellow.

5.2 Bin Requirements

Containers located within the development for waste and recycling should be consistent. The following table outlines the colour coding that has been developed by Standards Australia.

Table 5: Standards Australia waste/recycling container colour coding

Waste Stream	Bin Body Colour	Lid Colour
Paper Recycling	Blue	Blue
Cardboard Recycling	Green	Blue
Food Organics	Burgundy	Burgundy
Commingled Recycling	Green	Yellow
Used Cooking Oil Recycling	NA	NA
General Waste	Green	Red
Green Waste	Green	Green

6 Tenant Education

All staff will receive information regarding the waste collection systems including how to use the system, which items are appropriate for each stream and collection times. Appropriate signage and updated information will also be provided, as well as receiving feedback on issues such as contamination of the recycling stream or leakage of the recyclables into the general waste. The building management will have the responsibility for these tasks.

All waste receptacles will be appropriately signed and additional room signage is usually provided from most waste contractors during implementation of the waste contract. Examples of signage are included in Appendix A.

It is recommended that all signs should:

- Clearly identify the waste/recycling stream;
- Use correct waste/recycling stream colour coding;
- Identify what can and cannot be disposed of in the receptacle; and
- Include highly visual elements to accommodate for individuals with inadequate English literacy.
- As part of the tenant induction process, a waste and recycling toolkit will be provided. This toolkit will include the details of each of the systems in place; acceptance criteria for each stream and how each stream is managed. A visual communication aid such as short video will also be provided to enable tenants to educate their employees.

7 Other Systems

In addition to the diversion system that will be implemented, other waste diversion and minimisation practices may also be implemented. The following provide an example of these types of systems:

Fluorescent Light Tubes

A fluorescent light tube recycling stream may be required depending on the contractual arrangements for replacing light tubes. Recycling of used fluorescent light tubes could be a contractual requirement of the electrician responsible for servicing the lights. Alternatively if lights are services using in-house staff a fluorescent light tube recycling receptacle should be located in the recycling area.

Toner Cartridges

A toner cartridge recycling bin/box should be placed in key printing areas to capture used cartridges. These can be recycled on an as-needed basis.

E-Waste

Electronic equipment should be recycled on an as-needed basis.

Mobile Phones

Mobile phones can be collected in secure receptacles at centralised collection points. Alternatively, boxes containing postage satchels can be placed in centralised areas for use as needed.

8 Ongoing Management

Having suitable systems in place is only one element of an effective waste management system. Compliance by all stakeholders is essential.

Cleaners are a key element in the effectiveness of the systems in place. Prior to acceptance of the cleaning contract, the contractor will be required to demonstrate how the management of waste and recycling will be carried out so as to ensure that segregated materials are placed in the correct systems. This process will be agreed and a training program implemented by the cleaning contractor to ensure full understanding by all cleaners. The cleaning supervisor and site management throughout the term of the contract will carry out monitoring of the system.

In addition, cleaners will be required to feed back to site management any non-compliance issues they observe during their cleaning activities. This may include contamination of recycling, non-participation in the recycling system, or missing or damaged bins. In this way issues can be promptly dealt with by management.

Waste and recycling contractors will be required to report actual volumes collected by stream so that site management can monitor performance and feed this back to stakeholders.

It is highly recommended that a basic reporting program be set up at the site which would include bin tally sheets that detail the number of bins collected and how full they are at the time of collection, in addition to communication procedures to allow waste contractors to provide feedback regarding contamination and leakage.

All staff should be educated and made aware of any changes to the existing waste systems.

Appendix A – Example Signage

Appendix B – Nappy Wrapper System

MAXI NAPPY WRAPPER SYSTEM

Hygienic and time saving way of disposing nappies.
The system is easy to use, reduces odour, assists with hygiene control and improves staff working conditions.

- ✓ Unique patented disposal system for all types of disposable nappies
- ✓ Smell free, germ free and hygienic
- ✓ Convenient and maintenance free
- ✓ Anti bacterial agent for built-in protection against germs
- ✓ Fresh citrus fragrance
- ✓ Holds up to 50 medium nappies

Nappy Wrapper bin - Maxi
Code NW854340

NAPPY WRAPPER - HYGIENE PLUS

The Hygiene Plus has an advanced germ seal film with an anti-bacterial barrier which keeps on killing germs even inside the tub. The twist lock technology individually seals each nappy, locking away germs and odours. Holds up to 25 nappies.

Nappy Wrapper bin
Hygiene Plus
Code NW840017

NAPPY WRAPPER REFILL CASSETTES

Replacement cassettes for use with the Nappy Wrapper tub are also available. New improved film for better odour control.

The cassette just drops into the top of the tub and is ready for use in seconds. It fits both the Hygiene Plus and the Maxi Nappy Wrapper bins. Can wrap to 250 nappies per cassette.

Nappy Wrapper Refill cassette - 18 per carton
Code NW830317

SUPPLIED BY ECOMIST® Enhancing your Environment

ATTACHMENT 24 – Notification Sign Photograph Taken 27/07/2020

4.3 Tree removal, dam dewatering, bulk earthworks and remediation works - Appin Road, Gilead

Community Strategic Plan

Objective	Strategy
4 Outcome Four: A Successful City	4.3 - Responsibly manage growth and development, with respect for the environment, heritage and character of our city

Referral Criteria

Pursuant to Clause 4.8 of the *Environmental Planning & Assessment Act* (EP&A Act), the consent authority for the subject development application is the Campbelltown City Council Local Planning Panel, due to the number of unique submissions received by way of objection.

Executive Summary

- The site is an urban release area and is located at Appin Road, Gilead. The site has an area of 208.37 hectares.
- The application proposes tree removal, dam dewatering, bulk earthworks and remediation works.
- The site contains five land use zones under the Campbelltown Local Environmental Plan 2015 (CLEP 2015), and earthworks are permitted with consent. The proposal is consistent with the applicable objectives of each zone.
- The site is bounded by Noorumba Reserve to the north, the Upper Canal and Mt Gilead to the west, Beulah to the south and Appin Road to the east.
- An Aboriginal Heritage Impact Permit (AHIP) was previously issued for the land under which an archaeological testing program was undertaken in consultation with Registered Aboriginal Parties.
- The proposal was externally referred to:
    - Endeavour Energy in accordance with clause 45 of State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP) as the site contains an easement for electricity.
    - APA in accordance with clause 66C of the Infrastructure SEPP as an ethane gas pipeline passes through land proximate to the site.
    - Heritage NSW with respect to the submitted AHIP and Notice of Variation of AHIP that have been issued for the land.

- The land is subject to a Biodiversity Certification Agreement (BCA), and biodiversity certification has been conferred on the land under Part 7AA of the *Threatened Species Conservation Act* (TSC Act).
- In accordance with the Biodiversity Conservation (Savings and Transitional) Regulation 2017 (BCR), the biodiversity certification is taken to be biodiversity certification conferred on the specified land under Part 8 of the *Biodiversity Conservation Act 2016* (BC Act).
- In accordance with the BC Act, an assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act.
- The proposal is consistent with the applicable controls of Campbelltown (Sustainable City) Development Control Plan 2015 (SCDCP), and the site specific Mt Gilead Development Control Plan, including the Staging Plan that applies to the land.
- The application was publicly notified and exhibited. 85 submissions objecting to the proposed development were received.

Officer's Recommendation

That development application 2984/2020/DA-CW for the proposed tree removal, dam dewatering, bulk earthworks and remediation works at Appin Road, Gilead be approved subject to the conditions in attachment 1.

Purpose

To assist Council in its determination of the subject application in accordance with the provisions of the EP&A Act.

Property Description	Lots 1 - 5 DP 1240836, Lot 61 DP 752042, Appin Road, Gilead
Application No	2984/2020/DA-CW
Applicant	Lendlease Communities (Figtree Hill) Pty Limited
Owner	Lendlease Communities (Figtree Hill) Pty Limited, Mount Gilead Pty Ltd, Lendlease Communities (Mt Gilead .3.) Pty Limited
Provisions	State Environmental Planning Policy (Sydney Region Growth Centres) 2006 State Environmental Planning Policy (Infrastructure) 2007 State Environmental Planning Policy No 55 – Remediation of Land *Biodiversity Conservation Act 2016* State Environmental Planning Policy (Koala Habitat Protection) 2020

State Environmental Planning Policy No. 19 – Bushland in Urban Areas

Campbelltown Local Environmental Plan 2015 (CLEP 2015)

Amendment No. 24 to the CLEP 2015

Campbelltown (Sustainable City) Development Control Plan 2015

Mt Gilead Development Control Plan

Date Received 9 September 2020

History

- On 30 November 2020 State Environmental Planning Policy (Koala Habitat Protection) 2019 was repealed and replaced with SEPP 2020.

- On 31 August 2020 a Notice of Variation of AHIP was issued by Heritage NSW. The variation replaces the wording of the proposed works and a table of Aboriginal objects.

- On 28 August 2020 the Mount Gilead Estate was listed on the State Heritage Register. The curtilage of the heritage item is located wholly within Lot 1 DP 1218887.

- On 30 July 2020 the Secretary approved the Campbelltown Comprehensive Koala Plan of Management (CCKPOM). The CCKPOM was approved under clause 17 of SEPP 19.

- On 29 April 2020 the Department of Planning, Industry & Environment (DPIE) issued an AHIP for the land under section 90 of the *National Parks and Wildlife Act 1974* (NPW Act).

- On 1 March 2020 State Environmental Planning Policy No 44—Koala Habitat Protection was repealed and replaced with SEPP 19.

- On 4 May 2020 the SCDCP (Amendment No. 8) became effective. The amendment addresses the requirements of clause 6.3 of the CLEP 2015 and includes a staging plan for land at Gilead.

The Site

The Greater Sydney Commission rezoned the site to provide for urban development on 8 September 2017 under Amendment No. 2 of the CLEP 2015.

The site is comprised of six allotments with a total land area of 208.37 hectares. The identification and site area of each lot is provided below:

- Lot 61 DP 752042: 34ha
- Lot 1 DP 1240836: 24.19ha
- Lot 2 DP 1240836: 23.60ha
- Lot 3 DP 1240836: 48.07ha
- Lot 4 DP 1240836: 60.43ha

- Pt Lot 5 DP 1240836: 14.67ha and 3.41ha

The third part of Lot 5 DP 1240836 has an area of 7.66ha and is situated on the western side of the Upper Canal and is not subject to the proposed development.

The site adjoins the Noorumba Reserve and a seniors living development to the north, Mount Gilead and the Sydney Water Supply Upper Canal to the west, Beulah to the south and Appin Road to the east.

The Upper Canal, Beulah and Mount Gilead are listed as heritage items of State Significance. Mount Gilead is also listed as a heritage item of Local Significance, under Schedule 5 of the CLEP 2015.

Two rural driveways provide access to the site from Appin Road, including the driveway to the Mount Gilead homestead. Appin Road is a classified road pursuant to the *Roads Act 1993*.

The site has been used for agricultural purposes, including the grazing of cattle, and is predominately cleared of vegetation.

Two areas of trees are located within Lot 61 and form bio-banks under the Biodiversity Certification Agreement which was entered into on 28 June 2019. The remainder of the site contains scattered trees, several dams, watercourses and riparian areas (see Figure 1).

The topography of the landform is undulating. The steepest land is located in the north-western corner of the site, whereas the highest point is located in the south-eastern corner bordering Appin Road.

Several easements traverse the site, including easements for transmission lines, telecom cables, sewerage purposes and right of carriageway.

The site is mapped as being located within bushfire prone land and a mine subsidence district. The site is identified as containing Koala Habitat.

The Locality

The low density residential suburbs of Rosemeadow and St Helens Park are situated approximately 1km to the north.

The urban centres of Macarthur and Campbelltown are situated approximately 6km and 8km to the north, respectively.

The Nepean River and the M5 Motorway are located to the west, and the Georges River and Wedderburn are located to the east of Appin Road.

The western side of Appin Road contains significant landholdings that have been identified as Urban Capable Land under the Greater Macarthur Structure Plan.

The future character of the locality is anticipated to change dramatically as existing rural land uses undergo transition into urban development in accordance with the Greater Macarthur Growth Area.

The NSW Roads and Maritime Services, in partnership with Lendlease, have committed to the staged upgrade of a 5.4km section of Appin Road between Gilead and the intersection of St Johns Road, Ambarvale.

Appin Road would be converted to four traffic lanes between Fitzgibbon Lane to approximately 2.5km south of Copperfield Drive, Rosemeadow.

Two intersections would be constructed to provide access to the proposed future residential housing estate at Gilead.

As part of the road upgrade, fauna fencing would be provided between Noorumba Reserve and Beulah on the eastern side of Appin Road to reduce fauna road mortality.

Arboreal rope bridges would be installed adjacent to Noorumba Reserve and Beulah to enable east-west fauna connections.

The Proposal

The proposed development seeks consent for the following works:

- tree removal
- dewatering of dams
- site remediation works
- bulk earthworks

The proposal involves the removal of numerous trees and dewatering of several dams throughout the landscape.

The land subject to this application has been 'biodiversity certified' pursuant to the TSC Act, under which no further assessment or consideration of the developments impacts on animal and plant life is required. The order conferring biodiversity certification of Mt Gilead Stage 1 was published in the NSW Government Gazette No.70 of 5 July 2019.

The application does not propose to remove any vegetation required to be retained within the designated bio-bank areas.

The proposed site remediation works involve the implementation of a remedial action plan to remove contamination from the site in order to make the land suitable for future urban purposes.

The proposed bulk earthworks would be undertaken in three phases within Stage 1 of the Mt Gilead Staging Plan (see Figures 2 and 3).

The existing landform would be re-contoured to form the necessary levels to support the future proposed infrastructure and land uses envisaged for the area under the CLEP 2015 and Mount Gilead Indicative Structure Plan (see Figure 4).

To achieve these levels, it will be necessary to import approximately 50,000 cubic metres of fill material to the site by truck and dog.
Vehicle access to the site would be provided from Appin Road via two existing rural driveways. The primary vehicle access point serves the Mount Gilead homestead, and secondary vehicle access point is located adjacent to the shared boundary with Beulah.

Soil would be stockpiled within designated locations, and temporary sediment basins would be formed to manage the downstream runoff of soil and water.

Report

1. Strategic Context

1.1. Greater Sydney Region Plan

The Greater Sydney Region Plan (GSRP) is built on a vision where most residents live within 30 minutes of their jobs, education and health facilities, services and great places and seeks to transform Greater Sydney into a metropolis of three cities. Under the GSRP the Campbelltown LGA is located within the Western Parkland City and the Western City District.

The GSRP identifies the need for an additional 725,000 dwellings in the period 2016-2036 within the Western City District. These additional dwellings will comprise 29 per cent of the total Sydney wide dwelling growth by 2036.

The proposal is consistent with the GSRP as Mount Gilead is located within the Greater Macarthur Growth Area which is identified by the GSRP as a land release area where new communities are to be developed, providing dwelling capacity into the medium and longer term.

1.2. Western City District Plan

The Western City District Plan (the District Plan) sets out more details with respect to the anticipated growth in housing and employment in the Western District.

The District Plan identifies future growth of an additional 184,500 dwellings to be provided in land release area and urban renewal close to existing centres. The development of Mount Gilead will assist in achieving the 0-5 year housing target of 6,800 for Campbelltown as future subdivision and dwelling house applications are lodged.

1.3. Greater Macarthur 2040 (Draft) An Interim Plan for the Greater Macarthur Growth Area

Greater Macarthur 2040 is a draft land use and infrastructure implementation plan that when finalised, will guide precinct planning within the Greater Macarthur Growth Area. The draft Plan is supported by strategies for major items of State and local infrastructure and includes an updated structure plan for the land release areas of South Campbelltown.

The Growth Area within the Campbelltown Local Government Area (LGA) would provide for approximately 39,000 dwellings in the land release precincts. Approximately 19,000 of these new dwellings is expected to be delivered in new land releases within the Campbelltown LGA, including the Mt Gilead Precinct.

The proposal is consist with the draft Plan as it forms part of the Gilead precinct which has potential for up to 15,000 homes. Mt Gilead forms Stage 1 of this release with up to 1,700 dwellings planned.

1.4. Campbelltown '2027' Community Strategic Plan

Campbelltown '2027' is the Community Strategic Plan for the city of Campbelltown. The Strategic Plan addresses four key strategic outcomes that Council and other stakeholders will work to achieve over the next ten years:

- Outcome 1: A vibrant, liveable city
- Outcome 2: A respected and protected natural environment
- Outcome 3: A thriving, attractive city
- Outcome 4: A successful city

The development application has been assessed with regard to the desired outcomes and objectives identified within Campbelltown '2027'. It is considered that the proposed development is generally consistent with the long term vision for the Campbelltown and Macarthur Region having regard to the proposed scale and impact on the locality.

2. Planning Provisions

The proposed development has been assessed against the relevant matters for consideration under Section 4.15 of the EP&A Act.

2.1. *National Parks and Wildlife Act 1974*

Section 90 of the *National Parks and Wildlife Act 1974* (NPW Act) requires an AHIP to be issued for the land.

The site is identified as containing potential archaeological deposits, artefacts scatters, and a culturally modified (scarred) tree.

An AHIP was issued by the DPIE on 29 April 2020 and subsequently varied by Heritage NSW on 31 August 2020.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the NPW Act.

2.2. *Water Management Act 2000*

Section 91 of the *Water Management Act 2000* (WM Act) requires a controlled activity approval to be issued for works within 40m of the top of the bank of the natural watercourses on the land.

The applicant has identified all watercourses on the land following field investigation and confirmation with NSW Office of Water. Some creeks mapped in Hydroline Spatial Data are not deemed waterfront land due to the absence of a defined channel.

The applicant has purposely setback all works at least 40m from the top of the bank of all natural watercourses on the land.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the WM Act.

2.3. *Roads Act 1993*

Section 138 of the *Roads Act 1993* requires consent to connect a road (whether public or private) to a classified road.

The proposal would utilise the two existing rural driveways that provide vehicle access to and from Appin Road.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the *Roads Act 1993*.

2.4. *Rural Fires Act 1997*

Section 100B of the *Rural Fires Act 1997* (RFS Act) requires a bushfire safety authority for a subdivision of bushfire prone land for residential purposes, or development of bushfire prone land for a special fire protection purpose.

The proposed development does not involve the subdivision of land or development for a special fire protection purpose.

Accordingly, the proposed development is not considered to be classified as integrated development within the meaning of the RFS Act.

2.5. *Coal Mine Subsidence Compensation Act 2017*

Section 22 of the *Coal Mine Subsidence Compensation Act 2017* (CMSC Act) requires approval to alter or erect improvements, or to subdivide land, within a mine subsidence district.

The proposed development does not involve the erection of any dwellings, roads or infrastructure on the land. The applicant advises that the works do not require approval from Subsidence Advisory NSW under the CMSC Act.

Notwithstanding, as a matter of best practice, the applicant has advised the proposed development will be referred to Subsidence Advisory NSW for approval.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the CMSC Act.

2.6. *Fisheries Management Act 1994*

Section 219 of the *Fisheries Management Act 1994* (FM Act) requires a permit to construct or alter a dam across a river or creek or across or around a flat, so that fish will or could be blocked or left stranded, or immature fish will or could be destroyed, or the free passage of fish will or could be obstructed.

The proposal involves the dewatering of farm dams. The applicant outlines that due to the separation from existing natural watercourses, the dams are considered to have limited potential for any viable aquatic or fish life.

The applicant’s ecological consultant confirms the proposal would not impact on a waterway mapped as key fish habitat or a waterway that contains a threatened species record.

Further, the BCA permits the dewatering of dams as it sets aside the integrated development provisions of the EP&A Act.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the FM Act.

2.7. State Environmental Planning Policy (Sydney Region Growth Centres) 2006

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (GC SEPP) was amended on 6 December 2019 by the NSW State Government to include the Greater Macarthur Growth Area.

The Mount Gilead Precinct is mapped as being within the Greater Macarthur Precinct Boundary.

The proposed development has been reviewed against the relevant provisions of the GC SEPP and is considered to be consistent in this regard (attachment 3).

2.8. State Environmental Planning Policy (Infrastructure) 2007

The submitted plans show an easement for electricity purposes crossing through the site. Pursuant to clause 45 of the Infrastructure SEPP, the application was referred to Endeavour Energy inviting comments about potential safety risks. Endeavour Energy issued comments on 7 October 2020 which have been included within the recommended conditions of consent.

An ethane gas pipeline passes through land on the western side of the Sydney Water Supply Upper Canal. Under clause 66C of the Infrastructure SEPP, the application was referred to the pipeline operator (APA) for consideration of potential safety risks or risks to the integrity of the pipeline. APA issued comments on 21 October 2020 which have been included within the recommended conditions of consent.

The proposal involves limited earthworks and temporary site compounds within the SP2 zoned land reserved for the purposes of Appin Road. The applicant has advised the capital investment value (CIV) of the work within the land reserved for Appin Road would be less than $150,000. Having regard to clause 100 of the Infrastructure SEPP, as the capital investment value does not exceed $185,000, concurrence from the RMS is not required.

Clause 101(2) of the Infrastructure SEPP provides that the Panel must not consent to development that has a frontage to a classified road unless it is satisfied that:

a) where practicable, vehicular access to the land is provided by a road other than the classified road

b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of:

   i. the design of the vehicular access to the land

   ii. the emission of smoke or dust from the development

   iii. the nature, volume or frequency of vehicles using the classified road to gain access to the land.

c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.

The site has a frontage to Appin Road which is a classified road. Vehicle access to the site is not able to be achieved by a road other than Appin Road. In order to manage the safety, efficiency and ongoing operation of Appin Road, a condition has been included requiring a Construction Traffic Management Plan to be approved by the NSW Roads and Maritime Services (RMS) prior to the commencement of works. The proposed development is of a type that is not sensitive to traffic noise or vehicle emissions arising from Appin Road.

2.9. State Environmental Planning Policy No 55 – Remediation of Land

Pursuant to Clause 7(1) of SEPP 55, the Panel must not consent to the carrying out of any development on land unless:

a) it has considered whether the land is contaminated

b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose

The application was accompanied by a Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) prepared by Douglas Partners.

The PSI was undertaken over Lot 61 DP 752042 and the DSI was undertaken over the remaining lands.

The PSI evaluates the contamination status of the site and assesses its suitability from a contamination standpoint for the proposed future residential subdivision.

The findings of the PSI indicate the site has a low potential for contamination, and that the site is considered suitable from an environmental perspective, for the proposed future residential land use.

While there remains potential for isolated pockets of contamination to be present on the site, this could be readily managed through the implementation of an Unexpected Finds Protocol.

The PSI identifies five areas of environmental concern within the site, four of which required further investigation.

The four areas of concern include fragments of asbestos pipe, stockpiles of silty clay filling, surface soils surrounding the timber power poles, and an asbestos cement pipe.

The findings of the DSI indicate the site could be made suitable for the proposed development subject to requirements, including the removal of asbestos containing material, offsite disposal of soils in the vicinity of the timber power poles, execution of a Remedial Action Plan (RAP), and implementation of an Unexpected Finds Protocol.

The application was accompanied by a RAP which includes a strategy to render the site suitable for the proposed future development and outlines requirements for the remediation works to be completed in an environmentally acceptable manner.

The RAP requires a validation plan to be undertaken to assess the results of post remediation testing against the remediation acceptable criteria and includes the collection of samples to be tested in a NATA registered laboratory to assess the overall quality of remediation works.

Based on the findings of the PSI and DSI reports, it is considered the proposed site remediation works and post remediation testing make the land suitable for future urban land uses, before the land is used for that purpose.

2.10. *Biodiversity Conservation Act 2016*

The land subject to this application has been biodiversity certified.

On 28 June 2019, a BCA was entered into by the Minister for Energy and Environment, Lendlease Communities (Mt Gilead) Pty Limited, Lendlease Communities (Mt Gilead No. 3) Pty Limited, Mt Gilead Pty Limited, and Campbelltown City Council.

The order conferring biodiversity certification of Mt Gilead Stage 1 was published in the NSW Government Gazette No.70 of 5 July 2019. The order notes:

> This order is made in relation to an application for biodiversity certification made under Part 7AA of the Act (Application) pursuant to cl 37 of the BCR. In accordance with clause 37(4) of the BCR, the biodiversity certification is taken to be biodiversity certification conferred on the specified land under Part 8 of the BC Act (2016).

Section 8.4 of the BC Act states:

(2) **Development (including State significant development) under Part 4 of the Planning Act**

An assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act.

(3) A consent authority, when determining a development application in relation to development on biodiversity certified land under Part 4 of the EP&A Act, is not required to take into consideration the likely impact on biodiversity of the development carried out on that land.

(6) **This section prevails**

This section has effect despite anything to the contrary in the EP&A Act or Part 7 of this Act.

Comment: For the purposes of the BC Act, biodiversity is the variety of living animal and plant life from all sources, and includes diversity within and between species and diversity of ecosystems.

With respect to the above provisions, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including but not limited to Koalas and vegetation.

Impacts to animal and plant life were however considered during the biodiversity certification process during which offsets were secured to maintain and conserve biodiversity.

2.11. State Environmental Planning Policy (Koala Habitat Protection) 2020

The Koala Habitat Protection SEPP commenced on the 30 November 2020.

The aim of the SEPP is to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline. A measure required to assist this aim is the Koala Plan of Management.

Step 1 – Is the land potential koala habitat?

In accordance with clause 8(1) of the SEPP, before the Panel may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential koala habitat.

Comment: The land subject to the application is mapped as containing potential koala habitat.

Step 2 – Is the land core koala habitat?

In accordance with clause 9(1) of the SEPP, before the Panel may grant consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a potential koala habitat, it must satisfy itself as to whether or not the land is a core koala habitat.

Comment: The land subject to the application is mapped as containing core koala habitat.

Step 3 – Can development consent be granted in relation to core koala habitat?

In accordance with clause 10(1) of the SEPP, before the Panel grants consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a core koala habitat, there must be a plan of management prepared in accordance with Part 3 that applies to the land. Under clause 10(2) of the SEPP, the Panel's determination of the development application must not be inconsistent with the plan of management.

Comment: The Secretary approved the Campbelltown Comprehensive Koala Plan of Management (CCKPOM) on 30 July 2020 under clause 17 of SEPP (Koala Habitat Protection) 2019.

As mentioned above, biodiversity certification has been conferred on the land, and is in force under Part 8 of the BCA. Therefore the provisions of the SEPP and CCKPOM do not apply to the land.

Notwithstanding, although biodiversity certification has been conferred on the land, the application was accompanied by advice prepared by Ecological Australia outlining how the proposal is not inconsistent with the CCKPOM (attachment 4).

Guidelines—matters for consideration

Clause 11 of the SEPP states that, the Panel must take the guidelines into consideration in determining an application for consent to carry out development on land to which this Part applies.

Comment: Planning Circular No. B35 (guidelines) dated 22 March 1995 has been taken into consideration. The guidelines do not contain matters which prevent consent from being granted to the proposed development, noting that biodiversity certification has been conferred on the land.

2.12. State Environmental Planning Policy No. 19 – Bushland in Urban Areas

SEPP 19 in Urban Areas applies to land within the Campbelltown Local Government Area.

Clause 6(1) of SEPP 19 provides that a person shall not disturb bushland zoned or reserved for public open space purposes without the consent of the council.

Comment: Consent is sought to disturb bushland zoned RE1 Public Recreation (subject bushland) which allows for public open space or recreational purposes.

Clause 6(4) of SEPP 19 provides that a consent authority shall not consent to the carrying out of development referred to in subclause (1) unless:

a) has made an assessment of the need to protect and preserve the bushland having regard to the aims of this Policy,

b) it is satisfied that the disturbance of the bushland is essential for a purpose in the public interest and no reasonable alternative is available to the disturbance of that bushland, and

c) it is satisfied that the amount of bushland proposed to be disturbed is as little as possible and, where bushland is disturbed to allow construction work to be carried out, the bushland will be reinstated upon completion of that work as far as is possible.

The proposal involves the removal of bushland to deliver a future sports oval and stormwater detention basin.

In relation to Clause 6(4)(a) of SEPP 19, an assessment of the need to protect and preserve the bushland having regard to the aims of the Policy is provided below:

(1) The general aim of this Policy is to protect and preserve bushland within the urban areas referred to in Schedule 1 because of:

a) its value to the community as part of the natural heritage,

Comment: The subject bushland may hold some value to the community as part of the natural heritage of Mount Gilead. However, the natural heritage of the bushland has been disturbed and modified due to past land clearing and agricultural practices. The natural

heritage of the bushland would be retained within the RE1 zoned biobanks, and the heritage value of Mount Gilead would be conserved through its curtilage.

b) its aesthetic value, and

Comment: The subject bushland may hold some aesthetic values. However, as the proposal involves the removal of a low number (approximately 18 trees) of the overall number of trees to be removed from the site, the likely impacts on aesthetic value are considered to be minimal. The bushland that comprises a high aesthetic value will be retained within the adjacent biobanks.

c) its value as a recreational, educational and scientific resource.

Comment: Due to the prior agricultural use of the land, the subject bushland is not required to be protected and preserved as a recreational resource. The proposed development would facilitate the creation of a new recreational resource, comprising a future sports oval. The Statement of Heritage Impact (SHI) prepared by TKD Architects does not identify the bushland as being valued for its recreational, educational and scientific resource.

The Aboriginal Cultural Heritage Assessment (ACHA) prepared by Virtus Heritage indicates the land has value as an educational and scientific resource. The proposed removal of bushland would not impact on the scarred tree or potential archaeological deposits of scientific value. The need to further preserve and protect the bushland would be further examined as part of the AHIP that has been issued for the land. An AHIP summary report may be prepared for educational purposes about the project.

(2) The specific aims of this policy are:

a) to protect the remnants of plant communities which were once characteristic of land now within an urban area

b) to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term

c) to protect rare and endangered flora and fauna species

d) to protect habitats for native flora and fauna

e) to protect wildlife corridors and vegetation links with other nearby bushland

Comment: With respect to aims (a) – (e), the land subject to this application has been biodiversity certified. In accordance with Section 8.4 of the BC Act 2016, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems.

Further, the subject bushland was not found to be a substantial wildlife corridor for Koalas as shown in the South Campbelltown Koala Connectivity Study, and is not considered to form a substantial vegetation link with other nearby bushland, such as that between the Georges and Nepean Rivers.

f) to protect bushland as a natural stabiliser of the soil surface

Comment: The application proposes to implement erosion and sediment control measures to stabilise the soil surface in the area during earthworks. In this regard, there is no need to protect the subject bushland as a natural stabiliser of the soil surface.

g) to protect bushland for its scenic values, and to retain the unique visual identity of the landscape,

Comment: The subject bushland is not identified within the Mt Gilead DCP as having scenic values, or as forming the unique visual identity of the landscape, including One Tree Hill or the Old Mill. The bushland that does have scenic values is situated within the biobanks, which will be protected and retained so as to contribute to the unique visual identity of the landscape.

h) to protect significant geological features

Comment: The submitted plans do not indicate any significant geological features that are worthy of protection within the subject bushland.

i) to protect existing landforms, such as natural drainage lines, watercourses and foreshores,

Comment: The proposal involves the re-contouring of land and the creation of diversion banks, channels and sediment basins. All works would be setback at least 40m from the top of the bank of all natural watercourses on the land. In this regard, the protection of natural drainage lines and watercourses is not required.

j) to protect archaeological relics

Comment: No relics have been identified within the subject bushland that relate to the settlement of the area, not being Aboriginal settlement, which is of State or local heritage significance.

k) to protect the recreational potential of bushland,

Comment: This has been assessed under general aim (1)(c) above.

l) to protect the educational potential of bushland,

Comment: This has been assessed under general aim (1)(c) above.

m) to maintain bushland in locations which are readily accessible to the community, and

Comment: The subject bushland is privately owned and not readily accessible to the community. The application would facilitate the future delivery of a sports oval which would become accessible to the community.

n) to promote the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.

Comment: It is considered the BCA promotes the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.

In relation to Clause 6(4)(b) of SEPP 19:

b) it is satisfied that the disturbance of the bushland is essential for a purpose in the public interest and no reasonable alternative is available to the disturbance of that bushland, and

Comment: The entire site contains pockets of land of differing size, zoned RE1. The majority of the land zoned RE1 on the site will remain undisturbed and also form part of bio bank sites. The subject bushland to be disturbed is within a small pocket of RE1 zoned land and is essential for a purpose in the public interest, including the future delivery of a sports oval and stormwater detention basin. In this regard there is no reasonable alternative to the disturbance of the bushland as the proposed location of the sports oval and stormwater detention basin is the most reasonable location, as portrayed in the Mt Gilead DCP.

In relation to Clause 6(4)(c) of SEPP 19:

c) it is satisfied that the amount of bushland proposed to be disturbed is as little as possible and, where bushland is disturbed to allow construction work to be carried out, the bushland will be reinstated upon completion of that work as far as is possible.

Comment: The majority of bushland within the RE1 zone would not be disturbed, and would form biobank sites or be situated on land outside the scope of works. In this regard, the amount of bushland proposed to be disturbed is as little as possible. Where bushland is proposed to be permanently disturbed for development to be carried out, the bushland would not be reinstated upon completion of earthworks, as the bushland is permitted to be removed in accordance with the BCA that applies to the land.

Clause 8(2) of SEPP 19 provides that where the council considers it necessary or desirable to provide more detailed provisions than are contained in SEPP 19, it may prepare or cause to be prepared a plan of management in respect of bushland to which this clause applies.

It is not considered necessary to provide more detailed provisions than are contained in SEPP 19 so as to prepare or cause to be prepared a plan of management in respect of bushland to which this clause applies. As part of the EPBC Approval, the applicant is required to secure areas of Shale Sandstone Transition Forest and Cumberland Plain Woodland as biobanks, and acquire or retire biodiversity credits for the Koala, prior to the clearance of any vegetation. It is considered these measures will retain bushland for plant and animal communities, and protect wildlife corridors and vegetation links with other nearby bushland.

2.13. Campbelltown Local Environmental Plan 2015

The subject site contains five land use zones under the provisions of the CLEP 2015 (see Figure 5). The proposal is considered to be consistent with the applicable objectives discussed below:

Zone R2 Low Density Residential

- to provide for the housing needs of the community within a low density residential environment.

Comment: The proposed development would facilitate the future development of the locality to provide for the housing needs of the community within a low density residential environment.

Zone RU2 Rural Landscape

- to maintain the rural landscape character of the land

- to preserve and enhance bushland, wildlife corridors, natural habitat and water resources, including waterways, ground water and riparian land

- to protect and enhance areas of scenic value, and the visual amenity of prominent ridgelines, by minimising development and providing visual contrast to nearby urban development

Comment: The proposed development shows that minimal works would be undertaken within the RU2 zone so as to maintain the rural landscape character of the land. The proposal would preserve the trees within the zone and protect the scenic value One Tree Hill which would provide a visual contrast to the adjacent residential zone.

Zone RE1 Public Recreation

- to enable land to be used for public open space or recreational purposes

- to preserve and rehabilitate bushland, wildlife corridors and natural habitat, including waterways and riparian lands, and facilitate public enjoyment of these areas

- to preserve land that is required for public open space or recreational purposes

Comment: The proposed development would support future provision of open space and recreational activities via separate planning applications. The proposal would preserve the bush land adjacent to Noorumba Reserve and would facilitate the public enjoyment of the land with a potential future pedestrian/cycle route. The proposal would preserve land that is required for public open space and recreational purposes as shown on the Indicative Landscape Strategy within the Gilead DCP.

Zone B1 Neighbourhood Centre

- To provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood

Comment: The proposed development would facilitate the future development of a neighbourhood centre to provide small-scale community uses that serve the needs of people who live or work in the surrounding neighbourhood.

Zone SP2 Infrastructure - Classified Road

- To provide for infrastructure and related uses

Comment: The boundaries of the site extend past the R2 zoned land and into the SP2 zoned land. With the exception of limited earthworks and temporary site compounds, the application does not propose any infrastructure works within the SP2 zoned land associated with Appin Road. Lendlease and the NSW Roads and Maritime Services would provide the required infrastructure upgrades to Appin Road under an arrangement that is separate to this development application. In this regard, the proposed development is considered to be the catalyst that generates the provision of infrastructure upgrades to Appin Road.

Heritage conservation

Pursuant to clause 5.10(2) of the CLEP 2015, development consent is required for 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; or to disturb or excavate an Aboriginal place of heritage significance.

The proposed development was accompanied by an ACHA prepared by Vitus Heritage. The report outlines the findings of an AHIP that was issued for the site which permitted the undertaking of an archaeological testing program.

In collaboration with Registered Aboriginal Parties (RAPs), a total of 742 test pits were excavated and 1,183 artefacts were recovered. The report provides that despite an average density of 1.59 artefacts per test pit, the total assemblage was small having regard to the scale of the testing program.

The distribution of the artefact assemblage indicates that Aboriginal people were utilising the local landscapes, but not intensively. The landscape revealed a low-density background scatter as evidenced by a generally low number of artefacts spread across an expansive testing area.

The dominant artefact types were broken flakes (44.7 per cent) and flakes (26.5 per cent). Other artefact types included flaked pieces (18.9 per cent), cores (3.9 per cent), retouched flakes (2.8 per cent), and retouched flake form tools (1.3 per cent). One axe fragment, one anvil, and a manuport were also recovered.

Test excavations were undertaken to the designated biobank areas. However, it was determined that excavation would be more disruptive to Aboriginal artefacts than the low impact regeneration of the area. The depth of disturbance was considered to result in a greater impact than that required for the area to undergo regeneration.

The RAPs expressed concern regarding the removal of artefacts from biobank areas, which informed a decision to cease testing within these areas. It is recommended that biobank areas be managed to preserve remaining artefact deposits.

The testing program was undertaken within an area of Sydney where European settlement occurred relatively early. While there were testing areas that contained both historical features (e.g. remnants of pastures and drainage pipes) and Aboriginal artefacts, no definitive association could be established. No Aboriginal objects that could definitively

represent a contact site (such as flaked glass artefacts) were identified during the testing program.

The lower slopes and flat landforms to the north of the project area contained the highest concentration of Aboriginal artefacts. The landform is representative of the types of sites known to occur in the region and has been assessed as being moderately significant.

The site contains one scarred tree which is recognised as being highly culturally significant and rare in the region, and contributes to the significance of the study area. The tree is located within an area where no works are proposed.

The statement of significance concludes that as a whole, the landscape of the project area is predominantly of low scientific significance, with elements of moderate to high significance. The RAPs state the project area has cultural significance and is part of a broader cultural landscape steeped in social and historical values.

Hillsborough homestead

The site contains the former Hillsborough homestead located adjacent to Appin Road which is not listed as a heritage item. The application was accompanied by a SHI prepared by MKD Architects which advises the former homestead may contain items of archaeological potential, including remnants of the former Hillsborough cottage, outbuildings and structures, pathways and fence lines.

The application does not propose to undertake any works within the homestead site. The boundary of works would conserve the site from the proposed development. The homestead site would be subject to separate consent for archaeological investigation and interpretation of the former cottage. The SHI advises the curtilage provided for the site is sufficient to protect its archaeological and interpretive potential. A recommended condition has been included requiring the form Hillsborough site to be fenced off and protected during works.

Aboriginal Heritage Impact Permit

The Department of Planning, Industry and Environment (DPIE) issued an AHIP for the land on 29 April 2020 under section 90 of the NPW Act. A Notice of Variation of AHIP was subsequently issued by Heritage NSW on 31 August 2020.

While the application was not lodged as Integrated Development within the meaning of Section 4.46 of the EP&A Act, the application was referred to Heritage NSW for comment.

Heritage NSW responded on 21 October 2020 advising the proposed development site is currently subject to an existing AHIP. Heritage NSW further advised the applicant to ensure that all proposed works are consistent with the conditions and management measures of that AHIP.

Mount Gilead Heritage Item

Pursuant to clause 5.10(4) of the CLEP 2015, the Panel 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.

Comment: The site contains Mount Gilead (I58) which is listed as a heritage item of Local Significance under the CLEP 2015. The artificial lake associated with the heritage item is mapped as entering Lot 4 DP 1240836.

While Mount Gilead was listed as a heritage item of State Significance on 28 August 2020, the curtilage of the heritage item and artificial lake is not situated within Lot 4 DP 1240836, and is located wholly within Lot 1 DP 1218887.

It is recognised the land was subdivided in 2016 during which the lot boundary was designed to retain the artificial lake wholly within the parcel of land associated with Mount Gilead.

The Statement of Environmental Effects articulates the artificial lake component was always intended to remain in one title/ownership, referring to Council's meeting of 22 November 2016 and Plan Finalisation Report by the Department of Planning, Industry and Environment. The applicant has identified that a potential mapping error occurred within the final maps that formed part of the amendment to the CLEP 2015 on 8 September 2017.

The SHI prepared by MKD Architects states:

"The curtilage around Mount Gilead is sufficient to provide an open landscape setting that enables interpretation of the historic role of the place as a homestead on a large open estate. The curtilage will prevent encroachment of future development on Mount Gilead's important buildings and features. It should be noted that a portion of the local listing for Mount Gilead is shown erroneously on the site. However, the establishment of the Macarthur-Onslow Biobank and retention of rural zoning around the artificial lake associated with Mount Gilead will provide a protective curtilage for this part of the item."

The effect proposed development on the heritage significance of the item and area concerned is considered to be minimal and acceptable. The proposal does not involve any works to Mount Gilead as mapped in the State Heritage Register or LEP 2015. The proposed development would be buffered from the heritage item by the Macarthur-Onslow Biobank, and all works have been setback from the artificial lake component and other items of significance.

Recommended conditions of consent have been applied to mitigate potential indirect environmental impacts to the heritage item, surrounding soil and water management, erosion and sediment control and dust nuisance.

Arrangements for designated State public infrastructure

Pursuant to Clause 6.1(2) of the CLEP 2015, development consent must not be granted for the subdivision of land in an urban release area if the subdivision would create a lot smaller than the minimum lot size permitted on the land immediately before the land became, or became part of, an urban release area, unless the Secretary has certified in writing to the consent authority that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to that land

The proposed development does not involve the subdivision of land.

Public utility infrastructure

Pursuant to Clause 6.2(1) of the CLEP 2015, development consent must not be granted for development on land in an urban release area unless the Panel is satisfied that any public

utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

The proposed bulk earthworks would not create demand for public utility infrastructure. The proposed development relies on the use of earth moving equipment. The proposal would establish suitable site conditions to provide public utility infrastructure to service future proposed residential allotments.

Development control plan

Pursuant to Clause 6.3(2) of the CLEP 2015, development consent must not be granted for development on land in an urban release area unless a development control plan has been prepared for the land. The DCP must include details of staging, transport movement, landscaping, recreation areas, water management, environmental hazards, urban design, higher density living, commercial uses and public facilities.

Comment: The site specific Mt Gilead Development Control Plan and the SCDCP apply to the subject land. The Mt Gilead DCP commenced at the same time the land was rezoned for urban development. An amendment to the Mt Gilead DCP was adopted by Council, at the Ordinary Council meeting on the 14 April 2020 to include a staging plan and a table addressing the provisions of Clause 6.3 of CLEP 2015. The table below provides an assessment against the provisions of Clause 6.3 and relevant controls of the amended Mt Gilead DCP.

CLEP 2015 Clause 6.3 Requirement	**Relevant Provision/Control**	**Comment**
a) a staging plan for the timely and efficient release of urban land, making provision for necessary infrastructure and sequencing,	Development may be undertaken in a single stage (as shown in Figure 1A, staging plan) or in any number of substages provided that development reflects the progressive delivery of road, utility and local infrastructure over the land. Development may be undertaken pursuant to several development applications with an explanation of how this is compatible with the delivery of infrastructure.	The Mt Gilead DCP includes a staging plan for land. The proposed development would be undertaken in three phases within Stage 1 as shown in Figure 1A. Development of the site in three phases will ensure the timely and efficient release of future urban land, and make provision for future necessary infrastructure, such as roads, drainage and utilities. Development of the site would facilitate the sequencing and development of the site via subsequent development applications, including the staged residential subdivision of the land, that have already been lodged with Council. The overall development of the site will be undertaken through numerous development applications, which is compatible with the voluntary

		planning agreement, where the delivery of infrastructure is triggered by certain milestones, including the number of registered lots.
b) an overall transport movement hierarchy showing the major circulation routes and connections to achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists,	This infrastructure shall be provided in accordance with Section 3.2 (including, without limitation, consistency with the details in Figures 4, 5 and 6).	The Gilead DCP provides an Indicative Street Network and Public Transport map which depicts collector roads, distributor streets, local streets, access points and bus routes. The Gilead DCP provides indicative street cross sections for a distributor street, collector road, local streets and cul-de-sacs; and an Indicative Pedestrian/Cycle Network which plots pedestrian/cycle routes. As the proposed development does not propose the provision of any infrastructure, compliance with section 3.2 of the DCP would be demonstrated via separate planning applications where infrastructure is proposed.
c) an overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent locations, and detailed landscaping requirements for both the public and private domain,	All development shall be undertaken in accordance with Section 3.3 (including, without limitation, consistency with the details in Figure 7).	The Gilead DCP provides an Indicative Landscape Strategy which provides for rural areas, open space and drainage areas, riparian corridors, detention and bio-retention basins, interpretive drive, landscaped green link, screen planning, One Tree Hill, sports oval, and a potential water reservoir. The Gilead DCP provides objectives to conserve riparian areas and remnant bushland. The Gilead DCP aims to retain regional views of the hills from the west of the subdivision as well as the visual context of the landscape and its prior land uses and heritage values. The Gilead DCP aims to retain the bald character of One Tree Hill when viewed from The Old Mill with a single landmark tree. Appendix 1 of the Gilead DCP

		provides an Indicative Street Tree Hierarchy with samples of suggested street trees for the public domain. The DCP requires the 'green link' to be planted with endemic native species. Whilst the Gilead DCP does not provide landscaping requirements for the private domain, Volume 1 of the SCDCP requires the submission of a landscape plan that maximises the use of drought tolerant native species. The proposed development involves tree removal within RE1 zone to facilitate the delivery of a future sports oval which is consistent with Figure 7. The boundary of earthworks is consistent with open space and drainage, riparian corridors and rural area to be retained as shown in Figure 7. Excluding bulk earthworks and tree removal, as the proposed development does not propose the undertaking of any landscaping works, compliance with section 3.3 of the DCP would be demonstrated via a separate planning application where landscaping work is proposed.
d) a network of active and passive recreation areas,	All development shall be undertaken in accordance with Section 3.3 (including, without limitation, consistency with the details in Figure 7).	The Indicative Landscape Strategy provides active and passive recreation areas, including a sports oval, open space areas, One Tree Hill, riparian corridors and a landscaped green link. The proposed development involves tree removal within RE1 zone to facilitate the delivery of a future sports oval which is consistent with Figure 7. As the proposed development does not propose the undertaking of any recreation areas, compliance with section 3.3 of the DCP would be demonstrated via a separate planning application where

			recreation areas are proposed.
e)	stormwater and water quality management controls,	All development shall be undertaken in accordance with the Campbelltown City Council Engineering Design Guide for Development.	The proposed development involves the provision of temporary sediment basins that are capable of satisfying the Engineering Design Guide for Development, and standards for stormwater and water quality management. A condition has been applied to ensure the design of all engineering works is carried out in accordance with the requirement of Council's Engineering Design Guide for Development.
f)	amelioration of natural and environmental hazards, including bush fire, flooding and site contamination and, in relation to natural hazards, the safe occupation of, and the evacuation from, any land so affected,	**Bushfire** All future development is to comply with the NSW Rural Fire Service's Planning for Bushfire Protection. This includes the provision of suitable asset protection zones and appropriate maintenance of vegetated open space areas. **Flooding** All future development is to comply with Council's Engineering Design Guide for development. **Contamination** All future development is to comply with State Environmental Policy No.55 – Remediation of Land. **Mine Subsidence** All future development is to comply with the requirements of the NSW Mine Subsidence Board.	**Bushfire** The proposed development does not involve the construction of any dwellings or structures and is consistent with the aims and objectives of Planning for Bushfire Protection. The proposed earthworks and tree removal would remove fuel loads and contribute to future asset protection zones. **Flooding** The proposed development was reviewed by Council's engineers and considered to comply with Council's Engineering Design Guide for development. **Contamination** The proposed development was supported by contamination studies that satisfy the provisions of SEPP 55. **Mine Subsidence** The proposed development does not involve the erection of any dwellings, roads or infrastructure on the land. Although, the application was not lodged as integrated development within the meaning of the CMSC Act, the applicant has advised the

		proposed development will be referred to Subsidence Advisory NSW for approval.
g) detailed urban design controls for significant development sites,	All development must address the matters under Section 3.1 including consideration of the principles provided in Figure 3 and be consistent with low density residential development controls in Volume 1, Part 3. Development in the vicinity of the "One Tree Hill" site shall be undertaken in accordance with Section 3.3 (including, without limitation, consistency with the details in Figure 7) and the objectives of the RU2 Rural Landscape Zone in which it is located. All development shall be undertaken in accordance with Section 3.1 (including, without limitation, consideration of the principles provided in Figure 3).	The Gilead DCP provides urban design controls for the overall development of the estate, including specific outcomes for heritage and views, street network and public transport, public open space and landscaping, residential subdivision and residential development. The proposed development has been designed to address the objectives and controls under section 3.1 and is consistent with the principles provided in Figure 3. The proposal interprets the rural landscape values of the site and surrounding locality via the retention of trees within the RU2 zone. The proposal would retain the European heritage of the former Hillsborough cottage which would be fenced off and protected during works. The proposal would retain regional views of hills to the west including the landscape's prior land uses and heritage values, including rural farm land, remnant trees and the Old Mill. Earthworks are not proposed within the immediate vicinity of One Tree Hill. The proposal would retain the bald character of One Tree Hill above the background skyline when viewed from The Old Mill, with a single landmark tree. Key view corridors to the Old Mill and One Tree Hill would be retained and interpreted.

		The low density residential development controls in Volume 1, Part 3 do not apply to the works sought under this application. The development in the vicinity of One Tree Hill is consistent with Section 3.3 and Figure 7 and the objectives of the RU2 zone. The development would be undertaken in accordance with Section 3.1 and the principles provided in Figure 3.
h) measures to encourage higher density living around transport, open space and service nodes,	Any development must locate smaller high density residential types of development around transport, open space and service nodes in accordance with Section 3.4.	An objective of the Gilead DCP is to provide a range of densities, lot sizes and house types. The Gilead DCP allows for a maximum of 65 lots less than 450sqm with a minimum area of not less than 375sqm. The lots must be within 200m of key amenity attractors such as the bus route, community hub and open space. The proposed development involves does not involve residential types of development.
i) measures to accommodate and control appropriate neighbourhood commercial and retail uses,	Commercial and retail development shall be concentrated in the B1 Neighbourhood Centre within the precinct and must be undertaken in accordance with the objectives of B1 Neighbourhood Centre and Volume 1, Section 6 of the SCDCP.	Part 6 of the SCDCP provides controls for commercial development. The proposed development does not involve the construction of any commercial or retail buildings within the B1 zone.
j) suitably located public facilities and services, including provision for appropriate traffic management facilities and parking.	Public facilities and services are to be provided in the B1 Neighbourhood Centre Zone and shall be provided in accordance with Council's Engineering Design Guide for development.	The Gilead DCP makes provision of public facilities and services including a community hub, sports oval, open space areas and bus routes. Traffic would be managed into and out of the site via signalised intersections that form part of the upgrade works to Appin Road. The internal road network could be designed to permit on-street parking. The proposed development

		does not involve the provision of public facilities and services in the B1 zone. Any future facilities would be capable of being provided in accordance with Council's Engineering Design Guide for Development.

Earthworks

Pursuant to clause 7.1(3) of the CLEP 2015, in deciding whether to grant development consent for earthworks the Panel must consider the following matters:

a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development

Comment: The proposal would disrupt drainage patterns and soil stability in the locality. The proposal involves the implementation of a soil and water management plan to mitigate impacts from arising in the locality of the development.

b) the effect of the development on the likely future use or redevelopment of the land

Comment: The proposal would facilitate the future development of the land for residential purposes.

c) the quality of the fill or the soil to be excavated, or both,

Comment: The fill would be virgin excavated natural material and the excavated soil may contain contaminants.

d) the effect of the development on the existing and likely amenity of adjoining properties

Comment: The proposal would impact on the amenity of adjoining properties in terms of noise, dust and vibration. The proposal would not have an unreasonable impact on the amenity of adjoining properties subject to the imposition of conditions.

e) the source of any fill material and the destination of any excavated material

Comment: The applicant has advised that approximately 50,000 cubic metres of fill would be imported to the site. The importation of fill would not occur all at once and occur periodically relative to the stages of development that will occur over the site as and when fill material is required. The remedial action plan states that any materials excavated and removed from the site would be disposed in accordance with the *Protection of the Environmental Operations Act 1997* to a facility, or site that is legally able to accept the material.

f) the likelihood of disturbing relics

Comment: The site contains the former Hillsborough homestead. The application was accompanied by a Heritage Impact Statement prepared by MKD Architects advising the curtilage of the site is sufficient to protect its archaeological and interpretive potential.

g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area

Comment: The proposed works have been setback at least 40m from the top of the bank of all natural watercourses on the land. The environmentally sensitive areas would be retained and protected as biobanks.

h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development

Comment: The applicant proposes measures to mitigate the impacts of the earthworks including the provision of sediment basins, sediment fencing, silt arrestors, straw bale filters, stabilised access points, hydro mulch and dust suppression. A condition has been included requiring measures to be implemented to manage erosion and dust impacts in accordance with the requirements of the document titled Managing Urban Stormwater: Soils and Construction prepared by Landcom.

Flood Planning

Pursuant to clause 7.2(3) of the CLEP 2015, development consent must not be granted unless the Panel is satisfied that the development

a) is compatible with the flood hazard of the land

Comment: The proposed development was reviewed by Council's hydraulic engineers and considered compatible with the flood hazard of the land.

b) will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties

Comment: The proposal would increase levels of storm water runoff due to the removal of vegetation from the land. The runoff would be channelled into temporary sediment basins to manage potential flood affectation to nearby properties.

c) incorporates appropriate measures to manage risk to life from flood

Comment: The proposal would incorporate several temporary sediment basins, and the earthworks would be designed to direct flows into these basins.

d) will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses

Comment: The proposal would implement a detailed soil and water management plan to mitigate adverse impacts to the environment. The earthworks would be setback at least 40m from natural watercourses.

e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding

Comment: The proposal would not result in unsustainable social and economic costs to the community as a consequence of flooding due to the sites location on the periphery of the city and distance from other residential dwellings and associated infrastructure. The site is only partially affected by flooding and the applicant would incorporate measures into the design of the earthworks to manage potential impacts on downstream properties.

Salinity

Pursuant to clause 7.4(3) of the CLEP 2015, in deciding whether to grant development consent for development on land to which this clause applies, the Panel must consider the following:

a) whether the development is likely to have any adverse impact on salinity processes on the land

Comment: A Salinity Investigation and Management Plan (SIMP) prepared by Douglas Partners accompanied the application. Within Lot 61, 41 per cent of the soil samples were non-saline, 53 per cent were slightly saline, and 6 per cent were moderately saline. Soil sampling undertaken on the remainder of the site indicates the land is non-saline.

b) whether salinity is likely to have an impact on the development

Comment: Salinity is not likely to have a significant impact on the development as no permanent structures are proposed.

c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development

Comment: The SIMP provides strategies to mitigate the impacts of the proposed development.

Pursuant to clause 7.4(4) of the CLEP 2015, development consent must not be granted to development on land to which this clause applies unless the Panel is satisfied that:

a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact

b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

c) if that impact cannot be minimised—the development will be managed to mitigate that impact

Comment: Having regard to the strategies and recommendations contained within the SIMP, it is considered the proposed development would be managed to avoid any significant adverse environmental impact.

Restrictions on access to or from public roads

Clause 7.18(3) of the CLEP 2015 provides that development consent may only be granted for development on land adjoining a road within Zone SP2 Infrastructure if the Panel is satisfied that:

a) all vehicular access to the land is by way of another road that is not within that zone,

or

b) there is no practicable alternative vehicular access to the land by way of another road that is not within that zone or by way of a proposed road identified in a development control plan.

Comment: The site is bound by Noorumba Reserve and a seniors living development to the north, the Upper Canal and Mount Gilead to the east, Beulah to the south, and Appin Road to the west. There are no other roads that offer vehicular access to the site, other than Appin Road. The Gilead DCP illustrates vehicle access being provided to the site from Appin Road.

Clause 7.18(4) of the CLEP 2015 provides that before granting development consent that makes provision for vehicular access to or from a road within Zone SP2 Infrastructure, the Panel must take the following into consideration:

a) the treatment of the access and its location, and

b) the effect of opening the access on traffic flow and traffic safety on the road

Comment: Vehicle access to the site is proposed from two existing rural driveways from Appin Road. In order to manage the traffic flow and safety of Appin Road, a condition has been included requiring a Construction Traffic Management Plan to be approved by the NSW Roads and Maritime Services prior to the commencement of works.

Terrestrial biodiversity

Pursuant to Clause 7.20(3) of the CLEP 2015, the Panel must consider:

a) whether the development is likely to have:

   i. any adverse impact on the condition, ecological value and significance of the fauna and flora on the land

   ii. any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna

   iii. any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land; and

   iv. any adverse impact on the habitat elements providing connectivity on the land

b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development

Comment: The subject site is mapped as containing 'biodiversity significant vegetation'. However, only a very small area of vegetation to which this clause applies would be removed. The majority of vegetation to which this clause applies would be retained and protected in accordance with the BCA. All impacts to native vegetation would be offset in accordance with the requirements of the BCA. Accordingly, the proposed development would not have an adverse impact on the above considerations.

Further, in accordance with Section 8.4 of the Biodiversity Conservation Act 2016, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems. As the proposed development would be carried out on biodiversity certified land, this relieves the

Panel of the obligation to assess and consider the impacts of the development on biodiversity under clause 7.20 of the CLEP 2015.

Pursuant to Clause 7.20(4) of the CLEP 2015, development consent must not be granted to development on land to which this clause applies unless the Panel:

a) has taken into account the objectives of this clause, and

b) is satisfied that the development is sited, designed, constructed and managed to avoid adverse impacts on native biodiversity or, if an adverse impact cannot be avoided:

   i. the development minimises disturbance and adverse impacts to remnant vegetation communities, threatened species populations and their habitats

   ii. measures have been considered to maintain native vegetation and habitat parcels of a size, condition and configuration that will facilitate biodiversity protection and native flora and fauna movement through biodiversity corridors, and

   iii. the development includes measures to offset the loss of biodiversity values

Comment: The objective of this clause is to maintain terrestrial biodiversity by protecting native fauna and flora, and protecting the ecological processes necessary for their continued existence, and encouraging the conservation and recovery of native fauna and flora and their habitats, and maximising connectivity and minimising habitat fragmentation. Having regard to the BCA, it is considered the Panel can be satisfied the proposed development is consistent with the above objectives and provisions.

Further, in accordance with Section 8.4 of the *Biodiversity Conservation Act 2016*, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems. As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity under clause 7.20 of the CLEP 2015.

2.14. Amendment No. 24 to the CLEP 2015

Amendment No. 24 to the CLEP 2015 was placed on public exhibition from 1 April 2020 to 6 May 2020 and is a matter for consideration.

The amendment includes a proposed Terrestrial Biodiversity Map which includes some additional Areas of Biodiversity Significance within the subject site at Gilead.

As the proposed Terrestrial Biodiversity Map relates to biodiversity certified land and clause 7.20 of the CLEP 2015, the Panel is not required to assess and consider the impacts of the development on biodiversity.

2.15. Campbelltown (Sustainable City) Development Control Plan

The proposed development has been assessed against the relevant development controls of the SCDCP - Volume 1 (DCP 2015).

Part 2 - Requirements Applying to All Types of Development

Part 2 of DCP 2015 contains requirements that apply to all types of development. Compliance with the relevant controls is outlined in the table below:

Campbelltown (Sustainable City) Development Control			
Control	**Requirement**	**Proposed**	**Compliance**
2.7(a) Erosion and Sediment Control	An Erosion and Sediment Control Plan shall be prepared and submitted with a development application proposing construction and/or activities involving the disturbance of the land surface.	Erosion and Sediment Control Plan submitted.	Yes
2.7(c) Erosion and Sediment Control	Catch drains or diversion banks shall be designed and constructed to divert water around any area of soil disturbance.	Drainage channels to divert water around stockpiles and into sediment basins.	Yes
2.7(d) Erosion and Sediment Control	All stockpiles shall be located within the sediment control zone and shall not be located within an overland flow path.	Stockpiles are located within sediment control zones and not within drainage channels.	Yes
2.8.1(a) Cut and Fill	A Cut and Fill Management Plan (CFMP) shall be submitted with a development application where the development incorporates cut and/or fill operations.	Cut and fill Management plan submitted.	Yes
2.8.1(e) Cut and Fill	All fill shall be 'Virgin Excavated Natural Material' (VENM).	Condition of consent to comply.	Yes
2.8.2(a) Surface Water	Development shall not occur on land that is affected by the 100-year ARI event unless the development is consistent with the NSW Floodplain Development Manual.	The proposal was reviewed by Council's hydraulic engineers and considered to be acceptable with respect to flooding and the NSW Floodplain Development Manual.	Yes
2.10.2(a) Stormwater	All stormwater systems shall be sized to accommodate the 100-year ARI event	Condition of consent to comply.	Yes
2.10.2(b) Stormwater	The design and certification of any stormwater system shall be undertaken by	Soil and Water Management Plan submitted. The plan provides engineering	Yes

Campbelltown (Sustainable City) Development Control			
Control	**Requirement**	**Proposed**	**Compliance**
	a suitably qualified person.	design specifications and calculations.	
2.10.2(j) Stormwater	Development shall not result in water run-off causing flooding or erosion on adjacent properties.	Measures to manage run-off to not cause flooding or erosion on adjacent properties.	Yes
2.10.2(k) Stormwater	Stormwater run-off shall be appropriately channeled into a stormwater drain	Stormwater run-off channeled into sediment basins.	Yes
2.11.1(c) Aboriginal Heritage	Where it is determined that harm could occur to Aboriginal objects then an AHIPapplication must be made to the OEH and be approved prior to works occurring.	The NSW Office of Environment have issued an AHIPfor the land prior to works commencing.	Yes
2.11.2(a) Heritage	Any development application made in respect to development on land that is adjoining land occupied by a heritage item shall provide a SHI that assesses the impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item or conservation area.	The application was accompanied by a Heritage Impact Statement prepared by MKD Architects that assesses the impact of the proposed development on the heritage significance, visual curtilage and setting of heritage items adjoining the land including Mount Gilead, Sydney Water Supply Upper Canal, Humewood Forest Beulah. The proposal is not incompatible with the heritage setting of the area.	Yes
2.14.1(c) Contaminated Land	Where a site is identified by Council, Office of Environment and Heritage and/or by the initial investigation as being, or having the potential to be contaminated, a Contamination Management Plan shall be submitted with the development application.	Preliminary Site Investigation, Detailed Site Investigation and Remedial Action Plan submitted.	Yes
2.14.2(a)	A detailed Salinity Analysis and Remedial	SIMPs submitted. With the exception of Lot 61,	Yes

Campbelltown (Sustainable City) Development Control			
Control	**Requirement**	**Proposed**	**Compliance**
Salinity	Action Plan shall be prepared and submitted with the development application if: i) the site has been identified as being subject to a salinity hazard; or ii) an investigation reveals that the land is saline.	all soil samples were non-saline. Only 1 sample was moderately saline. Remaining samples were non-saline or slightly saline.	
2.14.3(a) Bushfire	Development on bush fire prone land (as detailed on the Campbelltown Bush Fire Prone Lands Map) shall comply with the requirements of Planning for Bushfire Protection.	The application does not involve the construction of any dwellings or structures, and is consistent with the aims and objectives of Planning for Bushfire Protection.	Yes
2.14.4(b) Subsidence	An applicant shall make appropriate enquiries and have plans stamped with the Mine Subsidence Board regarding any construction requirements for any type of development involving the erection of a building within a mine subsidence district prior to a development application being submitted to Council.	The application does not involve the erection of any permanent buildings.	N/A
2.15(b)	Council may require a Waste Management Plan for any other development, where in Council's opinion, such a development	Waste Management Plan submitted.	Yes
2.15.2(e) Waste Management	The removal, handling and disposal of asbestos or other hazardous materials shall be carried out in accordance with WorkCover NSW, Office of Environment	The Remedial Action Plan states that asbestos would be removed from the land in accordance with legislative requirements.	Yes

Campbelltown (Sustainable City) Development Control			
Control	**Requirement**	**Proposed**	**Compliance**
	and Heritage and other regulatory authority guidelines and requirements		
2.18(a) Upper Canal Corridor	Where major development is proposed adjacent to the Upper Canal corridor, applicants shall consult with Water NSW as part of the process of preparing the development application.	The application was notified to Water NSW. Water NSW issued recommended conditions on 6 November 2020 which have been included within the recommended consent.	Yes
2.18(j) Upper Canal Corridor	The State Heritage status of the Upper Canal shall be taken into account when designing development adjacent to the Canal corridor.	The development has been appropriately setback from the Upper Canal.	Yes
2.19(d) Electricity Easements	All proposed activities within electricity easements require approval from the relevant utility providers.	The site contains easements for transmission lines. Endeavour Energy issued comments conditions on 7 October 2020 which have been included within the recommended conditions of consent.	Yes

Part 11 - Vegetation and Wildlife Management

Part 11 of DCP 2015 contains requirements that apply to Vegetation and Wildlife Management. The objectives of Section 11.2 of the DCP are to:

- Protect and conserve the City's biodiversity through the retention of native vegetation
- Maintain, enhance and/or establish corridors, which enable existing plant and animal communities to survive and range in their natural habitat
- Protect habitat resources including hollow-bearing trees and hollow logs within Campbelltown LGA
- Provide appropriate measures to compensate for the loss of hollow-bearing trees within the LGA

Comment: As part of the strategic planning process, a detailed ecological assessment was undertaken using methods to avoid and minimise impacts on biodiversity as much as

practicable in consultation with NSW Office of Environment and Heritage. A Biodiversity Certification Application including a Comprehensive Biodiversity Certification Assessment Report and Biocertification Strategy was also submitted to the Minister for Energy and Environment. The BCA requires a range of conservation measures and offsets to be provided to address biodiversity impacts. Taking this into account, the objectives of Part 11 of DCP 2015 have been satisfied in this case.

Further, as raised previously, in accordance with Section 8.4 of the BC Act, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems. As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity.

The Biodiversity Certification Agreement requires the Developer to prepare and implement a Construction Environmental Management Plan to the satisfaction of Council prior to the clearing of land. The plan must include but not be limited to:

- the erection of temporary and permanent protective fencing around all areas identified for conservation to minimise any inadvertent damage
- the retention of hollow bearing trees (where possible) that potentially contain roosting and breeding habitat for threatened microbats
- the salvaging of trees or parts thereof for use as fauna habitat in other biobank sites
- providing kerb and gutter and piped stormwater management infrastructure to roads surrounding the conservation areas to ensure that stormwater will not flow into the conservation areas
- preparation of a dam de-watering plan for the removal of the farm dams
- preparation of a fauna pre-clearance protocol for the removal of all trees

With respect to the BCA, the proposal is not considered to have an unacceptable impact on threatened species, populations, ecological communities or their habitats.

Site Specific Development Control Plan: Mt Gilead Development Control Plan

Volume 2 of the DCP 2015 contains the site specific Mt Gilead Development Control Plan – (Mt Gilead DCP). Compliance with the relevant controls is outlined in the table below:

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
3.1(1) Heritage and Views	Development of Mt Gilead is to be consistent with the heritage principles identified in Figure 3 Heritage Principles Plan. The following specific measures are to be incorporated into the subdivision design:	Consistent with heritage principles. One Tree Hill to be retained as a grassed knoll with a single tree.	Yes

	ii. Retention of One Tree Hill as a grassed knoll with a single tree.		
3.3(4) Public Open Space and Landscaping	Riparian areas are to be protected and enhanced.	Works are setback from riparian areas.	Yes
3.3(6) Public Open Space and Landscaping	Significant trees are to be retained where possible. Trees proposed for removal are to be identified in each development application and the impact of their removal is to be assessed appropriately.	Significant vegetation to be retained as biobank areas. See assessment below regarding biodiversity, aesthetic and cultural impacts.	Yes – see discussion below.

Discussion – Public Open Space and Landscaping – Control 3.3(6)

The proposal involves the removal of trees as shown in submitted plans. All trees within the boundary of the bulk earthworks area would be removed, as shown in the submitted plans and attachment 1 of the approval issued by the Australian Government Department of the Environment and Energy dated 21 December 2018. The applicant has advised that a total of 368 trees, including 59 Preferred Koala Feed Trees, would be removed based on the GIS plotting of trees surveyed in the Arborist Report. The impacts of the tree removal are discussed within section 3.1 of the applicant's Statement of Environmental Effects. The proposed tree removal is not considered to have unacceptable impacts on trees and other vegetation of ecological, aesthetic and cultural significance, discussed below.

Biodiversity and Ecological Significance

The proposal involves the removal of trees, including Koala Habitat and Preferred Koala Feed Trees, on biodiversity certified land. In accordance with the BC Act, the Panel, when determining the development application in relation to development on biodiversity certified land is not required to take into consideration the likely impact on biodiversity of the development carried out on that land.

The application was accompanied by the Approval from the Australian Government Department of the Environment and Energy made under the Environment Protection and BC Act. As part of the approval, prior to the clearing of vegetation, the applicant is required to:

- Secure within onsite offset areas, 8 hectares of SSTF and 1.2 hectares of CPW, to offset impacts on 3.3 hectares of SSTF and 0.55 hectares of CPW

- Secure at least 4 hectares of SSTF at the Fernhill Central West biobanking site, to offset impacts on 1.79 ha of SSTF

- Secure 0.85 ha of SSTF within the Council reserve, or submit an offset strategy for the Minister's approval, to compensate for impacts on 0.85 ha of SSTF.

- Acquire or retire no less than 150 Biodiversity credits for the Koala from the Appin West offset site, to compensate for impacts on Koala

- Prepare and Implement a Koala Management Plan to the satisfaction of the Minister, including monetary contributions for five years to fund activities outlined in the plan

As biodiversity certification has been conferred on the land under Part 8 of the B Act 2016, and having regard to the above-mentioned compensation measures, the impact of removing biodiversity is lawfully permitted and deemed acceptable in this regard. The development application should not be refused based on the recognised and assessed and certified biodiversity impacts.

Aesthetic

The application was accompanied by a Tree Assessment Report prepared by ArborSite. The report provides a survey and inventory of trees located on site. Numerous trees located on site are recognised as being significant for reasons including, but not limited to: amenity value/shade, age/size, attractive landscape feature, and outstanding example of species.

The trees on the site form part of a rural landscape which contributes to the aesthetic amenity of the local area. The proposed earthworks require the removal of trees which may have an aesthetic impact on the surrounding locality.

The proposal is consistent with the key view corridors shown in Figure 3 of the Mt Gilead DCP, and retention of One Tree Hill which contributes to the aesthetic characteristics of the local area. The proposed development is also consistent with the Figure 7 Indicative Landscape Strategy in the Mt Gilead DCP.

When considering the topography of the site and levels of proposed earthworks, it is not considered feasible to retain the existing trees within the boundary of earthworks. It is considered the impacts on aesthetic significance have been reduced through the preservation of trees within the biobanks and protection and proposed retention of trees within the RU2 zone. The extent of tree removal on the site will not unacceptably change the landscape character to the extent that it will adversely impact on the aesthetic significance of the trees and their contribution to the aesthetic qualities of the visual catchment of the locality.

The proposed tree removal would facilitate the attainment of the vision for Mt Gilead to contain approximately 1,700 detached dwellings and a population of around 5,000 people with significant bushland parks providing attractive recreation areas and a pleasing setting for residential development, as portrayed in the Mt Gilead Indicative Structure Plan.

The proposed tree retention is consistent with the objective of the RU2 zone to protect and enhance areas of scenic value, and the visual amenity of prominent ridgelines, by minimising development and providing visual contrast to nearby urban development. The proposed tree removal is consistent with the objective of the R2 zone to provide for the housing needs of the community within a low density residential environment.

It is considered the landscape will still be aesthetically pleasing through the retention of a high number of trees within the biobanks. The reduction in the aesthetic qualities caused by the development would be less significant and mitigated by replacement trees through proposed canopy tree planting associated with the separate development application involving the residential subdivision of the land.

It is considered that should trees be retained as part of the earthworks, there is also potential for some trees to not survive due to tree life expectancy, resulting in a more severe visual

impact that would impact on the aesthetic quality of the locality. It is further considered the removal of trees, based on aesthetics, should not determine the outcome of the application in circumstances where the proposed development is consistent with the remaining objectives of section 3.3 of the Mt Gilead DCP and the Figure 7 Indicative Landscape Strategy.

Cultural

The proposed development was accompanied by an ACHA prepared by Vitus Heritage.

The site contains one scarred tree which is culturally significant. The tree is situated near a sequence of ponds which may have been a focal point of Aboriginal occupation in the area. The tree is rare due to the amount of land clearing that has occurred in the past.

The assessment outlines the timber from scarred trees can be used to make implements. Registered Aboriginal Parties commented the scarred tree may be site of an Aboriginal burial.
To protect the cultural significance of the tree and its vicinity, the assessment recommends a buffer of at least 15 metres around the tree where no mechanical stripping of soil can occur. The assessment advises the conservation buffer was determined to be an acceptable mitigation measure by RAPs.

The scarred tree is situated on land outside the scope of the proposed bulk earthworks and will be preserved from the proposed development. The proposed development would be setback approximately 70m from the cultural significant tree and exceeds the recommended buffer.

The proposal involves the removal of trees approximately 240m from Mount Gilead local heritage listing, 270m from Mount Gilead State heritage listing, 100m from Humewood Forest State heritage listing, 480m from Beulah State heritage listing, and removal of two trees immediately adjacent to the Upper Canal.

The proposed development was accompanied by a SHI prepared by TKD Architects. No concerns were raised regarding the impacts of tree removal proximate to European heritage items. The SHI informs the following:

- The curtilage around Mount Gilead is sufficient to provide an open landscape setting that enables interpretation of the historic role of the place as a homestead on a large open estate. The curtilage will prevent encroachment of future development on Mount Gilead's important buildings and features

- The heritage significance of Hillsborough is archaeological. The curtilage provided for the site is sufficient to protect its archaeological and interpretive potential. It has not been included in the proposed works

- The proposed works will have no impact on the heritage significance of Beulah or Humewood Forest. Both of these items are located at some distance from the proposed works, which provides an ample curtilage for them

- The curtilage of the Upper Canal is sufficient to maintain its integrity. The section of the Canal in the vicinity of the subject site is a small component of a much larger heritage item. The overall significance of the Upper Canal will not be impacted by the proposed works

The SHI advises that key views to Mount Gilead are limited due to the existing vegetation to be retained within the Macarthur Onslow Biobank, and concludes the proposed development will have no impact on the heritage significance of Mount Gilead, Humewood Forest, Beulah, Upper Canal or Hillsborough and views to these items.

It is considered the proposed tree removal would not have a significant adverse impact on the heritage significance of the Upper Canal, which is primarily recognised for feeding water to Prospect Reservoir under gravity using gradients that were built without todays advanced technology.

It is considered the proposed tree removal would not have a significant adverse impact on the heritage and cultural significance of the above-mentioned items and is consistent with the Figure 7 Indicative Landscape Strategy in the Mt Gilead DCP.

3. Planning Agreement

The Mount Gilead 1 Planning Agreement applies to the land. The proposed development does not trigger the delivery of any open space, community or transport infrastructure, or water quality and treatment basin work at this time.

4. Regulations

The regulations do not prescribe any matters of relevance that require consideration in relation to determining the development application.

5. Impacts on the Natural and Built Environment

In addition to the matters discussed above, the developments greatest potential impacts on the natural and built environment are likely to be flora and fauna, traffic and site access, soil and water management, and dam de-watering.

Flora and fauna – BCA

The proposed earthworks require the removal of native vegetation to facilitate the proposed future urban development of the land.

The Minister for the Environment, Developer, Landowners and Council, have entered into a BCA on the land under the TSC Act, and the site has been conferred biodiversity certification for the purposes of the BC Act.

The agreement includes the bio-banking of vegetation, and the retirement of particular biodiversity credits under other bio-banking agreements to facilitate the proposed development.

Accordingly, developments or activities proposed to be undertaken within the biodiversity certified areas do not need to undertake assessment of impacts on threatened species, populations and ecological communities, or their habitats, that would normally be required under the EP&A Act.

Traffic and site access

The application was accompanied by Traffic Advice prepared by Cardno. The advice states that during the bulk earthworks, approximately 50,000 cubic metres of fill would be imported to site for 190 days, using 16 cubic metre trucks. The importation of fill would not occur all at once and occur periodically relative to the stages of development that will occur over the site as and when fill material is required.

The advice estimates the proposal would generate approximately 33 truck movements per day (in/out) or approximately four movements during peak periods, assuming an eight hour work day. In this case, the traffic volumes associated with the bulk earthworks operations would be less than 1 per cent of the traffic volume on Appin Road.

The proposed site access points are located approximately 1.2km away from each other. The majority of trucks are likely to access the site utilising the northern access point necessitating a right turn in and left turn out movement. The advice outlines the proposed access points would satisfy the relevant traffic sight distances to enable trucks and motorists to stop safely.
The advice states that having regard to the traffic flows along Appin road, the site access points warrant channelized right turn movements at the intersections in accordance with Austroads Guidelines. This arrangement would be maintained until such time that access can be achieved through service roads constructed during the Appin Road upgrade, which is likely to overlap with the bulk earthworks application.

In order to manage the safety, efficiency and ongoing operation of Appin Road, a condition has been included requiring a Construction Traffic Management Plan to be approved by the NSW Roads and Maritime Services (RMS) prior to the commencement of works.

Soil and water management

The subject site is located within the vicinity of waterways. While the proposed works are setback at least 40m from nearby waterways, there remains potential for storm water run-off to generate large scale erosion and transportation of sediment into downstream environments.

In this regard, the application was accompanied by Soil and Water Management Plan that includes details of soil analysis, rainfall data and catchment area. The plan provides calculations to demonstrate the basins have been designed with sufficient volume to contain runoff during rainfall events, and sufficient surface area and depth to allow particles to settle.

The plans show that stormwater runoff would be diverted around soil stockpiles and channeled in the sediment basins for the purpose of minimising stormwater pollution. The proposed designs and calculations were reviewed by Council's hydraulic engineers and considered to be satisfactory.

Dam De-watering

The application was accompanied by a Dam De-watering Plan prepared by Ecological Consultants Australia Pty Ltd in consultation with the National Parks Association, George's River Environmental Alliance, Help Save the Wildlife of Campbelltown and Turtle Rescue NSW.

The Dam De-Watering Plan was developed to facilitate the habitat relocation of turtles, eels, frogs, fish, invertebrates, and birds where practical. The plan provides procedures to follow pre dam-dewatering, during de-watering and post de-watering. The majority of captured fauna would be translocated to other recipient dams or basins situated onsite located outside of the boundary of works.

6. Social and Economic Impacts

The proposed earthworks would create the landform required to facilitate the future proposed residential subdivision of land to provide for the housing needs of the community, which would provide tangible social and economic benefits.

7. Site Suitability

The site is considered suitable for the proposed earthworks. The land is mapped as an urban release area and has been zoned to provide for future residential development.

The proposal is consistent with the significant amount of preplanning that was undertaken during the rezoning process in consultation with Council, the developer, various government agencies and specialised consultants.

It is considered there are no significant environmental features that preclude development from being undertaken on the land.

8. Public Participation

The application was publicly notified and exhibited between 8 October 2020 and 6 November 2020.

Council received 85 submissions in relation to the development. Some submissions provided commentary which is not planning related.

The issues of objection, concerning planning matters in relation to the proposed development, are summarised and discussed below.

Theme	Detail	Response
Exhibition	The 50 plus appendixes were not put on exhibition in the library or Council chambers. Not everybody has computers.	The public library provides computer facilities that are available for the community to use. The exhibition documents were available for view at Council's customer service counter upon request. Electronic documents reduce the amount paper waste.
	The site was inadequately described on the Campbelltown City Council website as "Lot 1 Appin Road" so most people would not be able to find the proposal if they wished to comment on the DA.	The application was exhibited on Council's website in accordance with Council's Community Participation Plan. Applications on exhibition can be easily found under the "development applications on public exhibition" section of Council's website. The COVID-

Theme	Detail	Response
		19 Legislation Amendment (Emergency Measures) Bill 2020 removed the requirement for Council's to display physical copies of documents at their offices. The Secretary of the Department of Planning, Industry and Environment approved the use of local Council websites to exhibit digital documents of development applications.
Habitat destruction	The proposal will destroy Koala habitat, critically endangered Cumberland Plain Woodland and Shale Sandstone Transition Forest. The proposal will place further pressure on the long term viability of the local koala population. A report released by the State Government indicates that koalas will be extinct in the wild by 2050 if no action is taken. Failure to preserve habitat, food trees and corridors of sufficient size will put the koala population at risk. The proposal works against the State Government's objective to double the Koala population and will contribute to the destruction of the last disease-free Koala colony in NSW. Koalas are in a dire situation. The loss of trees for development and increased vehicles may cause koalas to become extinct from the area. The proposed koala corridors are not enough to ensure safe movements. Any development in this area should be reduced and all existing habitat needs to be preserved. Restricting the movements of Koalas will adversely affect their breeding. Koalas need approximately 100 trees per animal and will fight trespassing koalas.	The site is predominantly cleared of vegetation as the land has been used for agricultural purposes including the grazing of cattle. The BCA had regard to Koalas, ecological communities and wildlife habitats and appropriate offsets have been secured as part of this agreement. The EPBC Approval requires the applicant to secure extents of Cumberland Plain Woodland and Shale Sandstone Transition Forest, and acquire or retire Koala credits to ensure the conservation of biodiversity and diversity and quality of ecosystems. As part of the biodiversity certification process the likely impacts of development on biodiversity values were assessed and considered and conservation measures were established to avoid, minimise and offset the impacts of proposed development. The proposal is consistent with the requirements of the BCA.
Chief Scientist's Report	The development as a whole has not fully adopted the Chief Scientist findings for the number and width of corridors required for east west movement of Koalas and other species in the Gilead Area. The Chief	The Chief Scientists Report acknowledges the proponents already have approval for the protection of habitat in the Noorumba Biobank site to offset the development of Mount Gilead Stage 1.

Theme	Detail	Response
	Scientist's report requires 6 corridors in the Gilead to Appin Area to ensure Koala survival. This development does not ensure that these corridors will be put in place. Overhead or underground corridors must be installed adjacent to Beulah and Noorumba Reserve. No earthworks or tree removal should be permitted within these areas.	The report advises that Corridor A (Menangle Creek to Noorumba – east/west), and Corridor B (Woodhouse Creek to Beulah – east/west) would be the focus of protection in the Mount Gilead Stage 2. However, for Corridor A to be successful, an effective Koala crossing is needed between both sides of Appin Road at the Noorumba crossing. The Chief Scientists Report states the proponent's preferred approach for a koala crossing for east-west Koala movements is a tree top bridge structure, whereas the Koala Independent Expert Panel would prefer a ground crossing such as culverts or underpasses under the road or wide overpasses or land bridges. Corridors C, D, E and F are situated further to the south and outside the scope of this development application.
	All APZ's must be 30m wide and a plan of management will need to be put in place.	The Chief Scientists Report advises that APZs protect people and property from bushfire hazard, whereas buffers associated with koala protection reduce the impact of threats, light and noise on koalas. The Report recommends that buffers should be at least 30m wide from the edge of existing corridor habitat and occur on both sides of the corridor. The application was accompanied by a Koala Plan of Management as required by the EPBC Approval.
	The chief scientist has stated that development and destruction of wildlife corridors will be detrimental to the Koala population.	The destruction of corridors would be detrimental to the koala. However in this case, the proposal would conserve bushland within identified corridors.
Parliamentary committee	Has Council adopted the recommendations of the Parliamentary Committee as a result of the inquiry into Koala population and habitat in NSW?	Council values the comments, findings and recommendations of the Parliamentary Committee, noting the Parliamentary Committee recommendations

Theme	Detail	Response
		postdate the Biodiversity Certification for this stage.
	What has Council done to ensure the recommendations are abided by?	Council is reviewing the proposed BCA for Mount Gilead Stage 2 to ensure it aligns with the recommendations of the Chief Scientists Report. Council is liaising with TfNSW and DPIE to facilitate the delivery of the recommended Koala underpasses.
	What steps has the applicant taken to ensure the protection of Koalas and their habitat?	Lendlease have prepared a Gilead Koala Conservation Plan involving Stage 1 and broader Gilead. Implementation of the plan would provide $30m in koala conservation, including the provision of two underpasses at Appin Road, habitat protection & rehabilitation, koala research & monitoring and 33 kilometers of dog exclusion fencing. The plan includes design options for a 3.4m wide x 2.4m high culvert structure or 12m span x 30m wide bridge structure between Appin Road at Noorumba, and a 3m high x 40m long underpass near Beulah. It is considered the structures if endorsed by TfNSW and DPIE may satisfy the recommendations of the Chief Scientist Report. Further, the plan advises that “a formal offer as been made to amend the Voluntary Planning Agreement (VPA) for Gilead Stage 1 to replace the offer of two steel bridges with a culvert underpass of Appin Road at Noorumba Reserve (subject to Council consent)”.
Wildlife corridors	The proposal will cut off an important north-south koala/wildlife corridor between Noorumba Reserve and Beulah biobank.	As biodiversity certification has been conferred on the land, section 8.4 of the BC Act 2016 does not require any further assessment and consideration of diversity within and between species and diversity of ecosystems. The primary north-

Theme	Detail	Response
	The proposal will remove an east-west koala/wildlife corridor between Nepean and Georges Rivers.	south connection identified in the Chief Scientists Report is the Nepean River Corridor which is situated further to the west on land outside the scope of this application. Figure 5 of the report does not show a Koala corridor traversing north-south through the land that is subject to the proposed development. Figure 5.3 of the Campbelltown Koala Plan of Management shows a north-south Strategic Linkage Area on the eastern side of Appin Road, but it does not pass through the subject site which is predominately cleared of vegetation. In this regard, the proposal will not cut off an important north-south koala/wildlife corridor between Noorumba Reserve and Beulah. The proposal will not remove the east-west koala/wildlife corridors at Noorumba Reserve and Beulah. The proposal does not involves the removal of any vegetation within the identified corridor. Further investigations are being carried out for a koala underpass to be provided between Appin Road at Noorumba as part of the Appin Road upgrade to facilitate the east-west movement of koalas /wildlife, subject to TfNSW and DPIE approval.
Menangle Creek to Noorumba Corridor	The proposal does not achieve the recommended Koala corridors within the Campbelltown Koala Plan of Management and NSW Chief Scientist's report along the Noorumba and Menangle Creek Koala Corridor. The development will imperil the recovery and viability of Campbelltown's Koala colony – the largest recovering in NSW. The application has made no attempt to accommodate the corridor widths but has instead created a choke point. An amended plan is needed to	The Chief Scientists Report recommends that habitat within identified corridors should be widened through revegetation (average size 390 to 425 m) and include a buffer on either side of the corridor habitat that is at least 30m. Existing bushland corridor A (Menangle Creek to Noorumba) is less than the recommended width. However the Report recommends that Corridor A should be used for koala movement only if an effective connectivity structure can be

Theme	Detail	Response
	provide a wider corridor in the north west of the property. The current corridor proposals will cause koala deaths and are inadequate. The land is the north west is cleared but can be regenerated to create koala habitat so as to improve the corridor.	constructed between Appin Road. The Report states that if such crossing is not feasible, the koala habitat at Noorumba will be isolated and not function as connected koala habitat, and should be provided with exclusion fencing at Appin Road.
Fence and wall	The proposed barrier fence and acoustic wall along Appin Road will prohibit east-west terrestrial wildlife movement along the major corridor between Georges and Nepean Rivers.	This application does not propose an acoustic wall. Construction site fencing is permitted to be erected. As part of the Appin Road upgrade, koala proof fencing would be erected along the eastern side of Appin Road to keep koalas separated from road traffic.
Koala Plan of Management	Concern is raised as the proposal is inconsistent with Campbelltown Council's own Koala Plan of Management.	The application was accompanied by advice prepared by Ecological Australia outlining how the proposal is consistent with the Campbelltown Koala Plan of Management.
Koalatown	At the intersection of Narellan and Blaxland Roads there is a Council erected sign naming Campbelltown as "Koalatown". Should it actually read "Koala killing town"? That is exactly what will happen if the development goes ahead. Campbelltown is now Koalatown and Koalas need trees for food, shelter, protection and water from dams to survive. Campbelltown and its Koalas cannot afford this loss of habitat and water this development will bring. The loss of safe wildlife corridors will move the Gilead/Appin Koala population closer to extinction than the predicted 2050 deadline. Then what will Campbelltown call itself?	Appin Road is a hot spot for koala mortality. As part of the Appin Road upgrade, exclusion fencing will be erected along Appin Road to prevent koalas from entering the road and being at risk to road related deaths. The fencing would be fundamental to protecting the koala population in the region. Impacts to Koalas were considered during the biodiversity certification process during which offsets were secured to maintain and conserve biodiversity including Koalas.
Minister for Environment	Press reports indicate the applicant's developments were stopped by the Minister for Environment in Gilead. On that	The land is subject to a BCA. The Minister for Energy and Environment is a signatory to the agreement.

Theme	Detail	Response
	basis this application should not be considered.	
Bushfires	Having regard to last summer's bushfires, many people's lives will be put at risk. Failure to learn from last year's fire season is reckless endangerment. Under precautionary principle the development cannot proceed.	As the application does not propose the construction of any dwellings, the proposal is not considered to result in a high risk to lives.
	If a bushfire approaches from the south, people will need to drive to Campbelltown to seek refuge. Some residents will not understand the danger of living in a high bush fire prone area.	The proposed removal of vegetation would contribute to future asset protection zones. Residents should have a bushfire survival plan in place.
	The proposal is inappropriate taking into account the catastrophic 2019/2020 fire season, and parliamentary inquiry into koalas. After the horrific fires it is unbelievable that Council would approve to clear trees and deliver tonnes of soil to this area and wipe out wildlife and koalas that live in this beautiful area for houses to be built.	The clearing of vegetation is permitted as the land has been biodiversity certified. The land was previously rezoned to permit urban development following an extensive strategic planning process which involved community consultation.
Adjoining biobank 058	Potential impacts of overland stormwater flow, subsurface drainage, changes to drainage patterns, soil erosion and siltation, and airborne dust to impact on biobank 058.	The proposed development would be setback approximately 300m from biobank 058. The proposed earthwork design contours and diversion channels would be designed so that overland flow does to lead into biobank 058. Recommended conditions have been included to mitigate potential environmental impacts surrounding erosion and sediment control and dust nuisance.
	Potential for soil compaction within the root zone of retained vegetation, including the nieghbouring biobank.	The biobank areas within the subject site cater for tree protection zones. No earthworks or stockpiles are proposed immediately adjacent to biobank 058. Adequate separation would be provided to protect tree root zones. A condition has been applied to protect existing trees in accordance with the Australian Standard 4970-2009

Theme	Detail	Response
		Protection of Trees on Development Sites.
	Potential for ground disturbance to cause new weed species to impact on the neighbouring biobank through the proliferation or dispersal of weed propagules.	The application was accompanied by a Construction Environmental Management Plan which contains strategies to reduce to prevent the spread of weeds. Biobanking agreement 058 contains provisions for weed control.
	Potential for soil erosion and runoff to cause contamination or siltation in Woodhouse Creek or catchment.	Soil erosion would be managed through the implementation of an erosion and sediment control plan. Division banks and channels would direct runoff into temporary sediment basins. The basins would be designed in accordance with Council's Engineering Design Guide for Development so that post development flows do not exceed pre development flows. The land would be remediated to remove any contaminated elements and salinity management plans would be implemented to mitigate potential salinity impacts from arising.
De-watering	The de-watering and filling of dams will create a fragile building site as water courses will find other ways to flow thereby undermining the housing estate.	The overall landform would be re-contoured to manage overland flow. The proposal was reviewed by Council's hydraulic engineers and considered to be satisfactory. The landform would be designed in accordance geotechnical investigations and Council's Engineering Design Guide for Development.
	The de-watering of dams will remove water and habitat for wildlife, and air tankers during bushfire emergencies.	The dams are permitted to be de-watered in accordance with the BCA. Air tankers would need to source water from other source, such as the Nepean River.
	Dams should be retained to diminish the velocity of floodwater damaging the Heritage Dam Wall. The works will result in deteriorating conditions in the downstream	Storm water would be diverted and channeled into sediment basins so as to not impact on the artificial lake associated with Mt Gilead in term of sediment and runoff. Salinity management

Theme	Detail	Response
	dam from sediment, salinity and runoff.	plans would be implemented to mitigate potential salinity impacts from arising.
	The proposal does not take into account the biodiversity that exists around the existing waterholes and dams. Biodiversity could be an asset to a well-planned development.	Works would be setback at least 40m from watercourses on the land. The dams are permitted to be de-watered in accordance with the BCA. The application was accompanied by a dam-dewatering plan to facilitate the habitat relocation of wildlife.
	The dewatering of dams will reduce water cooling effects, the historical value of heritage listed Mount Gilead, water for wildlife, aesthetic benefits and environmental amenity.	The dams are permitted to be de-watered in accordance with the BCA. The dams are not heritage listed and do not hold substantial aesthetic or amenity qualities. The dams are not required to be retained as per the Gilead DCP and Indicative Landscape Strategy.
Waterfront land	Approval has only been obtained to not classify 1st order streams as waterfront land. There is no approval for 2nd order streams to be classified as not waterfront land. Earthworks should not be permitted to disturb this creek line and dewater dam the within its channel.	All earthworks have been setback at least 40m from the 2nd order stream as shown in the submitted Civil Work Plans and Statement of Environmental Effects.
Water quality	The proposal does not consider the unacceptable risk to water quality in streams and water bodies on site and beyond, including Menangle Creek, Nepean River, Noorumba Reserve, Beulah and Mount Gilead.	Works will be setback at least 40m from watercourses on the land. Storm water will be diverted and channeled into sediment basins. A soil and water management plan would be implemented to mitigate impacts to water quality of downstream waterways.
	Dams hold and detain flows. The proposed dam removal may cause a change in hydrological flow regimes has not been assessed in terms of downstream impacts to the heritage listed dam in terms of volume and water quality, and biodiversity, aesthetic and historical values.	The sediment basins would be designed in accordance with Council's Engineering Design Guide for Development so that post development flows do not exceed pre development flows whilst achieving water quality objectives. Diversion banks and channels would direct flows would in to the sediment basins. With these measures in place, the change in hydrological flow

Theme	Detail	Response
		regimes is unlikely to cause detrimental impacts to the artificial lake concerning volume and water quality. The heritage curtilage of the artificial lake is adequately separated and buffered from the proposed development and would not adversely impact on its historical or aesthetic significance.
Salinity, erosion, runoff and sedimentation	The clearing of land, removal of trees and dewatering of dams will increase runoff, erosion, sedimentation and salinity. The works will contaminate creeks, waterways, Nepean River and Noorumba Reserve. The removal of green spaces will affect the water table and see a rise in salinity of the soil which means less plants will be able to survive. The proposal may cause salinity and dieback of trees in Noourmba Reserve and surrounding watercourses.	An erosion and sediment control plan would be implemented to mitigate runoff, erosion and sediment from contaminating waterways. Division banks and channels would direct runoff into temporary sediment basins. The basins would be designed in accordance with Council's Engineering Design Guide for Development so that post development flows do not exceed pre development flows. The SIMP includes strategies to mitigate potential salinity impacts.
Salinity Lot 61	There is a salinity/sodic problem with the site, particularly on Lot 61. The SIMP states that sodic soils can be managed by maintaining vegetation where possible and planting new salt tolerate species. Concern is raised as vegetation species no local to the area will need to be introduced to counteract potential salinity, and the new vegetation species could affect the Nepean River and wildlife habitat.	Planting salt tolerant plants forms one management strategy. The SIMP provides various strategies which could be implemented to mitigate the impacts of salinity. Any salt tolerant plants would be setback substantially form the Nepean River, and would be plated within biodiversity certified land. It is considered that residential estates comprise a variety of different plant species, including species salt tolerant species
Parking	Once the site is developed increased vehicles will add to congestion in Campbelltown and Appin and make parking at railway stations, Campbelltown Hospital and other facilities more difficult.	The need for additional parking infrastructure and improvements in public transport would occur as the population expands.
Appin Road	A press release is citing that an alternate route to Appin Road is under way and it is creating confusion. With no decisions made about when or where	Appin Road is still planned for upgrades. It is considered that proposals for other major transport corridors would be subject to community

Theme	Detail	Response
	Appin Road, Spring Farm Link Road or a rapid transport corridor may impact the development site, it is not possible to properly consider proposed future development and this DA should be rejected.	consultation, once relevant plans and studies are completed.
Air quality, urban heat island, climate change	The proposal will contribute to declining air quality and will add to urban heat island effect. The impact of climate change has not been assessed. The destruction of green space will increase the temperature of the area and decrease air quality. The additional cars and trucks that come with development will generate pollution from emissions. If the Western Parkland City meets its projected population growth of 1.5 million by 2056, temperatures will be even hotter from tree clearing and the large amounts of hard and dark coloured surfaces such as roads and roofs. Any increase in temperatures in South West Sydney is going to make it unlivable for humans and wildlife, particularly the infirm. Trees and vegetation will be destroyed. New trees will take decades to grow even if there is enough rainfall to sustain them. Why cut down trees that help clean the air of pollutants, sequester carbon and produce oxygen? The proposal will result in a net loss of water from the land. A net loss of water must be avoided to ameliorate urban heat island effects and to provide ecosystem benefits. The pattern of waterbodies is dispersed throughout the landscape, whereas the waterbodies proposed are clustered in few locations.	An air quality review was conducted prior to rezoning the land for urban purposes. The review determined that from an air quality perspective the land is suitable for residential development, and it would be unlikely there would be any air quality impacts from vehicle emissions. Dust management measures would be implemented during earthworks. The trees to be removed will be offset through the future planting of canopy trees within road verges, parklands, conservations areas and residential lots. The trees are permitted to be removed in accordance with the BCA. The trees to be removed have been offset through the biobanking of vegetation. New canopy trees would be planted as part of the proposed future residential subdivision of the land. While the proposal involves the removal of existing dams from the landscape, a succession of storm water detention basins would be provided during the proposed future residential subdivision of the land. As the land at Gilead would be developed in stages, wildlife would still have access to waterbodies, including existing dams, sediment basins, and storm water detention basins.

Theme	Detail	Response
		Within the early stages of the development more dams and sediments basins would be available, and as development progresses, more permanent storm water detention basins would be provided.
Site area	The site is wrongly described as 216 hectares when only 210 hectares were rezoned.	The land subject to this application has a site area of 208.37 hectares. If PT5 on the western side of the Upper Canal is included, the total site area would be 216.03 hectares.
Foreign Sales	The proposal would allow for the development of homes on the land that will be sold to foreigners. Australians cannot afford to buy a home anymore.	Australians can still buy homes, including first home buyers. The proposal would facilitate an increase of housing supply to the market.
Social impact	The social impact of the loss of green space for the community and the loss of wildlife on the human psyche is being ignored.	The proposal would facilitate the future urban development of the land to provide green spaces, for the community as per the Mt Gilead DCP Indicative Landscape Strategy.
Filled land	Concern is raised having houses built on fill.	It is not uncommon for greenfield developments to comprise filled land, and for houses to be constructed on filled land. In this case, various levels of cut and fill are required to make the land suitable for future roads, drainage works, utilities, and building pads. The landform would be designed in accordance geotechnical investigations and Council's Engineering Design Guide for Development.
Mine subsidence	The application has been referred to Subsidence Advisory NSW for approval. Until approval has been issued for the development to go ahead the DA should be put on hold. The proposal carries a risk of subsidence. The Mine Subsidence authority has asked that no houses be	The applicant has not lodged the development application as integrated development within the meaning of the CMSC Act. Notwithstanding, as a matter of best practice, the applicant has advised the proposed development will be referred to Subsidence Advisory NSW for approval. Approval from NSW Subsidence Advisory is required to be

Theme	Detail	Response
	built around the south-west corner of Lot 61.	obtained prior to the future proposed subdivision and development of the land for residential purposes.
Water supply	The dams supplying the Macarthur area are inadequate for the existing population and water infrastructure for the proposed Greater Macarthur Growth Centre developments in unplanned. There is no proposal for water recycling in this development. A new State Environmental Planning Policy requires the development to have a water recycling plant.	While the proposed development does not require water infrastructure to be provided at this time, the applicant would be required to satisfy Sydney Water with respect to supplying the future residential subdivision with potable water. Clause 18 of GC SEPP appears to have been incorrectly interpreted. The land is not serviced by a water recycling plant, and will not be serviced by a water recycling plant. Future public utility infrastructure would be provided to the land in accordance with the requirements of the CLEP 2015.
Sewerage	The disposal of sewerage from the property should be assured before earthworks are allowed to go ahead. Glenfield Sewerage Plant is already regularly overtopping.	Sewerage disposal arrangements are capable of being satisfied prior to the subdivision of land for residential purposes. The site is located within an urban release and public utility providers were consulted prior to the rezoning of the land for urban development.
Infrastructure	The proposal will impact on the already overstretched infrastructure in the area for existing residents e.g. schools, healthcare, public transport.	The demand for infrastructure and public transport, community and social services, retail and employment was thoroughly considered prior to rezoning the land for urban purposes.
Social impacts	Social impacts caused by over population, lack of jobs and services, especially hospitals are overlooked by this proposal.	The increased population would be capable of being supported by existing and future proposed local infrastructure. The proposal would generate additional employment opportunities during construction. The Campbelltown Public Hospital is currently being expanded. The proposal would facilitate upgrade works to Appin Road. The proposal

Theme	Detail	Response
		would facilitate the future delivery of new parklands and community facilities that would provide positive social impacts for the community.
Traffic	The proponent has failed to include traffic studies and modelling of increased traffic and danger on Appin Road with trucks.	The application was accompanied by traffic advice prepared by Cardno. A condition has been included requiring a Construction Traffic Management Plan to manage trucks and construction traffic during works.
	The proposal will cause further congestion on the already congested roads. The proposal would turn a five minute trip on Appin Road to a one hour trip on weekends.	The traffic advice prepared by Cardno advises the proposed earthworks would generate approximately 33 truck movements per day (in/out), or approximately four movements during peak periods. The proposal may have some impact to traffic flows along Appin Road. However it is expected that conditions will improve after the completion of the Appin Road upgrade.
	Appin Road is already overcrowded. The proposal will impact on travel time and safety of Appin Road. The small roundabout at Appin will not be able to cope with large truck and dogs turning around to enter the property from the south without disrupting traffic.	A condition has been included requiring a Construction Traffic Management Plan to be approved prior to works commencing with consideration of relevant NSW road rules.
Upper Canal	The application does not consider the impacts from the development on the adjacent Upper Canal Corridor.	The applicant has considered the impacts of the development on the Upper Canal Corridor in various documents which accompanied the application. As a result on public notification, WaterNSW provided recommended conditions to conserve the Upper Canal Corridor which have been included within the recommended consent. The conditions surround water supply infrastructure, storm water management, erosion and sediment control, dam de-watering, security fencing, access control, heritage

Theme	Detail	Response
		impacts, and notification of incidents affecting the Upper Canal.
Heritage	No heritage studies were conducted to assess the impact on State heritage listed Mount Gilead.	The application was accompanied by a Heritage Impact Statement prepared by TKD Architects which has regard to impacts on Mount Gilead.
	Damage to the heritage significance of State heritage listed Mount Gilead and Upper Canal. The working farm is being destroyed.	The proposal does not impact on the curtilage of Mount Gilead as shown on the State heritage register. Conditions have been applied to manage potential impacts to the Upper Canal. The land has already been rezoned from rural to residential.
	The proposal will cause a loss of European, Aboriginal, social and landscape heritage. The desecration of culturally significant indigenous heritage and history of first European settlement in the Macarthur area is not acceptable.	The proposal does not involve any works to State or local listed heritage items. The applicant has undertaken an archaeological testing program in collaboration with Registered Aboriginal Parties, and obtained an AHIP to conduct further testing. The colonial landscape of Mount Gilead is conserved through the State heritage listing. It is considered that social impacts are interrelated with aesthetic and historical values, of which the potential impacts caused by the proposal are acceptable.
	The works are not well distanced from the Mount Gilead estate and they will impact on its heritage significance. The DA need to be referred to the NSW Heritage Office. There has been no consideration of the significant views from Mount Gilead.	The heritage curtilage of Mount Gilead was determined as part of the State heritage listing. The proposal does not require referral to the NSW Heritage Office. The Heritage Impact Statement advises that controls are in place to minimise impacts on views to and from Mount Gilead, and that future works would conform to the requirements of the DCP, which should minimise any of these impacts.
Plant pathogen	The 50,000 cubic metres of fill could introduce a plant pathogen (Phytophthora Cinnamomi) which causes	The application was accompanied by a Construction Environmental Management Plan which includes Hygiene

Theme	Detail	Response
	native vegetation dieback and could infect Noorumba and Beulah biobank.	procedures for vehicles and machinery to control the introduction and spread of weeds and Phytophthora Cinnamomi.
Fire assessment	The fire assessment for the old development is invalid and must be resubmitted.	The proposed development does not involve the construction of any dwellings or structures. The proposal would reduce fuel loads and contribute to future asset protection zones. The proposal is consistent with planning for bushfire protection. An assessment of potential bushfire impacts would need to be performed during the future proposed residential subdivision of land in consultation with the NSW Rural Fire Service.
Draft Cumberland Plain Conservation Plan	An objection was received in relation to the Draft Cumberland Plain Conservation Plan due to the impact on threatened ecological communities, flora and fauna species. Concern is raised about the amount of vegetation to be set aside to compensate for the loss of rural land, and the amount of Cumberland Plain Woodland impacted by the proposed development. Koala exclusion fencing will isolate and fragment Koala colonies, as it protects only one of the six east-west movement corridors recommended in the Chief Scientist's Koala Report. The Draft Cumberland Plain Conservation Plan if enacted will isolate the Wianamatta Regional Park, Shanes Park and Colebee Nature Reserve unless alternative proposed are implemented. There will be further irreparable damage to the Koala population in the wider region.	The Draft Cumberland Plain Conservation Plan is not a matter for consideration in relation to this development application. The BCA had regard to ecological communities, flora and fauna species and appropriate offsets have been secured as part of this agreement. Koala exclusion fencing is used to reduce risk to koalas from threats associated with urbanization, such as cars and dogs. The parks and reserves mentioned are situated on land outside the scope of this application.
Controversial	The proposed development is objected to because of the controversial nature of the development.	In determining a development application, the consent authority must consider the matters for consideration under Section 4.15 of the EP&A Act.

Theme	Detail	Response
		Whether a development is potentially controversial is not a matter for consideration.
Scale of development	The proposed development is objected to because of the massive scale of the development.	The scale of the proposal consistent with the land that has been rezoned for urban development. The scale of the development is similar to other greenfield developments and suburbs with the LGA.
Cumulative impacts	The proposed development is objected to because of the cumulative impact of the development.	The proposal would contribute to positive cumulative impacts, such as site remediation works, increased employment opportunities, planting of canopy trees, increased housing supply, and upgrades to Appin Road. Negative cumulative impacts such as overland flow, runoff, erosion, sedimentation, salinity and dust are capable of being managed during works.
Vegetation loss	The proposed development is objected to because significant vegetation will be lost.	The vegetation is permitted to be removed in accordance with the BCA.
Loss of amenity	The proposed development is objected to because of loss of amenity to residents during and after construction.	The land is situated within the Greater Macarthur Growth Area which is planned to transition from rural to urban development. Potential amenity impacts such as increased noise, dust, vibration, construction traffic are capable of being managed via conditions. The proposed tree removal is considered to be acceptable with regard to potential loss of aesthetic amenity.
Heritage impacts	The proposed development is objected to because of loss of significant heritage.	The proposal was accompanied by a Heritage Impact Statement and ACHA. Potential impacts to European heritage items are considered to be minimal and acceptable. Potential impacts to Aboriginal heritage would be further investigated as part of the AHIP that has been issued for the land.
Traffic impacts	The proposed development is objected to because traffic	The proposal will cause an increase in construction traffic

Theme	Detail	Response
	impacts.	which is capable of being managed by a Construction Traffic Management Plan.
Noise impacts	The proposed development is objected to because of noise impacts.	The proposal will cause an increase in construction noise which is capable of being managed via hours of operation and noise control measures.
Legal proceedings	The proposed development is objected to due to current legal proceedings.	The legal proceedings apply to a separate development application.
Intensification	The proposed development is objected to due to the intensification of land use.	The proposal is consistent with the land use zoning and objectives. The land has been rezoned from rural to permit urban residential development.
Public interest	The proposed development is objected to because the proposal is not in the public interest.	The proposal is considered to be in the public interest as it would facilitate the development of Gilead Stage 1 as portrayed in the Mt Gilled DCP. The proposal exhibits a high level of compliance with the applicable planning policies sand controls.
Biodiversity certification	The BCA was undertaken under the old DA and a new assessment should be undertaken to ensure the agreement is up to date.	The BCA remains with the land and not a particular DA. There is no requirement to enter into a new BCA.
Population growth	Population growth can no longer be guaranteed other than genuine refugees who arrive without enough funding to buy a new house. People are leaving Sydney by droves to live in country towns with cheaper housing and less stressful lifestyles. With COVID induced reductions in immigration and population growth, green-field developments are no longer necessary.	Strategic planning documents forecast the population of south west Sydney to grow in the long term. Recent updates to Council's demographic forecast, available on Council's website, considers the impact of COVID 19 on overseas and interstate migration. Although a temporary impact will occur due to reduced overseas migration, interstate migration / natural growth is likely to maintain demand.
Jobs	The Greater Sydney Commissions promise of jobs being available within 30 minutes from home has not been created and Campbelltown has been an area of high	The proposal will contribute to a 30 minute city by improving job opportunities in construction and related fields for residents and workers in the locality. Future transport connections outlined

Theme	Detail	Response
	unemployment.	within the Greater Macarthur 2040 would assist to ensure future residents can access jobs.

9. The Public Interest

Section 4.15(1)(e) of the EP&A Act requires Council to consider the public interest.

The application is considered to have satisfactorily responded to the future desired outcomes expressed in the environmental planning instruments and development control plan, and would provide a development outcome that, on balance, would result in a positive impact for the community. Accordingly, it is considered that the approval of the proposed development would be in the public interest.

Conclusion

A development application has been lodged seeking consent for the tree removal, dam dewatering, bulk earthworks and remediation works at Appin Road, Gilead.

The subject site includes five land use zones under the Campbelltown Local Environmental Plan 2015, and the earthworks are permitted with development consent.

The proposed development is consistent with the applicable zone objectives, and would facilitate the future development of the locality to provide for the housing needs of the community.

Any contaminated elements would be removed from the site, and the land would be remediated and made suitable for future residential purposes.

The applicant has obtained an Aboriginal Heritage Impact Permit for the land, and the applicant is required to ensure that all works are consistent with the conditions and management measures of the Aboriginal Heritage Impact Permit.

The proposal is consistent with the provisions regarding earthworks, flood planning, salinity, and the restrictions from Appin Road.

The proposal is consistent with the applicable controls of Campbelltown (Sustainable City) Development Control Plan 2015, and the site specific Mt Gilead Development Control Plan, including the staging plan that applies to the land.

The likely impacts of the development have been considered, including environmental impacts on both the natural and built environments, as well as social and economic impacts in the locality.

The significant vegetation located on the land would be retained and protected in accordance with the Biodiversity Certification Agreement.

As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity.

The proposed tree removal is not considered to have unacceptable biodiversity, aesthetic and cultural impacts on the locality.

The site is considered to be suitable for the proposed earthworks, as the land is located within an urban release area and has been zoned to provide for future residential development.

85 submissions objecting to the proposal were received. The matters raised have been discussed within this report.

Accordingly, the development is considered appropriate for the site and the application is recommended for approval.

Attachments

1. Recommended Conditions of Consent (contained within this report)
2. Referenced Figures (contained within this report)
3. State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (contained within this report)
4. Bulk Earthworks Development Application Koala Habitat Assessment (contained within this report)
5. Civil Works and Tree Removal Plans (contained within this report)
6. Extract of Endeavour Energy Correspondence (contained within this report)
7. APA Correspondence (contained within this report)
8. Heritage NSW Correspondence (contained within this report)
9. WaterNSW Comments and Conditions (contained within this report)

Reporting Officer

Executive Manager Urban Release and Engagement

ATTACHMENT 1
2984/2020/DA-CW
Recommended Conditions of Consent

GENERAL CONDITIONS

The following conditions have been applied to ensure that the use of the land and/or building is carried out in such a manner that is consistent with the aims and objectives of the planning instrument affecting the land.

For the purpose of these conditions, the term 'applicant' means any person who has the authority to act on or benefit of the development consent.

1. Approved Development

The development shall be carried out in accordance with the approved plans and documents listed in the table below, and all associated documentation supporting this consent, except as modified in red by Council and / or any conditions within.

Drawing Title	Drawing Number	Revision	Author	Dated
Locality Plan	80216021-100-1000	5	Cardno	20/07/2020
Drawing List	80216021-100-1001	4	Cardno	20/07/2020
General Notes and Legends	80216021-100-1002	4	Cardno	20/07/2020
General Arrangements Plan	80216021-100-1005	7	Cardno	24/11/2020
Cut and Fill Plan Sheet 1 of 2	80216021-100-1010	5	Cardno	20/07/2020
Cut and Fill Plan Sheet 2 of 2	80216021-100-1011	6	Cardno	20/07/2020
Construction Staging and Sediment and Erosion Control Plan Phase 1	80216021-100-1051	4	Cardno	20/07/2020
Construction Staging and Sediment and Erosion Control Plan Phase 2	80216021-100-1052	5	Cardno	20/07/2020
Construction Staging and Sediment and Erosion Control Plan Phase 3	80216021-100-1053	4	Cardno	20/07/2020
Construction Staging and Sediment and Erosion Control Plan Phase 4	80216021-100-1054	6	Cardno	24/11/2020
Sediment and Erosion Control Details	80216021-100-1055	4	Cardno	20/07/2020
Sediment Basin Calculations	80216021-100-1056	3	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 1 of 27	80216021-100-1200	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 2 of 27	80216021-100-1201	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 3 of 27	80216021-100-1202	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 4 of 27	80216021-100-1203	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 5 of 27	80216021-100-1204	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 6 of 27	80216021-100-1205	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 7 of 27	80216021-100-1206	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 8 of 27	80216021-100-1207	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 9 of 27	80216021-100-1208	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 10 of 27	80216021-100-1209	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 11 of 27	80216021-100-1210	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 12 of 27	80216021-100-1211	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 13 of 27	80216021-100-1212	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 14 of 27	80216021-100-1213	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 15 of 27	80216021-100-1214	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 16 of 27	80216021-100-1215	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 17 of 27	80216021-100-1216	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 18 of 27	80216021-100-1217	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 19 of 27	80216021-100-1218	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 20 of 27	80216021-100-1219	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 21 of 27	80216021-100-1220	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 22 of 27	80216021-100-1221	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 23 of 27	80216021-100-1222	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 24 of 27	80216021-100-1223	4	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 25 of 27	80216021-100-1224	4	Cardno	20/07/2020

Bulk Earthworks Plan Sheet 26 of 27	80216021-100-1225	5	Cardno	20/07/2020
Bulk Earthworks Plan Sheet 27 of 27	80216021-100-1226	5	Cardno	20/07/2020
Bulk Earthworks Phasing Plan	80216021-001-SK190	2	Cardno	03/09/2020
Proposed Interface Treatments with Biobank and Management Land Sites Sheet 1 of 2	80216021-001-SK191	1	Cardno	9/04/2018
Proposed Interface Treatments with Biobank and Management Land Sites Sheet 2 of 2	80216021-001-SK192	1	Cardno	9/04/2018

Associated Documentation:

- Preliminary Site Investigation, Author: Douglas Partners, Project No: 76649.11, Document No: R.001.Rev0, Dated: 20 December 2016.
- Preliminary Site Investigation (Contamination) with Limited Intrusive Sampling, Author: Douglas Partners, Project No: 76649.00, Document No: 2, Dated: 18 March 2015.
- Detailed Site Investigation, Author: Douglas Partners, Project No: 76649.06, Document No: R.001.Rev0, Dated: 13 October 2016.
- Remediation Action Plan, Author: Douglas Partners, Project No: 76649.16, Document No: R.001, Dated: 1 August 2017.
- Unexpected Finds Protocol, Author: Douglas Partners, Project No: 76649.21, Document No: R.001.Rev1, Dated: 16 December 2019.
- Salinity Investigation and Management Plan, Author: Douglas Partners, Project No: 76649.05, Document No: R.001.Rev0, Dated: 10 October 2016.
- Salinity Investigation and Management Plan, Author: Douglas Partners, Project No: 76649.14, Document No: R.001.Rev0, Dated: 20 December 2016.
- Preliminary Geotechnical Investigation, Author: Douglas Partners, Project No: 76649.04, Document No: 1, Dated: 20 October 2016.
- Preliminary Geotechnical Investigation, Author: Douglas Partners, Project No: 76649.13, Document No: 1, Dated: 20 October 2016.
- Fill Management Protocol, Author: Douglas Partners, Project No: 76649.21, Document No: R.002.Rev0, Dated: 27 March 2020.
- Aboriginal Heritage Impact Permit, Author: Planning Industry & Environment. AHIP Number: C0005248, Dated: 29 April 2020.
- Notice of Variation of Aboriginal Heritage Impact Permit No. C0005248 (AHIMS No. 4523), Author: Heritage NSW, Dated: 31 August 2020.
- Mount Gilead Construction Environmental Management Plan, Author: Eco Logical Australia, Project No: 19SUT12605, Version No: V7, Dated: 8 May 2020.
- Endeavour Energy Correspondence, Dated: 7 October 2020, Pages: 1 – 148.
- APA Correspondence, Dated 21 October 2020, Pages: 1 – 2.
- Heritage NSW Correspondence, Dated: 21 October 2020, Page: 1.
- WaterNSW comments and requested conditions, Dated: 6 November 2020, Pages: 1 – 4, and as amended on: 25 November 2020, Pages: 1 – 4.

- Dam De-watering Plan, Author: Ecological Consultants Australia Pty Ltd, Dated: 15 October 2019.

2. Requirements of Other Authorities

The development must be undertaken in accordance with correspondence/ conditions provided by the following authorities:

- Endeavour Energy Correspondence, dated 7 October 2020, pages 1 – 148.
- APA Group, dated 21 October 2020.
- WaterNSW comments and requested conditions, Dated: 6 November 2020, Pages: 1 – 4, and as amended on: 25 November 2020, Pages: 1 – 4.
- Development is to be undertaken in accordance with the requirements of the Biodiversity Certification Agreement that was conferred over the site on 5 July 2019.

A copy of the correspondence is attached to this development consent. These requirements must be incorporated in the application for the subdivision works certificate and where required, approvals must be granted prior to the release of the subdivision works certificate.

3. Building Code of Australia

All building work must be carried out in accordance with the provisions of the *Building Code of Australia*. In this clause, a reference to the *Building Code of Australia* is a reference to that Code as in force on the date the application for the relevant subdivision works certificate is made.

4. Compliance with EPBC Approval

Compliance is required at all times with the obligations of the approval issued under the Environment Protection Biodiversity Conservation (EPBC) Act 1999 (Mt Gilead residential development EPBC 2015/7599) dated 21 December 2018 or as varied by the Federal Minister for the Environment.

5. Unreasonable Noise, Dust and Vibration

The development, including operation of vehicles, shall be conducted so as to avoid the generation of unreasonable noise, dust or vibration and cause no interference to adjoining or nearby occupants. Special precautions must be taken to avoid nuisance in neighbouring residential areas, particularly from machinery, vehicles, warning sirens, public address systems and the like.

In the event of a noise related issue arising during construction, the person in charge of the premises shall when instructed by Council, cause to be carried out an acoustic investigation by an appropriate acoustical consultant and submit the results to Council. If required by Council, the person in charge of the premises shall implement any or all of the recommendations of the consultant and any additional requirements of Council to its satisfaction.

6. Engineering Design Works

The design of all engineering works shall be carried out in accordance with the requirements detailed in Council's *Engineering Design for Development (as amended)* and the applicable development control plan.

7. Subdivision Works Certificate

Prior to the commencement of any works that require a subdivision works certificate:
a. the applicant shall appoint a Principal Certifier;

b. the applicant shall obtain a subdivision works certificate for the particular works; and
c. when Council is not the Principal Certifier, the appointed Principal Certifier shall notify Council of their appointment no less than two days prior to the commencement of any works.

8. Spraygrass

All land that has been disturbed by earthworks must be stabilised with native spray grass or similarly treated to establish grass cover.

PRIOR TO THE COMMENCEMENT OF ANY WORKS

The following conditions of consent have been imposed to ensure that the administration, site management and amenities relating to the proposed development comply with all relevant requirements. These conditions are to be complied with prior to the commencement of any works on site.

9. Surrender of Consent

Prior to the commencement of any works on the land, the consent for Development Application No. 3868/2017/DA-CW approved by the Campbelltown Local Planning Panel dated 24 July 2019, that applies to the land, is to be surrendered to Council in accordance with clause 97 of the *Environmental Planning and Assessment Regulation 2000*.

In addition, it is also requested that the s4.55(1A) modification that has been lodged to amend that consent be withdrawn.

10. Site Inductions & Biocertification

Prior to the commencement of bulk earthworks for each relevant stage, an induction, conducted by a suitably qualified and experienced ecologist, shall be undertaken for all bulk earthwork contractors, identifying vegetation to be retained under the Biocertification Agreement.

11. Hillsborough site

Prior to the commencement of any works on the land, security fencing shall be erected around the former Hillsborough site to protect the archaeological remnants of the homestead during works.

12. Erection of Construction Sign

Prior to the commencement of any works on the land, a sign/s must be erected in a prominent position on the site:

a. Showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours

b. Stating that unauthorised entry to the work site is prohibited

c. Pollution warning sign promoting the protection of waterways (issued by Council with the development consent)

d. Stating the approved construction hours in which all works can occur

e. Showing the name, address and telephone number of the appointed Principal Certifier for the work.

Any such sign/s is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

13. Toilet on Construction Site

Prior to the commencement of any works on the land, toilet facilities are to be provided, at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out, at the rate of one toilet for every 20 persons or part thereof. Each toilet provided must be a standard flushing toilet and be connected to:

a. A public sewer, or

b. If connection to a public sewer is not practicable, to an accredited sewage management facility approved by Council, or

c. If connection to a public sewer or an accredited sewage management facility is not practicable, to some other management facility approved by Council.

14. Trade Waste

Prior to the commencement of any works on the land, a trade waste facility shall be provided on-site to store all waste pending disposal. The facility shall be screened, regularly cleaned and accessible to collection vehicles.

15. Vehicular Access during Construction

Prior to the commencement of any works on the land, vehicle and plant access to the site shall be provided to minimise ground disturbance and prevent the transportation of soil onto any public road system.

16. Public Property

Prior to the commencement of any works on site, the applicant shall advise Council of any damage to property controlled by RMS which adjoins the site. Failure to identify existing damage may result in all damage detected after completion of the development being repaired at the applicant's expense.

17. Fencing

An appropriate fence preventing public access to the site shall be erected for the duration of construction works.

18. Boundary of Works

No works are permitted to occur outside of the limit of works shown on the approved plans.

Prior to the commencement of works, the boundary of the limit of works must be appropriately demarcated via appropriate fencing and signage.

19. Protection of Existing Trees on the Development Site

Prior to the commencement of works, a project arborist with a minimum qualification of AQF is to be appointed and their details provided to Council's Executive Manager Urban Release (or equivalent).

20. Fencing of Conservation Areas

Prior to the commencement of works temporary and permanent protective fencing must be erected around all areas identified for conservation.

21. Site Remediation and Site Audit Process

Prior to the commencement of any works:

a. The consent holder must engage an appropriately qualified and experienced supervising environmental consultant to supervise all aspects of site remediation and validation. The environmental consultant must supervise all aspects of the remediation and validation works in accordance with the approved Remedial Action Plan.

b. A Site Auditor shall be appointed for the project prior to the commencement of any works authorised by this consent. The site auditor must be a person accredited under the Contaminated Land Management Act, 1997.

c. Council shall be notified of the appointment of the site auditor at least 2 business days prior to the commencement of any works authorised by this consent. This notification shall include the name, contact details and accreditation details of the auditor.

22. Protection of Existing Trees

All trees that are to be retained are to be protected in accordance with:

a. Australian Standard 4970-2009 Protection of Trees on Development Sites,
b. The requirements of Tree Assessment Report prepared by ArborSafe dated November 2017,
c. Tree protection requirements as detailed on the approved Civil Works and Tree Removal Plans prepared by Cardno dated 2 July 2020, and
d. Relevant requirements of the approved Construction Environment Management Plan required under Condition 8.

All works undertaken within Tree Protection Zones of retained trees and within 5m of the Boundaries of the Biobank sites or managed lands are to be supervised and undertaken under the guidance of the Project Arborist.

PRIOR TO THE ISSUE OF A SUBDIVISION WORKS CERTIFICATE

Where works require the issue of a Subdivision Works Certificate, the following conditions of consent must be complied with prior to the issue of a subdivision works certificate by either Campbelltown City Council or the appointed Principal Certifier. All necessary information to comply with the following conditions of consent must be submitted with the application for a subdivision works certificate.

23. Deposited Plan and 88B Instrument - Rights and Interests

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, the applicant must obtain written consent from the benefited lot(s), roads(s) bodies or Prescribed Authorities regarding any easements, profit à prendre, restriction or positive covenants registered on the land with respect to the approved development.

24. Geotechnical Report

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, where proposed excavation and/or filling exceed 900mm in depth, or where the subject site is identified as being filled land, a geotechnical report prepared by a NATA registered laboratory shall be submitted which indicates that the land will not be subject to subsidence, slip, slope failure or erosion.

25. Soil and Water Management Plan

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, a Soil and Water Management Plan (SWMP) must be provided to WaterNSW for review and endorsement, in accordance with the requirements of WaterNSW.

Copies of the endorsed a Soil and Water Management Plan (SWMP) must be provide to Council for their records.

26. Construction Traffic Management Plans

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, the applicant shall prepare and obtain approval from an appropriately qualified traffic consultant, Construction Traffic Management Plans (CTMP's) for all stages of the development.

In preparing the CTMP's, the applicant shall address all relevant NSW road rules and consideration shall be given to public notification (including residents).

Copies of the approved CTMP's shall be kept on site for the duration of the works, in accordance with *Work Cover Authority* requirements and copies shall also be forwarded to Council for its records.

27. Works on Public Land

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, the applicant shall obtain written approval from Council for any proposed work on public land. Inspection of this work shall be undertaken by Council at the applicant's expense and a compliance certificate, approving the works, shall be obtained from Council prior to the appointed Principal Certifier awarding the relevant practical completion certificate.

28. Sediment Basins

Prior to the issue of a subdivision works certificate for the relevant stage, details of the temporary sediment basins to support the associated fill is to be submitted to Council or the appointed Principal Certifier.

29. Telecommunications Infrastructure

If the development is likely to disturb or impact upon telecommunications infrastructure:

a. Written confirmation from the service provider that they have agreed to proposed works must be submitted to the Appointed Principal Certifier prior to the issue of a subdivision works certificate or any works commencing, whichever occurs first; and

b. The arrangements and costs associated with any adjustment to telecommunications infrastructure shall be borne in full by the applicant/developer.

30. Sydney Water

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, the approved plans must be submitted to Sydney Water via the Sydney Water Tap In service, to determine whether the development will affect any Sydney Water wastewater and water mains, stormwater drains and/or easements, and if any requirements need to be met.

An approval receipt will be issued if the building plans have been approved. The approval receipt shall be submitted to the appointed Principal Certifier prior to awarding the relevant practical completion certificate.

The Sydney Water Tap In service can be accessed at www.sydneywater.com.au.

PRIOR TO THE COMMENCEMENT OF ANY WORKS REQUIRING A SUBDIVISION WORKS CERTIFICATE

The following conditions of consent have been imposed to ensure that the administration and amenities relating to the proposed development comply with all relevant requirements. These

additional conditions are to be complied with prior to the commencement of on site that require a Subdivision Works Certificate.

31. Erosion and Sediment Control

Prior to the commencement of any works on the land, adequate/approved erosion and sediment control measures shall be fully installed/implemented.

32. Survey Report

Prior to the commencement of bulk earthworks for each relevant stage the application shall submit to Council for approval a survey protocol.

The survey protocol shall provide details for the methodology for the collection, collation and provision to Council of survey data for completed bulk earthworks, including:

Survey Information

- Spacing of modified site contours
- Interval spacing of spot levels along stage and property boundaries.
- A minimum quantity of site levels per hectare.
- The surface levels of all other infrastructure.

Format

- MGA 94 (Map Grid of Australia 1994) Zone 56 - Coordinate System
- All level information to Australian Height Datum (AHD)

AutoCAD Option

- The "etransmit" (or similar) option in AutoCAD with the transmittal set-up to include as a minimum:

  Package Type-zip
  File Format - AutoCAD 2004 Drawing Format or later
  Transmittal Options-Include fonts
  Include textures from materials
  Include files from data links
  Include photometric web files
  Bind external references
  The drawing is **not** to be password protected.

MapInfo Option

- Council will also accept either MapInfo Native format (i.e. .tab file) or MapInfo mid/mif.

All surveyed points will **also** be required to be submitted in a point format (x,y,z) in either an Excel table or a comma separated text file format.

DEVELOPMENT REQUIREMENTS DURING CONSTRUCTION

The following conditions of consent have been imposed to ensure that the administration and amenities relating to the proposed development comply with all relevant requirements. These conditions are to be complied with during the construction of the development on site.

33. Site Remediation Works

The remediation of the site must be undertaken in accordance with the following:

a. The site shall be remediated as part of the bulk earthworks, with regard to:

- The approved Remedial Action Plan (RAP) prepared by Douglas Partners dated August 2017.
- State Environmental Planning Policy No. 55 - Remediation of Land
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013); and
- The guidelines in force under the Contaminated Land Management Act 1997.

b. The consent holder must engage an appropriately qualified and experienced supervising environmental consultant to supervise all aspects of site remediation and validation. The environmental consultant must supervise all aspects of the remediation and validation works in accordance with the approved Remedial Action Plan.

c. A Site Auditor shall be appointed for the project prior to the commencement of any works authorised by this consent. The site auditor must be a person accredited under the Contaminated Land Management Act, 1997.

d. Council shall be notified of the appointment of the site auditor at least 2 business days prior to the commencement of any works authorised by this consent. This notification shall include the name, contact details and accreditation details of the auditor.

e. In addition to any powers given to the site auditor under legislation, the auditor may, under this condition of consent, order all other work on the site to cease until such work identified by the auditor is complete. Any works undertaken in breach of an order given under this condition will be taken to be works in breach of this consent.

f. The site auditor may require modifications to the approved remediation action plan and any additional works as they see fit. Any such modifications and additional works must be completed to the satisfaction of the site auditor.

g. The site auditor is to be retained until they issue a category "A" site audit statement for the whole site specifying that it is suitable for *day care centres, preschools, primary schools* and *residential, with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry.*

h. Prior to the implementation of remediation works, the site is to be established in accordance with all NSW legislative requirements including those outlined in Section 7.1 of the RAP prepared by Douglas Partners dated August 2017.

i. Asbestos remediation works must be undertaken by an appropriately licensed asbestos remediation contractor and in accordance with *Work Health and Safety Regulation NSW 2011* and any other applicable WorkCover NSW or Safe Work Australia regulations or guidelines. This contractor must give written notice to WorkCover NSW at least 5 days before remediation work commences.

Any person having benefit of this consent may not replace a site auditor appointed under a condition of this consent without the approval of Council. The power for Council to approve the appointment of a new site auditor is a power created by this condition and is not a reference to a need for further development consent under the EP&A Act. Council may withhold approval under this condition unless it is satisfied that the previously appointed site auditor is unwilling or unable to continue servicing the project.

34. Mud/Soil

Mud and soil from vehicular movements to and from the site must not be deposited on the road.

35. Salinity Testing

In areas where excavation will exceed 3m in depth, additional salinity testing must be undertaken. The result of the testing are to be the authors of the Salinity Investigation and Management Plan (or an appropriately qualified consult) to determine any mitigation measures that may be required on the site.

36. Watercourses

All works must be must be setback at least 40 metres from the top of the bank of all natural watercourses on the land.

37. Disposal of Contaminated Soils/Waste

All transport of waste and disposal of materials must be conducted in accordance with the requirements of the Protection of the Environment and Operations (POEO) Act (1997). All required licences and approvals required for disposal of the material will be obtained prior to removal of the materials from the site. Transport of Spoil must also be via a clearly delineated, pre-defined haul route.

Removal of waste materials from the site shall only be conducted by a licensed contractor holding the appropriate licence, consent or approvals to dispose of waste materials according to the classification outlined in the NSW EPA *Waste Classification Guidelines (2014)* and with appropriate approvals obtained from the EPA, if required.

All contaminated soils/waste removed from the sit must be disposed of in accordance with Section 7.7 of the approved REAP prepared by Douglas partners dated August 2017.

38. Construction Work Hours

All work on site shall only occur between the following hours:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 5.00pm
Sunday and public holidays	No Work.

39. Erosion and Sediment Control

Erosion and sediment control measures shall be provided and maintained throughout the construction period in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook)*, the approved plans, Council specifications and to the satisfaction of the appointed Principal Certifier. The erosion and sediment control devices shall remain in place until the site has been stabilised and fully revegetated.

Note: On the spot penalties up to $8,000 will be issued for any non-compliance with this requirement without any further notification or warning.

40. Fill Contamination

Any landfill used on the site is to be validated in accordance with the *Environment Protection Authority's* guidelines for consultants reporting on contaminated sites. The validation report shall state in an end statement that the fill material is suitable for the proposed use on the land.

41. Dust Nuisance

Measures shall be implemented to minimise wind erosion and dust nuisance in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook)*. Construction areas shall be treated/regularly watered to the satisfaction of the appointed Principal Certifier.

42. Excess Material

The spreading of excess material or stockpiling on site will not be permitted without prior written approval from Council, excess material is to be removed from the site.

43. Earth Works/Filling Works

All earthworks, including stripping, filling, and compaction shall be:

a. Undertaken in accordance with Council's *Specification for Construction of Subdivisional Roads and Drainage Works (as amended),* Australian Standard *AS 3798 Guidelines for Earthworks for Commercial and Residential Development (as amended),* and the approved construction drawings;

b. Supervised, monitored, inspected, tested and reported in accordance with Australian Standard *AS 3798 Appendix B 2(a) Level 1 and Appendix C* by a NATA registered laboratory appointed by the applicant. Two collated copies of the report and fill plan shall be forwarded to Council; and

c. Certified by the laboratory upon completion as complying, so far as it has been able to determine, with Council's specification and Australian Standard *AS 3798*.

44. Revegetation

Revegetation in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook)* shall be applied to all disturbed areas within seven days after completion of the earthworks.

45. Public Safety

Any works undertaken in a public place are to be maintained in a safe condition at all times in accordance with Australian Standard *AS 1742.3*. Council may at any time and without prior notification make safe any such works that are considered to be unsafe and recover all reasonable costs incurred from the applicant.

46. Compliance with Relevant Authority's Specifications

All design and construction work shall be in accordance with:

a. Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended);*

b. Council's *Engineering Design for Development (as amended);*

c. Council's applicable development control plan*;*

d. *Soils and Construction (2004) (Bluebook*); and

e. Relevant Australian Standards and State Government publications.

47. Imported 'waste-derived' fill material

The only waste-derived fill material that may be received at the development site is:

a. virgin excavated natural material (within the meaning of the Protection of the Environment Operations Act 1997); and

b. any other waste-derived material the subject of a resource recovery exemption under cl.51A of the Protection of the Environment Operations (Waste) Regulation 2014 that is permitted to be used as fill material.

Any waste-derived material the subject of resource recovery exemption received at the development site must be accompanied by documentation as to the material's compliance

with the exemption conditions and must be provided to the Appointed Principal Certifier on request.

48. Long Term Stockpiling

To reduce the need for long term stockpiles, fill must only be imported on site in association with the relevant stage of fill works. Siltation fencing must be provided around stockpile locations in accordance with Council's Engineering Design Guide and the Landcom "Blue Book". In addition, Stockpiles must be covered by Geofabric at all times except when soil is being extracted from them. Stockpiles and sedimentation and erosion measures must be inspected by a suitability qualified person a weekly basis.

PRIOR TO AWARDING PRACTICAL COMPLETION OF WORKS THE ISSUE OF A PRACTICAL COMPLETION CERTIFICATE

The following conditions of consent must be complied with prior to the issue of a Practical Completion Certificate for the relevant stage of earthworks by either Campbelltown City Council or the appointed Principal Certifier. All necessary information to comply with the following conditions of consent must be submitted with the application for a Practical Completion Certificate.

49. Final Inspection – Works as Executed Plans

Prior to the appointed Principal Certifier awarding the relevant practical completion certificate for a stage of earthworks, the applicant shall submit to Council two complete sets of fully marked up and certified work as executed plans in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended)* and *Engineering Design for Development (as amended).*

The applicant shall **also** submit a copy of the Works as Executed information to Council in an electronic format in accordance with the following requirements:

Survey Information

A survey report and survey plans shall be submitted in accordance with the endorsed survey protocol.

All survey information shall be prepared in the following format (unless agreed by Council in writing).

Format

- MGA 94 (Map Grid of Australia 1994) Zone 56 - Coordinate System
- All level information to Australian Height Datum (AHD)

AutoCAD Option

- The "etransmit" (or similar) option in AutoCAD with the transmittal set-up to include as a minimum:

Package Type	-	zip
File Format	-	AutoCAD 2004 Drawing Format or later
Transmittal Options	-	Include fonts Include textures from materials Include files from data links Include photometric web files Bind external references The drawing is **not** to be password protected.

MapInfo Option

- Council will also accept either MapInfo Native format (i.e. .tab file) or MapInfo mid/mif.

All surveyed points will **also** be required to be submitted in a point format (x,y,z) in either an Excel table or a comma separated text file format.

50. Fill Report

The applicant shall submit a copy an independent review of all documentation relating to the filling of the site, and submit a review findings report to Council and the appointed Principal Certifier for each stage of works that completed. The Fill Report documentation is to (at minimum):

- Be prepared by an appropriately qualified person with consideration of all relevant guidelines, standards, planning instruments and legislation (e.g. EPA, NEPM, ANZECC, NH&MRC),
- Clearly state the legal property description of the fill material source site and the total amount of fill tested,
- Provide details of the volume of fill material to be used in the filling operations,
- Provide a classification of the fill material to be imported to the site in accordance with the NSW Environmental Protection Authority's 'Waste Classification Guidelines' 2009, and(based on the fill classification) determine whether the fill material is suitable for its intended purpose and land use and whether the fill material will or will not pose an unacceptable risk to human health or the environment.
- Certify by way of a Compliance Certificate or other written documentation that fill materials have been placed on the site in accordance with all conditions of this consent and that the site will not pose an unacceptable risk to human health or the environment. A copy of the Compliance Certificate or other documentation shall be submitted to Council and the appointed Principal Certifier.

51. Restoration of Public Roads

Prior to the appointed Principal Certifier awarding the relevant practical completion certificate, any restoration of the public road pavement required as a result of the development shall be carried out to the satisfaction of the relevant authority at the applicant's expense.

52. Public Utilities

Prior to the appointed Principal Certifier awarding the relevant practical completion certificate, any adjustments to public utilities required as a result of the development shall be completed to the satisfaction of the relevant authority at the applicant's expense.

53. Council Fees and Charges

Prior to the appointed Principal Certifier awarding the relevant practical completion certificate, the applicant shall ensure that all applicable Council fees and charges associated with the development have been paid in full.

54. Site validation

Prior to the appointed Principal Certifier awarding the relevant practical completion certificate, the site, or relevant part of the site that the certificate applies to, is to be validated in accordance with Section 8 of the RAP prepared by Douglas Partners dated August 2017. A copy of the Validation Report and Site Audit Statement must be submitted to Council or the relevant certifying authority certifying that:

a. the remediation and validation of the site has been undertaken in accordance with the RAP that has been prepared for the site.

b. the land has been remediated and is suitable for residential use.

ADVISORY NOTES

The following information is provided for your assistance to ensure compliance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000, other relevant Council Policy/s and other relevant requirements. This information does not form part of the conditions of development consent pursuant to Section 4.17 of the Act.

Advice 1. Environmental Planning and Assessment Act 1979 Requirements

The Environmental Planning and Assessment Act 1979 requires you to:

a. Obtain a subdivision works certificate prior to the commencement of the earthworks. A subdivision works certificate is not required for tree removal or remediation works. Enquiries regarding the issue of a subdivision works certificate can be made to Council's Customer Service Centre on 4645 4000.

b. Nominate the appointed Principal Certifier and notify Council of that appointment prior to the commencement of any works.

c. Give Council at least two days notice prior to the commencement of any works.

d. Have mandatory inspections of nominated stages of the construction inspected.

e. Obtain a practical completion certificate for the relevant stage.

Advice 2. Covenants

The land upon which the subject building is to be constructed may be affected by restrictive covenants. Council issues this approval without enquiry as to whether any restrictive covenant affecting the land would be breached by the construction of the development, the subject of this permit. Persons to whom this permit is issued must rely on their own enquiries as to whether or not the building breaches any such covenant.

Advice 3. Salinity

Please note that Campbelltown is an area of known salinity potential and as such any salinity issues should be addressed as part of the subdivision works certificate application. Further information regarding salinity management is available within Council's *Engineering Design for Development (as amended)* and the applicable development control plan.

Advice 4. Dial before you Dig

Underground assets may exist in the area that is subject to your application. In the interests of health and safety and in order to protect damage to third party assets please contact Dial before you dig at www.1100.com.au or telephone on 1100 before excavating or erecting structures (This is the law in NSW). If alterations are required to the configuration, size, form or design of the development upon contacting the Dial before you dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via contacting the Dial before you dig service in advance of any construction or planning activities.

Advice 5. Telecommunications Act 1997 (Commonwealth)

Telstra (and its authorised contractors) are the only companies that are permitted to conduct works on Telstra's network and assets. Any persons interfering with a facility or installation owned by Telstra is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution.

Furthermore, damage to Telstra's infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may

affect or impact on Telstra's assets in any way, you are required to contact: Telstra's Network Integrity Team on phone number 1800 810 443.

END OF CONDITIONS

Attachment 2: Referenced Figures

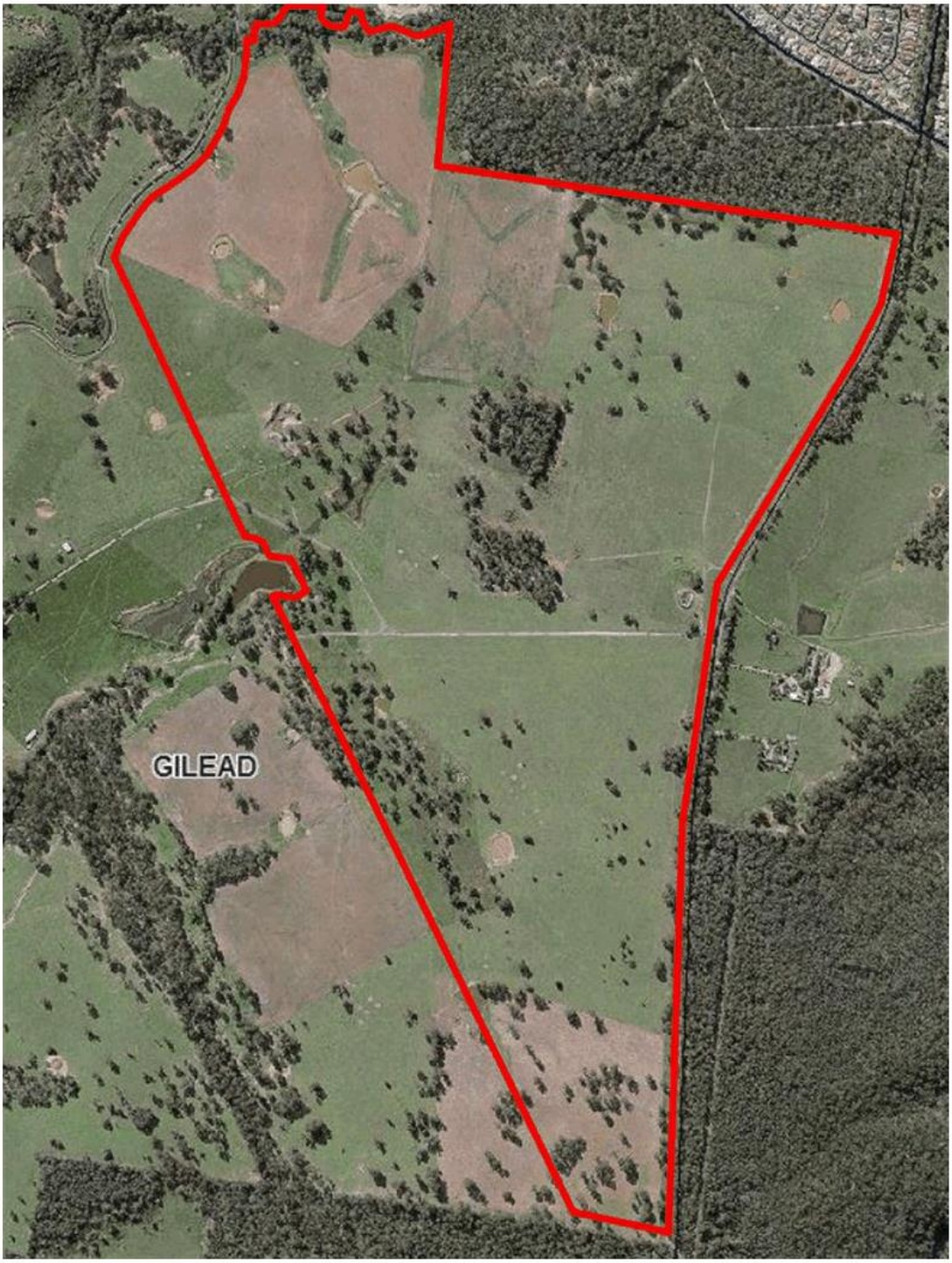


Figure 1: Aerial photo showing subject site outlined in red

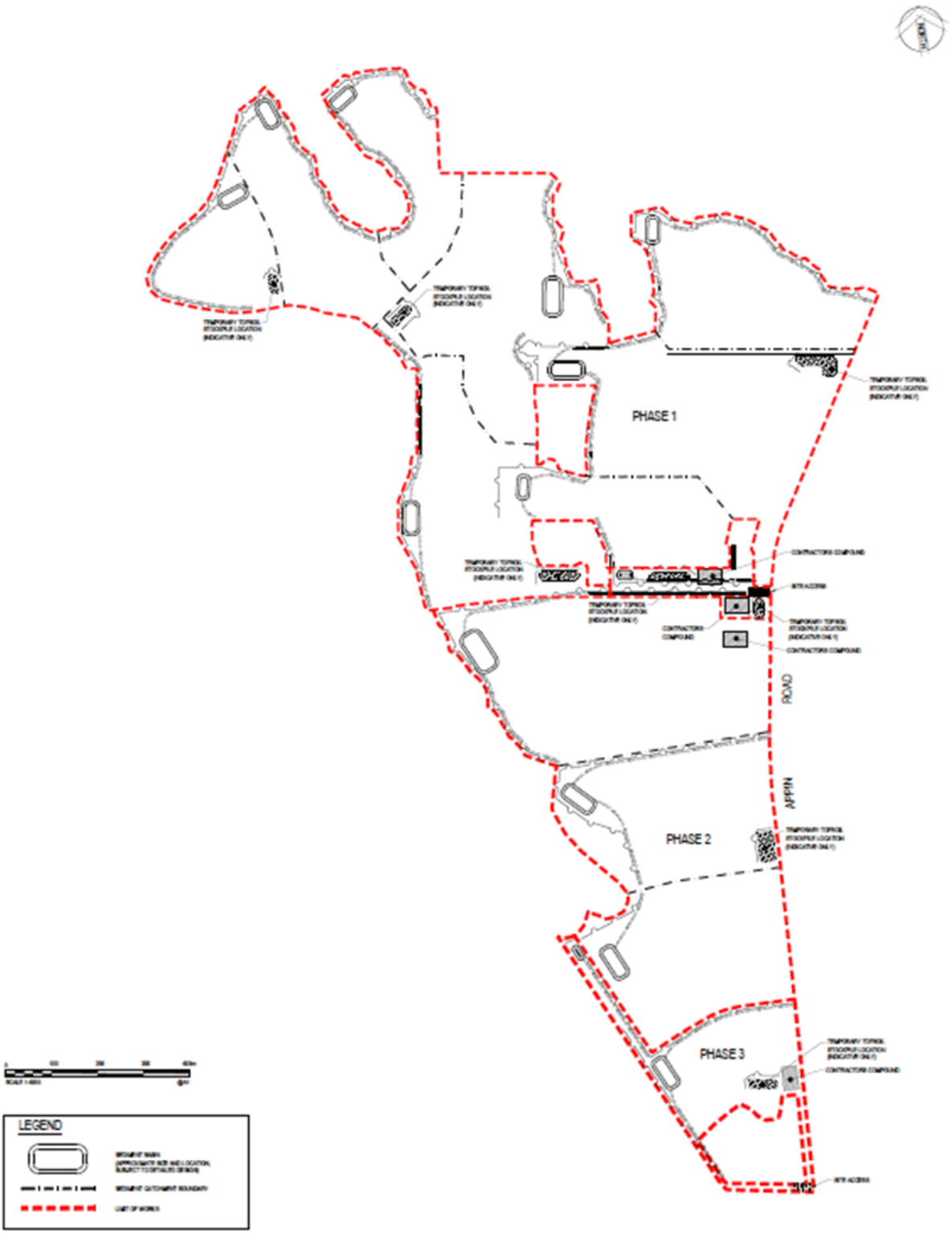


Figure 2: **Bulk earthworks phasing plan**

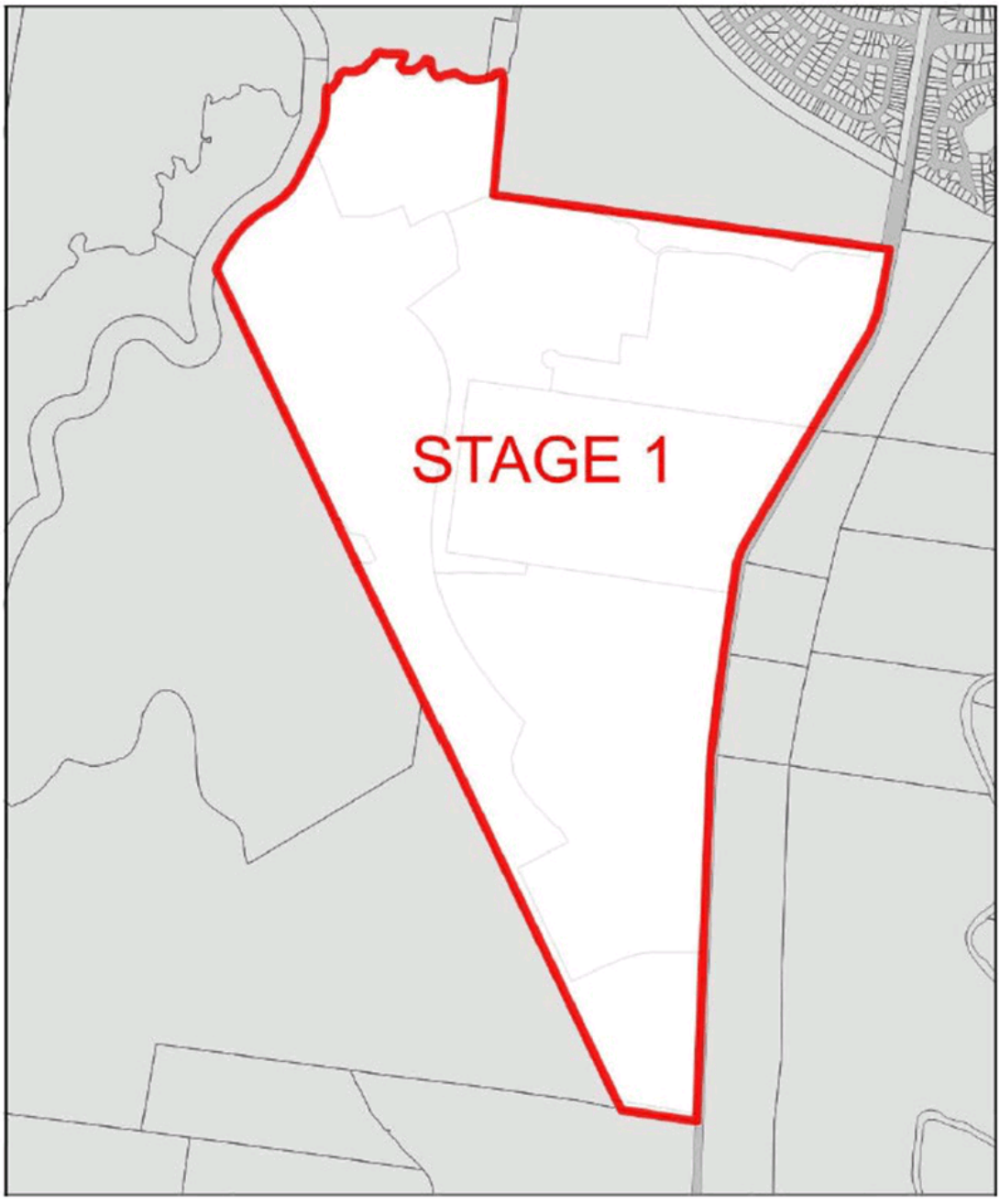


Figure 3: Mt Gilead Staging Plan

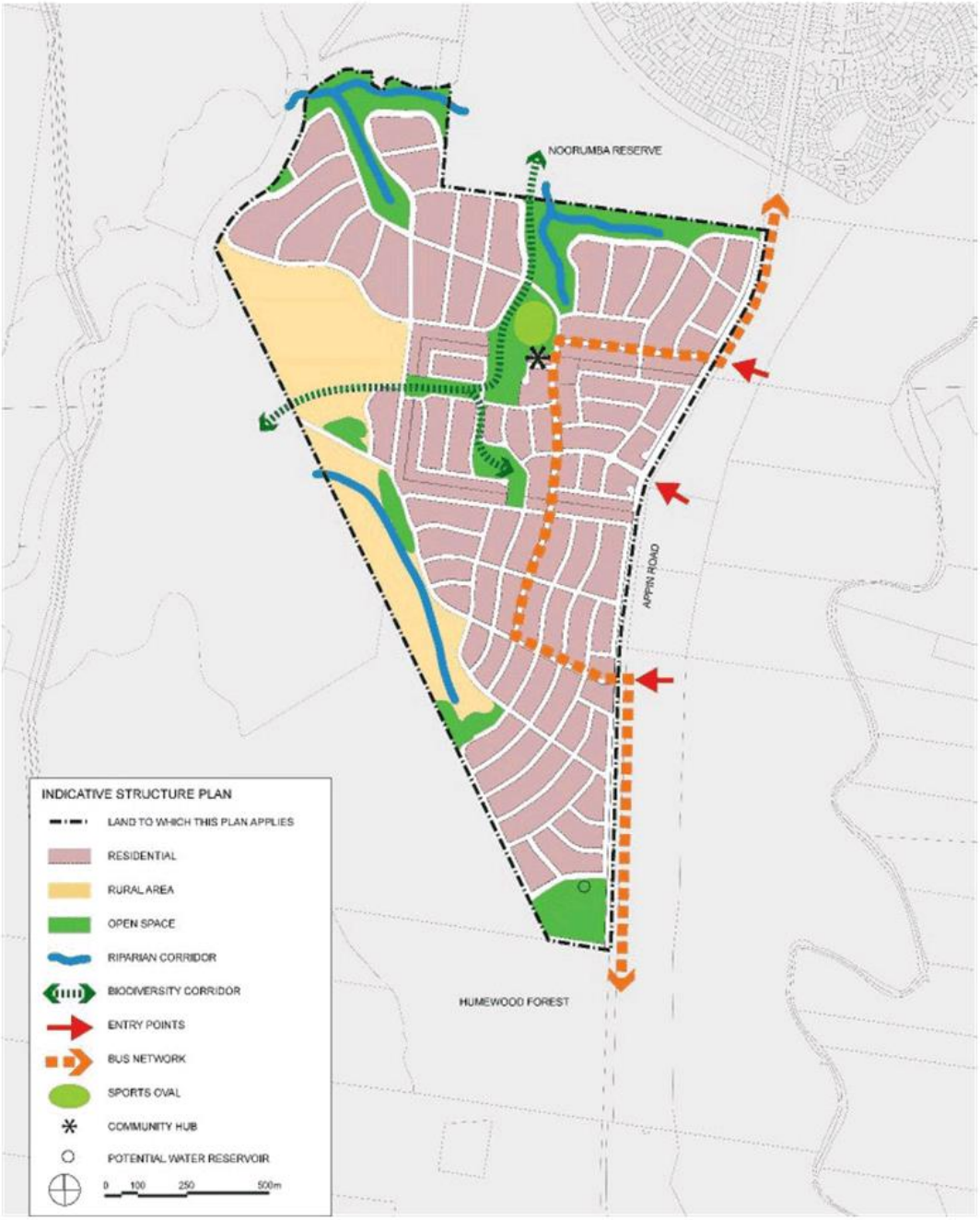


Figure 4: Mount Gilead Indicative Structure Plan

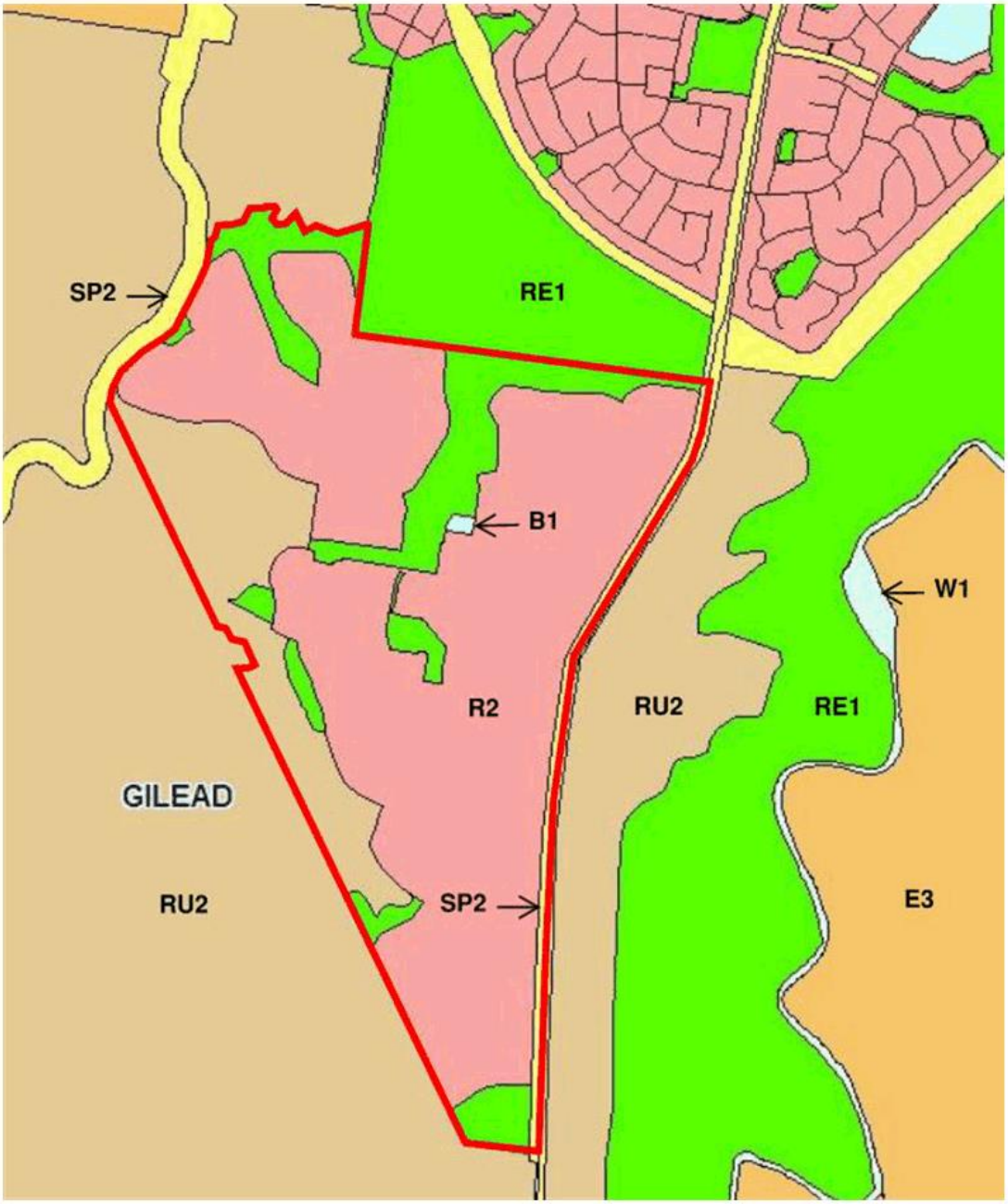


Figure 5: **Extract of zoning map indicating zoning of site and locality**

Attachment 3

State Environmental Planning Policy (Sydney Region Growth Centres) 2006		
Clause	**Comment**	**Compliance**
Part 2 Land use and other development controls resulting from precinct planning		
7A Controls applying to Colebee, Edmondson Park, Bingara Gorge, Menangle Park, Mount Gilead and Glenlee Precincts For the purposes of this Policy, the provisions applying to the carrying out of development in the following precincts are those specified below for the precincts— (d) the provisions of Campbelltown Local Environmental Plan 2015 are specified for the land within Menangle Park Precinct and Mount Gilead Precinct within the Greater Macarthur Growth Area,	The provision of the Campbelltown Local Environmental Plan 2015 apply to land within the Mount Gilead Precinct. This report provides an assessment of the proposal against the relevant provisions of the Campbelltown Local Environmental Plan 2015.	Yes
Part 3 Land Use—Environment Conservation and Recreation Zones		
8 Application of Part and of other planning instruments (1) This Part applies to land within a growth centre precinct that is zoned under this Part. (2) Land that is zoned under this Part is not subject to the provisions of any environmental planning instrument (other than a State environmental planning policy or regional environmental plan) applying to the land concerned, except to the extent that this Policy otherwise provides. (3) This Part does not apply to land to which a Precinct Plan applies or land referred to in clause 7A.	This part does not apply as the land is referred to in clause 7A.	Not applicable
Part 4 Development controls—general		

Attachment 3

16 Development applications in growth centres—matters for consideration until finalisation of precinct planning for land (1) Until provisions have been specified in a Precinct Plan or in clause 7A with respect to the development of the land, consent is not to be granted to the carrying out of development on land within a growth centre unless the consent authority has taken into consideration the following— (a) whether the proposed development will preclude the future urban and employment development land uses identified in the relevant growth centre structure plan, (b) whether the extent of the investment in, and the operational and economic life of, the proposed development will result in the effective alienation of the land from those future land uses, (c) whether the proposed development will result in further fragmentation of land holdings, (d) whether the proposed development is incompatible with desired land uses in any draft environmental planning instrument that proposes to specify provisions in a Precinct Plan or in clause 7A, (e) whether the proposed development is consistent with the precinct planning strategies and principles set out in any publicly exhibited document that is relevant to the development, (f) whether the proposed development will hinder the orderly and co-ordinated provision of infrastructure that is planned for the growth centre, (g) in the case of transitional land—whether (in addition) the proposed development will protect areas of aboriginal heritage, ecological diversity or biological diversity as well as protecting the scenic amenity of the land.	Provisions have been specified in clause 7A with respect the development of the land. Accordingly, the provisions of the clause do not prevent consent from being granted.	Not applicable

Attachment 3

(2) This clause does not apply to land zoned under Part 3.		
17 Referral to Department of Planning after release of precinct (1) This clause applies to land within a growth centres precinct that has been released by the Minister under the Environmental Planning and Assessment Regulation 2000 for urban development, and so applies until provisions have been specified in a Precinct Plan or in clause 7A with respect to the development of the land. (2) The consent authority must, in the case of a development application for the carrying out of development (not being for a single residential dwelling)— (a) with a capital investment value of more than $500,000, or (b) in respect of land that has an area of more than 2 hectares, or (c) that is a subdivision of land (being a subdivision that creates 2 or more lots), refer the application to the Director-General of the Department of Planning for comment. (3) The consent authority must take any comments received from the Director-General of the Department of Planning (within 21 days after the development application was referred to the Director-General for comment) into consideration when determining whether to grant consent to any such development. (4) In this clause, capital investment value of development has the same meaning as in the Environmental Planning and Assessment Regulation 2000. (5) Despite subclause (1), this clause does not apply to land within the Alex Avenue and Riverstone Precincts that is not land	This clause does not apply to the land as provisions have been specified in clause 7A with respect to the development of the land.	Not applicable

Attachment 3

to which the Alex Avenue and Riverstone Precinct Plan 2010 (as referred to in Appendix 4) applies. (6) Despite subclause (5), this clause does apply to Lot 2, DP 563818.		
18 Water recycling and conservation (1) This clause applies to land within a growth centre— (a) that is serviced by a water recycling plant, or (b) that will be serviced by a water recycling plant as soon as the plant becomes operational. (2) A consent authority must not grant consent to the carrying out of development on land unless the consent authority is satisfied that recycled water from the water recycling plant will be provided to the development. (3) However, the consent authority may grant consent if it is satisfied that the development will be provided with recycled water from a water recycling or water conservation system approved by the Minister and specified in the Table to this clause. (4) Despite subclause (1), this clause does not apply to land in the Wilton Growth Area.	This clause does not apply as the land is not serviced by a water recycling plant. This clause does not apply as the land will not be serviced by a water recycling plant.	Not applicable Not applicable
18A Public utility undertakings and clearing of native vegetation (1) Development for public utility undertakings (other than electricity generating works or water recycling facilities) may be carried out without consent on land to which this Policy applies (subject to subclause (3)).	Development for public utility undertakings not proposed.	Not applicable

Attachment 3

(2) A public authority, or a person acting on behalf of a public authority, must not carry out development comprising the clearing of native vegetation (within the meaning of the Native Vegetation Act 2003) on land that is not subject land (within the meaning of clause 17 of Schedule 7 to the Threatened Species Conservation Act 1995) unless the authority or person has— (a) given written notice of the intention to carry out the development to the Department of Planning and Infrastructure, and (b) taken into consideration any response to the notice that is received from that Department within 21 days after the notice is given. (3) (Repealed)	A public authority, or a person acting on behalf of a public authority is not proposing the clearing of native vegetation no land that is not subject to biodiversity certification.	Not applicable
18B Electricity generating works and water recycling facilities (1) The consent authority must not grant consent to development for the purpose of electricity generating works or water recycling facilities unless it is satisfied that the development— (a) will be of a small scale, and (b) is likely to have only a minor environmental impact, and (c) is consistent with the principles of ecologically sustainable development.	Development for the purpose of electricity generating works or water recycling facilities not proposed.	Not applicable
Part 5 Development controls—flood prone and major creeks land		
19 Development on flood prone and major creeks land—additional heads of consideration		

Attachment 3

(1) This clause applies to development requiring consent that is carried out on flood prone and major creeks land (other than any such land to which clause 20 applies). (2) Consent is not to be granted to the carrying out of development to which this clause applies unless the consent authority has taken the following into consideration— (a) whether or not the development will adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, (b) whether or not the development will alter flow distributions and velocities to the detriment of other properties or the environment of the floodplain, (c) whether the development will enable safe occupation of the flood prone and major creeks land, (d) whether or not the development will detrimentally affect the floodplain environment or cause avoidable erosion, siltation, salinity, destruction of riparian vegetation or a reduction in the stability of the riverbank/watercourse, (e) whether or not the development will be likely to result in unsustainable social and economic costs to the flood affected community or general community, as a consequence of flooding, (f) whether or not the development is compatible with the flow conveyance function of the floodway, (g) whether or not the development is compatible with the flood hazard, (h) in the case of development consisting of the excavation or filling of land, whether or not the development— (i) will detrimentally affect the existing drainage patterns and soil stability in the locality, and	This clause does not apply as the development would not be carried out on flood prone or major creeks land, meaning land coloured blue on the South West Growth Centre Development Control Map.	Not applicable

Attachment 3

(ii) will significantly impact on the likely future use or redevelopment of the land, and (iii) will adversely impact on the existing and likely amenity of adjoining properties, and (iv) will minimise the disturbance of relics, and (v) will adversely impact on any watercourse, drinking water catchment or environmentally sensitive area.		
Part 6 Development controls—vegetation		
21 Land to which Part applies (1) This Part applies to the following land— (a) land zoned under Part 3, (b) flood prone and major creeks land, (c) transitional land, (d) land that is— (i) under State Environmental Planning Policy (Western Sydney Parklands) 2009, in an environmental conservation area shown on the State Environmental Planning Policy (Western Sydney Parklands) 2009 Environmental Conservation Areas Map, and (ii) in a growth centre.	This Part does not apply as: The land is not zoned under Part 3 of the GC SEPP. The land is not flood prone and major creeks land. The land is not transitional land. The land is not under State Environmental Planning Policy (Western Sydney Parklands) 2009, in an environmental conservation area shown on the State Environmental Planning Policy (Western Sydney Parklands) 2009 Environmental Conservation Areas Map, and in a growth centre. While the land is in a growth centre, it does not satisfy the requisite criteria of clause 21(d)(i) above.	 Not applicable Not applicable Not applicable Not applicable

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Mark Anderson
Development Manager, NSW Communities
Level 2, 88 Phillip Street
Parramatta NSW 2150
c/o
Mark Anderson

ELA Reference Number: 20SUT - 15054

4 September 2020

Dear Mark,

RE: Bulk Earthworks Development Application Koala Habitat Assessment– Mt Gilead MDP Lands

I refer to your request for advice on the assessment required of impacts to koala habitat for a proposed bulk earth works and tree removal Development Application (DA) within the Mount Gilead MDP lands study area (**Figure 1**). I understand that the DA seeks consent for development on parts of lots 1-5 in DP 1240836 and part Lot 61 752022 (**DA Site**).

On 28 June 2019, a Biodiversity Certification Agreement (**BCA**) was entered into by the Minister for Energy and Environment, Campbelltown City Council (**CCC**), Lendlease Communities (Mt Gilead) Pty Limited, Lendlease Communities (Mt Gilead No. 3) Pty Limited and Mt Gilead Pty Limited (see **Annexure A**). The BCA relates to the DA Site as well as part of Lot 2 DP 1218887 (**Mt Gilead Site**). The BCA binds 'affected parties' to fulfill certain conservation commitments on the Mt Gilead Site, including those relating to koalas (i.e. registration of three biobank sites, retirement of 284 koala species credits and the preparation of a Construction Environmental Management Plan) prior to any clearing and the commencement of any development on the Mt Gilead Site.

Following execution of the BCA, by notice in the NSW Government Gazette on 5 July 2019 (see **Annexure B**), the Chief Executive of the then Office of Environment and Heritage (under delegation of the Minister), now part of the Department of Planning, Industry and Environment (**DPIE**), conferred biodiversity certification over the Mt Gilead Site, the area of which is shown in 'pink' on **Figure 1**.

The entering into of the BCA and conferral of biodiversity certification on the Mt Gilead Site followed a comprehensive environmental assessment process over the subject lands which included the following:

- a preliminary ecological investigation undertaken over the broader Mt Gilead property by ELA in 2005 (ELA Due diligence assessment of Mt Gilead for Australand (ELA 2006) (see **Annexure C**);
- a detailed ecological assessment as part of the rezoning application in 2013 (ELA Ecological Assessment Report for the rezoning proposal ELA 2014)) (see **Annexure D**) (with the LEP being amended in September 2017); and
- the biocertification assessment between 2014 and 2016 (prepared in accordance with the Biocertification Assessment Methodology (BCAM) (ELA Final Biocertification Assessment Report and Strategy 2018)) (see **Annexure E)**).

As outlined on page 7 of the BCA, the BCA was entered into under section 126ZH of the *Threatened Species Conversation Act 1995* (**TSC Act**) after its repeal and replacement by the *Biodiversity Conservation Act 2016* (**BC Act**), but in relation to an application for biodiversity certification to which clause 37 of the *Biodiversity*

Conservation (Savings and Transitional) Regulation 2017 (**Regulation**) applies. By operation of section 40 of the Regulation, the BCA is taken to be a biodiversity certification agreement entered into under the BC Act.

Similarly, the conferral of biodiversity certification of the Mt Gilead Site on 5 July 2019 was made under section 126H of the TSC Act in relation to an application for biodiversity certification to which clause 37 of the Regulation applies. However, in accordance with clause 37(4) of the Regulation, the biodiversity certification is taken to be biodiversity certification under the BC Act.

Once land has been conferred with biodiversity certification, subsections 8.4(2) and (3) of the BC Act (which replaces Section 126I of the TSC Act) apply. They state:-

> *(2) Development (including State significant development) under Part 4 of the Planning Act An assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the Environmental Planning and Assessment Act 1979.*
>
> *(3) A consent authority, when determining a development application in relation to development on biodiversity certified land under Part 4 of the Environmental Planning and Assessment Act 1979, is not required to take into consideration the likely impact on biodiversity of the development carried out on that land.*

Accordingly, CCC is not in my view required to take into consideration the impacts on biodiversity of the works proposed on the DA Site. "Biodiversity" in my view includes both flora and fauna, and as such, subsections 8.4(2) and (3) relieve CCC from being required to consider the following matters for the purposes of Part 4 of the *Environmental Planning and Assessment Act 1979* (**EPA Act**):

- the likely impact on biodiversity on the DA Site of tree removal (including the cultural and aesthetic impacts of tree removal);
- the likely impact on biodiversity on the DA Site of bulk earthworks;
- the likely impact of the proposed DA works on koalas.

It also follows in my view that by operation of subsections 8.4(2) and (3) of the BC Act, CCC is not obliged to separately consider the provisions of the *State Environmental Planning Policy (Koala Habitat Protection) 2019.*

For clarity, sections 8.4 (2) and (3) do not relieve Lendlease of its obligations under the BCA and the conferral of biodiversity certification, and it must ensure that the works proposed under the DA comply with all applicable requirements of the BCA and the conditions of biodiversity certification.

Notwithstanding my view above, for abundant caution and to ensure that CCC has been provided with sufficient material so it may take into consideration all matters it considers relevant in assessing the DA, this report provides an outline of the matters addressed as part of the biodiversity assessment process which resulted in the execution of the BCA and conferral of biodiversity certification on the Mt Gilead Site, including the likely impact on biodiversity of the development of the Mt Gilead Site as a whole, which includes the DA Site.

In my view koalas have been specifically addressed under the biocertification process as a 'species credit species' (see below) and in commitments made to reduce impacts during development (e.g. pre-clearance surveys, fencing) or after construction (e.g. management of offset areas, traffic, domestic animals etc) and any residual impacts are offset by conserving and managing koala habitat (as detailed in the BCA). This is evidenced by the following:-

- the Macarthur-Onslow and Noorumba-Gilead and Biobank sites were registered in January 2019 (BA 208 and BA 209 respectively) (see **Annexures F and G**);
- the Hillsborough Biobank site was submitted for registration in June 2020 (see **Annexure H**);

- All credits, including 434 koala species credits (150 more than required), were 'retired' in October 2019 (see **Annexure I**);
- Active management of all three Biobank sites commenced in 2018;
- The Construction Environmental Management Plan was prepared and submitted to Council in 2019 and approved in May 2020 (see **Annexure J**);
- A dam dewatering plan was prepared and submitted to Council in 2019 and approved in April 2020 (see **Annexure K**);

Further, the Commonwealth Minister for the Environment has approved the Mt Gilead project (EPBC 2015/7599) under the *Environmental Protection and Biodiversity Conservation* Act 1999 (**EPBC Act**) and a separate Koala Management Plan (ELA 2019) (see **Annexure L**) has also been prepared and approved.

Finally, this report addresses how the DA is consistent with the requirements of the Campbelltown Comprehensive Koala Plan of Management (**CCKPoM**) (Biolink 2018) (see **Annexure M**) which we understand has been approved by the Planning Secretary in accordance with Cl 14 of *State Environmental Planning Policy (Koala Habitat Protection) 2019* (**SEPP**).

Should you have any questions on this matter, please contact me on (02) 8536 8620.

Yours sincerely

Robert Humphries

Senior Environmental Scientist, Eco Logical Australia

Land subject to the DA

The land that is subject to the DA comprises parts of Lots 1-5 DP 1240836 and part Lot 61 in DP (Figure 1) and has a frontage of over 2.2km to the western side of Appin Road. Combined, the site has an area of 216 ha and an irregular wedge shape as shown in **Figure 2** and is wholly contained in the Campbelltown LGA.

The DA seeks, amongst other things, approval to remove trees and vegetation on the DA Site. As outlined above, the DA Site is part of the larger Mt Gilead Site which is the subject of a BCA and has been conferred with biodiversity certification under the BC Act **(Figure 1)**.

Assessment of biodiversity as part of biodiversity certification application

The biodiversity certification was granted following an application by CCC to the Minister for Energy and Environment, the preparation of which included detailed assessment of the biodiversity values of the Mt Gilead Site, including existing trees and koala habitat. See at **Annexure E** of copy of the final biodiversity certification application and accompanying reports lodged by CCC to the Minister on 31 May 2019.

In entering into the BCA, Mt Gilead and Lendlease collectively agreed to offset impacts to native vegetation by entering into Biobanking Agreements over 22.50 ha of land and retiring a specified number of biodiversity credits. The full extent of the parties' obligations under the BCA are outlined in part 4 of the BCA, enclosed at **Annexure A**.

By way of summary, the Mt Gilead Biodiversity Certification Assessment Report & Biocertification Strategy version 11 dated 2 July 2018 undertook the following assessment:

- mapping the extent and condition of all native vegetation communities, including scattered paddock trees
- targeted survey for all threatened floras and fauna species known, likely or with the potential to occur
- avoiding, minimising and mitigating direct and indirect impacts to these biodiversity values
- assessing residual impacts and providing commitments to fully offset these residual impacts consistent with the Biodiversity Certification Methodology

Assessment under State Environmental Planning Policy (Koala Habitat Protection) 2019

The SEPP commenced on 1 March 2020 and replaced *State Environmental Planning Policy No 44—Koala Habitat Protection* (**SEPP 44**). The SEPP applies to the City of Campbelltown local government area, within which the DA Site is located.

Section 8 of the SEPP says:

> *(1) This clause applies to land to which this Policy applies and to which an approved koala plan of management applies.*
>
> *(2) The council's determination of the development application must be consistent with the approved koala plan of management that applies to the land.*

The CCKPoM was lodged with the Planning Secretary for approval in 2016, and was prepared under the now repealed SEPP 44.

Section 17 of the SEPP outlines that a document submitted for approval as a koala plan of management to the Planning Secretary before the commencement of the SEPP, despite the requirements in Part 3 of the SEPP in relation to koala plans of management, may be approved by the Planning Secretary as a koala plan of

management despite being prepared under SEPP 44. Section 17 confirms that on approval of the document, it is taken to be an approved koala plan of management for the purposes of the SEPP.

The Planning Secretary granted approval to the CCKPoM on 30 July 2020 and as such, it is an approved koala plan of management under the SEPP.

As such, in accordance with section 8(2) of the SEPP, I provide below an assessment of the DA against the CCKPoM.

With reference to the flowchart in Figure 6.1 of the CCPoM and in compliance with section 6.2.2(i) of the CCKPoM, by way of summary:

- the DA Site is located within the Campbelltown LGA;
- the DA Site is larger than 1 hectare;
- parts of the DA Site contains core koala habitat as mapped in Figure 5.1 of the CCKPoM and part is mapped as potential koala habitat (refer to **Figure 3**);
- the table below contains an assessment of the DA against the planning controls under section 6.4.1 of the CCKPoM;
- the DA requires removal of (P)KFTs;
- the DA is categorised as a 'major development' under the CCKPoM as it requires the removal of > 3 Preferred Koala Feed Trees (P)KFTs for each assessable land to which the DA relates;
- the table below contains an assessment of compensatory measures as required under Part 7 of the CCKPoM (delivered by way of the BCA, which is explored further below); and
- this report demonstrates consistency with the provisions of the CCKPoM, and will be lodged with CCC for assessment.

In addition to the above, the below table addresses other relevant clauses in the CCKPoM.

How DA is consistent with Part 6 and 7 of the Campbelltown CKPoM

CKPoM – Part 6 Development Assessment and Control	**Comment**
6.1 Application and exclusions	The DA is not excluded by (ii) and (iii), and as such, Part 6 applies to the DA
6.2.1 Register of development	We understand that this is CCC's obligation
6.2.2 Assessment and control standards	See above summary, with details provided in this table
6.2.3 Strategic Linkage Areas	The land subject to the DA is not identified as a Strategic Linkage Area in Figure 5.3 of the CCKPoM, as such this section does not apply to the DA
6.2.4 Rezoning application	N/A
6.3.1 Vegetation Assessment Report	The biocertification assessment provides a description of each vegetation community in the DA site and a list of all species recorded in each vegetation community (refer to Appendix F and G of **Annexure E**).

	All trees on the subject site have been identified/mapped as koala habitat in the biocertification assessment (Refer to Figure 11 in ELA 2018 at Annexure E, and reproduced as **Figure 4** in this report), regardless of whether they are classified as PKFT in the CCKPoM. All trees to be impacted have been identified to species level (and whether they are a (P)KFT as defined by the CCKPoM), height and dbh recorded and Easting and Northern coordinates taken to 1m accuracy (Refer to ArborSite 2018, **Annexure N**). The number of trees classified as PKFT by CCKPoM that will be impacted (i.e. *Eucalyptus tereticornis, E. punctata, E. longifolia or E. moluccana)* is 92 (see Figure 3).
6.3.2 Koala Activity Assessment Report	Part of the DA site appears to be mapped as Potential Koala Habitat in Figure 5.1 of the CCKPoM, contains (P)KFTs as shown in **Figure 5** and thus requires a KAAR. Biolink (2018) in its South Campbelltown Koala Connectivity Study (ref to **Annexure O**), recorded evidence of Koalas at 12 of 25 Rapid_SAT sampling points, one of these positive sites was within the Mt Gilead study area (within the Hillsborough Biobank site), but not the land subject to the DA (refer to Figure 2 in **Annexure O**). Regardless, all trees on the subject site have been identified/mapped as koala habitat in the biocertification assessment.
6.4.1 Development Controls for areas mapped as core Koala habitat	Parts of the DA Site are mapped as core koala habitat in CCKPoM 2018. As such, Part 6.4 applies.
6.4.2 Retention of PKFTs and shelter trees	The DA is considered a 'Major Development' as it will result in the subdivision of land in to ≥ 3 lots and/or requires the removal of three or more PKFTs for each ha of assessable land. Assessable area is 166ha of biodiversity certified land. Number of PKFTs to be removed is 92. Number of PKFTs permitted to be removed by definition of 'Major Development' is not defined by CCKPoM.

	There are no (P)KFTs or shelter trees to be retained in the DA area, as such there are no (P)KFTs or shelter trees within the extent of works to protect in accordance with AS 4970-2009. All (P)KFTs and shelter trees that are not on land subject to the DA (i.e. within Biobank sites and retained rural land) will be protected consistent with the requirements of AS 4970-2009 (Protection of Trees on Development Sites) in accordance with the CEMP (**Annexure J)**
6.4.3 Swimming Pools	As the DA seeks consent only for tree removal and bulk earthworks, not subdivision, a condition in this regard is not appropriate at this stage.
6.4.4 Domestic Dogs	As the DA seeks consent only for tree removal and bulk earthworks, not subdivision, a condition in this regard is not appropriate at this stage.
6.4.5 Fencing	As the DA seeks consent only for tree removal and bulk earthworks, not subdivision, a condition in this regard is not appropriate at this stage.
6.4.6 Road Design	All perimeter roads around the residential development will have a maximum speed of 40kph, be accompanied by traffic calming devices, signage and have vegetation maintained along the verge (Refer to KMP ELA 2020b at **Annexure L**
6.4.7 Protection of koala from disturbance	Clearing of native vegetation will be subject to a Pre-clearance Protocol, supervised by a qualified ecologist (Refer to CEMP ELA 2020a, see **Annexure L)**. Appropriate conditions of consent should be imposed to ensure compliance with this section.
6.4.8 Planning Controls in 'potential' Koala habitat	Cl. not relevant.
6.5 Non-conforming Development	Cl. not relevant, land is not potential koala habitat (it is mapped as core habitat).
CCKPoM – Part 7 Compensation for Loss of Koala habitat	**Comment**
Context - the loss of native vegetation is listed as a Key Threatening Process (KTP) and can be a contributing factor to koala population decline. For koalas, a number of issues arise with regard to	

compensating for habitat losses arising from development:	
1. compensatory plantings take time before they can provide the equivalent food resource that the removed trees provided	10.79 ha of potential and core koala habitat impacted. 22.30 ha of koala habitat to be permanently protected in 3 registered Biobank sites on-site (16.60 existing habitat to be enhanced and 5.70 ha to be restored in accordance with BCA, see **Annexures F, G & H**). Additional 42.40 ha of existing koala habitat secured by purchase of 301 species credits from Noorumba Reserve and S32 Biobank sites where habitat will be enhanced through active conservation management (refer to **Figure 6**). Total koala habitat protected and managed for conservation (64.70 ha).
2. proposals for compensatory plantings may not necessarily be in the most appropriate location in terms of longer-term koala management objectives	CCKPoM does not identify any compensation areas to receive tree planting. Koala habitat offsets (Biobank sites) are all located in either Strategic Linkage Areas or mapped primary koala corridors that link the Georges River and Nepean River catchments and thus are consistent with strategic regional priorities.
3. compensatory plantings cannot be guaranteed in perpetuity, particularly if undertaken on lands that do not have a secure conservation tenure	The offsets are guaranteed in perpetuity in the form of registered biobanks which provide funding (held in a Trust Account) and annual reporting requirements to ensure compliance (See **Annexures F, G & H)**.
4. there is no supervision of planting to ensure that the planting succeeds over time	Biobank sites are registered on title in perpetuity, fully funded and subject to annual audit and compliance by the NSW Biodiversity Conservation Trust which has regulatory enforcement powers to ensure that conservation commitments are met.
5. there are no standards by which compensation can be determined for the loss of habitat.	NSW has a legislated Biodiversity Offset Scheme (BOS) that is subject to a gazetted methodology/standard. The conservation strategy has been approved by the Minister for the Environment as meeting an "improve or maintain" outcome.
While controls can be put into place to attempt to address these issues, none will provide an efficient management regime to ensure the compensatory planting will be effective. If compensatory planting has to be accommodated as a last resort, then overall	The NSW Offset Scheme is a legislative and effective management regime. CCC as a party to the BCA has had input and

responsibility should be borne by a responsible authority, such as Council, to supervise such planting in the most appropriate location having regard to the requirements for koala management as set out in the Plan.	endorsed the areas for loss of Koala habitat. The NSW Biodiversity Conservation Trust has the responsibility to supervise the performance of the offset areas and regulatory enforcement powers to rectify any non-compliance.
Overall objective: to provide a standardised approach to the compensation and offsetting of koala habitat loss with a transparent assessment process that enables loss to be quantified; and to belatedly provide a mechanism for effectively resourcing koala habitat rehabilitation and regeneration programs.	The NSW BOS is a legislated, standardised approach to compensation and offsetting of koala habitat loss.

Part 7.1 Major Development	
Major development *means a DA that relates to the subdivision of a single lot of land into ≥ three lots, and/or requires the removal of > three (P)KFTs for each assessable land to which the DA relates.*	
CKPoM – Part 7.1	**Comment**
(i) This section applies to any DA that relates to the subdivision of land into ≥ three lots, and/or requires the removal of three or more (P)KFTs for each hectare of assessable land.	Part 7.1 applies as greater than three PKFTs are proposed to be removed.
(ii) Where a proponent chooses to seek the removal of (P)KFTs or shelter trees in accordance with a DA, provision must be made to compensate for the loss of the associated habitat.	Compensatory measures for impacted habitat has been provided in the executed BCA (see **Annexure A**) 22.30 ha of koala habitat to be permanently protected in 3 registered Biobank sites on-site (16.60 existing habitat to be enhanced and 5.70 ha to be restored in accordance with BCA. Additional 42.40 ha of existing koala habitat secured by purchase of 301 species credits from Noorumba Reserve and S32 Biobank sites where habitat will be enhanced through active conservation management. Total koala habitat protected and managed for conservation (64.70 ha).
(iii) To ensure that the provision of compensation is: • equivalent to the importance of habitat being removed • geographically appropriate so as to contribute to the long- term conservation and viability of	Conservation areas are located in Strategic Areas and are of greater importance and are more geographically appropriate than the scattered paddock trees proposed to be removed.

Campbelltown's koalas	
the proponent shall agree to either, at the applicants expense: a) to enter into a legally binding agreement with Council to make a monetary contribution towards the Koala Habitat Rehabilitation Program detailed in Part 8 of the Plan, or b) to enter into a legally binding agreement with Council to undertake rehabilitation works in areas identified by the Koala Rehabilitation Program detailed in Part 8 of the Plan This will include payment of a Compensation Guarantee in the form of a Bank Bond which will be released once the required works have been implemented in accord with the agreement. The purpose of a Compensatory Guarantee is to allow Council to implement the required works in the event that the proponent is unable or unwilling to comply.	The proponent and Council have entered in to a legally binding BCA between the Minister administrating the *Threatened Species Conservation Act 1995* (NSW), Lendlease, Mt Gilead Pty Limited and Campbelltown City Council, which is registered on the land title and outlines the required compensatory measures, the responsible parties and timing to secure. A copy of the BCA is enclosed at **Annexure A**. All requirements in the BCA (registration of three Biobank areas, retirement of credits, commencement of annual active conservation management) have been met (Refer **Annexures F, G, H, I, J, K** and **L)**.
(iv) The amount of the monies referred to in 7.1(iii)(a-b) above will be based on the value of the required 'compensation units' (CU) (for every cm of DBH or part thereof) arising from the total number and size of (P)KFTs and shelter trees that will be removed, as follows:	The amount of monies committed and already payed to secure and manage the Biobank areas and retire koala species credits is $2.378M, pursuant to the BCA
(a) Small (DBH < 100mm) 8 CU/mm of DBH (b) Medium (DBH >100<300mm) 15 CU/mm of DBH (c) Large (DBH > 300mm) 25 CU/mm of DBH	The comparable value of compensation monies for the removal of 92 PKFTs is: $1,837,240 while the funds committed to conservation under the biobanking agreements is in excess of $2,378,000.
(v) The value of a CU as at the date of commencement of the Plan is $1.00, this value to be adjusted annually using the CPI increase for the 12 months prior to the review date.	Noted
(vi) Council must establish a special trust fund into which the monetary amount determined as compensation for the purposes of 7.1(iii)(a) above can be placed, and from which only habitat rehabilitation or regeneration works identified through the provisions of Part 8 of the Plan can be funded.	The $2.378M of biobank management funds are held by the NSW Biodiversity Conservation Trust.

Part 7.2 Minor Development

Minor development *means a DA that relates to construction of a single residential dwelling, and/ or the subdivision of land into ≤ two lots, and/or requires the removal of no more than two (P)KFTs for each hectare of assessable land to which the DA relates.*

Not Applicable

Part 7.3 Compensatory planting locations

CKPoM – Part 7.3	Comment
(i) Nothing in this Part prohibits the proponent from undertaking compensatory plantings and/or habitat rehabilitation measures on lands being the subject of the DA. However, such an action cannot otherwise be used to discount the obligations of the proponent for the purposes of this Part unless both:	Noted
a) an agreement as outlined in 7.1(iii)(b) above is in place, requiring both a caveat being placed on the property and payment of a Conservation Guarantee	The BCA is a legally binding document gazetted through the NSW Parliament and registered on the title of the DA Site.
(b) the proponent develops a Vegetation Management Plan (VMP) that meets the requirements set out in Council's VMP Guidelines, 2016; adequately addresses 8.1(v); and is formally approved by Council	The executed biobank agreements (see **Annexures F & G)** and submitted application **(Annexure H)**) include a management plan for the management of each biobank site and are fully funded in perpetuity and are required to be reviewed/updated every 5 years. They are functionally a VMP.
(ii) Development consent shall be conditional upon the agreement referred to in 7.3(i) above being registered and in place prior to issuing of a CC; and be subject to random audits.	BCA was executed on 28 June 2019 and thus was in place prior to the issuing of an construction certificate for the DA Site. The affected parties are required to meet their respective commitments in the BCA. The Biobank sites are subject to annual and random audit and compliance checks, in perpetuity. Given the above, adequate controls are in place to ensure the conservation outcomes are secured.

Whilst it is my view that the DA is not required to address the requirements of the CCKPoM as the land has been biodiversity certified, the assesments of impacts to koala habitat has been comprehensive and is consistent with the requirements of the CCKPoM.

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Arborsafe 2017 Tree Assessment Report , Mt Gilead, Appin Road, Mt Gilead– November 2017. Report prepared for Lendlease NSW Communities

Biolink 2018a. Campbelltown Comprehensive Koala Plan on Management. Prepared by Biolink for Campbelltown City Council (revised draft), September 2018.

Biolink 2018b. South Campbelltown Koala Habitat Connectivity Study. Final report to Campbelltown City Council, updated April 2018.

Eco Logical Australia (ELA) 2006. Mt Gilead Flora and Fauna Assessment Stage 2. Report prepared for Australand, May 2006.

Eco Logical Australia (ELA) 2014. *Mt Gilead Rezoning: Ecological Assessment*. Report prepared for Mt Gilead Pty Ltd and S & A Dzwonnik.

Eco Logical Australia (ELA) 2018a. *Biobank Agreement Credit Assessment Report – Macarthur-Onslow Mt Gilead Biobank Site*. Report prepared for Mt Gilead Pty Ltd, April 2018.

Eco Logical Australia (ELA) 2018b. *Biobank Agreement Credit Assessment Report – Noorumba-Mt Gilead-Biobank Site*. Report prepared for Mt Gilead Pty Ltd, April 2018.

Eco Logical Australia 2018c. Biodiversity Certification Assessment & Biocertification Strategy (ELA 2018) for the planning proposal at Appin Road, Gilead. Report prepared for Mt Gilead Pty Ltd and MR & Mrs Dzwonnik, dated 2 July 2018.

Eco Logical Australia (ELA) 2018d. Mt Gilead Residential Development. EPBC Preliminary Documentation Assessment Report (EPBC 2015/7599). Final Proposed Action. Report prepared for Lendlease Communities (Mt Gilead) Pty Ltd, August 2018.

Eco Logical Australia 2019 Mount Gilead Residential Development - Koala Management Plan. Report prepared for Lendlease Communities (Mt Gilead) Pty Limited, dated November 2019

Eco Logical Australia (ELA) 2020a. *Biobank Agreement Credit Assessment Report – Hillsborough Biobank Site*. Report prepared for Lendlease Communities (Mt Gilead No. 3) Pty Limited, dated June 2020.

Eco Logical Australia (ELA) 2020b. Mount Gilead Construction Environmental Management Plan. Prepared to meet the Statement of Developer Commitments in the Mt Gilead Biodiversity Certification Agreement. Report prepared for Lendlease Communities (Figtree Hill) Pty Limited, dated May 2020.

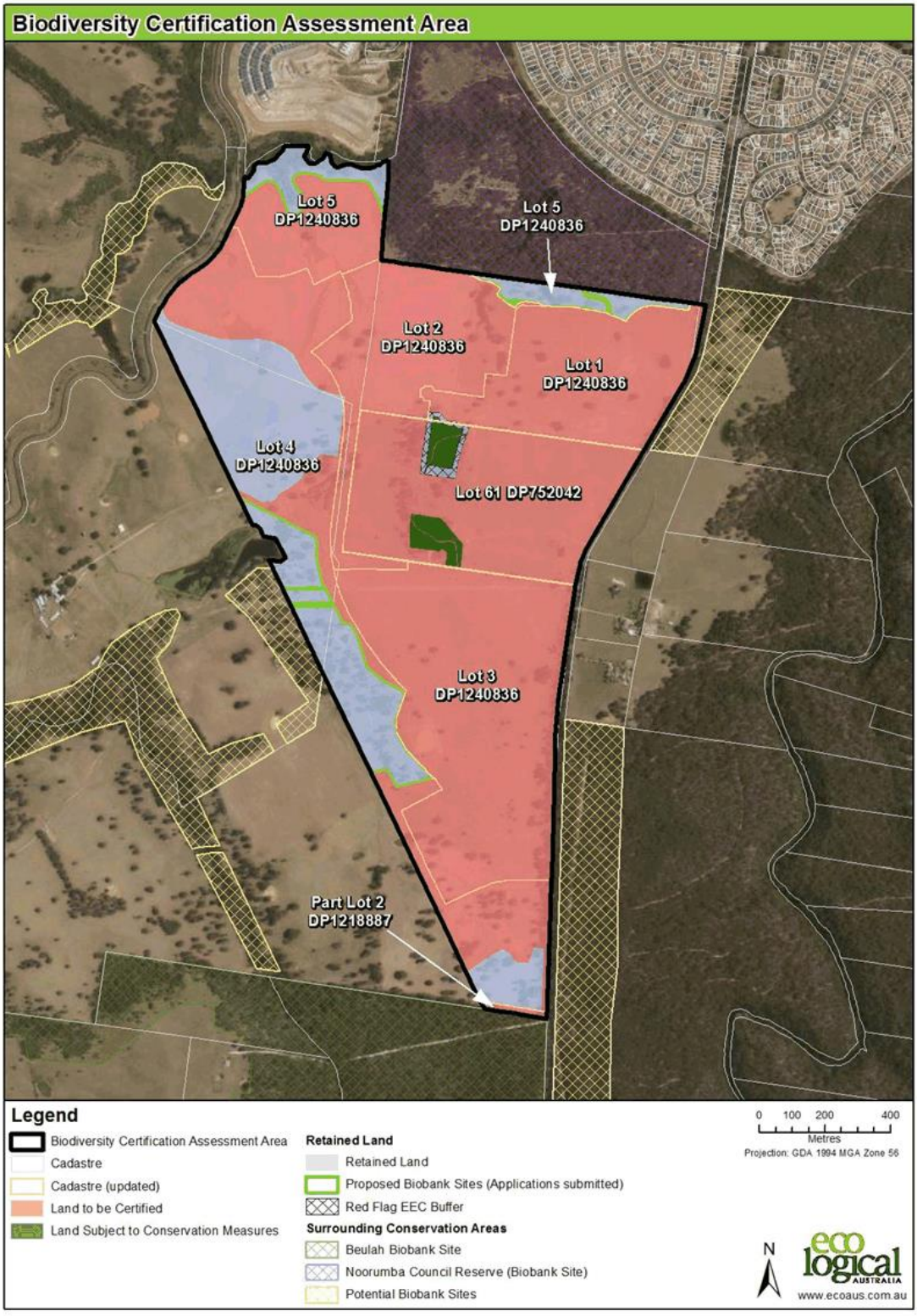

Figure 1: Extent of Biodiversity Certified land within the Biodiversity Certification Assessment Area

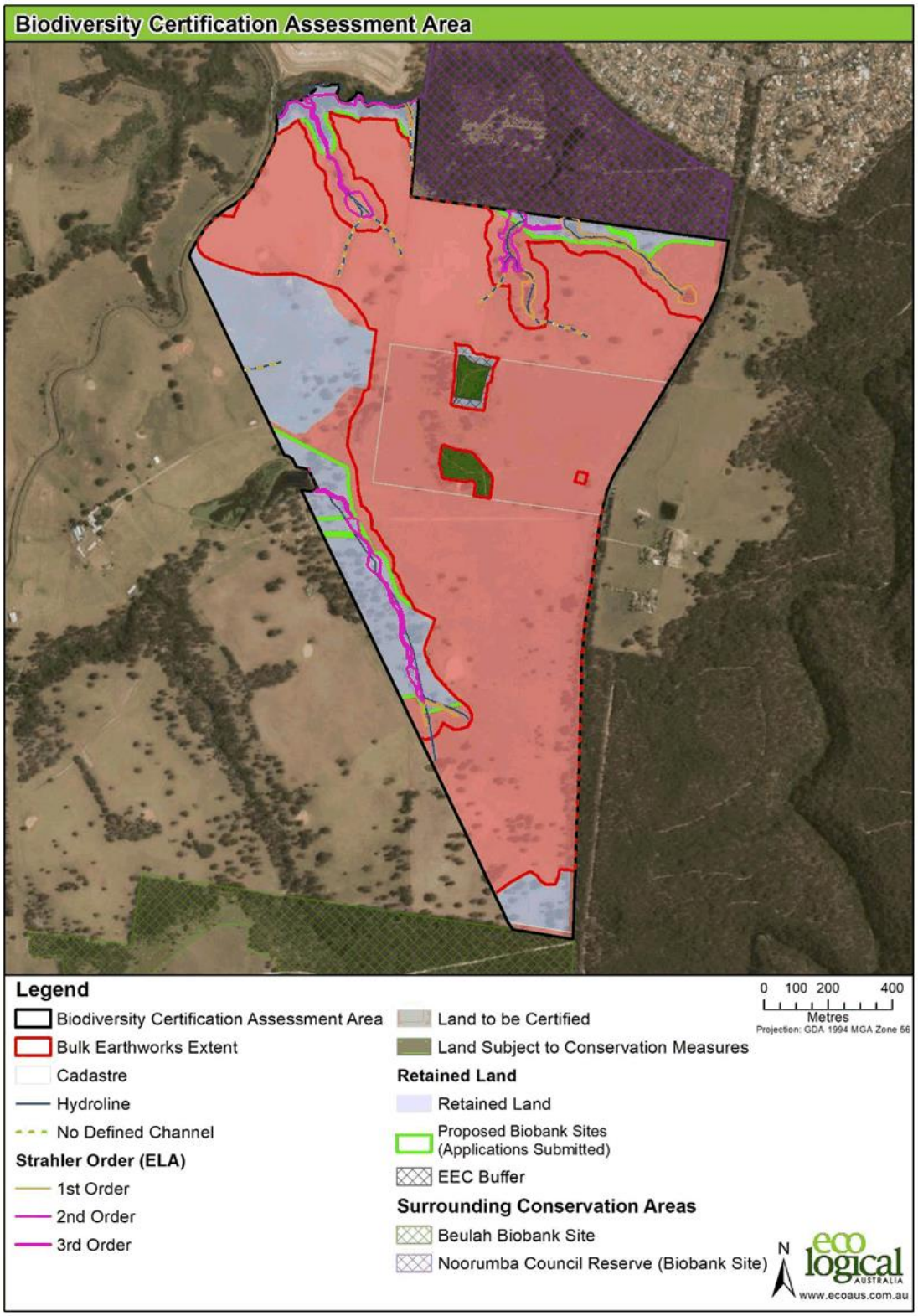

Figure 2: Boundaries of proposed bulk earth works DA in relation to proposed biodiversity certified land

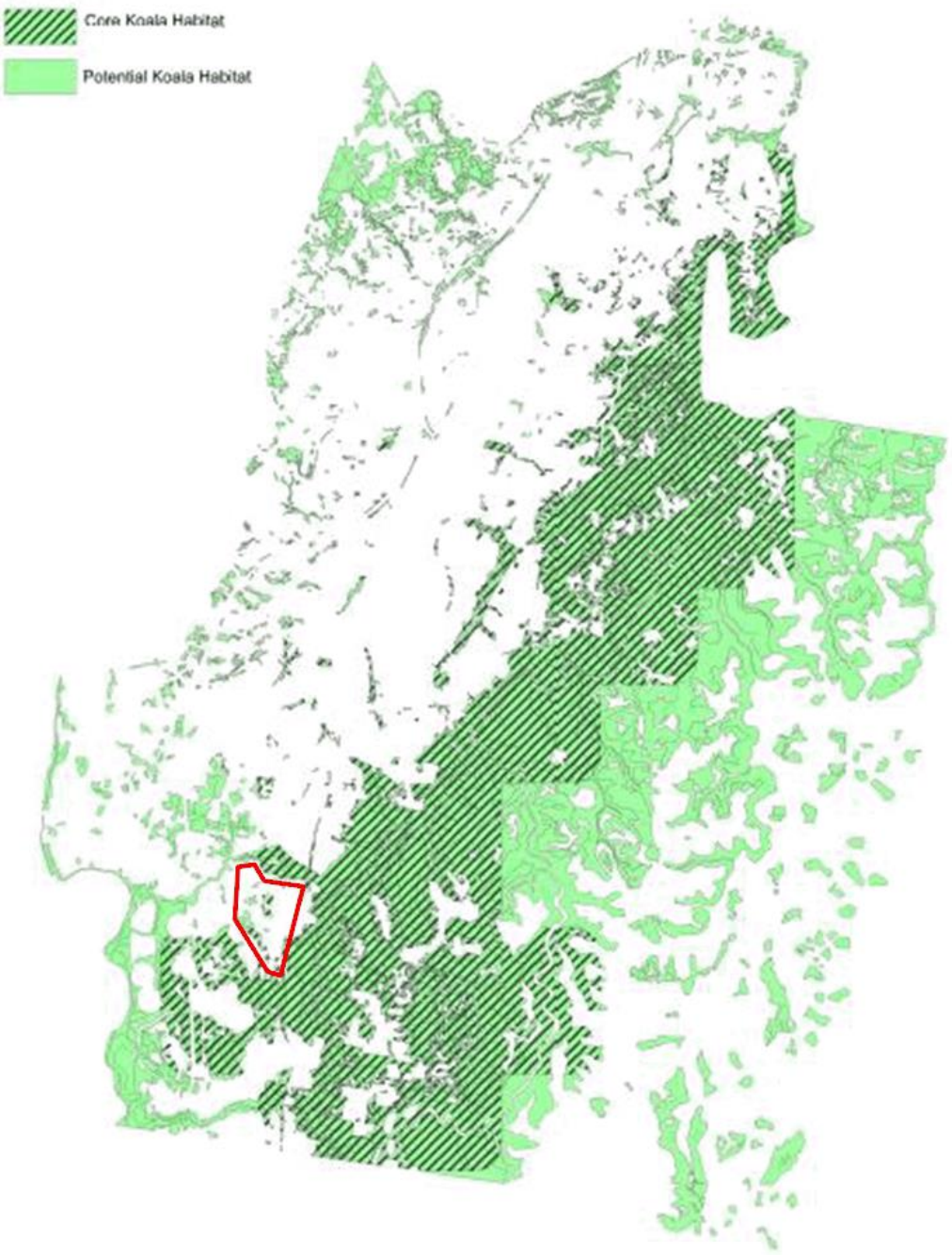

Figure 3: Extent of mapped potential and core koala habitat in the study area from Fig 5.1 of the CCKPoM

Approximate study area shown in red

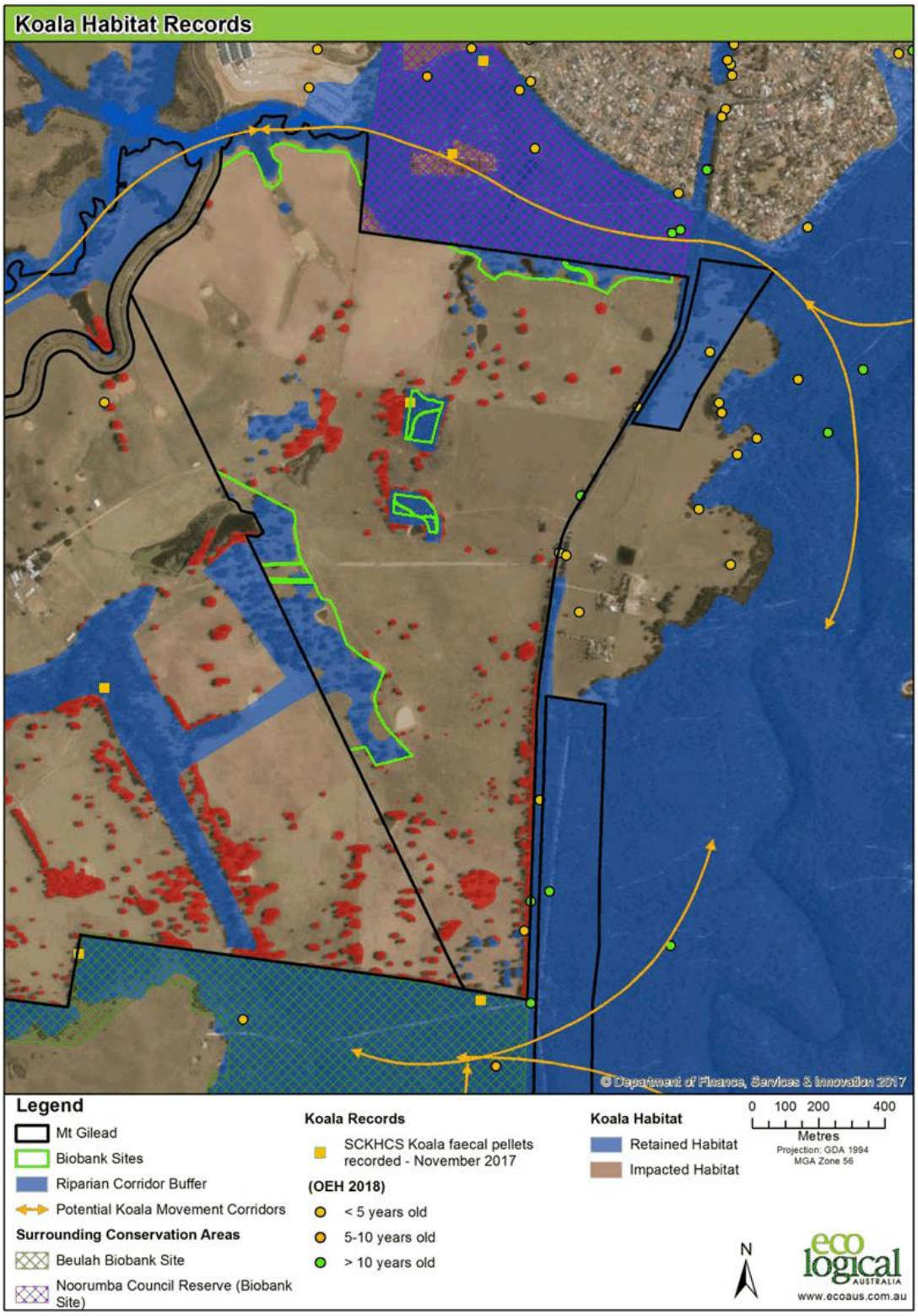

Figure 4: Koala habitat impacted and retained in study area

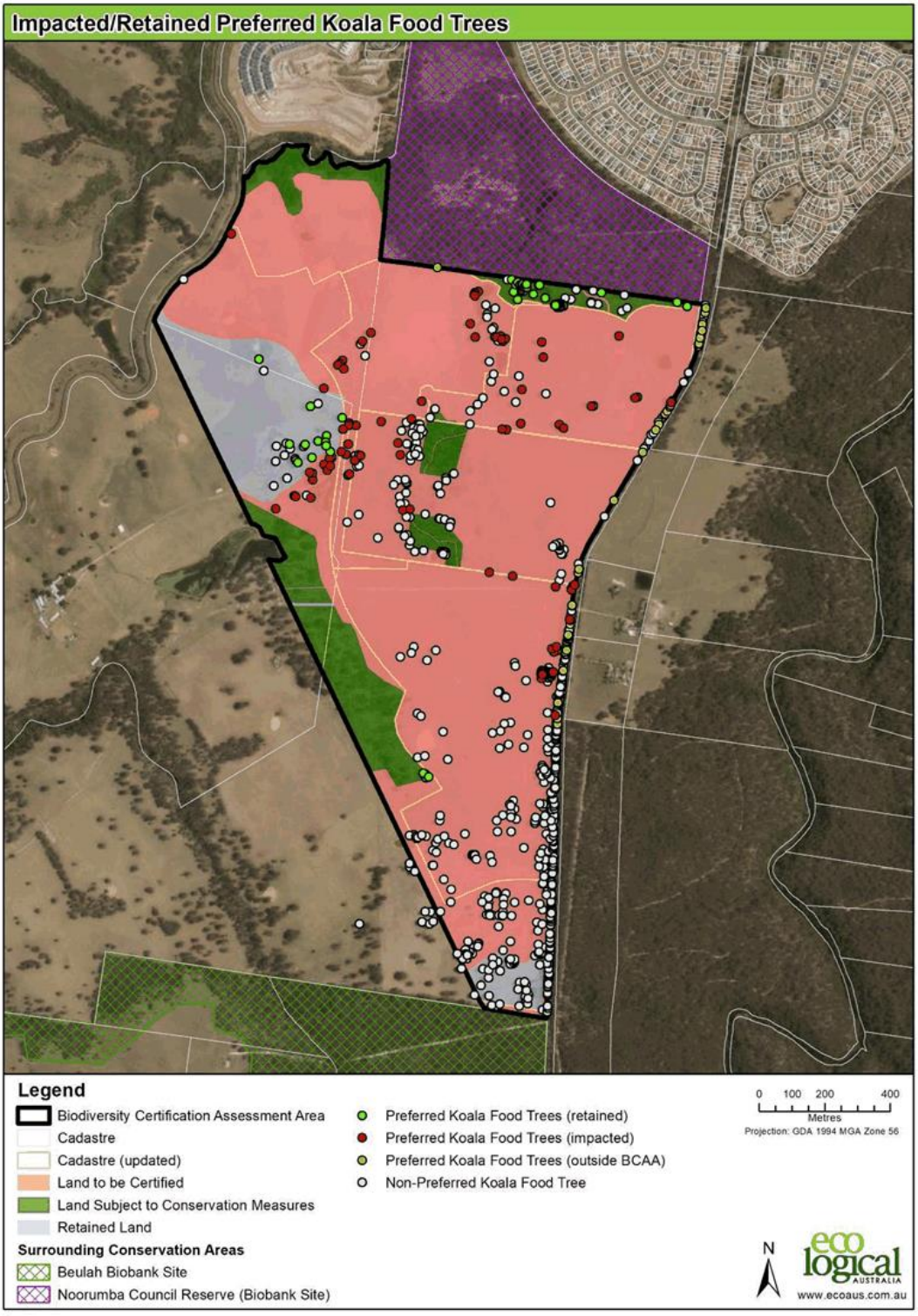

Figure 5: Location of PKFTs to be impacted and retained within the study area

Note: No. of PKFTs conserved within the 22.50 ha of Biobank sites not shown.

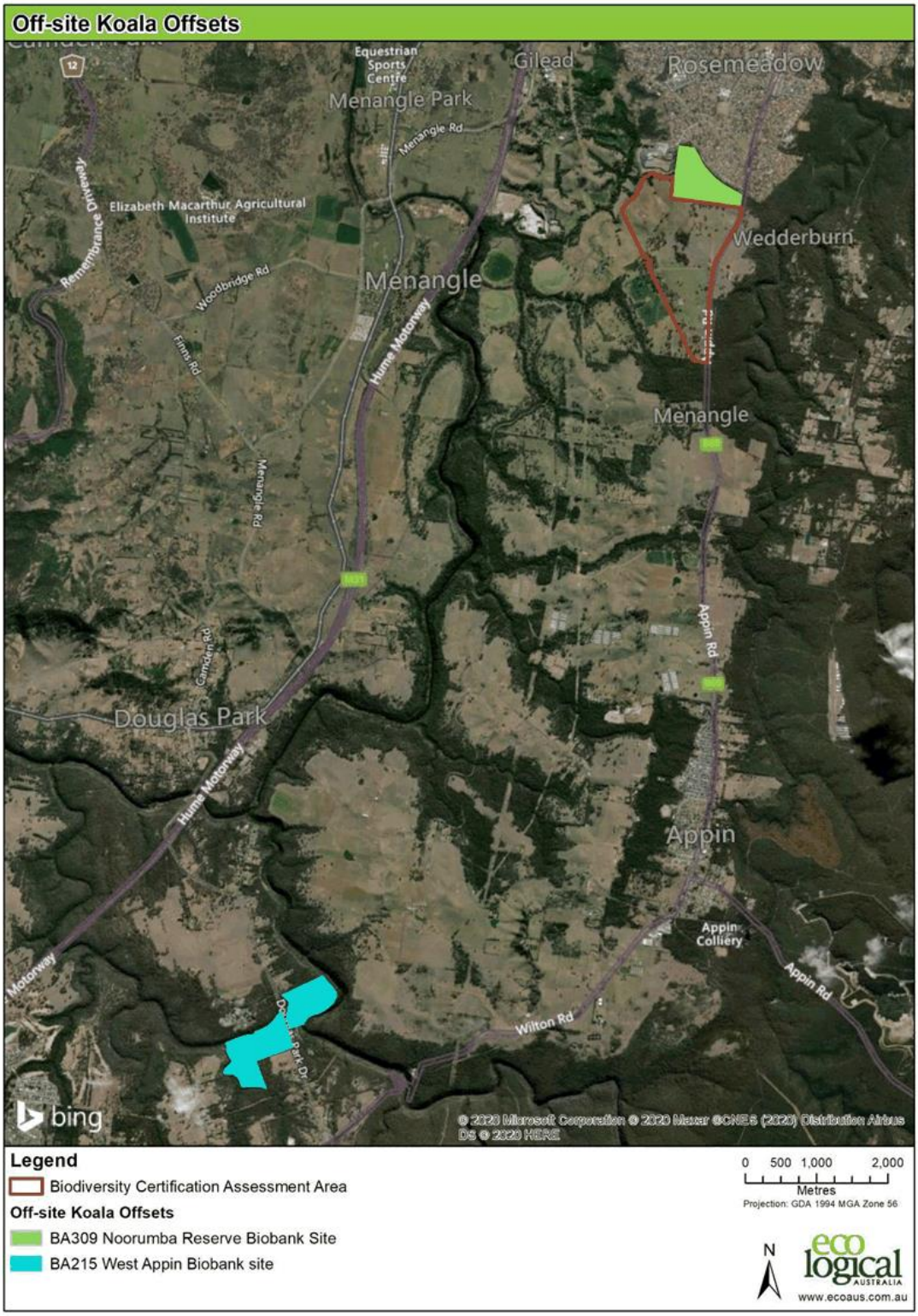

Figure 6: Location of off-site Koala Offsets (part of the Koala offset package)

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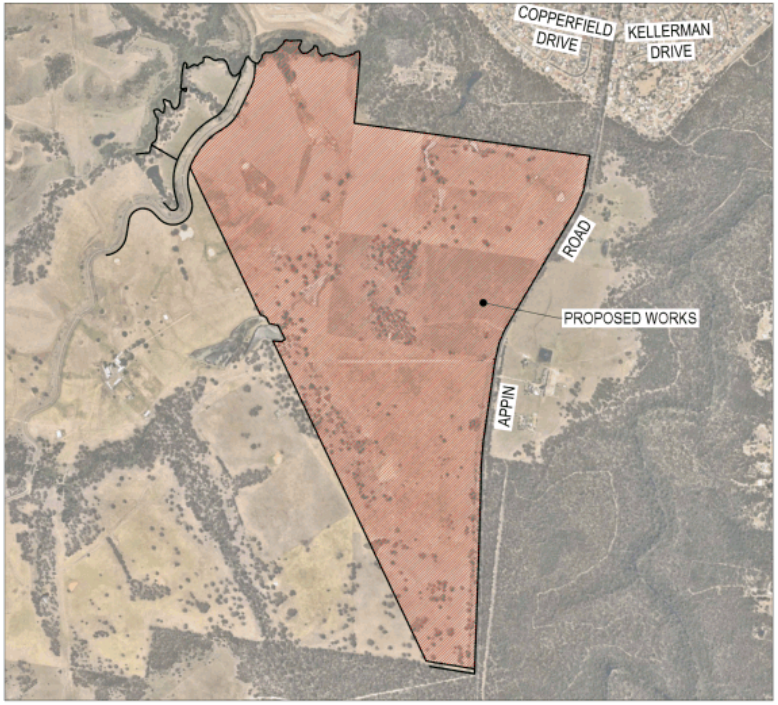
LENDLEASE COMMUNITIES

FIGTREE HILL
MDP BULK EARTHWORKS
DEVELOPMENT APPLICATION/CONSTRUCTION CERTIFICATE



LOCALITY PLAN
N.T.S

NORTH

lendlease

FIGTREE HILL

Rev.	Date	Description	Des	Vert	Appd
5	20/07/2020	ISSUE FOR DA/CC	DB	SH	RA
4	06/08/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	RA
3	29/01/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	LC
2	04/08/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	LC
1	18/08/2017	ISSUE FOR CLIENT REVIEW	DB		

Drawn	AR	23/05/2017
Checked	SH	04/09/2017
Designed	DB	23/05/2017
Verified	SH	04/09/2017
Approved	LC	04/09/2017

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Scale	Size
AHD	NTS	A1

Drawing Number: 80216021-100-1000
Revision: 5

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
802160021-100-1000	TITLE SHEET
802160021-100-1001	DRAWING LIST
802160021-100-1002	GENERAL NOTES AND LEGENDS
802160021-100-1005	GENERAL ARRANGEMENT PLAN
802160021-100-1010	CUT AND FILL PLAN SHEET 1 OF 2
802160021-100-1011	CUT AND FILL PLAN SHEET 2 OF 2
802160021-100-1051	CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 1
802160021-100-1052	CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 2
802160021-100-1053	CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 3
802160021-100-1054	CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 4
802160021-100-1055	SEDIMENT & EROSION CONTROL DETAILS
802160021-100-1056	SEDIMENT BASIN CALCULATIONS
802160021-100-1200	BULK EARTHWORKS PLAN SHEET 1 OF 27
802160021-100-1201	BULK EARTHWORKS PLAN SHEET 2 OF 27
802160021-100-1202	BULK EARTHWORKS PLAN SHEET 3 OF 27
802160021-100-1203	BULK EARTHWORKS PLAN SHEET 4 OF 27
802160021-100-1204	BULK EARTHWORKS PLAN SHEET 5 OF 27
802160021-100-1205	BULK EARTHWORKS PLAN SHEET 6 OF 27
802160021-100-1206	BULK EARTHWORKS PLAN SHEET 7 OF 27
802160021-100-1207	BULK EARTHWORKS PLAN SHEET 8 OF 27
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802160021-100-1225	BULK EARTHWORKS PLAN SHEET 26 OF 27
802160021-100-1226	BULK EARTHWORKS PLAN SHEET 27 OF 27

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Drawn	Date
AR	13/07/2017
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Approved	
LC	04/08/2017

Client: LENDLEASE COMMUNITIES
Project: PIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
Title: DRAWING LIST

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum: AHD | Scale: NTS | Size: A1
Drawing Number: 80216021-100-1001
Revision: 4

Rev	Date	Description	Des	Verif	Appd
4	25/07/2018	ISSUE FOR DA/CC	DB	EH	AA
3	30/01/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	EH	LC
2	04/08/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	EH	LC
1	18/06/2017	ISSUE FOR CLIENT REVIEW	DB	EH	LC

DATE PLOTTED: 24 JUL 2018 12:14 PM BY DAVID BAILI

SITEWORKS NOTES

1. ORIGIN OF LEVELS - REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO CARDNO.
3. MAKE SMOOTH CONNECTIONS WITH EXISTING WORKS.
4. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED OUT BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CARDNO, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. CARDNO DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT CARDNO. THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.
ORIGIN OF LEVELS: PM 14780 (RL 180.181 AHD)

BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES
2. STRIP TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
3. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
4. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD DRY DENSITY (AS 1289 E 5.1.1)
UNDER BUILDING SLABS ON GROUND	98%
UNDER ROADS AND CARPARKS	100%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	95%

5. FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
6. BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
7. FREQUENCY OF COMPACTION TESTING SHALL BE IN ACCORDANCE WITH COUNCIL ENGINEERING SPECIFICATIONS.
8. FILLING TO BE PLACED IN MAXIMUM 250mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED.
9. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF THE SUPERINTENDENT AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.
10. BULK EARTHWORKS TO BE BE WITHIN (+0,-100mm) OF DESIGN LEVELS SHOWN ON THESE DRAWINGS.
11. WORKS UNDERTAKEN TO BE IN ACCORDANCE WITH THE PRELIMINARY GEOTECHNICAL INVESTIGATION FOR PROPOSED RESIDENTIAL SUBDIVISION MT GILEAD ESTATE (STAGES 1-5), GILEAD. REPORT (PROJECT 78646.04) PREPARED BY DOUGLAS PARTNERS DATED OCTOBER 2016.
12. TOPSOIL TO BE STRIPPED, STOCKPILED AND STABILISED PRIOR TO BULK EARTHWORKS.

TOPSOIL DEPTH FOR FUTURE RESIDENTIAL LOTS	150mm
TOPSOIL DEPTH FOR FUTURE VERGES	200mm
TOPSOIL DEPTH FOR FUTURE PARKS AND OPEN SPACE	300mm

13. CONTOUR LEVELS SHOWN ARE RELEVANT TO THE FINAL DESIGN SURFACE, NOT BULK EARTHWORKS. REFER TYPICAL SECTIONS FOR DETAILS.
14. THE LOT AND ROAD GRID SHOWN HEREIN IS INDICATIVE ONLY AND IS SUBJECT TO FUTURE DEVELOPMENT APPLICATION APPROVALS.

SEDIMENT AND EROSION CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER, OFFICE OF ENVIRONMENT AND HERITAGE. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THESE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
   ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. THE CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
   a. INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   b. CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   c. INSTALL SEDIMENT BASINS AS SHOWN AND INSTALL SEDIMENT TRAPS AS SHOWN.
   d. UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED.
13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   a. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
   b. ENSURING THAT NOTHING IS NAILED TO THEM
   c. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:
   (i) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
   (ii) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
   (iii) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM

TELSTRA - DUTY OF CARE NOTE

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT.
BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION. TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

EXISTING DAM & BASINS NOTES

- REMOVE VEGETATION AND TOPSOIL FROM AROUND THE BASIN AS PART OF THE STRIPPING OPERATION.
- FLOCCULATE WATER AS REQUIRED TO ENSURE WATER QUALITY MEETS COUNCIL REQUIREMENTS.
- DEWATER THE BASIN
- REMOVE EXISTING BASIN WALL AND STOCKPILE THE WALL MATERIAL FOR REUSE.
- STRIP SILT, ORGANIC CLAY AND ANY OTHER UNSUITABLE MATERIAL AND PLACE ON STOCKPILE FOR REUSE ON SITE.
- STRIP WATER AFFECTED RESIDUAL SOIL TO A STABLE, VERY STIFF BASE TO ALLOW PROOF ROLLING AND COMMENCEMENT OF FILLING OPERATION.
- CARRY OUT FILLING OPERATION AS PER SPECIFICATION.
- THE BASIN SIDES SHALL BE BENCHED TO MAINTAIN A HEIGHT OF 600mm TO ALLOW THE FILL TO BECOME 'KEYED' INTO THE EXISTING BATTERS.
- THE SLOPE OF ANY BURIED BATTER SHOULD NOT BE LESS THAN 1m VERTICAL TO 2m HORIZONTAL.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM THE SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. CARDNO CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

PROPOSED WORKS LEGEND

- PROPOSED CONTOUR (100)
- EXISTING CONTOUR (100)
- BATTER (1V:4H UNLESS OTHERWISE SHOWN)
- LIMIT OF WORKS
- EXISTING CREEK TOP OF BANK
- TREES TO BE REMOVED
- TREES TO BE RETAINED

SEDIMENT AND EROSION CONTROL LEGEND

- TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT
- STRAW BALE SEDIMENT FILTER
- SEDIMENT FENCE
- DIVERSION BANK AND CHANNEL

Rev.	Date	Description	Des.	Vert.	Appd.
4	25/07/2020	ISSUE FOR DA/CC	DB	SH	RA
3	29/01/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	LC
2	04/09/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	LC
1	18/08/2017	ISSUE FOR CLIENT REVIEW	DB		

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Web: www.cardno.com.au

Drawn	AR	Date 12/07/2017
Checked	SH	Date 04/09/2017
Designed	DB	Date 12/07/2017
Verified	SH	Date 04/09/2017
Approved	LC	Date 04/09/2017

Client: LENDLEASE COMMUNITIES
Project: FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
Title: GENERAL NOTES AND LEGENDS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum: AHD | Scale: NTS | Size: A1
Drawing Number: 80216021-100-1002 | Revision: 4

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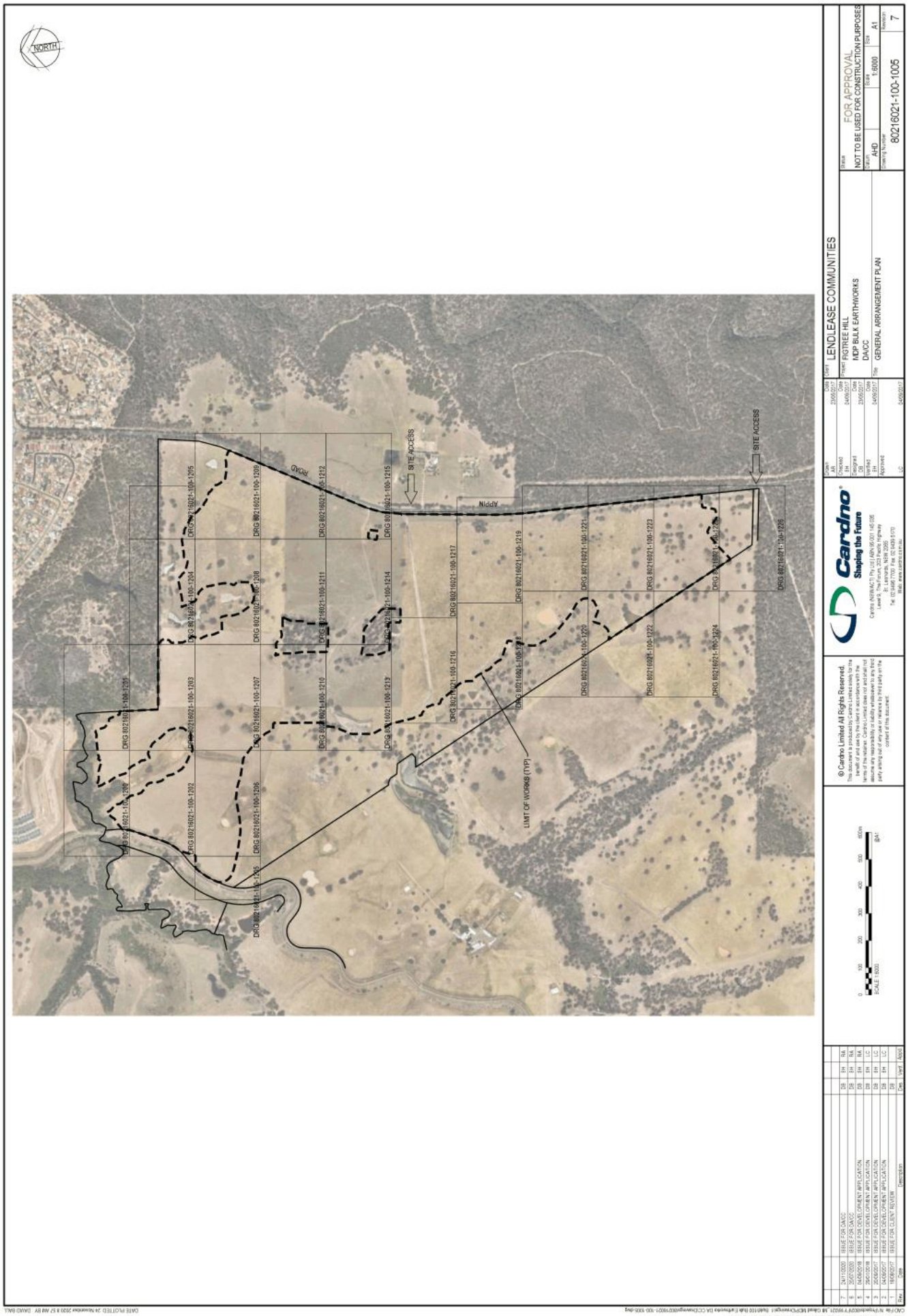
NORTH
SITE ACCESS
SITE ACCESS
LIMIT OF WORKS (TYP)
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
GENERAL ARRANGEMENT PLAN
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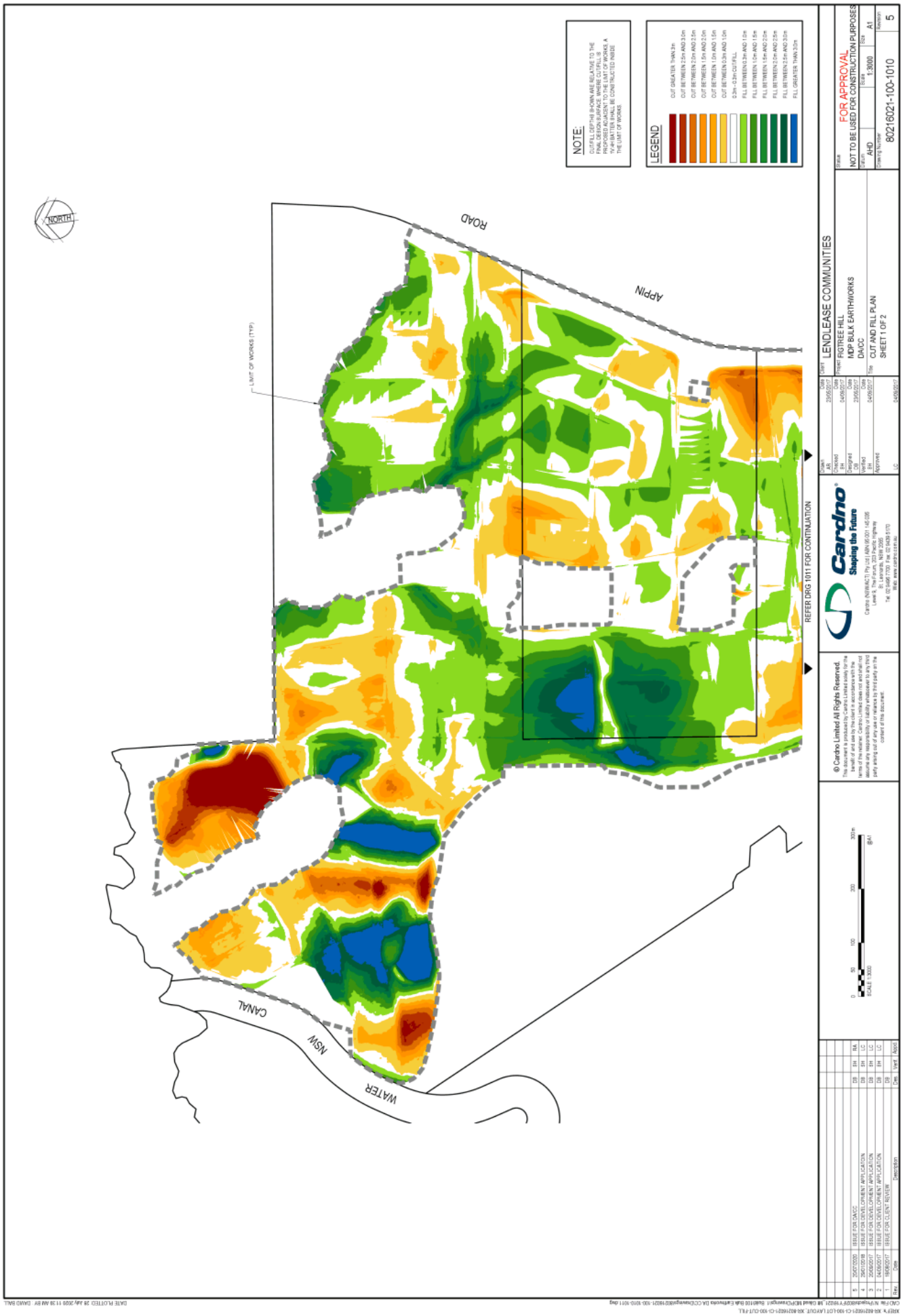
NOTE:
CUT/FILL DEPTHS SHOWN ARE RELATIVE TO THE FINAL DESIGN SURFACE. WHERE CUT/FILL IS PROPOSED ADJACENT TO EXISTING WORKS A 1V:4H BATTER SHALL BE CONSTRUCTED INSIDE THE LIMIT OF WORKS
LEGEND
CUT GREATER THAN 3m
CUT BETWEEN 2.5m AND 3.0m
CUT BETWEEN 2.0m AND 2.5m
CUT BETWEEN 1.5m AND 2.0m
CUT BETWEEN 1.0m AND 1.5m
CUT BETWEEN 0.3m AND 1.0m
0.3m - 0.3m CUT/FILL
FILL BETWEEN 0.3m AND 1.0m
FILL BETWEEN 1.0m AND 1.5m
FILL BETWEEN 1.5m AND 2.0m
FILL BETWEEN 2.0m AND 2.5m
FILL BETWEEN 2.5m AND 3.0m
FILL GREATER THAN 3.0m
NORTH
ROAD
APPIN
LIMIT OF WORKS (TYP)
REFER DRG 1011 FOR CONTINUATION
CANAL
NSW
WATER
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
CUT AND FILL PLAN
SHEET 1 OF 2
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum AHD
Scale 1:3000
Size A1
Drawing Number 802168021-100-1010
Revision 5
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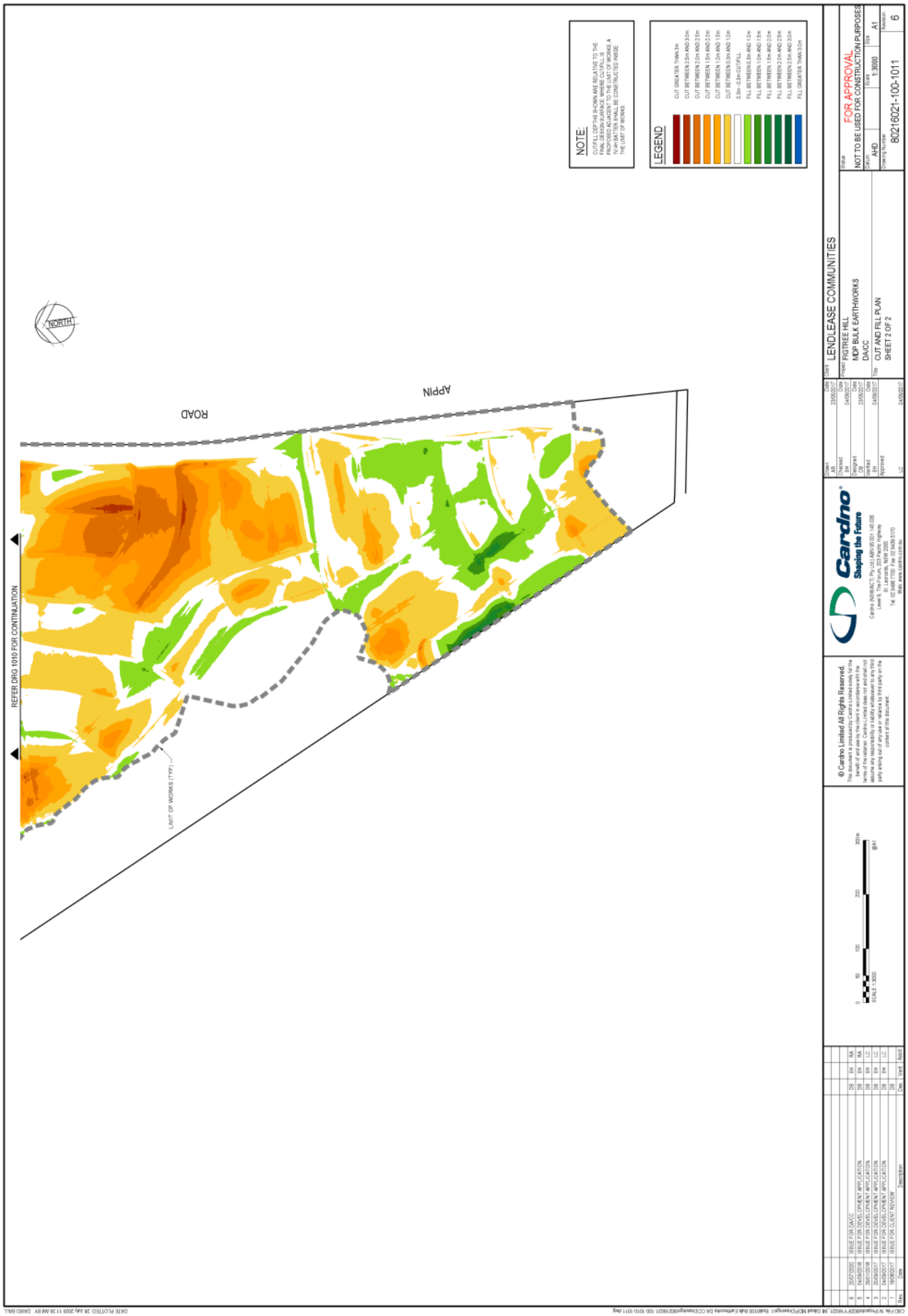
SCALE 1:3000


NOTE:
CUT/FILL DEPTHS SHOWN ARE RELATIVE TO THE FINAL DESIGN SURFACE. WHERE CUT/FILL IS PROPOSED ADJACENT TO BATTER WORKS A 1V:4H BATTER SHALL BE CONSTRUCTED INSIDE THE LIMIT OF WORKS
LEGEND
CUT GREATER THAN 3m
CUT BETWEEN 2.5m AND 3.0m
CUT BETWEEN 2.0m AND 2.5m
CUT BETWEEN 1.5m AND 2.0m
CUT BETWEEN 1.0m AND 1.5m
CUT BETWEEN 0.3m AND 1.0m
0.3m - 0.3m CUT/FILL
FILL BETWEEN 0.3m AND 1.0m
FILL BETWEEN 1.0m AND 1.5m
FILL BETWEEN 1.5m AND 2.0m
FILL BETWEEN 2.0m AND 2.5m
FILL BETWEEN 2.5m AND 3.0m
FILL GREATER THAN 3.0m
NORTH
ROAD
APPIN
REFER DRG 1010 FOR CONTINUATION
LIMIT OF WORKS (TYP.)
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
CUT AND FILL PLAN
SHEET 2 OF 2
FOR APPROVAL
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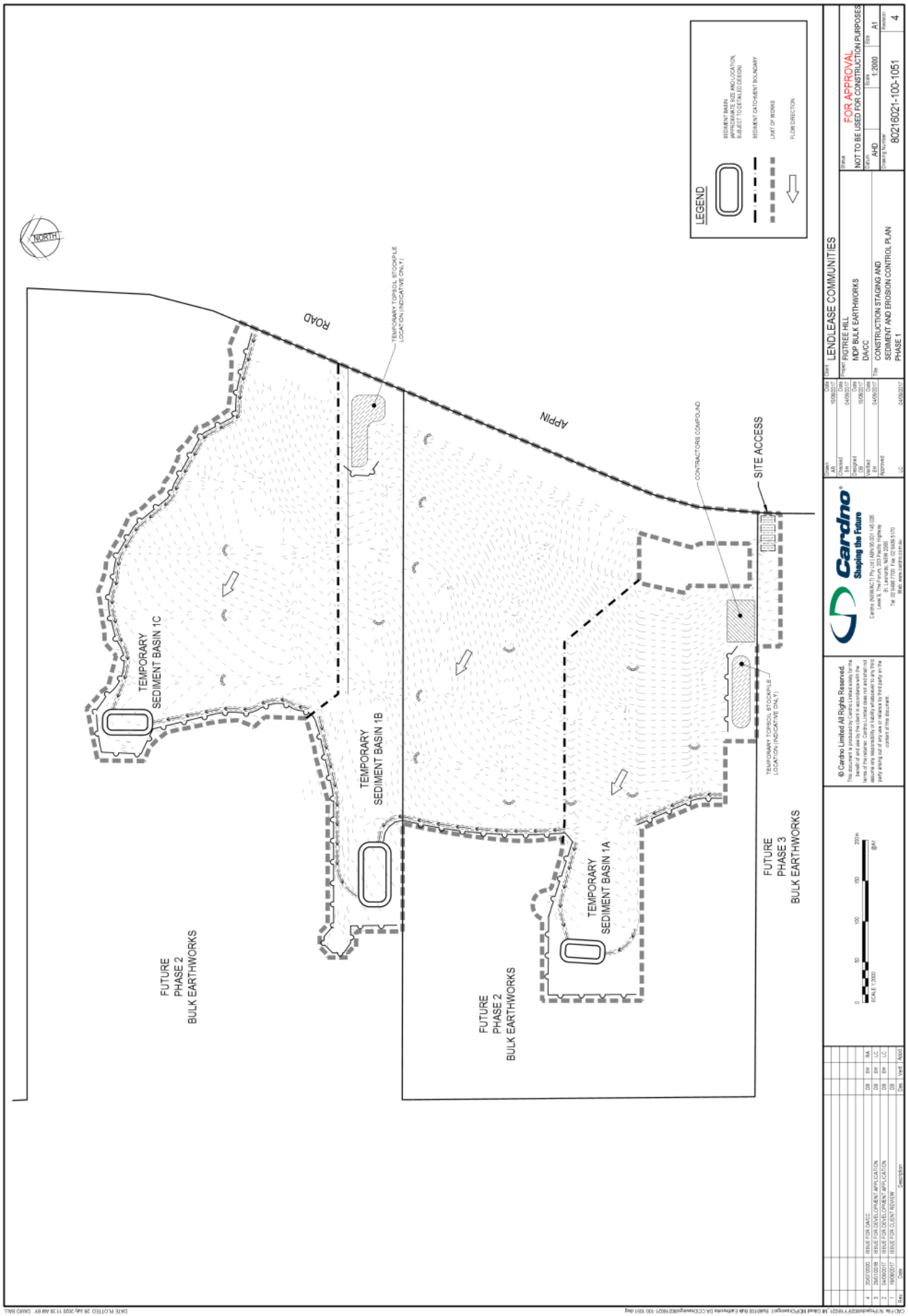
SCALE 1:3000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LEGEND
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SEDIMENT CATCHMENT BOUNDARY
LIMIT OF WORKS
FLOW DIRECTION
ROAD
APPIN
TEMPORARY TOPSOIL STOCKPILE LOCATION (INDICATIVE ONLY)
CONTRACTORS COMPOUND
SITE ACCESS
TEMPORARY SEDIMENT BASIN 1C
TEMPORARY SEDIMENT BASIN 1B
TEMPORARY SEDIMENT BASIN 1A
FUTURE PHASE 2 BULK EARTHWORKS
FUTURE PHASE 2 BULK EARTHWORKS
FUTURE PHASE 3 BULK EARTHWORKS
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 1
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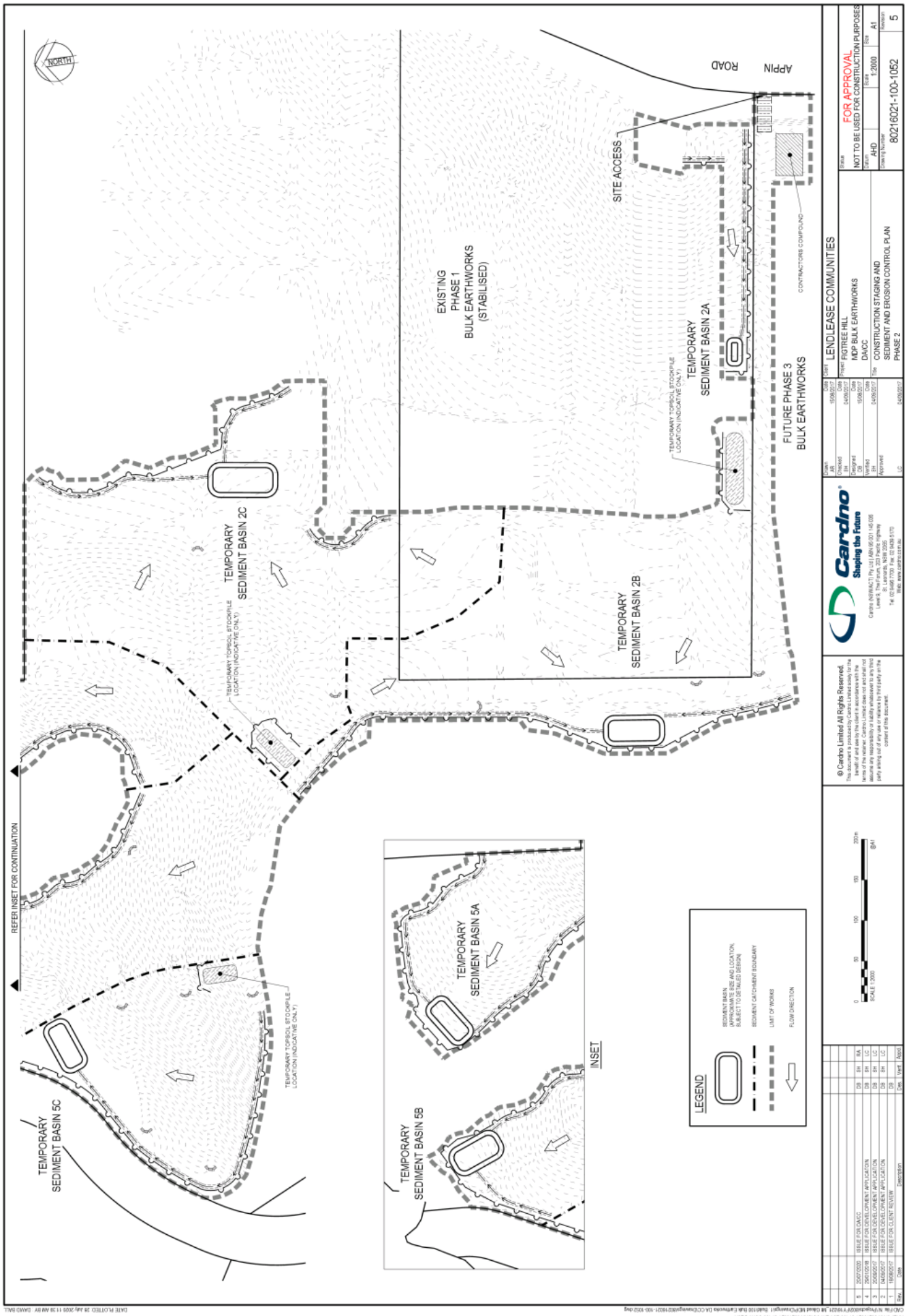
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REFER INSET FOR CONTINUATION
EXISTING PHASE 1 BULK EARTHWORKS (STABILISED)
FUTURE PHASE 3 BULK EARTHWORKS
TEMPORARY SEDIMENT BASIN 2A
TEMPORARY SEDIMENT BASIN 2B
TEMPORARY SEDIMENT BASIN 2C
TEMPORARY SEDIMENT BASIN 5A
TEMPORARY SEDIMENT BASIN 5B
TEMPORARY SEDIMENT BASIN 5C
TEMPORARY TOPSOIL STOCKPILE LOCATION (INDICATIVE ONLY)
SITE ACCESS
APPIN ROAD
CONTRACTORS COMPOUND
INSET
LEGEND
SEDIMENT BASIN (INDICATIVE SIZE AND LOCATION, SUBJECT TO DETAILED DESIGN)
SEDIMENT CATCHMENT BOUNDARY
LIMIT OF WORKS
FLOW DIRECTION
SCALE 1:2000
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 2
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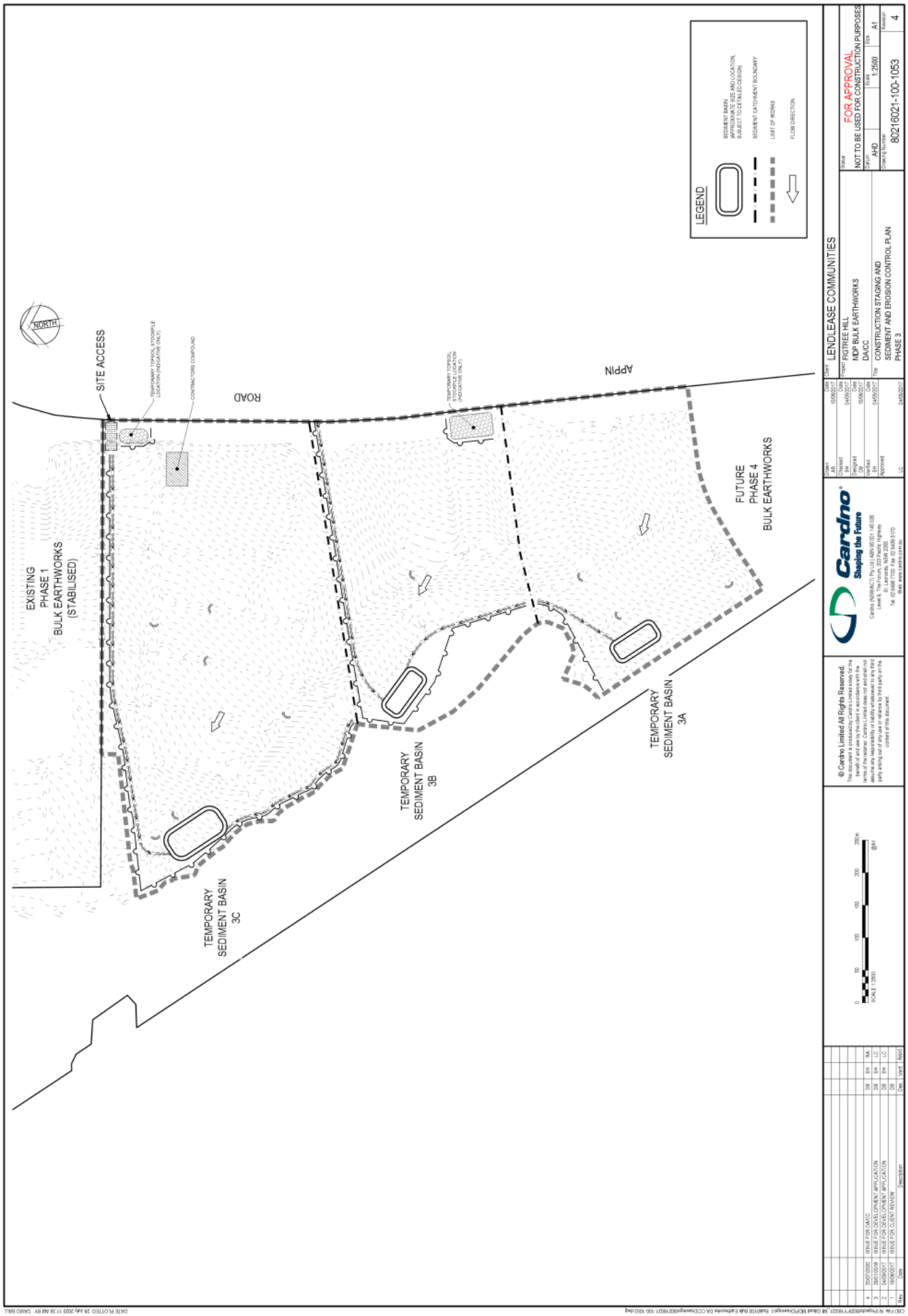
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SEDIMENT CATCHMENT BOUNDARY
LIMIT OF WORKS
FLOW DIRECTION
NORTH
SITE ACCESS
TEMPORARY TOPSOIL STOCKPILE LOCATION (INDICATIVE ONLY)
CONTRACTORS COMPOUND
ROAD
APPIN
TEMPORARY TOPSOIL STOCKPILE LOCATION (INDICATIVE ONLY)
EXISTING PHASE 1 BULK EARTHWORKS (STABILISED)
FUTURE PHASE 4 BULK EARTHWORKS
TEMPORARY SEDIMENT BASIN 3C
TEMPORARY SEDIMENT BASIN 3B
TEMPORARY SEDIMENT BASIN 3A
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
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ISSUE FOR DA/CC
ISSUE FOR DEVELOPMENT APPLICATION
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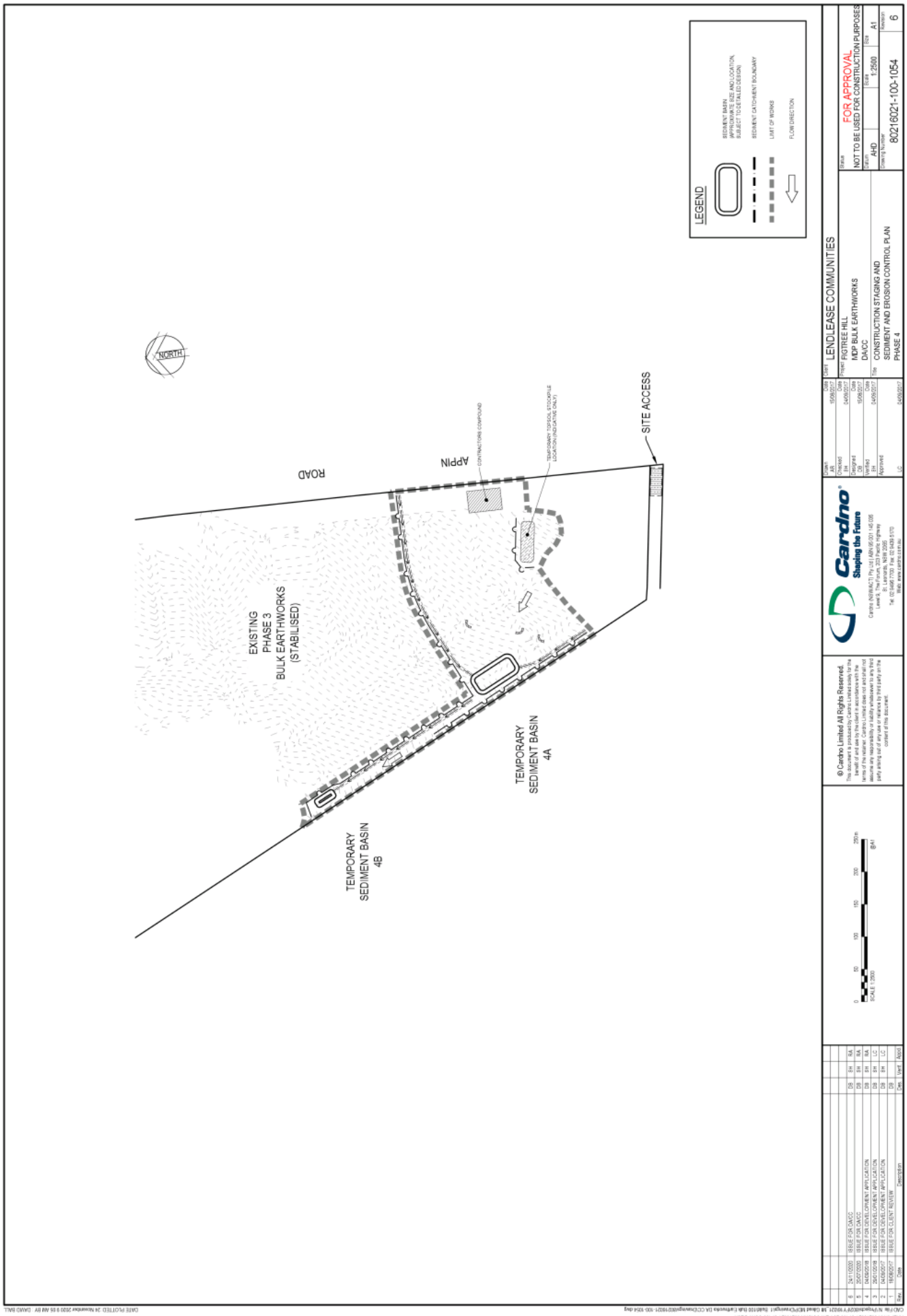
ISSUE FOR CLIENT REVIEW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SEDIMENT CATCHMENT BOUNDARY
LIMIT OF WORKS
FLOW DIRECTION
NORTH
ROAD
APPIN
CONTRACTORS COMPOUND
TEMPORARY TOPSOIL STOCKPILE LOCATION (INDICATIVE ONLY)
SITE ACCESS
EXISTING PHASE 3 BULK EARTHWORKS (STABILISED)
TEMPORARY SEDIMENT BASIN 4A
TEMPORARY SEDIMENT BASIN 4B
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
CONSTRUCTION STAGING AND SEDIMENT AND EROSION CONTROL PLAN PHASE 4
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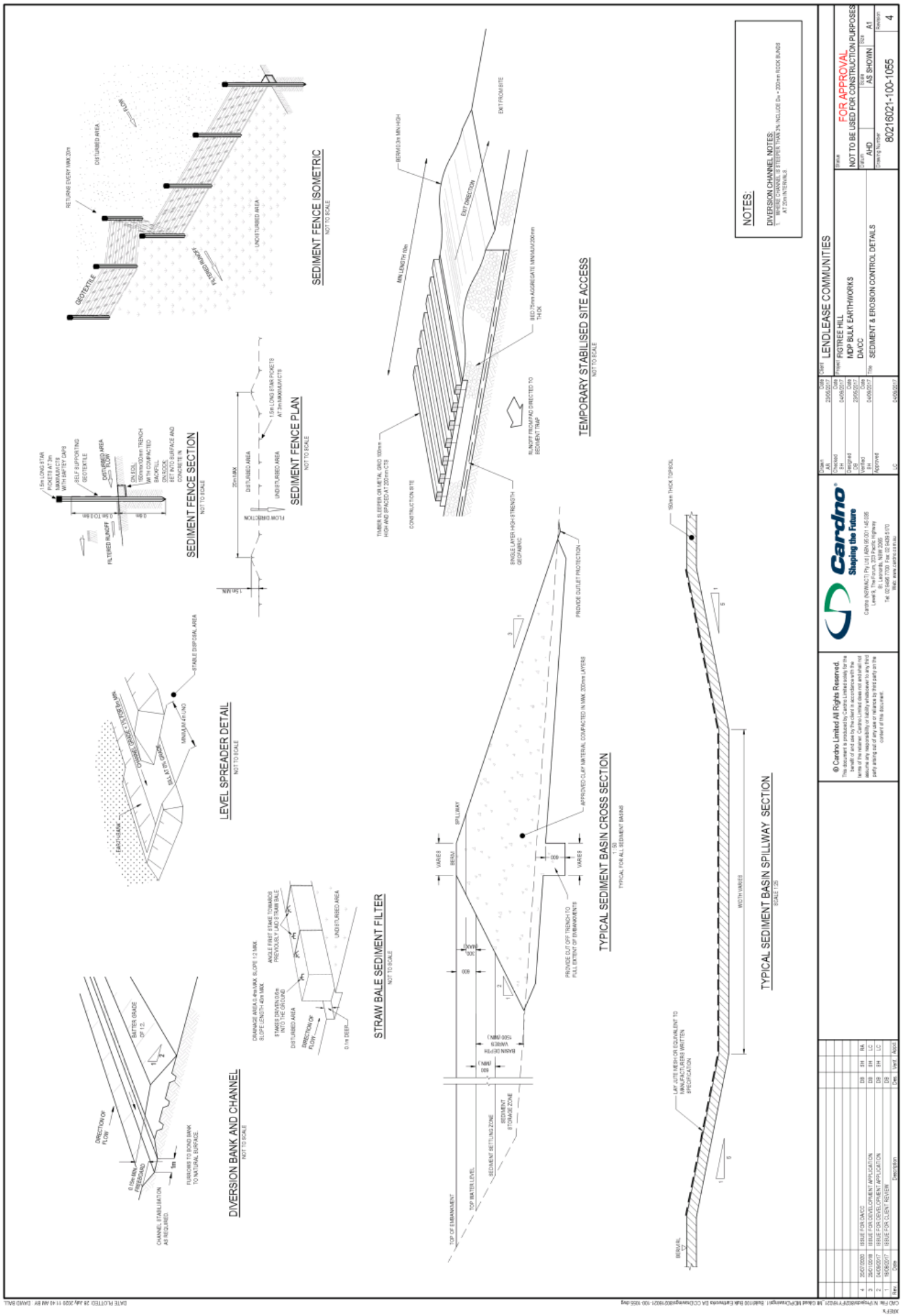
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NOT TO SCALE
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NOT TO SCALE
SEDIMENT FENCE SECTION
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TEMPORARY STABILISED SITE ACCESS
NOT TO SCALE
LEVEL SPREADER DETAIL
NOT TO SCALE
STRAW BALE SEDIMENT FILTER
NOT TO SCALE
DIVERSION BANK AND CHANNEL
NOT TO SCALE
TYPICAL SEDIMENT BASIN CROSS SECTION
1:50
TYPICAL FOR ALL SEDIMENT BASINS
TYPICAL SEDIMENT BASIN SPILLWAY SECTION
SCALE 1:25
NOTES:
DIVERSION CHANNEL NOTES:
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LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
SEDIMENT & EROSION CONTROL DETAILS
FOR APPROVAL
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AS SHOWN
A1
80216021-100-1055
4

DATE PLOTTED: 29 July 2020 11:49 AM BY: DAMS BALL

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SWMP Commentary, Detailed Calculations

Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE to size sediment basins. The "Standard Calculation" spreadsheets should be used on low erosion hazard lands as identified by figure 4.6 and where the designer chooses not to run the RUSLE in calculations.

1. Site Data Sheet

Site Name: GILEAD

Site Location: GILEAD

Precinct: STAGE 1 BE

Description of Site: Proposed residential development

Site area	Site						Remarks
	1A	1B	1C				
Total catchment area (ha)	7.8	18.5	11.4				
Disturbed catchment area (ha)	7.8	18.5	11.4				
Soil analysis							
% sand (fraction 0.02 to 2.00 mm	10	10	10				Soil texture should be assessed through mechanical dispersion only. Dispersing agents (e.g. Calgon) should not be used
% silt (fraction 0.002 to 0.02 mm)	45	45	45				
% clay (fraction finer than 0.002 mm)	45	45	45				
Dispersion percentage	10.0	10.0	10.0				E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	6.75	6.75	6.75				See Section 6.3.3(e)
Soil Texture Group	F	F	F				See Section 6.3.3(c), (d) and (e)
Rainfall data							
Design rainfall depth (days)	5	5	5				See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85	85				See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	30.6	30.6	30.6				See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	10.1	10.1	10.1				See IFD chart for the site

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for *Type F* and *Type D* soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$$V = 10 \times C_v \times A \times R_{x\text{-day, y-}\%ile}\ (m^3)$$

where:

10 = a unit conversion factor

C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

$R_{x\text{-day, y-}\%ile}$ = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii).

Total Basin Volume

Site	C_v	$R_{x\text{-day, y-}\%ile}$	Total catchment area (ha)	Settling zone volume (m^3)	Sediment storage volume (m^3)	Total basin volume (m^3)
1A	0.51	30.6	7.8	1217.268	295	1512.268
1B	0.51	30.6	18.5	2887.11	609	3496.11
1C	0.51	30.6	11.4	1779.084	181	1960.084

SWMP Commentary, Detailed Calculations

Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE to size sediment basins. The "Standard Calculation" spreadsheets should be used on low erosion hazard lands as identified by figure 4.6 and where the designer chooses not to run the RUSLE in calculations.

1. Site Data Sheet

Site Name: GILEAD

Site Location: GILEAD

Precinct: STAGE 2 & 5 BE

Description of Site: Proposed residential development

Site area	Site						Remarks
	2A	2B	2C	5A	5B	5C	
Total catchment area (ha)	1.81	12.61	14.84	7.39	9.03	7.13	
Disturbed catchment area (ha)	1.81	12.61	14.84	7.39	9.03	7.13	
Soil analysis							
% sand (fraction 0.02 to 2.00 mm	10	10	10	10	10	10	Soil texture should be assessed through mechanical dispersion only. Dispersing agents (e.g. Calgon) should not be used
% silt (fraction 0.002 to 0.02 mm)	45	45	45	45	45	45	
% clay (fraction finer than 0.002 mm)	45	45	45	45	45	45	
Dispersion percentage	10.0	10.0	10.0	10.0	10.0	10.0	E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	6.75	6.75	6.75	6.75	6.75	6.75	See Section 6.3.3(e)
Soil Texture Group	F	F	F	F	F	F	See Section 6.3.3(c), (d) and (e)
Rainfall data							
Design rainfall depth (days)	5	5	5	5	5	5	See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85	85	85	85	85	See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	30.6	30.6	30.6	30.6	30.6	30.6	See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	10.1	10.1	10.1	10.1	10.1	10.1	See IFD chart for the site

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for *Type F* and *Type D* soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$$V = 10 \times C_v \times A \times R_{x\text{-day, y-}\%ile}\ (m^3)$$

where:

10 = a unit conversion factor

C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

$R_{x\text{-day, y-}\%ile}$ = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii).

Total Basin Volume

Site	C_v	$R_{x\text{-day, y-}\%ile}$	Total catchment area (ha)	Settling zone volume (m^3)	Sediment storage volume (m^3)	Total basin volume (m^3)
2A	0.51	30.6	1.81	282.4686	54	336.4686
2B	0.51	30.6	12.61	1967.9166	113	2080.9166
2C	0.51	30.6	14.84	2315.9304	488	2803.9304
5A	0.51	30.6	7.39	1153.2834	356	1509.2834
5B	0.51	30.6	9.03	1409.2216	435	1844.2216
5C	0.51	30.6	7.13	1112.7078	533	1645.7078

SWMP Commentary, Detailed Calculations

Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE to size sediment basins. The "Standard Calculation" spreadsheets should be used on low erosion hazard lands as identified by figure 4.6 and where the designer chooses not to run the RUSLE in calculations.

1. Site Data Sheet

Site Name: GILEAD

Site Location: GILEAD

Precinct: STAGE 3 BE

Description of Site: Proposed residential development

Site area	Site						Remarks
	3A	3B	3C				
Total catchment area (ha)	12.27	12.82	22.73				
Disturbed catchment area (ha)	12.27	12.82	22.73				
Soil analysis							
% sand (fraction 0.02 to 2.00 mm	10	10	10				Soil texture should be assessed through mechanical dispersion only. Dispersing agents (e.g. Calgon) should not be used
% silt (fraction 0.002 to 0.02 mm)	45	45	45				
% clay (fraction finer than 0.002 mm)	45	45	45				
Dispersion percentage	10.0	10.0	10.0				E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	6.75	6.75	6.75				See Section 6.3.3(e)
Soil Texture Group	F	F	F				See Section 6.3.3(c), (d) and (e)
Rainfall data							
Design rainfall depth (days)	5	5	5				See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85	85				See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	30.6	30.6	30.6				See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	10.1	10.1	10.1				See IFD chart for the site

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for *Type F* and *Type D* soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$$V = 10 \times C_v \times A \times R_{x\text{-day, y-}\%ile}\ (m^3)$$

where:

10 = a unit conversion factor

C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

$R_{x\text{-day, y-}\%ile}$ = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii).

Total Basin Volume

Site	C_v	$R_{x\text{-day, y-}\%ile}$	Total catchment area (ha)	Settling zone volume (m^3)	Sediment storage volume (m^3)	Total basin volume (m^3)
3A	0.51	30.6	12.27	1914.8562	290	2204.8562
3B	0.51	30.6	12.82	2080.6892	303	2303.6892
3C	0.51	30.6	22.73	3547.2438	538	4085.2438

SWMP Commentary, Detailed Calculations

Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE to size sediment basins. The "Standard Calculation" spreadsheets should be used on low erosion hazard lands as identified by figure 4.6 and where the designer chooses not to run the RUSLE in calculations.

1. Site Data Sheet

Site Name: GILEAD

Site Location: GILEAD

Precinct: STAGE 4 BE

Description of Site: Proposed residential development

Site area	Site						Remarks
	4A	4B					
Total catchment area (ha)	10.75	1.02					
Disturbed catchment area (ha)	10.75	1.02					
Soil analysis							
% sand (fraction 0.02 to 2.00 mm	10	10					Soil texture should be assessed through mechanical dispersion only. Dispersing agents (e.g. Calgon) should not be used
% silt (fraction 0.002 to 0.02 mm)	45	45					
% clay (fraction finer than 0.002 mm)	45	45					
Dispersion percentage	10.0	10.0					E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	6.75	6.75					See Section 6.3.3(e)
Soil Texture Group	F	F					See Section 6.3.3(c), (d) and (e)
Rainfall data							
Design rainfall depth (days)	5	5					See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85					See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	30.6	30.6					See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	10.1	10.1					See IFD chart for the site

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for *Type F* and *Type D* soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$$V = 10 \times C_v \times A \times R_{x\text{-day, y-}\%ile}\ (m^3)$$

where:

10 = a unit conversion factor

C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

$R_{x\text{-day, y-}\%ile}$ = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii).

Total Basin Volume

Site	C_v	$R_{x\text{-day, y-}\%ile}$	Total catchment area (ha)	Settling zone volume (m^3)	Sediment storage volume (m^3)	Total basin volume (m^3)
4A	0.51	30.6	10.75	1677.645	231	1908.645
4B	0.51	30.6	1.02	159.1812	22	181.1812

Rev.	Date	Description	Des.	Vert	Appd.
3	20/07/2020	ISSUE FOR DA/CC	DB	SH	RA
2	29/01/2019	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	LC
1	04/09/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SH	LC

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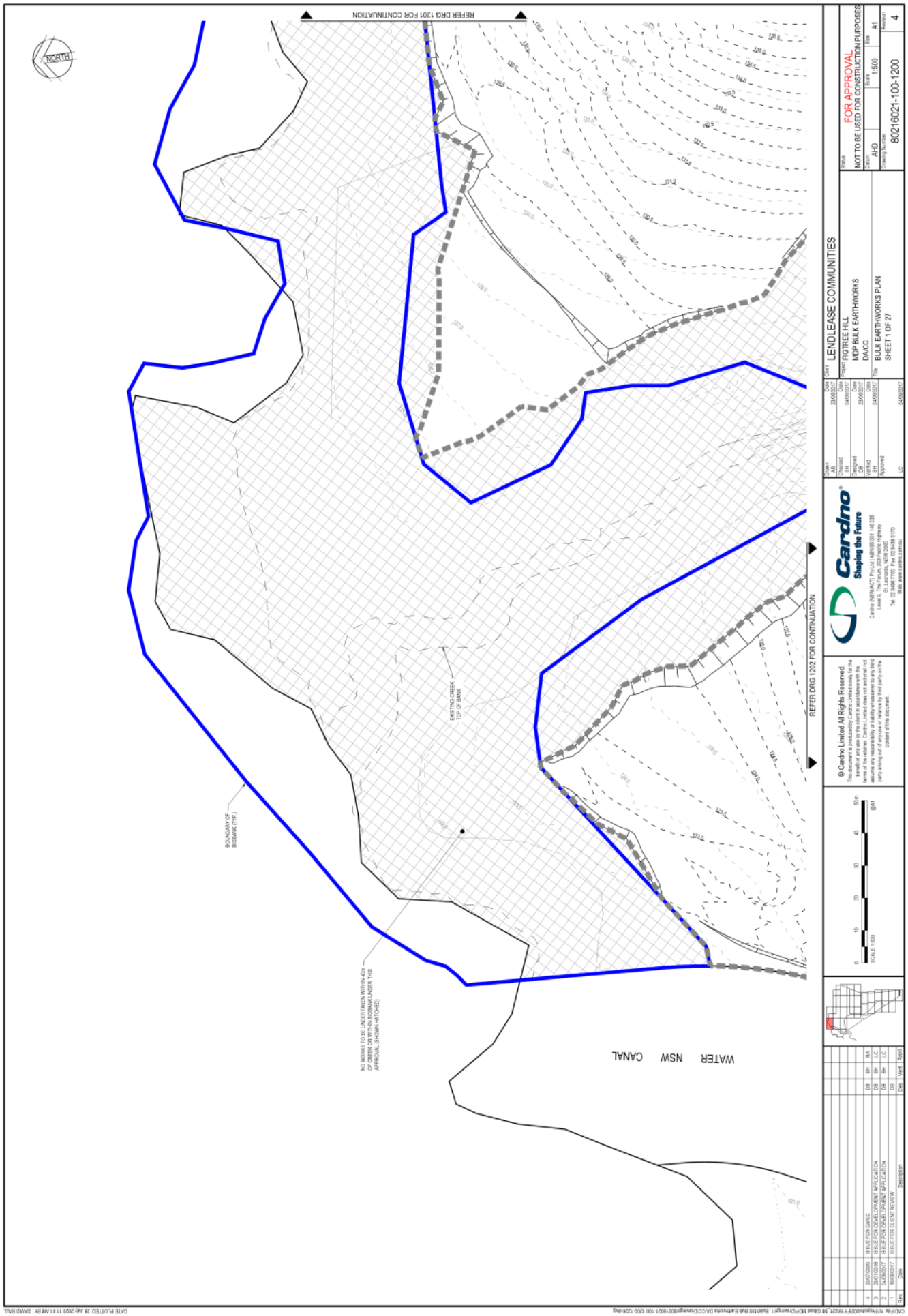
Web: www.cardno.com.au

		Date
Drawn	DB	04/09/2017
Checked	SH	04/09/2017
Designed	DB	04/09/2017
Verified	SH	04/09/2017
Approved	LC	04/09/2017

Client: LENDLEASE COMMUNITIES
Project: FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
Title: SEDIMENT BASIN CALCULATIONS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum: AHD | Scale: NTS | Size: A1
Drawing Number: 80216021-100-1056 | Revision: 3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EXISTING CREEK TOP OF BANK
BOUNDARY OF BIOBANK (TYP.)
NO WORKS TO BE UNDERTAKEN WITHIN 40m OF STORE BIOBANK AREA UNDER THIS APPROVAL (SHOWN HATCHED)
WATER NSW CANAL
REFER DRG 1202 FOR CONTINUATION
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DAICC
BULK EARTHWORKS PLAN
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Size A1
Drawing Number 80216021-100-1200
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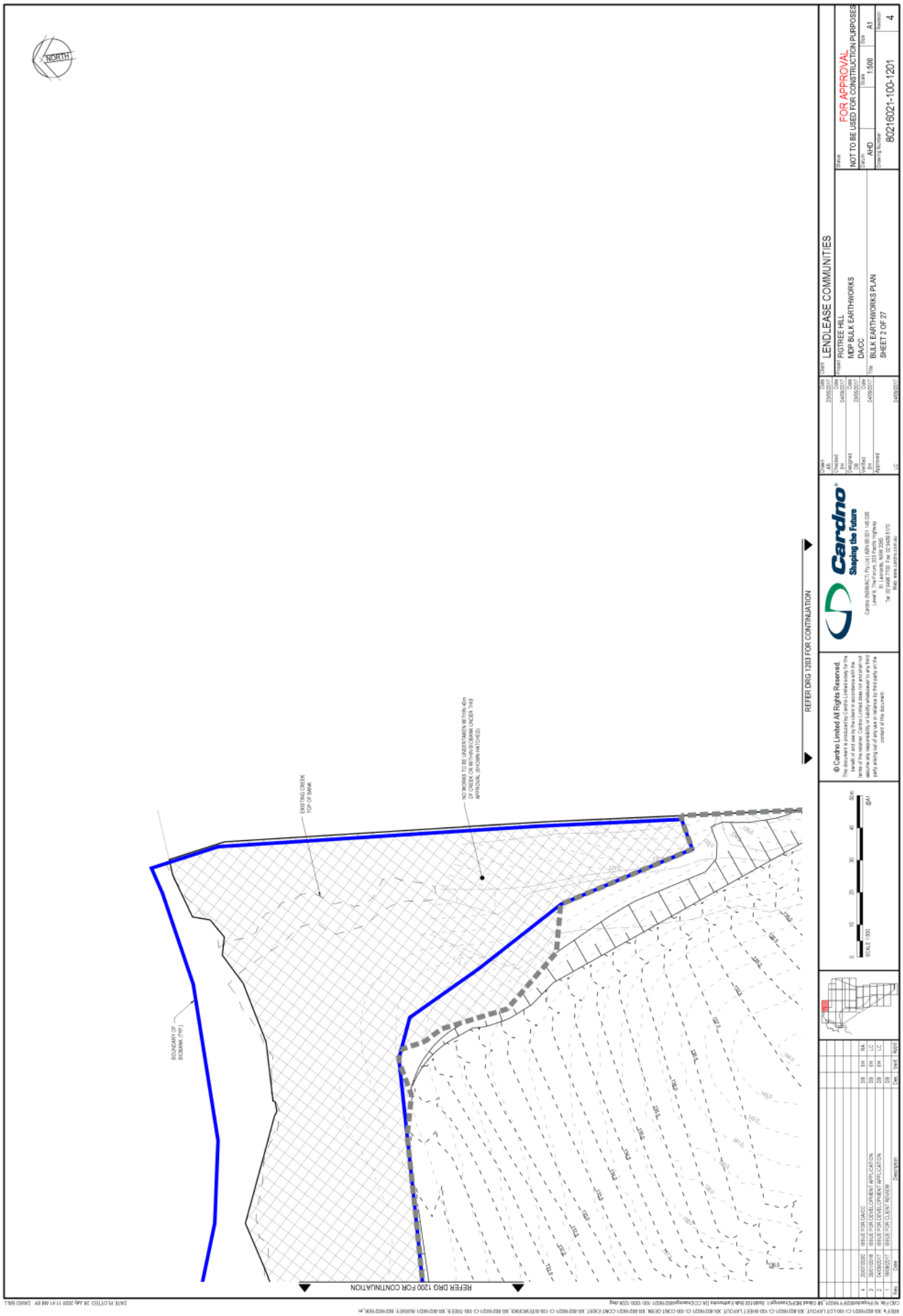
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BOUNDARY OF BIOBANK (TYP.)
REFER DRG 1200 FOR CONTINUATION
REFER DRG 1203 FOR CONTINUATION
LENDLEASE COMMUNITIES
FIGTREE HILL
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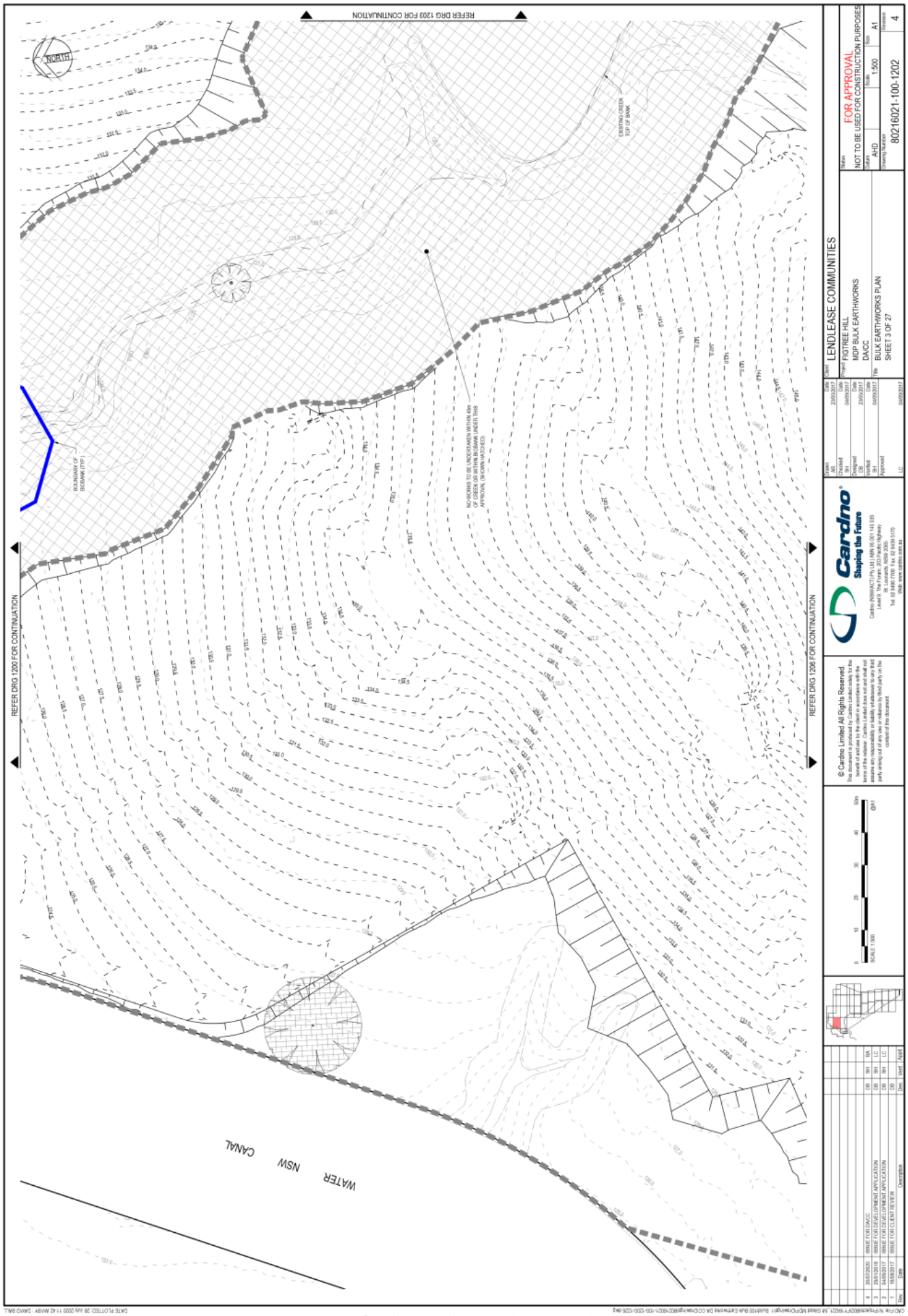
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REFER DRG 1200 FOR CONTINUATION
REFER DRG 1206 FOR CONTINUATION
WATER NSW CANAL
LENDLEASE COMMUNITIES
PIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
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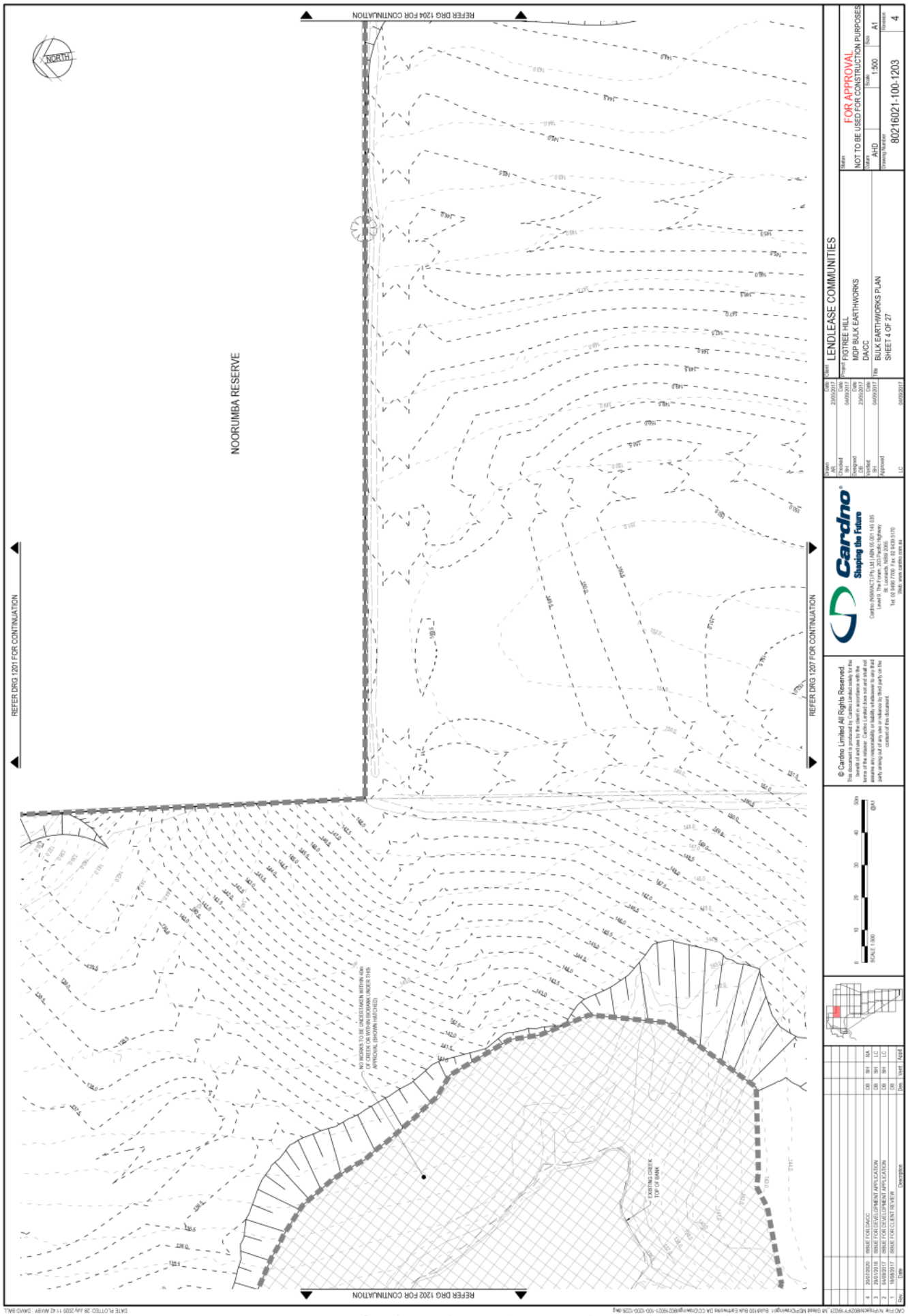
NORTH
NOORUMBA RESERVE
REFER DRG 1204 FOR CONTINUATION
REFER DRG 1201 FOR CONTINUATION
REFER DRG 1207 FOR CONTINUATION
REFER DRG 1202 FOR CONTINUATION
NO WORKS TO BE UNDERTAKEN WITHIN 40m OF CREEK OR WITHIN RIPARIAN UNDER THIS APPROVAL (SHOWN HATCHED)
EXISTING CREEK TOP OF BANK
LENDLEASE COMMUNITIES
PIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
BULK EARTHWORKS PLAN
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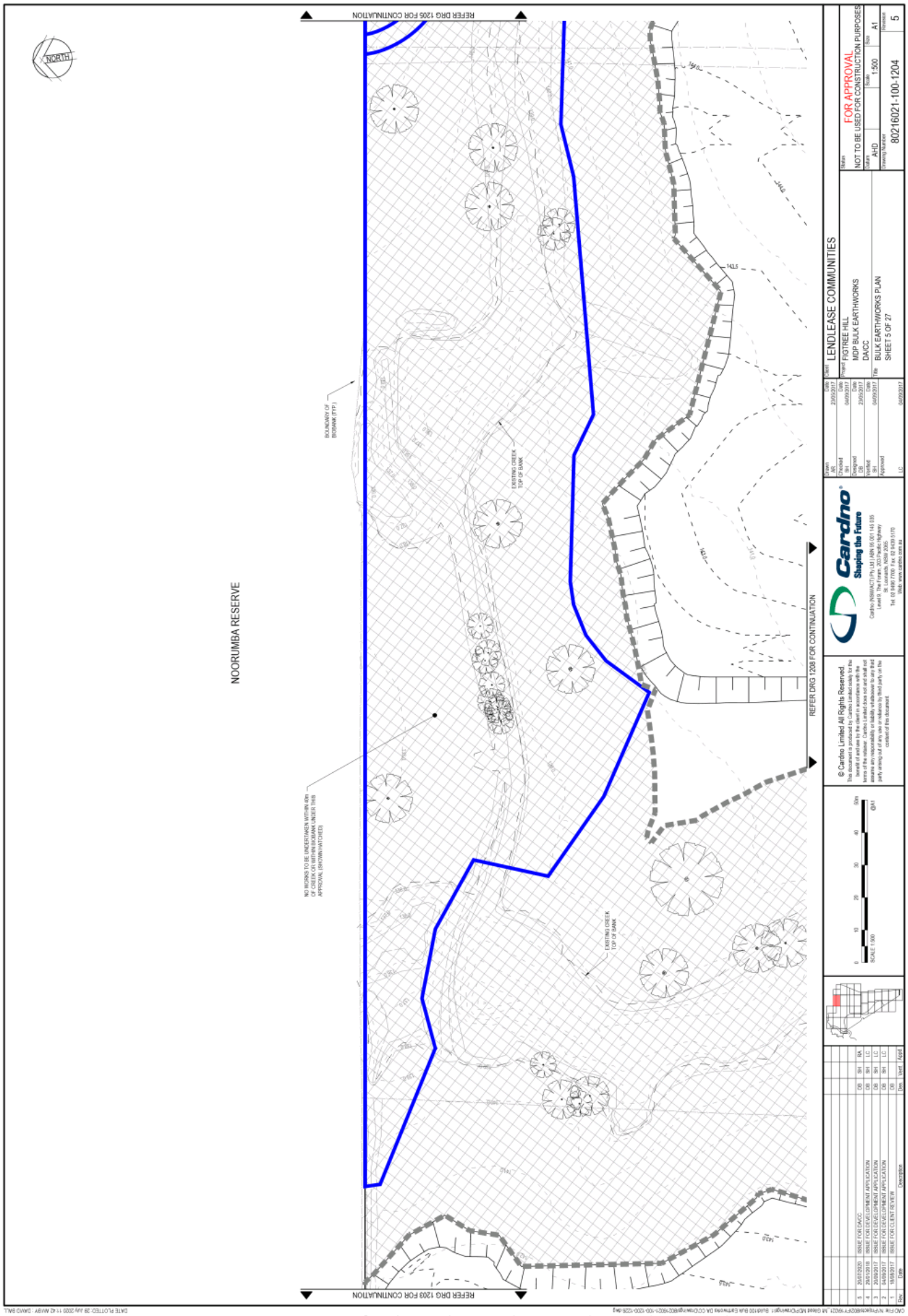
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REFER DRG 1209 FOR CONTINUATION
REFER DRG 1208 FOR CONTINUATION
NOORUMBA RESERVE
BOUNDARY OF BUSHLAND (TYP.)
EXISTING CREEK TOP OF BANK
NO WORKS TO BE UNDERTAKEN WITHIN 40m OF CREEK (EXCEPT WHERE SHOWN) UNLESS APPROVAL (SHOWN HATCHED)
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
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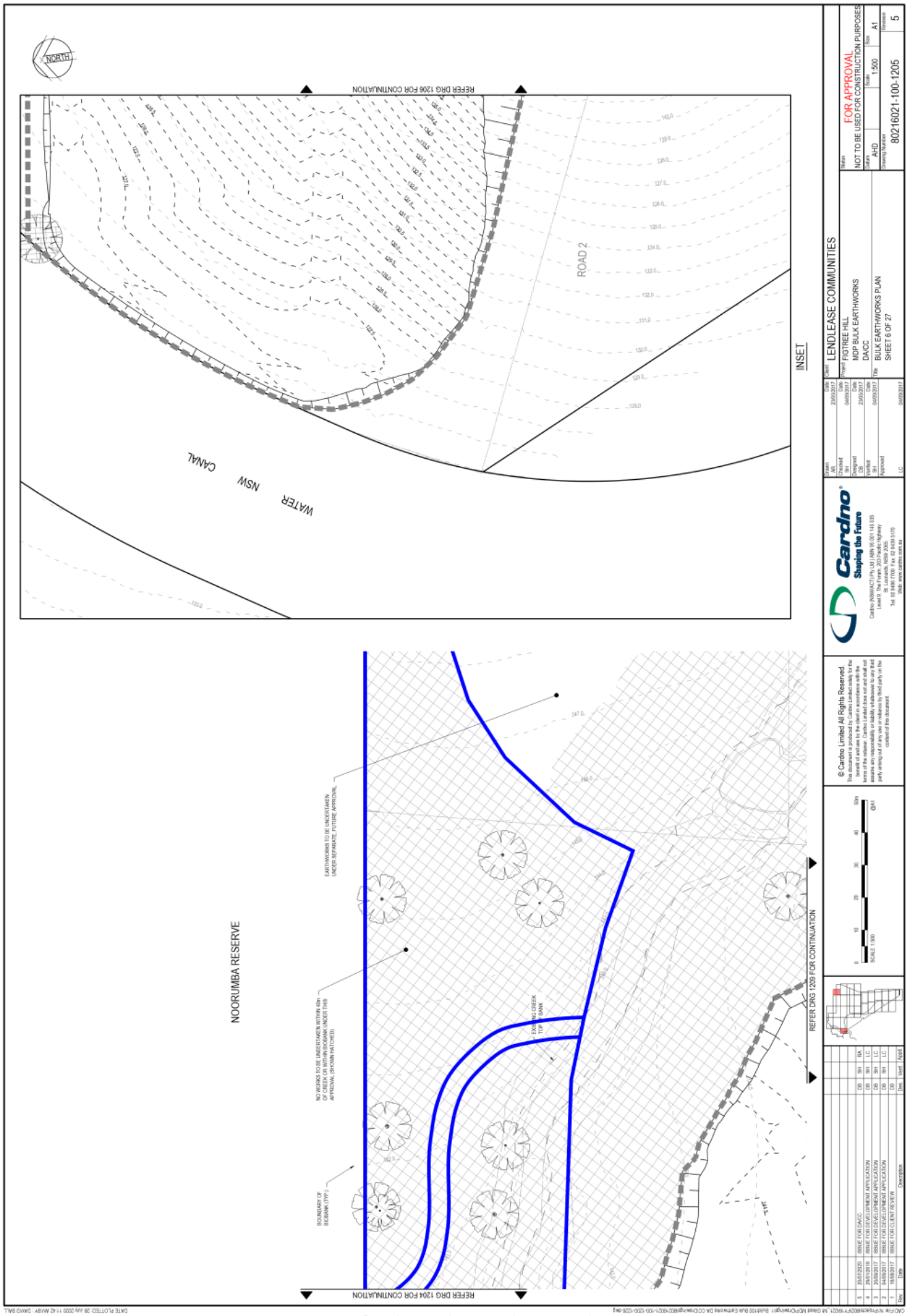
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ROAD 2
INSET
WATER NSW CANAL
NOORUMBA RESERVE
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NO WORKS TO BE UNDERTAKEN WITHIN 40m OF CREEK OR WITHIN BIODBANK UNDER THIS APPROVAL (SHOWN HATCHED)
BOUNDARY OF BIOBANK (TYP.)
EDGE LOCKED TOP OF BANK
REFER DRG 1204 FOR CONTINUATION
REFER DRG 1209 FOR CONTINUATION
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
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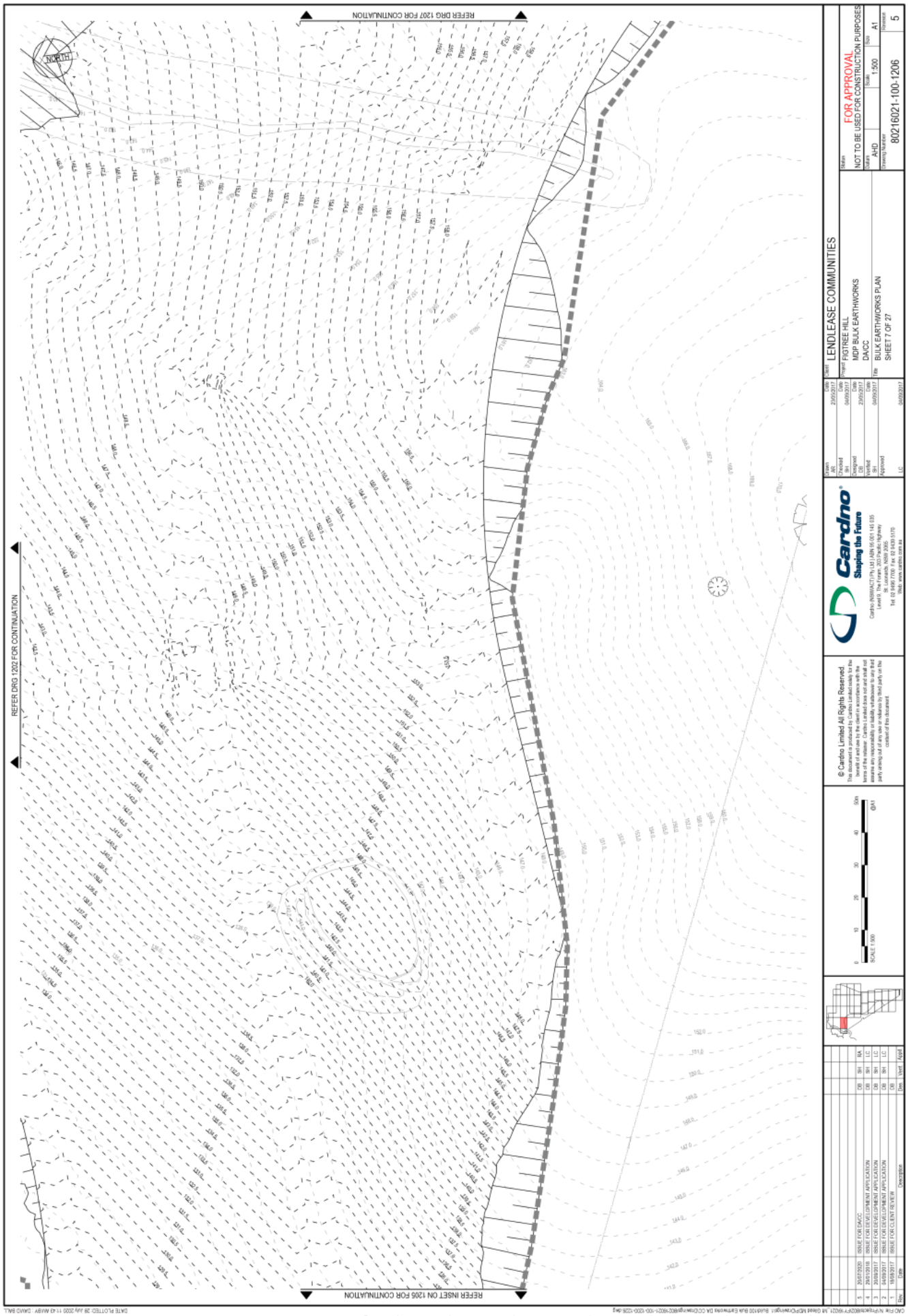
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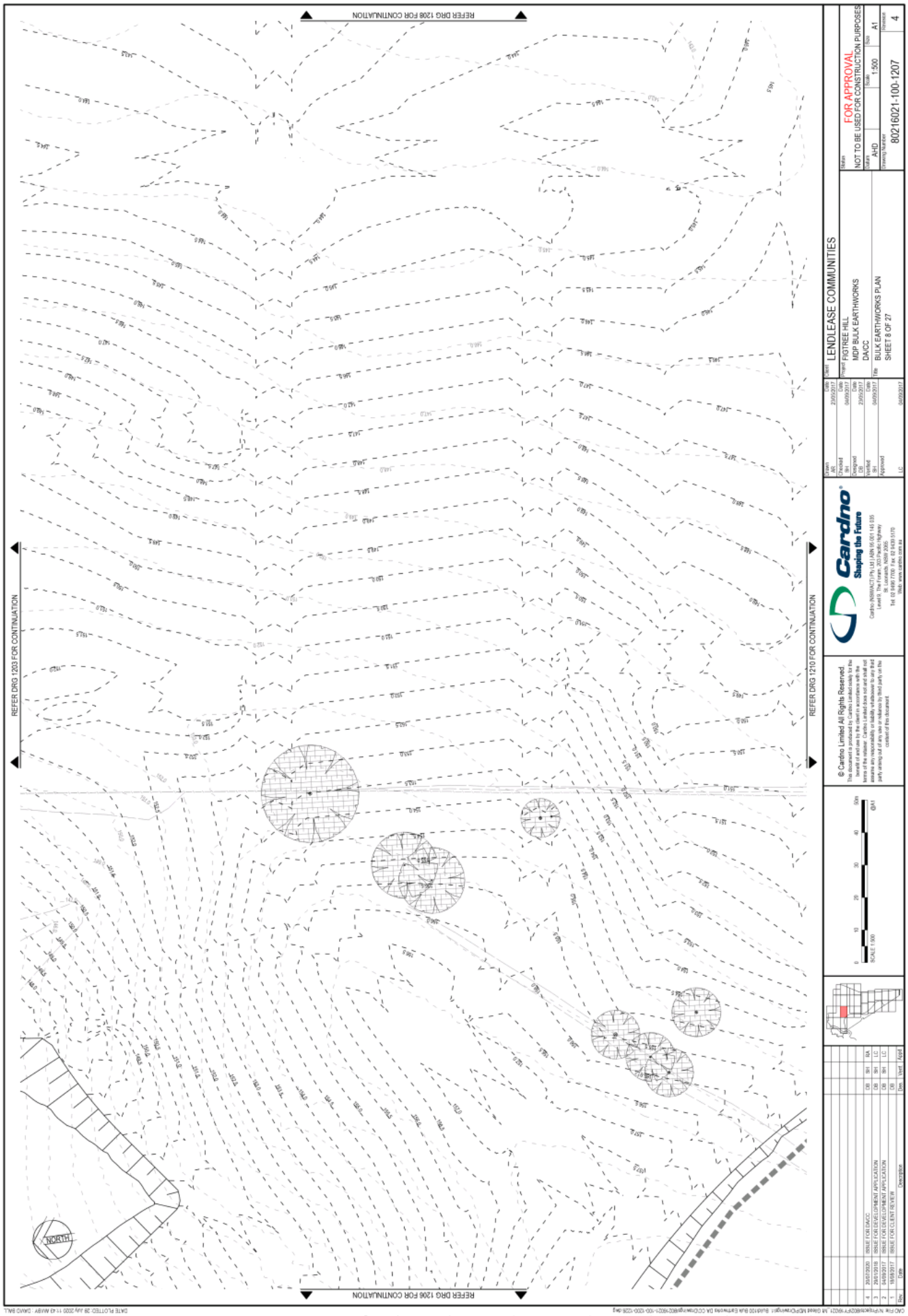
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PIGTREE HILL
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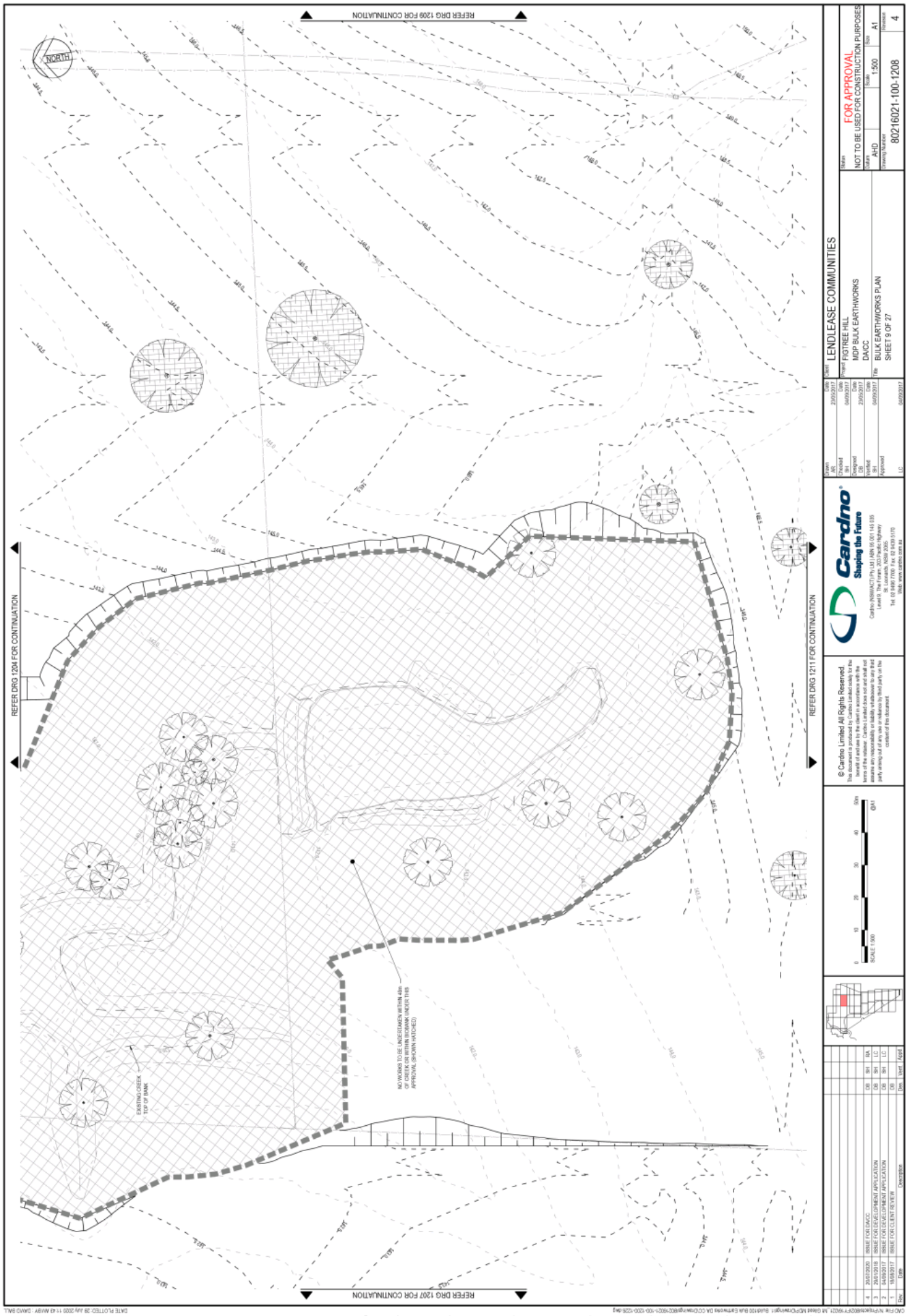
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NORTH
REFER DRG 1204 FOR CONTINUATION
REFER DRG 1211 FOR CONTINUATION
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EXISTING CREEK TOP OF BANK
LENDLEASE COMMUNITIES
PIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
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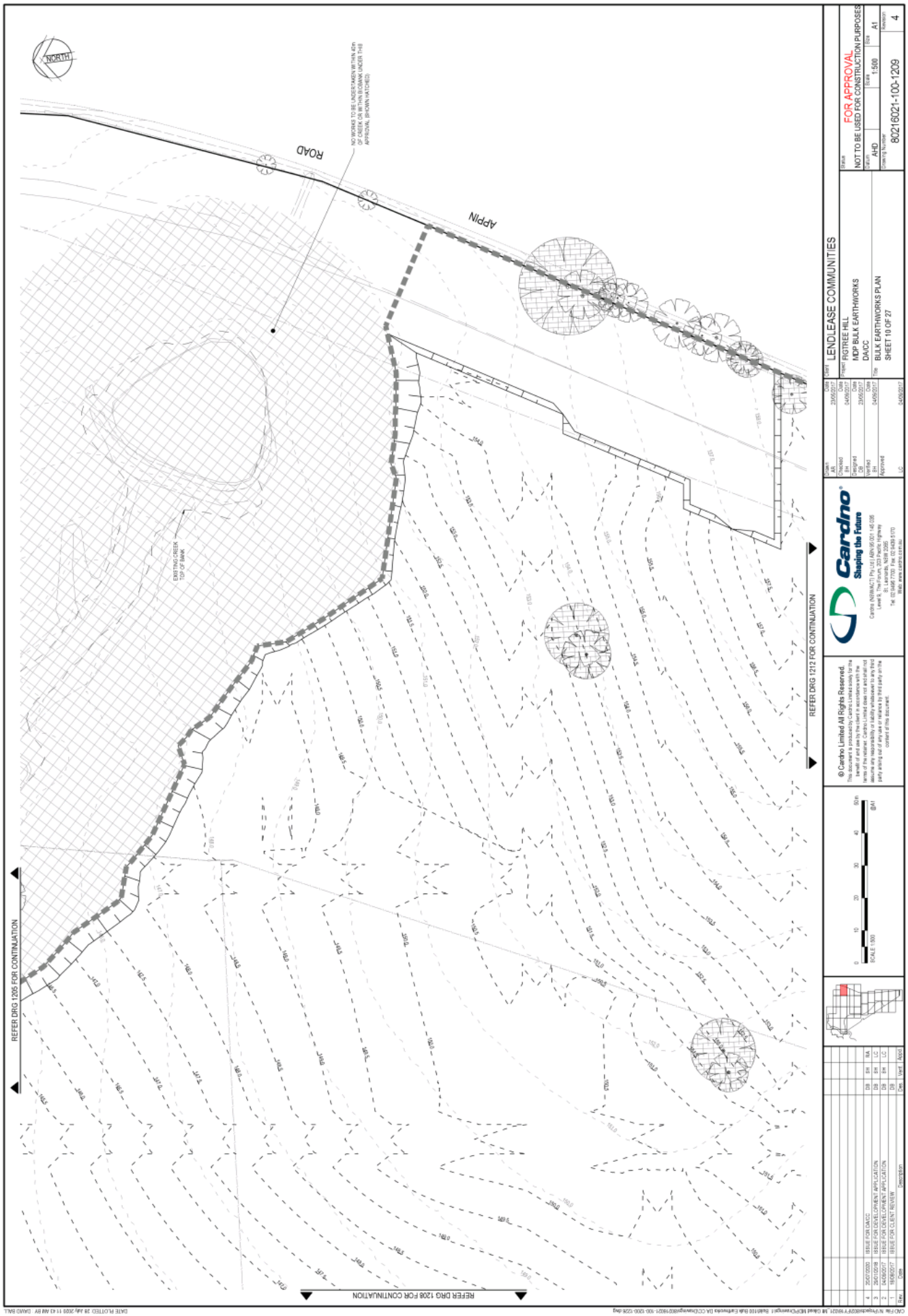
NORTH
ROAD
APPIN
NO WORKS TO BE UNDERTAKEN WITHIN 40m OF CREEK BANK UNLESS OTHERWISE AGREED BY THE APPROVAL BODY (SHOWN HATCHED)
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REFER DRG 1205 FOR CONTINUATION
REFER DRG 1212 FOR CONTINUATION
REFER DRG 1208 FOR CONTINUATION
LENDLEASE COMMUNITIES
FIGTREE HILL
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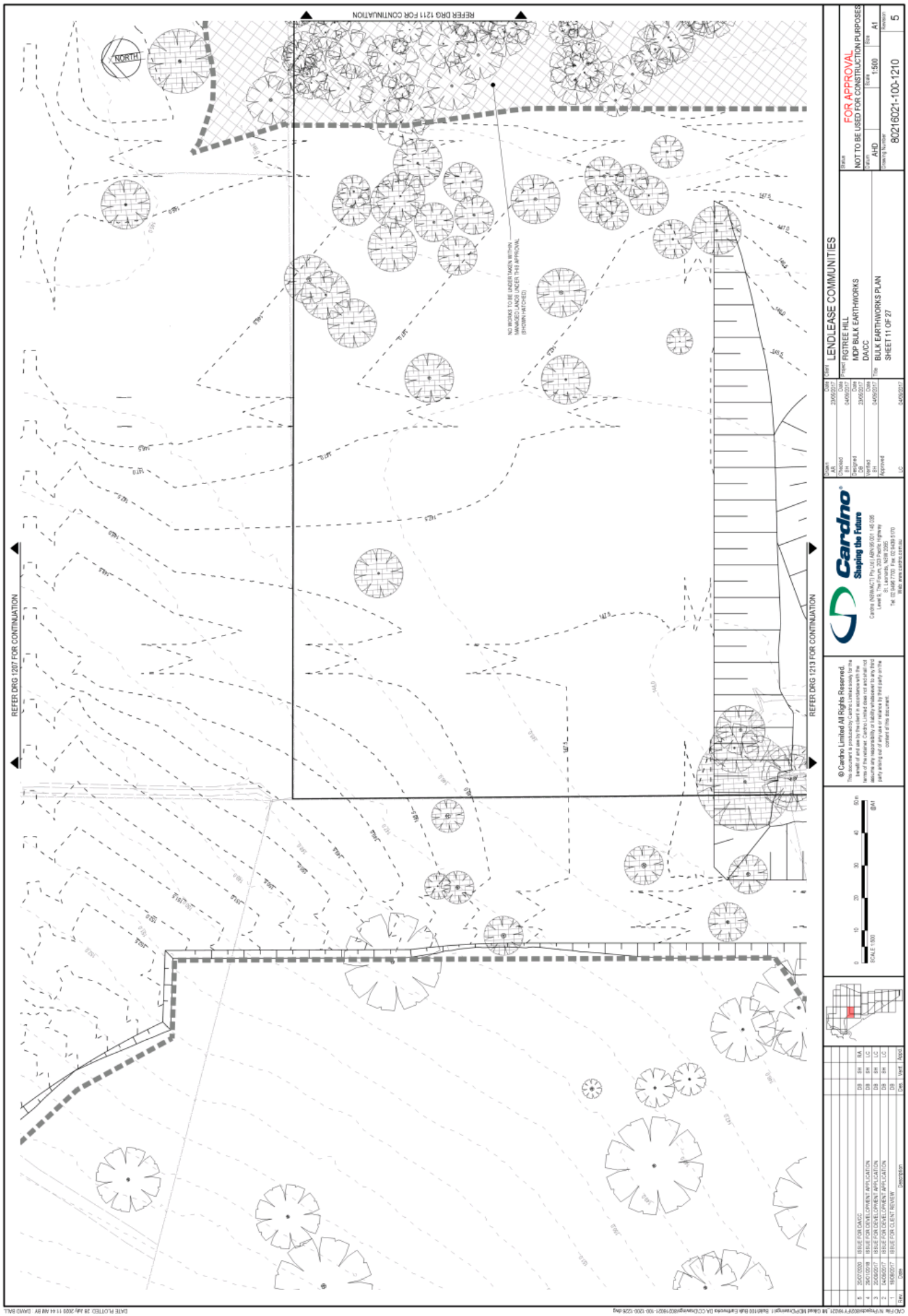
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LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
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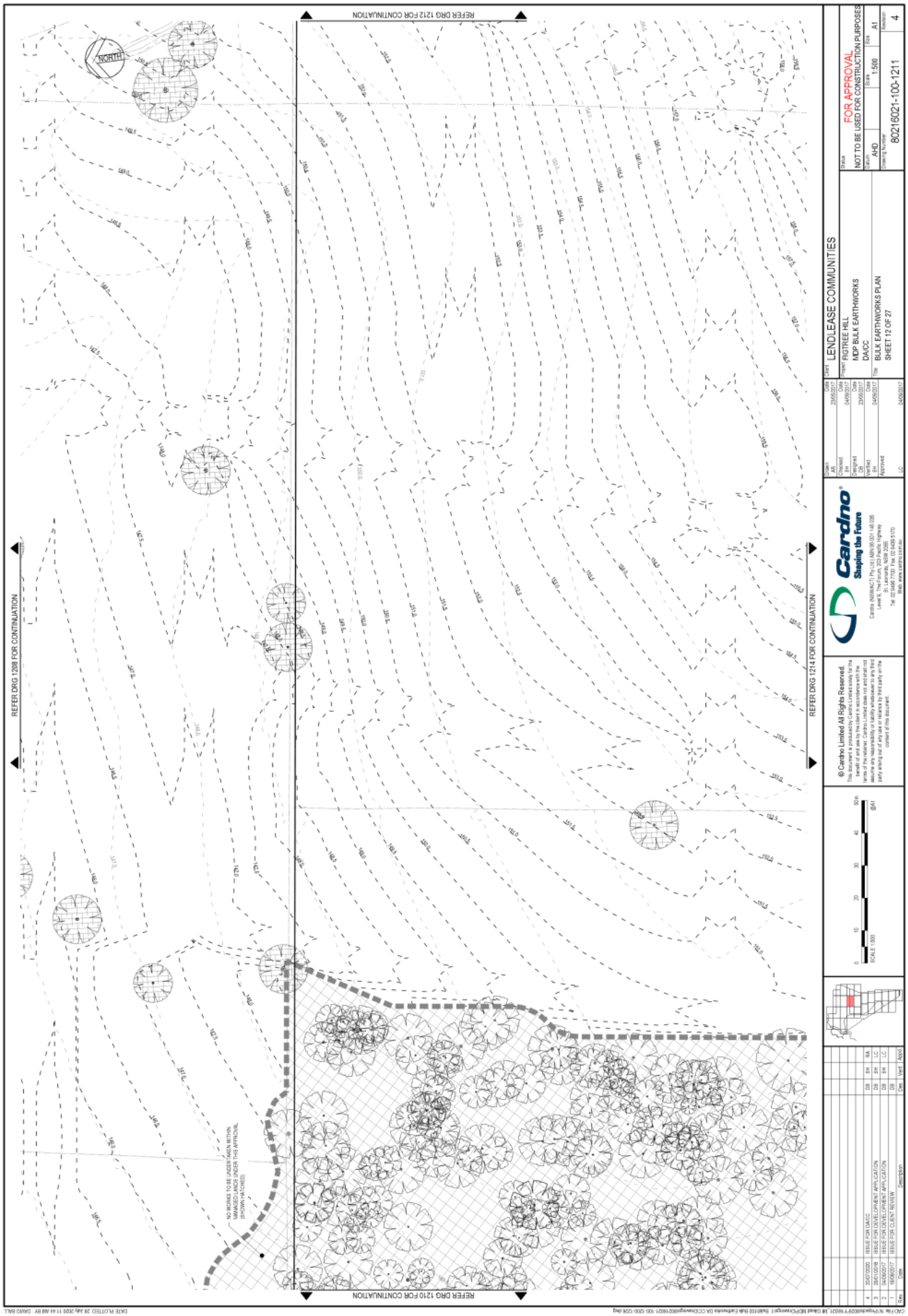
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FIGTREE HILL
MDP BULK EARTHWORKS
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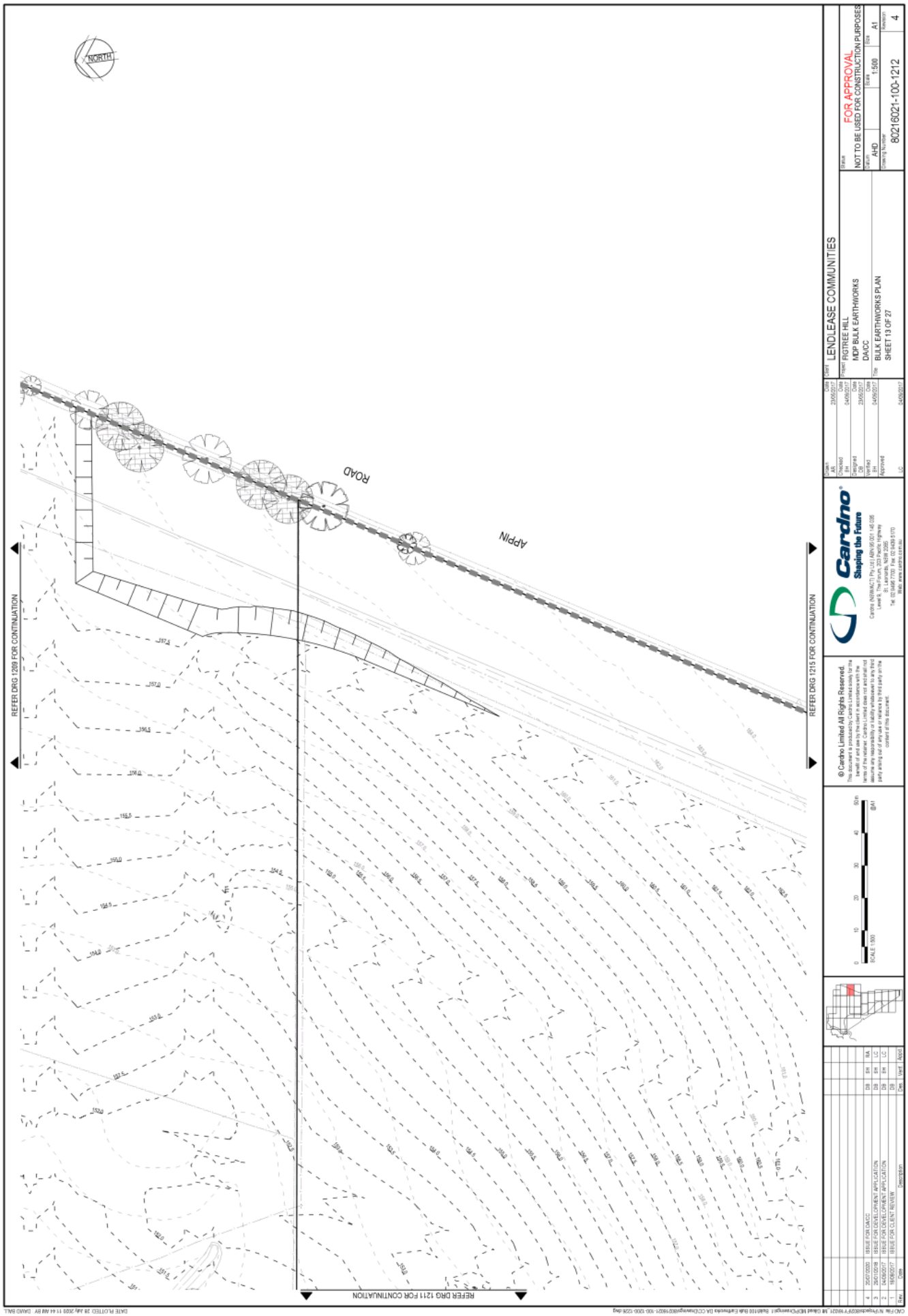
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MDP BULK EARTHWORKS
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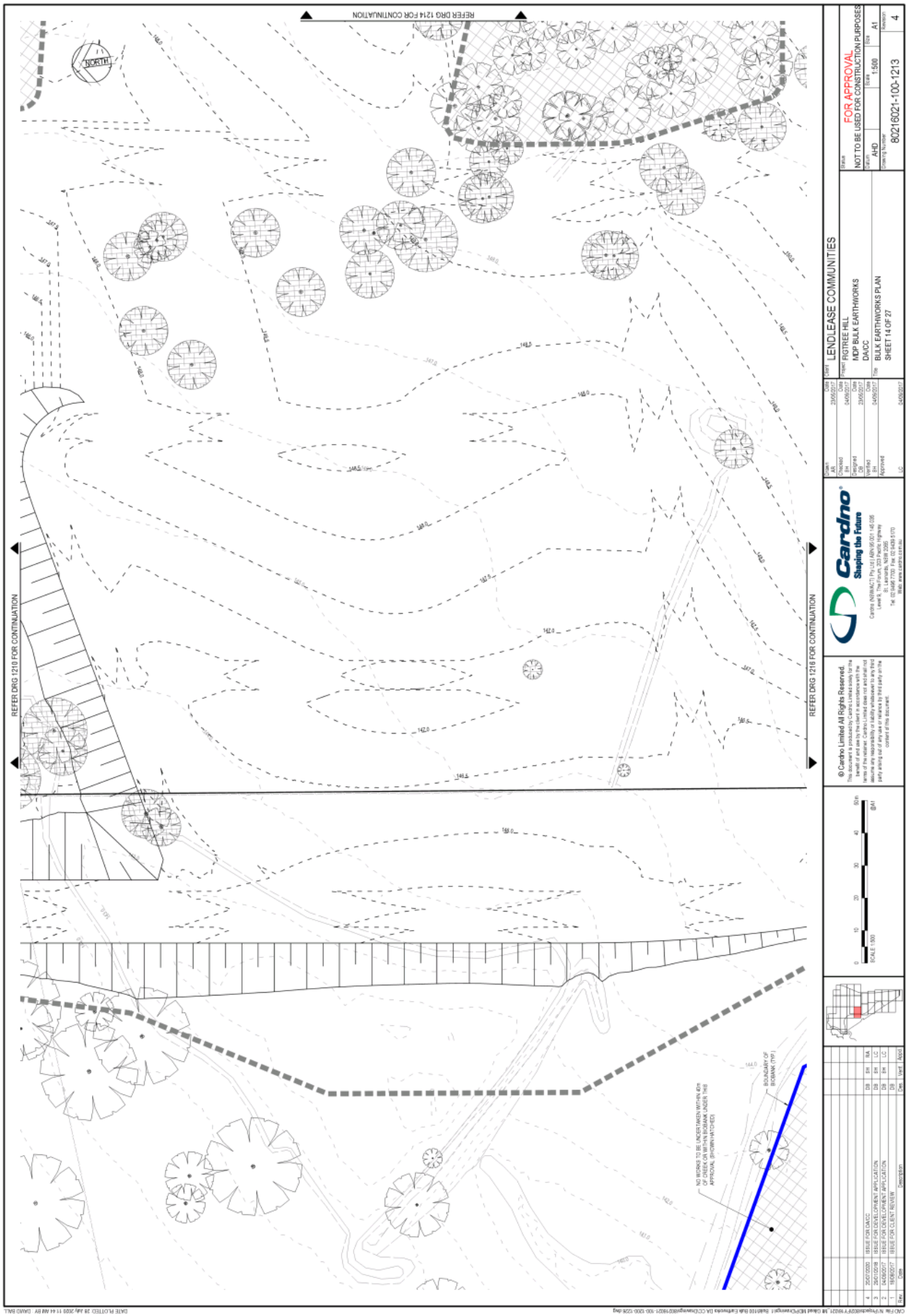
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NORTH
REFER DRG 1210 FOR CONTINUATION
REFER DRG 1216 FOR CONTINUATION
NO WORKS TO BE UNDERTAKEN WITHIN 40m OF BOUNDARY OF BIOBANK UNDER THIS APPROVAL (SHOWN HATCHED)
BOUNDARY OF BIOBANK (TYP.)
LENDLEASE COMMUNITIES
FIGTREE HILL
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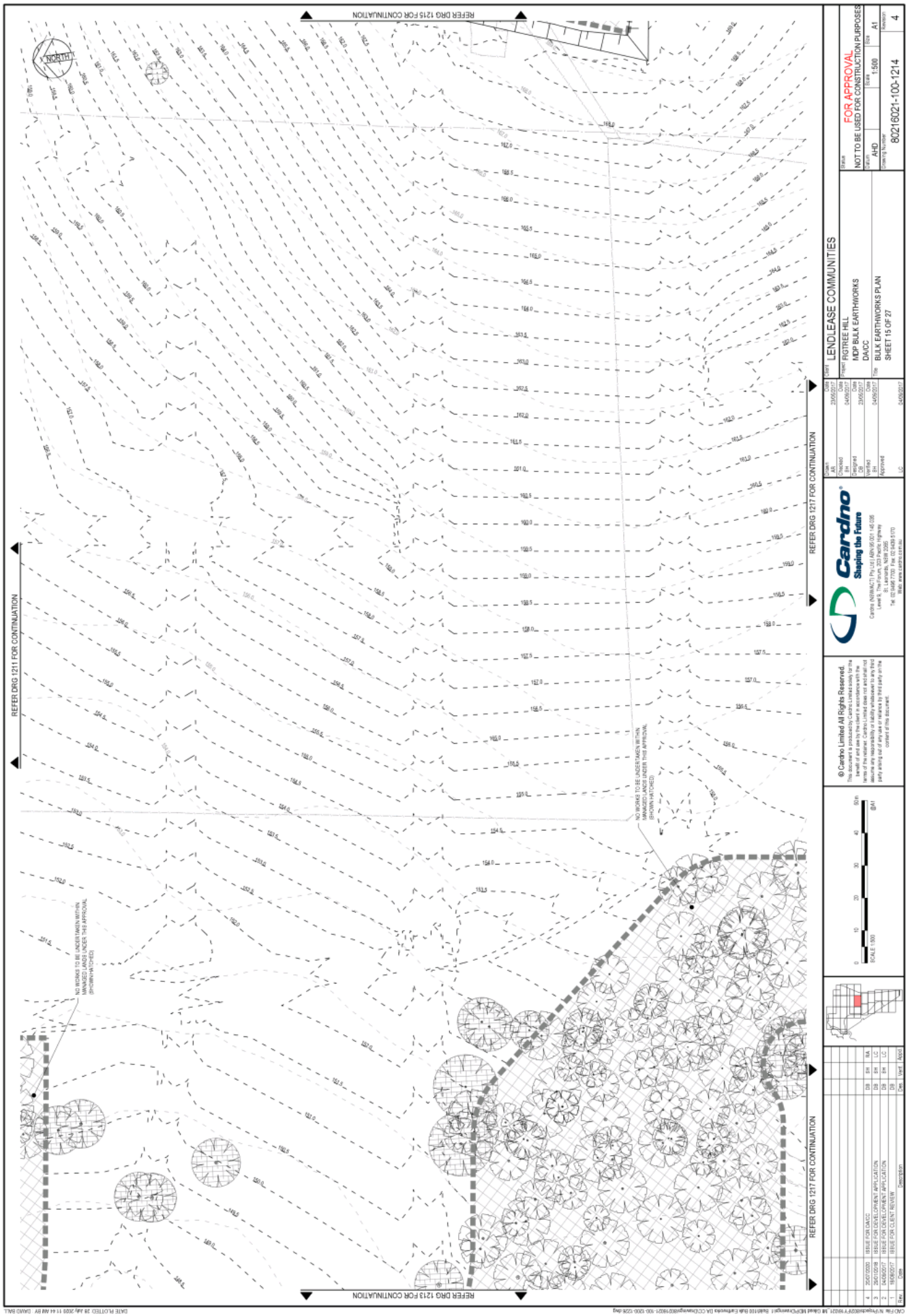
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NO WORKS TO BE UNDERTAKEN WITHIN MANAGED LANDS UNDER THIS APPROVAL (SHOWN HATCHED)
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DAICC
BULK EARTHWORKS PLAN
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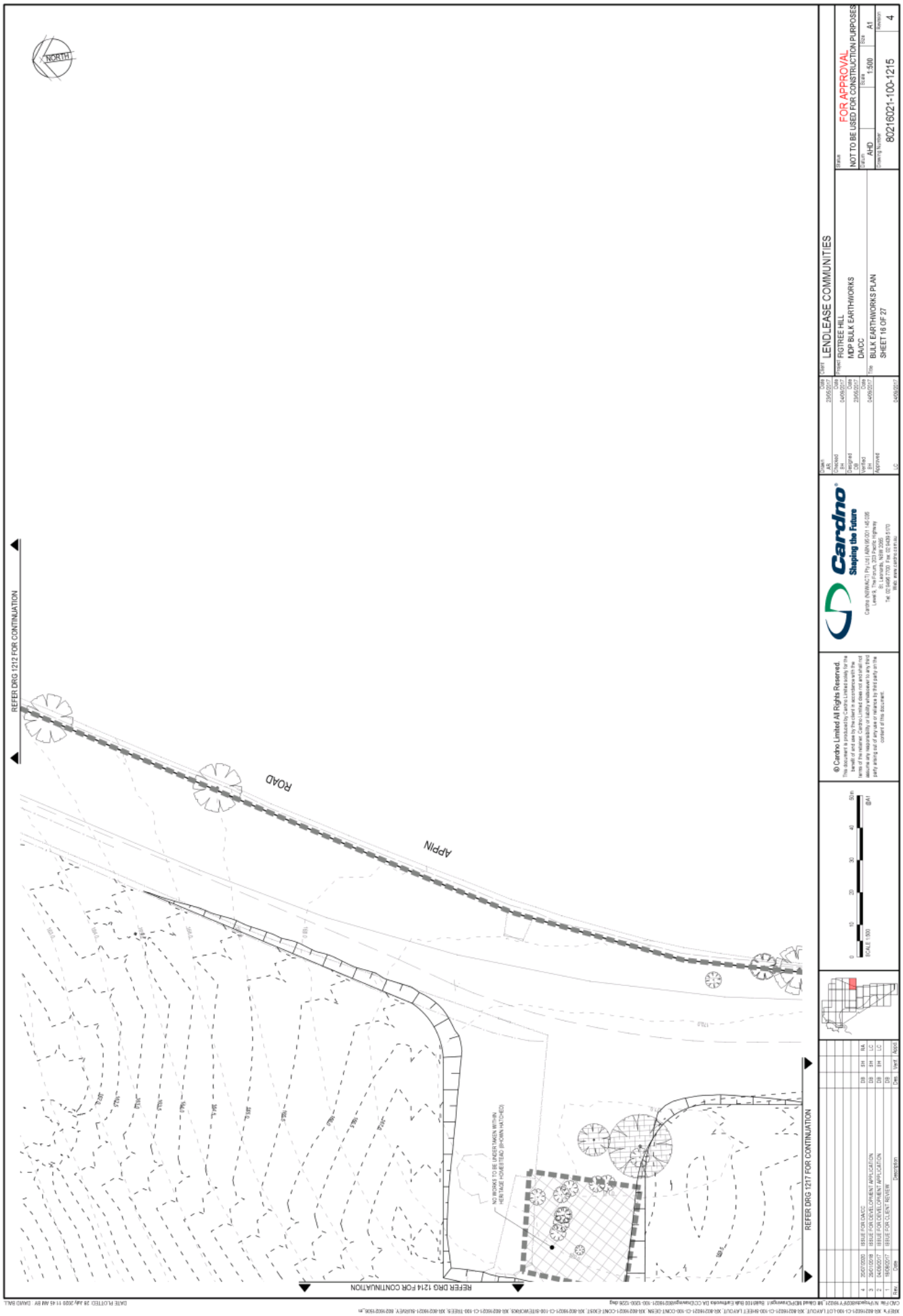
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LENDLEASE COMMUNITIES
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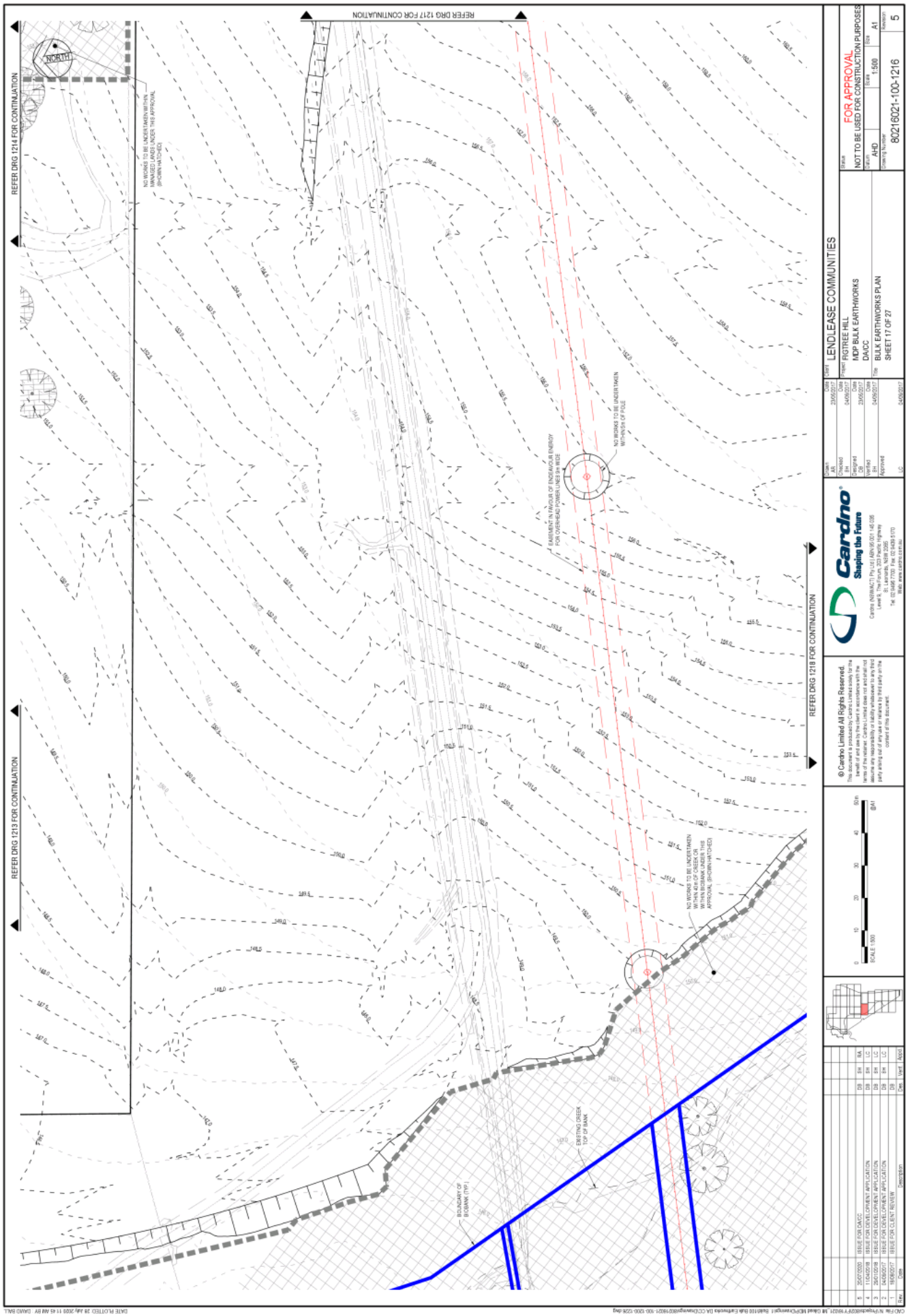
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NO WORKS TO BE UNDERTAKEN WITHIN MANAGED LANDS UNDER THIS APPROVAL (BROWN HATCH)
EASEMENT IN FAVOUR OF ENDEAVOUR ENERGY FOR OVERHEAD POWER LINES 9m WIDE
NO WORKS TO BE UNDERTAKEN WITHIN 5m OF POLE
NO WORKS TO BE UNDERTAKEN WITHIN MANAGED LANDS UNDER THIS APPROVAL (BROWN HATCHED)
EXISTING CREEK TOP OF BANK
BOUNDARY OF BIODIVERSITY (TYP.)
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP BULK EARTHWORKS
DA/CC
BULK EARTHWORKS PLAN
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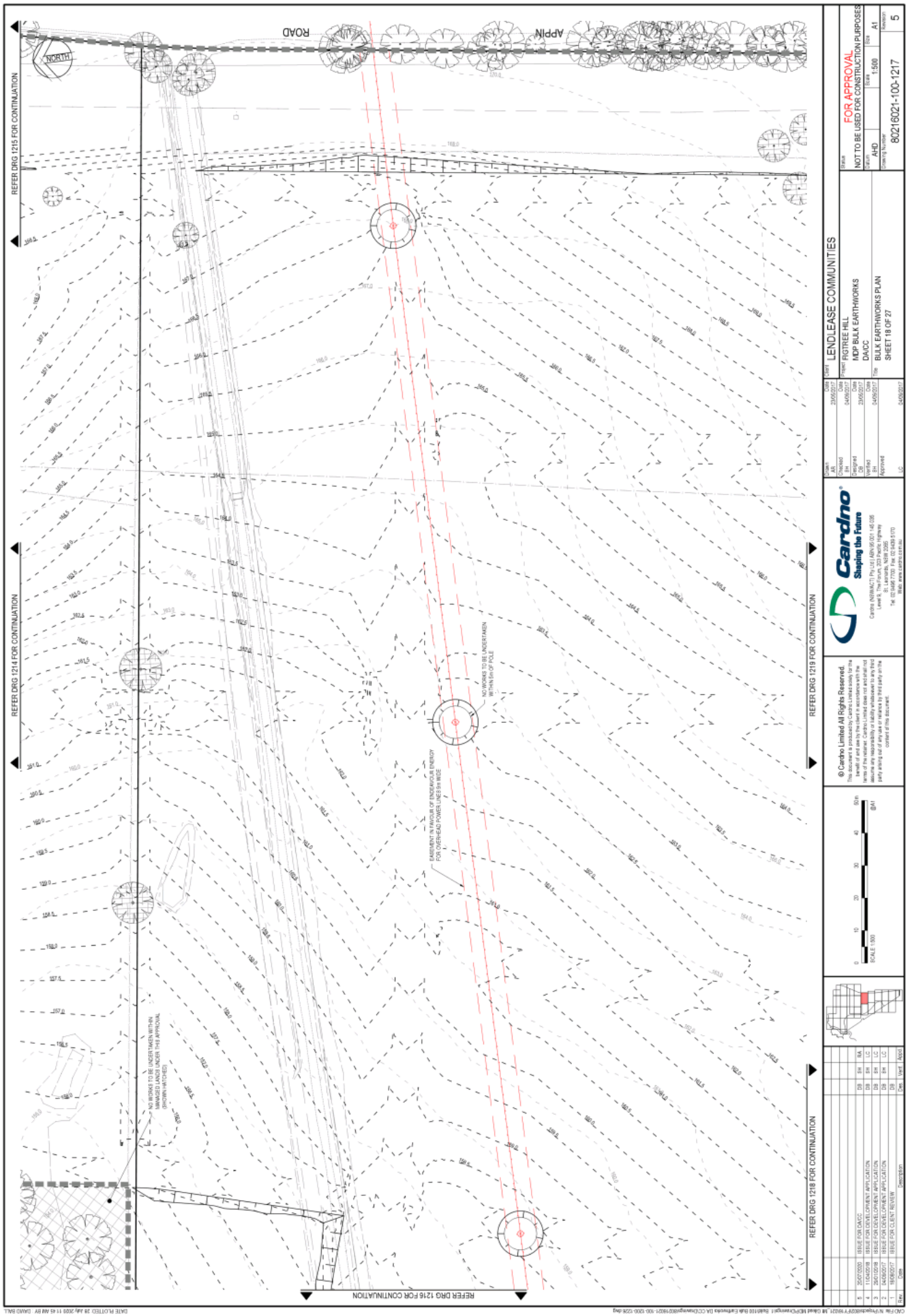
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EASEMENT IN FAVOUR OF ENDEAVOUR ENERGY FOR OVERHEAD POWER LINES 5m WIDE
NO WORKS TO BE UNDERTAKEN WITHIN 5m OF POLE
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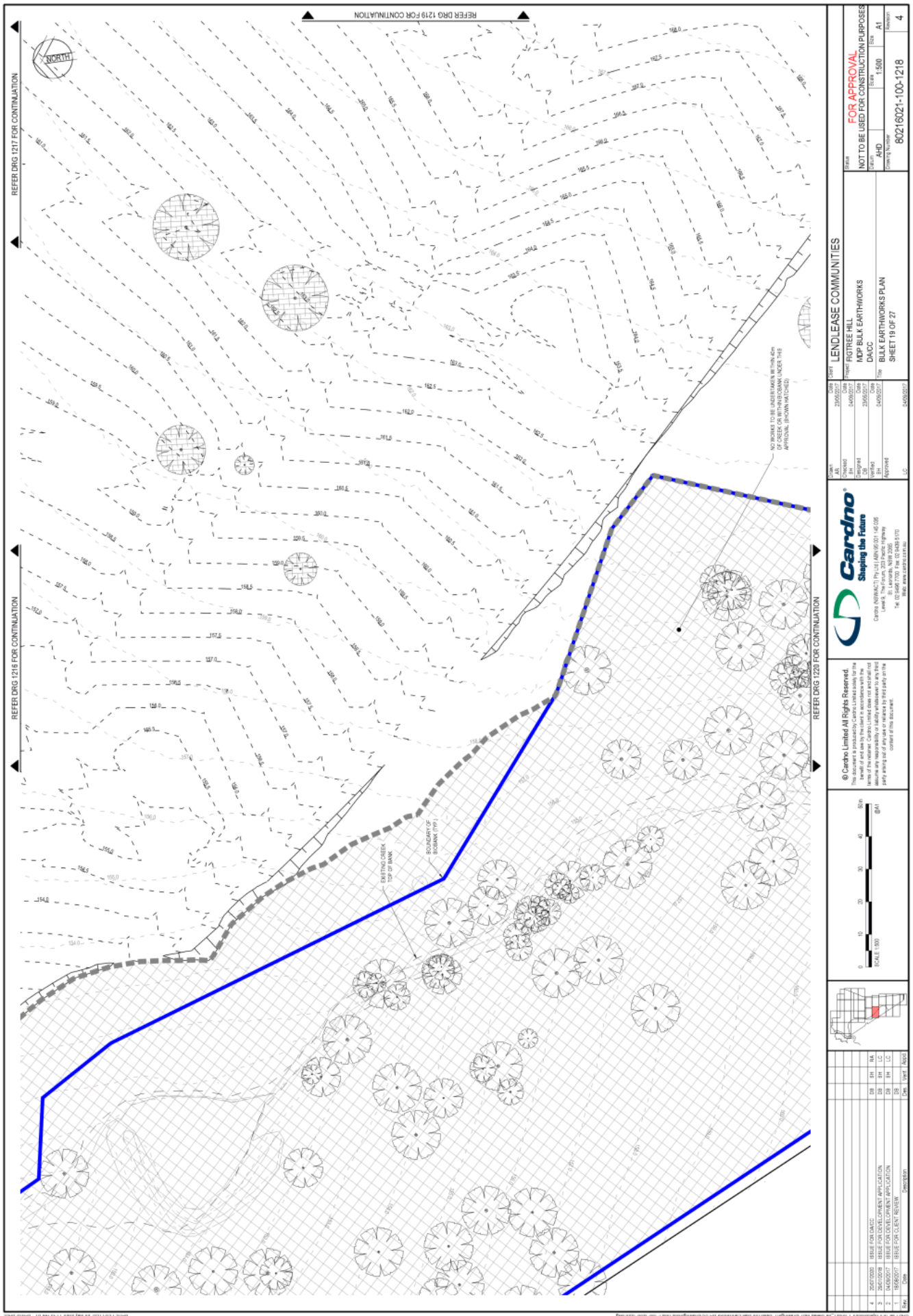
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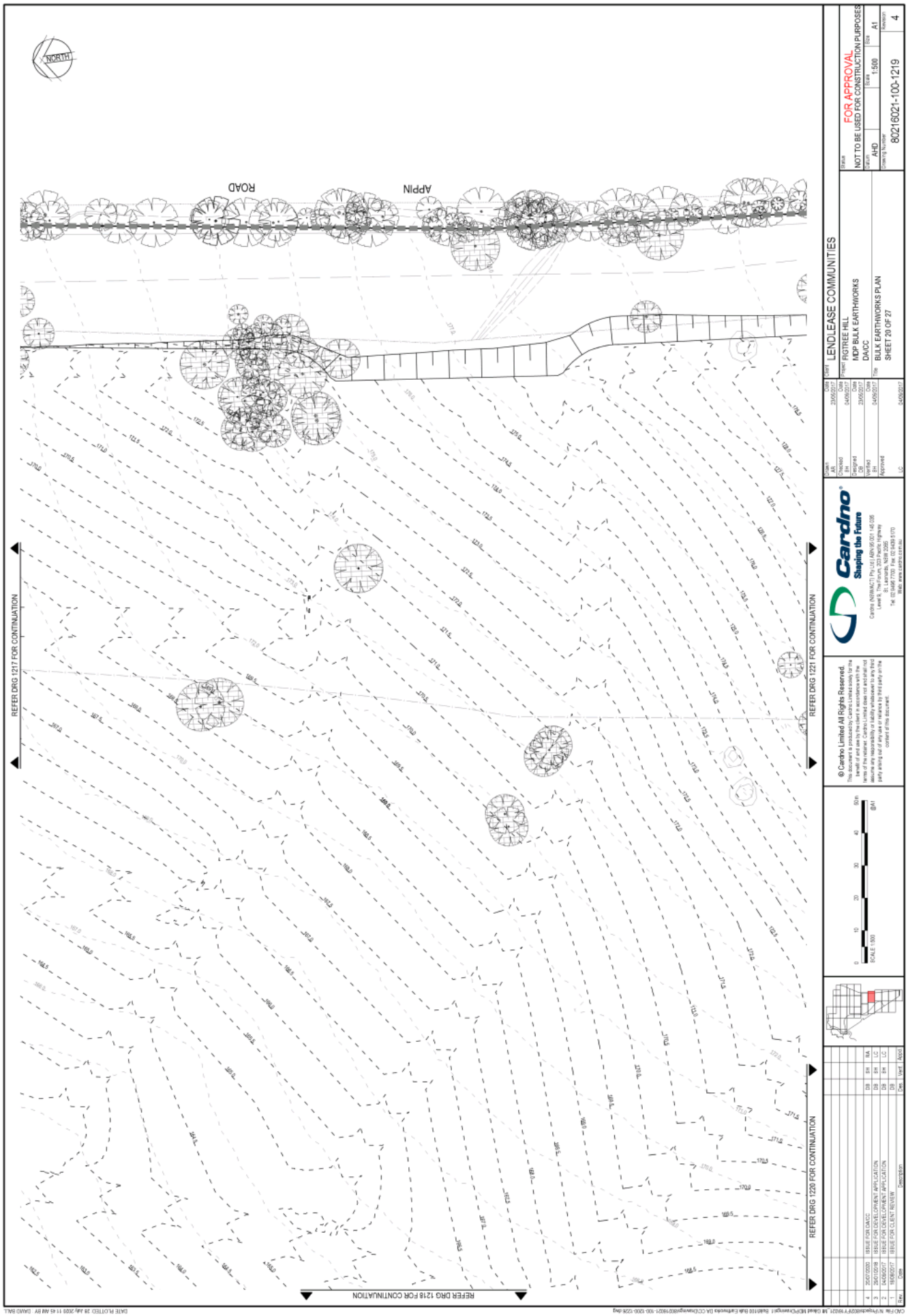
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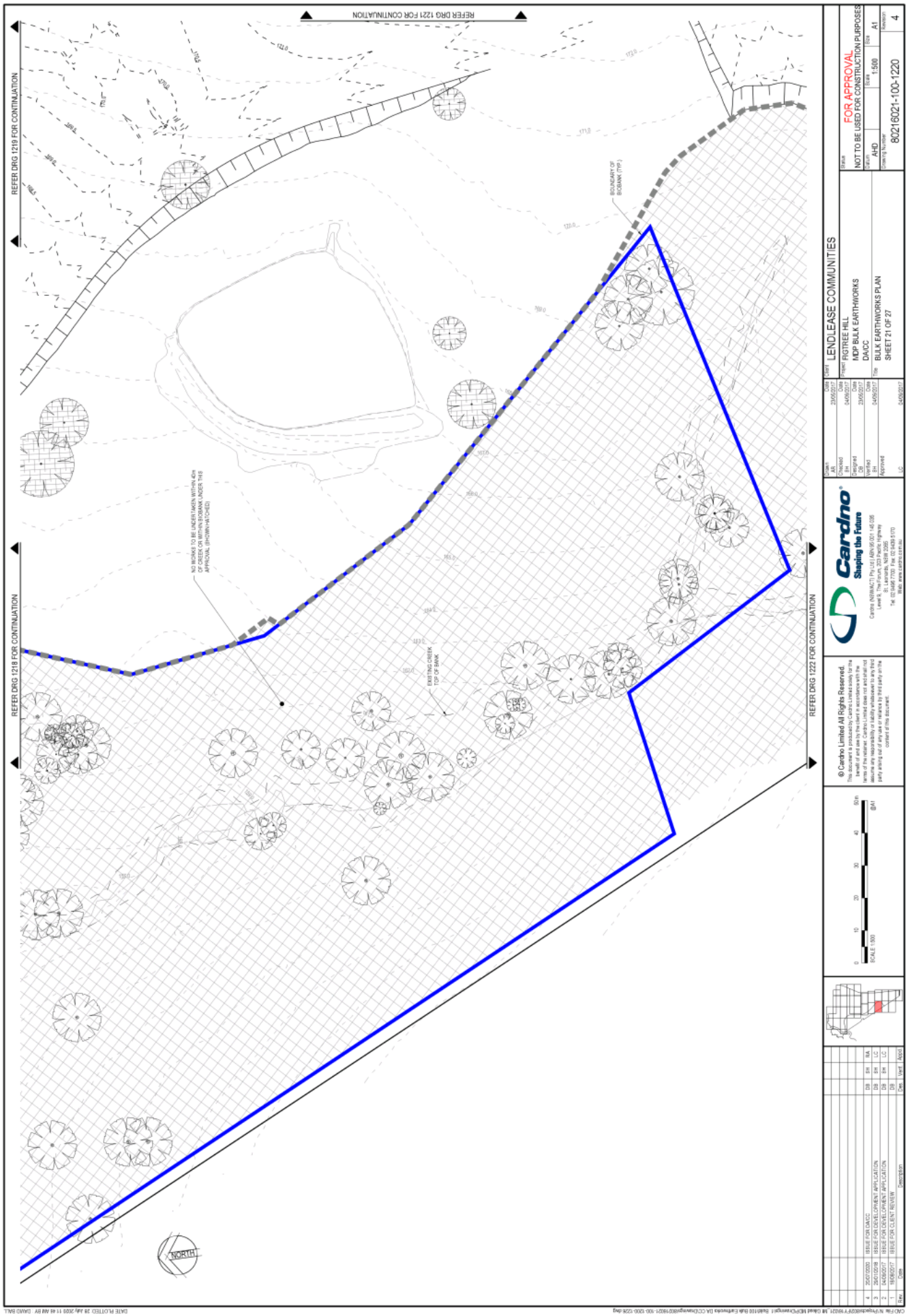
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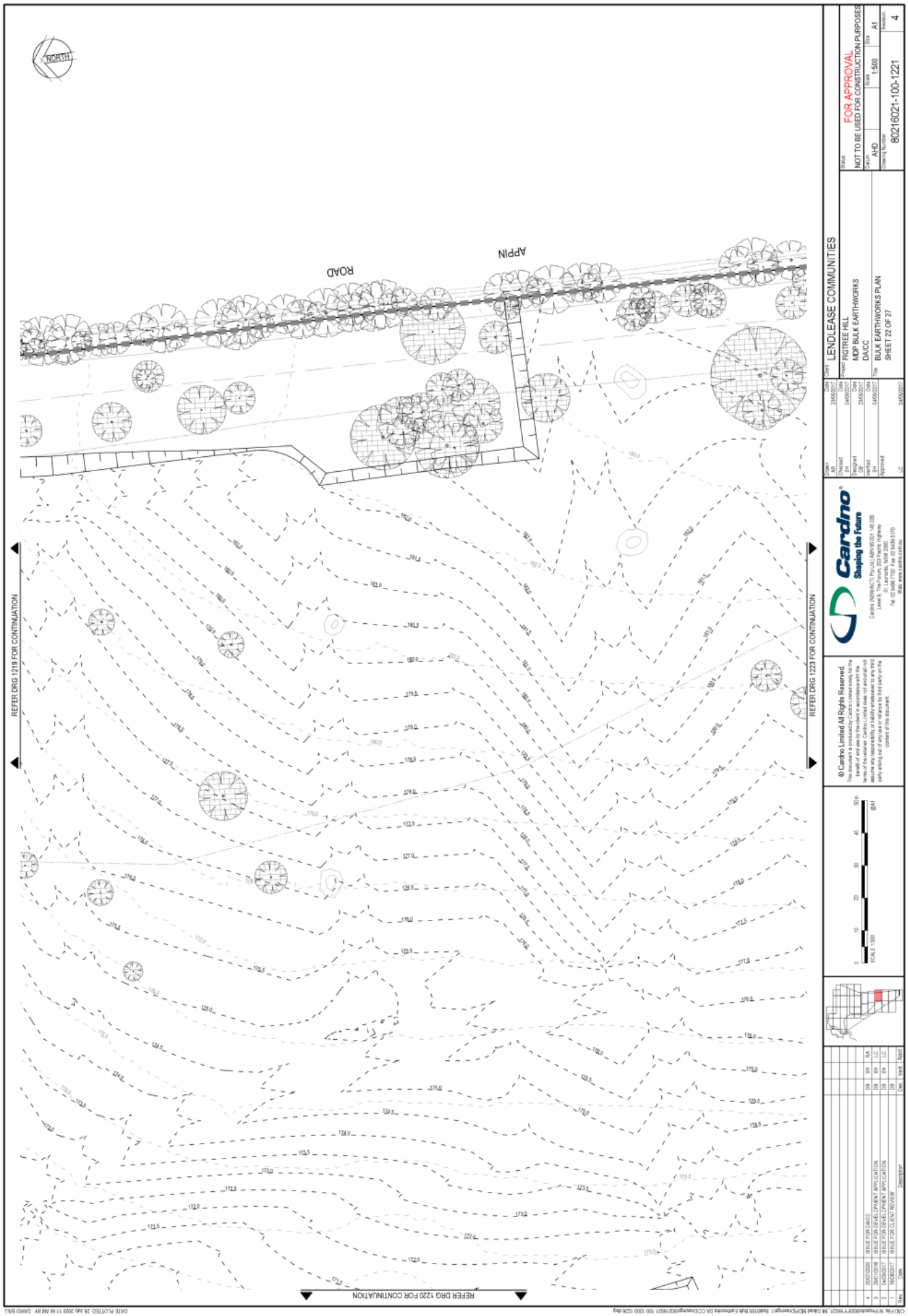
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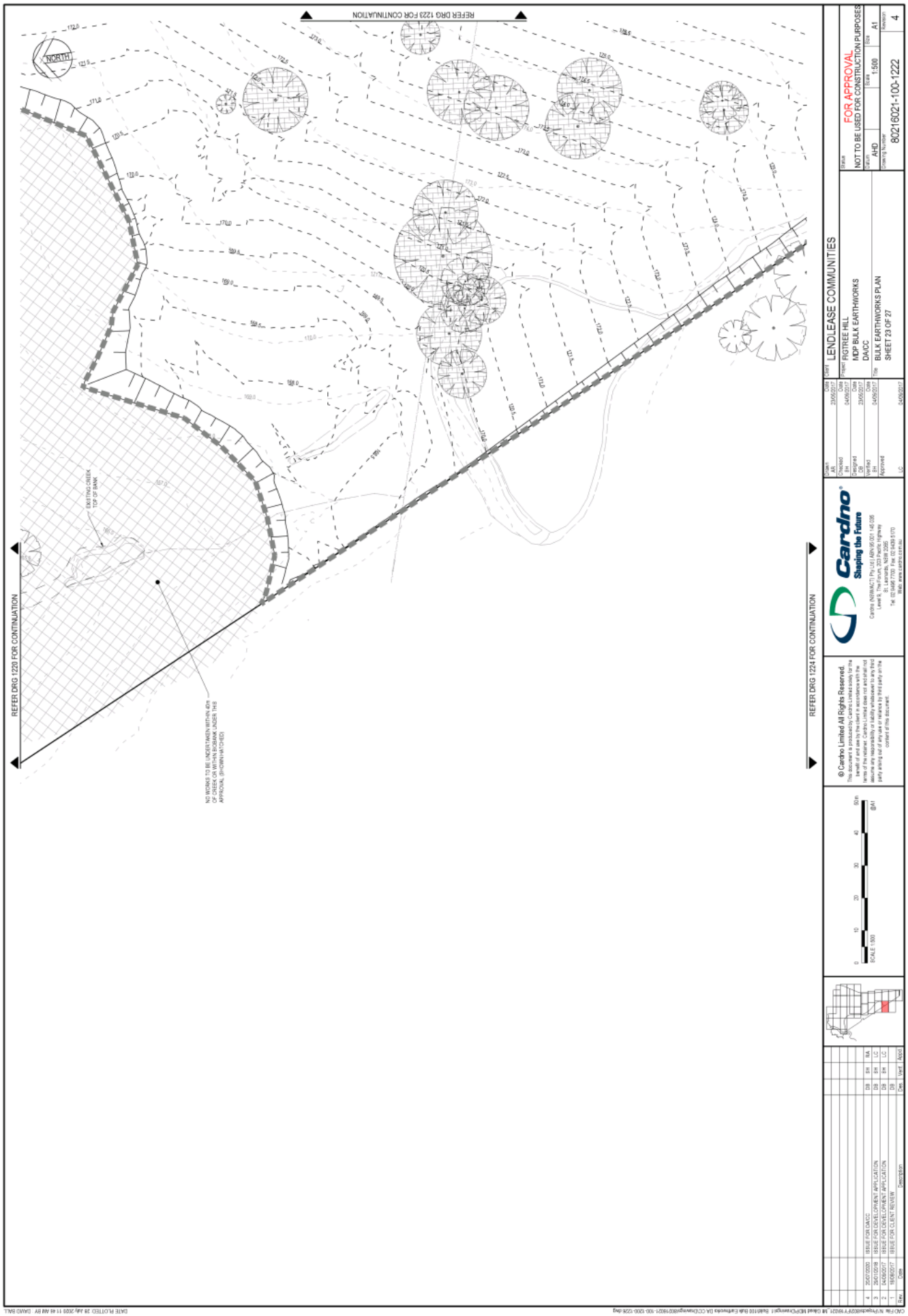
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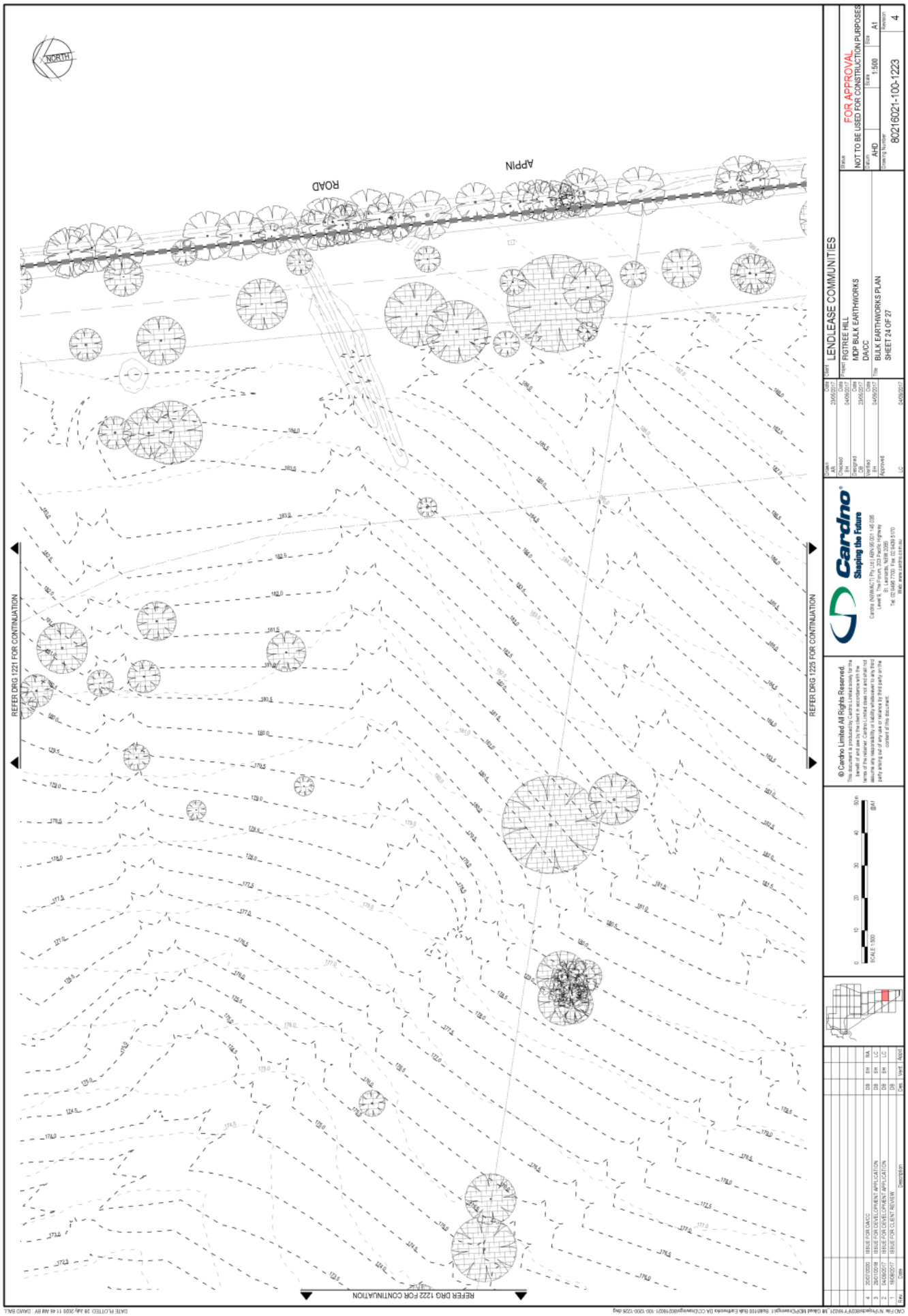
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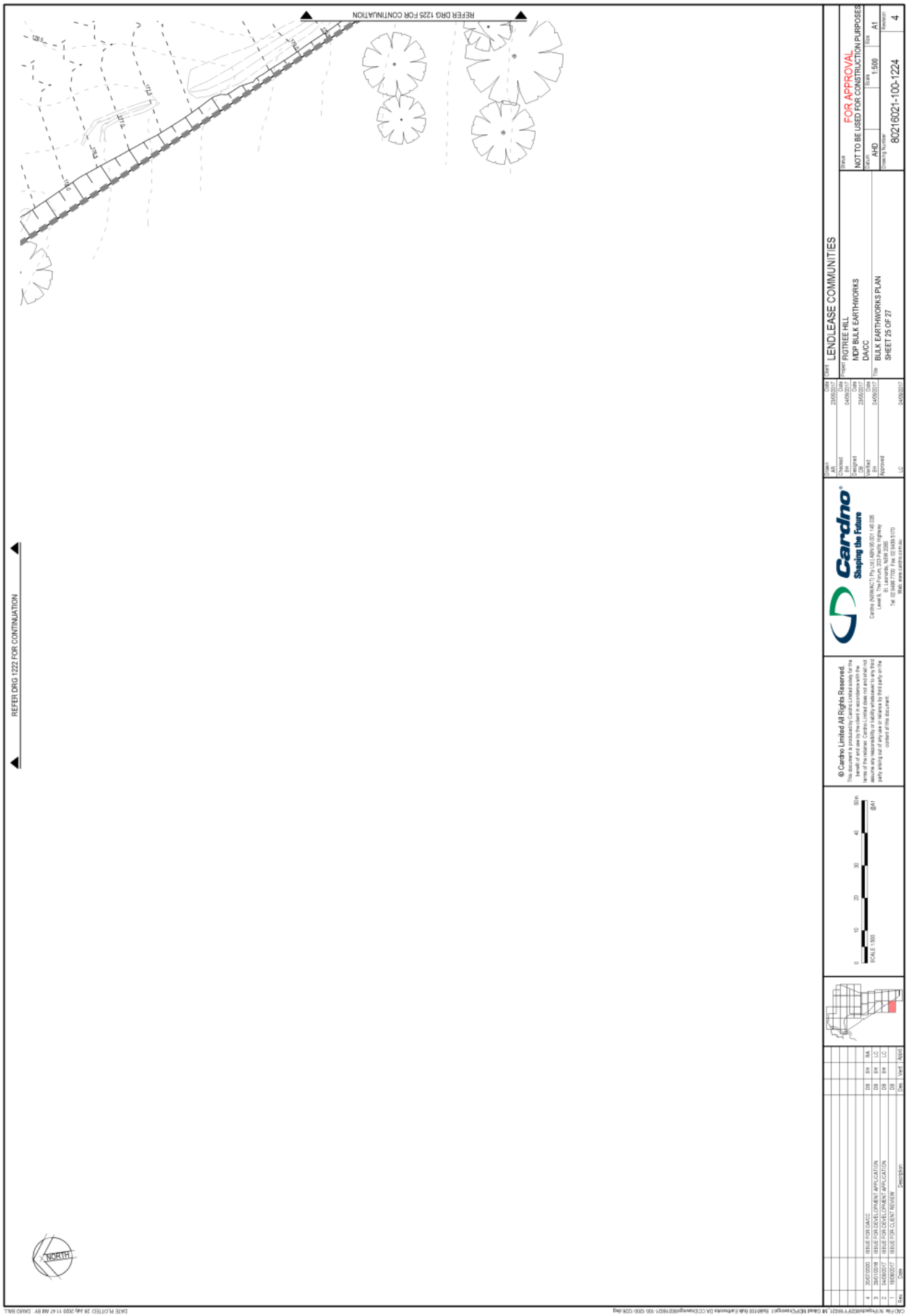
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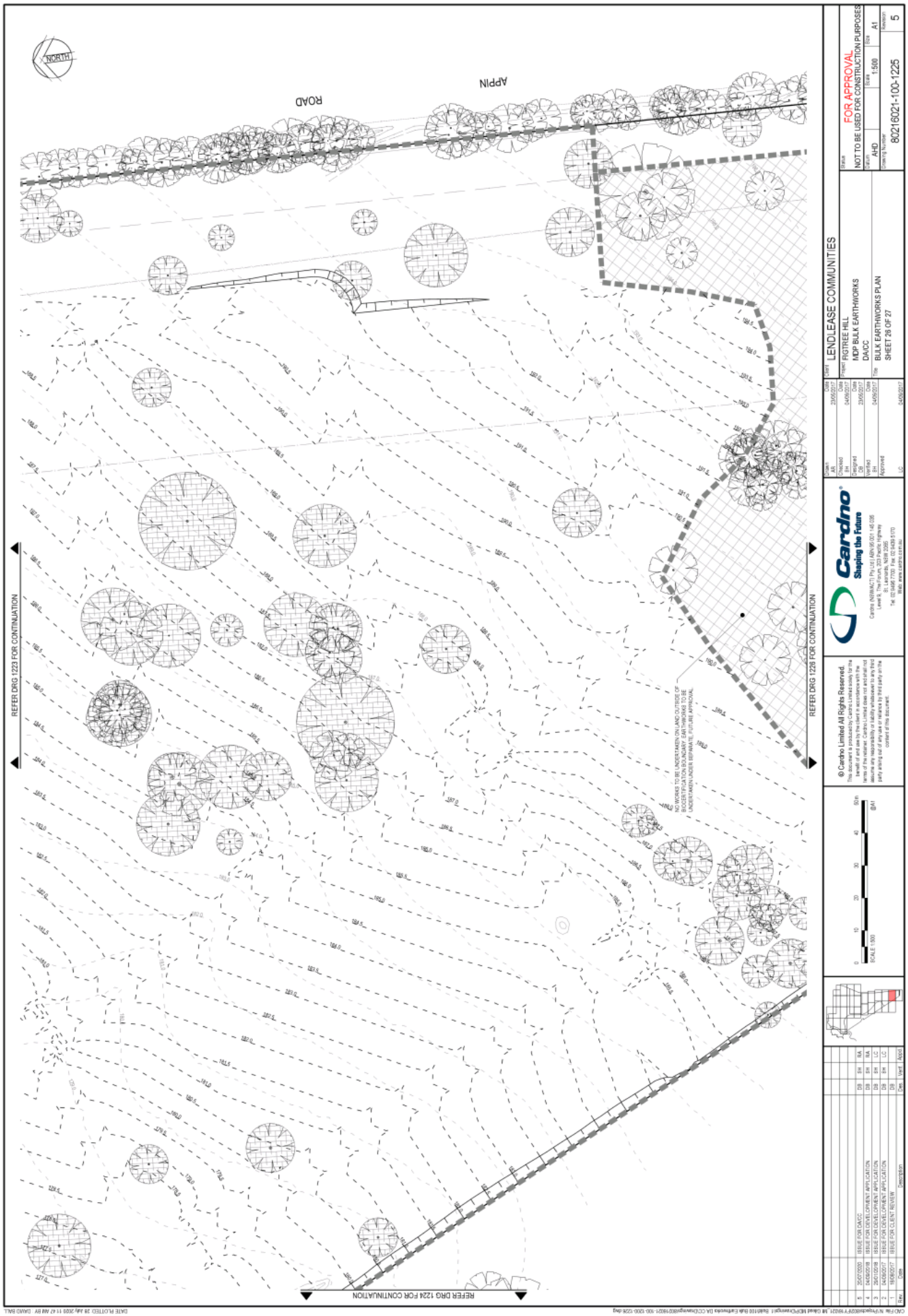
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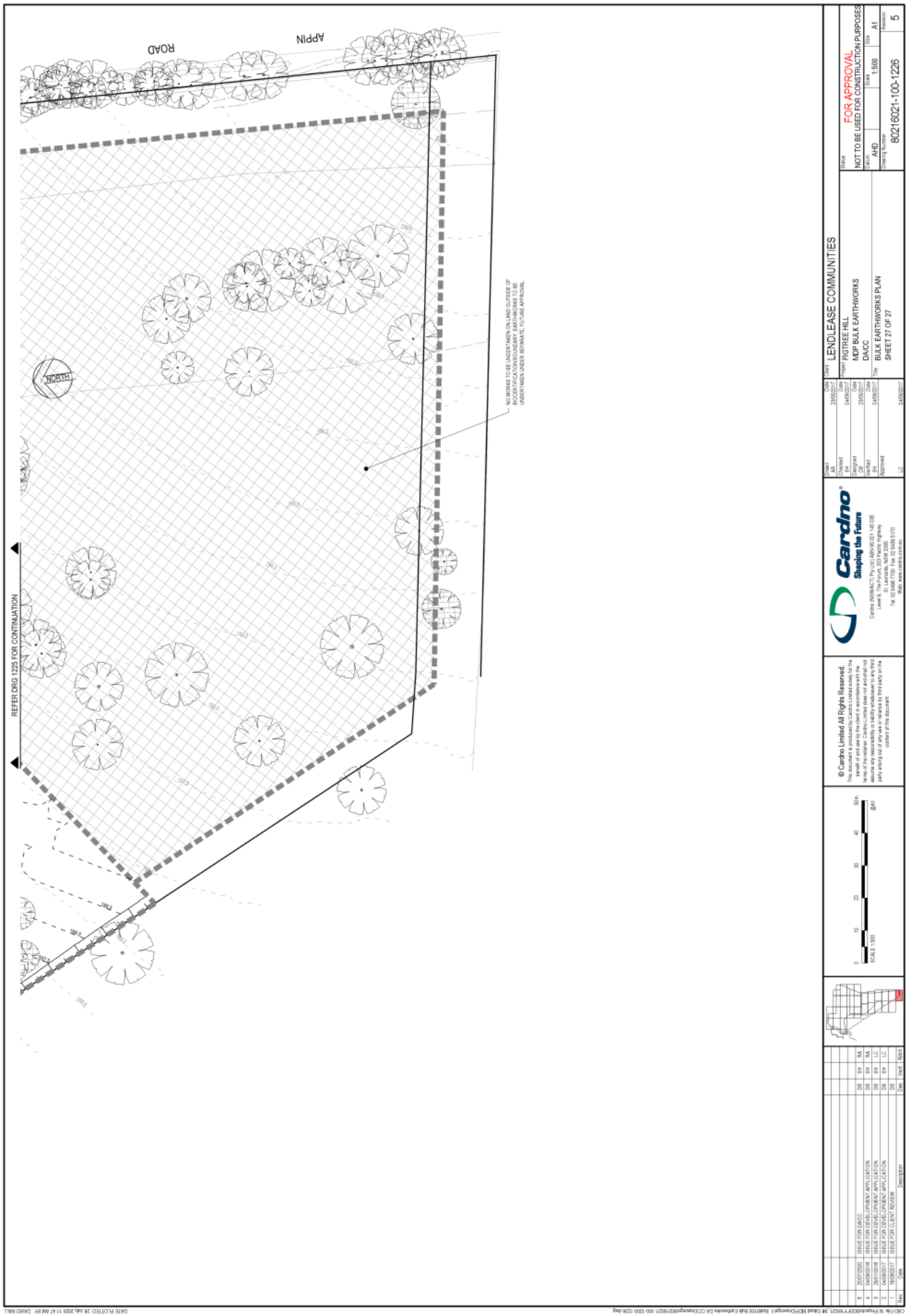
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The General Manager
Campbelltown City Council

7 October 2020

ATTENTION: CNR Team

Dear Sir or Madam

I refer to the referral of 1 October 2020 from NSW Planning, Industry & Environment regarding NSW Government concurrence and referral request CNR-13054 for Campbelltown City Council Development Application 2984/2020/DA-CW at 901 & 913 APPIN ROAD GILEAD 2560 (Lots 1, 2, 3, 4 & 5 DP 1240836 and Lot 61 DP 752042) for 'Tree removal and dam dewatering with associated site remediation and bulk earthworks'. Submissions need to be made to Council by 22 October 2020.

As shown in the below site plans from Endeavour Energy's G/Net master facility model (and extracts from Google Maps Street View) there are:

- Easement benefitting Endeavour Energy (indicated by red hatching) for 11,000 volt / 11 kilovolt (kV) high voltage overhead power lines.
- Low voltage and 11 kV high voltage overhead power lines to the opposite side of Appin Road.

Please note the location, extent and type of any electricity infrastructure, boundaries etc. shown on the plan is indicative only. In addition it must be recognised that the electricity network is constantly extended, augmented and modified and there is a delay from the completion and commissioning of these works until their capture in the model. Generally (depending on the scale and/or features selected), low voltage (normally not exceeding 1,000 volts) is indicated by blue lines and high voltage (normally exceeding 1,000 volts but for Endeavour Energy's network not exceeding 132,000 volts / 132 kV) by red lines (these lines can appear as solid or dashed and where there are multiple lines / cables only the higher voltage may be shown). This plan only shows the Endeavour Energy network and does not show electricity infrastructure belonging to other authorities or customers owned electrical equipment beyond the customer connection point / point of supply to the property. This plan is not a 'Dial Before You Dig' plan under the provisions of Part 5E 'Protection of underground electricity power lines' of the *Electricity Supply Act 1995* (NSW).

Endeavour Energy has noted that the Statement of Environmental Effects indicates that 'Written notice should also be provided to Endeavour Energy under clause 45(2) of State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) as works are proposed within the easement of an existing transmission line that runs through Lots 3 and 4 in DP 1240836' and includes the following additional detail.

51 Huntingwood Drive, Huntingwood, NSW 2148
PO Box 811, Seven Hills, NSW 1730
T: 133 718

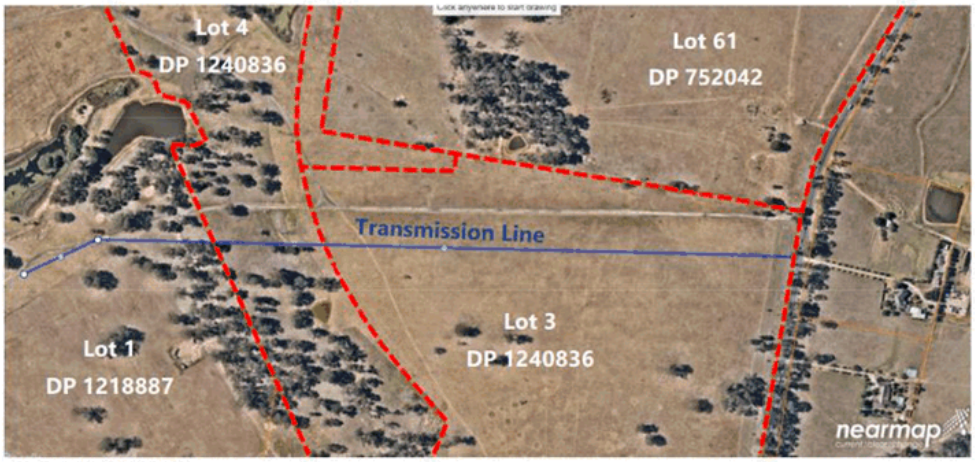
endeavourenergy.com.au

ABN 11 247 365 823

3.4 Bulk earthworks

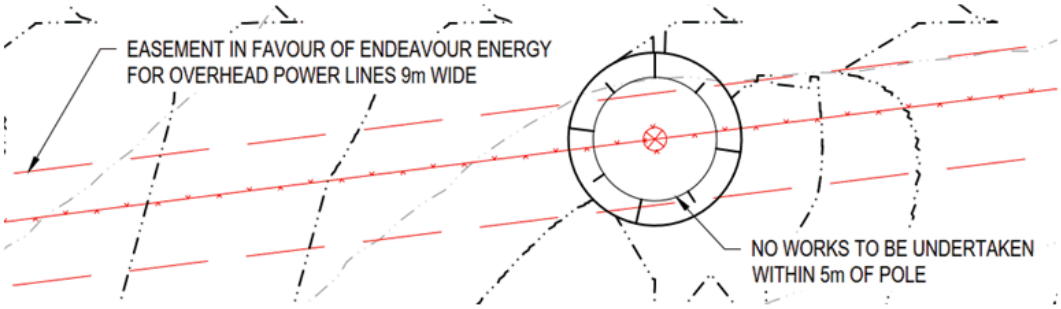
3.4.3 Overhead transmission line

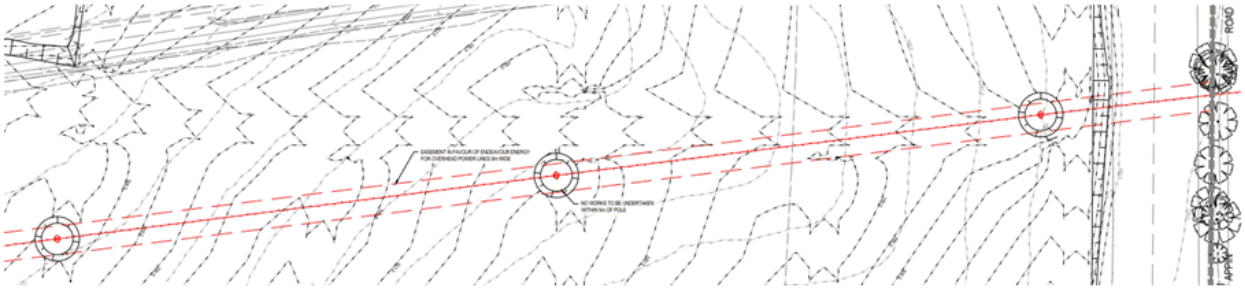
An existing private above ground electricity transmission line traverses Lots 3 and 4 in DP 1240836 to the south of Lot 61 in DP 752042 as shown in **Figure** 7. This line provides services to the homestead on Lot 1 in DP 1218887 and will ultimately be converted to an underground service within a future road reserve and is the subject to a separate DA. In the meantime, the above ground electricity transmission line will be retained on site with no works proposed within 5m of the existing poles. Outside of the exclusion zone, land will be battered as necessary to the proposed earthworks levels.

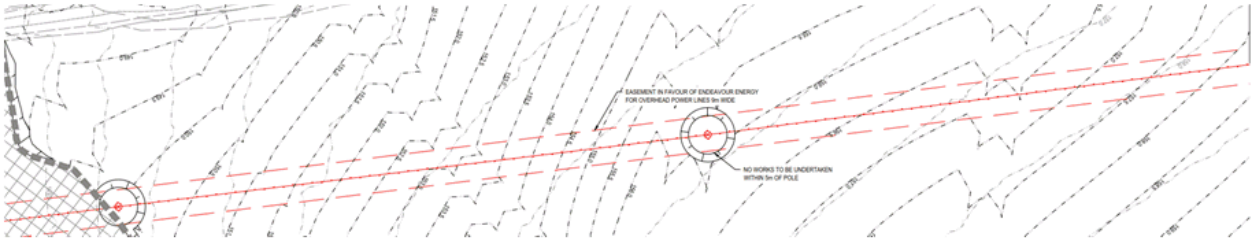


Source: Nearmap, 2019

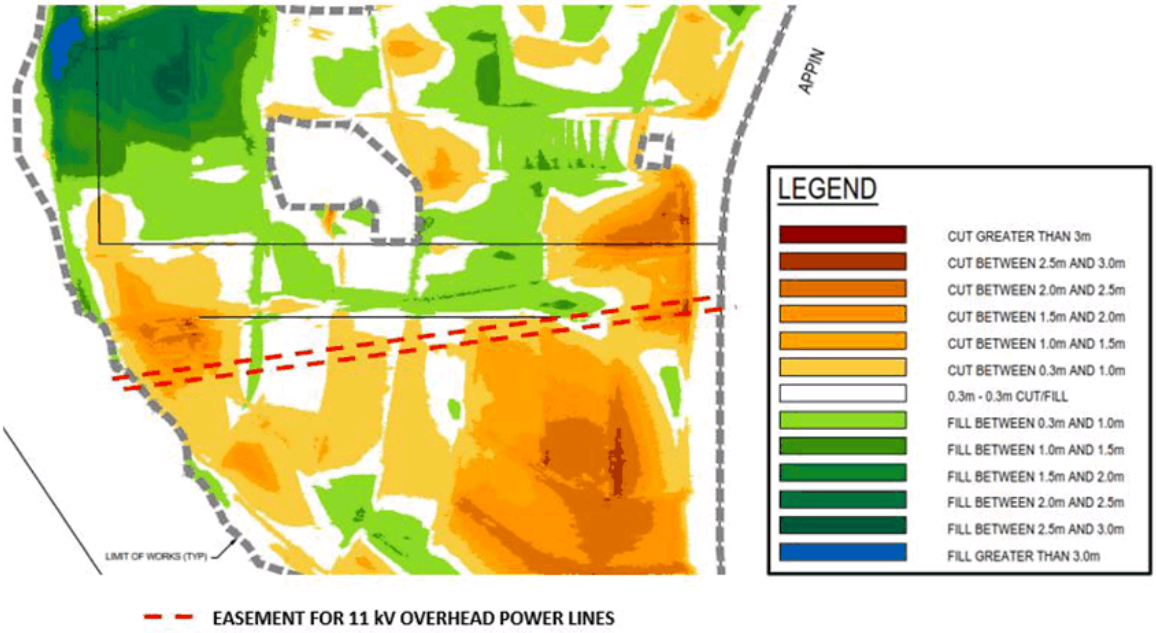
The foregoing is shown in the following extracts of the Bulk Earthworks Plans.







However the location of the easement and the poles is not shown on the Cut and Fill Plans which in the following extract has been overlaid from the site plan from Endeavour Energy's G/Net master facility model.



The following is a summary of the usual / main terms of Endeavour Energy's electrical easements requiring that the landowner:

- Not install or permit to be installed any buildings, structures or services within the easement site.
- Not alter the surface level of the easement site.
- Not do or permit to be done anything that restricts access to the easement site without the prior written permission of Endeavour Energy and in accordance with such conditions as Endeavour Energy may reasonably impose.

Endeavour Energy's preference is for no activities or encroachments to occur within its easements. However, if any proposed works (other than those approved / certified by Endeavour Energy's Network Connections Branch as part of an enquiry / application for load or asset relocation project) will encroach/affect Endeavour Energy's easements, contact must first be made with the Endeavour Energy's Easements Officer, Philip Wilson, on business days on direct telephone 9853 7110 or alternately by email Philip.Wilson@endeavourenergy.com.au or Easements@endeavourenergy.com.au .

Please find attached for the applicant's reference copies of Endeavour Energy's:

- Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' which deals with activities / encroachments within easements.

- General Restrictions for Overhead Power Lines.

In regard to the release of easement for the future undergrounding of the existing 11 kV high voltage overhead power lines, this will be dealt with as part of Endeavour Energy's application for connection of load (please refer to the below point 'Network Capacity / Connection'). Endeavour Energy's Network Connections Branch will have made the developer / designer is aware of Endeavour Energy's requirements for the release / variation of easement. However the certification of the design does not constitute an agreement to release / variation of the easement and no works should be undertaken to decommission the existing infrastructure within the easement until release / variation of the easement has been resolved and approved by Endeavour Energy.

Until such time as the existing overhead power lines are actually undergrounded and the easement release / variation has been registered over the effected lots in accordance with the requirements of NSW Land Registry Services (LRS), Endeavour Energy may continue to manage the easement based on the existing areas and terms and conditions.

Subject to the satisfactory resolution of the foregoing and the following recommendations and comments Endeavour Energy has no objection to the Development Application.

- Network Capacity / Connection

Endeavour Energy has noted the following in the Statement of Environmental Effects regarding the suitability of the site for the development in regard to whether electricity services are available and adequate for the development.

Table 5. Assessment against Campbelltown LEP 2015

Clause	Comment	Compliance
Part 6 – Urban release areas		
Clause 6.2 Public utility infrastructure	The earthworks proposed under the DA do no generate demand for any increased access to public utility infrastructure. Lendlease is working with Council, RMS, Sydney Water and Endeavour Energy to make arrangements to service future residential development that will be the subject of separate approvals.	Yes

In due course the applicant for the proposed development of the site will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Further details are available by contacting Endeavour Energy's Network Connections Branch via Head Office enquiries on business days on telephone: 133 718 or (02) 9853 6666 from 9am - 4:30pm or on Endeavour Energy's website under 'Home > Residential and business > Connecting to our network' via the following link:

http://www.endeavourenergy.com.au/ .

Advice on the electricity infrastructure required to facilitate the proposed development (including asset relocation / removal) can be obtained by submitting a Technical Review Request to Endeavour Energy's Network Connections Branch, the form for which FPJ6007 is attached and further details (including the applicable charges) are available from Endeavour Energy's website under 'Our connection services'. The response to these enquiries is based upon a desktop review of corporate information systems, and as such does not involve the engagement of various internal stakeholders in order to develop a 'Connection Offer'. It does provide details of preliminary connection requirements which can be considered by the applicant prior to lodging a formal application for connection of load.

Alternatively the applicant may need to engage an ASP of an appropriate level and class of accreditation to assess the electricity load of the proposed development. The ASP scheme is administered by Energy NSW and details are available on their website via the following link or telephone 13 77 88:

https://energy.nsw.gov.au/government-and-regulation/legislative-and-regulatory-requirements/asp-scheme-and-contestable-works .

Endeavour Energy is urging applicants /customers to engage with an Electrical Consultant prior to finalising plans to in order to assess and incorporate any required electricity infrastructure. In so doing the consideration can also be given to its impact on the other aspects of the proposed development. This can assist in avoiding the making of amendments to the plan or possibly the need to later seek modification of an approved development application.

- Network Asset Design

Endeavour Energy's Company Policy 9.2.5 'Network Asset Design', includes the following requirements for electricity connections to new urban subdivision / development.

5.11 Reticulation policy

5.11.1 Distribution reticulation

In order to improve the reliability performance of and to reduce the operating expenditure on the network over the long term the company has adopted the strategy of requiring new lines to be either underground cables or where overhead is permitted, to be predominantly of covered or insulated construction. Notwithstanding this strategy, bare wire overhead construction is appropriate and permitted in some situations as detailed below.

In areas with the potential for significant overhanging foliage, CCT is used to provide increased reliability as it is less susceptible to outages from wind-blown branches and debris than bare conductors. CCT must only be used in treed[2] areas as the probability of a direct lightning strike is low. In open areas where the line is not shielded from a direct lightning strike, bare conductors must generally be used for 11kV and 22kV reticulation.

Non-metallic Screened High Voltage Aerial Bundled Cable (NMSHVABC) must be used in areas which are heavily treed and where it is not practicable to maintain a tree clearing envelope around the conductors.

[2] A "treed" area is one with a substantial number of trees adjacent to the line, in each span. In these situations CCT is used to provide increased reliability as it is less susceptible to outages from wind-blown

5.11.1.1 Urban areas

Reticulation of new residential subdivisions will be underground. In areas of low bushfire consequence, new lines within existing overhead areas can be overhead, unless underground lines are cost justified or required by either environmental or local council requirements.

Where underground reticulation is required on a feeder that supplies a mixture of industrial, commercial and/or residential loads, the standard of underground construction will apply to all types of load within that development.

Where ducting is used, adequate spare ducts and easements must be provided at the outset to cover the final load requirements of the entire development plan.

Extensions to the existing overhead 11kV/22kV network must generally be underground. Bare wire will be used for conductor replacements and augmentations except in treed areas where CCT or NMSHVABC must be used.
Extensions to the existing overhead LV network and augmentations must either be underground or ABC. Conductor replacements greater than 100m in route length must utilise aerial bundled cable.

- Earthing

The construction of any building or structure (including fencing, signage, flag poles, hoardings etc.) whether temporary or permanent that is connected to or in close proximity to Endeavour Energy's electrical network is required to comply with Australian/New Zealand Standard AS/NZS 3000:2018 'Electrical installations' as updated from time to time. This Standard sets out requirements for the design, construction and verification of electrical installations, including ensuring there is adequate connection to the earth. It applies to all electrical installations including temporary builder's supply / connections.

Inadequate connection to the earth to allow a leaking / fault current to flow into the grounding system and be properly dissipated places persons, equipment connected to the network and the electricity network itself at risk from electric shock, fire and physical injury. The earthing system is usually in the form of an earth electrode consisting of earth rods or mats buried in the ground. It should be designed by a suitably qualified electrical engineer / Accredited Service Provider (ASP) following a site-specific risk assessment having regard to the potential number of people could be simultaneously exposed, ground resistivity etc.

For details of the ASP Scheme please refer to the above point 'Network Capacity / Connection'.

- Network Access

It is imperative that the access to the existing electrical infrastructure on and in proximity of the site be maintained at all times. To ensure that supply electricity is available to the community, access to the electricity infrastructure may be required at any time. Restricted access to electricity infrastructure by maintenance workers causes delays in power restoration and may have severe consequences in the event of an emergency.

- Vegetation Management

The planting of large trees near electricity infrastructure is not supported by Endeavour Energy. Particularly for overhead power lines, ongoing vegetation management / tree trimming is a significant network cost and falling trees and branches during storms are a major cause of power outages.

The planting of large trees near electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure (including any new electricity infrastructure required to facilitate the proposed development). Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure (at least the same distance from overhead power lines as their potential full grown height) and even with underground cables, be installed with a root barrier around the root ball of the plant.

Landscaping that interferes with electricity infrastructure may become a potential safety risk, cause of bush fire, restrict access, reduce light levels from streetlights or result in the interruption of supply. Such landscaping may be subject to Endeavour Energy's Vegetation Management program and/or the provisions of the *Electricity Supply Act 1995* (NSW) Section 48 'Interference with electricity works by trees' by which under certain circumstances the cost of carrying out such work may be recovered.

- Dial Before You Dig

Before commencing any underground activity the applicant is required to obtain advice from the ***Dial Before You Dig* 1100** service in accordance with the requirements of the *Electricity Supply Act 1995* (NSW) and associated Regulations. This should be obtained by the applicant not only to identify the location of any underground electrical and other utility infrastructure across the site, but also to identify them as a hazard and to properly assess the risk.

- Excavation

The applicant should be aware of the following object of Section 49A 'Excavation work affecting electricity works' of the of *Electricity Supply Act 1995* (NSW) covering the carrying out or proposed carrying out of excavation work in, on or near Endeavour Energy's electrical infrastructure.

Electricity Supply Act 1995 No 94

Current version for 1 July 2019 to date (accessed 24 October 2019 at 14:19)

Part 5 > Division 2 > Section 49A

49A Excavation work affecting electricity works

(1) This section applies if a network operator has reasonable cause to believe that the carrying out or proposed carrying out of excavation work in, on or near its electricity works:

(a) could destroy, damage or interfere with those works, or

(b) could make those works become a potential cause of bush fire or a potential risk to public safety.

(2) In those circumstances, a network operator may serve a written notice on the person carrying out or proposing to carry out the excavation work requiring the person:

(a) to modify the excavation work, or

(b) not to carry out the excavation work, but only if the network operator is of the opinion that modifying the excavation work will not be effective in preventing the destruction or damage of, or interference with, the electricity works concerned or in preventing those works becoming a potential cause of bush fire or a potential risk to public safety.

(3) A notice under subsection (2) must specify the excavation work that is to be modified or not carried out.

- Site Remediation

Endeavour Energy's Environmental Business Partner Section have advised that the remediation of soils or surfaces impacted by various forms of electricity infrastructure is not uncommon but is usually not significant eg. transformer oil associated with leaking substations, pole treatment chemicals at the base of timber poles etc. The method of remediation is generally the removal of the electricity infrastructure, removal of any stained surfaces or excavation of any contaminated soils and their disposal at a licensed land fill. The decommissioning and removal of the redundant electricity infrastructure will be dealt with by Endeavour Energy's Network Connections Branch as part of the application for the connection of load for the new development (please refer to the above point 'Network Capacity / Connection').

If the applicant has any concerns over the remediation of soils impacted by redundant electricity infrastructure they should contact Environmental Business Partner Section on business days via Head Office enquiries on business days on telephone: 133 718 or (02) 9853 6666 from 9am - 4:30pm.

- Public Safety

Workers involved in work near electricity infrastructure run the risk of receiving an electric shock and causing substantial damage to plant and equipment. I have attached Endeavour Energy's public safety training resources, which were developed to help general public / workers to understand why you may be at risk and what you can do to work safely. The public safety training resources are also available via Endeavour Energy's website via the following link:

http://www.endeavourenergy.com.au/wps/wcm/connect/ee/nsw/nsw+homepage/communitynav/safety/safety+brochures .

If the applicant has any concerns over the proposed works in proximity of the Endeavour Energy's electricity infrastructure to the road verge / roadway, as part of a public safety initiative Endeavour Energy has set up an email account that is accessible by a range of stakeholders across the company in order to provide more effective lines of communication with the general public who may be undertaking construction activities in proximity of electricity infrastructure such as builders, construction industry workers etc. The email address is Construction.Works@endeavourenergy.com.au .

- Emergency Contact

In case of an emergency relating to Endeavour Energy's electrical network, the applicant should note the Emergencies Telephone is 131 003 which can be contacted 24 hours/7 days. Endeavour Energy's contact details should be included in the any risk or safety management plan.

I appreciate that not all the foregoing issues may be directly or immediately relevant or significant to the Development Application. However, Endeavour Energy's preference is to alert proponents / applicants of the potential matters that may arise should development within closer proximity of the existing and/or required electricity infrastructure needed to facilitate the proposed development on or in the vicinity of the site occur.

Could you please pass on a copy of this submission and the attached resources to the applicant? Should you wish to discuss this matter, or have any questions, please do not hesitate to contact me or the contacts identified above in relation to the various matters. Due to the high number of development application / planning proposal notifications submitted to Endeavour Energy, to ensure a response contact by email to property.development@endeavourenergy.com.au is preferred.

With the current COVID-19 health risk, as many as possible of Endeavour Energy staff are working from home. As a result there is only a small contingent located at the Huntingwood head office for essential operations. Although working from home, access to emails and other internal stakeholders is now somewhat limited and as a result it may take longer than usual to respond to enquiries. Thank you for your understanding during this time.

Yours faithfully

Cornelis Duba
Development Application Specialist
Network Environment & Assessment
M: 0455 250 981
E: cornelis.duba@endeavourenergy.com.au
51 Huntingwood Drive, Huntingwood NSW 2148
www.endeavourenergy.com.au

Gorodok Pty Limited ABN 30 057 156 751
Level 1 121 Wharf Street
Spring Hill QLD 4000
GPO Box 1390. QLD 4001
APA Group | apa.com.au

21 October 2020

Council Reference: 2984/2020/DA-CW
APA Reference: 447027

Campbelltown City Council
PO Box 57
Campbelltown NSW 2560

EMAIL OUT: cnr@campbelltown.nsw.gov.au

Dear Sir / Madam,

RE: Appin Road, 901 and 913 Appin Road, Gilead
Lots 1-5 on DP1240836 and Lot 61 on DP752042
Tree removal and dam dewatering with associated site remediation and bulk earthworks

Thank you for your referral request received on 1 October 2020 in relation to the proposed bulk earth works to support future residential subdivision of the site.

APA has statutory obligations to ensure our pipelines are maintained and operated in accordance with Australian Standard 2885. The proposed earthworks are located approximately 400m from the pipeline at the closest point and no earthworks are proposed within the immediate vicinity of the pipeline. Therefore, APA has no concerns regarding any direct impact on the pipeline, as a result of the proposed earthworks, and/or construction activity.

The proposed earthworks are within the pipeline measure length (area of consequence). However, APA has no concerns on this basis, given the development:

- is not for a sensitive use under AS2885 ("use by members of the community who may be unable to protect themselves from the consequences of a pipeline failure"); and
- does not change the land use classification (under AS2885) from the current Rural Residential (R2), location class.

It is noted that these works are to support a future residential subdivision (Figtree Hill Estate) which may result in greater than 50 lots within the Measurement Length. As such, the future subdivision application may trigger a change in land use classification.

Depending on the final subdivision plans, APA may require a Safety Management Study to be prepared in accordance with *Australian Standards 2885 for Pipelines – Gas and Liquid Petroleum* to accompany the development application. This will involve the proponent and include a number of requirements.

Accordingly, APA requests referral of the related subdivision Development Application material to complete assessment of the overall development.

energy. connected.

For any further enquiries relating to this correspondence, please feel free to contact myself on (07) 3223 3385 or the Infrastructure Planning & Approvals team at planningnsw@apa.com.au.

Yours faithfully,

Ben Setchfield
Senior Urban Planner
Infrastructure Planning and Approvals

Our ref: DOC20/818988
Senders ref: 2984/2020/DA-CW

CNR Team
Campbelltown City Council
91 Queen Street
PO Box 57
CAMPBELLTOWN NSW 2560

Email: cnr@campbelltown.nsw.gov.au

Via Concurrence and Referral Portal CNR-13054

Dear CRN Team

Subject: DA 2984/2020/DA-CW Appin Road tree and vegetation removal, dam dewatering, site remediation and bulk earthworks, Appin Road – Campbelltown

Thank you for your referral of the above development application, lodged on the NSW Planning Portal on 1 October 2020, to the Heritage NSW in the Department of Premier and Cabinet.

We have reviewed the documents supplied and provide the following comments in relation to Aboriginal cultural heritage matters only:

Heritage NSW notes that the proposed development site is currently subject to an existing Aboriginal Heritage Impact Permit (AHIP). We advise the applicant to ensure that all proposed works are consistent with the conditions and management measures of that AHIP (AHIP C0005248).

We have no further comment to make in relation to Aboriginal cultural heritage matters at this time.

If you have any questions about this advice, please contact Jackie Taylor, Senior Team Leader, Aboriginal Cultural Heritage Regulation - or by email at: jackie.taylor@environment.nsw.gov.au.

Yours sincerely

Jackie Taylor
Senior Team Leader, Aboriginal Heritage Regulation Branch - South
Heritage NSW
21 October 2020

PO Box 398, Parramatta NSW 2124
Level 14, 169 Macquarie Street
Parramatta NSW 2150
www.waternsw.com.au
ABN 21 147 934 787

6 November 2020

Contact: *Justine Clarke*
Telephone: *9865 2402*
Our ref: *D2020/118362*

General Manager
Campbelltown City Council
PO Box 57
CAMPBELLTOWN NSW 2560

CC: Andrew MacGee

Dear Sir / Madam

DA 2984/2020/DA-CW – Appin Road, Gilead (Lots 1-5 DP 1240836, Lot 61 DP 752042)

Thank you for your letter dated 8 October 2020 inviting WaterNSW to comment on the development application (DA) for the above site. WaterNSW understands the proposal is for tree removal, dam dewatering, site remediation and bulk earthworks.

WaterNSW has previously responded to a planning proposal relating to the site (January 2015; our ref: D2015/77699) and DA 3868/2017/DA-CW for a similar extent of works (our ref: D2018/37841). Currently, 3868/2017/DA-CW is being challenged in the Land and Environment Court, however the issues and comments provided in both of the above responses are considered relevant to this application.

The WaterNSW Upper Canal corridor, which is critical water supply infrastructure, is adjacent to the western boundary of the proposed development. The Upper Canal corridor is a Controlled Area under the *Water NSW Act 2014* and access is prohibited unless written consent is obtained from WaterNSW. The Upper Canal corridor is also a significant heritage item listed on the State Heritage Register. The curtilage of the heritage listing extends to the boundary of the corridor.

The key factors for WaterNSW regarding any works or development adjacent to the Upper Canal corridor include the following:

- There should be no impact on water quality within the open waters of the Upper Canal at any stage of the development.
- No damage should occur to the water supply infrastructure at any stage of the development, including the stormwater structures currently serving the Upper Canal.
- 24-hour all-weather access to the Upper Canal corridor must be retained or provided for WaterNSW staff and contractors.
- For security and safety purposes, there is to be no public access into the Upper Canal corridor at any time. If access is required by the proponent and/or their contractors for any purpose during the development process, written access consent will be required from WaterNSW.
- The heritage values of the State Heritage listed Upper Canal must be taken into consideration and protected at all stages of the development.

WaterNSW has undertaken a site visit and reviewed the DA documentation in order to provide the following comments (**Attachment 1**) and requested conditions in relation to WaterNSW matters.

Unfortunately, the DA does not consider the impacts from the development on the adjacent Upper Canal Corridor. Nor does the DA address the above key factors for any development to consider when developing adjacent lands. Specific measures to avoid and mitigate impacts must be agreed to in the development consent, not just generic controls.

WaterNSW requests Council continue to consult with us on DAs that have the potential to impact on WaterNSW land, assets and infrastructure. All correspondence should be sent using the email address Environmental.Assessments@waternsw.com.au.

If you have any questions regarding this letter, please contact Justine Clarke at justine.clarke@waternsw.com.au.

Yours sincerely

JESSIE EVANS
A/ Manager Catchment Protection

Attachment 1 – WaterNSW comments and requested conditions on 2984/2020/DA-CW

1. Protection of water supply infrastructure

The Upper Canal is more than 130 years old, and vibration from excavation and construction works can increase the potential for damage to occur.

Any works occurring close to the Upper Canal that could cause damage, such as the use of heavy machinery and excavation, will need to be closely monitored during the construction period. Heavy machinery must remain outside the Upper Canal corridor at all times.

Of key concern for WaterNSW is the structural stability of the sandstone pylons of the piped aqueduct over Menangle Creek, the ongoing condition and serviceability of the internal access track which crosses Menangle Creek over a culvert, and the integrity of the security fencing along the Upper Canal boundary.

If any damage does occur at any stage during the development process, the proponent shall be expected to repair, or pay all reasonable costs associated with repairing the damaged water supply infrastructure in a timely manner to the satisfaction of WaterNSW.

Requested conditions:

- *Any damage to the Upper Canal and associated infrastructure caused at any stage during the development process shall be repaired by the proponent, or the proponent shall pay all reasonable costs associated with repairing the damaged water supply infrastructure, in a timely manner and to the satisfaction of WaterNSW.*
- *No works are to be undertaken on WaterNSW land (including stormwater control measures, batters and footings) without the written approval of WaterNSW.*

2. Stormwater management

The development site is upslope of the Upper Canal corridor. It is critically important that development adjacent to the Upper Canal is designed and constructed in a manner that prevents pollutants entering the Upper Canal waters and avoids any increase in stormwater entering WaterNSW land.

Surface water from the development site primarily drains northwest towards Menangle Creek, which crosses the Upper Canal in an east to west direction. The Upper Canal is in a piped aqueduct of cast iron supported on sandstone pylons over Menangle Creek and water quality impacts are unlikely at this point. However, at this location, the Upper Canal internal access road crosses Menangle Creek and is exposed to flooding risks. Any increase in flows from the development to Menangle Creek will directly impact the access road and WaterNSW operations. Therefore, detention basins and stormwater systems associated with the development must be capable of containing flows during construction and ongoing operational activities.

Surface water from the development site south of the Menangle Creek crossing flows to a siphon drain under the Upper Canal corridor. It is critical that the post-development flows to the siphon are no greater than the pre-development flows, and that sediment and other debris do not enter this siphon drain during construction and during ongoing operation and maintenance of stormwater assets. WaterNSW will not accept any increased maintenance burden within the Upper Canal corridor from ineffective debris and sediment controls.

It is noted in the Statement of Environmental Effects, September 2020 prepared by *gln planning* that detailed sediment basin sizing, configuration and location will form part of the Construction Certificate application. Given that two of the proposed sediment basins are immediately adjacent to the Upper Canal corridor, WaterNSW requests further consultation prior to the issue of the Construction Certificate. It will be important for Council to ensure that the stormwater management measures are designed so that post-development flows do not exceed pre-development flows and that this is demonstrated in a water management plan.

It is surmised from the application material that all waters are to be captured in the temporary sediment basins and reused onsite. If any waters are to be discharged across land into the Upper Canal Corridor approval from WaterNSW is required. This will require a comprehensive water management plan for the site to be included.

WaterNSW requires further review and comment on detailed stormwater designs in relation to any future built development and the stormwater design is to clearly demonstrate how all flows from the development are conveyed across the Upper Canal corridor, to match the pre-development conditions.

Requested conditions:

- *WaterNSW shall be consulted on the final Construction Environmental Management Plans prior to the issue of the Construction Certificate to allow for assessment of design and related works procedures and revisions as required.*
- *All works shall be undertaken in a manner that avoids any impact on Upper Canal infrastructure and on water quality.*
- *No stormwater exceeding pre-development levels shall enter the Upper Canal corridor from the development site.*
- *Stormwater directed across or under the Upper Canal corridor shall not be impeded and shall not exceed the capacity of existing flumes and siphon drains.*
- *Water pumped overland including dam dewatering or any basin discharges (including temporary sediment control basins) must be prevented from entering the Upper Canal corridor. If waters are expected to reach the Upper Canal corridor, WaterNSW must be notified in advance, with pre-determined controls incorporated for each discharge.*
- *Potentially contaminated water being discharged or irrigated within the site must be prevented from entry into the watercourses that traverse the Upper Canal corridor.*
- *No works or assets associated with the bulk earthworks shall be located on WaterNSW land.*

3. Bulk Earthworks and erosion and sediment control

WaterNSW notes that the bulk earthworks proposed are to achieve general landforms to prepare the site for future residential development. It is also understood that fill is proposed immediately adjacent to the Upper Canal corridor boundary.

WaterNSW does not accept any changes to existing ground levels on the property boundary with the Upper Canal, that will influence or change the heritage aspect of the corridor. Any changes that create conditions where retaining walls are required along the boundary are discouraged.

In addition, any items such as retaining walls, footings or drainage infrastructure must be designed clear of the property boundary.

Cut and fill activities along the boundary of the Upper Canal corridor will need to be closely monitored. It will be important that all erosion and sediment control safeguards, in particular for the proposed battering, is in accordance with the Landcom Blue Book, Managing Urban Stormwater Soils and Construction (Vol 1; 4th ed; 2004).

WaterNSW also requests that appropriate dust suppression measures are implemented to prevent dust blowing into the open waters of the Upper Canal.

Requested conditions:

- *Prior to the issue of a Construction Certificate for bulk earthworks, a Soil and Water Management Plan (SWMP) must be provided to WaterNSW for review and endorsement.*
- *Effective erosion and sediment controls shall be installed prior to any construction activity and shall prevent polluted water entering the Upper Canal corridor and Upper Canal. The controls*

shall be regularly maintained and retained until works have been completed and the ground surface stabilised or groundcover re-established.

- *Adequate measures shall be implemented to suppress any dust raised during the construction phase, in order to minimise the potential for dust settling in and polluting the open waters of the Upper Canal.*
- *Sediment control fencing to be installed along the property boundary with the Upper Canal*
- *No stockpiles shall be located within 5 metres of the Upper Canal corridor or drainage lines or drainage depressions running into the Upper Canal corridor.*

4. Dam dewatering

The *WaterNSW Regulation 2020* states a person must not cause pollution of waters on land in a controlled area, which includes the Upper Canal corridor. As such, WaterNSW considers if polluted waters or sediment laden water are carried downslope into the controlled area corridor during the dam dewatering process, then this will constitute a pollution incident.

The final approved de-watering methodology for the on-site dams should include measures to ensure that no flows above the current pre-development levels enter the Upper Canal corridor. Potentially contaminated water being discharged or irrigated within the site must be prevented from entry into Canal and/or watercourses that traverse the corridor.

Requested condition:

- *Potentially contaminated dam water being discharged or irrigated within the site must be prevented from entry into the Upper Canal corridor.*

5. Security fencing

The boundary fencing for the Upper Canal corridor adjacent to the development site is currently wire mesh security fencing, including along the boundary across Menangle Creek. This security fencing must be retained, or an alternative provided to ensure that works and activities (including temporary stockpiles, erosion and sediment controls or construction of the stormwater basins) do not encroach into the Upper Canal corridor.

WaterNSW requests that any new security fencing along the boundary with the Upper Canal corridor be 2.1m high chain mesh plus 3 strand barbed wire on top.

Water NSW does not have any formal access easements or arrangements across the Mt Gilead site and requests early consultation to permit a future access driveway into the Upper Canal corridor for its staff and contractors. The preferred locations for new access points include towards the south west corner of the development site (lot 4) and near the northern boundary of lot 5 and the Upper Canal (on the eastern side of the canal, near the viaduct).

Requested conditions:

- *Security fencing must be retained along the boundary between the development site and the Upper Canal corridor in accordance with WaterNSW requirements. The fencing must be chain mesh to 2.1 metres high with three strands of barbed wire on top (for a total height of 2.4 metres), unless otherwise agreed by WaterNSW.*
- *Any existing security fencing that is damaged during the development process shall be repaired or replaced by the proponent at the proponent's expense, in a timely manner and to the satisfaction of WaterNSW.*
- *Approval under NSW Heritage Act 1977 must be obtained for the demolition and installation of boundary fencing with the Upper Canal.*

6. Access consents

The proponent must ensure that no contractors or site workers enter the Upper Canal corridor during any stage of the development process unless they have obtained a written access consent

from WaterNSW. Any person who has been granted an access consent, must carry that consent on them when they enter the Upper Canal corridor. Any new access consent will need to be applied for well in advance. It should be ensured that any consent is used only for the purpose for which it was issued. Information on access consents is available on the WaterNSW website.

Requested conditions:

- *Access to the Upper Canal corridor is prohibited unless a written access consent has been obtained from WaterNSW.*
- *No materials, equipment, machinery or vehicles used during construction shall be located on WaterNSW land.*

7. Heritage

The Upper Canal is listed as the 'Upper Canal System' on the State Heritage Register under the *NSW Heritage Act 1977* (Heritage Act). The listing includes the entire length and area of the Upper Canal corridor as well as related water supply components and drainage features such as flumes and culverts. It is important to note that the entire Upper Canal corridor is heritage listed from boundary to boundary (including the fencing), not just the Canal structure alone.

In keeping with the rural characteristic of the Upper Canal corridor, WaterNSW requests that the materials used in landscaping and construction along the Upper Canal corridor are sympathetic to the surroundings and minimise the adverse visual impacts of the new development.

Requested condition:

- *All activities or work undertaken adjacent to the Upper Canal corridor heritage precinct must be carried out in a manner that will protect the fabric of the heritage item from damage or interference and not change the rural character of the site.*

8. Notification of incidents affecting the Upper Canal

WaterNSW requires notification of any incident such as a vehicle accident, discovery of any heritage items, spill or fire that affects or could affect the Upper Canal. Any such incident should be reported to WaterNSW on the Incident Notification Number 1800 061 069 (24hour service) as a matter of urgency.

Requested condition:

- *All incidents that affect or could affect the WaterNSW Upper Canal corridor shall be reported to WaterNSW on the 24hour Incident Notification number 1800 061 069 as a matter of urgency.*

David Timmins

From: Justine Clarke <Justine.Clarke@waternsw.com.au>
Sent: Wednesday, 25 November 2020 8:42 AM
To: Matt Cooper
Cc: Anderson, Mark (Australia; Belinda Borg; David Timmins; Alison Kniha
Subject: WaterNSW response - Ref D2020/118362 - Clarification of Conditions in Campbelltown DA 2984/2020/DA-CW (Lendlease Figtree Hill)

Dear Matt

Thank you for contacting WaterNSW regarding the proposed conditions of consent for DA 2984/2020/DA-CW from WaterNSW.

WaterNSW are agreeable to the change of wording suggested for two of our conditions, as outlined below for stormwater management and bulk earthworks control. WaterNSW request that all other conditions provided are included within the consent unchanged.

Please ensure the below map and related wording are included in the Soil and Water Management Plan (SWMP) that will be submitted to WaterNSW for review and endorsement.

If you have any questions, please do not hesitate to contact me.

Kind Regards

Justine Clarke
Catchment and Asset Protection Adviser

Please note: *I am currently working from home. I can be reached via email or 0457 535 955*

WaterNSW

Level 14, 169 Macquarie Street
PO Box 398
Parramatta NSW 2150
M: 0457 535 955
justine.clarke@waternsw.com.au
www.waternsw.com.au

From: Matt Cooper <Matt@glnplanning.com.au>
Sent: Wednesday, 18 November 2020 11:06 PM
To: Justine Clarke <Justine.Clarke@waternsw.com.au>
Cc: Anderson, Mark (Australia <Mark.Anderson@lendlease.com>; Belinda Borg <Belinda.Borg@campbelltown.nsw.gov.au>; David Timmins <David.Timmins@campbelltown.nsw.gov.au>
Subject: ARK: RE: WaterNSW Ref D2020/118362 - Clarification of Conditions in Campbelltown DA 2984/2020/DA-CW (Lendlease Figtree Hill

Evening Justine,

Thanks for your time on the phone earlier. As mentioned I'm working with Lendlease on their Figtree Hill development and to assist Council in finalising their assessment and conditions of consent for our Bulk Earthworks

development application (DA 2984/2020/DA-CW). As part of this, we are preparing a response to submissions and noted WaterNSWs submission and requested conditions.

In general, Lendlease is amenable to the conditions to ensure we carry out site works without impacting on the Upper Canal but would like to clarify the requirements of conditions and respond to the staging of works that will be undertaken. This should also serve to avoid additional work in reviewing documentation for works that are considerably distances from the Upper Canal (majority of the site is 400m to 1.8km from the Canal).

The key conditions and our request for amendments are outlined below:

2. Stormwater Management - Condition 1

Condition 1 requires the following:

WaterNSW shall be consulted on the final Construction Environmental Management Plans prior to the issue of the Construction Certificate to allow for assessment of design and related works procedures and revisions as required.

As discussed, the reference to Construction Environmental Management Plan will cause some confusion in implementing the consent. Lendlease is currently bound by 2 approved Construction Environmental Management Plans by as part of EPBC approval (2015/7599) obtained under the *Environment Protection and Biodiversity Conservation Act 1999.* Campbelltown City Council has also approved a Construction Environmental Management Plan as part of the Biodiversity Certification Agreement that applies to the site under the *Biodiversity Conservation Act 2016*.

Our preference would be to amend the wording of the condition to not refer to a 'Construction Environmental Management Plan' to avoid confusion. Appreciating that WaterNSW is concerned about works and stormwater management in the immediate vicinity (2 temporary sediment basins) and that WaterNSW want to ensure the contractor implements the Soil and Water Management Plan (required by later conditions).

Additionally, as the earthworks will be carried out in stages under multiple Construction Certificates, we do not unnecessarily burden WaterNSW with reviewing Soil and Water Management Plans for areas that are significantly distanced from the Canal and do not drain to the Canal, we propose additional wording to define the areas that this requirement should be applied. A 100m buffer in partnership with change to landforms in a catchment that currently drains directly to the Upper Canal siphon is proposed as an appropriate area to apply this revised condition to meet the intended objectives of the condition. (see map below).

Proposed wording as follows:

Prior to the issue of a Construction Certificate for earthworks within 100m of the boundary with the Upper Canal, or earthwork that will alter existing ground levels in catchments that currently drain to the Upper Canal, a Soil and Water Management Plan is to be provided to WaterNSW for review and endorsement. The Soil and Water Management Plan is to also detail how the earthworks will be undertaken to ensure stormwater is managed and how effective erosion and sediment control measures will be installed, monitored and maintained during the construction period.

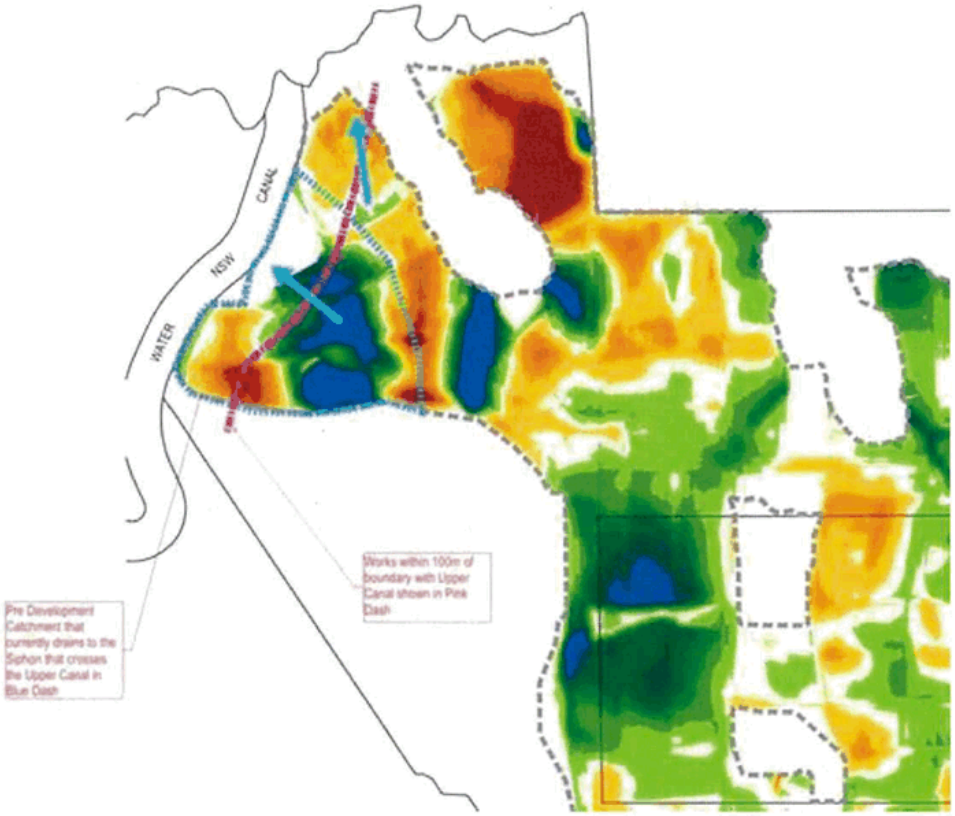
3. Bulk earthworks and erosion and sediment control - Condition 1

Condition 1 requires the following:
Prior to the issue of the Construction Certificate for bulk earthworks, a Soil and Water Management Plan (SWMP) must be proposed to WaterNSW for review and endorsement.

Similar to the above, so that we don't unnecessarily burden WaterNSW with multiple plans given the staging of works and that majority of the site does not drain to the Upper Canal and significantly distances, we propose to define the areas that the requirement for the SWMP applies to. Suggest amendments are in bold:

Prior to the issue of the Construction Certificate for bulk earthworks ***within 100m of the boundary with the Upper Canal, or that will alter existing ground levels in catchments that currently drain to the Upper Canal****, a Soil and Water Management Plan (SWMP) must be proposed to WaterNSW for review and endorsement.*

The intent of the area to be captured by this condition is shown below. Land between pink line and boundary of the Upper Canal would capture additional land that does not directly drain to the Upper Canal but still in proximity. Land in the blue dashed line is within an existing catchment that drains to the siphon over the Upper Canal.



Once you've had a chance to digest the proposed wording, Mark Anderson at Lendlease and myself would happily catch up to respond to any queries and confirm the final wording that is agreeable to WaterNSW. Also, as mentioned, I've CC'd Belinda Borg and David Timmins at Campbelltown City Council that looking after this DA.

In terms of timeframe, Council is intending on reporting this DA to the next Local Planning Panel meeting in December. Whilst the conditions have been finalised for the time being, with the agreement of Council and the applicant, we can amend the conditions on the day of the LPP meeting. As such, we are seeking confirmation from WaterNSW that the proposed amendments are acceptable. Ideally given your planned leave, a response by the 26 November 2020 would be most appreciated.

Kind regards,

Matt Cooper
Associate Director

gln. planning consulting strategy

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4.4 Subdivision of land to create 333 residential lots, six residue lots and associated civil works, including the removal of trees, dewatering of dams, earthworks and construction of roads and infrastructure - Appin Road, Gilead

Community Strategic Plan

Objective	Strategy
4 Outcome Four: A Successful City	4.3 - Responsibly manage growth and development, with respect for the environment, heritage and character of our city

Referral Criteria

Pursuant to Clause 4.8 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the consent authority for the subject development application is the Campbelltown City Council Local Planning Panel, due to the number of unique submissions received by way of objection.

Executive Summary

- The land is situated within an urban release area and is located along Appin Road, Gilead. The land comprises four allotments with a total land area of 85.2 hectares.
- The application proposes the subdivision of land to create 333 residential lots, six residue lots and associated civil works, including the removal of trees, dewatering of dams, earthworks and construction of roads and infrastructure.
- The land contains four land use zones under the Campbelltown Local Environmental Plan 2015 (LEP 2015), and the land may be subdivided with development consent. The proposal is consistent with the applicable objectives of each zone.
- General Terms of Approval have been issued from the NSW Natural Resources Access Regulator (NSW NRAR), NSW Rural Fire Service (NSW RFS) and Subsidence Advisory NSW. Concurrence has been provided by NSW Roads and Maritime Services (NSW RMS).
- The application involves variations to the site specific Mt Gilead Development Control Plan with regards to street cross sections and minimum lot widths, and the Campbelltown (Sustainable City) Development Control Plan (SCDCP) with respect to subdivision design.
- The application was publicly notified and exhibited from 8 July 2019 to 19 July 2019. Twenty-nine submissions objecting to the proposed development were received.
- The land is subject to a Biodiversity Certification Agreement (BCA), and biodiversity certification has been conferred on the land under Part 7AA of the Threatened *Species Conservation Act 1995* (TSC Act).

- In accordance with the Biodiversity Conservation (Savings and Transitional) Regulation 2017 (BCSTR), the biodiversity certification is taken to be biodiversity certification conferred on the specified land under Part 8 of the *Biodiversity Conservation Act 2016* (BC Act).

- In accordance with the BC Act, an assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act.

- The land is subject to State and Local Voluntary Planning Agreements which have been executed and registered against the relevant land titles.

- The Secretary has certified that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to the land.

- The application is recommended for approval in accordance with the recommended conditions in attachment 1 to this report.

Officer's Recommendation

That development application 743/2018/DA-SW for the proposed subdivision of land to create 333 residential lots, six residue lots and associated civil works, including the removal of trees, dewatering of dams, earthworks and construction of roads and infrastructure at Appin Road, Gilead be approved subject to the conditions in attachment 1.

Purpose

To assist the Panel in its determination of the subject application in accordance with the provisions of the EP&A Act.

Property Description	Lots 1, 2 and 5 DP 1240836, Lot 61 DP 752042, Appin Road, Gilead
Application No	743/2018/DA-SW
Applicant	Lendlease Communities
Owner	Mt Gilead Pty Ltd, Lendlease Communities (Mt Gilead .3.) Pty Limited, Lendlease Communities (Figtree Hill) Pty Limited
Provisions	State Environmental Planning Policy (Sydney Region Growth Centres) 2006 State Environmental Planning Policy (Infrastructure) 2007 State Environmental Planning Policy No 55 – Remediation of Land *Biodiversity Conservation Act 2016* State Environmental Planning Policy No. 19 – Bushland in Urban Areas

	State Environmental Planning Policy (Koala Habitat Protection) 2020
	Campbelltown Local Environmental Plan 2015
	Amendment No. 24 to the Campbelltown Local Environmental Plan 2015
	Campbelltown (Sustainable City) Development Control Plan 2015
	Mt Gilead Development Control Plan
Date Received	13 March 2018

History

The Greater Sydney Commission (GSC) rezoned the land to provide for urban development on 8 September 2017 under Amendment No. 2 of the LEP 2015.

The NSW RMS, in partnership with Lendlease, has committed to the staged upgrade of a 5.4km section of Appin Road between Gilead and the intersection of St Johns Road, Bradbury (by way of a Voluntary Planning Agreement). The works include the construction of four traffic lanes (two each way), two signalised intersection to the Mt Gilead estate, and the erection of fauna fencing. The Review of Environmental Factors was exhibited in November 2018.

After consideration of the feedback received in submissions, NSW RMS announced in May 2019 their decision to proceed with both the Appin Road upgrade and Appin Road safety improvements projects, without any further changes to either proposals (outside of the provision of additional fauna fencing along the western side of Appin Road at Noorumba Reserve as part of the Appin Road upgrade). Consequently, NSW RMS has notified Council that the next steps in the process involve finalising the detailed design stages for each project.

In relation to this announcement, the Minister for Planning and Public Spaces executed a State Voluntary Planning Agreement (SVPA) with the landowners of the Mt Gilead estate (Mount Gilead Pty Ltd and Lendlease) in May 2019 to progress the upgrade works. The SVPA applies to the entire Mt Gilead URA for 1700 lots and represents the developer's obligation to satisfy Clause 6.1 of LEP 2015. A copy of the Secretary's Certificate, demonstrating satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure is provided under attachment 14.

The land subject to this application has been 'biodiversity certified' pursuant to the TSC Act, under which no further assessment of the development's impacts on flora and fauna is required. The order conferring biodiversity certification of Mt Gilead Stage 1 was published in the NSW Government Gazette No.70 of 5 July 2019.

The Site and Locality

The land comprises of four allotments with a total area of 85.2 hectares. The identification and site area of each lot is provided below:

- Lot 61 DP 752042: 34ha
- Lot 1 DP 1240836: 24.19ha
- Lot 2 DP 1240836: 23.60ha

- Pt Lot 5 DP 1240836: 3.41ha

The land adjoins Noorumba Reserve to the north, Appin Road to the east, and agricultural land to the south and west. The land has been used for agricultural purposes, including the grazing of cattle, and is predominately cleared of vegetation.

Two areas of trees are located within Lot 61 and form bio-banks under the Biodiversity Certification Agreement which was entered into on 28 June 2019. The remainder of the land contains scattered trees, three dams; a watercourse and riparian area (see Figure 1).

The topography of the landform is undulating. The steepest part of the land is located in the north-western corner of Lot 2, whereas the highest point is located in the south-eastern corner of Lot 61 bordering Appin Road.

Vehicle access is provided to the land from Appin Road, which is a classified road pursuant to the *Roads Act 1993*.

Easements for the movement of sewerage pass through Lot 61 and Lot 1 adjacent to Appin Road. A right of carriageway 8m wide and variable adjoins the rear boundary of Lot 2

The land is mapped as being located within bushfire prone land and a mine subsidence district.

The low density residential suburbs of Rosemeadow and St Helens Park are situated approximately 1km to the north.

The urban centres of Macarthur and Campbelltown are situated approximately 6km and 8km to the north, respectively.

The Nepean River and the M31 Motorway are located to the west, and the Georges River and Wedderburn are located to the east of Appin Road.

The western side of Appin Road contains significant landholdings that have been identified as Urban Capable Land under the Greater Macarthur 2040.

The future character of the locality is anticipated to change dramatically as existing rural land uses undergo transition into urban development in accordance with the Greater Macarthur Growth Area.

The Proposal

The proposed development seeks consent for the following works:

- removal of 25 trees
- dewatering of three dams
- earthworks and associated retaining walls
- construction of new roads, stormwater drainage pipes, bio-retention basins and stormwater detention basin

- staged subdivision to create 333 Torrens title residential allotments, and creation of six residue lots

- landscape planting

Twenty-five trees are proposed to be removed to facilitate the construction of the proposed bio-retention basins, stormwater detention basin, and a residential lot.

Three dams are proposed to be dewatered to facilitate the creation of the proposed residential lots and future proposed open space area.

The proposed tree removal and dam dewatering is located outside of the limit of works under the bulk earthworks application (DA-2984/2020/DA-CW).

The application does not propose to remove any vegetation required to be retained within the designated bio-bank areas.

The proposed earthworks involve the refinement of ground contours to improve the finished levels of the proposed roads and residential lots.

The proposed collector road provided from Appin Road is named The Boulevard and is 25m wide.

The proposed local roads are 16m wide with the exception of a variable width road adjoining the biobank area that is 12.5 – 15m wide.

Stormwater drainage pipes would be provided within the proposed street network and easements to drain water would be created through residential lots.

Stormwater would be discharged into bio-retention basins and a stormwater detention basin located adjacent to Noorumba Reserve.

The proposed residential lots would be delivered in two stages, comprising:

- Stage 1A: 161 residential lots
- Stage 1B: 172 residential lots

The proposed residential lots areas vary in area between 375sqm – 989.5sqm.

The identification and site area of each residue lot is provided below:

Lot 996	6.299ha
Lot 997	0.3347ha (3,347sqm)
Lot 998	2.7ha
Lot 999	0.3841ha (3,841sqm)
Lot 1134	8.769ha
Lot 1161	34.88ha

The application includes the planting of deciduous and evergreen trees within the road reserves and within the median strip dividing The Boulevard.

Report

a) Strategic Context

1.1. Greater Sydney Region Plan

The Greater Sydney Region Plan (the Regional Plan) is built on a vision where most residents live within 30 minutes of their jobs, education and health facilities, services and great places and seeks to transform Greater Sydney into a metropolis of three cities. Under the GSRP the Campbelltown LGA is located within the Western Parkland City and the Western City District.

The Regional Plan identifies the need for an additional 725,000 dwellings in the period 2016-2036 within the Western City District. These additional dwellings will comprise 29 per cent of the total Sydney wide dwelling growth by 2036.

The proposal is consistent with the GSRP as Mt Gilead is located within the Greater Macarthur Growth Area which is identified by the GSRP as a land release area where new communities are to be developed, providing dwelling capacity into the medium and longer term.

1.2. Western City District Plan

The Western City District Plan (the District Plan) sets out more detail with respect to the anticipated growth in housing and employment in the Western City.

The District Plan identifies future growth of an additional 184,500 dwellings to be provided in land release areas and urban renewal of existing areas close to existing centres. The development of Mt Gilead will assist in achieving the 0-5 year housing target of 6,800 for Campbelltown as future subdivision and dwelling house applications are lodged.

1.3. Greater Macarthur 2040 (draft) An Interim Plan for the Greater Macarthur Growth Area

Greater Macarthur 2040 is a draft land use and infrastructure implementation plan that when finalised, will guide precinct planning within the Greater Macarthur Growth Area. The draft Plan is supported by strategies for major items of State and local infrastructure and includes an updated structure plan for the land release areas of South Campbelltown.

The Growth Area within the Campbelltown Local Government Area (LGA) would provide for approximately 39,000 dwellings in the land release precincts. Approximately 19,000 of these new dwellings is expected to be delivered in new land releases within the LGA, including the Mt Gilead Precinct.

The proposal is consistent with the draft Plan as it forms part of the wider Gilead precinct which has potential for up to 15,000 homes. This proposal forms Stage 1 of the Gilead release with up to 1,700 dwellings planned.

1.4. Campbelltown 2027 Community Strategic Plan

Campbelltown 2027 is the Community Strategic Plan for the city of Campbelltown. The Strategic Plan addresses four key strategic outcomes that Council and other stakeholders will work to achieve over the next 10 years:

- Outcome 1: A vibrant, liveable city
- Outcome 2: A respected and protected natural environment
- Outcome 3: A thriving, attractive city
- Outcome 4: A successful city

The development application has been assessed with regard to the desired outcomes and objectives identified within Campbelltown 2027. It is considered that the proposed development is generally consistent with the long term vision for the Campbelltown and Macarthur Region having regard to the proposed scale and impact on the locality.

2. Planning Provisions

The proposed development has been assessed against the relevant matters for consideration under Section 4.15 of the EP&A Act.

2.1. Rural Fires Act 1997

Section 100B of the *Rural Fires Act 1997* requires a bushfire safety authority for a subdivision of bushfire prone land for residential purposes, or development of bushfire prone land for a special fire protection purpose.

The proposed development involves the subdivision of land for residential purposes.

The development application has been lodged as integrated development within the meaning of Section 4.46 of the EP&A Act.

The NSW RFS issued General Terms of Approval on 23 April 2019 which have been included within the recommended conditions of consent.

2.2. Coal Mine Subsidence Compensation Act 2017

Section 22 of the *Coal Mine Subsidence Compensation Act 2017* requires approval to alter or erect improvements, or to subdivide land, within a mine subsidence district.

The proposed development involves the construction of roads, drainage infrastructure and the subdivision of land for residential purposes.

The development application has been lodged as integrated development within the meaning of Section 4.46 of the EP&A Act.

Subsidence Advisory NSW issued General Terms of Approval on 4 June 2018 which have been included within the recommended conditions of consent.

2.3. Water Management Act 2000

Section 91 of the *Water Management Act 2000* requires a controlled activity approval to be issued for works within 40m of the top of the bank of the natural watercourses on the land.

The proposed development involves the construction of bio-retention basins and a stormwater detention basin within the natural watercourse located adjacent to Noorumba Reserve.

The development application has been lodged as integrated development within the meaning of Section 4.46 of the EP&A Act.

The NSW NRAR issued General Terms of Approval on 17 May 2019 which have been included within the recommended conditions of consent.

2.4. Roads Act 1993

Section 138 of the *Roads Act 1993* requires consent to connect a road (whether public or private) to a classified road.

As part of the upgrade works to Appin Road, Lendlease in partnership with NSW RMS (RMS) would deliver the required intersection under a Works Authorisation Deed with the RMS that is separate to this development application.

Accordingly, the applicant has not been required to lodge the development application as integrated development within the meaning of the *Roads Act 1993*.

Notwithstanding, the application was referred to the RMS under the provisions of State Environmental Planning Policy (Infrastructure) 2007 with respect to traffic generating development. The RMS provided concurrence on 21 September 2019 and the requirements of the RMS have been included within the recommended conditions of consent.

2.5. National Parks and Wildlife Act 1974

Section 90 of the *National Parks and Wildlife Act 1974* (NPW Act) requires an Aboriginal Heritage Impact Permit (AHIP) to be issued for the land.

An AHIP was issued by the Department of Planning, Industry & Environment on 29 April 2020 and subsequently varied by Heritage NSW on 31 August 2020.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the NPW Act.

2.6. Fisheries Management Act 1994

Section 219 of the *Fisheries Management Act 1994* (FM Act) requires a permit to construct or alter a dam across a river or creek or across or around a flat, so that fish will or could be blocked or left stranded, or immature fish will or could be destroyed, or the free passage of fish will or could be obstructed.

The proposal involves the dewatering of three farm dams that are located outside of the limit of works under the bulk earthworks application. The applicant outlines that due to the separation from existing natural watercourses, the dams are considered to have limited potential for any viable aquatic or fish life.
The applicant's ecological consultant confirms the proposal would not impact on a waterway mapped as key fish habitat or a waterway that contains a threatened species record.

Further, the BCA permits the dewatering of dams as it sets aside the integrated development provisions of the EP&A Act.

Accordingly, the applicant has not lodged the development application as integrated development within the meaning of the FM Act.

2.7. State Environmental Planning Policy (Sydney Region Growth Centres) 2006

State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (GC SEPP) was amended on 6 December 2019 by the NSW State Government to include the Greater Macarthur Growth Area.

The Mount Gilead Precinct is mapped as being within the Greater Macarthur Precinct Boundary.

The proposed development has been reviewed against the relevant provisions of the GC SEPP and is considered to be consistent in this regard (attachment 15).

2.8. State Environmental Planning Policy No 55 – Remediation of Land

Pursuant to Clause 7(1) of SEPP 55, the consent authority must not consent to the carrying out of any development on land unless:

a) It has considered whether the land is contaminated, and

b) If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

c) If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

The land was identified as containing contaminants under the bulk earthworks application and was accompanied by a Preliminary Site Investigation, Detailed Site Investigation and Remediation Action Plan (RAP) prepared by Douglas Partners.

Under the bulk earthworks application, the land would be remediated and made suitable for the proposed residential subdivision and future urban land uses.

The investigations and RAP considered the entire urban release from a contamination perspective. The land subject to this application is subject to the same investigations and RAP requirements.

A recommended condition has been included to ensure the site has been remediated prior to the commencement of any works under this current development application.

2.9. State Environmental Planning Policy (Infrastructure) 2007

An ethane gas pipeline passes through land on the western side of the Sydney Water Supply Upper Canal. Under clause 66C of the Infrastructure SEPP, the application was referred to the pipeline operator (APA) for consideration of potential safety risks or risks to the integrity of the pipeline. APA issued comments on 13 November 2020 which have been included within the recommended conditions of consent.

Clause 101(2) of the Infrastructure SEPP provides that the consent authority must not consent to development that has a frontage to a classified road unless it is satisfied that:

a) Where practicable, vehicular access to the land is provided by a road other than the classified road.

b) The safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of:

   i. the design of the vehicular access to the land

   ii. the emission of smoke or dust from the development

   iii. the nature, volume or frequency of vehicles using the classified road to gain access to the land

c) The development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.

The site has a frontage to Appin Road which is a classified road. Vehicle access to the site is not able to be achieved by a road other than Appin Road.

In order to manage the safety, efficiency and ongoing operation of Appin Road during construction of its upgrade, a recommended condition has been included requiring a Construction Traffic Management Plan to be approved by the NSW RMS prior to any road upgrade works commencing.

The proposed residential subdivision would be sensitive to traffic noise or vehicle emissions arising from the operation of Appin Road. In this regard, the application was accompanied by an Acoustic Assessment prepared by WSP Australia Pty Ltd which includes measures to ameliorate traffic noise emissions within the site of the residential subdivision arising from Appin Road.

Acoustic treatments are required to be incorporated into the design and construction of future dwellings within a specified proximity to Appin Road to achieve acceptable levels of acoustic amenity. A condition has been included within the recommended conditions of consent requiring appropriate 88B restrictions to be registered against the affected allotments.

Traffic generating development

The proposal is identified as traffic generating development under Schedule 3 of the Infrastructure SEPP as the subdivision has a capacity of more than 200 allotments and the future opening of public roads.

The proposed development was referred to the RMS for comment and concurrence was issued requiring the construction of an interim un-signalised intersection on Appin Road (see Figure 3).

The interim intersection has been designed to service the Mt Gilead estate until such time the signalised intersection has been constructed and is operational, which is required to be completed prior to the release of the 500th allotment in accordance with the State's Voluntary Planning Agreement (see Figure 4).

2.10. Biodiversity Conservation Act 2016

The land subject to this application has been biodiversity certified.

On 28 June 2019, a BCA was entered into by the Minister for Energy and Environment, Lendlease Communities (Mt Gilead) Pty Limited, Lendlease Communities (Mt Gilead No. 3) Pty Limited, Mt Gilead Pty Limited, and Campbelltown City Council.

The order conferring biodiversity certification of Mt Gilead Stage 1 was published in the NSW Government Gazette No.70 of 5 July 2019. The order notes:

> This order is made in relation to an application for biodiversity certification made under Part 7AA of the Act (Application) pursuant to cl 37 of the BCSTR. In accordance with clause 37(4) of the BCSTR, the biodiversity certification is taken to be biodiversity certification conferred on the specified land under Part 8 of the *Biodiversity Conservation Act 2016* (BC Act).

Section 8.4 of the BC Act states:

(2) **Development (including State significant development) under Part 4 of the Planning Act**

An assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act.

(3) A consent authority, when determining a development application in relation to development on biodiversity certified land under Part 4 of the EP&A Act, is not required to take into consideration the likely impact on biodiversity of the development carried out on that land.

(6) **This section prevails**

This section has effect despite anything to the contrary in the EP&A Act or Part 7 of this Act.

Comment: For the purposes of the BC Act, biodiversity is the variety of living animal and plant life from all sources, and includes diversity within and between species and diversity of ecosystems.

With respect to the above provisions, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including but not limited to Koalas and vegetation.

Impacts to animal and plant life were however considered during the biodiversity certification process during which offsets were secured to maintain and conserve biodiversity.

2.11. State Environmental Planning Policy (Koala Habitat Protection) 2020

The Koala Habitat Protection SEPP commenced on the 30 November 2020.

The aim of the SEPP is to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over

their present range and reverse the current trend of koala population decline. A measure required to assist this aim is the Koala Plan of Management.

Step 1 – Is the land potential koala habitat?

In accordance with clause 8(1) of the SEPP, before the Panel may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential koala habitat.

Comment: The land subject to the application is mapped as containing potential koala habitat.

Step 2 – Is the land core koala habitat?

In accordance with clause 9(1) of the SEPP, before the Panel may grant consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a potential koala habitat, it must satisfy itself as to whether or not the land is a core koala habitat.

Comment: The land subject to the application is mapped as containing core koala habitat.

Step 3 – Can development consent be granted in relation to core koala habitat?

In accordance with clause 10(1) of the SEPP, before the Panel grants consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a core koala habitat, there must be a plan of management prepared in accordance with Part 3 that applies to the land. Under clause 10(2) of the SEPP, the Panel's determination of the development application must not be inconsistent with the plan of management.

Comment: The Secretary approved the Campbelltown Comprehensive Koala Plan of Management (CCKPOM) on 30 July 2020 under clause 17 of SEPP (Koala Habitat Protection) 2019.

As mentioned above, biodiversity certification has been conferred on the land, and is in force under Part 8 of the BCA. Therefore the provisions of the SEPP and CCKPOM do not apply to the land.

Notwithstanding, although biodiversity certification has been conferred on the land, the application was accompanied by advice prepared by Ecological Australia outlining how the proposal is not inconsistent with the CCKPOM (attachment 16).

Guidelines—matters for consideration

Clause 11 of the SEPP states that, the Panel must take the guidelines into consideration in determining an application for consent to carry out development on land to which this Part applies.

Comment: Planning Circular No. B35 (guidelines) dated 22 March 1995 has been taken into consideration. The guidelines do not contain matters which prevent consent from being granted to the proposed development, noting that biodiversity certification has been conferred on the land.

2.12. State Environmental Planning Policy No. 19 – Bushland in Urban Areas

State Environmental Planning Policy No. 19 – Bushland in Urban Areas applies to land within the Campbelltown Local Government Area.

Clause 6(1) of SEPP 19 provides that a person shall not disturb bushland zoned or reserved for public open space purposes without the consent of the council.

Comment: Consent is sought to disturb bushland zoned RE1 Public Recreation (subject bushland) which allows for public open space or recreational purposes.

Clause 6(4) of SEPP 19 provides that a consent authority shall not consent to the carrying out of development referred to in subclause (1) unless:

(a) it has made an assessment of the need to protect and preserve the bushland having regard to the aims of this Policy,

(b) it is satisfied that the disturbance of the bushland is essential for a purpose in the public interest and no reasonable alternative is available to the disturbance of that bushland, and

(c) it is satisfied that the amount of bushland proposed to be disturbed is as little as possible and, where bushland is disturbed to allow construction work to be carried out, the bushland will be reinstated upon completion of that work as far as is possible.

Comment: The proposal involves the removal of bushland to deliver a stormwater detention basin.

In relation to Clause 6(4)(a) of SEPP 19, an assessment of the need to protect and preserve the bushland having regard to the aims of the Policy is provided below:

(1) The general aim of this Policy is to protect and preserve bushland within the urban areas referred to in Schedule 1 because of:

(a) its value to the community as part of the natural heritage,

Comment: The subject bushland may hold some value to the community as part of the natural heritage of Mount Gilead. However, the natural heritage of the bushland has been disturbed and modified due to past land clearing and agricultural practices. The natural heritage of the bushland would be retained within the RE1 zoned biobanks, and the heritage value of Mount Gilead would be conserved through its curtilage.

(b) its aesthetic value, and

Comment: The subject bushland may hold some aesthetic values. However, as the proposal involves the removal of a low number (25 trees) of the overall number of trees removed from the site, the likely impacts on aesthetic value are considered to be minimal. The bushland that comprises a high aesthetic value will be retained within the adjacent biobanks.

(c) its value as a recreational, educational and scientific resource.

Comment: Due to the prior agricultural use of the land, the subject bushland is not required to be protected and preserved as a recreational resource. The subject bushland is not

required to be retained as a recreational, educational and scientific resource as portrayed in the Mt Gilead DCP. The Statement of Heritage Impact (SHI) prepared by TKD Architects does not identify the bushland as being valued for its recreational, educational and scientific resource.

The Aboriginal Cultural Heritage Assessment prepared by Virtus Heritage indicates the land has value as an educational and scientific resource. The proposed removal of bushland will not impact on the scarred tree or potential archaeological deposits of scientific value. The need to further preserve and protect the bushland will be further examined as part of the Aboriginal Heritage Impact Permit that has been issued for the land. An AHIP summary report may be prepared for educational purposes about the project.

(2) The specific aims of this policy are:

(a) to protect the remnants of plant communities which were once characteristic of land now within an urban area

(b) to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term

(c) to protect rare and endangered flora and fauna species

(d) to protect habitats for native flora and fauna

(e) to protect wildlife corridors and vegetation links with other nearby bushland

Comment: With respect to aims (a) – (e), the land subject to this application has been biodiversity certified. In accordance with Section 8.4 of the BC Act, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems.

Further, the subject bushland was not found to be a substantial wildlife corridor for Koalas as shown in the South Campbelltown Koala Connectivity Study, and is not considered to form a substantial vegetation link with other nearby bushland, such as that between the Georges and Nepean Rivers.

(f) to protect bushland as a natural stabiliser of the soil surface,

Comment: The application proposes to implement erosion and sediment control measures to stabilise the soil surface in the area during earthworks. In this regard, there is no need to protect the subject bushland as a natural stabiliser of the soil surface.

(g) to protect bushland for its scenic values, and to retain the unique visual identity of the landscape,

Comment: The subject bushland is not identified within the Mt Gilead DCP as having scenic values, or as forming the unique visual identity of the landscape, including One Tree Hill or the Old Mill. The bushland that does have scenic values is situated within the biobanks, which will be protected and retained so as to contribute to the unique visual identity of the landscape.

(h) to protect significant geological features,

Comment: The submitted plans do not indicate any significant geological features that are worthy of protection within the subject bushland.

(i) to protect existing landforms, such as natural drainage lines, watercourses and foreshores,

Comment: The proposal involves the removal of bushland, re-contouring of land and creation of stormwater detention basin. In this regard, the protection of natural drainage lines and watercourses is not required or suitable in this case.

(j) to protect archaeological relics,

Comment: No relics have been identified within the subject bushland that relate to the settlement of the area, not being Aboriginal settlement, which is of State or local heritage significance.

(k) to protect the recreational potential of bushland,

Comment: This has been assessed under general aim (1)(c) above.

(l) to protect the educational potential of bushland,

Comment: This has been assessed under general aim (1)(c) above.

(m) to maintain bushland in locations which are readily accessible to the community, and

Comment: The subject bushland is privately owned and not readily accessible to the community. The application would facilitate the delivery of a stormwater detention basin which may become accessible to the community via a pedestrian route.

(n) to promote the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.

Comment: It is considered the BCA promotes the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation.

In relation to Clause 6(4)(b) of SEPP 19:

(b) it is satisfied that the disturbance of the bushland is essential for a purpose in the public interest and no reasonable alternative is available to the disturbance of that bushland, and

Comment: The entire site contains pockets of land of differing size, zoned RE1. The majority of the land zoned RE1 on the site will remain undisturbed and also form part of bio bank sites. The subject bushland to be disturbed is within a small pocket of RE1 zoned land and is essential for a purpose in the public interest, including the future delivery of a stormwater detention basin to cater for the residential subdivision. In this regard there is no reasonable alternative to the disturbance of the bushland as the proposed location of the stormwater detention basin is the most reasonable location, as portrayed in the Mt Gilead DCP.

In relation to Clause 6(4)(c) of SEPP 19:

(c) it is satisfied that the amount of bushland proposed to be disturbed is as little as possible and, where bushland is disturbed to allow construction work to be carried out, the bushland will be reinstated upon completion of that work as far as is possible.

Comment: The majority of bushland within the RE1 zone would not be disturbed, and would form biobank sites or be situated on land outside the scope of works. In this regard, the amount of bushland proposed to be disturbed is as little as possible. Where bushland has been permanently disturbed for development to be carried out, the bushland will not be reinstated upon completion of earthworks, as the bushland is permitted to be removed in accordance with the BCA that applies to the land. The bio-retention basins would be planted with vegetation.

Clause 8(2) of SEPP 19 provides that where the council considers it necessary or desirable to provide more detailed provisions than are contained in SEPP 19, it may prepare or cause to be prepared a plan of management in respect of bushland to which this clause applies.

It is not considered necessary to provide more detailed provisions than are contained in SEPP 19 so as to prepare or cause to be prepared a plan of management in respect of bushland to which this clause applies. As part of the EPBC Approval, the applicant is required to secure areas of Shale Sandstone Transition Forest and Cumberland Plain Woodland as biobanks, and acquire or retire biodiversity credits for the Koala, prior to the clearance of any vegetation. It is considered these measures will retain bushland for plant and animal communities, and protect wildlife corridors and vegetation links with other nearby bushland.

2.13. Campbelltown Local Environmental Plan 2015

The land subject to the proposed development contains four land use zones under the provisions of the LEP 2015. The proposal is considered to be consistent with the applicable objectives discussed below:

Zone R2 Low Density Residential

- to provide for the housing needs of the community within a low density residential environment

- to facilitate diverse and sustainable means of access and movement

Comment: The proposed development would deliver 333 residential allotments that would provide for the housing needs of the community within a low density residential environment.

The proposal would provide footpaths, shared paths and access to regular bus services to facilitate a diverse, safe, efficient and sustainable means of access and movement for pedestrians and vehicles.

Zone RE1 Public Recreation

- to preserve land that is required for public open space or recreational purposes

- to preserve and rehabilitate bushland, wildlife corridors and natural habitat, including waterways and riparian lands, and facilitate public enjoyment of these areas

- to enable land to be used for public open space or recreational purposes

Comment: The proposed bio-retention basins and stormwater detention basin would preserve land that is required for public open space as shown on the Indicative Landscape Strategy within the Gilead DCP.

The proposal was accompanied by a Riparian Plan prepared by Ecological Consultants Australia that proposes the rehabilitation of the riparian land with appropriate species of vegetation.

A shared pedestrian/cycle path would be provided adjacent to the detention basin and Noorumba Reserve to facilitate the public enjoyment of these areas.

The proposal would enable land to be used for public open space and recreational purposes through the submission of separate planning applications.

Zone B1 Neighbourhood Centre

- To provide a range of small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood.

Comment: The B1 zoned land is situated within a residue lot and provides opportunities for future small scale community uses in accordance with current plan.

Zone SP2 Infrastructure - Classified Road

- To provide for infrastructure and related uses.

Comment: The application does not propose any works within the SP2 zoned land associated with Appin Road. Lendlease and the NSW RMS would provide the required infrastructure upgrades to Appin Road under Works Authorisation Deed that is separate to this development application. Notwithstanding, the proposed development prompts the delivery of the Appin Road upgrade works and the provision of an interim intersection to the Mt Gilead residential estate.

2.14. Subdivision

Pursuant to Clause 2.6(1) of the LEP 2015, land may be subdivided, but only with development consent.

Comment: Development consent is sought for the proposed subdivision.

Minimum lot size

Pursuant to Clause 4.1(3) of the LEP 2015, the size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land.

Comment: The minimum lot size shown on the lot size map in relation to the land is 500sqm in Lot 1 and Lot 2, and 450sqm in Lot 61. All proposed lots within Lot 1 and Lot 2 exceed

500sqm in area and comply with the minimum lot size standard. The application proposes lots within Lot 61 with areas less than 450sqm, which are permitted under clause 4.1(4C) of the LEP 2015 discussed below.

Exception to minimum lot sizes for certain land in Mount Gilead Urban Release Area

Pursuant to Clause 4.1(4C) of the LEP 2015, despite subclause (3), development consent may be granted for the subdivision of land within Lot 61, DP 752042, Appin Road, Gilead, into lots that do not meet the minimum size shown on the Lot Size Map if:

(a) Each lot has a minimum lot size of not less than 375sqm

(b) No more than 65 lots have a lot size of less than 450sqm

(c) No more than three contiguous lots sharing a street frontage have a lot size of less than 450sqm, and

(d) Each lot is located not more than 200m from a bus route, community centre or open space area.

Comment: The proposed lots do not have a lot size of less than 375sqm. Forty-five lots have a lot size of less than 450sqm. No more than three contiguous lots sharing a street frontage have a lot size of less than 450sqm. Each lot is located within 200m of the bus route, future community centre or open space area.

2.15. Heritage conservation

Pursuant to clause 5.10(2) of the LEP 2015, development consent is required for 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; or to disturb or excavate an Aboriginal place of heritage significance.

Hillsborough Homestead

The site contains the former Hillsborough homestead located adjacent to Appin Road which is not listed as a heritage item. The application was accompanied by a SHI prepared by MKD Architects which advises the former homestead may contain items of archaeological potential, including remnants of the former Hillsborough cottage, outbuildings and structures, pathways and fence lines.

The SHI advises the site that contains the archaeological remains of the cottage, outbuildings and structures would be incorporated into local open space parklands, subject to a separate development application.

The portion of the site that contains vegetation of natural significance is outside the area of the proposed works. Further, the majority of these stands of vegetation are to be conserved and incorporated into future open space areas.

Aboriginal Heritage Impact Permit

The potential impact of excavation on Aboriginal artefacts was assessed under the bulk earthworks application. The land was subjected to an archaeological testing program in

consultation with Registered Aboriginal Parties, and was supported by an Aboriginal Cultural Heritage Assessment prepared by Vitus Heritage.

The Department of Planning, Industry and Environment (DPIE) issued an AHIP for the land on 29 April 2020 under section 90 of the NPW Act. A Notice of Variation of AHIP was subsequently issued by Heritage NSW on 31 August 2020.

Heritage impact

The subject site does not contains any State or local heritage items. The Upper Canal is located approximately 800m to the west of the trees proposed for removal.

The artificial dam associated with Mount Gilead is situated approximately 800m south-west of the trees proposed for removal. Appropriate curtilages were determined for Mount Gilead when it was listed as a State heritage item.

Humewood Forest and Beulah are situated approximately 2km and 2.2km south of the trees proposed for removal, respectively.

The SHI prepared by MKD Architects concludes the proposed works will have no impact on the heritage significance of Mount Gilead, Hillsborough, Beulah, Humewood Forest or the Upper Canal and on views to these items.

2.16. Arrangements for designated State public infrastructure

Pursuant to Clause 6.1(2) of the LEP 2015, development consent must not be granted for the subdivision of land in an urban release area if the subdivision would create a lot smaller than the minimum lot size permitted on the land immediately before the land became, or became part of, an urban release area, unless the Secretary has certified in writing to the consent authority that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to that land.

Comment: The proposed subdivision of land in the urban release would create lots smaller than the minimum lot size permitted on the land before the land became an urban release area. In accordance with Clause 6.1(2) of the LEP 2015, the Minister for Planning and Public Spaces and the landowners executed a State Voluntary Planning Agreement (SVPA) for the site which provides for the payment of development contributions, special infrastructure contributions and the carrying out of works.

The SVPA has been registered against the land titles in accordance with the requirements of the agreement. The Secretary certified on 23 October 2019 that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to the land.

2.17. Public utility infrastructure

Pursuant to Clause 6.2(1) of the LEP 2015, development consent must not be granted for development on land in an urban release area unless the Council is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

Comment: The proposed development would create demand for public utility infrastructure. The application was accompanied by an Engineering report prepared by Cardno which outlines a strategy for the delivery of utility infrastructure, including potable water, wastewater, electricity, telecommunications and natural gas.

a) Potable water

The applicant has advised that Sydney Water has endorsed a preferred potable water servicing strategy for the urban release area, which includes the utilisation of the existing elevated reservoir in Rosemeadow, and the construction of a new reservoir and transfer water pump station.

The potable water network would be constructed in stages to meet the demand of the residential subdivision.

The proposed strategy to service Stage 1 involves the extension of the network from Rosemeadow and utilising the capacity of the Rosemeadow reservoir.

A recommended condition has included requiring the applicant to obtain a Section 73 Certificate from Sydney Water to ensure the supply and servicing of potable water to the residential subdivision.

b) Wastewater

The applicant has advised that Sydney Water has endorsed a preferred waste water servicing strategy for the urban release area, which includes the construction of two sewer pump stations and a pressurised rising main from the sewer pump stations to an existing manhole in situated in Copperfield Drive, Rosemeadow which forms part of the broader gravity network serviced by the Glenfield Sewage Treatment Plant.

Due to potential delays in design, approval and construction of the servicing strategy, it is anticipated that temporary waste water treatment would be required to facilitate the early development of Stage 1. Whilst alternative strategies have not been determined subject to feasibility, this may include:

- Construction of temporary storage facility downstream of Stage 1 with pump out and offsite treatment of effluent
- Construction of a temporary onsite treatment facility
- Staged development of the servicing strategy to meet the demand of the area

A recommended condition has included requiring the applicant to obtain a Section 73 Certificate from Sydney Water to ensure the provision of wastewater services to the residential subdivision.

c) Electrical

The applicant has advised that Lendlease and Endeavour Energy are currently designing the most appropriate electrical servicing strategy for the urban release area.

The ultimate servicing strategy involves the supply of electricity from the Ambarvale zone substation, and would be delivered in accordance with Endeavour Energy's supply strategy for the Greater Macarthur Priority Growth Area.

There is an existing overhead high voltage network along Appin Road which is proposed to be utilised to service part of Stage 1. The power is supplied from the Ambarvale zone substation. It is estimated to not have the capacity to service the whole of Stage 1 and an additional overhead feeder may be required.

The applicant advises the undergrounding of the high voltage network along Appin Road is planned to occur during the Appin Road upgrade works, and details of the Stage 1 electrical servicing strategy will be finalised prior to construction of the Appin Road upgrade works in consultation with Endeavour Energy.

A recommended condition has included requiring the applicant to obtain satisfactory arrangements from Endeavour Energy for the provision and distribution of electricity to the residential subdivision.

d) Natural gas

The applicant has advised that Lendlease and Jemena are currently designing the most appropriate servicing strategy to the development.

The ultimate servicing strategy involves the extension of the gas network from Rosemeadow at the corner of Copperfield Drive and Appin Road.

The particulars of the lead in infrastructure along Appin Road would be determined prior to construction of the Appin Road upgrade works in consultation with Jemena.

The lead in infrastructure is planned to be extensive in order to future proof the area to provide the services required for future residential stages.

A recommended condition has included requiring the applicant to obtain satisfactory arrangements from Jemena to service the residential subdivision.

e) Telecommunications

The applicant has advised that Lendlease have existing partnerships with telecommunications suppliers that are capable of providing lead in, backhaul and reticulation services. In the event an agreement cannot be achieved with available suppliers, NBN Co would be consulted.

The lead in infrastructure would be provided during the Appin Road upgrade works and would be future proofed to cater for future residential stages.

A recommended condition has included requiring the applicant to obtain satisfactory arrangements from a telecommunications carrier to service the residential subdivision.

2.18. Development control plan

Pursuant to Clause 6.3(2) of the LEP 2015, development consent must not be granted for development on land in an urban release area unless a development control plan has been prepared for the land. The DCP must include details of staging, transport movement,

landscaping, recreation areas, water management, environmental hazards, urban design, higher density living, commercial uses and public facilities.

Comment: The site specific Mt Gilead Development Control Plan and the Campbelltown (Sustainable City) Development Control Plan 2015 apply to the subject land. The Mt Gilead DCP commenced at the same time the land was rezoned for urban development. An amendment to the Mt Gilead DCP was adopted by Council, at the Ordinary Council meeting on the 14 April 2020 to include a staging plan and a table addressing the provisions of Clause 6.3 of LEP 2015. The table below provides an assessment against the provisions of Clause 6.3 and relevant controls of the amended Mt Gilead DCP.

LEP 2015 Clause 6.3 Requirement	**Relevant Provision/Control**	**Comment**
(a) a staging plan for the timely and efficient release of urban land, making provision for necessary infrastructure and sequencing,	Development may be undertaken in a single stage (as shown in Figure 1A, staging plan) or in any number of substages provided that development reflects the progressive delivery of road, utility and local infrastructure over the land. Development may be undertaken pursuant to several development applications with an explanation of how this is compatible with the delivery of infrastructure.	The Mt Gilead DCP includes a staging plan for land. The proposed development would be undertaken in two substages (1A and 1B). The proposal reflects the progressive delivery of road, utility and local infrastructure over the land. Development of the land would be undertaken pursuant to several development applications. The applicant has provided explanation of how the proposal is compatible with the delivery of infrastructure as follows: o The delivery of a collector road and main intersection with Appin Road to provide safe access to the development of a standard appropriate to serve the 333 residential lots. This collector road is supported by associated local roads with temporary turning heads to ensure all lots are provided public road access. o Endeavour Energy has approved servicing requests to reticulate electricity to the proposed development. This includes the augmentation of the existing network in Rosemeadow and delivery of a high voltage feeder along Appin Road with associated padmoun substations and low voltage reticulation network. This service will

		be in place prior to the registration of lots. ○ Sydney Water has approved a sewer main and associated sewer pumping station to connect the development with the existing sewer network in Rosemeadow. This trunk infrastructure will be complemented by a sewer reticulation network within the proposed road network. Lendlease is currently commissioning these works which will be completed prior to the registration of lots. ○ Water mains currently run along Appin Road and service the site. This will be complemented by a water reticulation network within the proposed road network. This service will be in place prior to the registration of lots. ○ Opticom is Lendlease's delivery partner and will deliver the telecommunications network for the development. This network will be in place prior to the registration of lots. ○ Lendlease and Council have entered into a Planning Agreement for the delivery of local infrastructure. The proposed development triggers demand for: ○ TM4 – Collector Road, included in this DA. Lendlease will deliver this in advance of the trigger as part of this DA (i.e. before 12 months after the registration of the 300th lot). ○ Catchment 1A – Stormwater infrastructure, included in this DA. Lendlease will deliver this within 12 months after the registration of the 1st lot and completion of water quality component within

		12 months of completion of dwelling construction of 80 per cent of the catchment. ○ Open Space – Lendlease is preparing a DA for the first open space reserve and will lodge it with Council in the coming months. Lendlease intend to deliver the first open space reserve in advance of the trigger as part of this DA (i.e. before 12 months after the registration of the 300th lot).
(b) an overall transport movement hierarchy showing the major circulation routes and connections to achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists,	This infrastructure shall be provided in accordance with Section 3.2 (including, without limitation, consistency with the details in Figures 4, 5 and 6).	The Gilead DCP provides an Indicative Street Network and Public Transport map which depicts collector roads, distributor streets, local streets, access points and bus routes. The Gilead DCP provides indicative street cross sections for a distributor street, collector road, local streets and cul-de-sacs; and an Indicative Pedestrian/Cycle Network which plots pedestrian/cycle routes. The application proposes to provide infrastructure including the local street network, vehicle entrance from Appin Road, pedestrian footpath/cycle route, bus bay and road verges. The proposal involves alternative street designs, and a condition has been included to ensure bus stops, bays, shelters and seating would be provided. Further compliance with Section 3.2 of the DCP is outlined later in this report.
(c) an overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent locations, and detailed landscaping requirements for both the public and private domain,	All development shall be undertaken in accordance with Section 3.3 (including, without limitation, consistency with the details in Figure 7).	The Gilead DCP provides an Indicative Landscape Strategy which provides for rural areas, open space and drainage areas, riparian corridors, detention and bio-retention basins, interpretive drive, landscaped green link, screen planning, One Tree Hill, sports oval, and a potential water reservoir. The Gilead DCP

		provides objectives to conserve riparian areas and remnant bushland. The Gilead DCP aims to retain regional views of the hills from the west of the subdivision as well as the visual context of the landscape and its prior land uses and heritage values. The Gilead DCP aims to retain the bald character of One Tree Hill when viewed from The Old Mill with a single landmark tree. Appendix 1 of the Gilead DCP provides an Indicative Street Tree Hierarchy with samples of suggested street trees for the public domain. The DCP requires the 'green link' to be planted with endemic native species. Whilst the Gilead DCP does not provide landscaping requirements for the private domain, Volume 1 of the Campbelltown (Sustainable City) Development Control Plan 2015 requires the submission of a landscape plan that maximises the use of drought tolerant native species. The development would be undertaken in accordance with Section 3.3 and Figure 7. The proposed development involves tree removal and earthworks to provide a storm water detention basin, and bio-retention basins within the open space and drainage area shown in Figure 7. Public open space would be linked with streets, and pedestrian paths/cycleways. The development fronts open spaces to allow for causal surveillance. Bushland would be conserved within the biobanks. Bushland to be conserved is located outside of the demarcated boundary of works. It is not feasible to retain significant trees. A landscape plan was provided proposing the planting of street trees. Further compliance with

		Section 3.3 of the DCP is outlined later in this report.
(d) a network of active and passive recreation areas,	All development shall be undertaken in accordance with Section 3.3 (including, without limitation, consistency with the details in Figure 7).	The Indicative Landscape Strategy provides active and passive recreation areas, including a sports oval, open space areas, One Tree Hill, riparian corridors and a landscaped green link. The development would be undertaken in accordance with Section 3.3 and Figure 7. The proposed development involves tree removal and earthworks to provide a storm water detention basin, and bio-retention basins within the open space and drainage area shown in Figure 7. Public open space would be linked with streets, and pedestrian paths/cycleways. The development fronts open spaces to allow for causal surveillance.
(e) stormwater and water quality management controls,	All development shall be undertaken in accordance with the Campbelltown City Council Engineering Design Guide for Development.	The proposed development involves the provision of a storm water detention basin, and bio-retention basins which are capable of satisfying the Engineering Design Guide for Development, and standards for stormwater and water quality management. A condition has been applied to ensure the design of all engineering works is carried out in accordance with the requirement of Council's Engineering Design Guide for Development.
(f) amelioration of natural and environmental hazards, including bush fire, flooding and site contamination and, in relation to natural hazards, the safe occupation of, and the evacuation from, any land so affected,	**Bushfire** All future development is to comply with the NSW RFS's Planning for Bushfire Protection. This includes the provision of suitable asset protection zones and appropriate maintenance of	**Bushfire** The proposed development was accompanied by a Bushfire Hazard Assessment Report prepared by Building Code & Bushfire Hazard Solutions Pty Ltd outlining compliance with Planning for

	vegetated open space areas. **Flooding** All future development is to comply with Council's Engineering Design Guide for development. **Contamination** All future development is to comply with State Environmental Policy No.55 – Remediation of Land. **Mine Subsidence** All future development is to comply with the requirements of the NSW Mine Subsidence Board.	Bushfire Protection. The NSW RFS issued General Terms of Approval on 23 April 2019 which have been included within the recommended conditions of consent. **Flooding** The proposed development was reviewed by Council's engineers and considered to comply with Council's Engineering Design Guide for development. **Contamination** The proposed development was supported by contamination studies that satisfy the provisions of SEPP 55. **Mine Subsidence** Subsidence Advisory NSW issued General Terms of Approval on 4 June 2018 which have been included within the recommended conditions of consent.
(g) detailed urban design controls for significant development sites,	All development must address the matters under Section 3.1 including consideration of the principles provided in Figure 3 and be consistent with low density residential development controls in Volume 1, Part 3. Development in the vicinity of the "One Tree Hill" site shall be undertaken in accordance with Section 3.3 (including, without limitation, consistency with the details in Figure 7) and the objectives of the RU2 Rural Landscape Zone in which it is located. All development shall be undertaken in accordance with Section 3.1 (including, without limitation, consideration of the principles provided in Figure 3).	The Gilead DCP provides urban design controls for the overall development of the estate, including specific outcomes for heritage and views, street network and public transport, public open space and landscaping, residential subdivision and residential development. The proposed development has been designed to address the objectives and controls under section 3.1 and is consistent with the principles provided in Figure 3. The proposal interprets the rural landscape values of the site and surrounding locality via the retention of trees within the RU2 zone. The proposal would retain the European heritage of the former Hillsborough cottage which would be fenced off and protected during works.

		The proposal would retain regional views of hills to the west including the landscape's prior land uses and heritage values, including rural farm land, remnant trees and the Old Mill. Earthworks are not proposed within the immediate vicinity of One Tree Hill. The proposal would retain the bald character of One Tree Hill above the background skyline when viewed from The Old Mill, with a single landmark tree. Key view corridors to the Old Mill and One Tree Hill would be retained and interpreted. The proposal is consistent with the low density residential development controls in Volume 1, Part 3. Compliance with the controls of Volume 1, Part 3 is outlined later in this report. The Boulevard is a main entrance to the estate and has been aligned to create a view corridor to One Tree Hill. The proposal is consistent with Section 3.3 and Figure 7 regarding open space and drainage. The proposal does not involve any works within the RU2 zone or within Interpretive Drive. The proposal is consistent with the objectives of the RU2 zone. The development would be undertaken in accordance with Section 3.1 and the principles provided in Figure 3. The application does not involve any works to the former Hillsborough cottage. The proposal would maintain the view corridor to One Tree Hill from the vicinity of the former cottage.
(h) measures to encourage higher density living around transport, open space and	Any development must locate smaller high density residential types of development around	An objective of the Gilead DCP is to provide a range of densities, lot sizes and house

service nodes,	transport, open space and service nodes in accordance with Section 3.4.	types. The Gilead DCP allows for a maximum of 65 lots less than 450sqm with a minimum area of not less than 375sqm. The lots must be within 200m of key amenity attractors such as the bus route, community hub and open space. The proposed development involves the provision of a variety of different lot sizes, including smaller lot sizes proximate to transport, open space and service nodes in accordance with Section 3.4.
(i) measures to accommodate and control appropriate neighbourhood commercial and retail uses,	Commercial and retail development shall be concentrated in the B1 Neighbourhood Centre within the precinct and must be undertaken in accordance with the objectives of B1 Neighbourhood Centre and Volume 1, Section 6 of the Campbelltown (Sustainable City) Development Control Plan 2015.	Part 6 of the Sustainable City DCP provides controls for commercial development. The proposed development does not involve the construction of any commercial or retail buildings within the B1 zone.
(j) suitably located public facilities and services, including provision for appropriate traffic management facilities and parking.	Public facilities and services are to be provided in the B1 Neighbourhood Centre Zone and shall be provided in accordance with Council's Engineering Design Guide for development.	The Gilead DCP makes provision of public facilities and services including a community hub, sports oval, open space areas and bus routes. Traffic would be managed into and out of the site via signalised intersections that form part of the upgrade works to Appin Road. The internal road network could be designed to permit on-street parking. The proposed development does not involve the provision of public facilities and services in the B1 zone. Any future facilities would be capable of being provided in accordance with Council's Engineering Design Guide for Development.

2.19. Earthworks

Pursuant to clause 7.1(3) of the LEP 2015, in deciding whether to grant development consent for earthworks the consent authority must consider the following matters:

(a) The likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development

Comment: The proposal involves the excavation of land to create bio-retention basins and a stormwater detention basin located adjacent to Noorumba Reserve. The basins would be provided within an area that responds to the drainage pattern of the land. A spillway would permit excess water to flow into the riparian area which forms part of the natural drainage system. The riparian area would be planted with suitable native vegetation to maintain the soil stability of the waterway.

(b) The effect of the development on the likely future use or redevelopment of the land

Comment: The proposal involves the refinement of contours to improve the finished levels of the proposed roads and lots within the residential subdivision, and the filling of three farm dams to facilitate the future development of the land for residential purposes.

(c) The quality of the fill or the soil to be excavated, or both,

Comment: The fill would be virgin excavated natural material. Under the bulk earthworks application (DA-2984/2020/DA-CW), any contaminated elements would be removed from the site and the land would be remediated and made suitable for residential purposes.

(d) The effect of the development on the existing and likely amenity of adjoining properties

Comment: The works associated with this application would have an impact on the amenity of adjoining properties. Short term impacts during construction include dust, noise and possible traffic impacts. Long term impacts are positive and include increased amenity, better roads, parks and facilities. The proposal would not have an unreasonable impact on the amenity of adjoining properties subject to the imposition of conditions.

(e) The source of any fill material and the destination of any excavated material

Comment: A recommended condition has been included requiring materials excavated and removed from the site to be disposed in accordance with *the Protection of the Environmental Operations Act 1997* to a facility, or site that is legally able to accept the material.

(f) The likelihood of disturbing relics

Comment: The site contains Aboriginal artefacts. Under the bulk earthworks application (DA-2984/2020/DA-CW), the applicant is required to follow the conditions of the AHIP as varied by Heritage NSW.

(g) The proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area

Comment: The proposal involves works within 40m of the watercourse adjacent to Noorumba Reserve. The application was referred the NSW Office of Water and the NSW NRAR issued General Terms of Approval that have been included within the consent. Water

NSW was notified of the proposed development with respect to the proximity of the Sydney Water Supply Upper Canal and no objection was received. The environmentally sensitive areas would be retained and protected as biobanks.

(h) Any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development

Comment: Erosion and sediment control fencing would be erected during construction to mitigate impacts from arising in the locality of the development. The applicant proposes to manage erosion impacts in accordance with the document titled Managing Urban Stormwater: Soils and Construction prepared by Landcom.

2.20. Flood planning

Pursuant to clause 7.2(3) of the LEP 2015, development consent must not be granted unless the consent authority is satisfied that the development

(a) Is compatible with the flood hazard of the land

Comment: The application was accompanied by flood advice prepared by Cardo. The advice states that during a 1:100 Annual Exceedance Probability (AEP) event, water flows would be negligible and peak water levels would be significantly lower than the finished levels of the proposed development. The proposed development was reviewed by Council's hydraulic engineers and considered to be compatible with the flood hazard of the land.

(b) Will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties

Comment: The proposed stormwater detention basin has been designed so that post development flows do not exceed pre-development flows. In this regard, the proposal would not result in detrimental increases in the flood affectation of nearby properties.

(c) Incorporates appropriate measures to manage risk to life from flood

Comment: The applicant has advised the finished lot levels have been designed above the 1:100 AEP with a freeboard of 0.5m.

(d) Will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses

Comment: The application was accompanied by a Riparian Plan that proposes the planting of appropriate species of native vegetation within the riparian areas. The proposed rock ripraps would mitigate the scouring of land.

(e) Is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding

Comment: The proposal is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding. The majority of the site is not affected by flooding and the flood affected land is generally confined within the lower lying riparian areas.

2.21. Salinity

Pursuant to clause 7.4(3) of the LEP 2015, in deciding whether to grant development consent for development on land to which this clause applies, the consent authority must consider the following:

(a) Whether the development is likely to have any adverse impact on salinity processes on the land

Comment: A Salinity Investigation and Management Plan (SIMP) prepared by Douglas Partners accompanied the application. The plan recommends capping the upper surface of sodic soils exposed by excavation with permeable material to prevent ponding and capillary rise, and to act as a drainage layer whilst reducing erosion.

(b) Whether salinity is likely to have an impact on the development

Comment: Salinity causes the premature breakdown of concrete and the corrosion of steel. The presence of slightly saline materials is a naturally occurring feature of the environment.

(c) Any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development

Comment: The Salinity Investigation and Management Plan provides strategies to mitigate the impacts of the proposed development.

Pursuant to clause 7.4(4) of the LEP 2015, development consent must not be granted unless the consent authority is satisfied that:

(a) The development is designed, sited and will be managed to avoid any significant adverse environmental impact, or

(b) If that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) If that impact cannot be minimised—the development will be managed to mitigate that impact

Comment: Having regard to the strategies and recommendations contained within the Salinity Investigation and Management Plan, it is considered the proposed development will be designed and managed to minimise any significant adverse environmental impact. A recommended condition has been included requiring all residential lots to be classified in accordance the Australian Standard AS2870 - Residential Slabs and Footings.

2.22. Restrictions on access to or from public roads

Clause 7.18(3) of the LEP 2015 provides that development consent may only be granted for development on land adjoining a road within Zone SP2 Infrastructure if the consent authority is satisfied that:

(a) All vehicular access to the land is by way of another road that is not within that zone, or

(b) There is no practicable alternative vehicular access to the land by way of another road that is not within that zone or by way of a proposed road identified in a development control plan.

Comment: There are no other roads that offer vehicular access to the site, other than Appin Road. The Mt Gilead DCP illustrates vehicle access being provided to the site from Appin Road.

Clause 7.18(4) of the LEP 2015 provides that before granting development consent that makes provision for vehicular access to or from a road within Zone SP2 Infrastructure, the consent authority must take the following into consideration:

(a) The treatment of the access and its location, and

(b) The effect of opening the access on traffic flow and traffic safety on the road.

Comment: Construction vehicle access to the site is proposed from an existing driveway from Appin Road. Residential vehicle access to the estate would be provided through Lot 1.

The proposed development was referred to the NSW RMS (RMS) for comment and concurrence was issued requiring the construction of an interim un-signalised intersection on Appin Road.

In order to manage the traffic flow and safety of Appin Road, a recommended condition has been included requiring a Construction Traffic Management Plan to be approved by the RMS prior to the commencement of works.

2.23. Riparian land and watercourses

Pursuant to Clause 7.3(3) of the LEP 2015, the consent authority must consider:

(a) Whether or not the development is likely to have any adverse impact on the following:

(i) The water quality and flows within the watercourse

(ii) The aquatic and riparian species, habitats and ecosystems of the watercourse

(iii) The stability of the bed and banks of the watercourse

(iv) The free passage of fish and other aquatic organisms within or along the watercourse

(v) Any future rehabilitation of the watercourse and its riparian areas

(vi) The underlying and surrounding groundwater resources and groundwater dependent ecosystems, and

Comment: The proposal involves works within 40m of the watercourse adjacent to Noorumba Reserve. The application was referred the NSW Office of Water and the NSW NRAR issued General Terms of Approval that have been included within the recommended consent. The proposal requires a Controlled Activity Approval to be issued for works within the waterway, which will ensure the proposed development is consistent with the above provisions.

(b) Whether or not the development is likely to increase water extraction from the watercourse, and

Comment: The proposal does not seek to extract water from the watercourse.

(c) Any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

Comment: The bio-retention and stormwater detention basins would be provided with rock ripraps to mitigate the scouring of land.

Pursuant to Clause 7.3(4) of the LEP 2015, development consent must not be granted unless the consent authority is satisfied that:

(a) The development is designed, sited and will be managed to avoid potential adverse environmental impact, or

(b) If that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) If that impact cannot be minimised—the development will be managed to mitigate that impact.

Comment: Having regard to the proposed riparian works outlined within the Riparian Plan, it is considered the proposed development will be designed and managed to minimise any adverse environmental impact.

2.24. Terrestrial biodiversity

Pursuant to Clause 7.20(3) of the LEP 2015, the consent authority must consider:

(a) Whether the development is likely to have:

(i) Any adverse impact on the condition, ecological value and significance of the fauna and flora on the land

(ii) Any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna

(iii) Any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land; and

(iv) Any adverse impact on the habitat elements providing connectivity on the land

(b) Any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development

Comment: The proposed tree removal does not involve the removal of any 'biodiversity significant vegetation'. The trees have been 'biodiversity certified' under the BCA that applies to the land. The majority of vegetation to which this clause applies would be retained and protected in accordance with the BCA. All impacts to native vegetation would be offset in

accordance with the requirements of the BCA. Accordingly, the proposed development would not have an adverse impact on the above considerations.

Further, in accordance with Section 8.4 of the *Biodiversity Conservation Act 2016*, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems. As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity under clause 7.20 of the LEP 2015.

Pursuant to Clause 7.20(4) of the LEP 2015, development consent must not be granted to development on land to which this clause applies unless the consent authority:

(a) Has taken into account the objectives of this clause, and

(b) Is satisfied that the development is sited, designed, constructed and managed to avoid adverse impacts on native biodiversity or, if an adverse impact cannot be avoided:

    (i) The development minimises disturbance and adverse impacts to remnant vegetation communities, threatened species populations and their habitats

    (ii) Measures have been considered to maintain native vegetation and habitat parcels of a size, condition and configuration that will facilitate biodiversity protection and native flora and fauna movement through biodiversity corridors, and

    (iii) The development includes measures to offset the loss of biodiversity values

Comment: The objective of this clause is to maintain terrestrial biodiversity by protecting native fauna and flora, and protecting the ecological processes necessary for their continued existence, and encouraging the conservation and recovery of native fauna and flora and their habitats, and maximising connectivity and minimising habitat fragmentation. Having regard to the BCA, it is considered the Panel can be satisfied the proposed development is consistent with the above objectives and provisions.

Further, in accordance with Section 8.4 of the *Biodiversity Conservation Act 2016*, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems. As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity under clause 7.20 of the LEP 2015.

2.25. Amendment No. 24 to the Campbelltown Local Environmental Plan 2015

Amendment No. 24 to the Campbelltown Local Environmental Plan 2015 was placed on public exhibition from 1 April 2020 to 6 May 2020 and is a matter for consideration.

The amendment includes a proposed Terrestrial Biodiversity Map which includes some additional Areas of Biodiversity Significance within the subject site at Gilead.

As the proposed Terrestrial Biodiversity Map relates to biodiversity certified land and clause 7.20 of the LEP 2015, the Panel is not required to assess and consider the impacts of the development on biodiversity.

Campbelltown (Sustainable City) Development Control Plan 2015

The proposed development has been assessed against the relevant development controls of the Campbelltown (Sustainable City) Development Control Plan 2015 - Volume 1 (DCP 2015).

Part 2 - Requirements Applying to All Types of Development

Part 2 of DCP 2015 contains requirements that apply to all types of development. Compliance with the relevant controls is outlined in the table below:

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
2.7(a) Erosion and Sediment Control	An Erosion and Sediment Control Plan shall be prepared and submitted with a development application proposing construction and/or activities involving the disturbance of the land surface.	Erosion and Sediment Control Plan submitted.	Yes
2.8.1(a) Cut and Fill	A Cut and Fill Management Plan (CFMP) shall be submitted with a development application where the development incorporates cut and/or fill operations.	Levels of cut and fill submitted.	Yes
2.8.1(e) Cut and Fill	All fill shall be 'Virgin Excavated Natural Material' (VENM).	Condition of consent to comply.	Yes
2.8.2(a) Surface Water	Development shall not occur on land that is affected by the 100-year ARI event unless the development is consistent with the NSW Floodplain Development Manual.	The proposal was reviewed by Council's hydraulic engineers and considered to be acceptable with respect to flooding and the NSW Floodplain Development Manual.	Yes
2.8.2(c) Surface Water	All development shall have a ground surface level, at or above a minimum, equal to the 100-year 'average recurrence interval' (ARI) flood level.	Ground surface levels above ARI flood level.	Yes
2.10.1(a) Water Cycle Management	A comprehensive Water Cycle Management Plan (WCMP) shall be prepared and submitted as part of a development	Stormwater Drainage Pan submitted.	Yes

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
	application.		
2.10.2(a) Stormwater	All stormwater systems shall be sized to accommodate the 100-year ARI event	Condition of consent to comply.	Yes
2.10.2(b) Stormwater	The design and certification of any stormwater system shall be undertaken by a suitably qualified person.	Condition of consent to comply.	Yes
2.10.2(j) Stormwater	Development shall not result in water run-off causing flooding or erosion on adjacent properties.	Measures to manage run-off to not cause flooding or erosion on adjacent properties.	Yes
2.10.2(k) Stormwater	Stormwater run-off shall be appropriately channeled into a stormwater drain	Stormwater run-off directed into bio-retention, stormwater detention and sediment basins.	Yes
2.11.1(c) Aboriginal Heritage	Where it is determined that harm could occur to Aboriginal objects then an Aboriginal Heritage Impact Permit application must be made to the OEH and be approved prior to works occurring.	The applicant is required to follow the conditions of the AHIP as varied by Heritage NSW that has been issued for the land.	Yes
2.11.2(a) Heritage	Any development application made in respect to development on land that is adjoining land occupied by a heritage item shall provide a SHI(SHI) that assesses the impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item or conservation area.	The application was accompanied by a Heritage Impact Statement prepared by MKD Architects that assesses the impact of the proposed development on the heritage significance, visual curtilage and setting of heritage items adjoining the land including Mount Gilead, Sydney Water Supply Upper Canal, Humewood Forest Beulah. The proposal is not incompatible with the heritage setting of the area.	Yes
2.12 (a) Retaining Walls	Any retaining wall that is not complying or exempt development as specified in the Exempt and Complying	Blockwork retaining walls to be designed by a suitably qualified person.	Yes

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
	Development Codes shall be designed by a suitably qualified person.		
2.14.1(c) Contaminated Land	Where a site is identified by Council, Office of Environment and Heritage and/or by the initial investigation as being, or having the potential to be contaminated, a Contamination Management Plan shall be submitted with the development application.	Under the bulk earthworks application, the land would be remediated and made suitable for the proposed residential land use.	Yes
2.14.2(a) Salinity	A detailed Salinity Analysis and Remedial Action Plan shall be prepared and submitted with the development application if: i) the site has been identified as being subject to a salinity hazard; or ii) an investigation reveals that the land is saline.	A Salinity Investigation and Management Plan submitted. The plan includes strategies to manage salinity impacts from arising on the land.	Yes
2.14.3(a) Bushfire	Development on bush fire prone land (as detailed on the Campbelltown Bush Fire Prone Lands Map) shall comply with the requirements of Planning for Bushfire Protection	The proposed residential subdivision was referred to the NSW RFS and General Terms of Approval have been issued.	Yes
2.14.4(b) Subsidence	An applicant shall make appropriate enquiries and have plans stamped with the Mine Subsidence Board regarding any construction requirements for any type of development involving the erection of a building within a mine subsidence district prior to a development application being	The proposed development was referred to Subsidence Advisory NSW and General Terms of Approval have been issued.	Yes

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
	submitted to Council.		
2.15(a) Waste Management	A detailed Waste Management Plan (WMP) shall accompany development applications.	Waste Management Plan submitted.	Yes
2.15.2(e) Waste Management	The removal, handling and disposal of asbestos or other hazardous materials shall be carried out in accordance with WorkCover NSW, Office of Environment and Heritage and other regulatory authority guidelines and requirements	Any hazardous material removed from the site would be undertaken in accordance with the Remedial Action Plan, unexpected finds protocol and relevant legislative requirements.	Yes
2.18(a) Upper Canal Corridor	Where major development is proposed adjacent to the Upper Canal corridor, applicants shall consult with Water NSW as part of the process of preparing the development application.	The application was notified to Water NSW. No objection was received.	Yes
2.18(f) Upper Canal Corridor	Stormwater systems serving development adjacent to the Upper Canal shall be designed to ensure that stormwater does not enter the Canal.	The stormwater system has been designed so that stormwater will not enter the Canal. The Canal is piped over the watercourse.	Yes
2.18(j) Upper Canal Corridor	The State Heritage status of the Upper Canal shall be taken into account when designing development adjacent to the Canal corridor.	The development has been appropriately setback from the Upper Canal.	Yes
2.19(d) Electricity Easements	All proposed activities within electricity easements require approval from the relevant utility providers.	The applicant has not identified any electricity easements on the land that would be impacted by the proposal.	N/A

Part 3 – Low and Medium Density Residential Development

Part 3.8 of DCP 2015 contains requirements that apply to residential subdivision. Compliance with the relevant controls is outlined in the table below:

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
3.8.1 (a) Residential Subdivision	Subdivision shall have appropriate regard to orientation, slope, aspect and solar access.	Subdivision has appropriate regard to orientation, slope, aspect and solar access.	Yes
3.8.1 (b) Residential Subdivision	Subdivision design shall comply with the requirements specified in Council's Engineering Design Guide for Development	Condition of consent to comply.	Yes
3.8.1 (c) Residential Subdivision	Where relevant, roads shall be designed to provide satisfactory level of services for the evacuation of occupants in the event of emergency.	Road design allows evacuation in the event of emergency.	Yes
3.8.1 (d) Residential Subdivision	Subdivision shall promote through street access and minimise the number of cul-de-sacs.	Subdivision pattern promotes through street access. Temporary turning heads provided.	Yes
3.8.1 (e) Residential Subdivision	Roads/access handles shall be provided to separate allotments from any park, reserve, waterway and the like .	Roads provided to separate allotments from riparian and biobanked areas.	Yes
3.8.1 (f) Residential Subdivision	All allotments within a subdivision that are located adjacent to the intersection of local public roads (existing or proposed) shall provide a splay in accordance with Council's Engineering Design Guide for Development to ensure adequate sight distances and maintain footpath widths.	All residential allotments within the subdivision that are located adjacent to an intersection are provided with a splay.	Yes
3.8.1 (g) Residential Subdivision	Residential subdivision shall be designed to address the public	Residential subdivision designed to address the public domain.	Yes

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
	domain.		
3.8.1 (h) Residential Subdivision	Wherever possible, subdivision design shall avoid the creation of allotments that have rear boundaries (and fencing) that adjoin the public domain.	The allotments adjacent to The Boulevard have rear boundaries that adjoin a street.	No – see discussion below.
3.8.1 (i) Residential Subdivision	For the purpose of calculating the minimum allotment size and dimensions under the Plan, any land that is part of an environmental corridor as specified by the Office of Environment and Heritage or any other government agency shall not be included within the calculated area of land unless the relevant public agency is satisfied that that part of the allotment is capable of being developed.	All residential lots satisfy the minimum lot size and are capable of being developed. No land forms part of an environmental corridor as specified by the Office of Environment and Heritage.	Yes
3.8.1 (j) Residential Subdivision	For the purpose of calculating the minimum allotment size and dimensions under the Plan, any land that is subject to bushfire, flooding or other risk (excluding mine subsidence) shall not be included within the calculated area of land unless it is demonstrated to Council's satisfaction that the site can be appropriately managed in a manner that retains the ability to be developed for the purpose to which it is intended under the zone.	The land is bushfire prone and the NSW RFS has issued General Terms of Approval. Council is satisfied the site can be developed for residential purposes. Further, the applicant has submitted a bushfire report indicating the BAL levels of each allotment.	Yes
3.8.1 (k)	Access to residential subdivisions shall not	Access to subdivision not available from a	N/A

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
Residential Subdivision	be permitted to any classified road where alternative access can be made available via the non–classified road network.	non-classified road.	
3.8.1 (l) Residential Subdivision	Extensive use of battleaxe configuration in the subdivision of new areas shall be avoided, where possible.	No battle-axe lots.	Yes
3.8.2 (a) Torrens Title Subdivision	Any residential allotment created by Torrens Title subdivision for the purpose of a dwelling house development in areas zoned R2 and R3 shall satisfy the following standards: i) a minimum width of 15 metres measured along the side boundaries at a distance of 5.5 metres from the front property boundary; ii) a minimum width of 7 metres measured between the extended property side boundaries where they intersect with the kerb line; and iii) a minimum depth of 25 metres.	 The Mt Gilead DCP allows a minimum lot width of 12.5m. The minimum lot width controls of the site specific Mt Gilead DCP prevail in this instance. All lots have a minimum width of 7m measured between the side boundaries at the kerb line. All lots have a minimum depth of 25m (excluding corner splays)	 N/A Yes Yes
3.8.9 (a) Subdivision and Waste Management	Subdivision shall be designed and constructed so that upon completion: i) kerbside waste collection vehicles are able to access bins from the kerbside at a minimum distance of 300mm, and a	 Waste collection vehicles capable of accessing bins from the kerb-side.	 Yes

Campbelltown (Sustainable City) Development Control Plan 2015			
Control	**Requirement**	**Proposed**	**Compliance**
	maximum distance of 1500mm from the left side of the vehicle to the bin;		
	ii) adequate space behind the kerb is provided for the occupant of each premises to present 1 x 140 litre bin and 1 x 240 litre bin side-by-side, a minimum 300mm apart;	Adequate space available for presentation of bins to kerb.	Yes
	iii) where it is not possible to provide bin collection points immediately in front of each allotment, a concrete pad shall be constructed at the closest practical location to the allotment for garbage collection;	Collection points available in front of each lot.	Yes
	iv) the location for kerbside presentation provides a minimum 4 metres overhead clearance for the operation of the collection vehicle (eg. no trees or transmission lines overhanging the bins).	Adequate overhead clearance space for collection vehicle.	Yes
	v) waste collection vehicles are not required to make a reverse movement to service bins.	Reserve movement not required to service bins.	Yes

Subdivision design (clause 3.8.1(h) non-compliance)

Clause 3.8.1(h) of the SCDCP requires wherever possible, subdivision design to avoid the creation of allotments that have rear boundaries (and fencing) that adjoin the public domain.

The proposed allotments adjacent to The Boulevard have rear boundaries that adjoin a street which comprises the public domain. This does not technically comply with clause 3.8.1(h) of the SCDCP.

However on review, this proposal is considered to be acceptable in the circumstances as vehicle access will be denied to the allotments that have a frontage to The Boulevard frontage to maintain traffic flows. The garages will be accessed from the rear street which will enhance facade activation and presentation to the main collector road (The Boulevard).

In this regard, the proposed subdivision design is considered consistent with applicable objective of the control to ensure the land once subdivided contributes positively to the desired character of the locality and provides for the safe and attractive integration of new development.

A recommended condition has been included requiring vehicle access to be denied from The Boulevard, the primary façade of dwellings to be articulated to address The Boulevard, and for building envelope plans to be provided demonstrating compliance with the controls of the DCP and LEP e.g. setbacks, private open space areas, receivable solar access and building height.

Part 11 - Vegetation and Wildlife Management

Part 11 of DCP 2015 contains requirements that apply to Vegetation and Wildlife Management. The objectives of Section 11.2 of the DCP are to:

- Protect and conserve the City's biodiversity through the retention of native vegetation.
- Maintain, enhance and/or establish corridors, which enable existing plant and animal communities to survive and range in their natural habitat.
- Protect habitat resources including hollow-bearing trees and hollow logs within Campbelltown LGA.
- Provide appropriate measures to compensate for the loss of hollow-bearing trees within the LGA.

Comment: As part of the strategic planning process, a detailed ecological assessment was undertaken using methods to avoid and minimise impacts on biodiversity as much as practicable in consultation with NSW Office of Environment and Heritage. A Biodiversity Certification Application including a Comprehensive Biodiversity Certification Assessment Report and Biocertification Strategy was also submitted to the Minister for Energy and Environment. The BCA requires a range of conservation measures and offsets to be provided to address biodiversity impacts. Taking this into account, the objectives of Part 11 of DCP 2015 have been satisfied in this case.

Further, as raised previously, in accordance with Section 8.4 of the BC Act, the Panel is not required to assess and consider the likely impact of the development on animal and plant life, including diversity within and between species and diversity of ecosystems. As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity.

The Biodiversity Certification Agreement requires the Developer to prepare and implement a Construction Environmental Management Plan to the satisfaction of Council prior to the clearing of land. The plan must include but not be limited to:

- the erection of temporary and permanent protective fencing around all areas identified for conservation to minimise any inadvertent damage

- the retention of hollow bearing trees (where possible) that potentially contain roosting and breeding habitat for threatened microbats
- the salvaging of trees or parts thereof for use as fauna habitat in other biobank sites
- providing kerb and gutter and piped stormwater management infrastructure to roads surrounding the conservation areas to ensure that stormwater will not flow into the conservation areas
- preparation of a dam de-watering plan for the removal of the farm dams
- preparation of a fauna pre-clearance protocol for the removal of all trees

With respect to the BCA, the proposal is not considered to have an unacceptable impact on threatened species, populations, ecological communities or their habitats.

Site Specific Development Control Plan: Mt Gilead Development Control Plan

Volume 2 of the DCP 2015 contains the site specific Mt Gilead Development Control Plan – (Mt Gilead DCP). Compliance with the relevant controls is outlined in the table below:

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
2.2(1) Key development objectives	Development of Mt Gilead is to be generally consistent with the Indicative Structure Plan shown in Figure 2.	Generally consistent with Indicative Structure Plan.	Yes
3.1(1) Heritage and views	Development of Mt Gilead is to be consistent with the heritage principles identified in Figure 3 Heritage Principles Plan. The following specific measures are to be incorporated into the subdivision design:	Consistent with the heritage principles identified in Heritage Principles Plan.	Yes
	i. An interpretation of the historic carriageway alignment from Appin Road to the Mt Gilead homestead at the existing entrance to the Mt Gilead Property as shown in Figure 3 Heritage Principles Plan. This should include land mark specimen tree planting.	The historic carriageway is situated within a residue lot. Landmark specimen tree planting along the historic carriageway is not proposed at this time.	N/A
	ii. Retention of One Tree Hill as a grassed knoll with a single tree.	One Tree Hill is situated within a residue lot and would	Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
		be retained as a grassed knoll with a single tree. The former Hillsborough Cottage is situated within a residue lot. Interpretation of the heritage significance of the site is not proposed at this time.	N/A
	iii. Interpretation of the former Hillsborough Cottage is to be provided in the general vicinity as identified in Figure 3 Heritage Principles Plan. This may include landscaping, signage, walling or/and the erection of a commemorative plaque.		
3.1(2) Heritage and Views	Landscape screening is to be provided in the locations identified in Figure 7 Indicative Landscape Strategy to: i. Ensure that housing at Mt Gilead is not visible when viewed from the Old Mill. ii. Interpret the original landscape setting around the lake when viewed from the Old Mill.	The required landscape screening is situated within a residue lot to the west. Landscape screening is not proposed at this time.	N/A
3.1(3) Heritage and views	Where possible, the key view corridors identified from the indicative locations in Figure 3 Heritage Principles Plan to the Old Mill and One Tree Hill are to be retained and interpreted.	View corridors to the Old Mill and One Tree Hill retained.	Yes
3.1(4) Heritage and views	When the subdivision street pattern and open space locations are finalised, a site review will be required to confirm that important views to the west are retained and interpreted within the public domain (streets and parks). These locations will be	Site Analysis Plan submitted having regard to the local high points, and view corridors. The Boulevard is a main entrance to the estate and has been aligned to create a view corridor to One Tree Hill.	Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
	identified on the plans submitted with development applications for subdivision.		
3.2(1) Street network and public transport	The design of the local street network is to: i. facilitate walking and cycling and enable direct local vehicle trips; ii. create a safe environment for walking and cycling with safe crossing points; iii. encourage a low-speed traffic environment; iv. optimise solar access opportunities for dwellings; v. take into account the site's topography and view lines; vi. provide frontage to and maximise surveillance of open space; vii. facilitate wayfinding and place making opportunities by taking into account streetscape features; and viii. retain existing trees, where appropriate, within the road reserve.	 Facilitates walking, cycling and vehicle trips. Pedestrian / cycle crossing points provided. Low speed traffic environment. Optimises solar access opportunities for future dwellings. Takes into account site topography and view lines. Frontage provided to open space to maximise surveillance. Facilitates wayfinding and place making opportunities by taking into account subdivision pattern, street hierarchy and open space areas. Removal of twenty-five trees not suitable for retention.	 Yes Yes Yes Yes Yes Yes Yes N/A
3.2(2) Street network and public transport	Three entrances are to be provided off Appin Road generally in accordance with the locations identified in Figure 2 Mt Gilead	The RMS upgrade works to Appin Road will provide only two entrances to the Mt Gilead estate. The RMS considered	Satisfactory

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
	Indicative Structure Plan and Figure 4 Indicative Street Network and Public Transport.	providing three access points from Appin Road but determined that two access points would cause less social and environmental impacts. This application requires one entrance from Appin Road which is sufficient to serve the proposed residential subdivision.	Yes
3.2(3) Street network and public transport	The public street network is to be provided generally in accordance with Figure 4 Indicative Street Network and Public Transport.	The street network is generally in accordance with Figure 4.	Yes
3.2(4) Street network and public transport	Street design is to comply with the minimum standards in the cross-sections detailed in Figure 5 Indicative Street Cross Sections.	Variations to street cross sections.	No – see discussion below.
3.2(5) Street network and public transport	Where bus bays are required on the Collector Road, the carriageway must be widened to accommodate a 2.5m wide bus parking bay.	3m wide bus parking bay to satisfy NSW Bus Infrastructure Guide.	Yes
3.2(6) Street network and public transport	Alternative street designs may be permitted on a case-by-case basis if the functional objectives and requirements of the street design are maintained and the outcome is in accordance with the Campbelltown City Council Engineering Design Guide for Development.	The proposed street design was reviewed by Council's Development Engineer and considered to be satisfactory with respect to functionality and Council's Engineering Design Guide.	Yes
3.2(7) Street network and	All kerbs are to be barrier kerbs.	Condition of consent to comply.	Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
public transport			
3.2(8) Street network and public transport	Cul-de-sac streets will only be permitted where there are physical constraints such as sloping land, riparian corridors and bushland.	Easements for turning head to provide temporary cul-de-sacs until the street network is extended under separate applications.	Yes
3.2(9) Street network and public transport	Verges abutting open space and riparian areas may be reduced to 1m in width providing no servicing infrastructure is installed on the non-residential side of the road.	1m verge adjoining biobanks. No servicing infrastructure proposed within biobanks.	Yes
3.2(10) Street network and public transport	Appropriate seating or shelters shall be provided at bus stops.	Bus stops and shelters not proposed. Condition of consent to comply.	Yes
3.2(11) Street network and public transport	Footpaths must be provided on at least one side of every street, except on the collector road where a footpath must be provided on both sides, unless it can be located within adjacent open space.	Footpaths provided on at least one side of every street. Footpaths provided on both side of collector road.	Yes Yes
3.2(12) Street network and public transport	Pedestrian and cycle network is to be provided in accordance with Figure 6 Indicative Pedestrian/Cycle Network, and is to: i. provide safe and convenient linkages between residences and open space systems, neighbourhood shops, the community facility and the bus route; ii. respond to the topography and	Pedestrian and cycle network generally consistent with Figure 6. Safe and convenient linkages between residences, open space areas, and bus route. This stage of the subdivision does not extend to the land associated with neighbourhood shops and community facility. Responds to topography and	Yes Yes Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
	achieve appropriate grades for safe and comfortable use where possible; and iii. comply with the requirements of Campbelltown City Council Engineering Design Guide for Development.	achieves satisfactory grades to encourage use. Footpath and cycle widths satisfy Council's Engineering Design Guide.	Yes
3.2(13) Street network and public transport	Street trees are to be provided in a manner consistent with the Indicative Street Tree Hierarchy at Appendix 1.	Street Tree Masterplan Submitted. The plan provides a range of suitable species and suggested species from Appendix 1.	Yes
3.2(14) Street network and public transport	A 10m wide Landscape Green Link is to be provided in the verge of the local street in the location shown in Figure 7 Indicative Landscape Strategy. The Landscape Green Link is to be planted with endemic native plant species and designed in a manner consistent with Figure 5 Indicative Street Cross Sections.	The 10m wide Landscape Green Link is situated within a residue lot to the west and is not proposed at this time.	N/A
3.3(1) Public open space and landscaping	Landscaping and public open spaces are to be generally provided in accordance with Figure 7 Indicative Landscape Strategy.	Street Tree Masterplan Submitted. The plan is generally consistent with the Indicate Landscape Strategy.	Yes
3.3(2) Public open space and landscaping	Public Open Space is to be linked using streets, pedestrian paths and cycle ways.	Public open space is linked using streets, pedestrian paths and cycle ways.	
3.3(3) Public open space and landscaping	Development is to front public open spaces to allow for casual surveillance and enhance safety.	Development fronts public open spaces including biobanks, riparian areas, and public streets.	Yes
3.3(4) Public open space and	Riparian areas are to be protected and enhanced.	Riparian areas to be protected and enhanced.	Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
landscaping			
3.3(5) Public open space and landscaping	Bushland to be conserved is to be identified in each development application for subdivision, and the application is to provide details of proposed regeneration and restoration.	Riparian Plan submitted. The plan provides details of proposed regeneration and restoration works to the bushland adjacent to Noorumba Reserve.	Yes
3.3(6) Public open space and landscaping	Significant trees are to be retained where possible. Trees proposed for removal are to be identified in each development application and the impact of their removal is to be assessed appropriately.	Significant vegetation to be retained as biobank areas. See assessment below regarding biodiversity, aesthetic and cultural impacts.	Yes – see discussion below.
3.3(7) Public open space and landscaping	Screen planting on the slopes of One Tree Hill as shown on Figure 7 Indicative Landscape Strategy should not be planted above the background skyline.	One Tree Hill is situated within a lot to the west that is not subject to this application. Screen planting on the slopes of One Tree Hill is not proposed at this time.	N/A
3.4(1) Residential subdivision	Street layouts are to be an appropriate length and width to ensure that pedestrian connectivity, stormwater management and traffic safety objectives are achieved.	Streets are an appropriate length and width to achieve pedestrian connectivity, stormwater management and traffic safety.	Yes
3.4(2) Residential subdivision	Subdivision layout is to deliver a legible and permeable street network that responds to the natural site topography, the location of existing significant trees and bushland, and solar access design principles.	The subdivision layout delivers a legible and permeable street network that responds to site topography, biobank vegetation, and riparian areas. The subdivision layout would permit solar access to internal and external spaces.	Yes
3.4(3)	Residential lots should	Residential lots	Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
Residential subdivision	be rectangular in geometry as far as possible.	incorporate rectangular geometry.	
3.4(4) Residential subdivision	The minimum lot width on any street frontage is 12.5m.	Lot 1217: 11.09m Lot 1225: 11.17m Lot 1226: 11.33m All corner lots have a minimum primary street boundary of 12.5m inclusive of corner splay.	No – see discussion below. Yes
3.4(5) Residential subdivision	The maximum number of lots with a minimum area of 375m2 and maximum area of 450m2 is 65.	45 lots have an area between 375sqm – 450sqm.	Yes
3.4(6) Residential subdivision	Lots less than 450m2 are to be located within 200m of key amenity attractors such as the bus route, community hub and open space areas.	All lots less than 450sqm are within 200m of key amenity attractors. Lots within 200m of open space: 1206, 1207, 1237, 1238, 1241, 1262, 1270, 1273, 1275, 1281, 1282, 1285, 1288, 1291, 1300, 1304, 1308, 1310, 1319, 1321, 1326, 1329 Lots within 200m of bus route: 1164, 1167, 1170, 1171, 1177, 1176 1180, 1182, 1183, 1187, 1190, 1193, 1198, 1211, 1218, 1219, 1224, 1231, 1232, 1234, 1314, 1315 Lot within 200m of community hub: 1202	Yes Yes Yes Yes
3.4(7) Residential subdivision	Subdivision layouts must provide a variety of lot frontages and lot sizes within each	The subdivision layout provides a variety of lot frontages and lot sizes within each street.	Yes

Part: 7 Mt Gilead			
Control	**Requirement**	**Proposed**	**Compliance**
	street. Lots less than 450m^2 must be dispersed throughout the subdivision and not be located in a manner where they form the dominant streetscape presentation.	Lots less than 450m^2 are dispersed throughout Stage 1B (within 200m of key amenity attractors) and are not located in a manner that would form the dominant streetscape presentation.	Yes
3.4(8) Residential subdivision	The repetition of lot widths of 12.5m is to be avoided, with no more than 3 lots of this frontage to be adjacent to one another.	There are no occasions where three lots with a frontage of 12.5m are located adjacent to one another.	Yes
3.5.3(1) Corner lots	The minimum lot size on a corner lot is 450m^2.	Corner lot sizes range between 451.1 – 989.5m^2.	Yes
3.5.6 Land adjacent to Appin Road	In addition to the provisions of clause 3.5 of Volume 1 development is to comply with Development Near Rail Corridors and Busy roads – Interim Guideline (Department of Planning 2008).	Acoustic assessment submitted. The report provides construction recommendations to ensure the dwellings would comply with Development Near Rail Corridors and Busy Roads – Interim Guideline.	Yes

Road sections

The Mt Gilead DCP requires the street to be designed in accordance with the Indicative Street Cross Sections. The application proposes variations to the cross sections of the collector road, local streets and streets adjoining the open space biobanked areas.

(a) Collector Road

The proposed collector road known as The Boulevard would serve as the main entry to the residential estate. The Mt Gilead DCP requires a 20m wide road cross section, whereas the proposed road cross section would be 25m wide.

The wider collector road provides additional landscaped areas, wider paths, with a narrower carriageway. The proposal would provide 4.8m of additional landscaping, 0.8m of additional paths, and 0.6m less carriageway.

The applicant has proposed this design to deliver an improved driver and pedestrian experience along a main entry of the estate, and to provide greater interpretation of Figtree Hill as a focal point when entering the estate

Although the carriageway has been reduced from 5.8m to 5.5m, the width of each lane is adequate to accommodate the bus route, parking lane, and bus bay whilst achieving Austroads Design Guidelines and the NSW Bus Infrastructure Guide.

The proposed variation to the collector road cross section is supported by Council's traffic engineers as an acceptable alternate solution.

The proposal still provides sufficient space for the planting of canopy scale street trees.

(b) Local street

The proposed local streets would provide access to residential allotments.

The proposed local road cross section provides a wider carriageway, wider footpath, with a narrower landscaped strip on one side.

The proposal would provide 1m of additional carriageway, 0.3m wider footpath, and 0.3m less landscaped area.

The proposed variation to the local street cross section is supported by Council's traffic engineers as an acceptable alternate solution.

The proposal still provides sufficient space for the planting of canopy scale street trees.

(c) Local street adjoining open space biobanks

A local street would adjoin the biobank areas.

The proposed local road adjoining the open space provides a wider footpath, with a narrower landscaped strip on one side.

The proposal would provide 0.3m wider footpath, and 0.3m less landscaped area.

The proposed variation to the local street cross section adjoining the biobanks is supported by Council's traffic engineers as an acceptable alternate solution.

The proposal still provides sufficient space for the planting of canopy scale street trees.

Discussion – Public Open Space and Landscaping – Control 3.3(6)

The proposal involves the removal of 25 trees as shown in submitted plans (attachment 7). All trees within the boundary of the bulk earthworks area would be removed, as shown in the submitted plans and attachment 1 of the approval issued by the Australian Government Department of the Environment and Energy dated 21 December 2018. The impacts of the tree removal are discussed within section 3.1 of the applicant's Statement of Environmental Effects. The proposed tree removal is not considered to have unacceptable impacts on trees and other vegetation of ecological, aesthetic and cultural significance, discussed below.

Biodiversity and Ecological Significance

The proposal involves the removal of trees, including Koala Habitat and Preferred Koala Feed Trees, on biodiversity certified land. In accordance with the BC Act, the Panel, when determining the development application in relation to development on biodiversity certified

land is not required to take into consideration the likely impact on biodiversity of the development carried out on that land.

The application was accompanied by the Approval from the Australian Government Department of the Environment and Energy made under the *Environment Protection and Biodiversity Conservation Act 1999*. As part of the approval, prior to the clearing of vegetation, the applicant is required to:

- Secure within onsite offset areas, 8 hectares of SSTF and 1.2 hectares of CPW, to offset impacts on 3.3 hectares of SSTF and 0.55 hectares of CPW.

- Secure at least 4 hectares of SSTF at the Fernhill Central West biobanking site, to offset impacts on 1.79 ha of SSTF.

- Secure 0.85 ha of SSTF within the Council reserve, or submit an offset strategy for the Minister's approval, to compensate for impacts on 0.85 ha of SSTF.

- Acquire or retire no less than 150 Biodiversity credits for the Koala from the Appin West offset site, to compensate for impacts on Koala.

- Prepare and Implement a Koala Management Plan to the satisfaction of the Minister, including monetary contributions for five years to fund activities outlined in the plan.

As biodiversity certification has been conferred on the land under Part 8 of the BC Act, and having regard to the above-mentioned compensation measures, the impact of removing biodiversity is lawfully permitted and deemed acceptable in this regard. The development application should not be refused based on the recognised and assessed and certified biodiversity impacts.

Aesthetic

The application was accompanied by a Tree Assessment Report prepared by ArborSite. The report provides a survey and inventory of trees located on site. Numerous trees located on site are recognised as being significant for reasons including, but not limited to: amenity value/shade, age/size, attractive landscape feature, and outstanding example of species.

The trees on the site form part of a rural landscape which contributes to the aesthetic amenity of the local area. The proposed development requires the removal of trees which may have an aesthetic impact on the surrounding locality.

The proposal is consistent with the key view corridors shown in Figure 3 of the Mt Gilead DCP. The Boulevard is a main entrance to the estate and has been aligned to create a view corridor to One Tree Hill which contributes to the aesthetic characteristics of the local area. The proposed development is also consistent with the Figure 7 Indicative Landscape Strategy in the Mt Gilead DCP. The storm water infrastructure would be provided within the specified areas.

When considering the location and design of the storm water detention basin and bio-retention basins, it is not considered feasible to retain the existing trees within the boundary of works. It is considered the impacts on aesthetic significance have been reduced through the preservation of trees within the biobanks and protection and proposed retention of trees within the RU2 zone. The extent of tree removal on the site will not unacceptably change the landscape character to the extent that it will adversely impact on the aesthetic significance of

the trees and their contribution to the aesthetic qualities of the visual catchment of the locality.

It is considered the landscape will still be aesthetically pleasing through the retention of a high number of trees within the adjacent biobanks and distance RU2 zoned land. The reduction in the aesthetic qualities caused by the development would be less significant and mitigated by replacement trees through proposed canopy tree planting, and the planting of vegetation within basins.

It is considered that should trees be retained as part of the proposed development, there is potential for some trees to not survive and compromise the design of the basins, resulting in a more severe visual impact that would impact on the aesthetic quality of the locality. It is further considered the removal of trees, based on aesthetics, should not determine the outcome of the application in circumstances where the proposed development is consistent with the remaining objectives of section 3.3 of the Mt Gilead DCP and the Figure 7 Indicative Landscape Strategy.

Cultural

The proposed development was accompanied by an Aboriginal Cultural Heritage Assessment prepared by Vitus Heritage.

Lot 4 DP 1240836 (not subject to this application) contains one scarred tree which is culturally significant. The tree is situated near a sequence of ponds which may have been a focal point of Aboriginal occupation in the area. The tree is rare due to the amount of land clearing that has occurred in the past.

The assessment outlines the timber from scarred trees can be used to make implements. Registered Aboriginal Parties commented the scarred tree may be site of an Aboriginal burial.

To protect the cultural significance of the tree and its vicinity, the assessment recommends a buffer of at least 15 metres around the tree where no mechanical stripping of soil can occur. The assessment advises the conservation buffer was determined to be an acceptable mitigation measure by Registered Aboriginal Parties.

The scarred tree is situated on land outside the scope of this development application and will be preserved from the proposed development. The proposed development would be setback approximately 380m from the cultural significant tree and exceeds the recommended buffer.

The proposal involves the removal of trees approximately 800m from Mount Gilead, 800m from the Upper Canal, 2.2km from Humewood Forest and 2km from Beulah.

The proposed development was accompanied by a SHI prepared by TKD Architects. No concerns were raised regarding the impacts of tree removal proximate to European heritage items. The SHI informs the following:

- The curtilage around Mount Gilead is sufficient to provide an open landscape setting that enables interpretation of the historic role of the place as a homestead on a large open estate. The curtilage will prevent encroachment of future development on the important buildings and features at Mount Gilead.

- The Hillsborough site has not been included in the proposed works. The heritage significance of Hillsborough is archaeological. The curtilage provided for the site is sufficient to protect its archaeological and interpretive potential, as the proposed development is located a substantial distance from Hillsborough. Those parts of the Hillsborough site that have natural significance, which have been identified for conservation through a BCA and zoning of the land for open space, are also outside the area of the proposed works.

- There will be no impact on the heritage significance of Beulah or Humewood Forest. Both of these items are located at some distance from the proposed works, which provides an ample curtilage for them.

- The curtilage of the Upper Canal is sufficient to maintain its integrity. The section of the Canal in the vicinity of the subject site is a small component of a much larger heritage item. The overall significance of the Upper Canal will not be impacted by the proposed works. The site of the proposed development is more than 750 metres away from the Canal and therefore does not about it.

The SHI prepared by MKD Architects concludes the proposed works will have no impact on the heritage significance of Mount Gilead, Hillsborough, Beulah, Humewood Forest or the Upper Canal and on views to these items.

It is considered the proposed tree removal would not have a significant adverse impact on the heritage and cultural significance of the above-mentioned items and is consistent with the Figure 7 Indicative Landscape Strategy in the Mt Gilead DCP.

Minimum lot width

Clause 3.2(4) of the Mt Gilead DCP requires that residential subdivision provide allotments that have a minimum lot width of 12.5m to any street frontage.

Three larger allotments do not meet the minimum width standard, with each having a front boundary width of 11.09m, 11.17m and 11.33m and their rear boundaries having a width of 22.65m, 20.84m and 25.82m, respectively. The allotments are narrowest at the street frontage and widen towards the rear boundary. The allotments have areas of 680.8sqm, 524.6sqm and 531.2sqm, respectively.

Further to the above, the Mt Gilead DCP requires allotments with an area of at least 450sqm to be provided with a front setback of 4.5m. When measured at a depth of 4.5m from the street frontage, at the building line the allotments would achieve a minimum lot width of 12.5m, and provide sufficient space to promote the articulation of front facades without garages being visually dominant on the streetscape.

In this regard, and although in the circumstances the frontage width does not technically comply with the specified numerical standard, when considering the large lot size, the proposed shape and dimensions of the allotments, the non-compliance with the numerical standard is not considered to result in a negative impact on the desired visual character of the streetscape or the overall amenity of the area, and as such the proposed variations are considered capable of being supported in this circumstance.

3. Local Voluntary Planning Agreement

Council executed a local Voluntary Planning Agreement (LVPA) with the land owners in 2018 that provides for local open space, community facilities, road works and storm water management.

The LVPA also establishes clear triggers throughout the staged development to ensure the required infrastructure is progressively constructed as needed by the new community.

Recommended conditions are included requiring the applicant to meet the requirements of the LVPA prior to the relevant critical stage certificate.

4. Regulations

The regulations do not prescribe any matters of relevance that require consideration in relation to determining the development application.

5. Impacts on the Natural and Built Environment

Section 4.15(1)(b) of the EP&A Act requires Council to consider the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.

Traffic noise

Future residents of properties in proximity to Appin Road may be sensitive to road traffic noise. To address this issue, the application is supported by an Acoustic Assessment prepared by WSP Australia Pty Ltd.

The road traffic noise levels adopted for the assessment are based on the ultimate design year of the estate and road works being completed by 2031 with regard to future traffic volumes, and road widening.

An operational noise model was used to predict the road traffic noise generated from changes to traffic volumes and composition, vehicle speed, road gradient, pavement surface, ground absorption and shielding, and reflections from topography, buildings and barriers.

The model assumed two traffic lanes in each direction along Appin Road and noise emissions at three heights to represent the various classes of vehicles utilising the road.

The results of the acoustic assessment indicate that noise levels within the residential subdivision would exceed the maximum limit of 40dBa during the daytime and 35dBa during night-time.

The NSW Department of Planning Development near Rail Corridors and Busy Roads – Interim Guideline specifies the minimum construction standards of building elements to achieve the required Weighted Sound Reduction Index.

In order to achieve acceptable noise levels, the acoustic report recommends the incorporation of Category 1 and 2 deemed to satisfy construction standards into the design and construction of future dwellings. The report recommends screening private open space areas with solid boundary fencing with no gaps between or underneath panels.

The Acoustic Assessment provides a list of acoustic treatments to be incorporated into the design and construction of future dwellings to achieve acceptable levels of internal and external residential acoustic amenity. A recommended condition has been included within the consent requiring appropriate 88B restrictions to be registered against the affected allotments.

A proposed future noise wall may be provided adjacent to Appin Road to screen future proposed residential lots situated closer to Appin Road from traffic noise.

Public transport – bus route

The proposed development would provide a bus route along The Boulevard and future proposed collector road carriageways. The application is accompanied by Bus Lane Width advice prepared by Cardno.

The proposed road cross sections provide a 5.5m wide carriageway in each direction comprising parallel on-street parking and a bus travel route. The advice states the carriageway comprises of a 2.3m wide on-street parking lane and 3.2m wide travel lane and bus route.

The on-street parallel parking lane is 2.3m wide and has been designed in accordance with Figure 4.45 of Austroads Guide to Design Park 3: Geometric Design 2016, for a car space under normal conditions.

The State Transit Bus Infrastructure Guide states the parking lane should have a minimum width of 3m to cater for bus stops and to allow the bus to move out of the through traffic lane. The proposed parking lane would be provided with a 0.7m wide bus bay at the bus stop. When combined with the width of the parking lane, the minimum width of 3m is satisfied.

The Guide states the minimum desirable lane width for a bus route is 3.2m. The proposed bus travel lane is 3.2m wide and satisfies this standard. While a minimum lane width of 3.5m should be provided for one-way sections of road, neither The Boulevard or the collector roads are one-way, therefore a 3.2m wide travel lane width has been adopted in accordance with the Guide.

The applicant has advised the proposed road design provides sufficient carriageway widths whilst allowing more generous landscape planting on the key routes.

The proposed road cross-section is supported by Council's traffic engineers with respect to vehicle movements and traffic flow.

A recommended condition has been included within the consent requiring the applicant to provide a bus bay and a bus stop with shelter and seating on each side of The Boulevard, and to make appropriate arrangements with Transport for NSW to ensure that an appropriate bus route servicing strategy will be provided through the estate.

Intersection capacity

The application was accompanied by Traffic Advice prepared by Cardno. The advice confirms the northern intersection would be suitable to accommodate future trips generated by the proposed subdivision.

In consultation with NSW RMS (RMS), the applicant applied the following trip generation and distribution rates:

- stage 1 yield of 333 residential lots
- total estate yield of 1,700 residential lots
- trip generation rate of 0.85 per lot during AM and PM peak periods
- ninety - five per cent of development trips head to/from the north
- five per cent of development trips head to/from the south
- inbound / outbound split of 20 per cent/80 per cent in AM and 80 per cent/20 per cent in PM.

The operation of the northern intersection was modelled and the results of the movement summaries indicate the intersection would perform satisfactorily in all scenarios with spare capacity. The vehicle delay and queue lengths are not anticipated to impact on nearby intersections along Appin Road.

Until the signalised intersection is constructed and operational, the site would be serviced by an interim un-signalised intersection, which the RMS have endorsed as part of this development application. The NSW RMS have advised that Lendlease is required to deliver the final signalised intersection prior to the release of the 500th allotment.

Flora and fauna – Order Conferring Biodiversity Certification

The proposed development involves the removal of twenty-five trees and the dewatering of three dams. As mentioned previously, the land subject to this application has been biodiversity certified pursuant to the TSC Act. Accordingly, developments or activities proposed to be undertaken within the certified areas do not need to undertake assessment of impacts on threatened species, populations and ecological communities, or their habitats, that would normally be required under the EP&A Act.

Notwithstanding, the conservation order requires certain practices to be undertaken during land clearing, including (but not limited to) retention of hollow-bearing trees, fauna pre-clearance survey, and relocation of fauna discovered during clearing.

With respect to the order conferring biodiversity certification, the proposal is not considered to have an unacceptable impact on threatened species, populations, ecological communities or their habitats, within the meaning of the TSC Act.

Dam De-watering

The application was accompanied by a Dam De-watering Plan prepared by Ecological Consultants Australia Pty Ltd in consultation with the National Parks Association, George's River Environmental Alliance, Help Save the Wildlife of Campbelltown and Turtle Rescue NSW.

The Dam De-Watering Plan was developed to facilitate the habitat relocation of turtles, eels, frogs, fish, invertebrates, and birds where practical. The plan provides procedures to follow pre dam-dewatering, during de-watering and post de-watering. The majority of captured

fauna would be translocated to other recipient dams or basins situated onsite located outside of the boundary of works.

6. Social and Economic Impacts

The proposed subdivision would facilitate the future residential development of the land to provide for the housing needs of the community, which would provide tangible social and economic benefits.

Socially, the proposal would deliver vacant residential allotments that would facilitate an increase of housing supply within the local government area that would help to improve housing choice and affordability.

Economically, the proposal would be beneficial to the overall local economy with workers being employed during the construction phase of the development and future residents spending in the local economy once the allotments contain dwellings houses.

The State Voluntary Planning Agreement requires the applicant to fund Appin Road upgrade works which would improve road safety for motorists and reduce fauna road deaths through the erection of koala protection fencing.

7. Site Suitability

The site is considered suitable for the proposed residential subdivision. The land is mapped as an urban release area and has been zoned to provide for future residential development.

The proposed dimensions, areas and orientation of the allotments are considered to be adequate to facilitate the siting, design and construction of future residential development.

The land once subdivided would contribute positively to the desired future character of the locality by enabling the construction of future dwellings within the residential zone.

The proposed subdivision promotes walking and cycling as a mode of travel within the estate and facilitates opportunities for public transport via a future bus route.

8. Public Participation

The application was publicly notified and exhibited between 8 June 2018 and 23 July 2018.

The notification and exhibition period was extended due to the school holiday period between 8 July 2019 and 19 July 2019.

Council received 29 submissions objecting to the development. The issues of objection are summarised and discussed below.

Theme	Detail	Response
Online documents	The application was not exhibited online. People further afield interested in Koalas and colonial matters were effectively blocked out from viewing the proposal.	The application was publicly notified and exhibited in accordance with Council's Public Consultation policy. Council now provides exhibition documents online.
Exhibition documents	The Voluntary Planning	The local VPA is available on

Theme	Detail	Response
	Agreement and development application form was not included in the documents exhibited at the library.	Council's website and was executed on 8 August 2018 which was after the lodgment of the subject application. The state VPA is available on the NSW Planning & Environment Website and was executed on 17 May 2019. The development application form is available for public view at Council's civic centre on request. The application form does not assess the environmental impacts of the development.
Consent authority	The Statement of Environmental Effects said the Local Planning Panel is the consent authority, whereas the advertisement in the Macarthur Chronicle says Campbelltown City Council is the consent authority.	Campbelltown City Council was the consent authority at the time of exhibition. The Campbelltown City Council Local Planning Panel is the consent authority for this application. The consent authority can change depending on the number of submissions received by way of objection.
Court case	The appeal to the rezoning has not been heard by the Land and Environment Court. Until a decision has been made by the Court, it would be premature for the development application to be determined.	The Class 4 proceedings were dismissed on 20 September 2018 in relation to Help Save Mt Gilead Inc v Mount Gilead (2018) NSWLEC 149.
Biodiversity certification	The Federal Government has not issued biodiversity certification approval.	The Australian Government Department of the Environment and Energy issued approval on 21 December 2018 under the provisions of the Environment Protection and Biodiversity Conservation Act 1999 (Cth).
Planning Act	The application does not consider potential impacts on threatened species and fails to satisfy the requirements of the EP&A Act.	Pursuant to the Threatened Species Conservation Act 1995, biodiversity certified land is taken for the purposes of Part 4 of the EP&A Act, to be development that is not likely to significantly affect any threatened species, population or ecological community under the Threatened Species Act, or its habitat. Accordingly, the Local Planning Panel, when determining a development application in relation to development on biodiversity certified land under Part 4 of the

Theme	Detail	Response
		EP&A Act, is not required to take into consideration the likely impact of the development on biodiversity values.
Wildlife impacts	The site contains critically endangered ecological communities, including the Cumberland Pain Woodland which provides essential habitat for wildlife e.g. Koala, sugar glider, swift parrot, large-eared pied bat, grey-headed flying fox, powerful owl, echidnas, kangaroos, wallabies, honey-eaters, kookaburras, spotted pardalotes, wrens, parrots, cockatoos etc. As Sydney continues to expand westward, we can no longer take for granted that there will be somewhere else where wildlife can go.	The BCA had regard to ecological communities and habits and appropriate offsets have been secured as part of this agreement. In accordance with the agreement, the trees are permitted to be removed due to the bio-banking of vegetation, and the retirement of particular biodiversity credits under other bio-banking agreements to facilitate the proposed development.
Koalas	Thriving Koala communities in the Nepean and Georges River area should be prioritised and protected, not have massive housing developments slapped in the middle of their ranges. The proposal will help drive the local Koalas to extinction. Koalas in the area will be at greater risk from increased traffic along Appin Road, domestic dogs, loss of food trees, and increased disturbance from the myriad of human activities in and around the development.	The BCA treated the site as Koala habit and appropriate offsets have been secured as part of this agreement. The majority of the Mt Gilead land holding consists of grazed pasture and the primary koala corridors are located adjacent to the site within Noorumba Reserve and Beulah.
Wildlife corridors	The wildlife corridors have not been finalised to allow free movement between the Georges and Nepean Rivers as recommended by Council's own Koala expert consultant, Dr Steve Phillips. This is important as it was established that Koalas are moving westward across Appin Road.	The South Campbelltown Koala Habitat Connectivity Study shows the key corridors as being located adjacent to Noorumba Reserve and Beulah, and not at the location of the proposed development. These areas would be retained with provision for crossing structures to be separately considered by Transport for NSW as part of the upgrade works for Appin Road. Importantly, the NSW Chief Scientist and Engineer, recently made recommendations regarding

Theme	Detail	Response
		these crossings which is under consideration by State authorities.
South Campbelltown Koala Habitat Connectivity Study	The proposal does not satisfy the South Campbelltown Koala Habitat Connectivity Study. The corridor adjoining the western boundary of Noorumba Reserve is less than 200m wide.	The South Campbelltown Koala Habitat Connectivity Study recommends that Strategic Linkage Area (SLA) widths should range from 200m - 425m. Biolink has updated its advice to confirm that an optimal (not average) width of 409m-425m be maintained as desirable, the achievement of which is assisted by requiring a minimum SLA width of 250m for all three SLA's in South Campbelltown (i.e. Menangle, Woodhouse and Mallatay Creek SLAs) and an average overall width of 350m. The corridor between Noorumba Reserve and the Upper Canal is <85m wide. The Chief Scientists Report recommends that this corridor should be used for koala movement only if an effective connectivity structure can be constructed between Appin Road, on the eastern side of Noorumba Reserve. The Report states that if such crossing is not feasible, the koala habitat at Noorumba will be isolated and not function as connected koala habitat, and should be provided with exclusion fencing at Appin Road. The Koala Independent Expert Panel notes the corridor will provide little protection for koalas into the future if it is not fenced as it is very narrow with limited capacity to revegetate the buffer zone. Further, the applicant does not have controlling rights across the full width of the Menangle Creek corridor, and a wider corridor would increase bushfire risk to the adjacent retirement village. Finally, as biodiversity certification has been conferred on the land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity,

Theme	Detail	Response
		including diversity within and between species and diversity of ecosystems.
Appin Road upgrade	Details of the Appin Road upgrade works have not been approved. The upgrade works should include proper fencing for wildlife and under or overpasses plus a walking and cycle way.	The Appin Road upgrade has been determined. In this regard, a Review of Environmental Factors was exhibited by the RMS in November 2018. After considering submissions, the RMS announced their decision to proceed with both the Appin Road upgrade and Appin Road safety improvements projects. Fauna fencing will be provided.
Dam dewatering	The dewatering of dams will cause a loss of habitat for local and migratory fauna. Water in Australia is so valued and NSW is in drought. With creeks and dams either empty or with very little water in them the dewatering of dams should never be considered. Any turtles or yabbies found during dam dewatering should be suitably relocated.	The BCA permits the dewatering of the dams. The Construction Environmental Management Plan requires a pre fauna clearance survey, dam dewatering plan and fauna relocation plan to be undertaken. The application was accompanied by a Dam De-watering Plan to facilitate the habitat relocation of fauna.
Dams retention	The dams should be retained for water re-use and recycling purposes, stormwater polishing and provision of recreational, aesthetic and ecosystem services.	The dams were originally provided to serve an agricultural use. The dams are not considered to be appropriate for the proposed residential estate and are not required to be retained under the Mt Gilead DCP and associated Indicative Landscape Strategy.
Heritage	The subdivision would leave the historic homestead marooned in a sea of suburban houses. The proposal would devalue the historic value of the area, including its historic agricultural aboriginal, and colonial cultural setting. The process will end with a sad house, mill and a few remaining trees marking the loss of a magnificent landscape.	The heritage significance of the Mt Gilead estate was assessed prior to rezoning the land for urban purposes. The proposal is consistent with the proposed curtilage of the Mount Gilead complex which is under consideration for State Heritage listing by the NSW Office of Environment and Heritage.
Views	The proposal would obstruct overall views of the surrounding landscape and historic farming structures that make up Mount Gilead as a vital piece of Australian history. The proposal	Views of the landscape and farming structures were considered during the rezoning of the site. The proposal is consistent with the Mt Gilead DCP which envisages the future

Theme	Detail	Response
	is inconsistent with the significant environment, heritage and aesthetic values of the area, and fails to conserve these values. The subdivision would impact on views to/from the Mill.	development of the land for urban purposes. The proposal is consistent with the Heritage Principles Plan as the proposal would provide a key view corridor to One Tree Hill. Views to/from the Mill from Appin Road are unlikely to be obstructed as the Mill sits on an existing high point.
Unlisted heritage items	The site contains unlisted heritage items such as Hillsborough, the high point of One Tree Hill, farm dams, the old plough furrows, scenic views from the ridge beside Appin Road and the Mt Gilead driveway.	Items of heritage potential significance were assessed prior to rezoning the land for urban purposes. The former Hillsborough homestead site is recognised as having archeological significance. The application was supported by a Heritage Management Strategy prepared by TKD Architects which recommends the dedication of the former homestead site to the public as open space following a thorough archeological assessment of the site.
Aboriginal heritage	The proposal will impact on culturally important local indigenous occupation, including art sites, rock shelters, artefact scatters and potential archaeological deposits, including those around vegetated gullies and waterways. The site contains Aboriginal archeological pad areas that need to be researched, conserved and retained for the future.	Lendlease have obtained an Aboriginal Heritage Impact Permit (AHIP) from the NSW Office of Environment and Heritage (NSW OEH) to carry out an archeological testing program on the site. These works were undertaken with Registered Aboriginal Parties, including Dharawal people representatives. An AHIP was issued by the Department of Planning, Industry and Environment on 29 April 2020 and subsequently varied by Heritage NSW on 31 August 2020.
Heritage listing	The application should not be determined until a decision has been made to list the Mt Gilead Estate on the State Heritage Register.	The State heritage listing is under consideration by NSW Office of Environment and Heritage. The proposed development is located outside of the curtilage of the heritage item.
Traffic congestion	The traffic modeling does not consider weekend traffic, and	The traffic congestion along Appin Road on the weekend is

Theme	Detail	Response
	there is a false assumption that only a very small per centage of trips would head south, yet the promotional material released for Gilead highlights the proximity of the beaches to the south. Appin Road is a single lane road thus increased development will impact on traffic and travel times for residents living in the area. The potential for traffic congestion is high.	acknowledged. The conversion of Appin Road to four traffic lanes seeks to improve traffic flows along this busy road. The traffic modelling has assumed peak traffic volumes during weekday morning and afternoon times.
Traffic generation	The proposal requires referral to the RMS. The development will cause traffic hold-up on Appin Road which is already congested. Local residents will be inconvenienced by the extra trucks and equipment using Appin Road and entering/exiting the site.	The proposal was referred to the RMS for comment under the provisions of State Environmental Planning Policy (Infrastructure) 2007 and concurrence was received under Section 138 of the Roads Act 1993 for the construction of an interim un-signalised intersection on Appin Road.
Bushfire emergency	The road is only 8m wide and there only one way into the estate. In the event of a bushfire emergency an accident is likely to happen. The dams would be removed. In the case of a bushfire this may result in inadequate water available to fight fires.	The application was referred to the NSW RFS and General Terms of Approval have been issued. The NSW RFS is satisfied the proposed design of the residential subdivision achieves adequate emergency access arrangements in accordance with the requirements of Planning for Bushfire Protection. The dams are not required to be retained as a water source to fight fires.
Parking	The roads are only about 8m wide and many lots have an area less 400sqm. Concern is regarding the ability to park within narrow streets while allowing other vehicles to pass.	The street cross sections indicate that adequate space would be provided along the local streets to accommodate on street parking while allowing other vehicles to pass.
Waterway pollution	The works within the waterway may affect water flows into the Menangle or Woodhouse creek system. Noorumba Reserve requires water for its dam which is a scenic and recreational open space. Stormwater from the proposed development will increase the flow of rubbish, street water, exotic weeds and plants into Noorumba Reserve.	The proposed stormwater detention basin has been designed so that post development flows do not exceed pre development flows. The proposal involves works within the natural waterway which flows into Noorumba Reserve. The application was referred to the NSW NRAR and General Terms of Approval

Theme	Detail	Response
	The proposal will further pollute Menangle Creek which is already under pressure from contaminated waters caused from Coal Seam Gas Mining, and it will all flow into the Nepean River.	have been issued. The stormwater management infrastructure has been designed in accordance with Council's Engineering Design Guide to ensure stormwater discharged from the site meets specific water quality targets.
Appin Road water	Untreated stormwater will flow from Appin Road and the proposed development into the Noorumba bio-bank which is an important ecological area. Swimming holes downstream will be affected by cumulative increases in turbidity, phosphorus and biological hazards.	Stormwater from Appin Road currently drains into Noorumba Reserve. It is likely the Appin Road upgrade works will include vegetated swales, bio-retention swales and a primary treatment system designed to capture and retain gross pollutants such as litter, course grit and sediments and associated oils to reduce pollutants and achieve baseline water quality targets.
Surface water	A stormwater management plan that reflects best practice water sensitive urban design needs to be provided before the application is determined. There is an opportunity to protect, model and restore streams that are almost extinct on the Cumberland Plain, yet this development intends to obliterate water in the landscape.	The application was accompanied by a stormwater drainage plan and was considered to be acceptable by Council's hydraulic engineers. The NSW NRAR requires the applicant to obtain a Controlled Activity Approval which will ensure the Noorumba Reserve will continue to receive water.
Water Canal	The proposed development will occur on both sides of the canal and will impact on the heritage status of the water canal and the ability to supply safe drinking water.	The proposed development would occur on the eastern side of the canal only. Water NSW was notified of the proposed development and no objection was received.
Erosion	The reduced permeability of the site will cause accelerated erosion in adjoining sensitive areas.	The application was accompanied by a Riparian Plan which proposes the planting of suitable native vegetation within the riparian areas. This will prevent erosion and enhance soil stability. The proposal has been designed so that post development flows do not exceed pre-development flows which will not increase erosion.
Salinity	Salinity and other ground water contaminants are recognised as a problem for this development	The Salinity Investigation and Management Plan includes strategies to mitigate potential

Theme	Detail	Response
	site which is at the headwaters of Menangle Creek. The proposed development would rip up the ground and expose more contamination that will eventually end up in Menangle and Woodhouse Creeks and the Nepean River. A solution would be to grow more deep rooted trees to keep contaminants below ground so they are not washed down creeks into rivers.	salinity impacts. Any contaminated elements would be removed from the site in accordance with the Remediation Action Plan and erosion and sediment control measures will be implemented throughout the construction of the development. The proposal involves substantial street tree planting.
Utility supply	There is no mention of the route that water, sewerage and electricity supplies will take if these services are obtained from Rosemeadow. Concern is raised as potential routes may cross through Noorumba Reserve.	The application was accompanied by an Engineering report which indicates utility supplies will be provided along Appin Road. The design and location of utilities occurs under separate legislation and is a requirement of development consent.
Electricity supply	The existing power poles along Appin Road are wooden and old and may cause a fire hazard with an additional feeder line attached.	The provision of a temporary feeder line would need to satisfy the construction safety standards of Endeavour Energy.
Sewerage infrastructure	It would be unacceptable for a sewerage treatment plant to be provided site near a stream line or within riparian vegetation. The treatment of effluent on the site would only be acceptable if it was treated to tertiary level and made available for recycling. It is not acceptable to transfer effluent via septic pump outs, or seek a connection to the Glenfield sewerage treatment plant. The infrastructure is already overloaded and there is not enough capacity to cater for the development and population growth. Temporary sewerage arrangements are environmentally irresponsible and should never be allowed. If	The development would ultimately be serviced by the Glenfield Sewage Treatment Plant. This will require the delivery of a sewer pumping station and associated main on site. These works are subject to separate approval by Sydney Water. The applicant would need to satisfy Sydney Water and Council for the installation of a temporary sewerage management facility on the land. Any temporary sewerage arrangements would need to be designed and operated in accordance with the

Theme	Detail	Response
	the infrastructure cannot be provided then the development should not commence. Concern is raised regarding public health, odour impacts, overflows, increased fuel consumption and nutrient impacts on waterways.	requirements of Sydney Water and Council.
Civil works	A local road is proposed over Zone RE1 which may impact on the Noorumba Reserve or biobank areas through the construction of drainage facilities and runoff.	The road has been setback from Noorumba Reserve. Any runoff would be directed to the bio-retention and stormwater detention basins. The NSW NRAR has issued General Terms of Approval for the proposed works within the waterway adjoining Noorumba Reserve.
Street trees	The street trees should ideally be native to provide food and habitat for local wildlife.	The application was accompanied by a Street Tree Planting Masterplan which includes a variety of street trees suitable for the residential estate, including native species.
Tree removal and dam dewatering	It is queried as to why the application seeks consent for additional tree removal and dam dewatering outside of the bulk earthworks application.	The subject trees and dams were located outside of the proposed limit of works under the previously approved bulk earthworks application. The proposed tree removal and dam dewatering will facilitate the future proposed development of the area following approval from the NSW NRAR.
Hollow bearing trees	Every effort should be made to retain existing mature trees, especially hollow bearing trees.	The Construction Environmental Management Plan requires the retention of hollow bearing trees (where possible). A pre clearing survey is required to be undertaken to determine any hollow bearing that are capable of being retained.
Site area	It is queried whether the site has an area of 216ha or 210ha.	Land title records indicate the Mt Gilead Urban Release Area has an area of approximately 206.74 ha (excluding part of the lot situated to the west of the Sydney Water Supply Upper Canal). The lots subject to this application have a total area of 83.57 ha.
Infrastructure strain	The increased population will	The demand for community and

Theme	Detail	Response
	impact on local hospitals, medical services, schools and emergency response times within Appin and Campbelltown. The infrastructure is already behind the existing population requirements of the area.	social services, infrastructure and public transport was thoroughly considered prior to rezoning the land for urban purposes.
Air pollution	Future residents will be subjected to air pollution from vehicles causing health impacts. The proposal would contribute to increased air pollution in the locality.	An air quality review was conducted prior to rezoning the land for urban purposes. As the project will incorporate an appropriate separation distance between the road it is unlikely there would be any air quality impacts from vehicle emissions. The proposed low density residential subdivision would not have a significant impact on air quality in the locality.
Urban heat island	The proposal will increase the urban heat island effect due to the clearing of land, reduced tree canopy, increased roof and tarmacked areas.	The proposal involves substantial street tree planting along The Boulevard and local streets to minimise the impacts of the urban heat island effect. The number proposed for removal would be offset through the planting of a high number of semi-mature street trees. Also, the DCP requires lots to be provided with 15 – 20 per cent of site area as private open space which would include soft landscaped areas. Future land owners would have the opportunity to design buildings that incorporate light coloured roofs.
Railway corridor	Land should be set aside for a future rail corridor to Appin.	This is considered to be outside of the scope of this application.
Precedent	The proposal will set a precedent for the urbanisation of the entire Appin region.	Significant land holdings to the west of Appin Road have been identified as Urban Capable Land under the Greater Macarthur Structure Plan.

9. The Public Interest

Section 4.15(1)(e) of the EP&A Act requires Council to consider the public interest.

The public interest is an overarching requirement, which includes the consideration of the matters discussed in this report. Implicit to the public interest is the achievement of future

outcomes adequately responding to and respecting the future desired outcomes expressed in environmental planning instruments and development control plans.

The application is considered to have satisfactorily addressed Council's and relevant agencies' criteria and would provide a development outcome that, on balance, would result in a positive impact for the community. Accordingly, it is considered that the approval of the proposed development would be in the public interest.

Conclusion

The development application has been assessed against the relevant matters for consideration under Section 4.15 of the *Environmental Planning and Assessment Act 1979*, the Campbelltown Local Environmental Plan 2015, Campbelltown (Sustainable City) Development Control Plan 2015 and site specific Mt Gilead Development Control Plan.

The proposed development, subject to the recommended conditions, is considered to satisfy relevant State legislation and State Environmental Planning Policies including the *Rural Fires Act 1997*, *Coal Mine Subsidence Compensation Act 2017, Water Management Act 2000*, SEPP (Sydney Region Growth Centres) 2006 SEPP 55 Remediation of Land and SEPP (Infrastructure) 2007 and other relevant legislation.

The State Voluntary Planning Agreement has been executed and registered against the land titles in accordance with the requirements of the agreement. The Secretary has certified in writing that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to the land.

The proposed variations to the street cross sections, minimum lot width and subdivision design are considered to be of minimal environmental impact and capable of being supported in this instance.

The site is considered to be suitable for the proposed development, as the land is located within an urban release area and has been zoned to provide for future residential development. The proposed allotments are adequate in size to support the construction of future dwellings that would contribute positively to the desired future character of the residential estate.

As the proposed development would be carried out on biodiversity certified land, this relieves the Panel of the obligation to assess and consider the impacts of the development on biodiversity.

The proposed tree removal is not considered to result in a significantly adverse impact on the biodiversity, aesthetic and cultural aspects of the locality.

The issues raised in the submissions have been addressed in this report and do not warrant further amendment or refusal of the application.

Accordingly, the application is recommended for approval.

Attachments

1. Recommended Conditions of Consent (contained within this report)
2. Referenced Figures (contained within this report)
3. Stage 1A Subdivision Plans (contained within this report)
4. Stage 1B Subdivision Plans (contained within this report)
5. Civil Plans (contained within this report)
6. Bus Bay Plan (contained within this report)
7. Tree Removal Plan (contained within this report)
8. Landscape Plans (contained within this report)
9. Interim Intersection Plans (contained within this report)
10. Roads and Maritime Services Approval (contained within this report)
11. Natural Resources Access Regulator Approval (contained within this report)
12. Rural Fire Service Approval (contained within this report)
13. Subsidence Advisory Approval (contained within this report)
14. Satisfactory Arrangements Approval (contained within this report)
15. State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (contained within this report)
16. Subdivision Application Flora, Fauna and Koala Habitat Assessment (contained within this report)

Reporting Officer

Executive Manager Urban Release and Engagement

ATTACHMENT 1
743/2018/DA-SW
Recommended Conditions of Consent

GENERAL CONDITIONS

The following conditions have been applied to ensure that the use of the land and/or building is carried out in such a manner that is consistent with the aims and objectives of the planning instrument affecting the land.

For the purpose of these conditions, the term 'applicant' means any person who has the authority to act on or benefit of the development consent.

1. Approved Development

The development shall be carried out in accordance with the approved plans and documents listed in the table below, and all associated documentation supporting this consent, except as modified in red by Council and / or any conditions within.

Plan Reference	Drawing No.	Rev	Prepared by	Date
Plan of Subdivision for Precinct 1A	43240 012 SUB-1A Sheet 1 of 3	L	LTS Lockley	22/11/2018
Plan of Subdivision for Precinct 1A	43240 012 SUB-1A Sheet 2 of 3	L	LTS Lockley	22/11/2018
Plan of Subdivision for Precinct 1A	43240 012 SUB-1A Sheet 3 of 3	L	LTS Lockley	22/11/2018
Plan of Subdivision for Precinct 1A	43240 012 SUB-1B Sheet 1 of 3	L	LTS Lockley	22/11/2018
Plan of Subdivision for Precinct 1A	43240 012 SUB-1B Sheet 2 of 3	L	LTS Lockley	22/11/2018
Plan of Subdivision for Precinct 1A	43240 012 SUB-1B Sheet 3 of 3	L	LTS Lockley	22/11/2018
Title Sheet	80216021-10-CI-1001	6	Cardno	04/12/2018
Drawing Schedule	80216021-10-CI-1002	5	Cardno	04/12/2018
General Notes and Legends	80216021-10-CI-1011	5	Cardno	04/12/2018
General Arrangements Plan	80216021-10-CI-1021	5	Cardno	04/12/2018
Alignment Control Plan	80216021-10-CI-1031	5	Cardno	04/12/2018
Sediment and Erosion Control Sheet 1 of 8	80216021-10-CI-1101	7	Cardno	04/12/2018
Sediment and Erosion Control Sheet 2 of 8	80216021-10-CI-1102	6	Cardno	04/12/2018

Sediment and Erosion Control Sheet 3 of 8	80216021-10-CI-1103	6	Cardno	04/12/2018
Sediment and Erosion Control Sheet 4 of 8	80216021-10-CI-1104	6	Cardno	04/12/2018
Sediment and Erosion Control Sheet 5 of 8	80216021-10-CI-1105	6	Cardno	04/12/2018
Sediment and Erosion Control Sheet 6 of 8	80216021-10-CI-1106	6	Cardno	04/12/2018
Sediment and Erosion Control Sheet 7 of 8	80216021-10-CI-1107	6	Cardno	04/12/2018
Sediment and Erosion Control Sheet 8 of 8	80216021-10-CI-1108	5	Cardno	04/12/2018
Sediment and Erosion Control Details	80216021-10-CI-1131	6	Cardno	04/12/2018
Road Typical Section	80216021-10-CI-1251	5	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 1 of 21	80216021-10-CI-1301	7	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 2 of 21	80216021-10-CI-1302	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 3 of 21	80216021-10-CI-1303	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 4 of 21	80216021-10-CI-1304	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 5 of 21	80216021-10-CI-1305	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 6 of 21	80216021-10-CI-1306	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 7 of 21	80216021-10-CI-1307	5	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 8 of 21	80216021-10-CI-1308	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 9 of 21	80216021-10-CI-1309	6	Cardno	04/12/2018

Roadworks and Stormwater Drainage Plan Sheet 10 of 21	80216021-10-CI-1310	5	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 11 of 21	80216021-10-CI-1311	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 12 of 21	80216021-10-CI-1312	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 13 of 21	80216021-10-CI-1313	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 14 of 21	80216021-10-CI-1314	5	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 15 of 21	80216021-10-CI-1315	5	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 16 of 21	80216021-10-CI-1316	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 17 of 21	80216021-10-CI-1317	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 18 of 21	80216021-10-CI-1318	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 19 of 21	80216021-10-CI-1319	6	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 20 of 21	80216021-10-CI-1320	5	Cardno	04/12/2018
Roadworks and Stormwater Drainage Plan Sheet 21 of 21	80216021-10-CI-1321	6	Cardno	04/12/2018
Road Longitudinal Sections Sheet 1 of 12	80216021-10-CI-1351	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 2 of 12	80216021-10-CI-1352	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 3 of 12	80216021-10-CI-1353	6	Cardno	04/12/2018
Road Longitudinal Sections Sheet 4 of 12	80216021-10-CI-1354	6	Cardno	04/12/2018

Road Longitudinal Sections Sheet 5 of 12	80216021-10-CI-1355	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 6 of 12	80216021-10-CI-1356	6	Cardno	04/12/2018
Road Longitudinal Sections Sheet 7 of 12	80216021-10-CI-1357	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 8 of 12	80216021-10-CI-1358	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 9 of 12	80216021-10-CI-1359	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 10 of 12	80216021-10-CI-1360	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 11 of 12	80216021-10-CI-1361	5	Cardno	04/12/2018
Road Longitudinal Sections Sheet 12 of 12	80216021-10-CI-1362	5	Cardno	04/12/2018
Detention Basin 3 Outlet Details	80216021-10-CI-1400	1	Cardno	04/12/2018
Boulevard Bus Bay	80216021-001-SK393	1	Cardno	04/09/19
-	80216021-13-TR001	1	Cardno	-

Associated Documentation:

- Document title: Gilead Streetscape Design – Stage 1, rev: F, pages: 1 – 12, author: Aspect Studios.
- Document title: Acoustics Assessment, rev: B, dated: 19/01/2018, author: WSP.
- Bushfire Hazard Assessment Report, Building Code and Bushfire Hazard Solutions, Project No: 160700, Dated: 9 March 2018.
- Bushfire Additional Information Letter, Building Code and Bushfire Hazard Solutions, Project No :160700, Dated 31 August 2018.
- Riparian Corridor Management Plan, Ecological Consultants Australia, Dated 4 February 2019.
- Preliminary Site Investigation: Author: Douglas Partners, Project No: 76649.11, Document No: R.001.Rev0, Dated: 20 December 2016.
- Detailed Site Investigation, Author: Douglas Partners, Project No: 76649.06, Document No: R.001.Rev0, Dated: 13 October 2016.
- Remediation Action Plan, Author: Douglas Partners, Project No: 76649.16, Document No: R.001, Dated: 1 August 2017.
- Salinity Investigation and Management Plan, Author: Douglas Partners, Project No: 76649.05, Document No: R.001.Rev0, Dated: 10 October 2016.
- Salinity Investigation and Management Plan, Author: Douglas Partners, Project No: 76649.14, Document No: R.001.Rev0, Dated: 20 December 2016.

- Preliminary Geotechnical Investigation, Author: Douglas Partners, Project No: 76649.04, Document No: 1, Dated: 20 October 2016.
- Preliminary Geotechnical Investigation, Author: Douglas Partners, Project No: 76649.13, Document No: 1, Dated: 20 October 2016.
- Unexpected Finds Protocol, Author: Douglas Partners, Project No: 76649.21, Document No: R.001.Rev1, Dated 16 December 2019
- Aboriginal Heritage Impact Permit, Author: Planning Industry & Environment. AHIP Number: C0005248, Dated: 29 April 2020.
- Notice of Variation of Aboriginal Heritage Impact Permit No. C0005248 (AHIMS No. 4523), Author: Heritage NSW, Dated: 31 August 2020.
- Mount Gilead Construction Environmental Management Plan, Author: Eco Logical Australia, Project No: 19SUT12605, Version No: V7, Dated: 8 May 2020.
- Document reference: SYD18/00924/06, author: NSW Roads and Maritime Services, Pages: 1 – 3, dated: 21 September 2019.
- Document Number: PS107784-03-RD-SKT-00101 to PS107784-03-RD-SKT-00311, dated: 17.09.19, pages: 1 – 22, author: WSP.
- Document reference: IDAS1107446, author: NSW Natural Resources Access Regulator, pages: 1 – 5, dated: 17 May 2019.
- Document reference: D18/5972 - DA18061913565 AJ, author: NSW Rural Fire Service, pages: 1 – 3, dated: 23 April 2019.
- Document reference: FN17-60402P1 - TSUB18-00105, author: Subsidence Advisory NSW, pages: 1 – 4, dated: 4 June 2018 and Stamped Plans dated 25 January 2019.
- Document title: Secretary's Certificate, reference: IRF19/6592, author: NSW Planning Industry & Environment, pages: 1 – 2, dated: 23 October 2019.
- APA Correspondence, Dated: 13 November 2020, Pages: 1 – 2.
- Dam De-watering Plan, Author: Ecological Consultants Australia Pty Ltd, Dated: 15 October 2019.

2. Amended Plans

The development is to incorporate the following amendments and the amended plans are to be submitted to the Principal Certifying Authority, for approval, prior to the issue of a Subdivision works certificate:

a. Building Envelope Plans showing the location of the building footprint, garage location and driveway crossover details.

The applicant must demonstrate how the relevant development controls and standards are capable of being achieved within the proposed building envelopes.

3. General Terms of Approval from Approval Bodies

The development must be undertaken in accordance with all the General Terms of Approval (GTA) of the following approval bodies under Section 4.46 of the Environmental Planning and Assessment Act 1979:

- Document reference: SYD18/00924/06, author: NSW Roads and Maritime Services, Pages: 1 – 3, dated: 21 September 2019.

- Document reference: IDAS1107446, author: NSW Natural Resources Access Regulator, pages: 1 – 5, dated: 17 May 2019.

- Document reference: D18/5972 - DA18061913565 AJ, author: NSW Rural Fire Service, pages: 1 – 3, dated: 23 April 2019.

- Document reference: FN17-60402P1 - TSUB18-00105, author: Subsidence Advisory NSW, pages: 1 – 4, dated: 4 June 2018 and Stamped Plans dated 25 January 2019.

A copy of each of the GTA's and any further requirements of the approval bodies are attached to this development consent. These requirements must be incorporated in the application for the subdivision works certificate and where required by the GTA's relevant approvals must be granted prior to the release of the subdivision works certificate.

4. Requirements of Other Authorities

The development must be undertaken in accordance with correspondence/ conditions provided by the following authorities:

- APA Correspondence, Dated: 13 November 2020, Pages: 1 – 2.
- Development is to be undertaken in accordance with the Biodiversity Certificate Agreement that was conferred over the site on 5 July 2019.

5. Bulk Earthwork Approval

The works approved as part of this consent are to be undertaken in conjunction with and in response to the relevant works approved and conditions imposed as part of 2984/2020/DA-CW (Bulk Earthworks).

6. Landscaping

The provision and maintenance of landscaping shall be in accordance with the approved landscape plan containing Council's approved development stamp including the engagement of a suitably qualified landscape consultant/ contractor for landscaping works.

7. Electrical Substations

Substations are not permitted to be installed on land to be dedicated to Council as a part of this determination. If the applicant is to pursue the installation of substations on land to be dedicated to Council, the applicant is required to obtain agreement from from Council's Executive Manger Property.

8. Building Code of Australia

All building work must be carried out in accordance with the provisions of the *Building Code of Australia*. In this clause, a reference to the *Building Code of Australia* is a reference to that Code as in force on the date the application for the relevant subdivision works certificate is made.

9. Compliance with EPBC Approval

Compliance is required at all times with the obligations of the approval issued under the Environment Protection Biodiversity Conservation (EPBC) Act 1999 (Mt Gilead residential development EPBC 2015/7599) dated 21 December 2018.

10. Access Denied

No vehicular access to or from Road No.1 shall be permitted to any lots fronting Road No.1. A suitable Restriction as to User to this effect shall be included in the 88B Instrument for the subdivision.

11. Engineering Design Works

The design of all engineering works shall be carried out in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended), Engineering Design for Development (as amended)* and the applicable *Development Control Plan*.

12. Existing Easements

Changes to existing easements and their physical infrastructure shall not occur without the written approval of the authority benefitting from such easements.

PRIOR TO THE COMMENCEMENT OF ANY WORKS

The following conditions of consent must be complied with prior to the commencement of any works.

13. Soil and Water Management Plan

Prior to the commencement of any works, a detailed soil and water management plan is to be prepared and submitted to Council's Executive Manager Urban Release and Engagement (or equivalent) for endorsement.

14. Construction Traffic Management Plan

Prior to the commencement of works, a Construction Traffic Management Plan detailing construction vehicle routes, number of trucks, hours of operation, access arrangements for plant and private vehicles and traffic control, shall be submitted to Council's Executive Manager Urban Release and Engagement (or equivalent) for approval.

Copies of the approved CTMP's shall be kept on site for the duration of the works, in accordance with *Work Cover Authority* requirements and copies shall also be forwarded to Council for its records.

15. Hillsborough site

Prior to the commencement of any works on the land, security fencing shall be erected around the former Hillsborough site to protect the archaeological remnants of the homestead during works.

16. Erosion and Sediment Control

Prior to the commencement of any works on the land, adequate/approved erosion and sediment control measures shall be fully installed/implemented.

17. Erection of Construction Sign

Prior to the commencement of any works on the land, a sign/s must be erected in a prominent position on the site:

a. Showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours

b. Stating that unauthorised entry to the work site is prohibited

c. Pollution warning sign promoting the protection of waterways (issued by Council with the development consent)

d. Stating the approved construction hours in which all works can occur

e. Showing the name, address and telephone number of the appointed Principal Certifier for the work.

Any such sign/s is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

18. Toilet on Construction Site

Prior to the commencement of any works on the land, toilet facilities are to be provided, at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out, at the rate of one toilet for every 20 persons or part thereof. Each toilet provided must be a standard flushing toilet and be connected to:

a. A public sewer, or

b. If connection to a public sewer is not practicable, to an accredited sewage management facility approved by Council, or

c. If connection to a public sewer or an accredited sewage management facility is not practicable, to some other management facility approved by Council.

19. Trade Waste

Prior to the commencement of any works on the land, a trade waste facility shall be provided on-site to store all waste pending disposal. The facility shall be screened, regularly cleaned and accessible to collection vehicles.

20. Vehicular Access during Construction

Prior to the commencement of any works on the land, vehicle/plant access to the site shall be provided as per the Construction Traffic Management Plan to minimise ground disturbance and prevent the transportation of soil onto any public road system.

21. Hoarding / Fence

Prior to the commencement of any works, a fence must be erected between the work site and a public place if the work involved in the development is likely to cause pedestrian or vehicular traffic in a public place to be obstructed or rendered inconvenient, or if the building involves the enclosure of a public place in accordance with *Work Cover* requirements.

The work site must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the public place.

A separate land use application under Section 68 of the Local Government Act 1993 shall be submitted to and approved by Council prior to the erection of any fencing on public land.

PRIOR TO THE ISSUE OF A SUBDIVISION WORKS CERTIFICATE

The following conditions of consent must be complied with prior to the issue of a subdivision works certificate by either Campbelltown City Council or an appointed Principal Certifier. All necessary information to comply with the following conditions of consent must be submitted with the application for a subdivision works certificate.

22. Deposited Plan and 88B Instrument - Rights and Interests

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant must obtain written consent from the benefited lot(s), roads(s) bodies or Prescribed Authorities regarding any easements, profit à prendre, restriction or positive covenants registered on the land with respect to the approved development.

23. Bus Servicing Strategy

Prior to Council or an appointed Principal Certifier issuing of a subdivision works certificate, the following information is to be provided to Council for the written approval of Council's Executive Manager Urban Release (or equivalent):

- Evidence demonstrating that appropriate arrangements have been made with Transport for NSW to ensure the Mt Gilead estate can be serviced by a regular bus service when required in the future by Transport for NSW.

- Endorsement of a Bus Route Plan for the Mt Gilead Estate by Transport for NSW. The Bus Route Plan must show the location of all bus stops, shelters, seating and bus bays within the approved subdivision area.

24. Bus Stops, Bays, Shelters and Seating

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant must submit amended plans to Council for the written approval of Council's Executive Manager Urban Release (or equivalent). The plans must include the following:

- Provision of a bus stop on either side of the Collector Road (Road No. 1).

- Each bus stop must be provided with a 0.7m wide bus bay to the side of the parallel parking lane so as to achieve minimum bus parking lane width of 3m and traffic lane width of 3.2m in accordance the State Transit Bus Infrastructure Guide.

- Provision of appropriate bus shelters and seating at the bus stops.

25. Utility Servicing Provisions

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant shall obtain a letter from Sydney Water, Endeavour Energy, Jemena (if relevant) and the relevant telecommunications authority stating that satisfactory arrangements have been made to service the proposed development.

26. NBN Co

Prior to the issue of a subdivision works certificate, the appointed Principal Certifier shall be satisfied that telecommunications infrastructure may be installed to service the premises which complies with the following:

- The requirements of the Telecommunications Act 1997:
- For a fibre ready facility, the NBN Co's standard specifications current at the time of installation; and
- For a line that is to connect a lot to telecommunications infrastructure external to the premises, the line shall be located underground.

Unless otherwise stipulated by telecommunications legislation at the time of construction, the development must be provided with all necessary pits and pipes, and conduits to accommodate the future connection of optic fibre technology telecommunications.

27. Geotechnical Report

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, where proposed excavation and/or filling exceed 900mm in depth, or where the subject site is identified as being filled land, a geotechnical report prepared based on sampling assessment by a NATA registered laboratory shall be submitted which indicates that the land will not be subject to subsidence, slip, slope failure or erosion.

28. Road Construction (New)

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant shall submit design details for approval of the proposed road construction.

The categories and traffic loadings to be adopted for the design of the road pavements shall be as follows;

Road Number	Category	Traffic Loading
1	E	2×10^6
3, 4, 5, 6, 7, 8, 9, 10, 11, 18, 19, 20, 22, 23, 24, 52 and 53	D	3×10^5

Construction of the roads shall be undertaken in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended), Engineering Design for Development (as amended)* and Austroads guidelines.

All inspections are to be undertaken by Council and the appointed Principal Certifier shall not issue the subdivision certificate until all works have been completed.

29. Temporary Residential Cul-de-sac Heads

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant shall submit design details for approval for the temporary residential cul-de-sac heads proposed at the ends of Road No.s 1, 4, 11, 19 and 20.

The pavement compositions shall be the same as that constructed for the respective roads.

Construction of the cu-de-sac heads shall be undertaken in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended), Engineering Design for Development (as amended)* and Austroads guidelines.

All inspections are to be undertaken by Council and the appointed Principal Certifier shall not issue the subdivision certificate until all works have been completed satisfactorily.

30. Road Safety Audit

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, a road safety audit is to be undertaken for the design of all new roadworks.

31. Vehicle turning movements

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, vehicle turning movements (for the appropriate vehicle types as agreed with Council) shall be assessed by an appropriately qualified person using Autodesk Vehicle Tracking and provided to Council's Executive Manager Infrastructure for approval.

In this regard the Vehicle Tracking files and associated development proposal shall be submitted in .dwg/ .dxf format and the speed environment used in the assessment must be consistent with the requirements as set out in the Austroads Guide to Road Design Part 4.

Garbage collection vehicles with three axles and up to 10.4 metres in length shall be considered as part of the above assessment.

32. Traffic Committee

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant shall submit plans and obtain approval from Council's Local Traffic Committee for any proposals for the construction of prescribed traffic control devices and traffic control facilities and all associated line marking and/or sign posting.

33. Street Lighting Design

Prior to Council or the appointed Principal Certifier issuing a subdivision works certificate, street lighting design plans shall be prepared by an Endeavour Energy Accredited Service Provider (ASP) and comply with the following:

a. All street lighting is to be LED "Smart" lighting to Council's specification. The lighting of residential roads and public places must comply with AS/NZS1158 Residential Street Lighting Part 3.1: Pedestrian Area (Category P) Lighting – Performance and Installation Design Requirements 2005, using the appropriate categories.

b. The design and installation of the street lighting is to be such that Council can take ownership of the street lighting in this subdivision (ie. separate circuit to residential supply).

c. The power supply to the street lighting shall meet the load requirements of Endeavour Energy plus 30% loading for the future requirements of Council.

d. The location of meters to service the street lighting network.

e. The street lighting plan must consider the impact of street tree planting (at planting and mature height and form) on the lighting.

f. Details of the number of electrical turrets and switchboards to be installed within the network.

g. The street lighting and associated infrastructure in this subdivision is to be dedicated to Council and not be handed over to the energy supplier.

Note: Electrical Turrets are to be:
- Situated within the road reserve;
- Located no more than 700mm measured from the private lot boundary;
- Not to interfere with the delivery of the current or future pedestrian/ cycleway paths;
- Multiple Switch Board doors must be oriented toward the street for ease of access.

A copy of the street lighting design plans are to form part of the Subdivision works certificate documents and provided to Council for our records.

34. Retaining Structures

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant shall engage a suitably qualified structural and geotechnical engineer to design all proposed retaining structures exceeding 600mm in height.

Retaining walls that are to be located on boundaries with roads shall be designed to accommodate the following features:

a. 100 year minimum design life.
b. Be of full masonry construction.
c. Be designed to accommodate a minimum of 20kPa live load adjacent to the wall.
d. Be designed and constructed to contain appropriate drainage that is accessible for periodic flushing.

e. It may be necessary for an engineer to be present on site during construction of the walls to ensure construction is undertaken in accordance with approved designs – this would be at the applicant's expense.
f. Where exposed walls on a street frontage are retaining fill on private land, the wall shall be constructed of durable and decorative materials to Council's satisfaction and finished with a graffiti-proof treatment.
g. Where a wall is retaining cut and the road/ verge is higher than private land, the applicant shall affix a sign to each wall stating that the wall is a structural element and shall not be altered or otherwise damaged at any time. The applicant is encouraged to investigate permanent plant climbing structure or alternative beautification measures as part of the wall's design phase.

All retaining structures adjacent to existing or future public infrastructure shall be constructed of a masonry material and shall be constructed wholly within the property boundary, including footings and agricultural drainage lines. No encroachments within land to be dedicated to Council is permitted.

35. Stormwater Management Plan

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, plans, electronic models and other supporting information indicating all engineering details and calculations relevant to site regrading and the collection and disposal of stormwater from the site and adjacent catchments, shall be submitted Council's Executive Manager Infrastructure for assessment and approval. Electronic modelling and revised documentation is to include TUFLOW, XpRafts, DRAINS and MUSIC modelling.

Where adjacent properties are affected, drainage formalisation shall be extended to include these properties to the satisfaction of the adjacent owners and Council.

All proposals shall comply with the requirements detailed in Council's *Engineering Design Guide for Development (as amended), Australian Rainfall and Runoff (current version)* and the *NSW Floodplain Development Manual.*

36. Water Quality

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, plans, electronic models and other supporting information indicating all engineering details and calculations relevant to the water quality treatment of stormwater from the site and adjacent catchments shall be submitted to Council's Executive Manager – Infrastructure for approval.

Operation and Maintenance Manuals and *Maintenance Schedules* shall also be submitted to Council's Executive Manager – Infrastructure for approval.

All proposals shall comply with the relevant guidelines of the Office of Environment and Heritage – NSW (OEH), Council's *Engineering Design for Development (as amended)* and the applicable Development Control Plan.

37. Detention Basin Design/Certification

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the applicant shall engage a suitably qualified geotechnical engineer to prepare a report which details the construction requirements for the proposed detention basin.

The report shall identify all measures that need to be considered for the construction of the detention facility. The engineering plans for the basin and ancillary works shall be certified by the geotechnical engineer.

Upon completion of construction of the detention basin, the works shall be certified by the geotechnical engineer, and a qualified surveyor shall prepare a works as executed plan.

A copy of all documentation shall be submitted to Council for its records.

38. Landscape Requirements

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate for civil works, the applicant shall submit detailed landscape plans for approval by Council's Executive Manager Open Space.

Landscaping of the development site shall be undertaken in accordance with the approved plans incorporating the following requirements where necessary:

a. Street tree installation shall comply with the following requirements:

i. Root boxes or barriers are required for all street trees which are being placed within 1m of infrastructure. Such infrastructure shall include footpaths, share ways road ways, kerb and gutter, underground pipes.

ii. Unless specified otherwise the minimum size for root control boxes shall be 800mm x 800mm by 500mm deep. Trees are to be installed centrally within the root control box.

iii. Alternatively, root barrier is to be placed on the road and footpath side of all street trees. Vertical ribbed root barrier a minimum of 600mm deep and 0.75mm thick is to be used in all instances.

iv. Root boxes or barriers must be placed:
- behind the back of kerb so that it does not compromise the road pavement (i.e. the trunk of the tree shall be a minimum of 700mm from the back of kerb)
- flush with or marginally below the ground surface
- flush with or marginally below the adjoining top of footpath
- for a 3m extent along the footpath/share way and kerb with the tree centrally placed
- such that it extends a minimum of 100mm below the adjoining road pavement
- such that is not a trip hazard.

39. Telecommunications Infrastructure

a. If the development is likely to disturb or impact upon telecommunications infrastructure, written confirmation from the service provider that they have agreed to proposed works must be submitted to the appointed Principal Certifier prior to the issue of a subdivision works certificate or any works commencing, whichever occurs first; and

b. The arrangements and costs associated with any adjustment to telecommunications infrastructure shall be borne in full by the applicant/developer.

40. Sydney Water

Prior to Council or an appointed Principal Certifier issuing a subdivision works certificate, the approved plans must be submitted to Sydney Water via the Sydney Water Tap In service, to determine whether the development will affect any Sydney Water wastewater and water mains, stormwater drains and/or easements, and if any requirements need to be met.

An approval receipt will be issued if the building plans have been approved. The approval receipt shall be submitted to the appointed Principal Certifier prior to issue of a subdivision works certificate.

The Sydney Water Tap In service can be accessed at www.sydneywater.com.au.

PRIOR TO THE COMMENCEMENT OF ANY WORKS REQUIRING A SUBDIVISION WORKS CERTIFICATE

The following conditions of consent have been imposed to ensure that the administration and amenities relating to the proposed development comply with all relevant requirements. These additional conditions are to be complied with prior to the commencement of on site that require a Subdivision Works Certificate.

41. Subdivision works certificate

Prior to the commencement of any works that require a subdivision works certificate:

a. the applicant shall obtain a subdivision works certificate for the particular works; and
b. when Council is not the principal certifier, the appointed Principal Certifier shall notify Council of their appointment no less than two days prior to the commencement of any works.

42. Survey Report

Prior to the commencement of subdivision works for each relevant stage the application shall submit to Council for approval a survey protocol.

The survey protocol shall provide details for the methodology for the collection, collation and provision to Council of survey data for completed stage of subdivision, including:

Survey Information
- Spacing of modified site contours
- Interval spacing of spot levels along stage and property boundaries.
- A minimum quantity of site levels per hectare.
- The surface levels of all other infrastructure.

Format
- MGA 94 (Map Grid of Australia 1994) Zone 56 - Coordinate System
- All level information to Australian Height Datum (AHD)

AutoCAD Option

- The "etransmit" (or similar) option in AutoCAD with the transmittal set-up to include as a minimum:

  Package Type-zip
  File Format - AutoCAD 2004 Drawing Format or later
  Transmittal Options-Include fonts
  Include textures from materials
  Include files from data links
  Include photometric web files
  Bind external references
  The drawing is not to be password protected.

MapInfo Option

- Council will also accept either MapInfo Native format (i.e. .tab file) or MapInfo mid/mif.

All surveyed points will also be required to be submitted in a point format (x,y,z) in either an Excel table or a comma separated text file format.

DEVELOPMENT REQUIREMENTS DURING CONSTRUCTION

The following conditions of consent have been imposed to ensure that the administration and amenities relating to the proposed development comply with all relevant requirements. These conditions are to be complied with during the construction of the development on site.

43. Construction Work Hours

All work on site shall only occur between the following hours:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 5.00pm
Sunday and public holidays	No Work.

44. Erosion and Sediment Control

Erosion and sediment control measures shall be provided and maintained throughout the construction period, in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook),* the approved plans, Council specifications and to the satisfaction of the appointed Principal Certifier. The erosion and sedimentation control devices shall remain in place until the site has been stabilised and fully revegetated.

Note: On the spot penalties up to $8,000 will be issued for any non-compliance with this requirement without any further notification or warning.

45. Compliance with Council Specification

All design and construction work, shall be in accordance with:

a. Council's specification for *Construction of Subdivisional Road and Drainage Works* (as amended);

b. Council's *'Engineering Design Guide for Development'*

c. *Soils and Construction (2004) (Bluebook)*; and

d. Relevant Australian standards and State Government publications.

e. AS 1742 various (*Manual for traffic control devices*).

f. RMS Guide to "*Traffic Control At Work Sites*" 1998ed.

g. AS 1428.1 (*Design for access and mobility*)

The applicant shall provide water conduits, common drainage lines or kerb outlets and laybacks to Council's specifications as required.

46. Unreasonable Noise, Dust and Vibration

The development, including operation of vehicles, shall be conducted so as to avoid the generation of unreasonable noise, dust or vibration and cause no interference to adjoining or nearby occupants. Special precautions must be taken to avoid nuisance in neighbouring residential areas, particularly from machinery, vehicles, warning sirens, public address systems and the like.

In the event of a noise related issue arising during construction, the person in charge of the premises shall when instructed by Council, cause to be carried out an acoustic investigation by an appropriate acoustical consultant and submit the results to Council. If required by Council, the person in charge of the premises shall implement any or all of the recommendations of the consultant and any additional requirements of Council to its satisfaction.

47. Tree Felling

Trees to be removed are to be done so in accordance with the requirements of the Biodiversity Certification Agreement that applies to the land and the approved Construction Environmental Management Plan in Condition 1.

48. Fill Compaction requirements

Any filling carried out in accordance with this consent shall maintain a minimum requirements of 98% standard compaction.

If any lot filling operation greater than 300mm are carried out in accordance with this consent, they shall be tested to establish the field dry density every 300mm rise in vertical height. Test sites shall be located randomly across the fill site with 1 test per 500m2 (minimum 1 test per 300mm layer) certified by a qualified geotechnical engineer.

49. Fill Material

All fill material imported to the site shall meet one of the characterisations detailed the table below:

Defining Instrument	Definition
Protection of the Environment Operations Act, 1997	Virgin Excavated Natural Material
Protection of the Environment Operations (Waste) Regulation 2014	The following resource recovery exemptions: ▪ Excavated natural material ▪ Foundry sand ▪ Recovered fines (provided no samples have a benzo(a)pyrene concentration exceeding 3 mg/kg 'dry weight')
N/A	Non-waste engineered construction materials

50. Excess Material

All excess material is to be removed from the site. The spreading of excess material or stockpiling on site will not be permitted without prior written approval from Council.

51. Earth Works/Filling Works

All earthworks, including stripping, filling, and compaction shall be:

a. Undertaken in accordance with Council's *Specification for Construction of Subdivisional Roads and Drainage Works (as amended),* Australian Standard *AS 3798 Guidelines for Earthworks for Commercial and Residential Development (as amended),* and the approved construction drawings;

b. Supervised, monitored, inspected, tested and reported in accordance with Australian Standard *AS 3798 Appendix B 2(a) Level 1 and Appendix C* by a NATA registered laboratory appointed by the applicant. Two collated copies of the report and fill plan shall be forwarded to Council; and

c. Certified by the laboratory upon completion as complying, so far as it has been able to determine, with Council's specification and Australian Standard *AS 3798*.

52. Revegetation

Revegetation in accordance with the requirements of the manual – *Soils and Construction (2004) (Bluebook)* shall be applied to all disturbed areas within seven days after completion of the earthworks, and shall be fully established prior to release of the maintenance security bond.

53. Public Safety

Any works undertaken in a public place are to be maintained in a safe condition at all times in accordance with Australian Standard *AS 1742.3*. Council may at any time and without prior notification make safe any such works that are considered to be unsafe and recover all reasonable costs incurred, from the applicant.

54. Footpaths/Cycleways

The footpath/cycleway construction shall be to the satisfaction of Council and in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended), Engineering Design for Development (as amended)* and the applicable Development Control Plan.

A 1 metre wide turf strip shall be laid immediately behind the kerb.

Where necessary, the footpath formation may need to be extended beyond the site boundaries, to provide an acceptable transition to the existing footpath levels.

55. Pavement Thickness Determination

A road pavement design and pavement thickness report prepared by a N.A.T.A. registered laboratory and appointed by the applicant, shall be submitted to the appointed Principal Certifier for approval, a minimum of 2 working days prior to the inspection of the exposed sub grade.

The pavement design shall be prepared in accordance with the requirements detailed in Council's *Engineering Design for Development (as amended).*

56. Residential Driveway and Layback Crossing

The applicant shall provide a layback in the kerb and gutter at the entrance to all residential lots that have a frontage to barrier kerb. Construction shall be in accordance with Council's *Residential Vehicle Crossing Specification* and *Engineering Design for Development (as amended).*

Layback are to be constructed in accordance with the endorsed building envelope plan.

57. Associated Works

The applicant shall undertake any works external to the development, that are made necessary by the development, including additional road and drainage works or any other civil works directed by Council, to make a smooth junction with existing work.

58. National Metering Identifier

Prior to the submission of an application to Endeavour Energy for National Metering Identifier, written confirmation is to be obtained from Council's Executive Manager Infrastructure regarding the location of electricity connections/ meters required in the delivery of the private lighting network.

59. Asset Number Allocation

The developer shall submit the street lighting design plans to Council's Executive Manager Infrastructure to obtain Asset Number for the assets, including but not limited to footings, poles and luminaires with capability of smarts. Asset numbers to be provided by Council will need to be marked on the assets being installed.

60. Commissioning of Private Lighting Network

Commissioning of the private lighting network to be dedicated to Council shall be undertaken in the presence of Council's nominated Certifier.

Note: Council's City Delivery Team is to be contact three (3) months prior to the commissioning of the private lighting network to determine the Council's nominated Certifier.

61. Inspections

The following stages of construction shall be inspected by Council. A compliance certificate or other documentary evidence of compliance is required to be obtained prior to proceeding to the subsequent stages of construction:

a. EROSION AND SEDIMENT CONTROL -
   i. Direction/confirmation of required measures.
   ii. After installation and prior to commencement of earthworks.
   iii. As necessary until completion of work.

b. STORMWATER PIPES – Laid, jointed and prior to backfill.

c. SUBSOIL DRAINS – After:
   i. The trench is excavated.
   ii. The pipes are laid.
   iii. The filter material placed.

d. SUBGRADE – Joint inspection with a NATA Registered Laboratory after preliminary boxing, to confirm pavement report/required pavement thicknesses.

e. SUBGRADE – 10/12 tonne 3-point roller proof test, density tests and finished surface profiles prior to placement of sub-base.

f. CONDUITS – Laid and jointed prior to backfilling.

g. GULLY PITS & OTHER CONCRETE STRUCTURES – Prior to pouring concrete.

h. PAVEMENT THICKNESS MEASUREMENT (Dips) – After placement of kerb and gutter and final trimming of sub-base.

i. SUB BASE – 10/12 tonne 3-point roller proof test and finished surface profiles after finishing and prior to base course placement.

j. BASECOURSE – 10/12 tonne 3-point roller proof test, density tests and finished surface profiles after finishing and prior to sealing.

k. OVERLAND FLOWPATHS – After shaping and prior to topsoil/turf placement.

l. CONCRETE PATHS, CYCLEWAYS, VEHICLE CROSSINGS AND LAYBACKS – Prior to pouring concrete.

m. ASPHALTIC CONCRETE SEAL – Finished surface profiles after sealing.

n. FINAL INSPECTION – All outstanding work.

62. Dam Dewatering

Dams approved to be dewatered are to be done so in accordance with the Dam Dewatering Plan that forms part of the approved Construction Environment Management Plan in Condition 1.

PRIOR TO THE ISSUE OF A SUBDIVISION CERTIFICATE

The following conditions of consent, as relevant, must be complied with prior to the issue of a subdivision certificate for each stage of subdivision by either Campbelltown City Council or the appointed Principal Certifier. All necessary information to comply with the following conditions of consent must be submitted with the application for a subdivision certificate.

63. Section 73 Certificate – Subdivision Only

Prior to the principal certifying authority issuing a subdivision certificate, a Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water Corporation. Early application for the certificate is suggested as this can also impact on other services and building, driveway or landscape design.

Application must be made through an authorised Water Servicing Coordinator.

For help either visit www.sydneywater.com.au > Building and developing > Developing your Land > Water Servicing Coordinator or telephone 13 20 92.

The Section 73 Certificate must be submitted to Council prior to the release of the subdivision certificate.

64. Subdivision Certificate

Prior to the principal certifying authority issuing a subdivision certificate, a satisfactory final inspection is required to be issued for all works relevant to the subdivision certificate.

65. Restriction on the Use of Land

Prior to the principal certifying authority issuing a subdivision certificate, the applicant shall provide for the creation of appropriate restrictions on the use of land under Section 88B of the Conveyancing Act as required from the following list.

a. Acoustic report specifying acoustic treatments for residential lots
a. Bushfire report specifying BAL levels and any Asset Protection Zones for residential lots
b. Primary façade articulation to address The Boulevard – where applicable
c. Building envelope plans.
d. Floor Level Control – where applicable
e. Lots Filled – where applicable
f. Vehicle Access Denied from Road No. 1 – where applicable
g. Set Back from Access Denied Roads – where applicable
h. Uncontrolled Fill – where applicable
i. Drainage Floor Level Control Easements - (100yr flow, depressed) – where applicable
j. No Cut or Fill - (Existing Geotech Report from N.A.T.A. reg. Laboratory) – where applicable
k. No Cut or Fill - (Geotech Report Required) – where applicable
l. Battle-Axe Lots where reciprocal rights of carriageway are proposed
m. Lots with any other restrictions eg. Refuse Collection.

The applicant shall liaise with Council regarding the required wording. Any lots subsequently identified during the subdivision process as requiring restrictions shall also be suitably burdened. The authority empowered to release, vary or modify these restrictions on the use of land shall be the Council of the City of Campbelltown. The cost and expense of any such release, variation or modification shall be borne by the person or corporation requesting the same in all respects.

66. Bush Fire Certification

Prior to the issue of a subdivision certificate, a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment shall be submitted to Council and/or the appointed Principal Certifier stating that the development

conforms to the relevant specifications and requirements as specified in the relevant condition from the NSW Rural Fire Service forming part of this consent.

67. Bond (Outstanding Work)

Prior to the principal certifying authority issuing a subdivision certificate and to facilitate the release of the subdivision certificate, Council may accept bonding for outstanding asphaltic concrete work, foot paving and vehicle crossings/driveways or other minor work. Following a written request from the applicant, Council will determine the bond requirements.

All bonds are to be provided in the form of Cash or a written Bank Guarantee from an Australian Banking Institution or other form of security to the satisfaction of Council.

68. Maintenance Security Bond

Prior to the principal certifying authority issuing a subdivision certificate, a maintenance security bond of 5% of the contract value or $5000, whichever is the greater, shall be lodged with Council. This security will be held in full until completion of maintenance, minor outstanding works and full establishment of vegetation to the satisfaction of Council, or for a period of six months from the date of release of the subdivision certificate, whichever is the longer. All bonds are to be provided in the form of Cash or a written Bank Guarantee from an Australian Banking Institution.

The applicant is responsible for applying to Council for the return of the bond. Should no request be made to Council for the return of the bond six years after the issue of the subdivision certificate, Council will surrender the bond to the *Office of State Revenue*.

69. Classification of Residential Lots (Development without dwelling construction)

Prior to the principal certifying authority issuing a subdivision certificate, all residential lots are to be individually classified in accordance with guidelines contained in the Australian Standard *AS 2870-1996 Residential Slabs and Footings (as amended)*.

70. Remediation of Land

Prior to the release of a Subdivision Certificate for each stage, a Section A1 Site Audit Statement issued under the Contamination Land Management Act 1997 and demonstrating that the site is suitable for day care centres, preschools, primary schools and residential, including substantial vegetable garden and poultry, shall be provided to the Principal Certifying Authority. This shall include an audit of all fill imported to the site (including works subject to 2984/2020/DA-CW).

71. Splay Corner (Residential)

Prior to the principal certifying authority issuing a subdivision certificate, the applicant shall dedicate 4m x 4m splay corners in the property boundaries of all lots located adjacent to road intersections, at no cost to Council.

72. CCTV footage verifying integrity of all new pipes and existing pipes

The applicant shall provide CCTV footage to Council for all new pipes and for all existing pipes which are modified by works prior to Linen release. The footage shall comply with the following requirements:

- The files shall be in MP4 format.
- File resolution shall be 640 by 480 pixels, 3Mbps and 25 frames per second.
- Each pipe reach (i.e. between two pits) shall be provided as a separate file.
    - The CCTV inspection shall be undertaken in accordance with the IPWEA Condition Assessment and Asset Performance Guidelines, Practice Note 5, Stormwater Drainage.
    - The speed and panning of the footage shall be sufficient to demonstrate that there are no significant cracks in the pipe and that the joints have been properly constructed.

- The files shall have a name corresponding with the unique label provided in the associated stamped approved drawings and a summary report (*.pdf) shall accompany the data.

73. Final Inspection – Works as Executed Plans

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, the applicant shall submit to Council two complete sets of fully marked up and certified work as executed plans in accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended)* and *Engineering Design Guide for Development (as amended)*.

The applicant shall **also** submit a copy of the Survey Report and Works as Executed information to Council in an electronic format in accordance with the endorsed survey protocol:

All survey information shall be prepared in the following format (unless agreed by Council in writing).

Format

- MGA 94 (Map Grid of Australia 1994) Zone 56 - Coordinate System
- All level information to Australian Height Datum (AHD)

AutoCAD Option

- The "etransmit" (or similar) option in AutoCAD with the transmittal set-up to include as a minimum:

Package Type	-	zip
File Format	-	AutoCAD 2004 Drawing Format or later
Transmittal Options	-	Include fonts
		Include textures from materials
		Include files from data links
		Include photometric web files
		Bind external references
		The drawing is **not** to be password protected.

MapInfo Option

- Council will also accept either MapInfo Native format (i.e. .tab file) or MapInfo mid/mif.

All surveyed points will **also** be required to be submitted in a point format (x,y,z) in either an Excel table or a comma separated text file format.

74. Engineering Documentation

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, the applicant shall submit to Council the following documents:

a. Two copies of geotechnical stability reports, dispersion tests, earthworks and fill placement reports, concrete core tests, sub grade and pavement density reports, structural and all other testing undertaken.
b. Two copies of all compliance certificates in accordance with consent authority requirements, including supply of pipes and precast units, supply of sub-base material, supply of base course material, supply of concrete, and supply of bituminous materials.

All reports/certificates shall be prepared by a N.A.T.A. registered laboratory or qualified engineer in accordance with Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended)* and *Engineering Design Guide for Development (as amended)*, and shall list the relevant compliance standard(s) and certify that the whole of the area of works or materials tested comply with the above specification. All reports/certificates

shall be complete, fully referenced, clearly indicate the area or material tested, the location and required/actual values of all tests and retesting, and be collated and suitably bound.

75. Certification of Retaining Structures

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, all retaining structures shall be certified by an appropriately qualified engineer as having been constructed in accordance with the approved design. An electronic copy of all documentation shall be submitted to Council for its records.

76. Public Utilities

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, any adjustments to public utilities required as a result of the development, shall be completed to the satisfaction of the relevant authority at the applicant's expense.

77. Service Authorities

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, two copies of all servicing plans shall be forwarded to Council in accordance with the following:

Written advice from *Sydney Water*, *Endeavour Energy*, *Telecommunications Authority* and where applicable the relevant gas company, shall be submitted stating that satisfactory arrangements have been made for the installation of either service conduits or street mains in road crossings prior to the construction of the road pavement. All construction work shall conform to the relevant authority's specifications.

The final seal shall be deferred pending installation of all services. In this regard the applicant shall provide a temporary seal and lodge with Council as security, the amount to be determined by Council, to cover the cost of trench restoration by Council and the placement of the final asphaltic concrete seal.

78. Compliance Certificates

Compliance Certificates (or reports from a Company or individual professionally experienced and qualified to give that evidence and containing documented authoritative evidence of compliance with the specifications, drawings, and development conditions) shall be obtained for the following prior to issue of the Subdivision Certificate:

- Service Authority Clearance - prior to placement of final seal/vehicle crossing construction.
- Work as Executed Plans.
- Pavement materials compliance certificates, including AC and rubberised seals where provided.
- Drainage pipes, headwalls, GPT, etc.
- Geotechnical Testing and Reporting Requirements.
- Lodgement of Bonds.
- Letter addressing all Conditions of the Development Consent.
- Structural engineer's certification for all structural components of the development.
- Operation & Maintenance Manuals and Maintenance Schedules for water quality devices where applicable

- Hydraulic engineer's Compliance certificates for drainage works, bio-retention basin/s including media materials

- Sandstone used as a part of the subdivision works.

Two collated copies of all the related plans, documents, reports, forms or other evidence along with electronic copies the above documents in PDF format shall be submitted to Council.

79. Works as Executed – Electrical Network

Prior to the principal certifying authority issuing a subdivision certificate, the applicant shall submit to Council the following documents in relation to the private lighting network:

a. A complete set of works as executed plans of the private lighting network in CAD files .DWG format
b. Appropriate certificates, manufacturer's brochures and technical data of all materials used during construction of the private lighting network
c. Warranty documentation for all street lighting assets (12 months minimum from the time of commissioning the network).
d. Location of assets and the corresponding asset numbers provided by Council.

80. Asset Number Implementation

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, all asset delivered in the private lighting network are to be marked in accordance with the asset allocation numbers provided by Council.

81. House Numbers

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, all house numbers shall be stencilled onto the kerb at appropriate locations with black letters/numbers 75mm high on a white background using an approved pavement marking paint.

For all new additional lots created, please contact Council's Land Information Unit on 4645 4465 to ensure the correct house number is stencilled.

82. Line Marking / Sign Posting Documentation (subdivision)

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, the applicant shall submit to Council for the Local Traffic Committee's records, two copies of the work as executed plans for the line marking and sign posting in relation to the development. The information shown on the plan shall be in accordance with the recommendations of the Traffic Committee and shall note the date/s of installation.

83. Road Safety Audit - Post Construction

Prior to the dedication of the roads to Council, a Road Safety Audit of the completed works is to be undertaken by a suitably qualified person to identify any potential safety risks for the users of roads and pedestrian facilities (day to day usage and maintenance activities).

The objective of the audit is to identify potential risks to the users of roads and pedestrian facilities and to ensure compliance with the approved plans and that the measures to eliminate or reduce identified risks as suggested in the report have been implemented prior to the dedication of the roads to Council.

84. Residential Inter-Allotment Drainage

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, the applicant shall demonstrate on the works as executed plans that inter-allotment drainage and the associated easements have been provided for all residential lots that cannot be drained to the kerb and gutter. Inter-allotment drainage systems shall be designed and constructed in

accordance with the requirements detailed in Council's *Specification for Construction of Subdivisional Road and Drainage Works (as amended), Engineering Design for Development (as amended) and Campbelltown (Sustainable City) DCP (as amended).*

85. Retaining

Prior to Council or the appointed Principal Certifier issuing an subdivision certificate, all excavated and filled areas shall be battered to a slope of not greater than 1:2 or similarly be retained in accordance with the approved plan or State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 provisions for exempt development. Construction of retaining walls outside the scope of the State Environmental Planning Policy and not shown on the approved plans require lodgement of a separate development application.

86. Council Fees and Charges

Prior to Council or the appointed Principal Certifier issuing a subdivision certificate, the applicant shall ensure that all applicable Council fees and charges associated with the development have been paid in full.

87. Evidence of Satisfactory Arrangements for State Public Infrastructure

Evidence that the Department of Planning, Industry and Environment has been advised that the relevant Subdivision Certificate has been lodged for the approved development to ensure compliance with the State Mt Gilead Planning Agreement (2018/9398).

ADVISORY NOTES

The following information is provided for your assistance to ensure compliance with the Environmental Planning and Assessment Act 1979, Environmental Planning and Assessment Regulation 2000, other relevant Council Policy/s and other relevant requirements. This information does not form part of the conditions of development consent pursuant to Section 4.17 of the Act.

Advice 1. Environmental Planning and Assessment Act 1979 Requirements

The Environmental Planning and Assessment Act 1979 requires you to:

a. Obtain a subdivision works certificate prior to the commencement of any works. Enquiries regarding the issue of a subdivision works certificate can be made to Council's Customer Service Centre on 4645 4000. A subdivision works certificate is not required for tree removal.

b. Nominate a principal certifying authority and notify Council of that appointment prior to the commencement of any works.

c. Give Council at least two days notice prior to the commencement of any works.

d. Have mandatory inspections of nominated stages of the construction inspected.

e. Obtain an occupation certificate before occupying any building or commencing the use of the land.

Advice 2. Tree Preservation Order

To ensure the maintenance and protection of the existing natural environment, you are not permitted to ringbark, cut down, top, lop, remove, wilfully injure or destroy a tree outside three metres of the building envelope unless you have obtained prior written consent from Council. Fines may be imposed if you choose to contravene Council's Tree Preservation Order.

A tree is defined as a perennial plant with self supporting stems that are more than three metres or has a trunk diameter more than 150mm measured one metre above ground level, and excludes any tree declared under the Noxious Weeds Act (NSW).

Advice 3. Covenants

The land upon which the subject building is to be constructed may be affected by restrictive covenants. Council issues this approval without enquiry as to whether any restrictive covenant affecting the land would be breached by the construction of the building, the subject of this permit. Persons to whom this permit is issued must rely on their own enquiries as to whether or not the building breaches any such covenant.

Advice 4. Buried Waste

Should buried materials/wastes or the like be uncovered during the excavation of footings or trenches on site works, Council is to be contacted immediately for advice on the treatment/removal methods required to be implemented

Advice 5. Inspection within Public Areas

All works within public areas are required to be inspected at all stages of construction and approved by Council prior to the principal certifying authority releasing the relevant Subdivision Certificate.

Advice 6. Subdivision Certificate Application and Plan Copies

As part of a subdivision certificate application, the following documents shall be submitted for Council's assessment through the NSW Planning Portal:

- A cover letter that details how each condition relevant to issue of a subdivision certificate has been addressed
- A copy of each required service authority certificate
- A draft plan administration sheet (including subdivision certificate)
- A draft deposited plan/ strata plan (if required) drawing
- A Section 88B instrument (where required), and
- A letter from the registered owner providing owners consent for subdivision application.

NSW Planning Portal https://www.planningportal.nsw.gov.au/
Upon Council's direction, the applicant must supply three final hard copy documents for affixing of signatures and stamps.

Note: the administration sheet is required to include a schedule of lots and addresses in accordance with Section 60(c) of the Surveying and Spatial Information Regulation 2017.

Advice 7. Salinity

Please note that Campbelltown is an area of known salinity potential and as such any salinity issues should be addressed as part of the subdivision works certificate application. Further information regarding salinity management is available within Council's *Engineering Design for Development (as amended)* and applicable *Development Control Plan*.

Advice 8. Bonds and Bank Guarantees

All bonds are to be provided in the form of Cash or a written Bank Guarantee from an Australian Banking Institution. Bonds will not be accepted in any other form or from any other institution.

Advice 9. Dial before you Dig

Underground assets may exist in the area that is subject to your application. In the interests of health and safety and in order to protect damage to third party assets please contact Dial before you dig at www.1100.com.au or telephone on 1100 before excavating or erecting structures (This is the law in NSW). If alterations are required to the configuration, size, form or design of the development upon

contacting the Dial before you dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via contacting the Dial before you dig service in advance of any construction or planning activities.

Advice 10. Telecommunications Act 1997 (Commonwealth)

Telstra (and its authorised contractors) are the only companies that are permitted to conduct works on Telstra's network and assets. Any persons interfering with a facility or installation owned by Telstra is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution.

Furthermore, damage to Telstra's infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may affect or impact on Telstra's assets in any way, you are required to contact: Telstra's Network Integrity Team on phone number 1800 810 443.

Advice 11. Accredited Service Providers

An Accredited Service Provider (ASP) is defined as:

An individual or single entity accredited in accordance with part 10 of the *NSW Electricity Supply (General) Reg*ulation 2001. Level 1 is Network Constructor, Level 2 is Service Mains Constructor, Level 3 is Designer (refer Clause 1.3.4 - Pre-Qualification of Accredited Service Providers).

Note: In addition to accreditation from the NSW Office of Fair Trading, an ASP must hold authorisation from Endeavour Energy for work on or near its network.

Advice 12. Electrical Turrets & Multiple Switch Boards

Turrets and Multiple Switch Boards must be installed with Campbelltown City Council E Key – E lock cylinders. Locking systems are to be purchased from Campbelltown City Council and installed at the developers cost. The information provided within the street lighting design plans will determine the number of locking devices required for the delivery of the private lighting network.

Advice 13. Small Market Connection Greenfield Form

The developer is required to a complete a Small Market Connection Greenfield Form prior to the commissioning of the private lighting network. Contact Council's City Delivery Team to obtain the relevant form.

END OF CONDITIONS

Attachment 2 - Referenced Figures

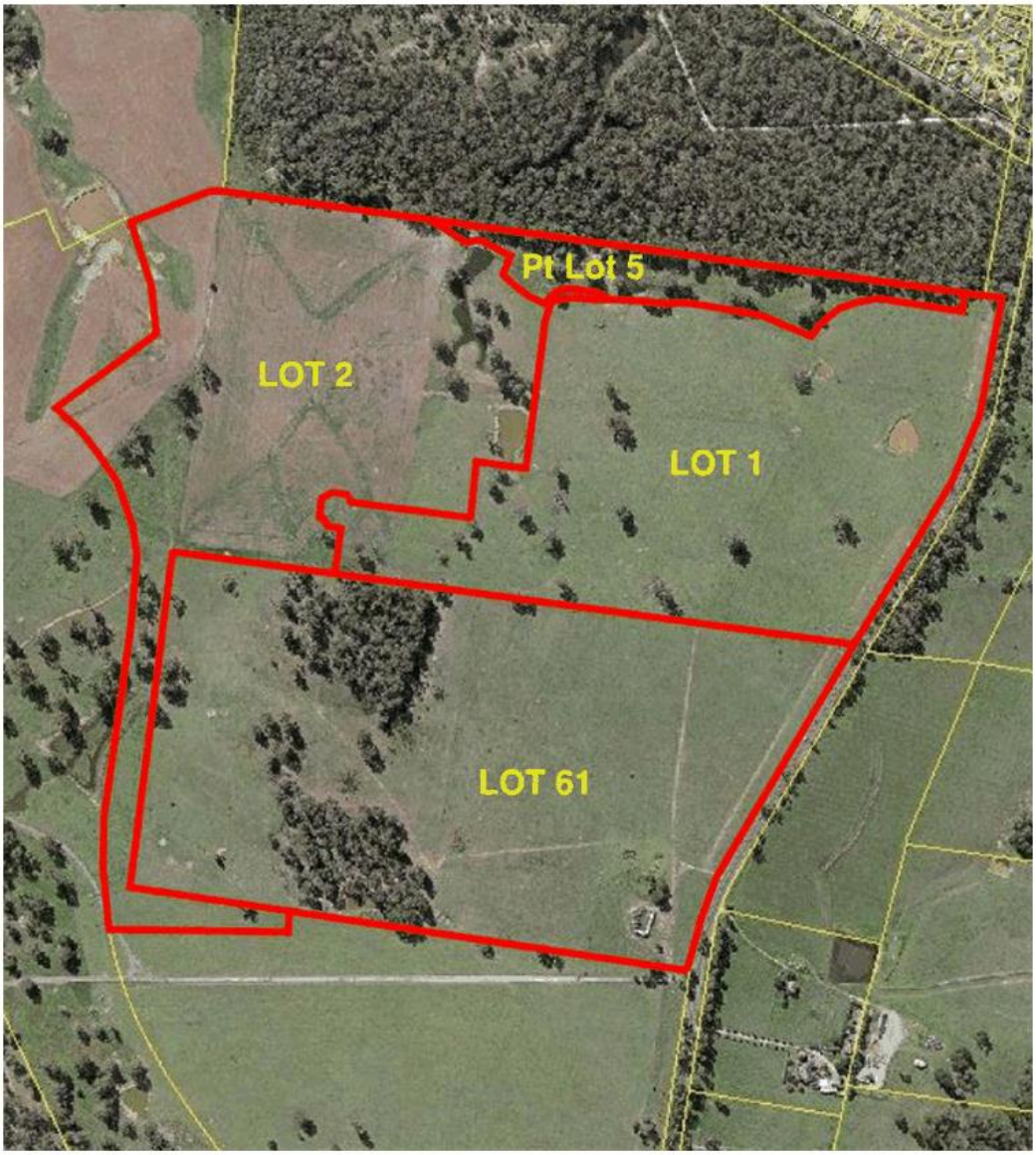


Figure 1: **Aerial photo showing subject land and associated allotments outlined in red**

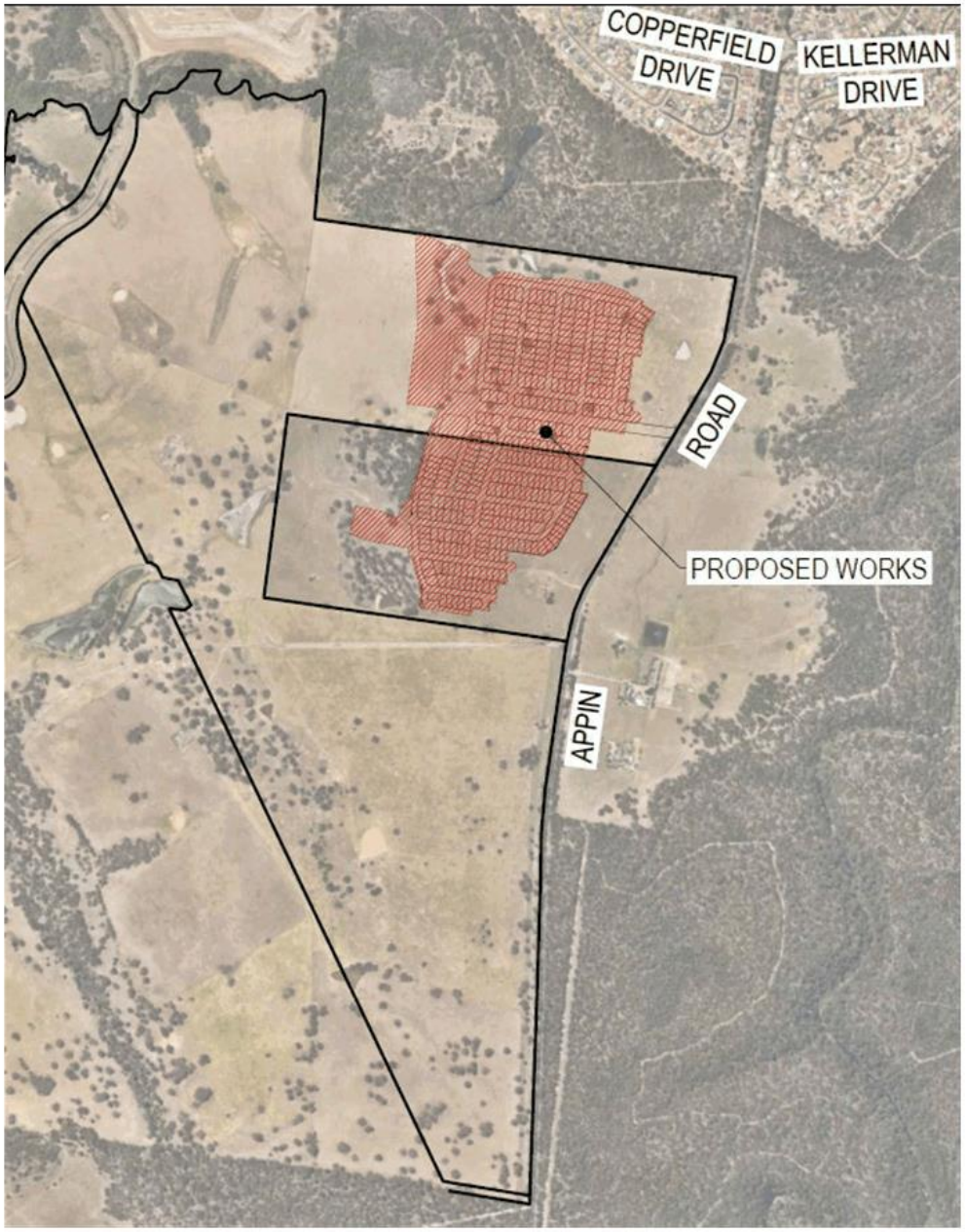


Figure 2: **Aerial photo showing area of proposed subdivision works shaded in red**

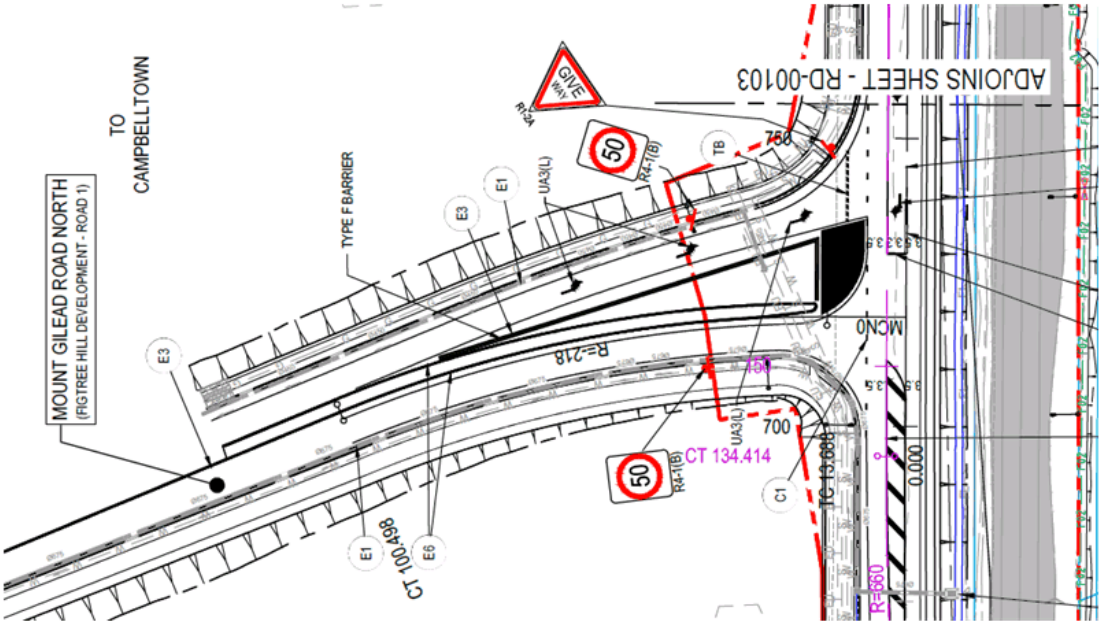


Figure 3: **Extract of interim intersection servicing the Mt Gilead estate**

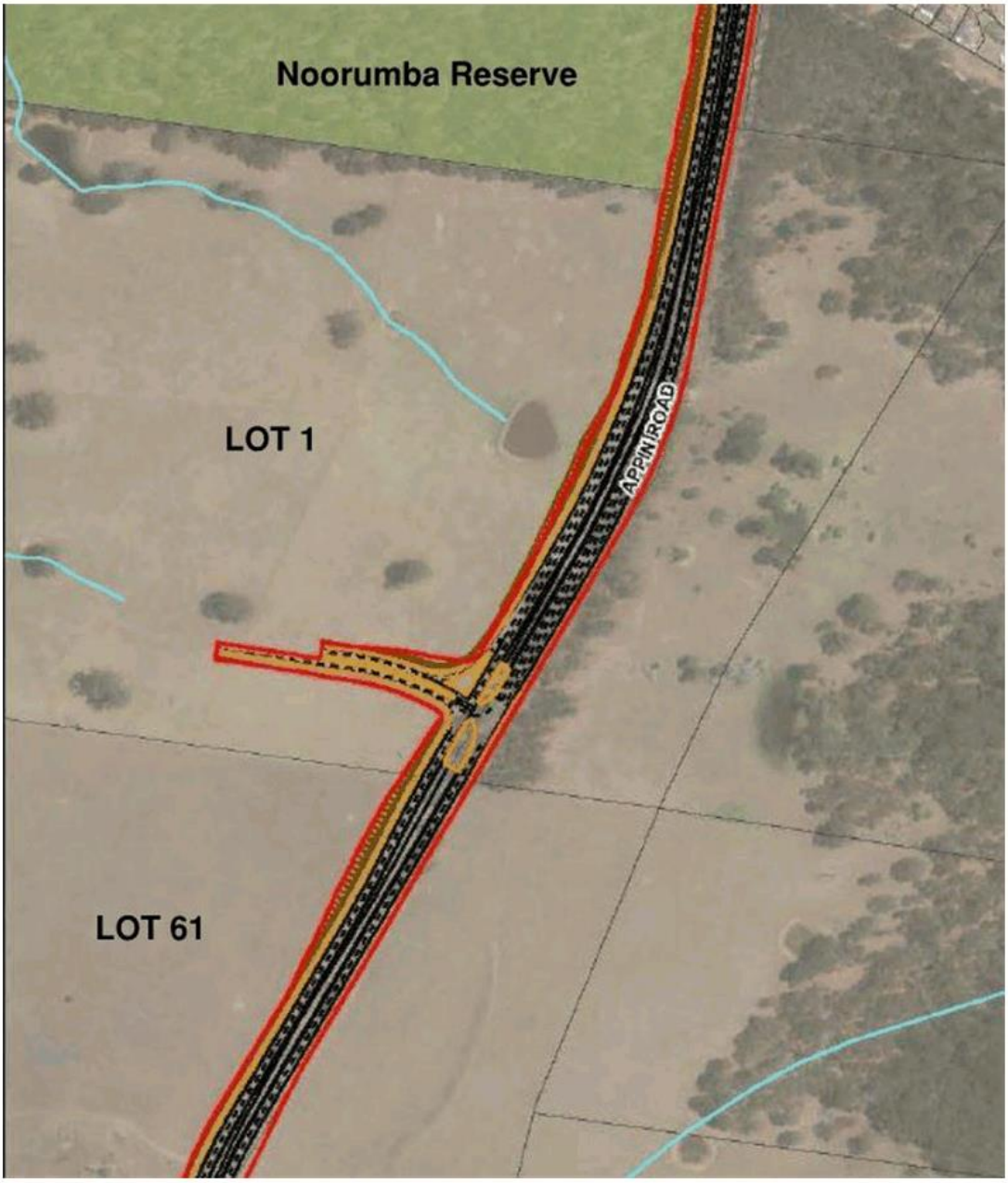


Figure 4: **Preliminary signalised intersection providing access to Stages 1 of Mt Gilead estate (RMS, 2018)**

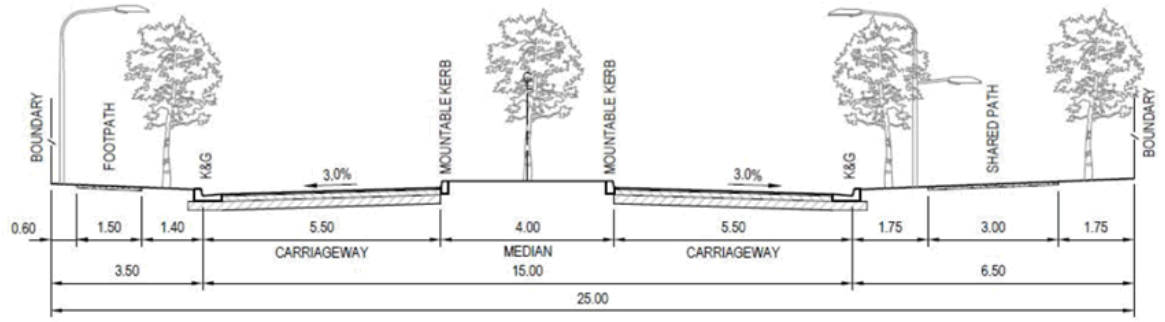


Figure 5: Proposed collector road cross section – The Boulevard

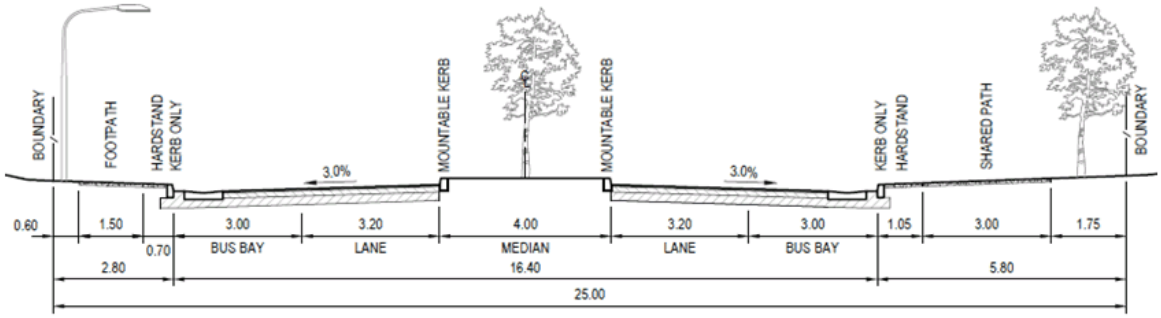


Figure 6: Proposed collector road cross section with 0.7m wide bus bay – The Boulevard

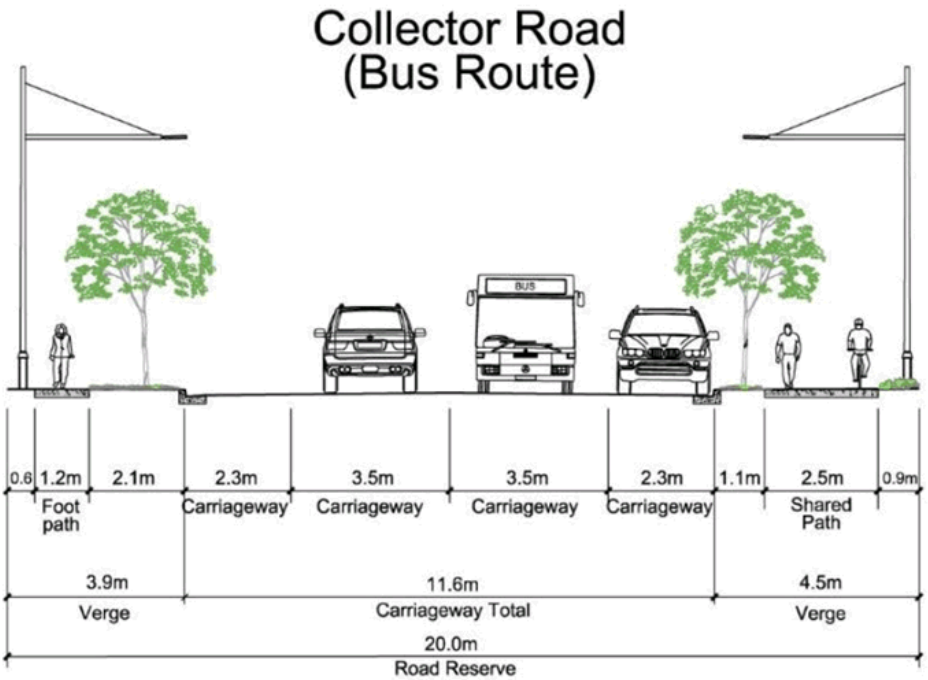


Figure 7: Mt Gilead DCP collector road cross section

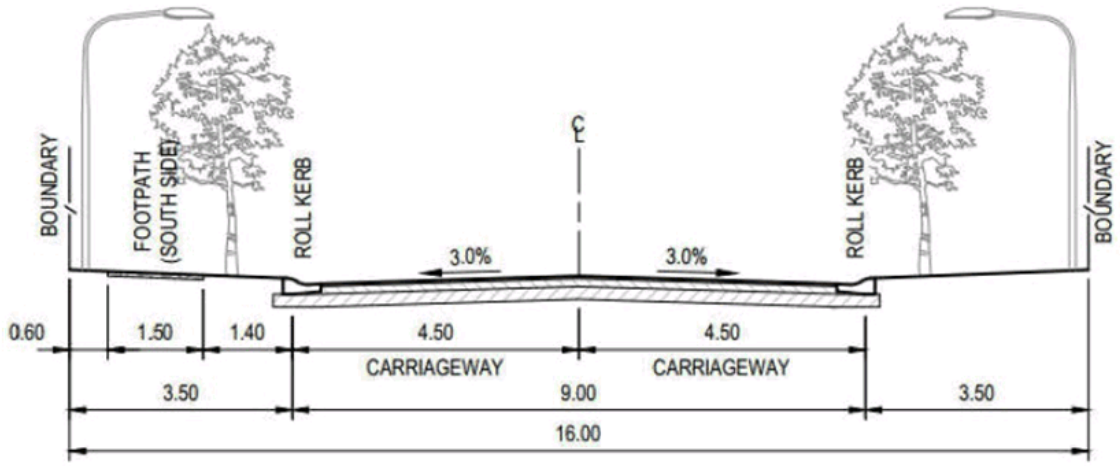


Figure 8: Proposed local street cross section

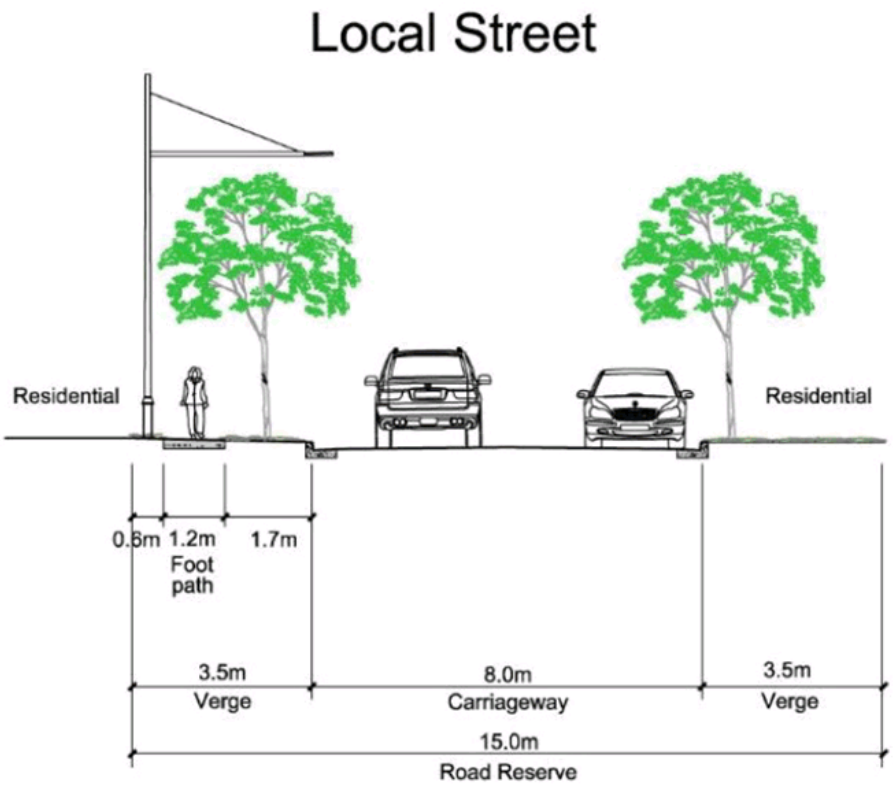


Figure 9: Mt Gilead DCP local street cross section

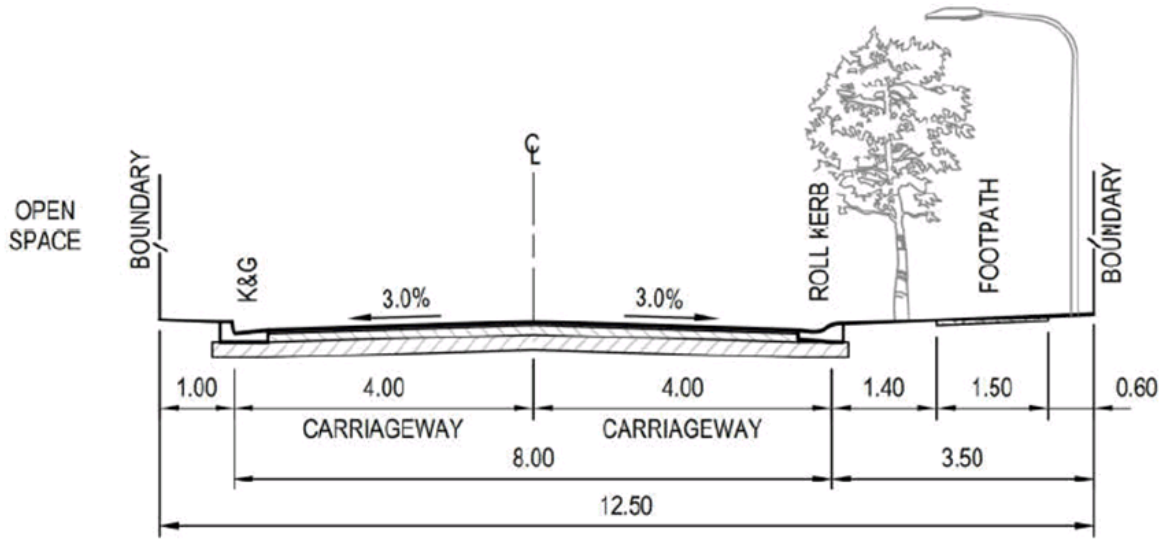


Figure 10: **Proposed local street cross section adjoining open space biobanks**

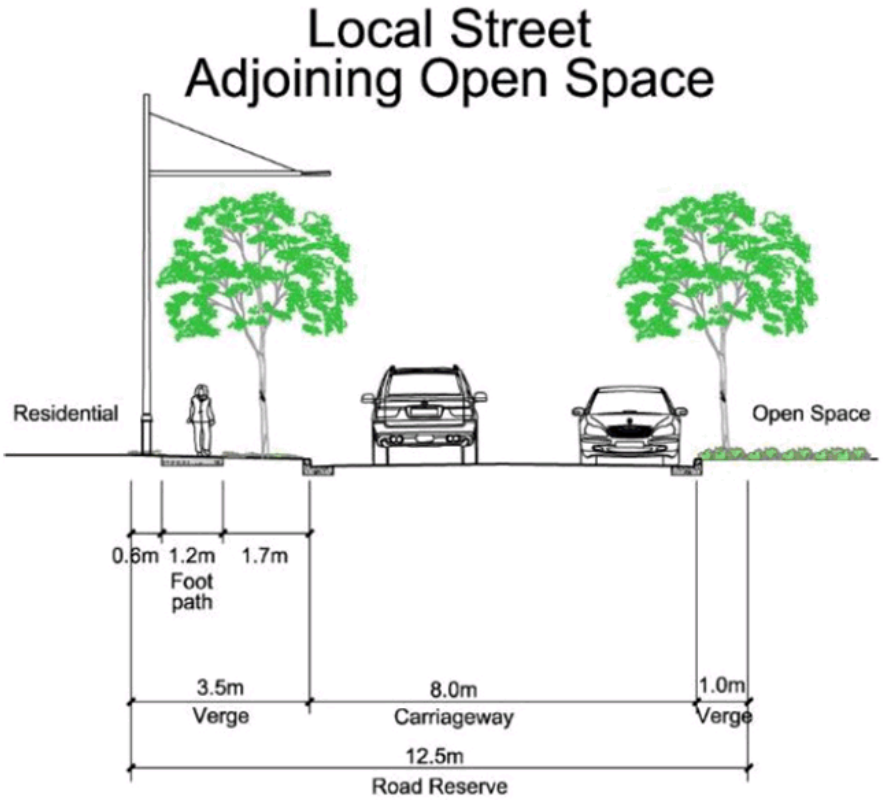
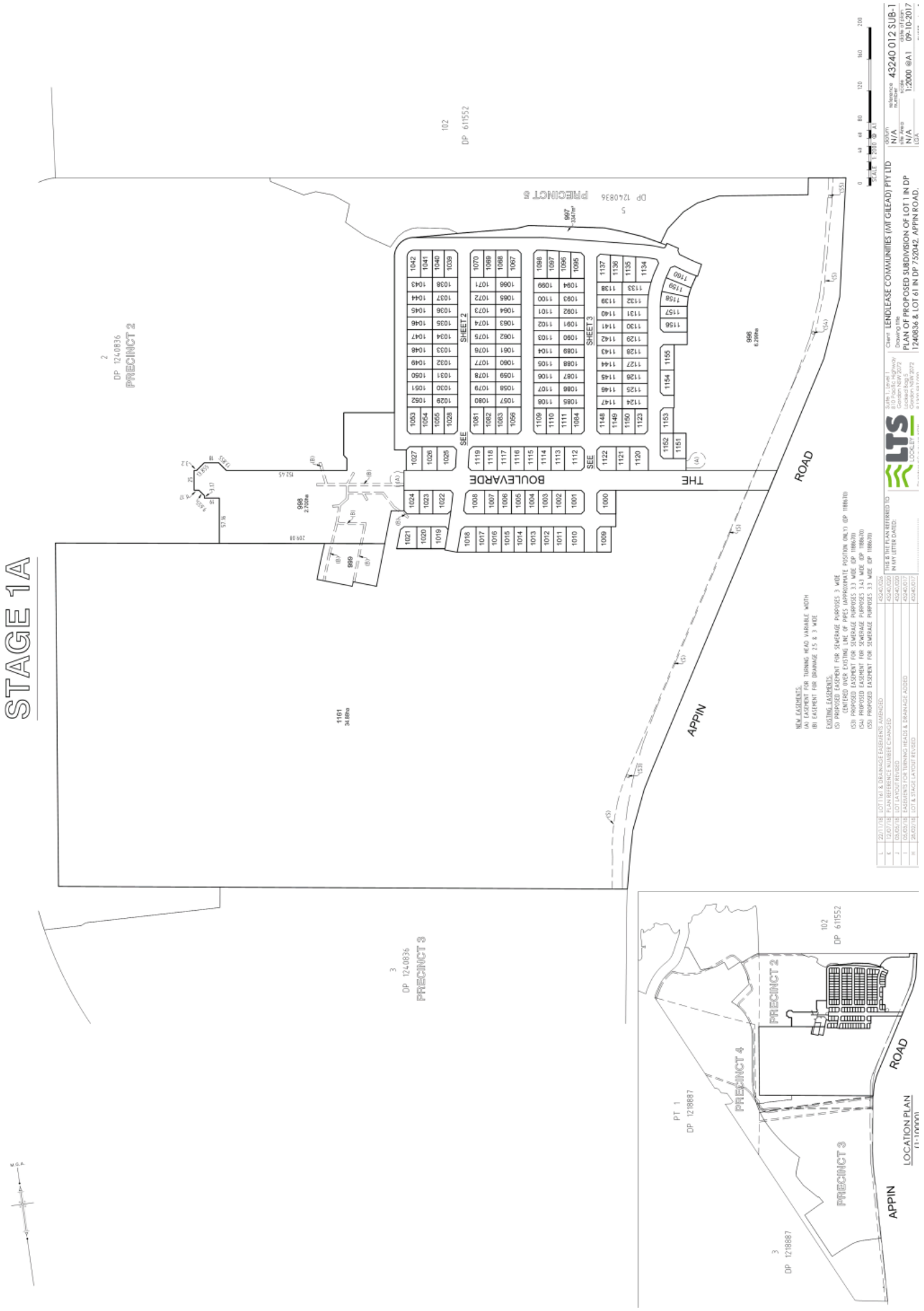


Figure 11: **Mt Gilead DCP local street cross section adjoining open space biobanks**


STAGE 1A
PRECINCT 2
PRECINCT 3
PRECINCT 4
BOULEVARDE
THE
ROAD
APPIN
SHEET 2
SHEET 3
SEE
LOCATION PLAN
PLAN OF PROPOSED SUBDIVISION OF LOT 1 IN DP 1240836 & LOT 61 IN DP 752042, APPIN ROAD.
LENDLEASE COMMUNITIES (MT GILEAD) PTY LTD
43240 012 SUB-1
1:2000 @A1
09-10-2017


STAGE 1A
PRECINCT 2
2 DP 1240836
PRECINCT 5
5 DP 1240836
PROPOSED ROAD (16 WIDE)
THE BOULEVARDE (25 WIDE)
997
998
999
1161
1042 1041 1040 1039 1043 1038 1044 1037 1045 1036 1046 1035 1047 1034 1048 1033 1049 1032 1050 1031 1051 1030 1052 1029 1053 1054 1055 1028
1070 1069 1068 1067 1071 1066 1072 1065 1073 1064 1074 1063 1075 1062 1076 1061 1077 1060 1078 1059 1079 1058 1080 1057 1081 1082 1083 1056
1098 1097 1096 1095 1099 1094 1100 1093 1101 1092 1102 1091 1103 1090 1104 1089 1105 1088 1106 1087 1107 1086 1108 1085 1109 1110 1111 1084
1027 1026 1025 1119 1118 1117 1116 1115 1114 1113 1112
1024 1023 1022 1008 1007 1006 1005 1004 1003 1002 1001
1021 1020 1019 1018 1017 1016 1015 1014 1013 1012 1011 1010
CONTINUED SHEET 3
LTS LOCKLEY
Client LENDLEASE COMMUNITIES (MT GILEAD) PTY LTD
PLAN OF PROPOSED SUBDIVISION OF LOT 1 IN DP 1240836 & LOT 61 IN DP 752042, APPIN ROAD.
43240 012 SUB-1
1:600 @A1 09-10-2017


STAGE 1A
M.G.A.
997
996
1161
PROPOSED ROAD
(16 WIDE)
THE BOULEVARDE
(25 WIDE)
APPIN ROAD
SHEET 2
CONTINUED
1097
1096
1095
1094
1093
1092
1091
1090
1089
1088
1087
1086
1085
1084
1099
1100
1101
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1155
1154
1153
1152
1151
1002
1001
1000
1011
1010
1009
LTS LOCKLEY
Client LENDLEASE COMMUNITIES (MT GILEAD) PTY LTD
PLAN OF PROPOSED SUBDIVISION OF LOT 1 IN DP 1240836 & LOT 61 IN DP 752042, APPIN ROAD.
43240 012 SUB-1
1:600 @A1
09-10-2017
NEW EASEMENTS
EXISTING EASEMENTS


STAGE 1B
STAGE 1A
BOULEVARDE
THE
ROAD
APPIN
PRECINCT 2
PRECINCT 3
PRECINCT 4
DP 1240836
DP 611552
DP 1218887
LOCATION PLAN
LENDLEASE COMMUNITIES (MT GILEAD) PTY LTD
PLAN OF PROPOSED SUBDIVISION OF LOT 1161 IN PPN DP 1242642 (STAGE 1A), APPIN ROAD.
1:2000 @A1
09-10-2017


STAGE 1B
1333
1334
1335
PROPOSED ROAD
(16 WIDE)
ROAD (VARIABLE WIDTH)
CONTINUED
SHEET 6
PRECINCT 8
LTS
Client LENDLEASE COMMUNITIES (MT GILEAD) PTY LTD
PLAN OF PROPOSED SUBDIVISION OF LOT 1161 IN DP 1242642 (STAGE 1A), APPIN ROAD.
43240 012 SUB-1B
1:600 @A1
09-10-2017


STAGE 1B
PROPOSED ROAD (16 WIDE)
APPIN ROAD
1333
1000 1001 1002 1003 1004 1005
1009 1010 1011 1012 1013 1014
1161 1162 1163 1164 1165 1166 1167
1173 1174 1175 1176 1177 1178
1191 1192 1193 1194 1195
1196 1197 1198 1199
1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230
SHEET 5
CONTINUED
Client LENDLEASE COMMUNITIES (MT GILEAD) PTY LTD
PLAN OF PROPOSED SUBDIVISION OF LOT 1161 IN PPN DP 1242642 (STAGE 1A), APPIN ROAD.
43240 012 SUB-1B
1:600 @A1
09-10-2017
LTS

Cardno
Shaping the Future

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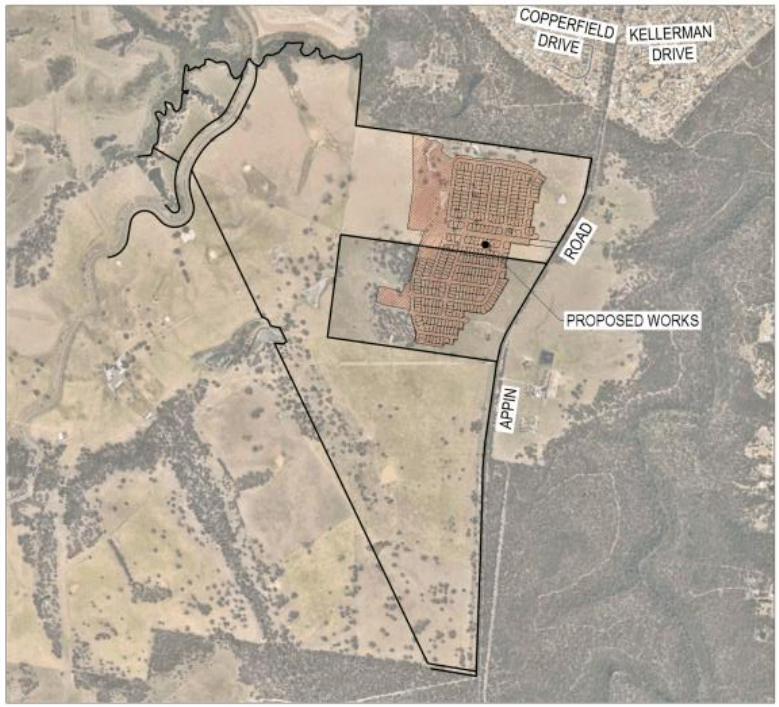
Web: www.cardno.com.au

LENDLEASE COMMUNITIES

GILEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION

lendlease

GILEAD



LOCALITY PLAN
N.T.S.

Rev	Date	Description	Des	Vert	Appd
6	04/12/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	BHH
5	06/09/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	BHH
4	02/03/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	BHH
3	30/11/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	BHH
2	01/11/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	BHH
1	10/10/2017	ISSUE FOR CLIENT REVIEW	DB	SDH	BDH

Drawn	Date 06/06/2017	Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
AR			
Checked	Date 06/10/2017		
DB			
Designed	Date 06/06/2017		
DB			
Verified	Date 06/10/2017	Datum	Scale
SDH		AHD	N.T.S.
Approved		Size	A1
SHH	06/10/2017	Drawing Number	Revision
		80216021-10-CI-1001	6

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
80216021-10-CI-1001	TITLE SHEET
80216021-10-CI-1002	DRAWING SCHEDULE
80216021-10-CI-1011	GENERAL NOTES AND LEGENDS
80216021-10-CI-1021	GENERAL ARRANGEMENT PLAN
80216021-10-CI-1031	ALIGNMENT CONTROL PLAN
80216021-10-CI-1251	ROAD TYPICAL SECTIONS
80216021-10-CI-1101	SEDIMENT AND EROSION CONTROL PLAN SHEET 1 OF 8
80216021-10-CI-1102	SEDIMENT AND EROSION CONTROL PLAN SHEET 2 OF 8
80216021-10-CI-1103	SEDIMENT AND EROSION CONTROL PLAN SHEET 3 OF 8
80216021-10-CI-1104	SEDIMENT AND EROSION CONTROL PLAN SHEET 4 OF 8
80216021-10-CI-1105	SEDIMENT AND EROSION CONTROL PLAN SHEET 5 OF 8
80216021-10-CI-1106	SEDIMENT AND EROSION CONTROL PLAN SHEET 6 OF 8
80216021-10-CI-1107	SEDIMENT AND EROSION CONTROL PLAN SHEET 7 OF 8
80216021-10-CI-1108	SEDIMENT AND EROSION CONTROL PLAN SHEET 8 OF 8
80216021-10-CI-1131	SEDIMENT AND EROSION CONTROL DETAILS
80216021-10-CI-1301	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 1 OF 21
80216021-10-CI-1302	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 2 OF 21
80216021-10-CI-1303	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 3 OF 21
80216021-10-CI-1304	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 4 OF 21
80216021-10-CI-1305	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 5 OF 21
80216021-10-CI-1306	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 6 OF 21
80216021-10-CI-1307	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 7 OF 21
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80216021-10-CI-1310	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 10 OF 21
80216021-10-CI-1311	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 11 OF 21
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80216021-10-CI-1351	ROAD LONGITUDINAL SECTIONS SHEET 1 OF 12
80216021-10-CI-1352	ROAD LONGITUDINAL SECTIONS SHEET 2 OF 12
80216021-10-CI-1353	ROAD LONGITUDINAL SECTIONS SHEET 3 OF 12
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80216021-10-CI-1361	ROAD LONGITUDINAL SECTIONS SHEET 11 OF 12
80216021-10-CI-1362	ROAD LONGITUDINAL SECTIONS SHEET 12 OF 12
80216021-10-CI-1400	DETENTION BASIN 3 OUTLET DETAILS

5

Rev.	Date	Description	Des.	Verif.	Appd.
5	04/12/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	SHH
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Web: www.cardno.com.au

Drawn AR	Date 06/06/2017	Client: LENDLEASE COMMUNITIES
Checked DB	Date 06/10/2017	Project: GILEAD MDP STAGE 1 CIVIL WORKS DEVELOPMENT APPLICATION
Designed DB	Date 06/06/2017	Title: DRAWING SCHEDULE
Verified SDH	Date 06/10/2017	Status: FOR APPROVAL — NOT TO BE USED FOR CONSTRUCTION PURPOSES
Approved SHH	06/10/2017	Datum: AHD; Scale: N.T.S.; Size: A1
		Drawing Number: 80216021-10-CI-1002; Revision: 5

DATE PLOTTED: 4 December 2018 4:07 PM BY : DAVID BALL

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO CARDNO.
3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
7. ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S. SPECIFICATION R116.
8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL BE IN ACCORDANCE WITH COUNCIL ENGINEERING SPECIFICATIONS.
9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, AND COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL BE IN ACCORDANCE WITH COUNCIL ENGINEERING SPECIFICATIONS.
10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S. FORM 3051 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF CARDNO.
11. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
12. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED OUT BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES
2. STRIP TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
3. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
4. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD MAXIMUM DRY DENSITY (AS 1289 E 5.1.1.)
UNDER BUILDING SLABS ON GROUND	98%
UNDER ROADS AND CARPARKS	100%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	95%

5. FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
6. BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
7. FREQUENCY OF COMPACTION TESTING SHALL BE IN ACCORDANCE WITH COUNCIL ENGINEERING SPECIFICATIONS.
8. FILLING TO BE PLACED IN MAXIMUM 250mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED.
9. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF THE SUPERINTENDENT AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.
10. BULK EARTHWORKS TO BE BE WITHIN (+0,-100mm) OF DESIGN LEVELS SHOWN ON THESE DRAWINGS.
11. WORKS UNDERTAKEN TO BE IN ACCORDANCE WITH THE PRELIMINARY GEOTECHNICAL INVESTIGATION FOR PROPOSED RESIDENTIAL SUBDIVISION MT GILEAD ESTATE (STAGES (1-5), GILEAD. REPORT (PROJECT 76649.04) PREPARED BY DOUGLAS PARTNERS DATED OCTOBER 2016.
12. TOPSOIL TO BE STRIPPED, STOCKPILED AND STABILISED PRIOR TO BULK EARTHWORKS.
    - TOPSOIL DEPTH FOR FUTURE RESIDENTIAL LOTS 150mm
    - TOPSOIL DEPTH FOR FUTURE VERGES 200mm
    - TOPSOIL DEPTH FOR FUTURE PARKS AND OPEN SPACE 300mm
13. CONTOUR LEVELS SHOWN ARE RELEVANT TO THE FINAL DESIGN SURFACE, NOT BULK EARTHWORKS. REFER TYPICAL SECTIONS FOR DETAILS.
14. THE LOT AND ROAD GRID SHOWN FOR 'FUTURE DEVELOPMENT' AREAS IS INDICATIVE ONLY AND IS SUBJECT TO FUTURE DEVELOPMENT APPLICATION APPROVALS.

SEDIMENT AND EROSION CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER, OFFICE OF ENVIRONMENT AND HERITAGE. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THESE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
   ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. THE CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
   a. INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   b. CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   c. INSTALL SEDIMENT BASINS AS SHOWN AND INSTALL SEDIMENT TRAPS AS SHOWN.
   d. UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED.
13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   a. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
   b. ENSURING THAT NOTHING IS NAILED TO THEM
   c. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
   (i) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER.
   (ii) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
   (iii) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   (A) AVERAGE RECURRENCE INTERVAL:
   - 1:100 YEARS MAJOR STORM CRITERIA
   - 1:20 YEARS ROOFED AREAS AND INTERALLOTMENT
   - 1:5 YEARS MINOR ROAD SYSTEM

   (B) DRAINAGE NETWORK DESIGNED IN DRAINS (VERSION 2017.11)
2. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES UP TO 375 DIA. SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH FRC PIPES MAY BE USED. CONTRACTOR TO MAINTAIN MINIMUM INTERNAL PIPE DIMENSIONS AS SHOWN ON PLANS.
5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
6. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.1.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY CARDNO.
9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
13. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
14. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.
15. ALL OUTLETS TO HAVE RIPRAP SCOUR PROTECTION.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CARDNO, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. CARDNO DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT CARDNO. THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.
ORIGIN OF LEVELS: PM 14760 (RL160.181 AHD)

NOTE:

FUTURE LOT AND ROAD LAYOUT SHOWN IN THIS PLAN SET IS INDICATIVE ONLY AND SUBJECT TO CHANGE AND DOES NOT FORM PART OF THIS APPROVAL

TELSTRA - DUTY OF CARE NOTE

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT.
BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLING TO IDENTIFY IT'S LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

EXISTING DAM & BASINS NOTES

- REMOVE VEGETATION AND TOPSOIL FROM AROUND THE BASIN AS PART OF THE STRIPPING OPERATION.
- FLOCCULATE WATER AS REQUIRED TO ENSURE WATER QUALITY MEETS COUNCIL REQUIREMENTS.
- DEWATER THE BASIN.
- REMOVE EXISTING BASIN WALL AND STOCKPILE THE WALL MATERIAL FOR REUSE.
- STRIP SILT, ORGANIC CLAY AND ANY OTHER UNSUITABLE MATERIAL AND PLACE ON STOCKPILE FOR REUSE ON SITE.
- STRIP WATER AFFECTED RESIDUAL SOIL TO A STABLE, VERY STIFF BASE TO ALLOW PROOF ROLLING AND COMMENCEMENT OF FILLING OPERATION.
- CARRY OUT FILLING OPERATION AS PER SPECIFICATION.
- THE BASIN SIDES SHALL BE BENCHED TO MAINTAIN A HEIGHT OF 600mm TO ALLOW THE FILL TO BECOME 'KEYED' INTO THE EXISTING BATTERS.
- THE SLOPE OF ANY BURIED BATTER SHOULD NOT BE LESS THAN 1m VERTICAL TO 2m HORIZONTAL.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM THE SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. CARDNO CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

PROPOSED WORKS LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR BASED ON PROPOSED LEVEL FROM DA3868/2017/DA-CW
- BATTER (1V:4H UNLESS OTHERWISE SHOWN)
- KG — KERB AND GUTTER
- RK — ROLL KERB AND GUTTER
- MK — MOUNTABLE KERB
- GARAGE/DRIVEWAY LOCATION INDICATIVE ONLY.
- LIMIT OF WORKS
- TREES TO BE RETAINED
- TREES TO BE REMOVED
- PROPOSED ROCK STACKED RETAINING WALL
- PROPOSED BLOCKWORK RETAINING WALL
- PROPOSED STORMWATER PIPE
- TEMPORARY STORMWATER PIPE
- DRAINAGE EASEMENT
- PROPOSED STORMWATER PIT
- PROPOSED HEADWALL
- PROPOSED GPT

SEDIMENT AND EROSION CONTROL LEGEND

- TEMPORARY STABILISED SITE ACCESS
- STRAW BALE SEDIMENT FILTER
- SEDIMENT FENCE
- DIVERSION BANK AND CHANNEL
- GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP
- SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
- MESH AND GRAVEL INLET FILTER

Rev.	Date	Description	Des.	Verif.	Appd.
5	04/12/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	SHH
4	02/03/2018	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	SHH
3	30/11/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	SHH
2	01/11/2017	ISSUE FOR DEVELOPMENT APPLICATION	DB	SDH	SHH
1	10/10/2017	ISSUE FOR CLIENT REVIEW	DB	SDH	SDH

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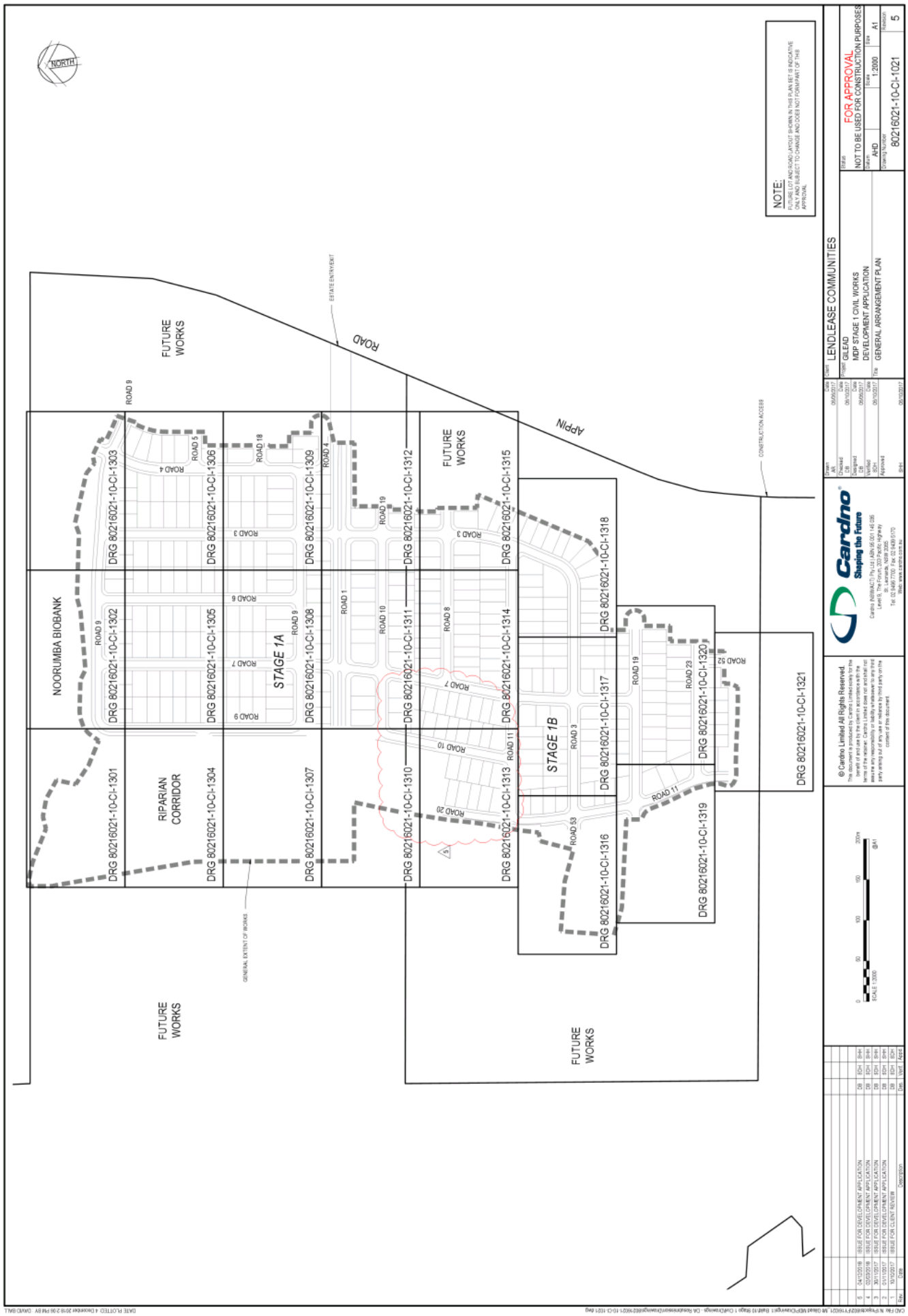
Drawn: AR	Date: 06/06/2017	Client	LENDLEASE COMMUNITIES
Checked: DB	Date: 06/10/2017	Project	GILEAD MDP STAGE 1 CIVIL WORKS DEVELOPMENT APPLICATION
Designed: DB	Date: 06/06/2017	Title	GENERAL NOTES AND LEGENDS
Verified: SDH	Date: 06/10/2017	Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
Approved: SHH	Date: 06/10/2017	Datum: AHD	Scale: N.T.S. Size: A1
		Drawing Number: 80216021-10-CI-1011	Revision: 5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MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
GENERAL ARRANGEMENT PLAN
FOR APPROVAL
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FUTURE WORKS
NOORUMBA BIOBANK
RIPARIAN CORRIDOR
STAGE 1A
STAGE 1B
ROAD
APPIN
ESTATE ENTRY/EXIT
CONSTRUCTION ACCESS
GENERAL EXTENT OF WORKS
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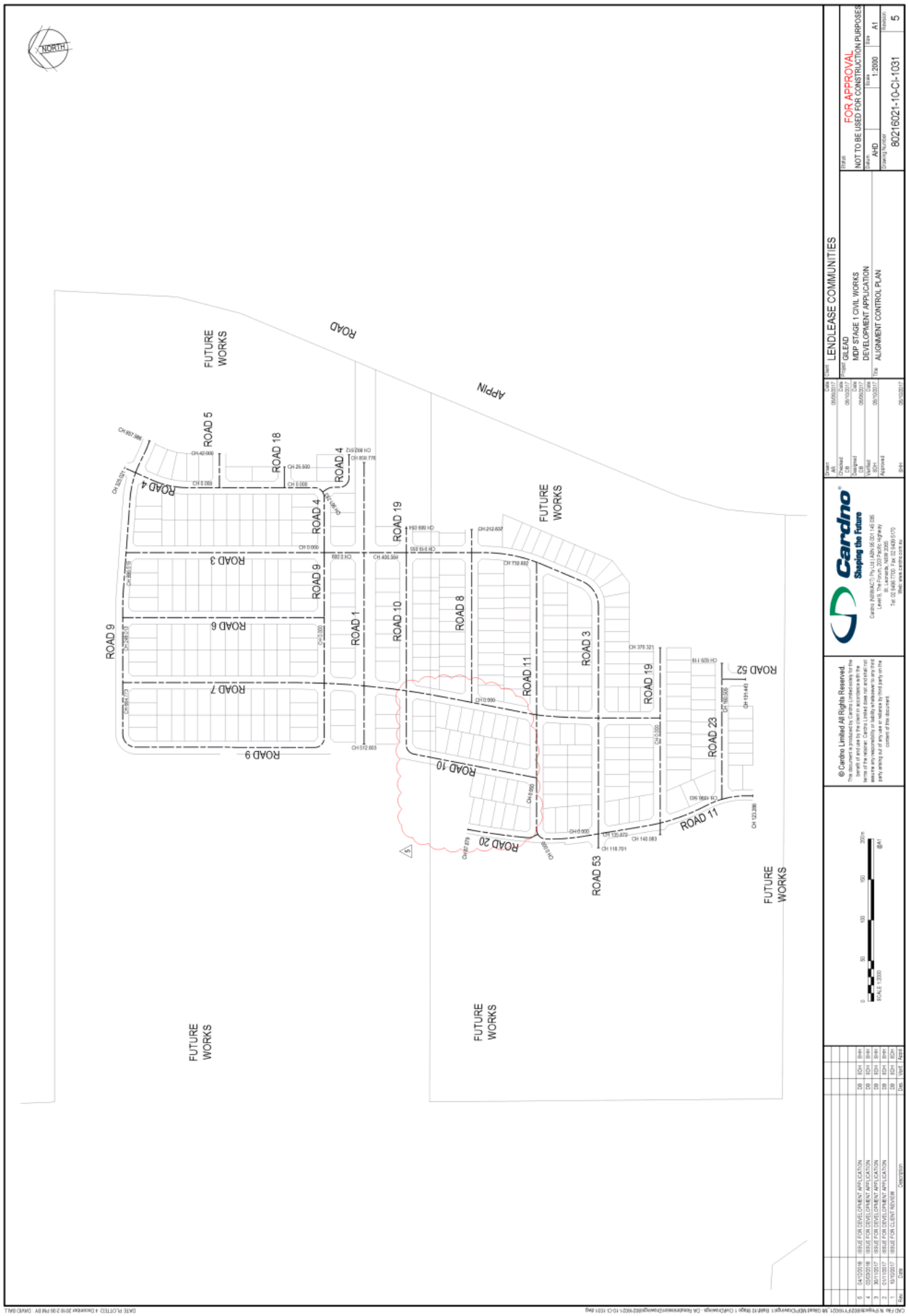
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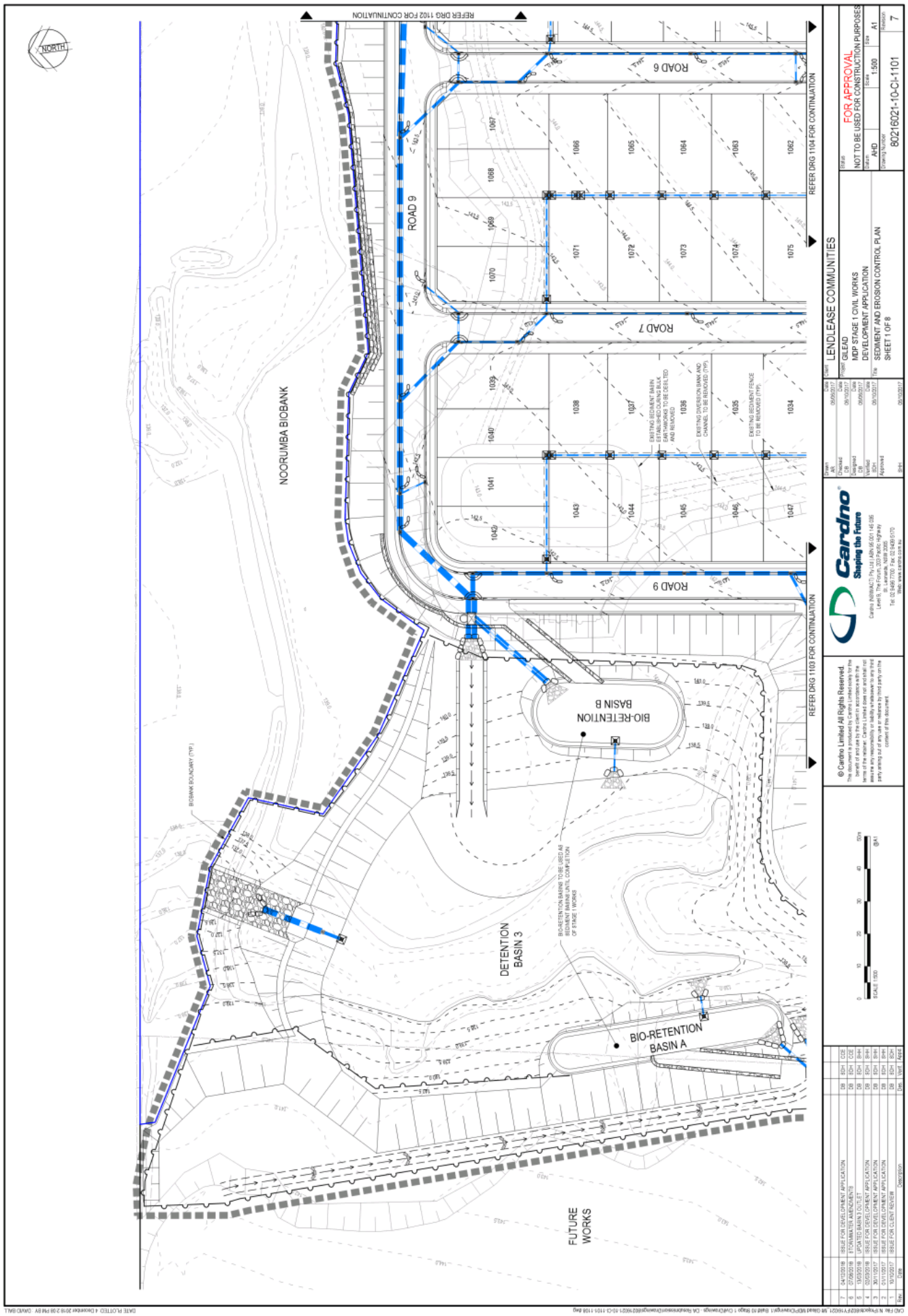
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BIO-RETENTION BASIN B
DETENTION BASIN 3
BIO-RETENTION BASIN A
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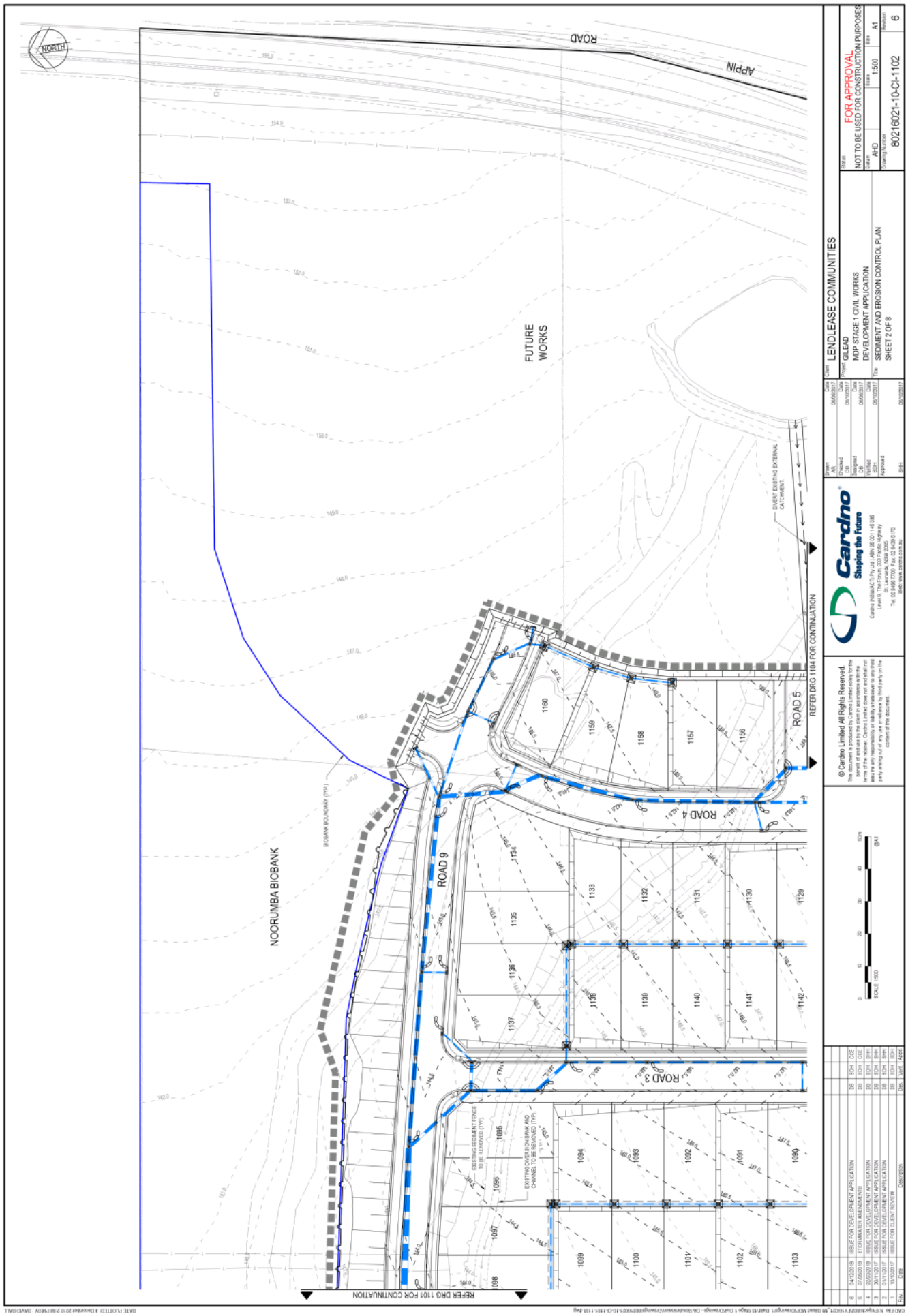
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EXISTING SEDIMENT FENCE TO BE REMOVED (TYP)
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SEDIMENT AND EROSION CONTROL PLAN
SHEET 2 OF 8
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
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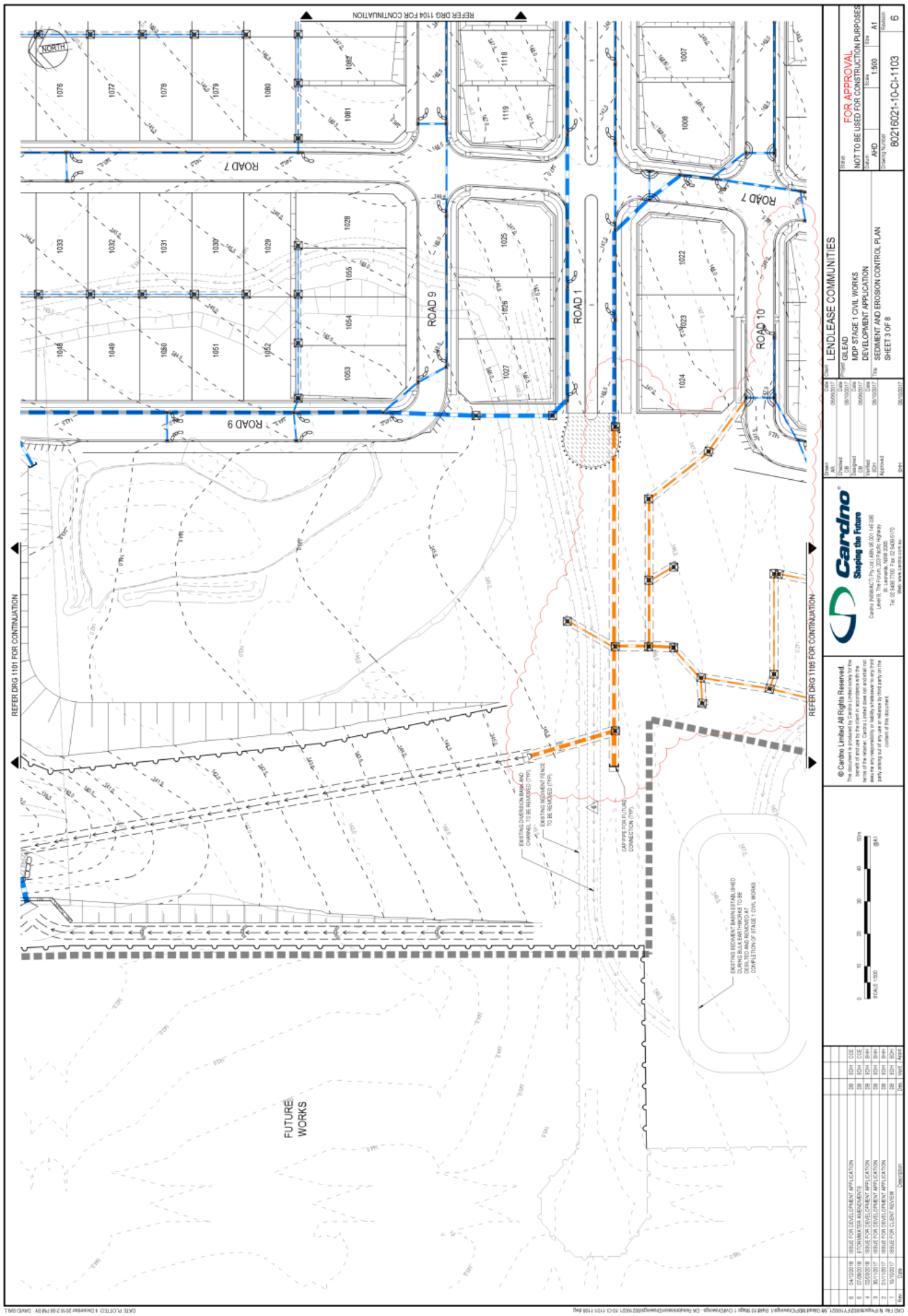
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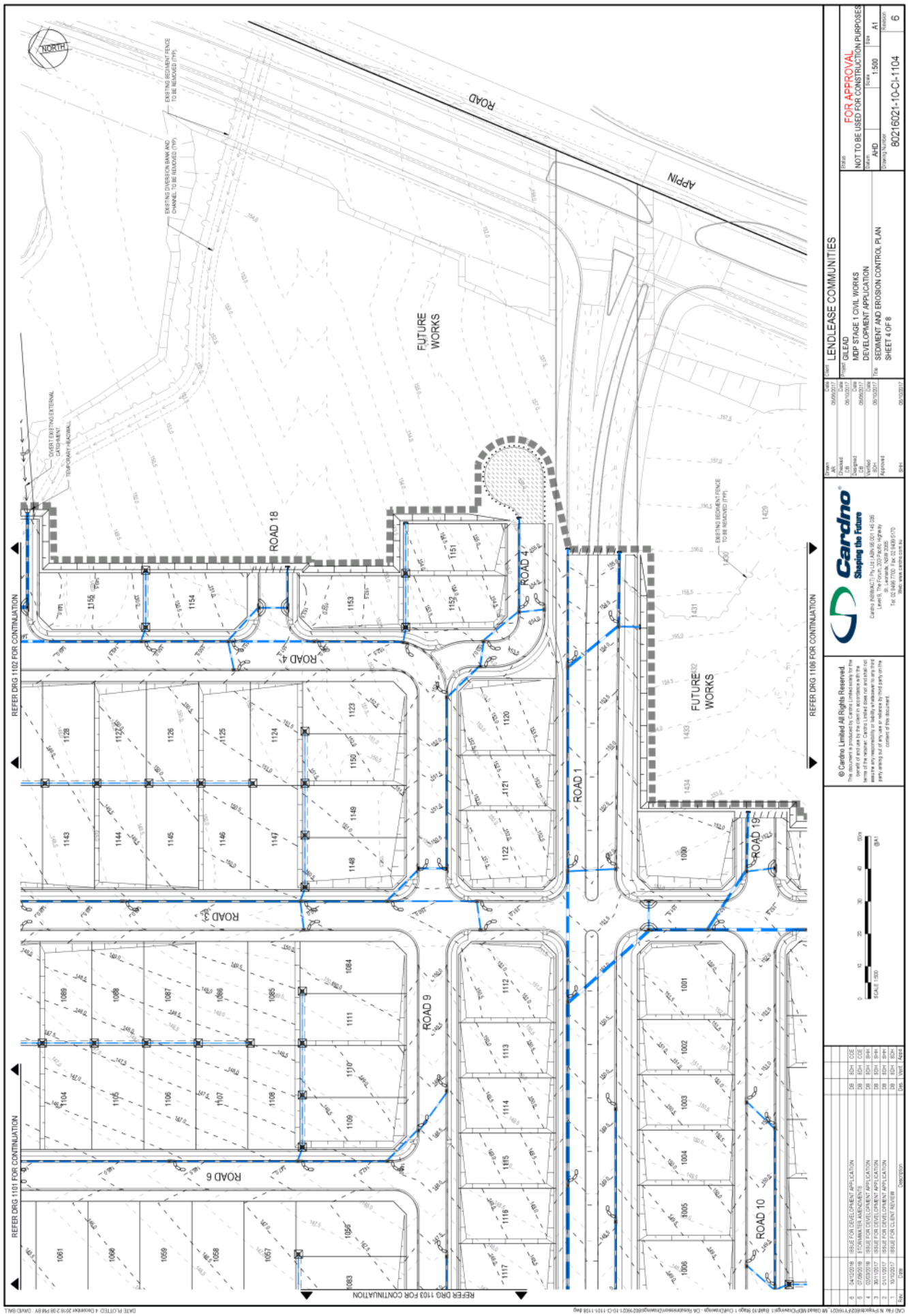
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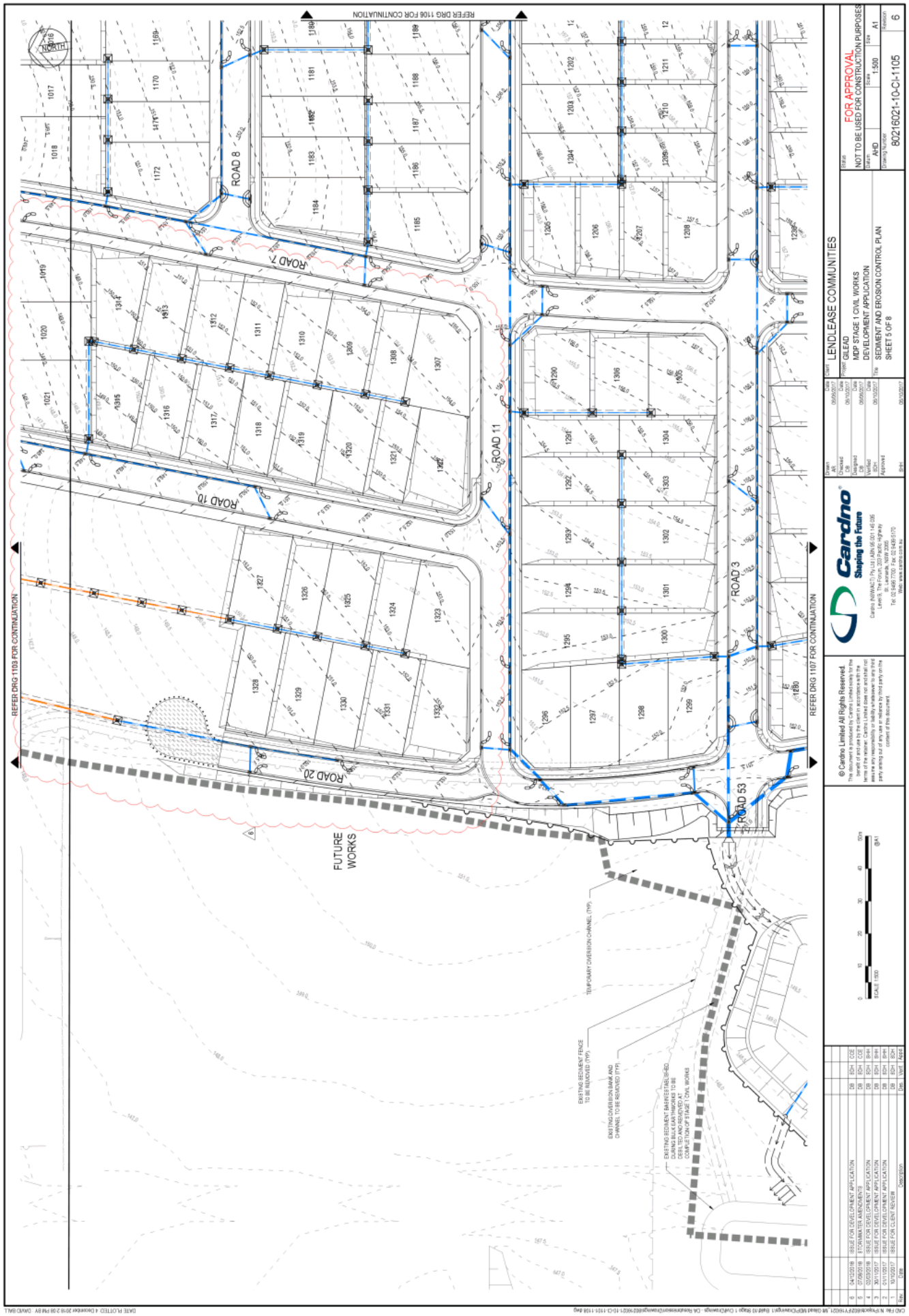
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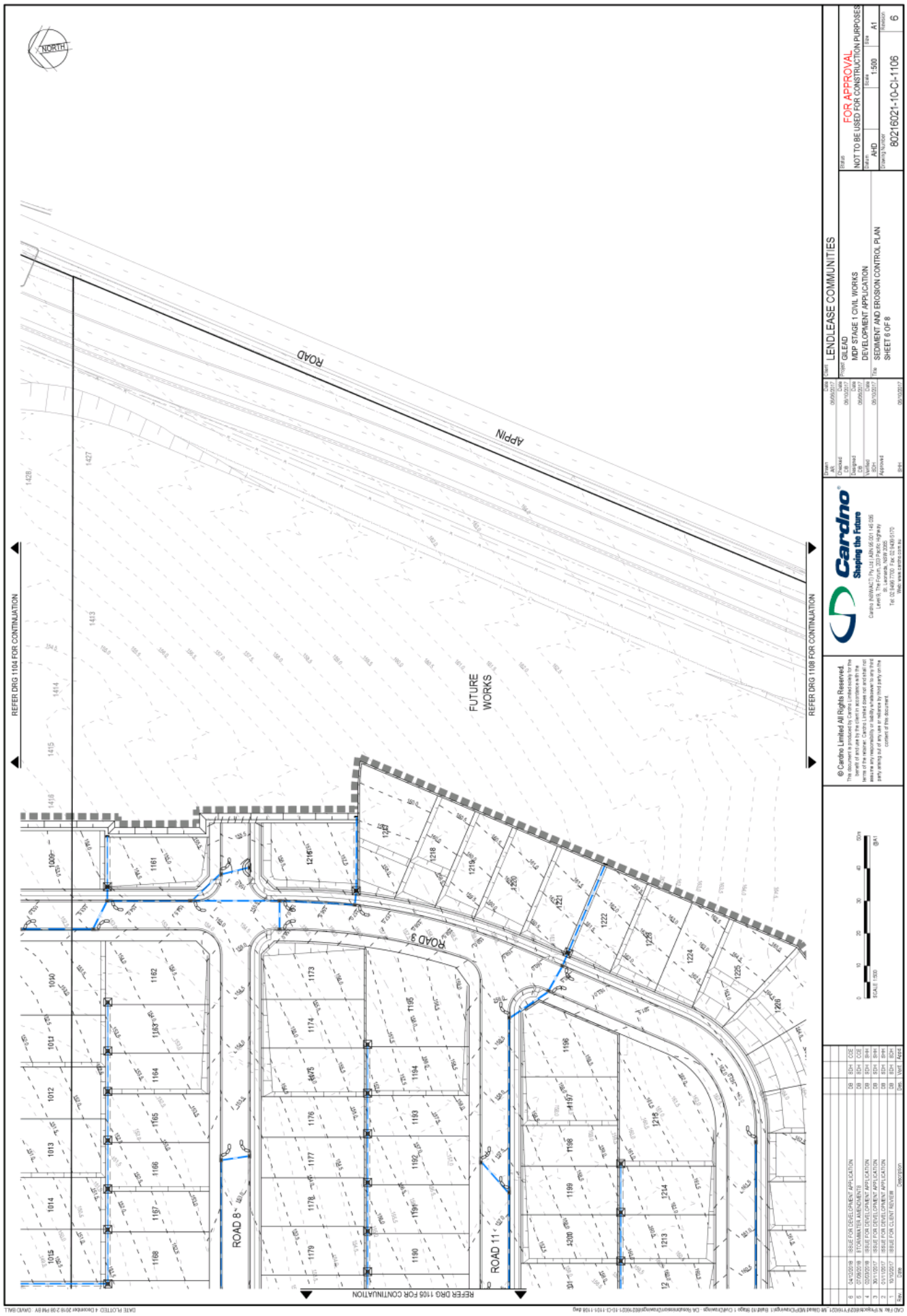
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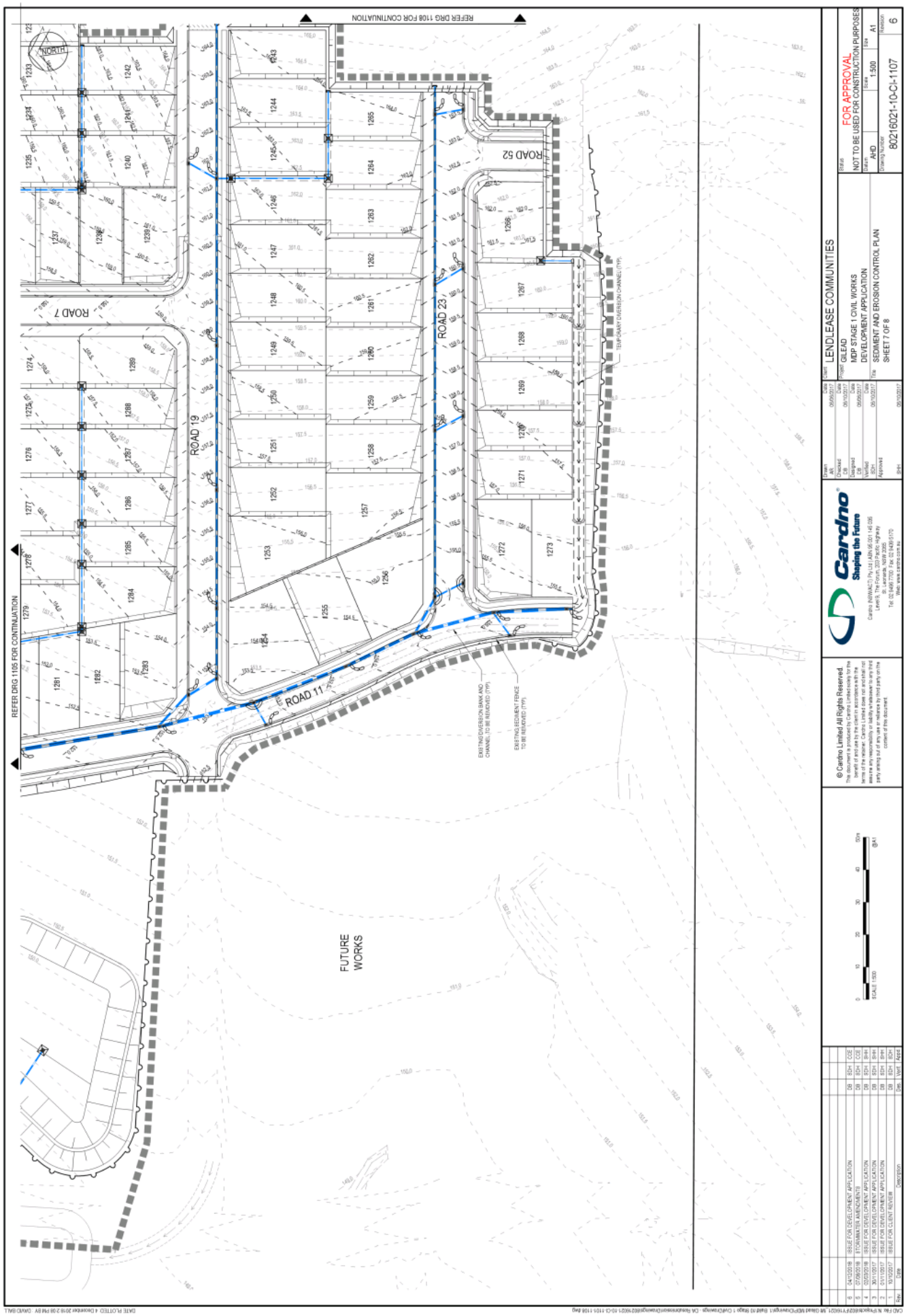
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NORTH
ROAD 52
ROAD 23
ROAD 19
ROAD 7
ROAD 11
REFER DRG 1105 FOR CONTINUATION
TEMPORARY DIVERSION CHANNEL (TYP)
EXISTING DIVERSION BANK AND CHANNEL, TO BE REMOVED (TYP)
EXISTING SEDIMENT FENCE TO BE REMOVED (TYP)
FUTURE WORKS
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
SEDIMENT AND EROSION CONTROL PLAN
SHEET 7 OF 8
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
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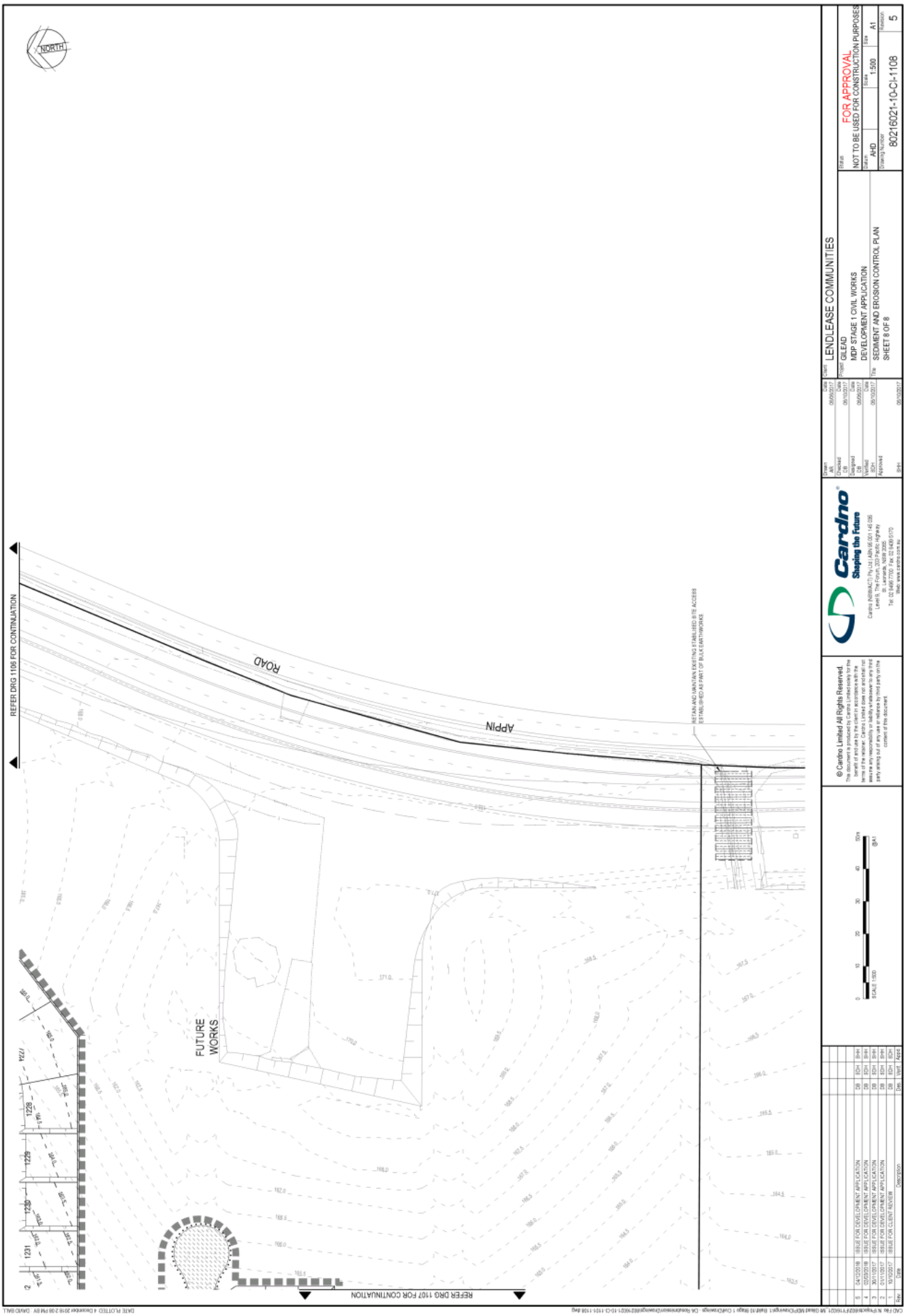
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APPIN ROAD
FUTURE WORKS
REFER DRG 1107 FOR CONTINUATION
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
SEDIMENT AND EROSION CONTROL PLAN
SHEET 8 OF 8
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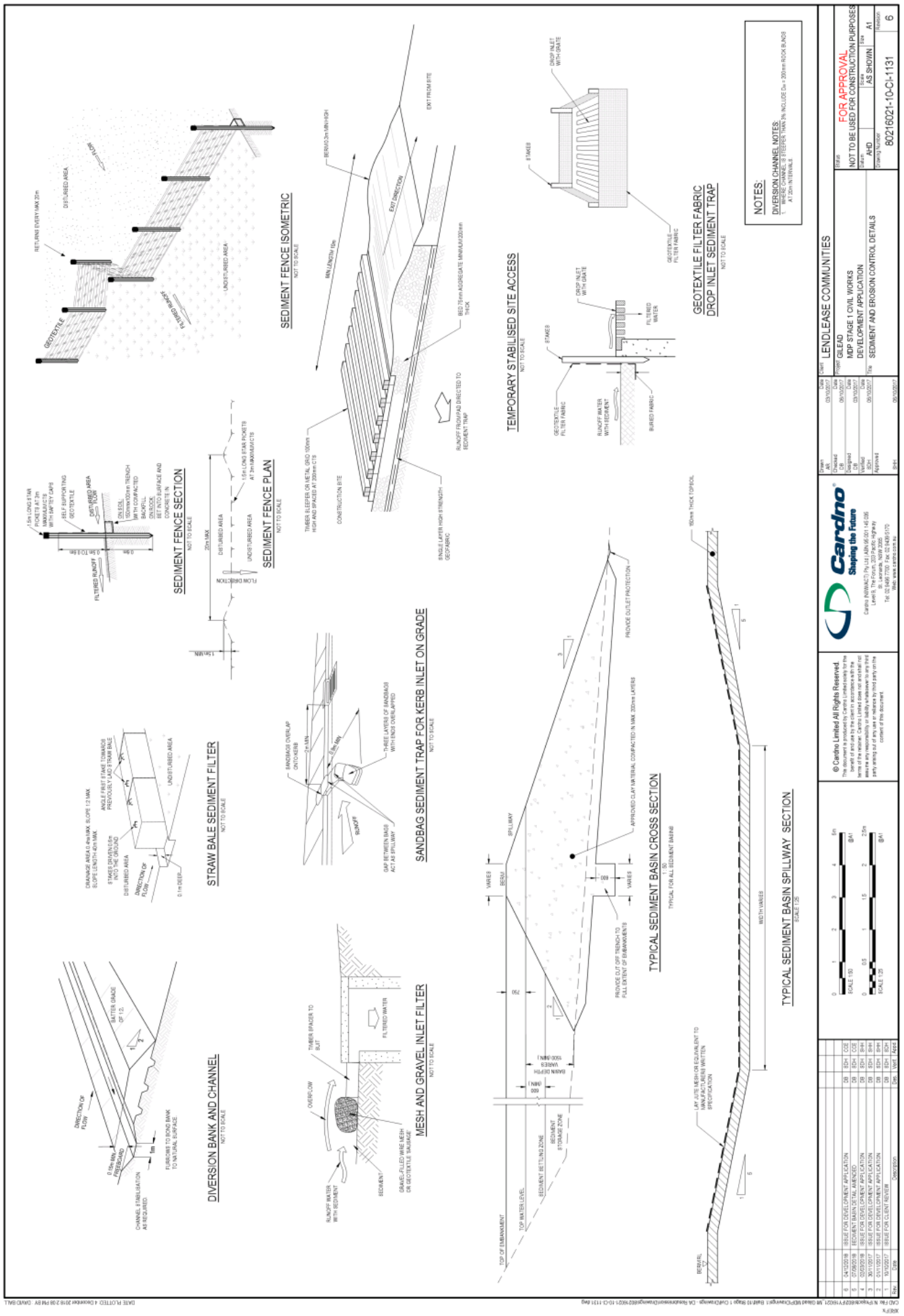
SEDIMENT FENCE ISOMETRIC
NOT TO SCALE
SEDIMENT FENCE SECTION
NOT TO SCALE
SEDIMENT FENCE PLAN
NOT TO SCALE
TEMPORARY STABILISED SITE ACCESS
NOT TO SCALE
GEOTEXTILE FILTER FABRIC
DROP INLET SEDIMENT TRAP
NOT TO SCALE
STRAW BALE SEDIMENT FILTER
NOT TO SCALE
SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
NOT TO SCALE
MESH AND GRAVEL INLET FILTER
NOT TO SCALE
DIVERSION BANK AND CHANNEL
NOT TO SCALE
TYPICAL SEDIMENT BASIN CROSS SECTION
1:50
TYPICAL FOR ALL SEDIMENT BASINS
TYPICAL SEDIMENT BASIN SPILLWAY SECTION
SCALE 1:25
NOTES:
DIVERSION CHANNEL NOTES:
1. WHERE CHANNEL IS STEEPER THAN 3% INCLUDE D= 200mm ROCK BLINDS AT 20m INTERVALS
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LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
SEDIMENT AND EROSION CONTROL DETAILS
FOR APPROVAL
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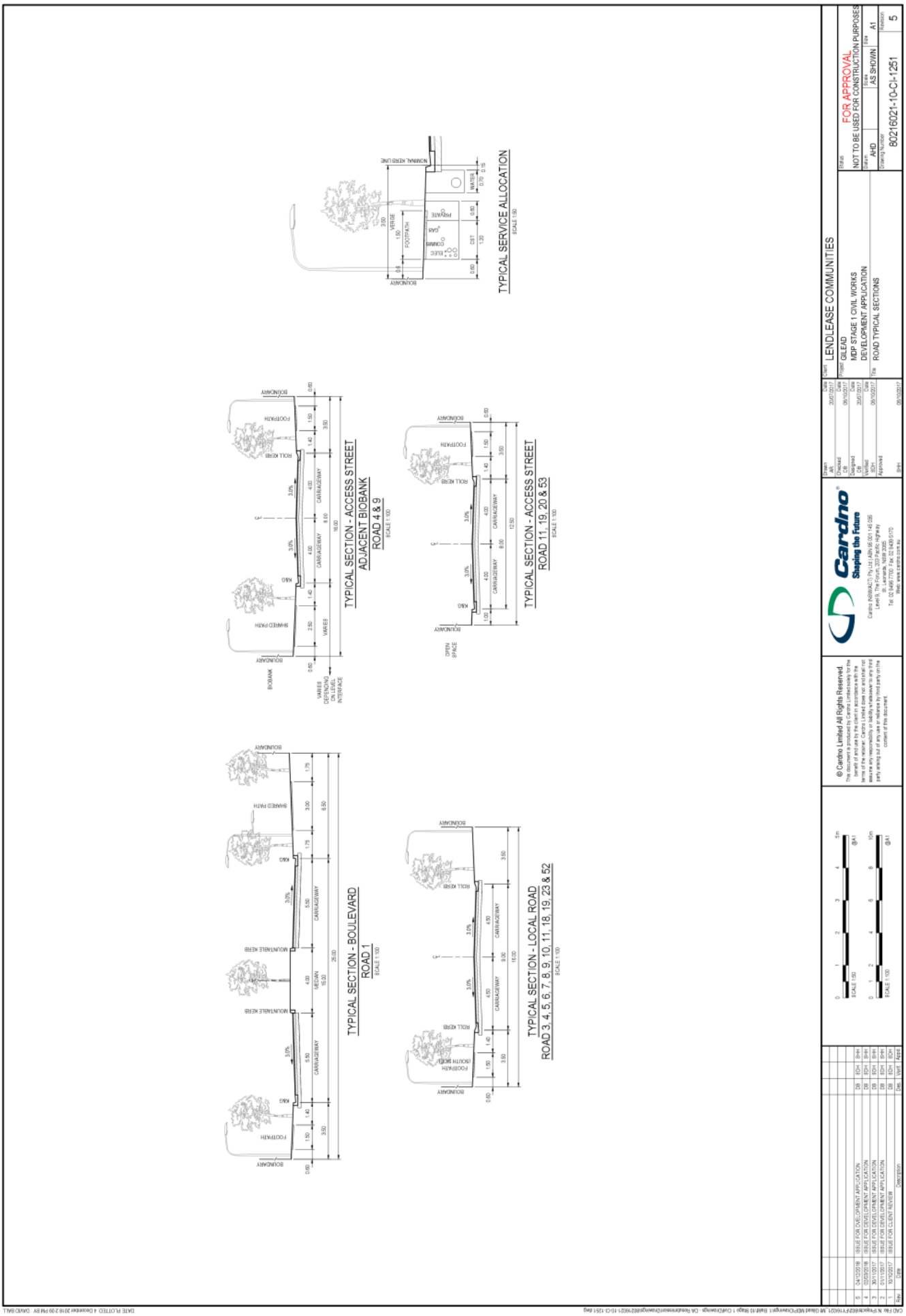
TYPICAL SERVICE ALLOCATION
SCALE 1:50
TYPICAL SECTION - ACCESS STREET
ADJACENT BIOBANK
ROAD 4 & 9
SCALE 1:100
TYPICAL SECTION - ACCESS STREET
ROAD 11, 19, 20 & 53
SCALE 1:100
TYPICAL SECTION - BOULEVARD
ROAD 1
SCALE 1:100
TYPICAL SECTION - LOCAL ROAD
ROAD 3, 4, 5, 6, 7, 8, 9, 10, 11, 18, 19, 23 & 52
SCALE 1:100
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROAD TYPICAL SECTIONS
FOR APPROVAL
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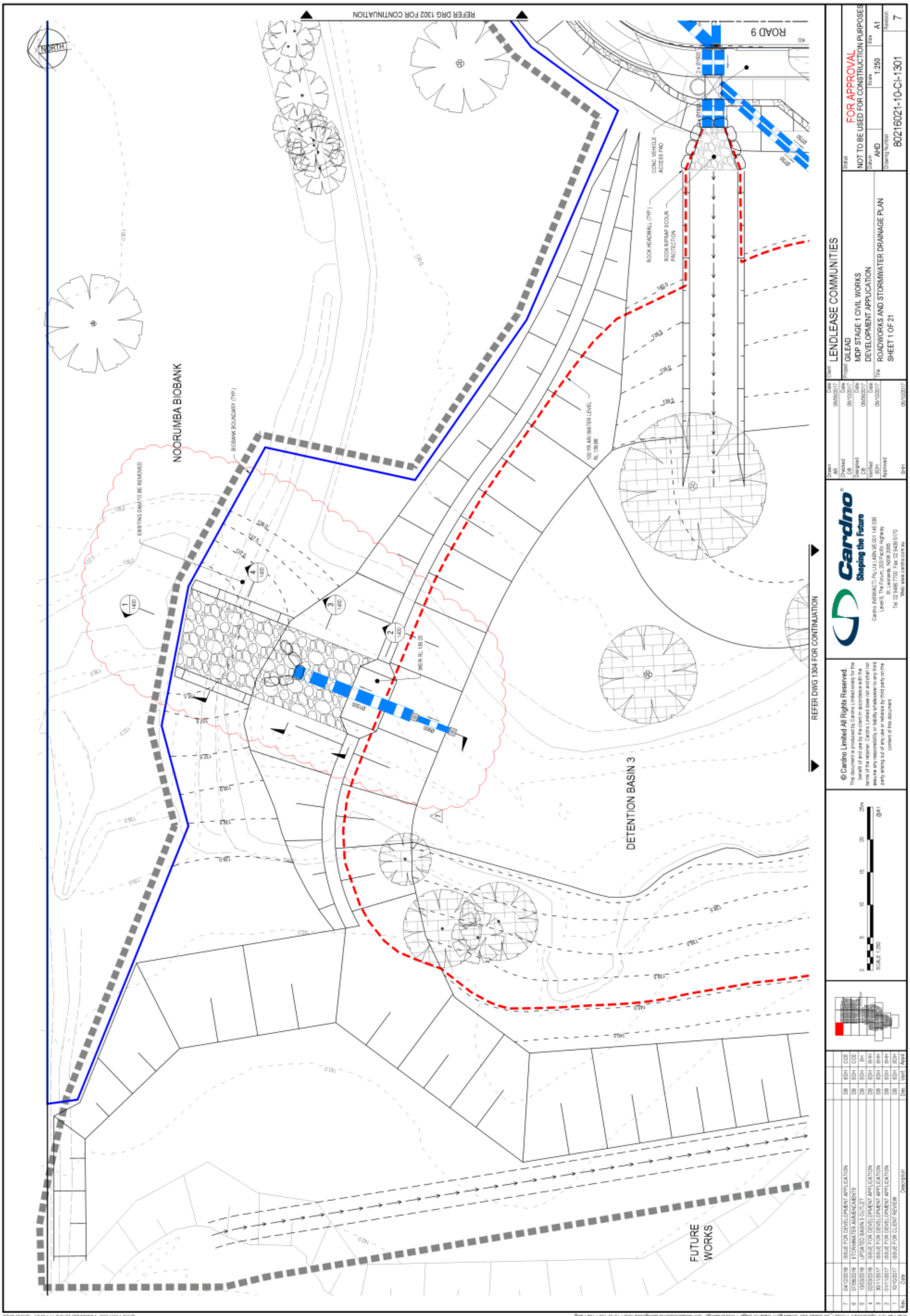
NORTH
REFER DRG 1302 FOR CONTINUATION
ROAD 9
NOORUMBA BIOBANK
DETENTION BASIN 3
FUTURE WORKS
REFER DWG 1304 FOR CONTINUATION
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LENDLEASE COMMUNITIES
GILEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 1 OF 21
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
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80216021-10-CI-1301
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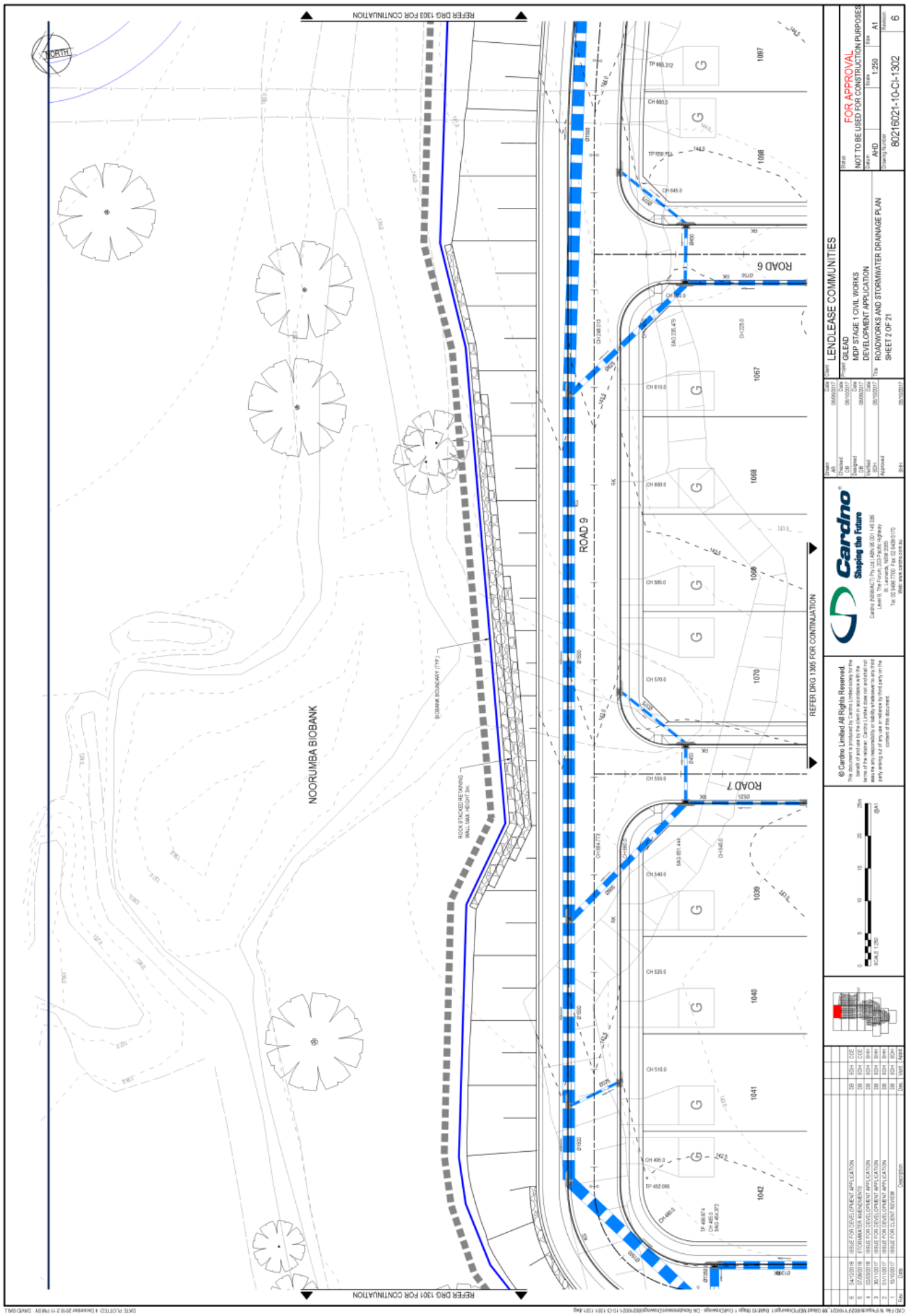
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REFER DRG 1301 FOR CONTINUATION
REFER DRG 1305 FOR CONTINUATION
ROAD 9
ROAD 6
ROAD 7
NOORUMBA BIOBANK
BIOBANK BOUNDARY (TYP.)
ROCK STACKED RETAINING WALL MAX. HEIGHT 3m
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 2 OF 21
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
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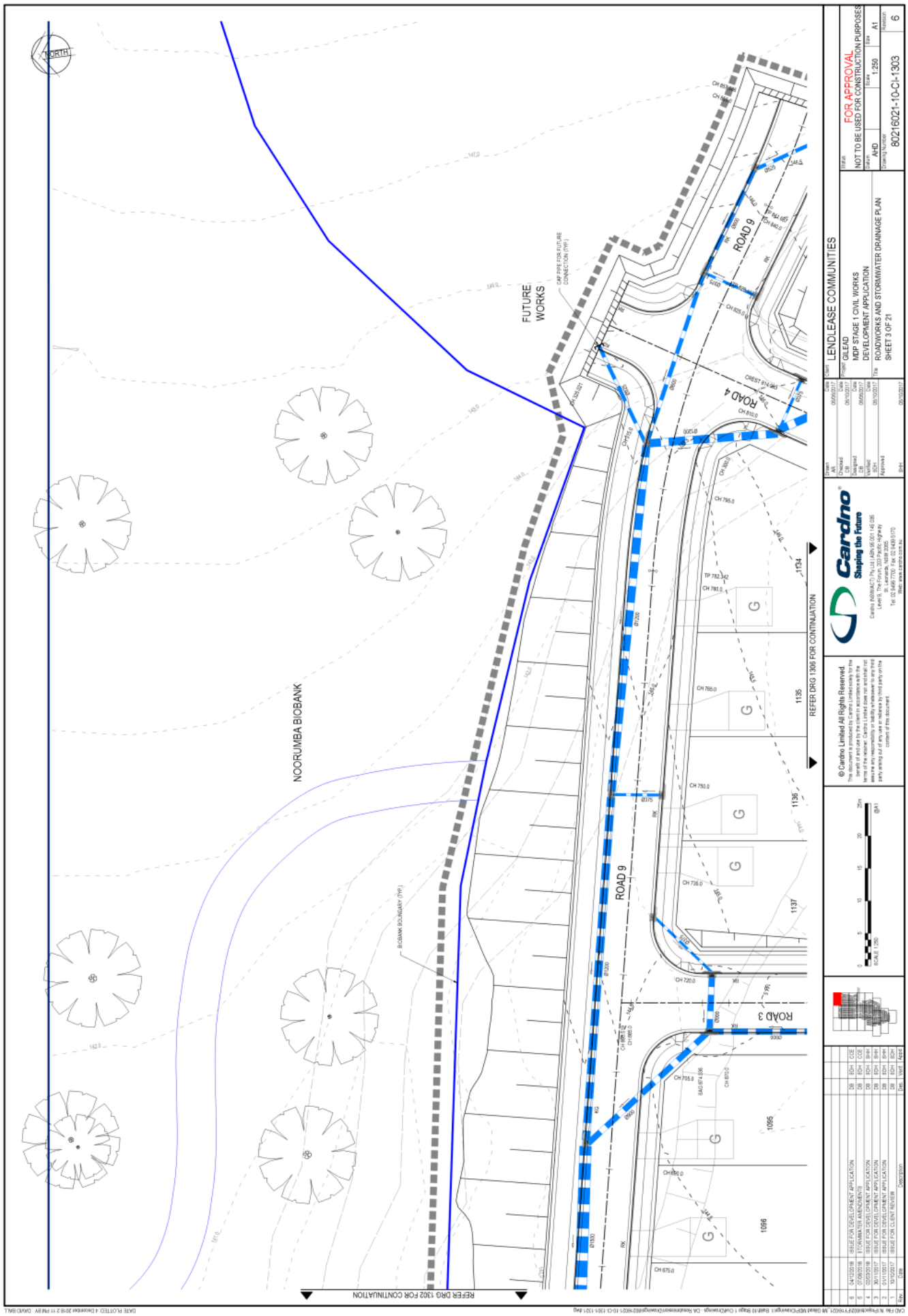
NORTH
FUTURE WORKS
ROAD 9
ROAD 4
ROAD 3
NOORUMBA BIOBANK
REFER DRG 1302 FOR CONTINUATION
REFER DRG 1306 FOR CONTINUATION
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 3 OF 21
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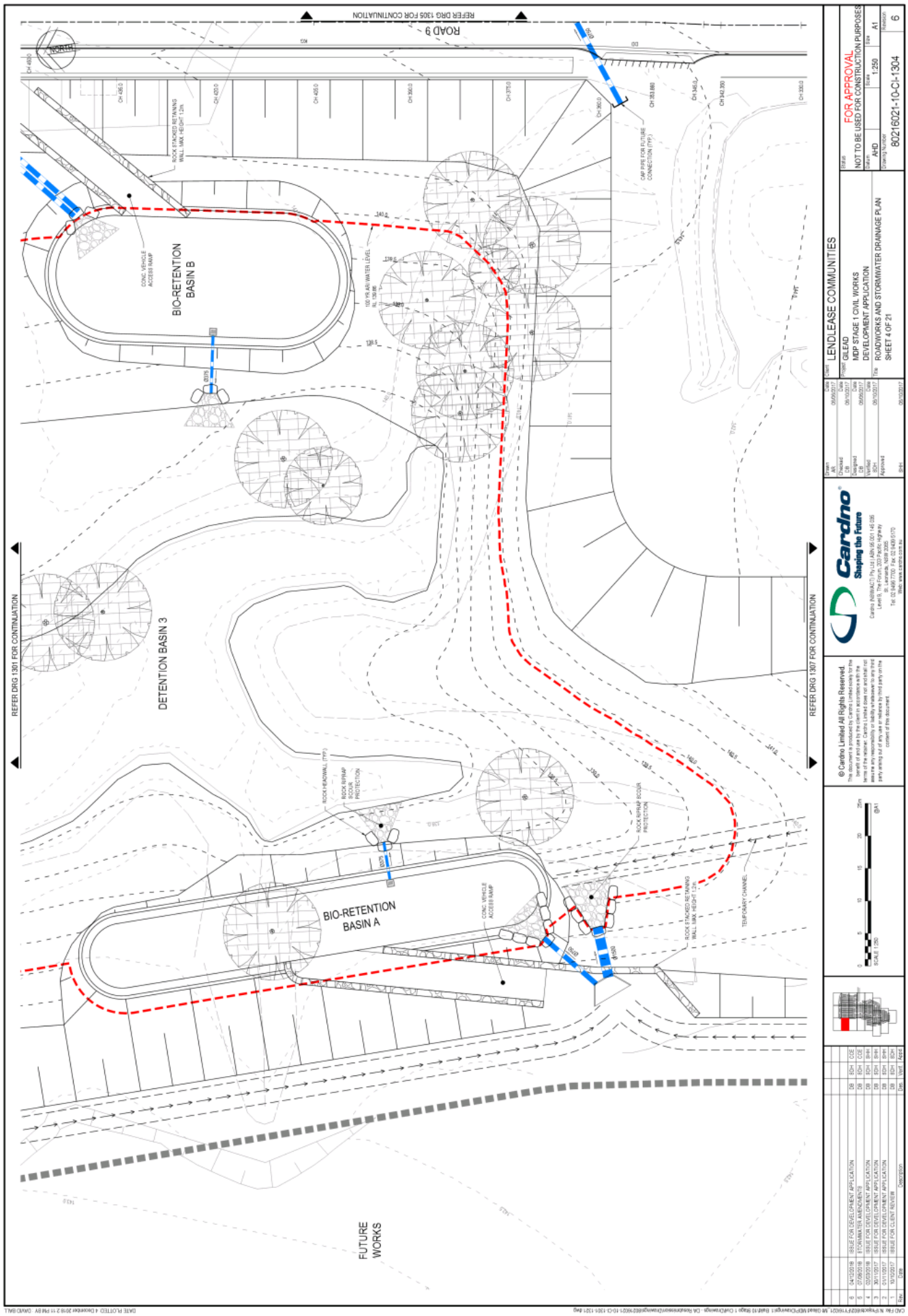
ROAD 9
REFER DRG 1305 FOR CONTINUATION
BIO-RETENTION BASIN B
DETENTION BASIN 3
BIO-RETENTION BASIN A
FUTURE WORKS
REFER DRG 1301 FOR CONTINUATION
REFER DRG 1307 FOR CONTINUATION
ROCK STACKED RETAINING WALL MAX HEIGHT 1.2m
CONC VEHICLE ACCESS RAMP
ROCK RIPRAP SCOUR PROTECTION
TEMPORARY CHANNEL
CAP PIPE FOR FUTURE CONNECTION (TYP.)
100 YR ARI WATER LEVEL
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 4 OF 21
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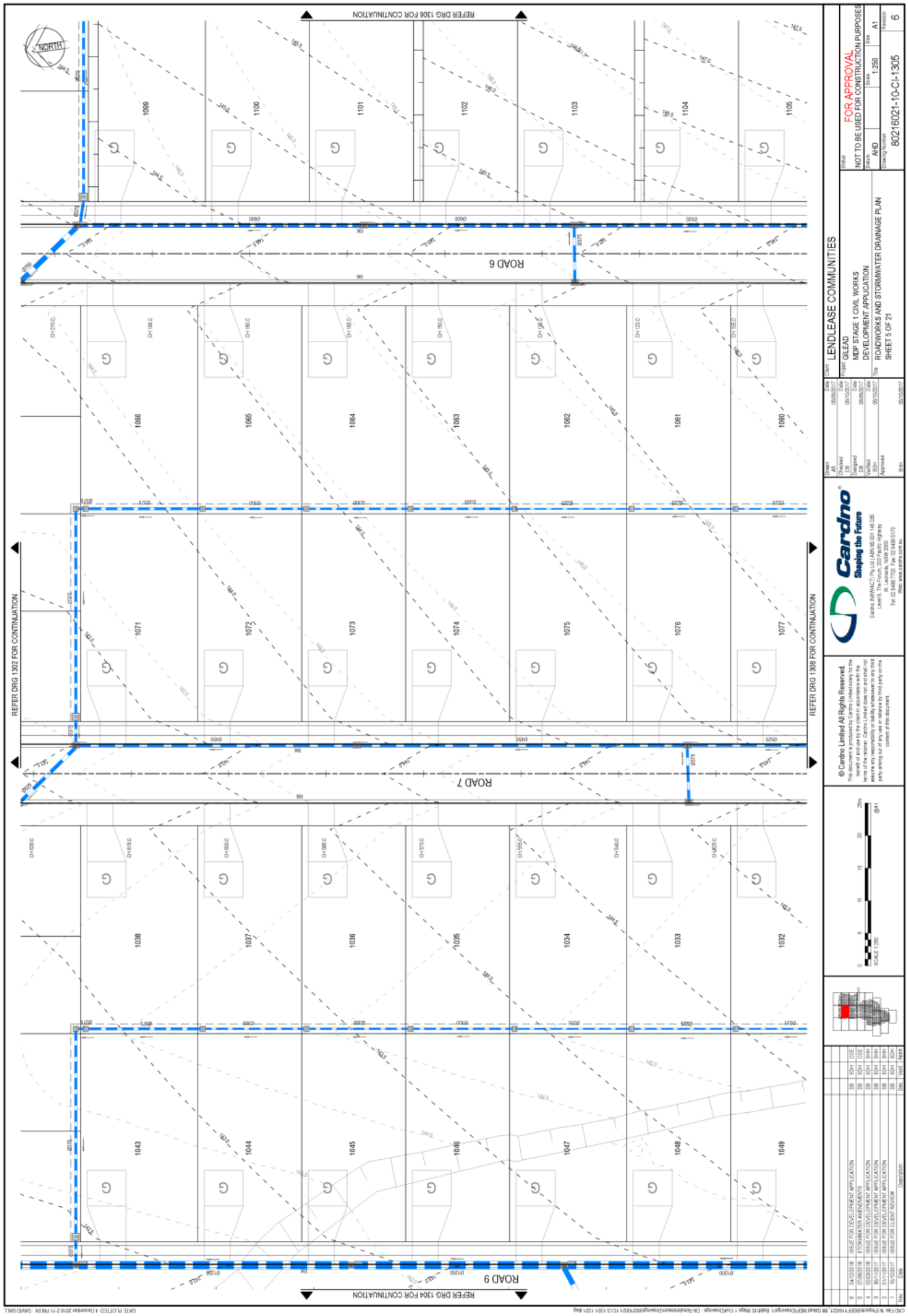
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REFER DRG 1304 FOR CONTINUATION
REFER DRG 1302 FOR CONTINUATION
REFER DRG 1308 FOR CONTINUATION
ROAD 6
ROAD 7
ROAD 9
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 5 OF 21
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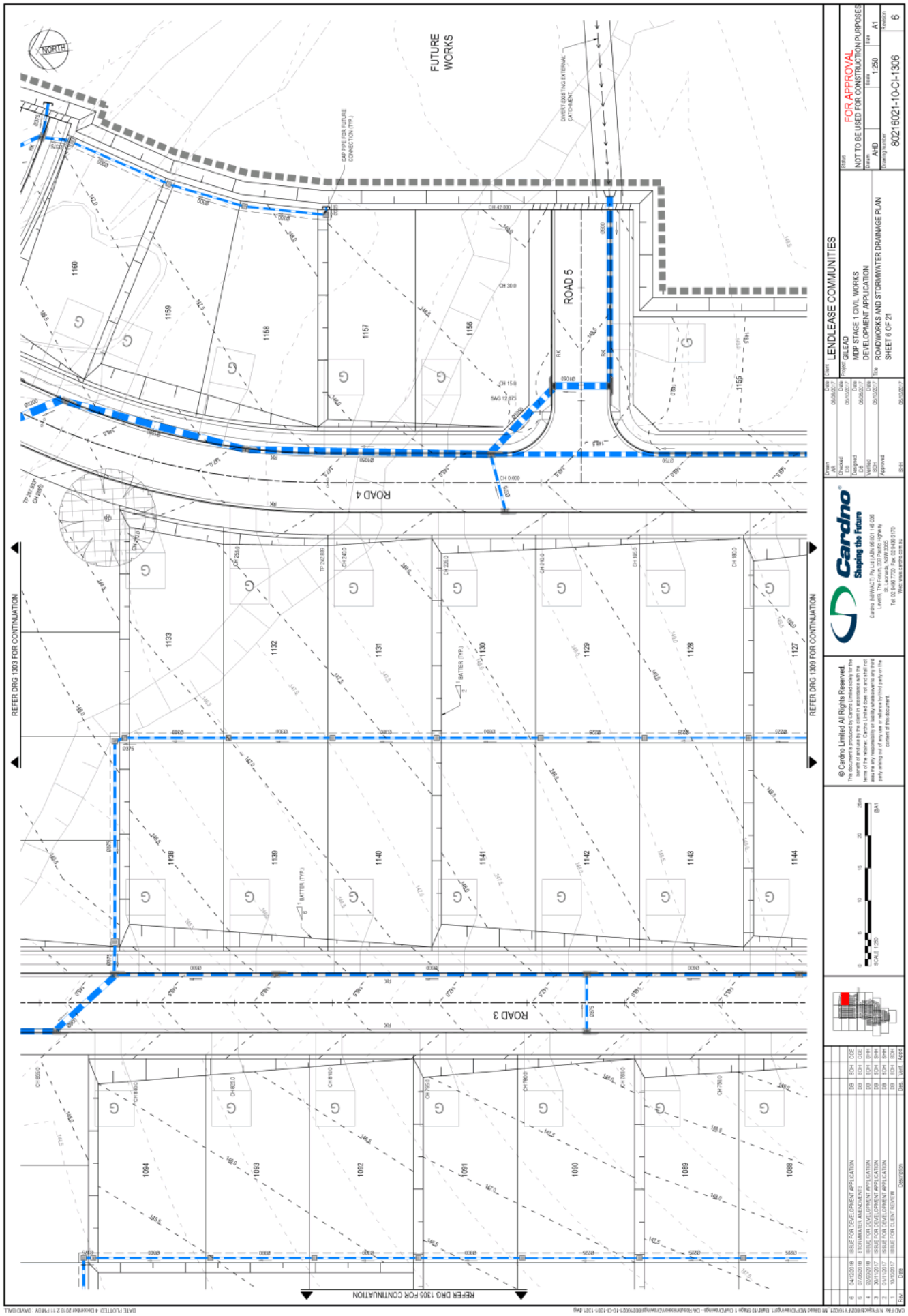
NORTH
FUTURE WORKS
ROAD 5
ROAD 4
ROAD 3
REFER DRG 1303 FOR CONTINUATION
REFER DRG 1309 FOR CONTINUATION
REFER DRG 1305 FOR CONTINUATION
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
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FOR APPROVAL
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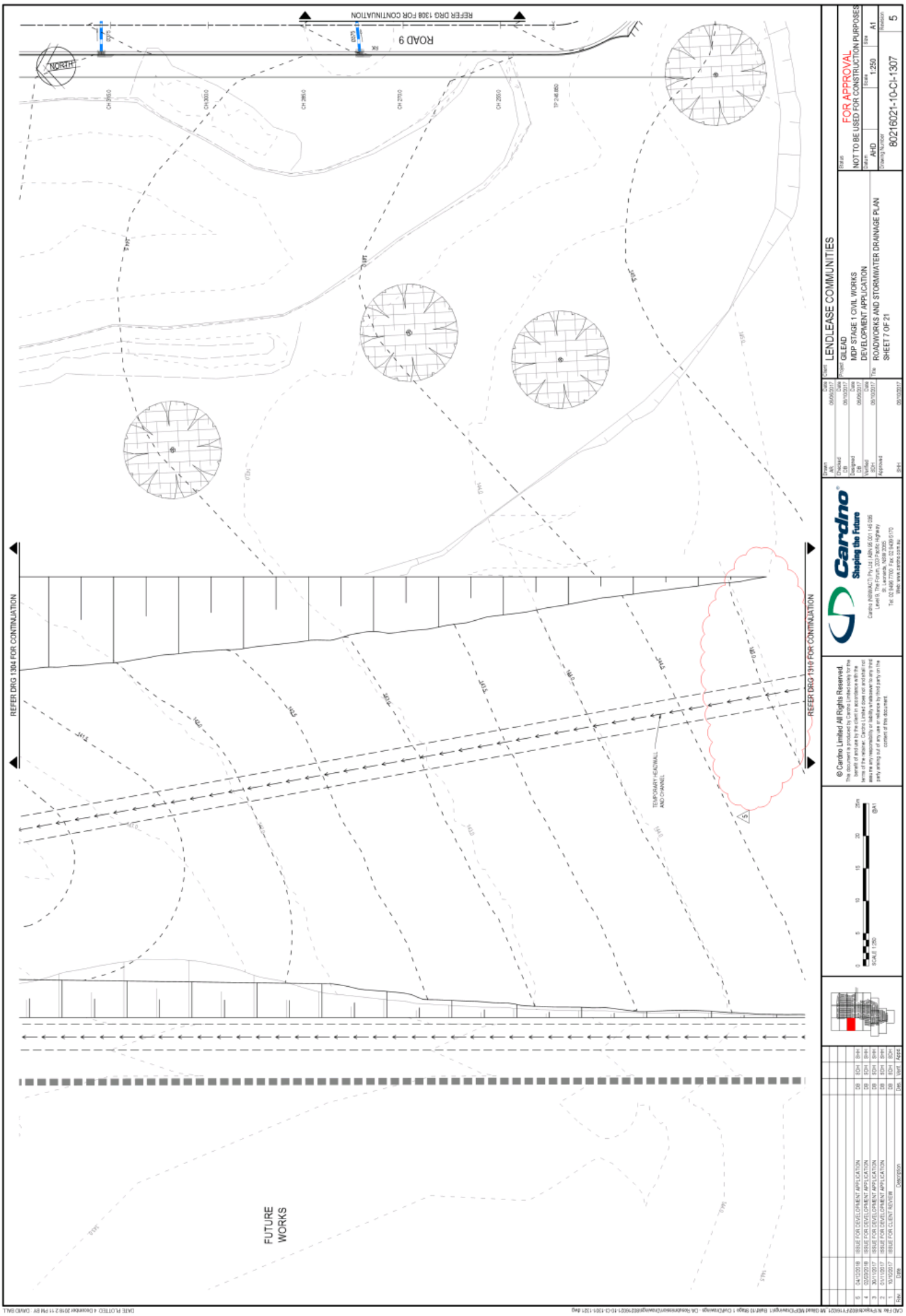
ROAD 9
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NORTH
REFER DRG 1304 FOR CONTINUATION
REFER DRG 1310 FOR CONTINUATION
TEMPORARY HEADWALL AND CHANNEL
FUTURE WORKS
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
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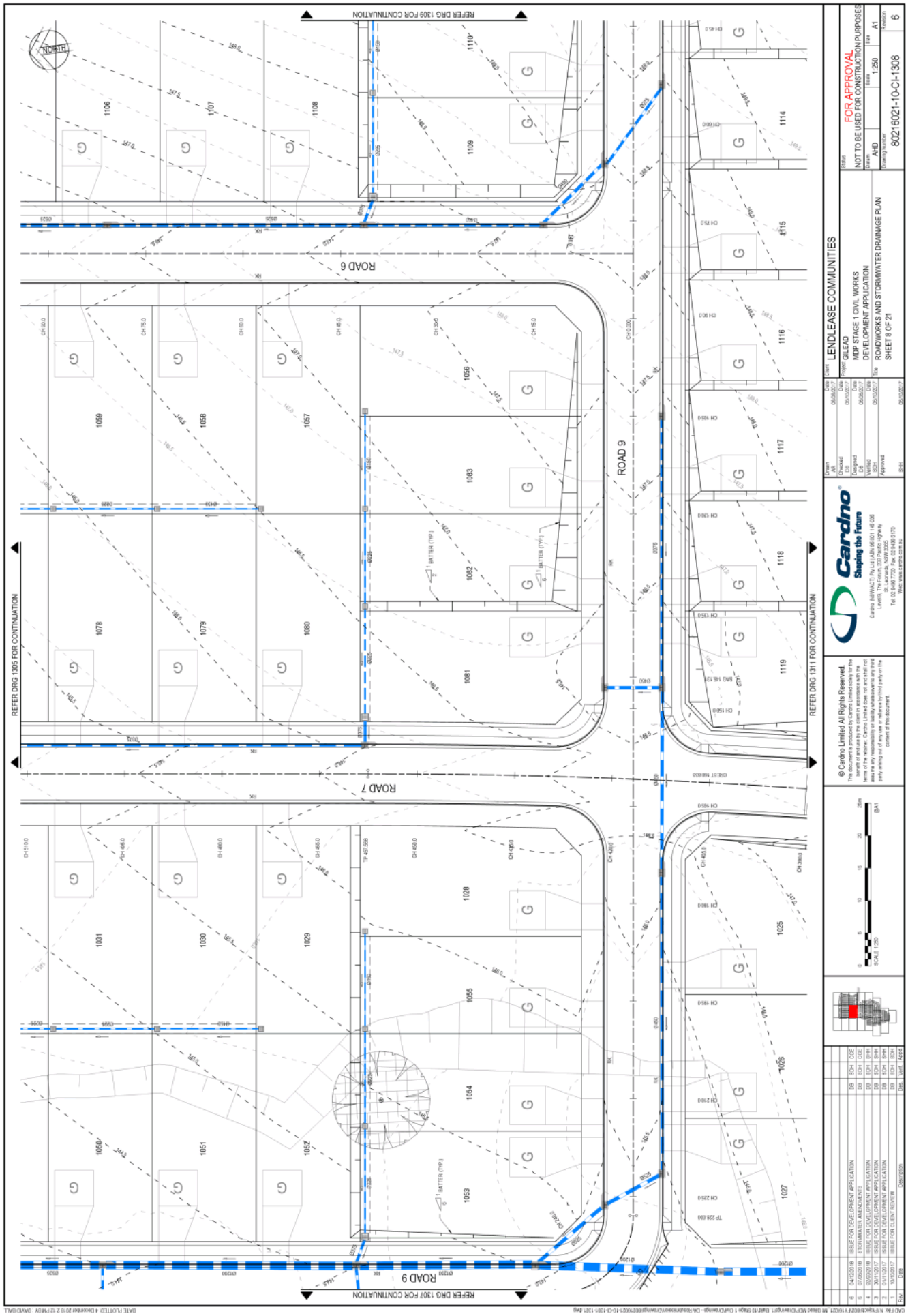
NORTH
ROAD 6
ROAD 7
ROAD 9
REFER DRG 1309 FOR CONTINUATION
REFER DRG 1305 FOR CONTINUATION
REFER DRG 1311 FOR CONTINUATION
REFER DRG 1307 FOR CONTINUATION
LENDLEASE COMMUNITIES
GILEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 8 OF 21
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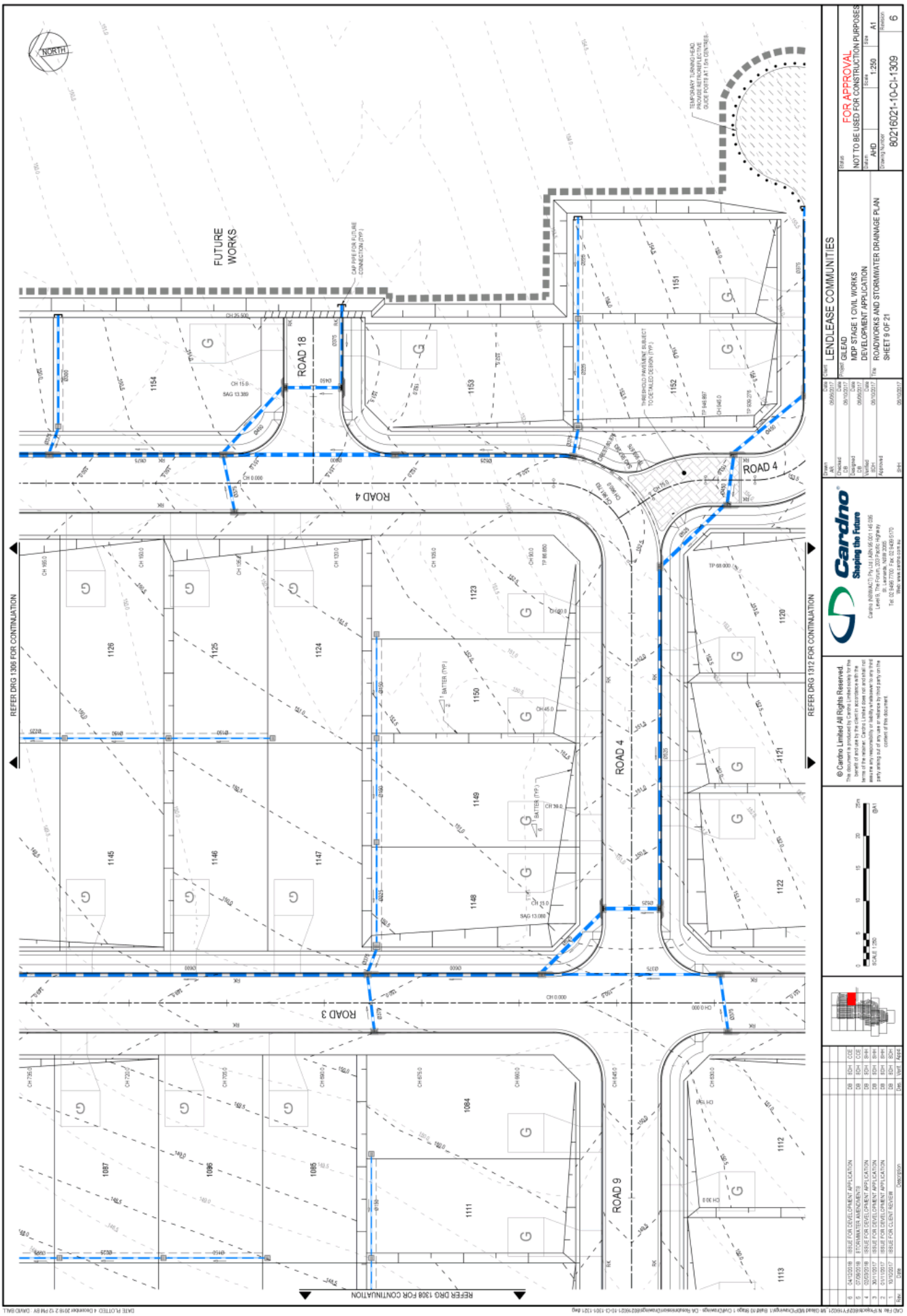
NORTH
FUTURE WORKS
ROAD 18
ROAD 4
ROAD 3
ROAD 9
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REFER DRG 1312 FOR CONTINUATION
REFER DRG 1308 FOR CONTINUATION
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 9 OF 21
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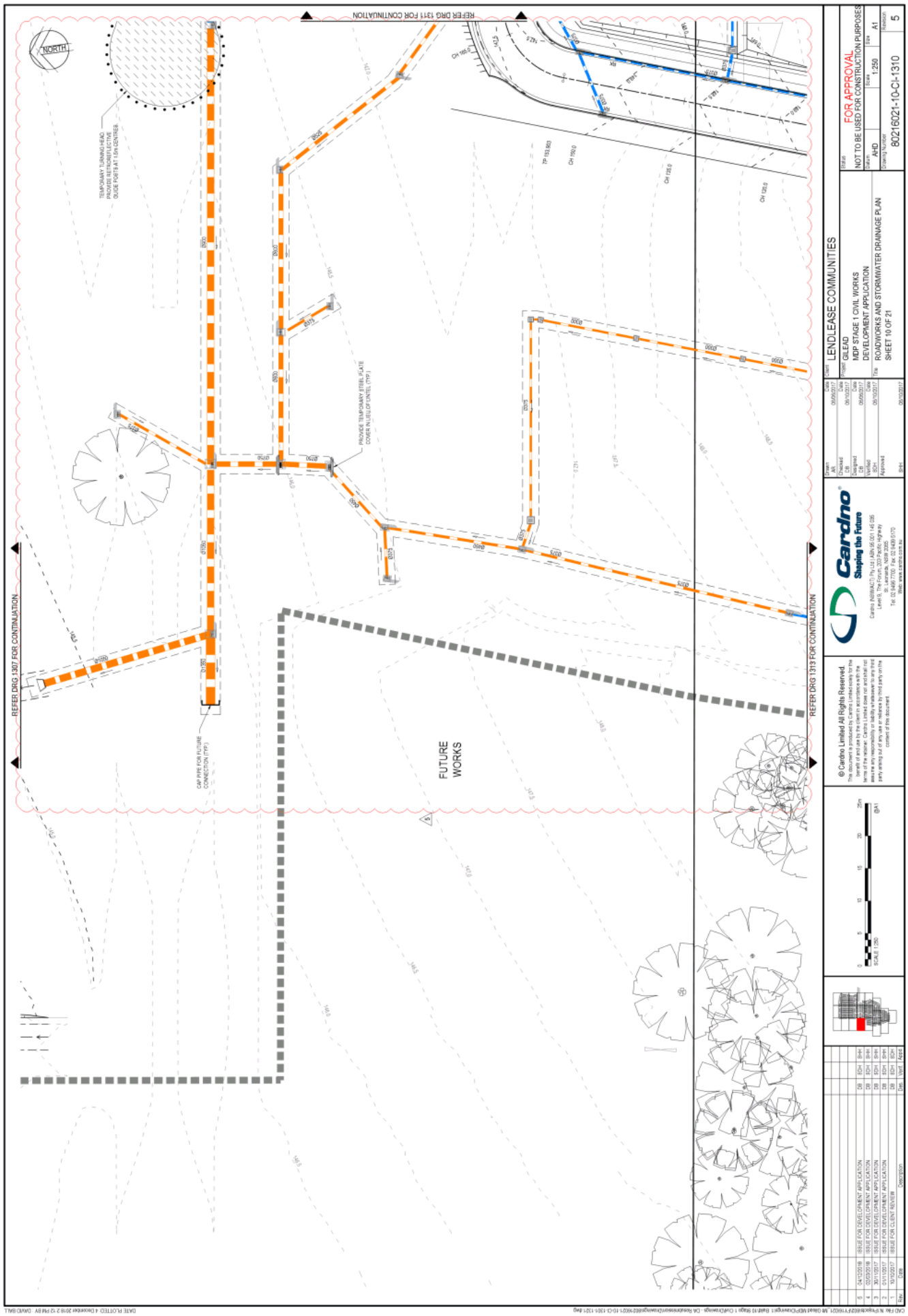
NORTH
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REFER DRG 1307 FOR CONTINUATION
REFER DRG 1319 FOR CONTINUATION
FUTURE WORKS
TEMPORARY TURNING HEAD PROVIDE RETROREFLECTIVE GUIDE POSTS AT 1.0m CENTRES
PROVIDE TEMPORARY STEEL PLATE COVER PLUG (IF UNTIL (TYP.))
CAP PIPE FOR FUTURE CONNECTION (TYP.)
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 10 OF 21
FOR APPROVAL
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Size A1
Drawing Number 80216021-10-C-1310
Revision 5
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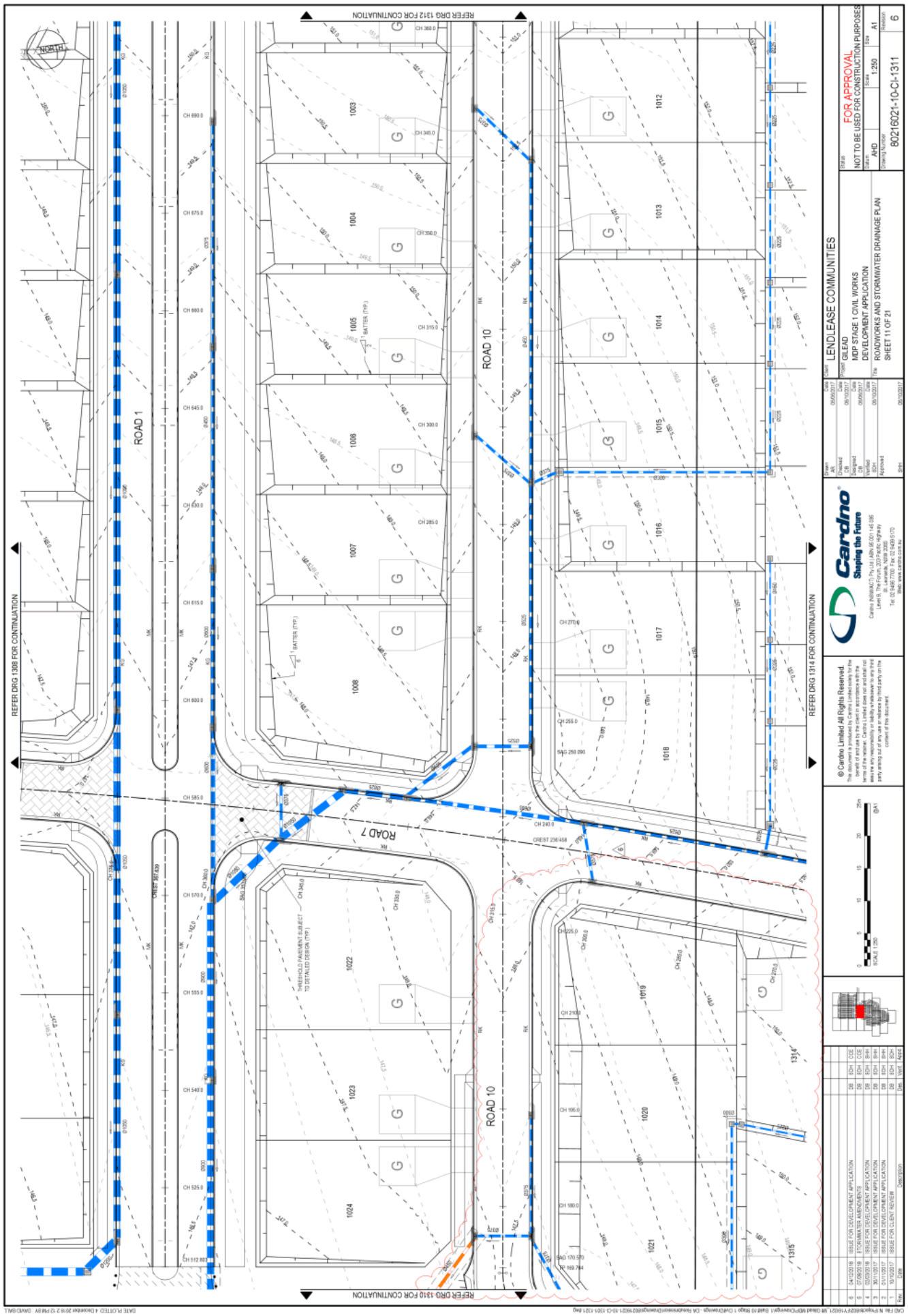
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REFER DRG 1314 FOR CONTINUATION
REFER DRG 1310 FOR CONTINUATION
ROAD 1
ROAD 10
ROAD 7
ROAD 10
1003
1004
1005
1006
1007
1008
1012
1013
1014
1015
1016
1017
1018
1018
1019
1020
1021
1022
1023
1024
1314
1315
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 11 OF 21
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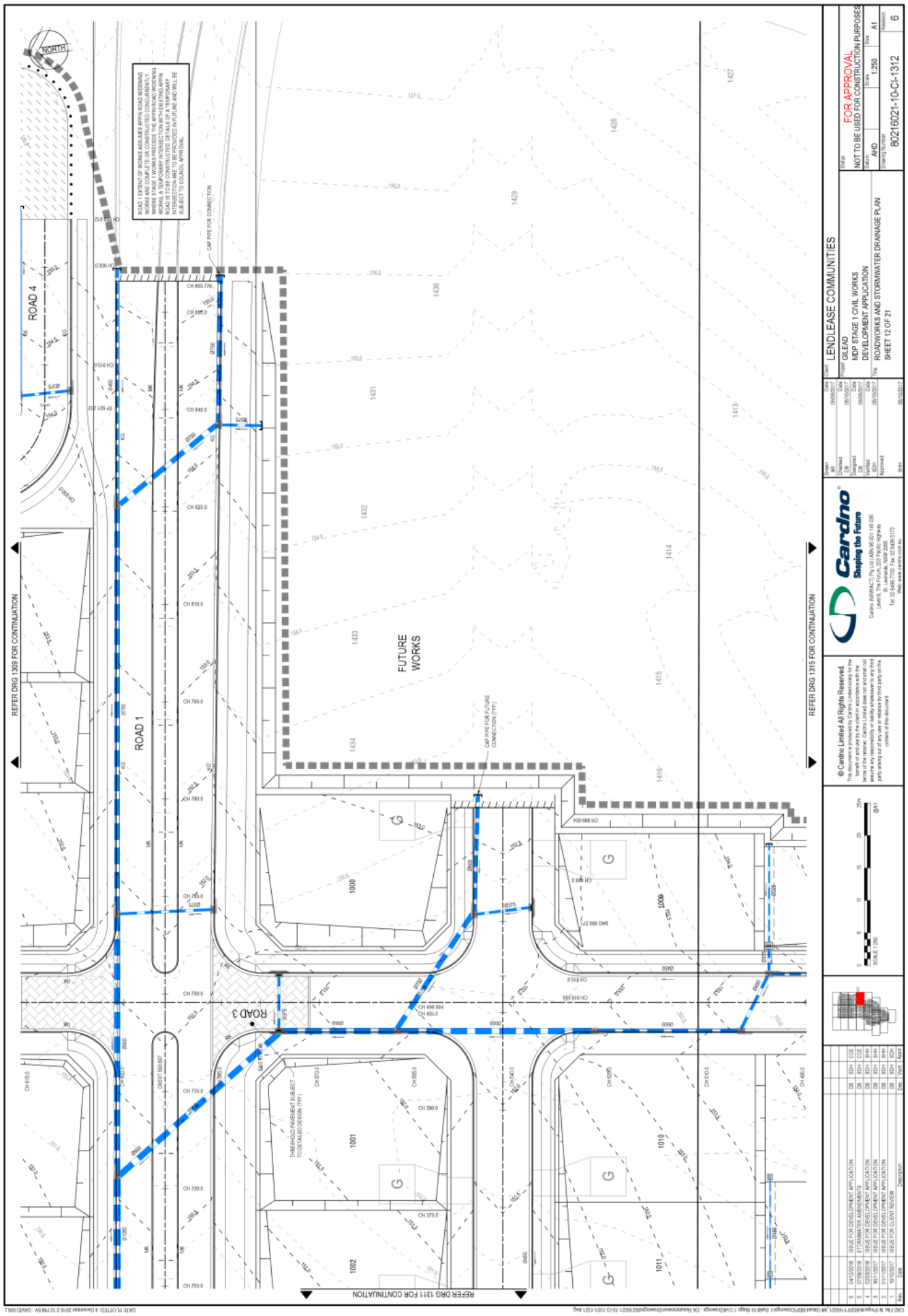
NORTH
ROAD 4
ROAD 1
ROAD 3
FUTURE WORKS
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REFER DRG 1315 FOR CONTINUATION
REFER DRG 1311 FOR CONTINUATION
LENDLEASE COMMUNITIES
GILEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 12 OF 21
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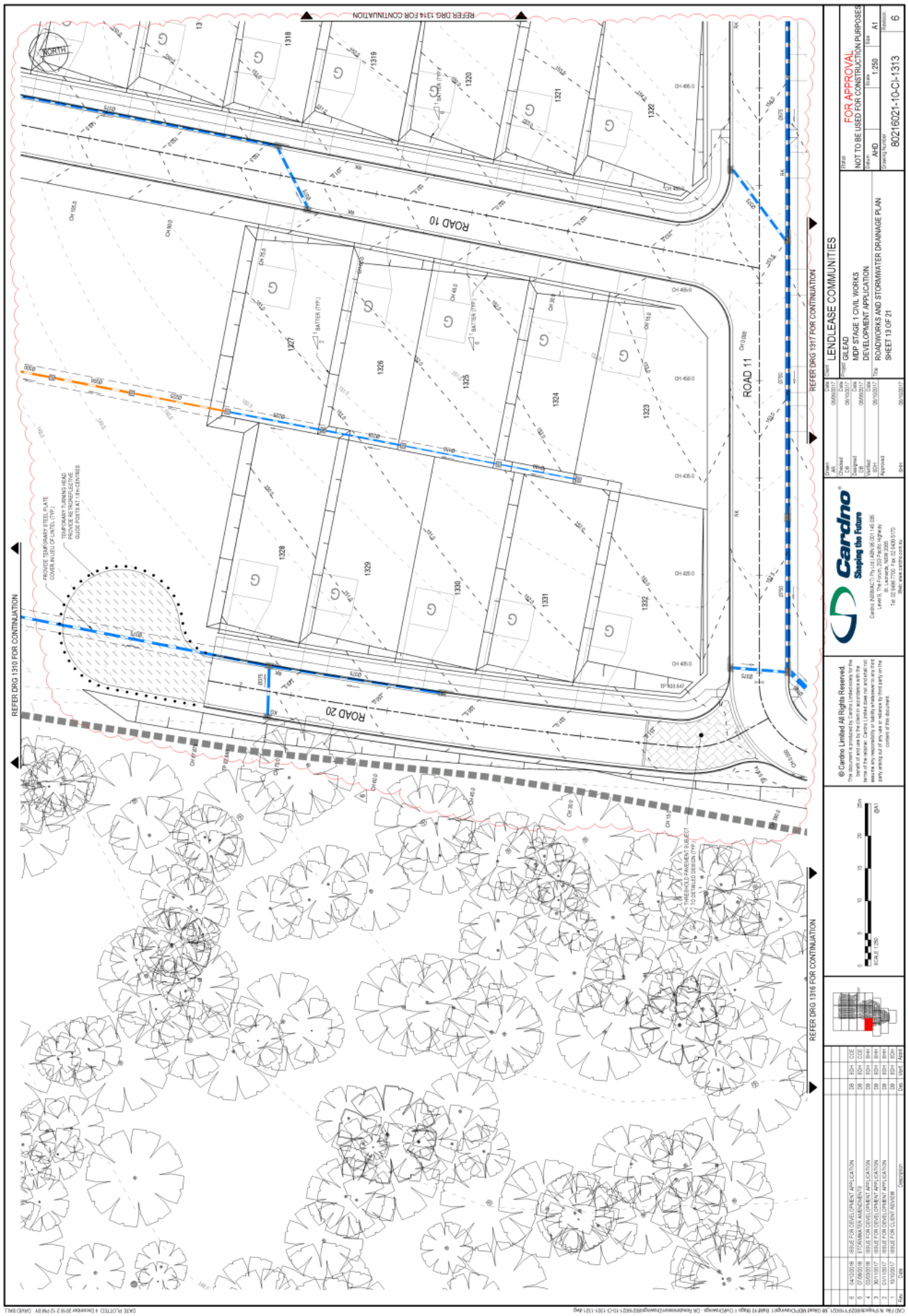
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ROAD 10
ROAD 11
ROAD 20
REFER DRG 1310 FOR CONTINUATION
REFER DRG 1317 FOR CONTINUATION
REFER DRG 1316 FOR CONTINUATION
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 13 OF 21
FOR APPROVAL
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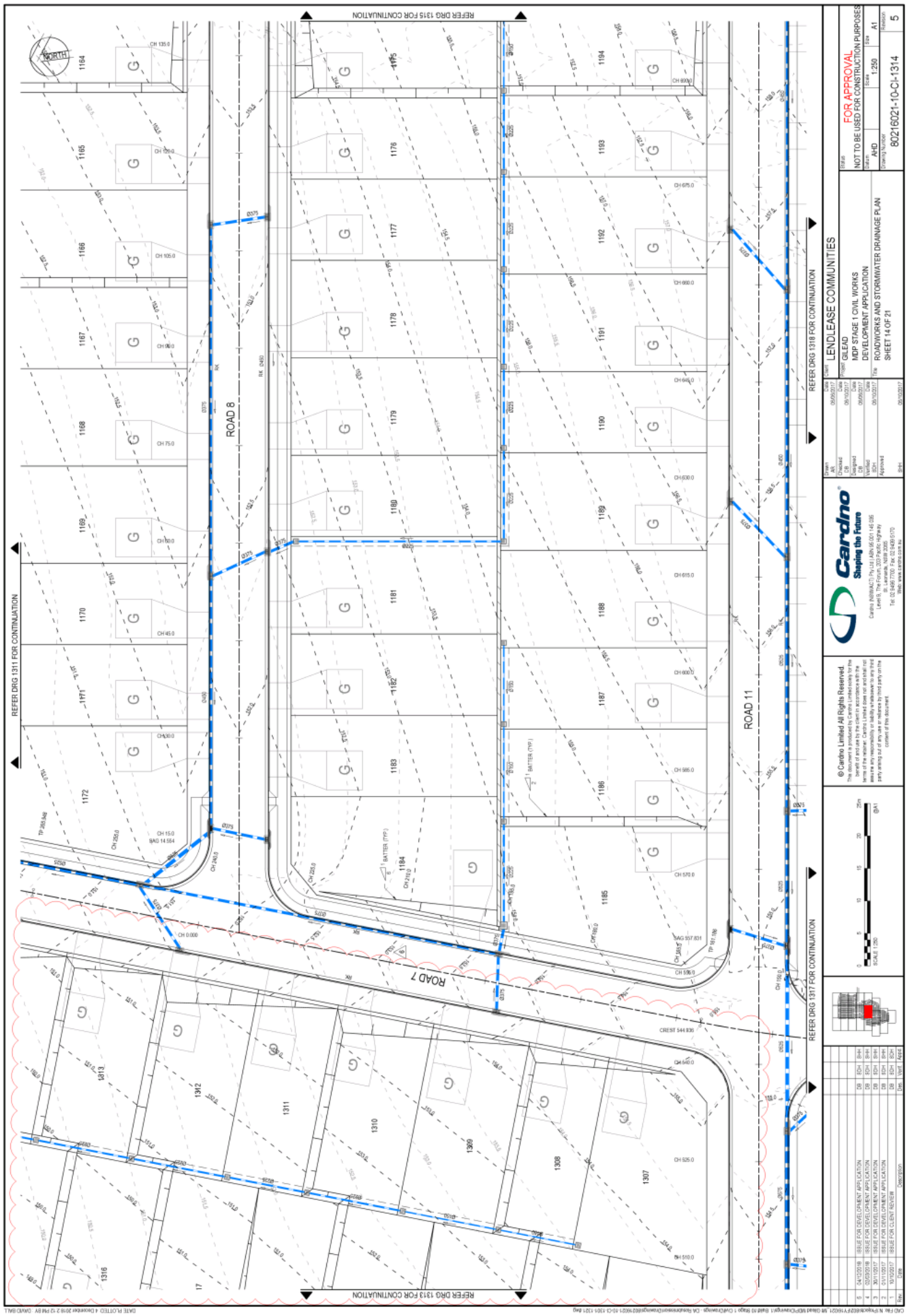
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ROAD 8
ROAD 11
ROAD 7
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REFER DRG 1313 FOR CONTINUATION
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
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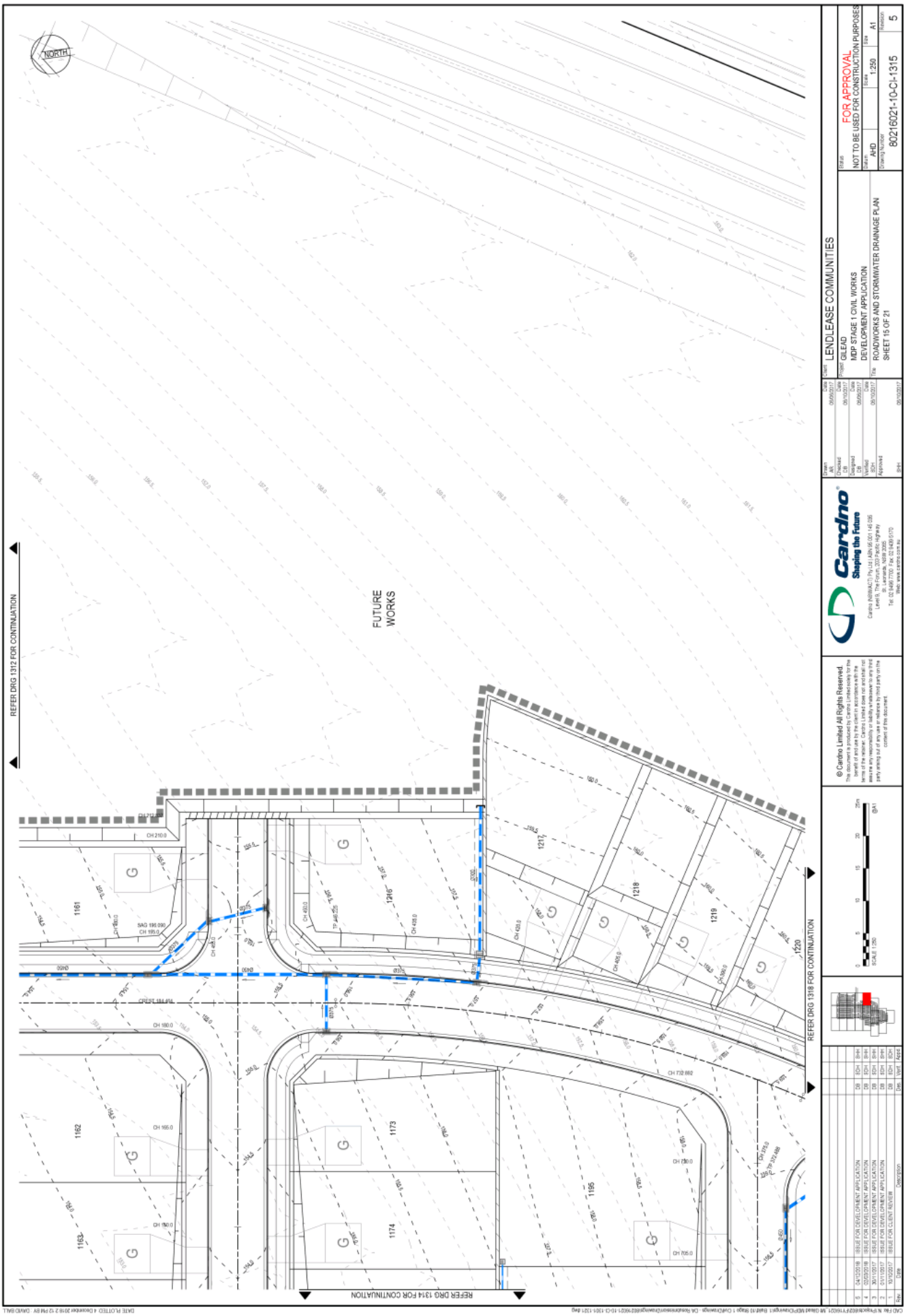
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REFER DRG 1318 FOR CONTINUATION
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GILEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 15 OF 21
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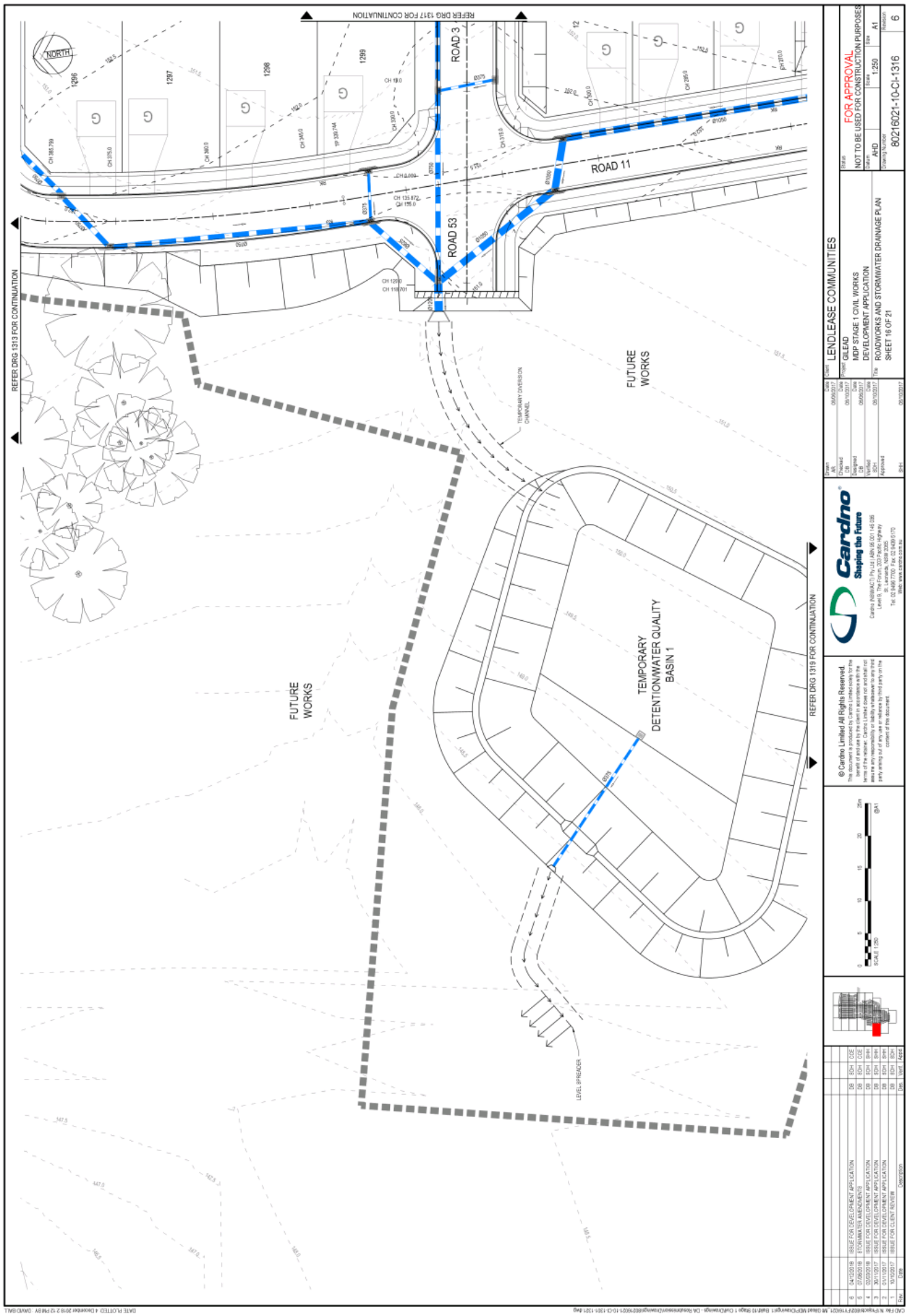
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ROAD 3
ROAD 11
ROAD 53
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FUTURE WORKS
TEMPORARY DIVERSION CHANNEL
TEMPORARY DETENTION/WATER QUALITY BASIN 1
REFER DRG 1319 FOR CONTINUATION
FUTURE WORKS
LEVEL SPREADER
LENDLEASE COMMUNITIES
GILEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
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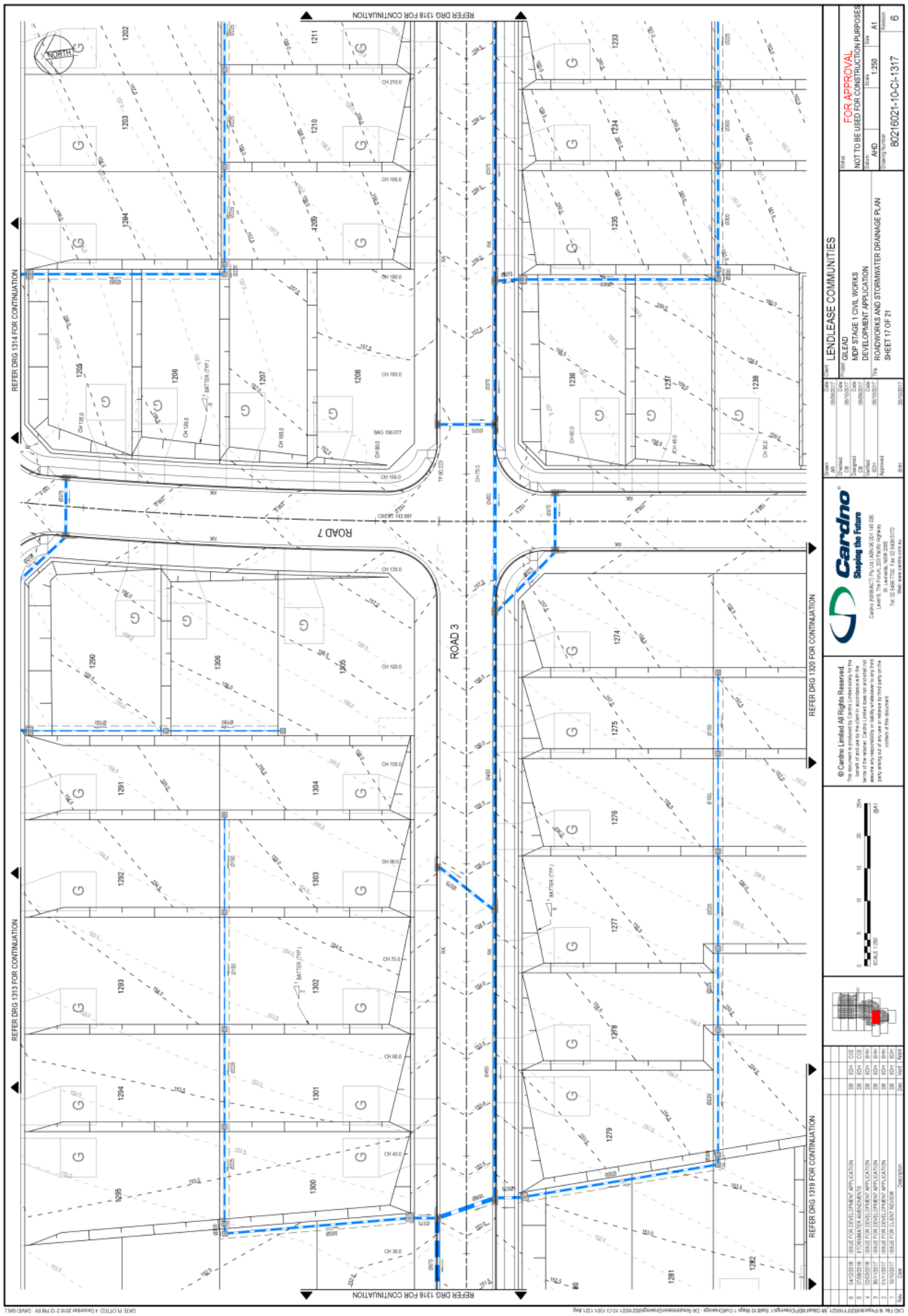
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ROAD 7
ROAD 3
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REFER DRG 1319 FOR CONTINUATION
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
LENDLEASE COMMUNITIES
GILEAD
MDP STAGE 1 CIVIL WORKS
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ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 17 OF 21
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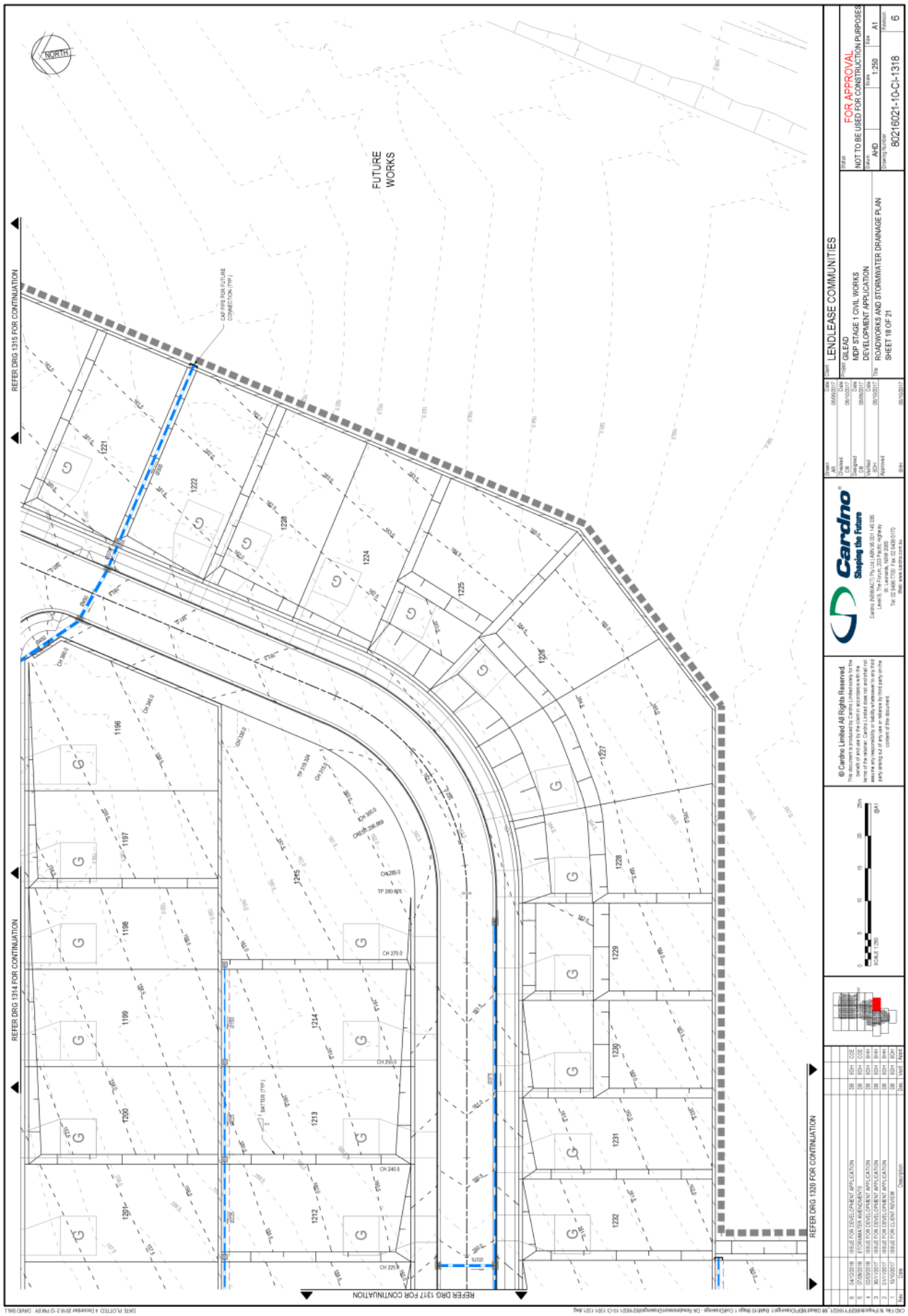
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FUTURE WORKS
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REFER DRG 1320 FOR CONTINUATION
CAP PIPE FOR FUTURE CONNECTION (TYP.)
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
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FOR APPROVAL
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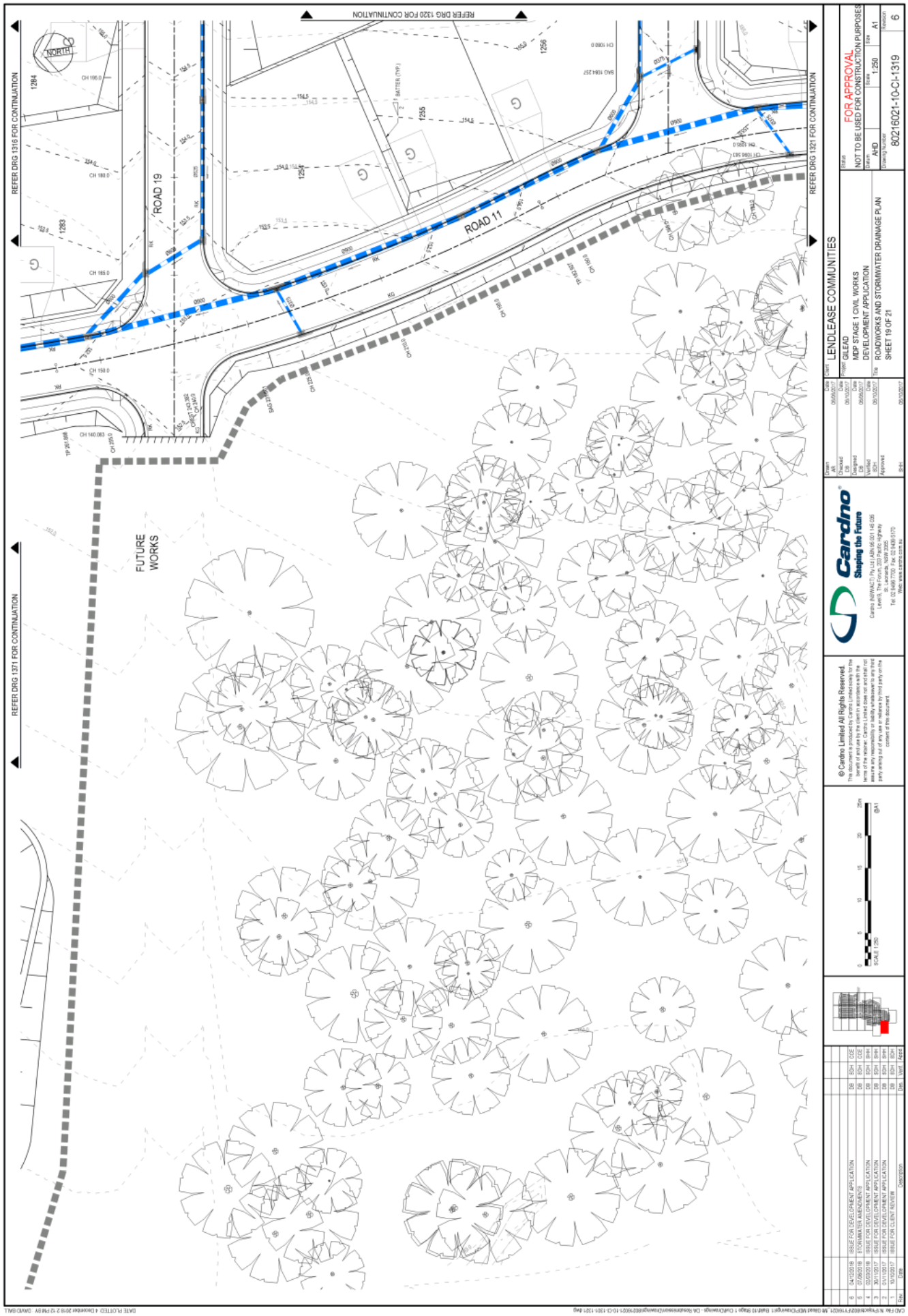
SCALE 1:250
04/12/2018 ISSUE FOR DEVELOPMENT APPLICATION
07/09/2018 STORMWATER AMENDMENTS
05/09/2018 ISSUE FOR DEVELOPMENT APPLICATION
31/10/2017 ISSUE FOR DEVELOPMENT APPLICATION
01/10/2017 ISSUE FOR CLIENT REVIEW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REFER DRG 1321 FOR CONTINUATION
REFER DRG 1371 FOR CONTINUATION
ROAD 19
ROAD 11
FUTURE WORKS
NORTH
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
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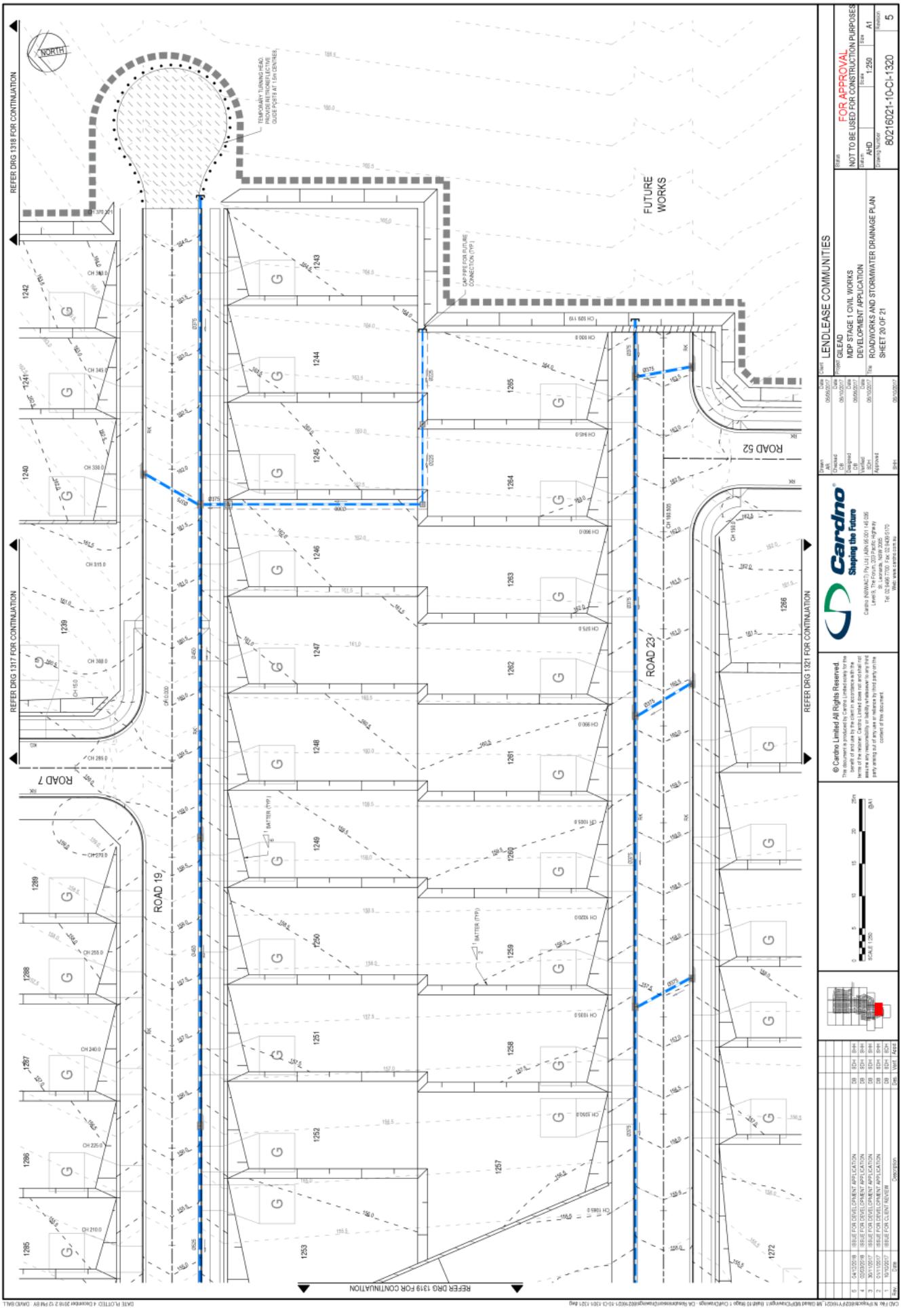
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REFER DRG 1321 FOR CONTINUATION
REFER DRG 1319 FOR CONTINUATION
TEMPORARY TURNING HEAD. PROVIDE RETROREFLECTIVE GUIDE PORTS AT 15m CENTRES.
FUTURE WORKS
ROAD 7
ROAD 19
ROAD 23
ROAD 52
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 20 OF 21
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NOT TO BE USED FOR CONSTRUCTION PURPOSES
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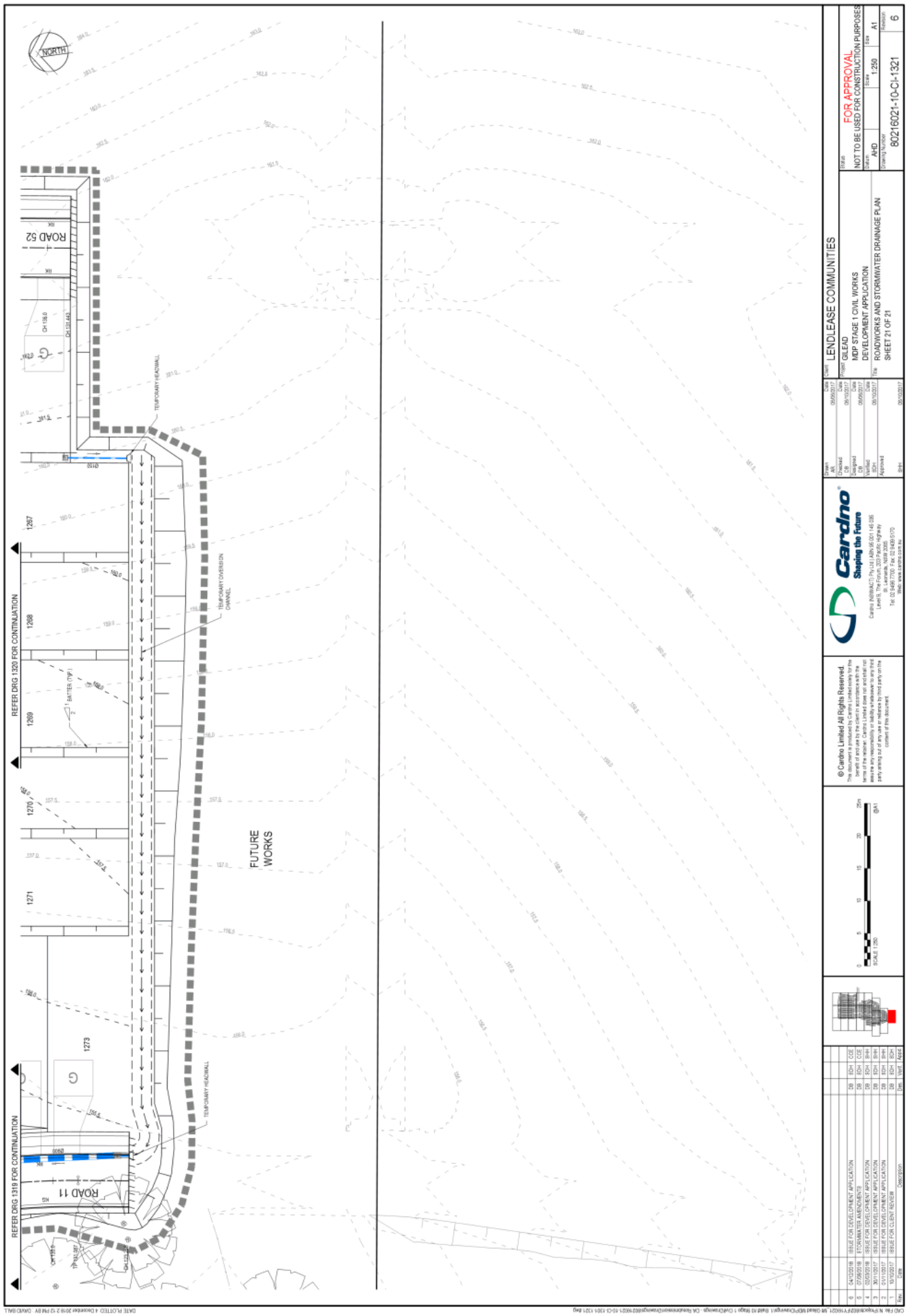
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ROAD 52
ROAD 11
REFER DRG 1320 FOR CONTINUATION
REFER DRG 1319 FOR CONTINUATION
TEMPORARY HEADWALL
TEMPORARY DIVERSION CHANNEL
FUTURE WORKS
1267
1268
1269
1270
1271
1273
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 21 OF 21
FOR APPROVAL
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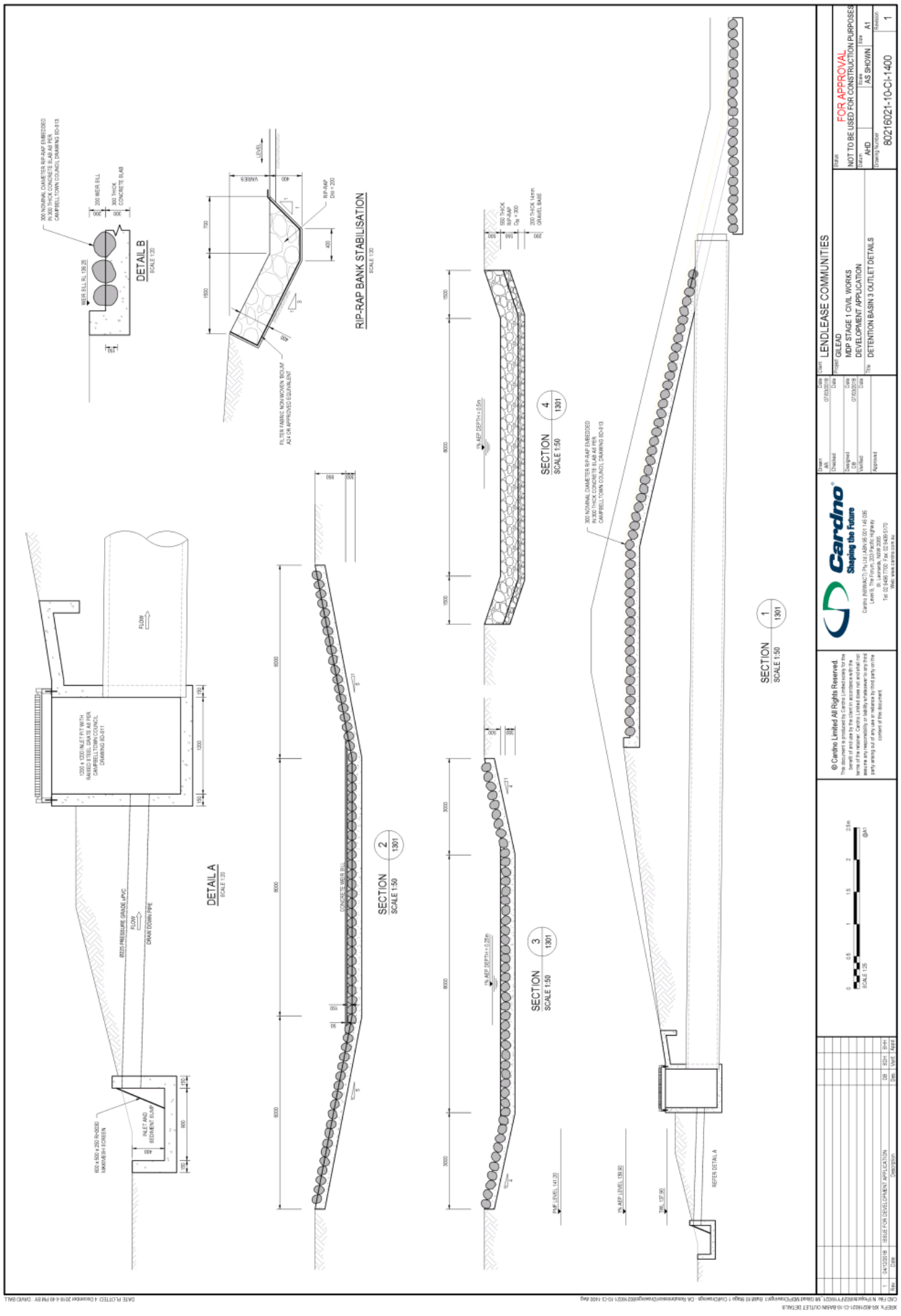
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SCALE 1:20
RIP-RAP BANK STABILISATION
SCALE 1:20
DETAIL A
SCALE 1:20
SECTION 2
SCALE 1:50
SECTION 3
SCALE 1:50
SECTION 4
SCALE 1:50
SECTION 1
SCALE 1:50
LENDLEASE COMMUNITIES
GLEAD
MDP STAGE 1 CIVIL WORKS
DEVELOPMENT APPLICATION
DETENTION BASIN 3 OUTLET DETAILS
FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
AS SHOWN
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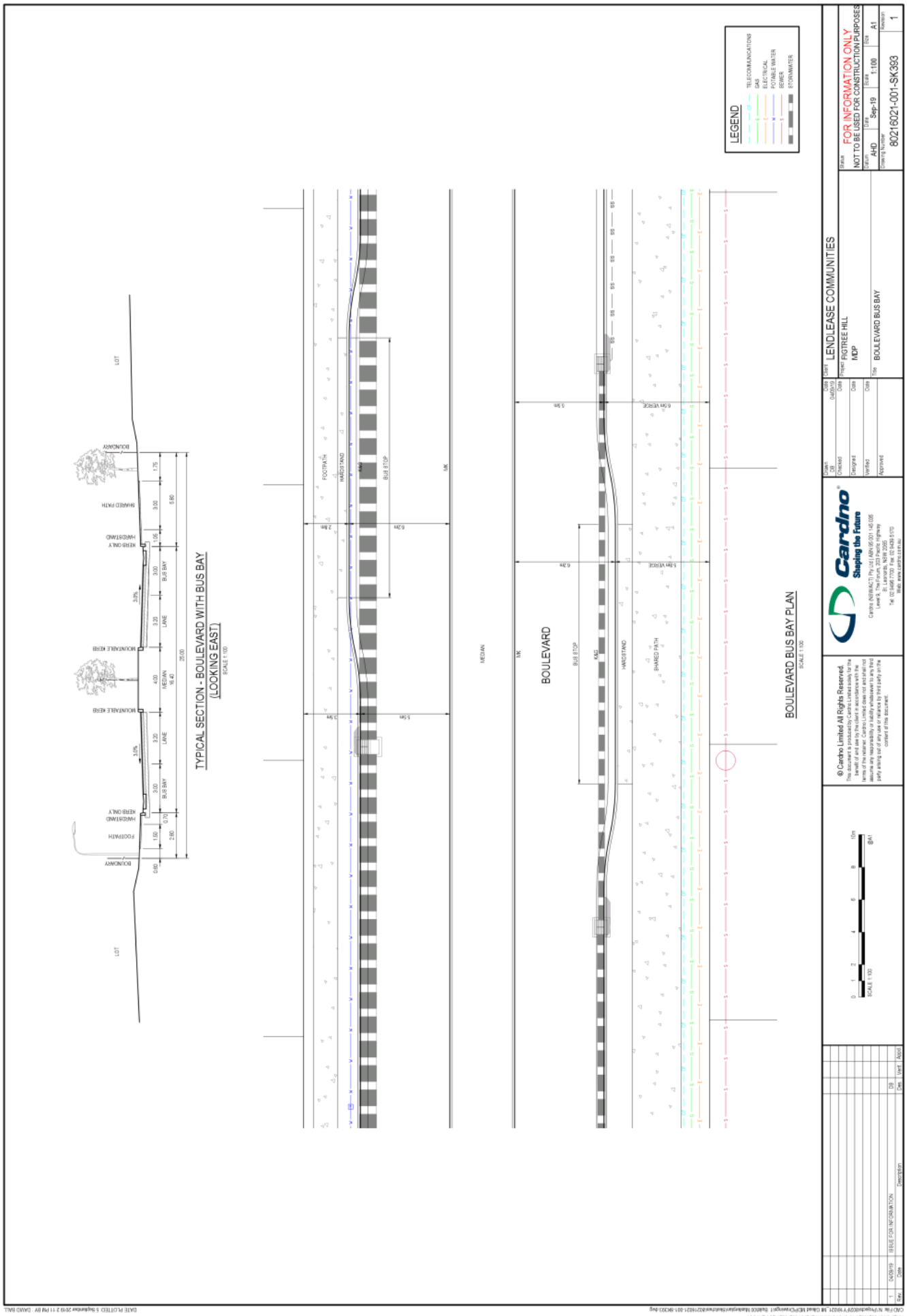
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TELECOMMUNICATIONS
GAS
ELECTRICAL
POTABLE WATER
SEWER
STORMWATER
TYPICAL SECTION - BOULEVARD WITH BUS BAY
(LOOKING EAST)
SCALE 1:100
BOULEVARD
BUS STOP
HARDSTAND
SHARED PATH
MEDIAN
BOULEVARD BUS BAY PLAN
SCALE 1:100
LENDLEASE COMMUNITIES
FIGTREE HILL
MDP
BOULEVARD BUS BAY
FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum AHD
Date Sep-19
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Revision 1
ISSUE FOR INFORMATION
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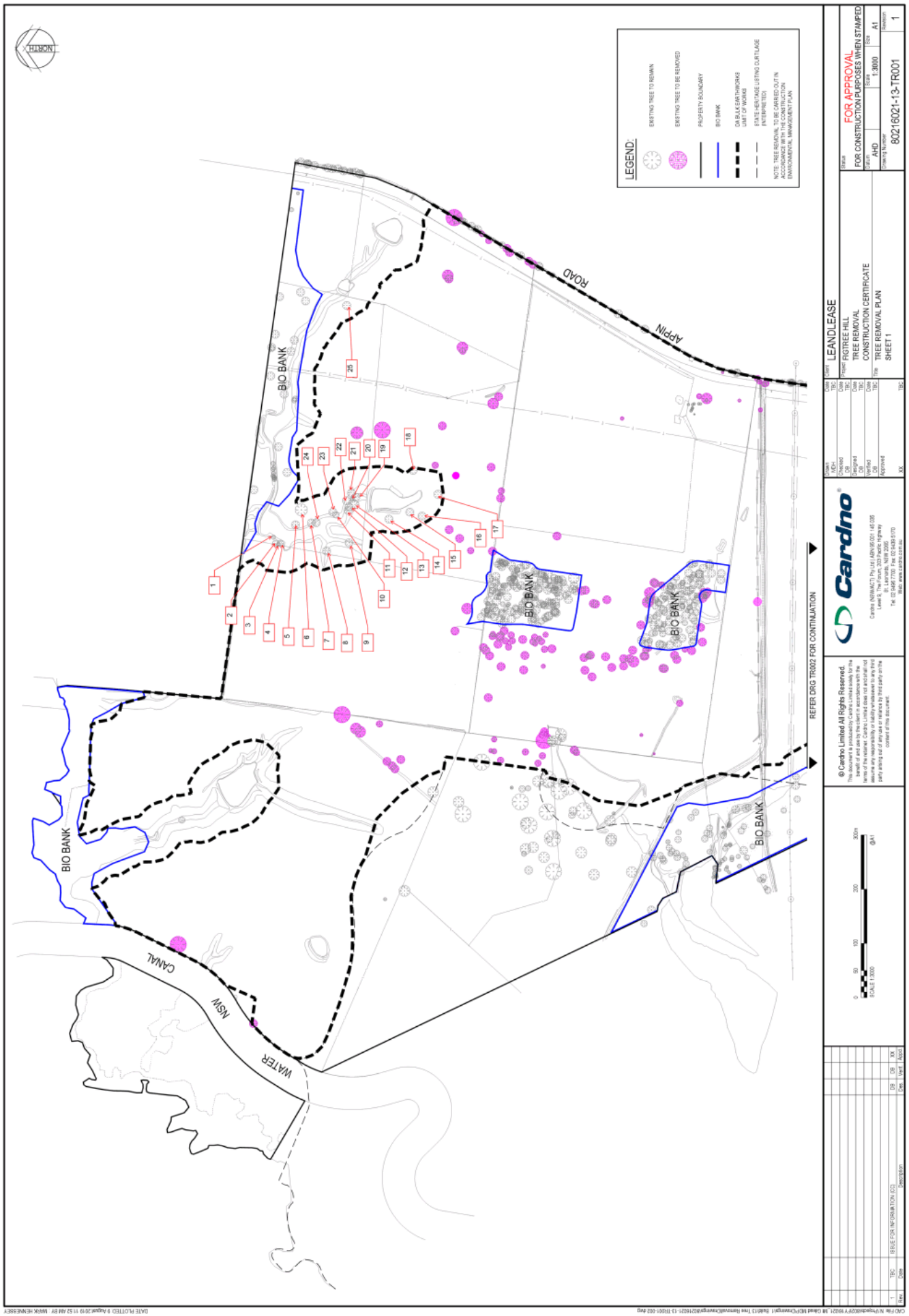
NORTH
LEGEND
EXISTING TREE TO REMAIN
EXISTING TREE TO BE REMOVED
PROPERTY BOUNDARY
BIO BANK
DA BULK EARTHWORKS LIMIT OF WORKS
STATE HERITAGE LISTING OUTLAGE (INTERPRETED)
NOTE: TREE REMOVAL TO BE CARRIED OUT IN ACCORDANCE WITH THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN
BIO BANK
ROAD
APPIN
CANAL
NSW
WATER
REFER DRG TR002 FOR CONTINUATION
LEANDLEASE
FIGTREE HILL
TREE REMOVAL
CONSTRUCTION CERTIFICATE
TREE REMOVAL PLAN
SHEET 1
FOR APPROVAL
FOR CONSTRUCTION PURPOSES WHEN STAMPED
80216021-13-TR001
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Gilead Streetscape Design - Stage 1

Client: Lendlease Communities
Document: A17054_SK 002
Date: February 2018
Revision: F

ASPECT Studios™
ASPECT Studios Pty Ltd ABN 11 120 219 561

lendlease

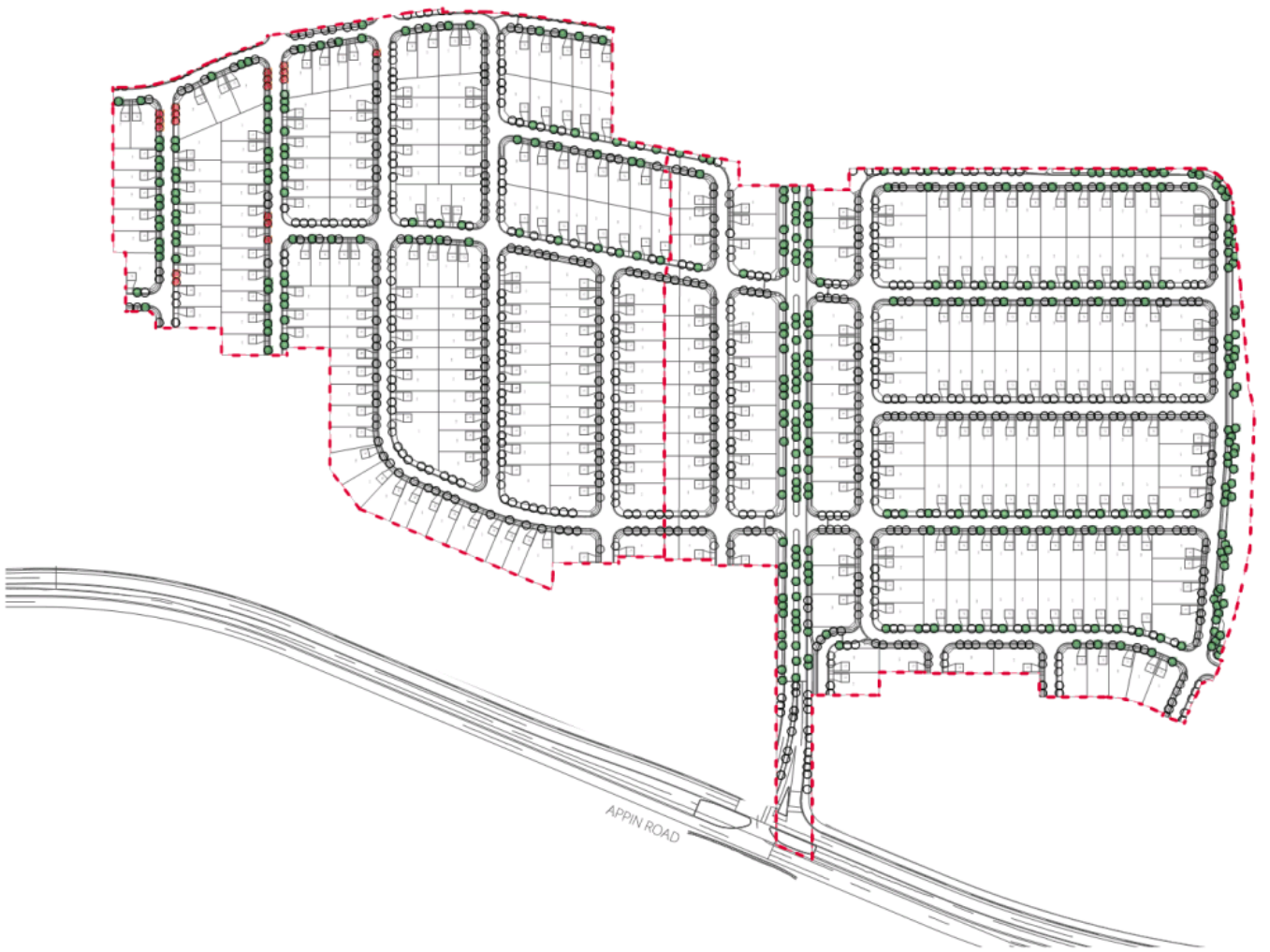
Contents

Chapter 1

Street Tree Masterplan: Stage 1

LEGEND

- PROPOSED DECIDUOUS TREE
- PROPOSED EVERGREEN TREE



NOTES

Tree locations are indicative only and will be confirmed following Detailed Design and liaison with Council

SCALE: 1: 3000 @ A3 | DRAWN BY: SL / TW | CHECKED BY: PP |

Chapter 2

Proposed Tree Species

2.1 Boulevard: General

Agathis robusta

Common Name:	Kauri Pine
Mature Size:	25m high x 10m wide
Origin:	Papua New Guinea, QLD
Form:	Large evergreen tree

Comments

- Iconic tree to create a sense of place
- Distinctive form
- Tolerates mild frosts and pollution

DCP Compliance : **NO**

DCP Comment: Alternative to Norfolk Island Pine

Corymbia maculata

Common Name:	Spotted Gum
Mature Size:	30m high x 10m wide
Origin:	NSW, VIC, QLD
Form:	Large evergreen tree

Comments

- A highly valued ornamental tree
- Adaptable to most soils and is drought and frost tolerant.
- Reliable and consistent form
- Excellent tree for urban settings

DCP Compliance : **YES**

Fraxinus oxycarpa 'Raywoodi'

Common Name:	Claret Ash
Mature Size:	12m high x 10m wide
Origin:	Asia
Form:	Medium deciduous tree

Comments

- Striking Autumn foliage
- Only use where ample verge space
- Drought tolerant

DCP Compliance : **NO**

DCP Comment: Drought tolerant, robust tree where space permits

Chapter 2

Proposed Tree Species

2.1 Boulevard: Retail / Commercial Precincts

Platanus x acerifolia

Common Name:	London Plane
Mature Size:	25m high x 35m wide
Origin:	Europe
Form:	Large Deciduous Tree

Comments

- Easily grown in a range of soil condition
- Reliable form & growth rate
- Excellent urban tree

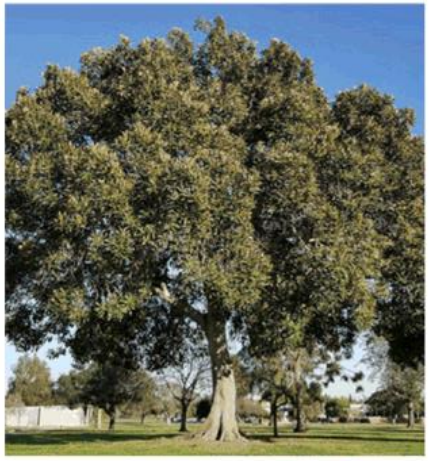
DCP Compliance : **NO**

DCP Comment: Suggested alternative for Magnolia Soulangeana (on DCP's list)

Boulevard: Entry

Ficus macrophylla

Common Name:	Moreton Bay Fig
Mature Size:	40m high x 40m wide
Origin:	Eastern Australia
Form:	Large Evergreen tree



Comments

- A tall, broad spreading tree when open-grown, densely foliaged with large, shiny, dark green leaves which have a distinctive rusty-brown underside.
- Often used in large landscapes as an iconic tree.

DCP Compliance : **NO**

DCP Comment: For use in civic locations where reliable tree required

Chapter 2

Proposed Tree Species

2.2 Collector Roads

Angophora costata

Common Name:	Smooth-barked Apple-myrtle
Mature Size:	20m high x 12m wide
Origin:	Eastern Australia
Form:	Medium-Large Evergreen Tree

Comments

- Large spreading
- Drought tolerant
- Adaptable to a range of sites
- Distinctive bark
- Moderate to fast growth rate

DCP Compliance : **NO**

DCP Comment: Excellent alternative to evergreen species on DCP's list

Flindersia australis

Common Name:	Crow's Ash
Mature Size:	20m high x 6m wide
Origin:	NSW & QLD
Form:	Large Evergreen Tree

Comments

- Requires well drained soils
- Scaly grey bark

DCP Compliance : **NO**

DCP Comment: Excellent alternative to evergreen species on DCP's list

Fraxinus pennsylvanica 'Cimmzam'

Common Name:	Green Ash
Mature Size:	11m high x 8m wide
Origin:	Eastern, Central North America
Form:	Medium Deciduous Tree

Comments

- Provides great summer shade
- Tolerant of frost as well as drought.
- Performs best in full sun.

DCP Compliance : **NO**

DCP Comment: Excellent accent species in lieu of Pyrus sp on DCP's list

Fraxinus oxycarpa 'Raywoodi'

Common Name:	Claret Ash
Mature Size:	12m high x 10m wide
Origin:	Asia
Form:	Medium deciduous tree

Comments

- Striking Autumn foliage
- Only use where ample verge space
- Drought tolerant

DCP Compliance : **NO**

DCP Comment: Drought tolerant, robust tree where space permits

Chapter 2

Proposed Tree Species

2.2 Collector Roads

Jacaranda mimosifolia

Common Name:	Jacaranda
Mature Size:	10m high x 8m wide
Origin:	South America
Form:	Medium deciduous tree

Comments

- Lilac-blue flower clusters in Summer
- An ornamental tree widely grown in urban areas
- Drought tolerate

DCP Compliance : **YES**

Lophostemon confertus

Common Name:	Brush Box
Mature Size:	12-15m high x 10-12m wide
Origin:	Eastern Australia
Form:	Large evergreen tree

Comments

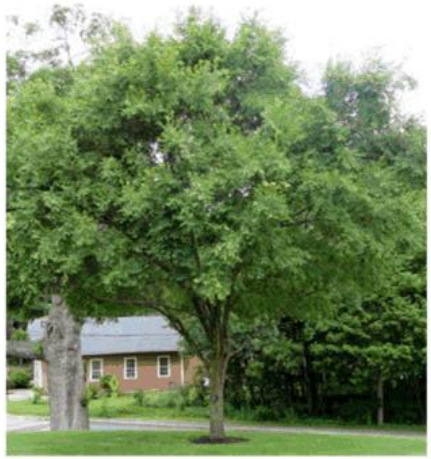
- Attractive & reliable form & shape
- Adaptable to a range of soil conditions: tolerates drought condition
- Moderate growth rate

DCP Compliance : **YES**

DCP Comment: Reliable, robust tree for additional evergreen diversity

Ulmus parvifolia 'Burnley Select'

Common Name:	Chinese Elm
Mature Size:	12m high x 6m wide
Origin:	Asia
Form:	Medium semi-deciduous tree



Comments

- Reliable tree where space permits
- Tolerates dry conditions
- Moderate to fast growth rate

DCP Compliance : **YES**

DCP Comment: Alternative form & appearance in lieu of Pyrus

Chapter 2

Proposed Tree Species

2.3 Green Avenue

Corymbia ficifolia

Common Name:	Red Flowering Gum
Mature Size:	6-10m high x 6-8m wide
Origin:	WA
Form:	Medium evergreen tree

Comments

- Nut drop can be an issue: consider location when specifying
- Prolific and striking flowering
- Use only where space permits (wide trunk)
- Large number of cultivars available

DCP Compliance : **NO**

DCP Comment: Alternative evergreen species to provide greater diversity in species

Cupaniopsis anacardioides

Common Name:	Tuckeroo
Mature Size:	8m high x 5-8m wide
Origin:	NSW, QLD
Form:	Small evergreen tree

Comments

- Drought tolerant
- Formative pruning required to ensure good structure

DCP Compliance : **NO**

DCP Comment: Alternative evergreen species to provide greater diversity in species

Melaleuca decora

Common Name:	White Paperbark
Mature Size:	10m high x 6m wide
Origin:	Eastern Australia
Form:	Small evergreen tree

Comments

- Profuse flowering in Spring
- Very hardy in most soils

DCP Compliance : **YES**

Stenocarpus sinuatus

Common Name:	Firewheel Tree
Mature Size:	12m high x 6m wide
Origin:	Eastern Australia
Form:	Medium evergreen tree

Comments

- Red tube-shape flowers appear in a wheel-shaped cluster during late summer
- Well drained sandy to clay-silty loam preferred

DCP Compliance : **NO**

DCP Comment: Alternative to provide greater diversity in species selection

Chapter 2

Proposed Tree Species

2.3 Green Avenue

Tristaniopsis laurina

Common Name:	Kanooka
Mature Size:	10-12m high x 8-10m wide
Origin:	Eastern Australia
Form:	Medium evergreen tree

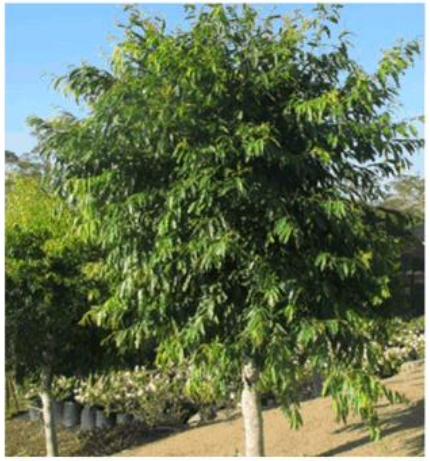
Comments

- Yellow flowers in spring
- Slow to moderate growth rate
- Tolerates dampness

DCP Compliance : **YES**

Waterhousea floribunda

Common Name:	Weeping Lilly Pilly
Mature Size:	10m high x 6-8m wide
Origin:	Eastern Australia
Form:	Medium evergreen tree



Comments

- Well drained sandy to clay soils
- Drooping branches form a dense rounded crown
- Moderate to fast growth rate

DCP Compliance : **NO**

DCP Comment: Additional evergreen species to provide greater diversity of species

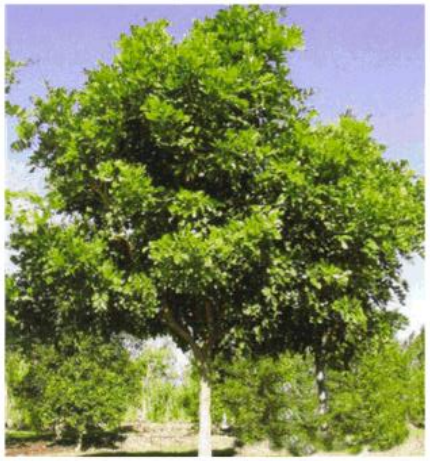
Chapter 2

Proposed Tree Species

2.4 Local Roads

Cupaniopsis anacardioides

Common Name:	Tuckeroo
Mature Size:	8m high x 5-8m wide
Origin:	NSW, QLD
Form:	Small evergreen tree



Comments

- Drought tolerant
- Formative pruning required

DCP Compliance : **NO**

DCP Comment: Alternative evergreen species to provide greater diversity in species

Lagerstroemia indica

Common Name:	Crepe Myrtle
Mature Size:	3-5m high x 4m wide
Origin:	Eastern Asia
Form:	Small deciduous tree

Comments

- Ideal tree where planting space is limited
- Tolerates dry conditions but will benefit from supplementary irrigation.

DCP Compliance : **NO**

DCP Comment: Alternative deciduous species for use where space limited (no similar species nominated as part of DCP)

Pistacia chinensis

Common Name:	Chinese Pistachio
Mature Size:	8m high x 6m wide
Origin:	Eastern Asia
Form:	Medium deciduous tree

Comments

- Reliable small tree where space is limited
- Striking autumn foliage colour

DCP Compliance : **NO**

DCP Comment: Alternative deciduous species for use where space limited (no similar species nomenated as part of DCP)

Stenocarpus sinuatus

Common Name:	Firewheel Tree
Mature Size:	12m high x 6m wide
Origin:	Eastern Australia
Form:	Medium evergreen tree

Comments

- Red tube-shape flowers appear in a wheel-shaped cluster during late summer
- Well drained sandy to clay-silty loam

DCP Compliance : **NO**

DCP Comment: Alternative to provide greater diversity in species selection

Chapter 2

Proposed Tree Species

2.4 Local Roads

Tristaniopsis laurina

Common Name:	White Gum
Mature Size:	10-12m high x 8-10m wide
Origin:	Eastern Australia
Form:	Medium evergreen tree

Comments

- Yellow flowers in spring
- Prefers moist fertile soils

DCP Compliance : **YES**

Waterhousea floribunda

Common Name:	Weeping Lilly Pilly
Mature Size:	8m high x 5-6m wide
Origin:	Eastern Australia
Form:	Medium evergreen tree

Comments

- Well drained sandy to clay soils
- Drooping brances that form a dense rounded crown
- Fuffy cup-shaped white flowers

DCP Compliance : **NO**

DCP Comment: Additional evergreen species to provide greater diversity of species

Chapter 2

Proposed Tree Species

2.5 Access Streets (adjacent Open Space & Biobank)

Angophora floribunda

Common Name:	Rough-barked Apple
Mature Size:	12-25m high x 6-10m wide
Origin:	VIC, NSW, QLD
Form:	Medium - Large Evergreen Tree

Comments

- As a shade and shelter tree
- Adeptable to a wide range of soil types

DCP Compliance : **NO**

DCP Comment: Additional evergreen species to provide greater diversity of species

Cupaniopsis anacardioides

Common Name:	Tuckeroo
Mature Size:	8m high x 5-8m wide
Origin:	NSW, QLD
Form:	Small Evergreen Tree

Comments

- Drought tolerant
- Formative pruning required to ensure balanced tree

DCP Compliance : **NO**

DCP Comment: Alternative evergreen species to provide greater diversity in species

Tristaniopsis laurina

Common Name:	Kanooka
Mature Size:	10-12m high x 8-10m wide
Origin:	Eastern Australia
Form:	Medium Evergreen Tree

Comments

- Yellow flowers in spring
- Slow to moderate growth rate
- Tolerates dampness

DCP Compliance : **YES**

Waterhousea floribunda

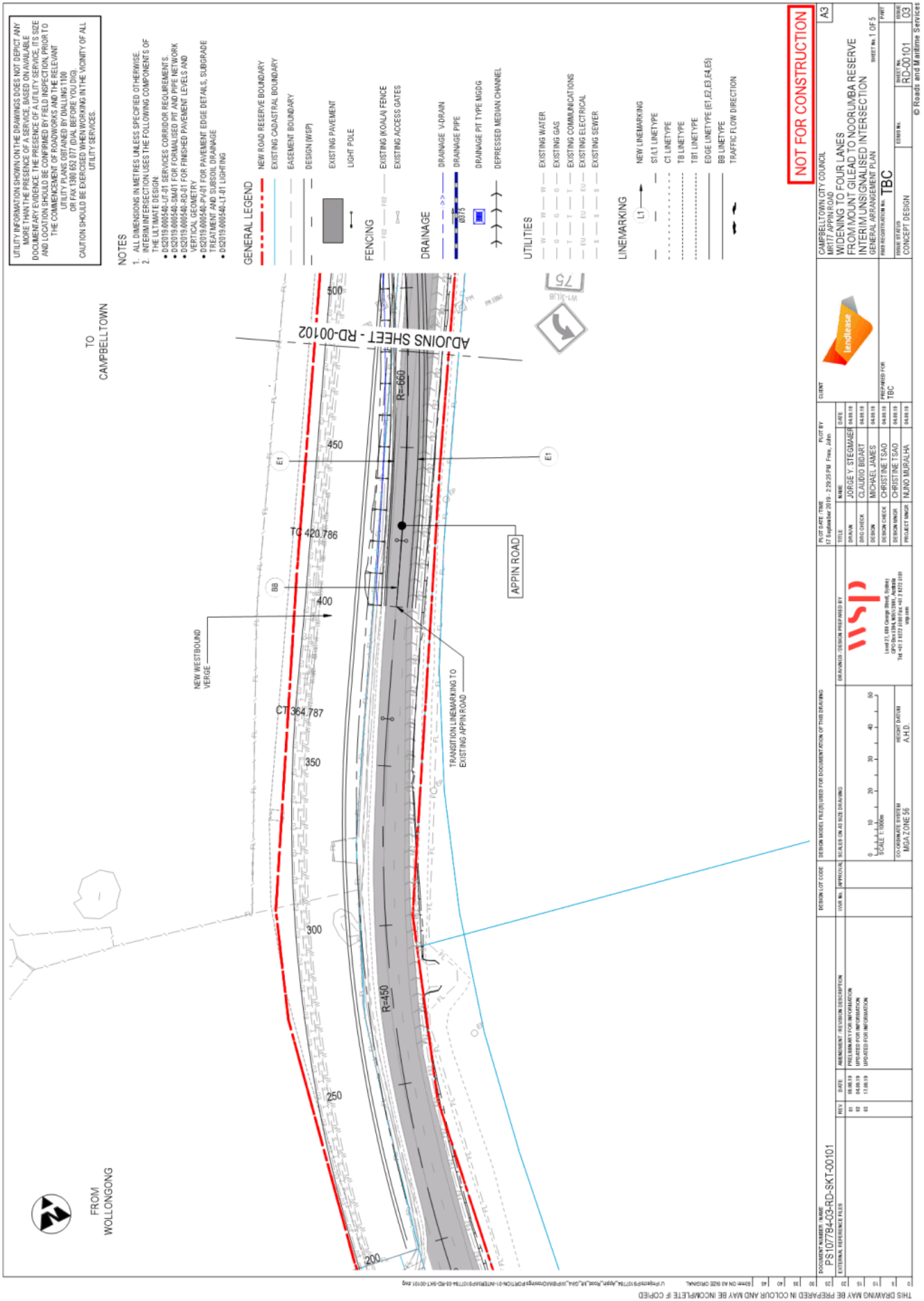
Common Name:	Weeping Lilly Pilly
Mature Size:	10m high x 6-8m wide
Origin:	Eastern Australia
Form:	Medium Evergreen Tree

Comments

- Well drained sandy to clay soils
- Drooping branches form a dense rounded crown
- Moderate to fast growth rate

DCP Compliance : **NO**

DCP Comment: Additional evergreen species to provide greater diversity of species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GENERAL ARRANGEMENT PLAN
TBC
RD-00101
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CONCEPT DESIGN
GENERAL LEGEND
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FENCING
DRAINAGE
UTILITIES
LINEMARKING
ADJOINS SHEET - RD-00102
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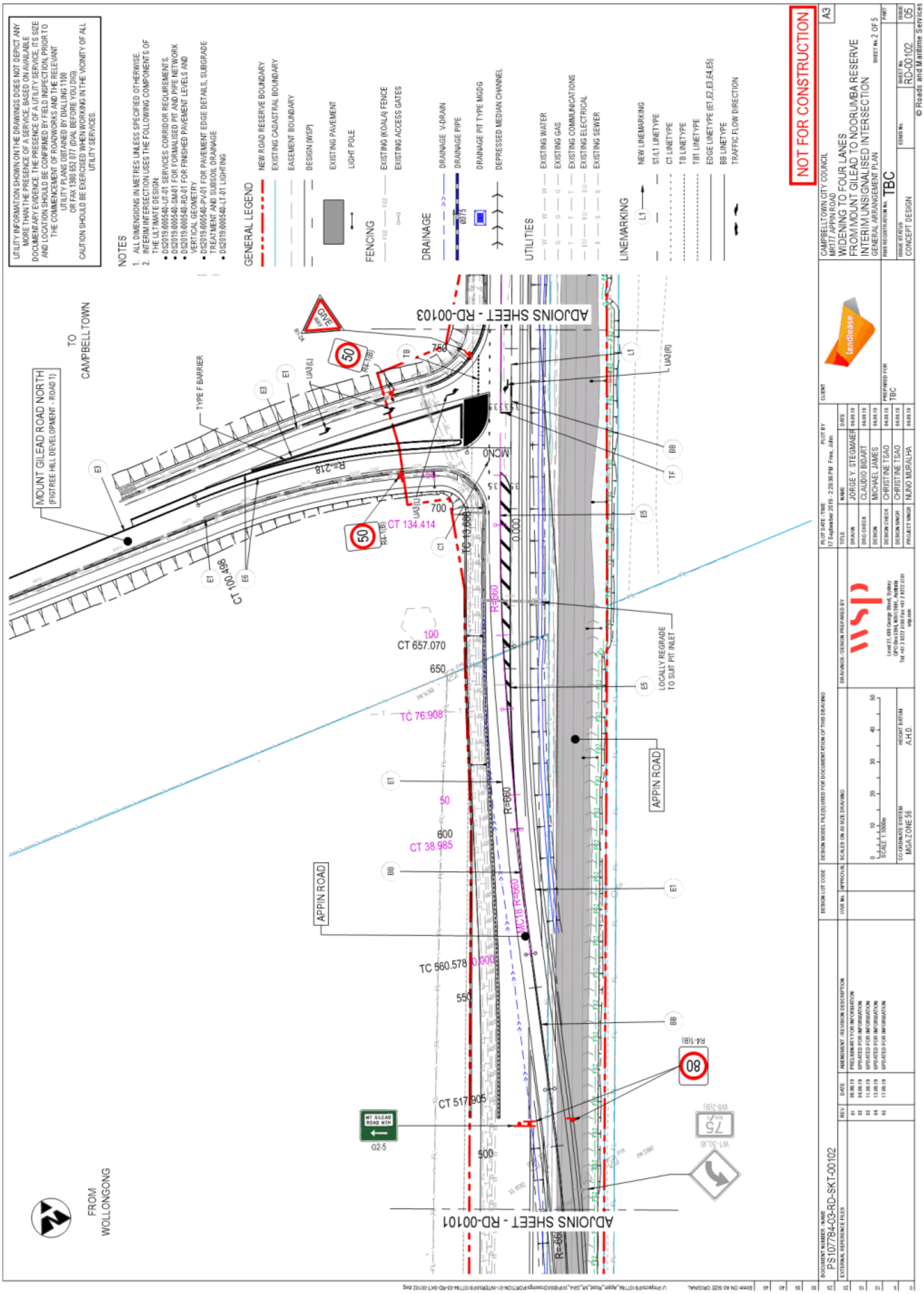
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TO CAMPBELLTOWN
FROM WOLLONGONG
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ADJOINS SHEET - RD-00103
ADJOINS SHEET - RD-00101
TYPE F BARRIER
LOCALLY REGRADE TO SUIT PIT INLET
NOTES
GENERAL LEGEND
FENCING
DRAINAGE
UTILITIES
LINEMARKING
CAMPBELLTOWN CITY COUNCIL
MR177 APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
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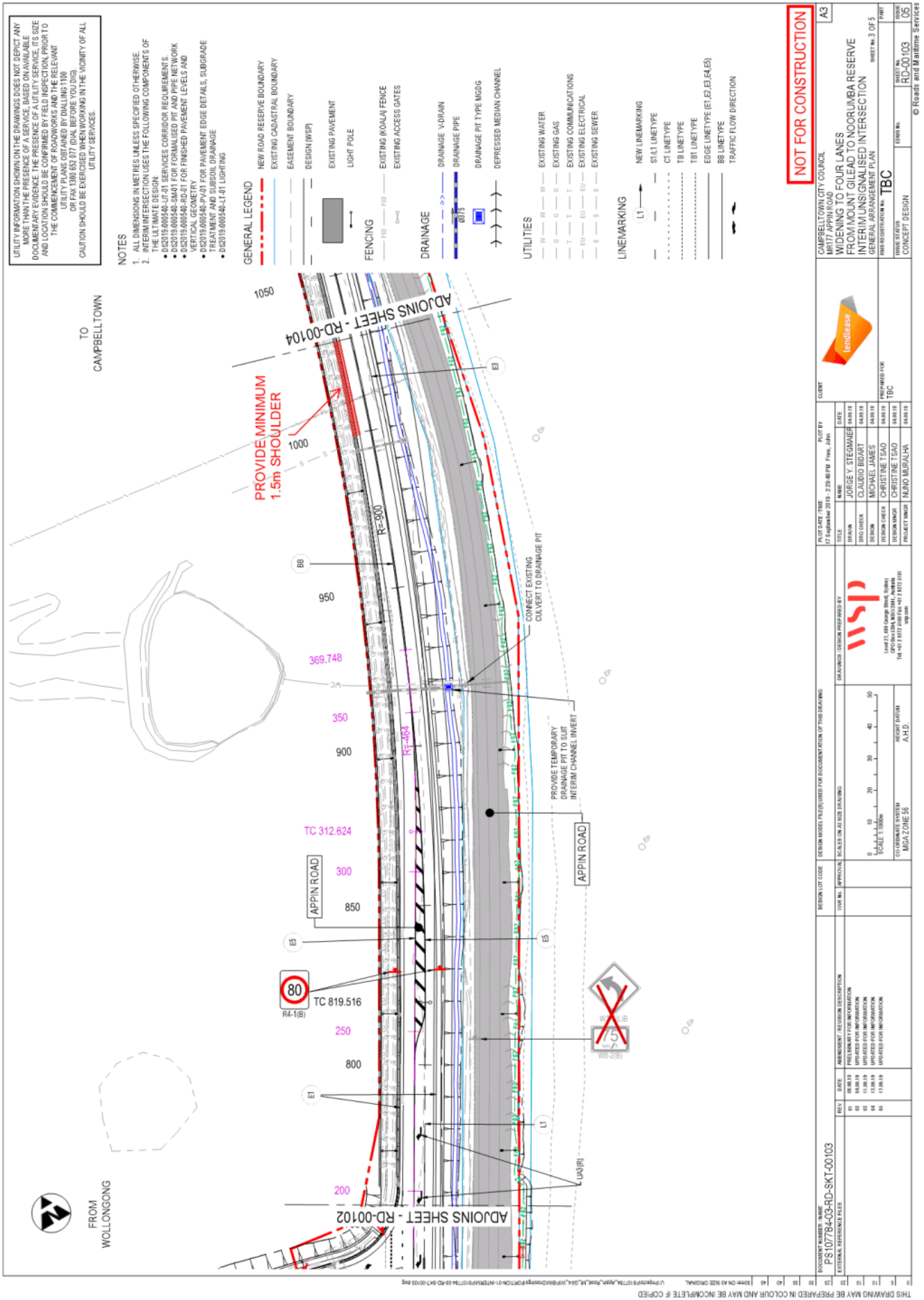
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GENERAL LEGEND
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DRAINAGE
UTILITIES
LINEMARKING
PROVIDE MINIMUM 1.5m SHOULDER
ADJOINS SHEET - RD-00104
ADJOINS SHEET - RD-00102
APPIN ROAD
CONNECT EXISTING CULVERT TO DRAINAGE PIT
PROVIDE TEMPORARY DRAINAGE PIT TO SUIT INTERIM CHANNEL INVERT
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FROM WOLLONGONG
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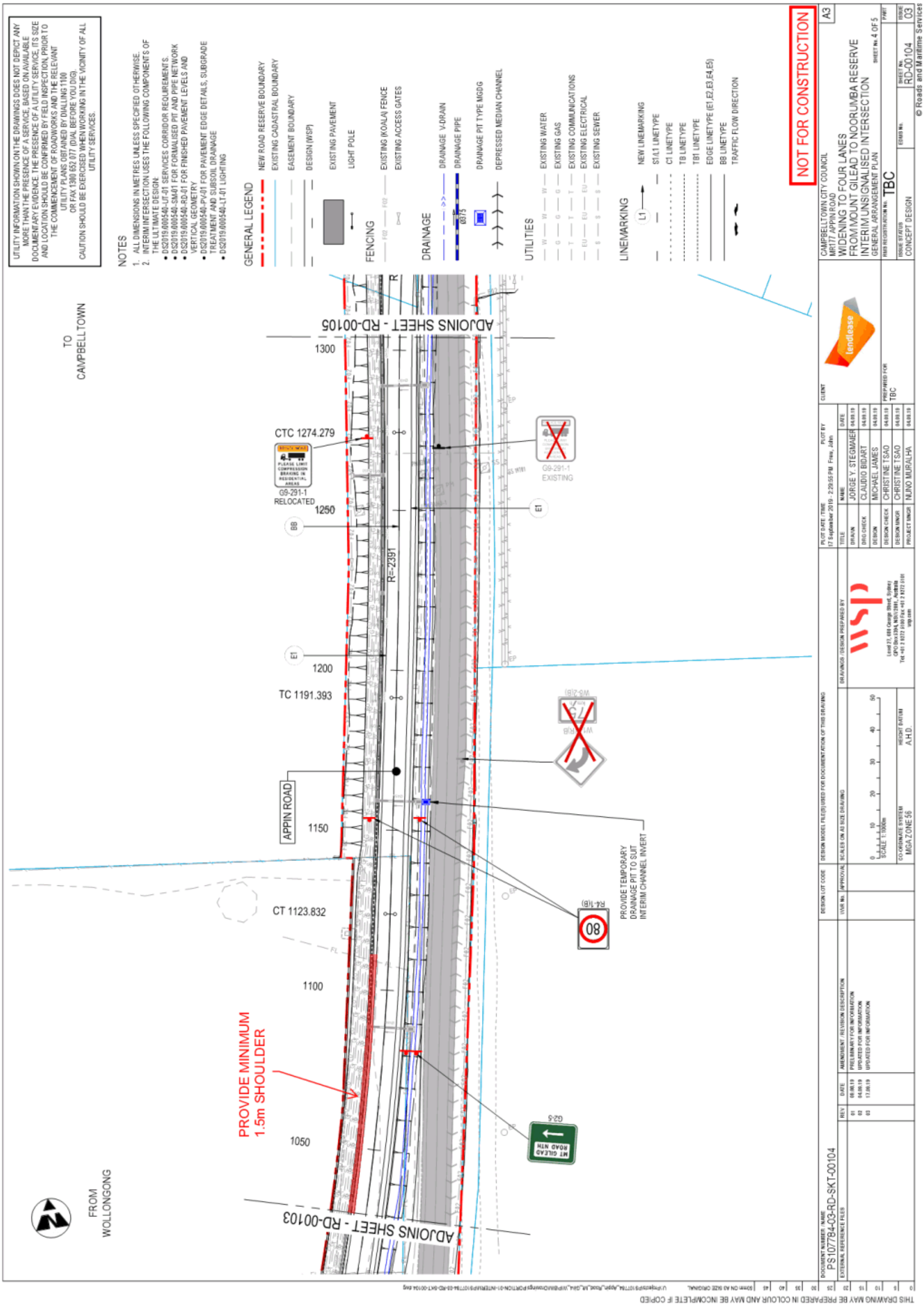

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TO CAMPBELLTOWN
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ADJOINS SHEET - RD-00103
APPIN ROAD
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G9-291-1 EXISTING
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1250
1200
1150
1100
1050
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GENERAL LEGEND
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EXISTING CADASTRAL BOUNDARY
EASEMENT BOUNDARY
DESIGN (WSP)
EXISTING PAVEMENT
LIGHT POLE
FENCING
EXISTING (KOALA) FENCE
EXISTING ACCESS GATES
DRAINAGE
DRAINAGE V-DRAIN
DRAINAGE PIPE
DRAINAGE PIT TYPE MSGG
DEPRESSED MEDIAN CHANNEL
UTILITIES
EXISTING WATER
EXISTING GAS
EXISTING COMMUNICATIONS
EXISTING ELECTRICAL
EXISTING SEWER
LINEMARKING
NEW LINEMARKING
TRAFFIC FLOW DIRECTION
CAMPBELLTOWN CITY COUNCIL
MR177 APPIN ROAD
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INTERIM UNSIGNALISED INTERSECTION
GENERAL ARRANGEMENT PLAN
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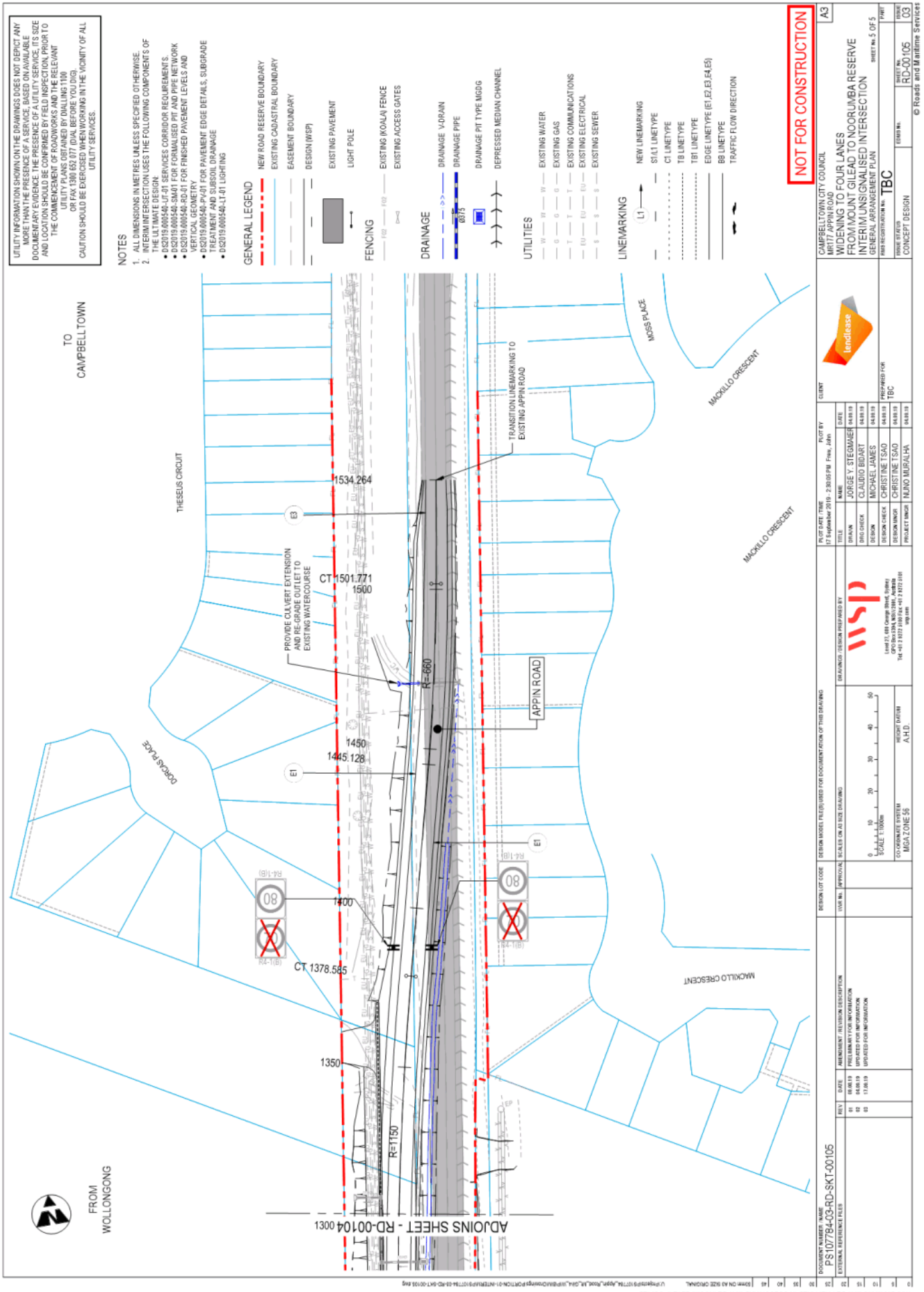
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INTERIM UNSIGNALISED INTERSECTION
GENERAL ARRANGEMENT PLAN
SHEET No. 5 OF 5
TBC
CONCEPT DESIGN
RD-00105
03
© Roads and Maritime Services
TO CAMPBELL TOWN
FROM WOLLONGONG
THESEUS CIRCUIT
DORICAS PLACE
MOSS PLACE
MACKILLO CRESCENT
APPIN ROAD
TRANSITION LINEMARKING TO EXISTING APPIN ROAD
PROVIDE CULVERT EXTENSION AND RE-GRADE OUTLET TO EXISTING WATERCOURSE
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CT 1378.585
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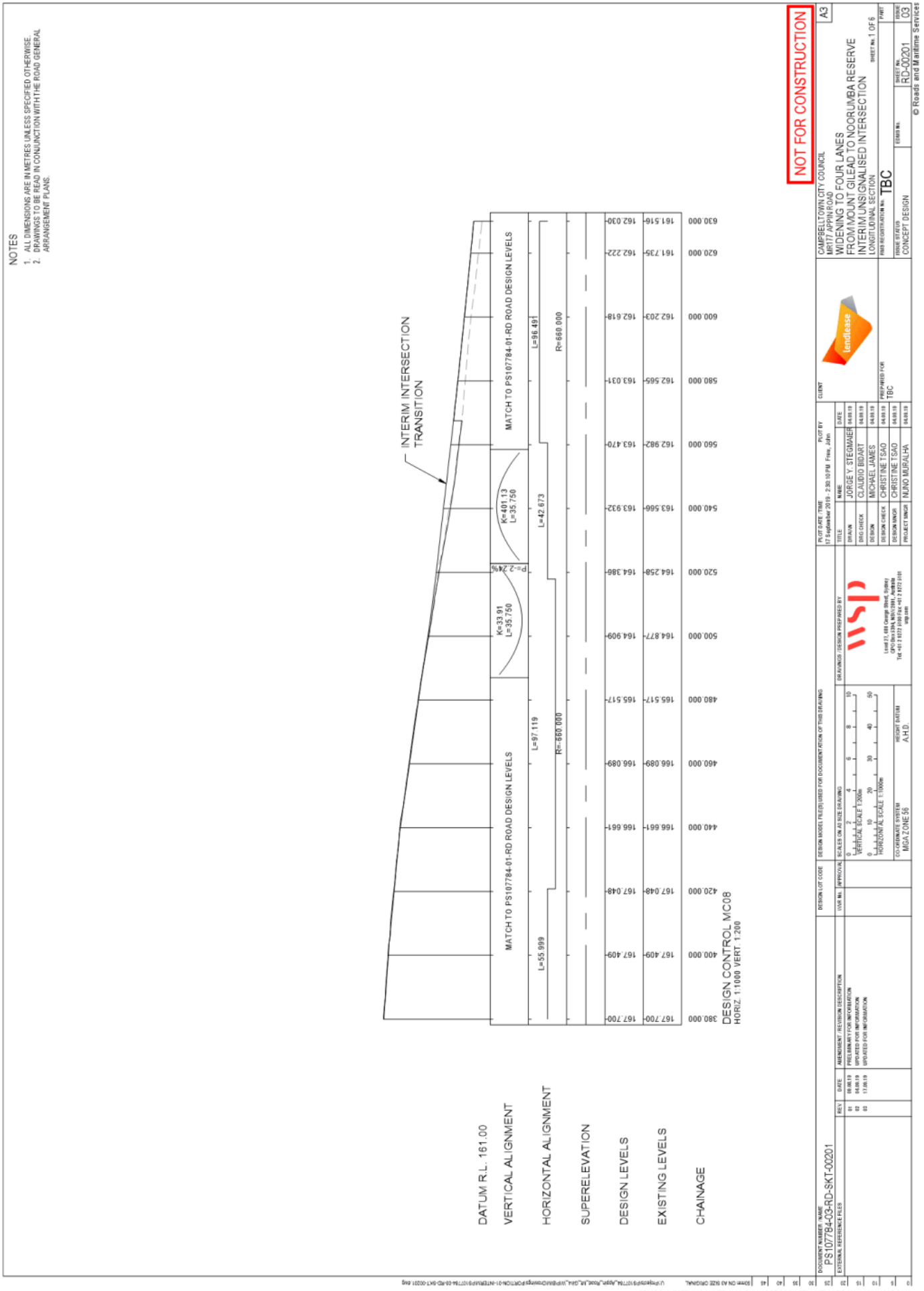
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2. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ROAD GENERAL ARRANGEMENT PLANS.
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MATCH TO PS107784-01-RD ROAD DESIGN LEVELS
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K=401.13 L=35.750
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DESIGN CONTROL MC08
HORIZ. 1:1000 VERT. 1:200
DATUM R.L. 161.00
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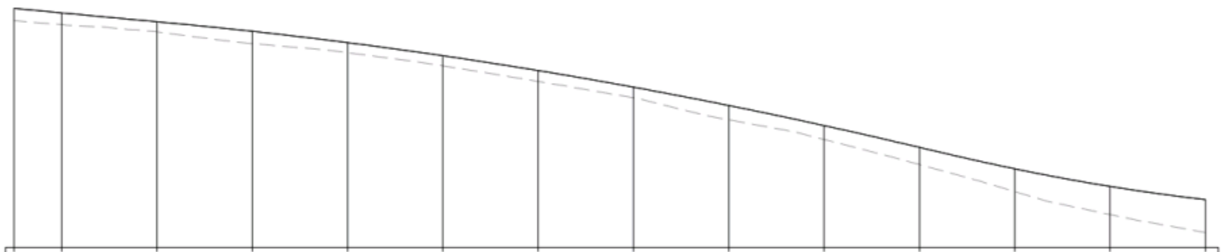
HORIZONTAL ALIGNMENT
SUPERELEVATION
DESIGN LEVELS
EXISTING LEVELS
CHAINAGE
380.000 400.000 420.000 440.000 460.000 480.000 500.000 520.000 540.000 560.000 580.000 600.000 620.000 630.000
167.700 167.409 167.048 166.661 166.089 165.517 164.909 164.877 164.258 163.932 163.560 163.031 162.565 162.203 162.222 162.030
167.700 167.409 167.048 166.661 166.089 165.517 164.909 164.386 164.258 163.932 163.560 163.031 162.982 162.618 162.735 161.516
DOCUMENT NUMBER NAME
PS107784-03-RD-SKT-00201
EXTERNAL REFERENCE FILES
REV DATE AMENDMENT REVISION DESCRIPTION
01 08.08.19 PRELIMINARY FOR INFORMATION
02 04.09.19 ISSUED FOR INFORMATION
03 17.09.19 UPDATED FOR INFORMATION
DESIGN LOT CODE
VAR No. APPROVAL
DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING
SCALES ON A3 SIZE DRAWING
VERTICAL SCALE 1:200m
HORIZONTAL SCALE 1:1000m
CO-ORDINATE SYSTEM
MGA ZONE 56
HEIGHT DATUM
AHD
DRAWINGS / DESIGN PREPARED BY
WSP
Level 27, 680 George Street, Sydney
GPO Box 5394, NSW 2001, Australia
Tel +61 2 9272 2000 Fax +61 2 9272 2181
wsp.com
PLOT DATE / TIME
17 September 2019 - 2:30:10 PM
PLOT BY
Fries, John
TITLE NAME DATE
DRAWN JORGE Y. STEGMAIER 04.09.19
DRG CHECK CLAUDIO BIDART 04.09.19
DESIGN MICHAEL JAMES 04.09.19
DESIGN CHECK CHRISTINE T SAO 04.09.19
DESIGN MNGR CHRISTINE T SAO 04.09.19
PROJECT MNGR NUNO MURALHA 04.09.19
CLIENT
Lendlease
PREPARED FOR
TBC
CAMPBELLTOWN CITY COUNCIL
A3
MRTT APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
LONGITUDINAL SECTION
SHEET No. 1 OF 6
RMS REGISTRATION No. TBC
PART
ISSUE STATUS
CONCEPT DESIGN
ISSUE No.
SHEET No.
RD-00201
ISSUE
03
© Roads and Maritime Services
THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED
50MM ON A3 SIZE ORIGINAL

NOTES
1. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
2. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ROAD GENERAL ARRANGEMENT PLANS.



DATUM R.L. 152.00

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SUPERELEVATION														
DESIGN LEVELS	162.030	161.840	161.466	161.067	160.592	160.042	159.419	158.723	157.954	157.111	156.198	155.299	154.561	154.005
EXISTING LEVELS	161.516	161.342	161.040	160.551	160.169	159.615	158.963	158.278	157.355	156.529	155.477	154.344	153.380	152.628
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DESIGN CONTROL MC08
HORIZ. 1:1000 VERT. 1:200

NOT FOR CONSTRUCTION

DOCUMENT NUMBER / NAME: PS107784-03-RD-SKT-00202

REV	DATE	AMENDMENT / REVISION DESCRIPTION
01	08.08.19	PRELIMINARY FOR INFORMATION
02	04.09.19	UPDATED FOR INFORMATION
03	17.09.19	UPDATED FOR INFORMATION

SCALES ON A3 SIZE DRAWING: VERTICAL SCALE 1:200m; HORIZONTAL SCALE 1:1000m
CO-ORDINATE SYSTEM: MGA ZONE 56 — HEIGHT DATUM: A.H.D.

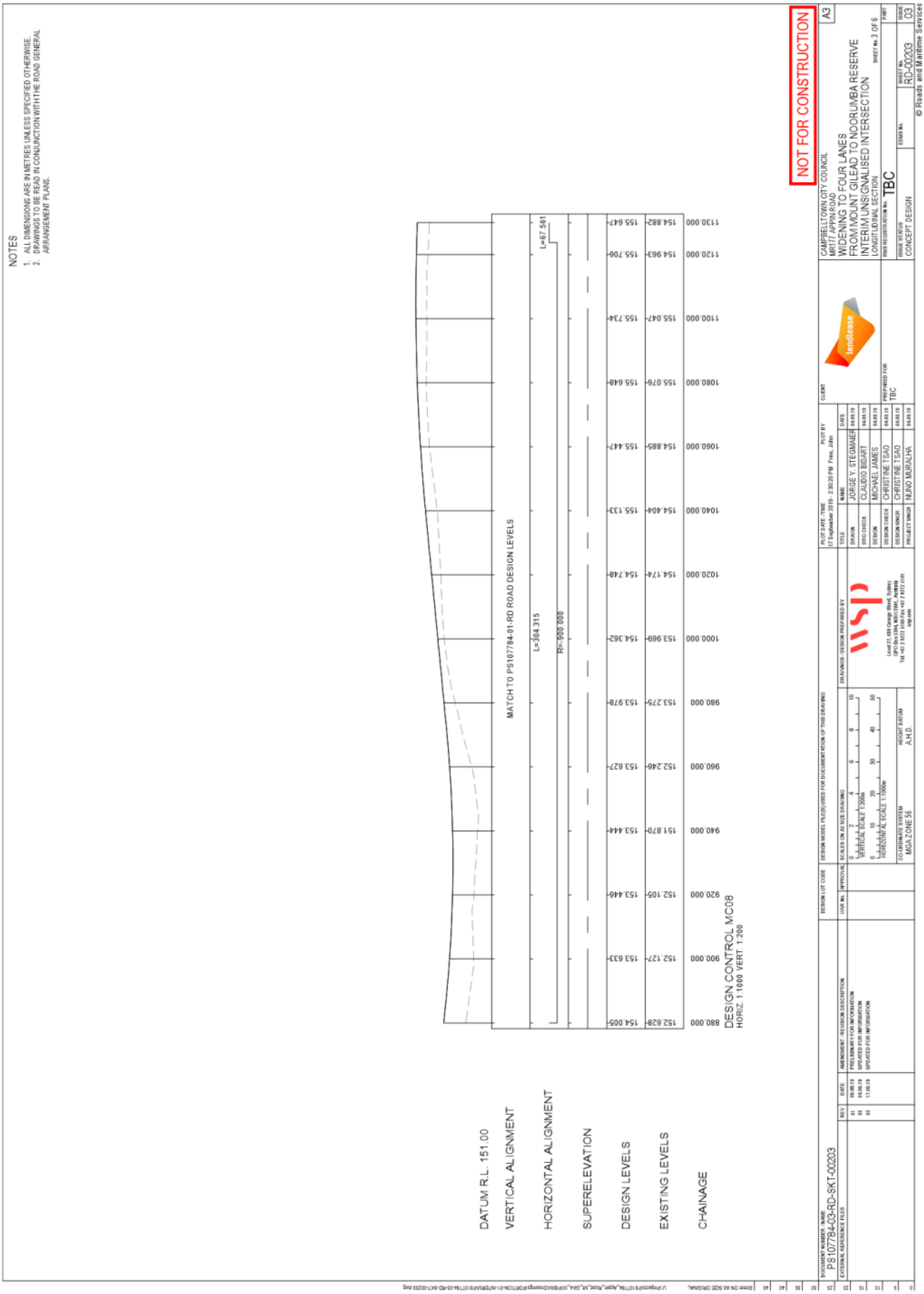
DRAWINGS / DESIGN PREPARED BY: wsp — Level 27, 680 George Street, Sydney GPO Box 5394, NSW 2001, Australia Tel +61 2 9272 5100 Fax +61 2 9272 5101 wsp.com

PLOT DATE / TIME: 17 September 2019 - 2:30:15 PM — PLOT BY: Frew, John

TITLE	NAME	DATE
DRAWN	JORGE Y. STEGMAIER	04.09.19
DRG CHECK	CLAUDIO BIDART	04.09.19
DESIGN	MICHAEL JAMES	04.09.19
DESIGN CHECK	CHRISTINE TSAO	04.09.19
DESIGN MNGR	CHRISTINE TSAO	04.09.19
PROJECT MNGR	NUNO MURALHA	04.09.19

CLIENT: Lendlease
PREPARED FOR: TBC

CAMPBELLTOWN CITY COUNCIL
MR177 APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
LONGITUDINAL SECTION
A3 — SHEET No. 2 OF 6
RMS REGISTRATION No. TBC
ISSUE STATUS: CONCEPT DESIGN — SHEET No. RD-00202 — ISSUE 03


NOTES
1. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
2. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ROAD GENERAL ARRANGEMENT PLANS.
NOT FOR CONSTRUCTION
DATUM R.L. 151.00
VERTICAL ALIGNMENT
HORIZONTAL ALIGNMENT
SUPERELEVATION
DESIGN LEVELS
EXISTING LEVELS
CHAINAGE
MATCH TO PS107784-01-RD ROAD DESIGN LEVELS
L=304.315
R=-900.000
L=67.561
DESIGN CONTROL MC08
HORIZ 1:1000 VERT 1:200
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920.000
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980.000
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1060.000
1080.000
1100.000
1120.000
1130.000
CAMPBELLTOWN CITY COUNCIL
MR177 APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
LONGITUDINAL SECTION
TBC
CONCEPT DESIGN
PS107784-03-RD-SKT-00203
RD-00203
03
A3
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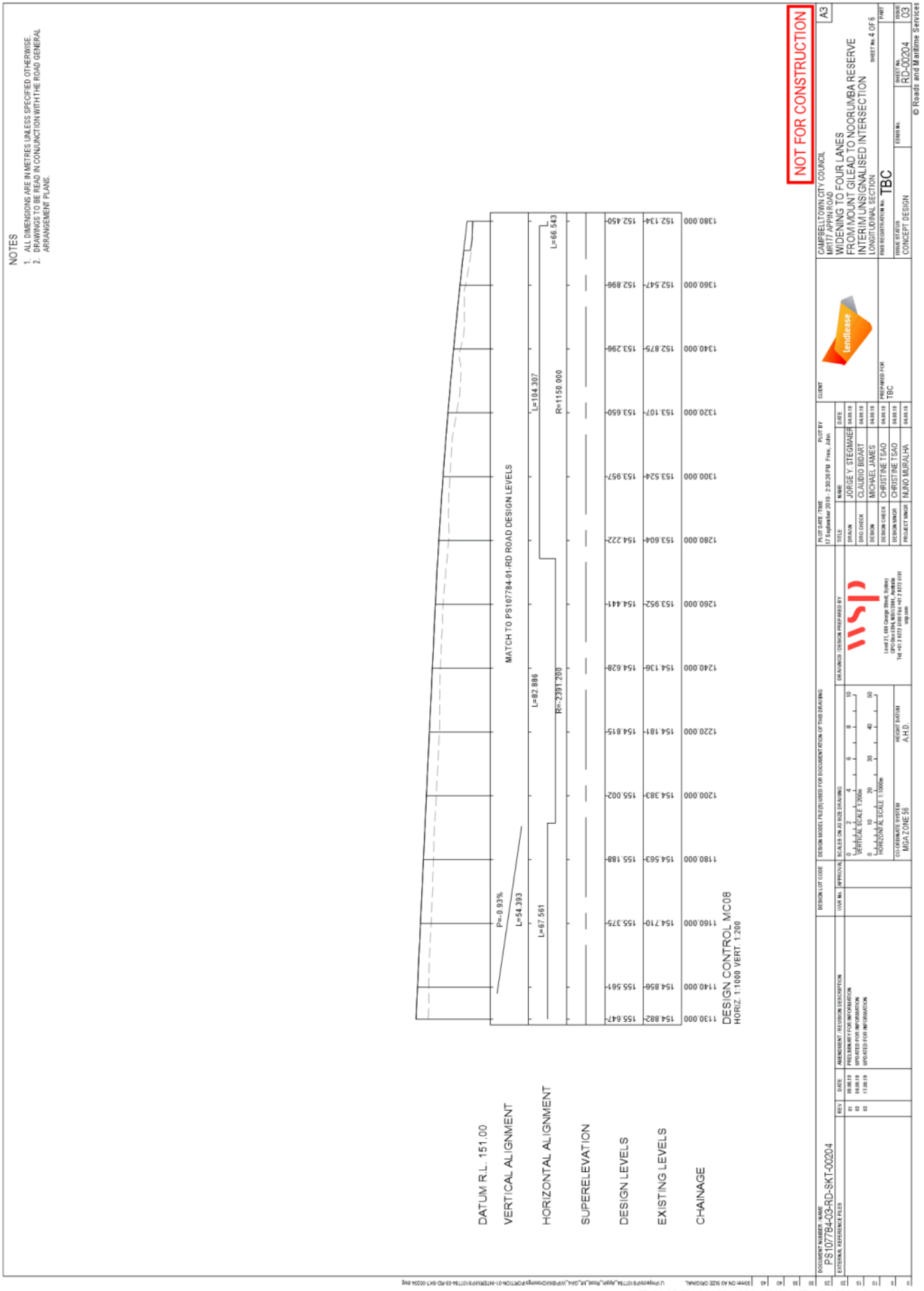
NOTES
1. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
2. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ROAD GENERAL ARRANGEMENT PLANS.
NOT FOR CONSTRUCTION
DATUM R.L. 151.00
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HORIZONTAL ALIGNMENT
SUPERELEVATION
DESIGN LEVELS
EXISTING LEVELS
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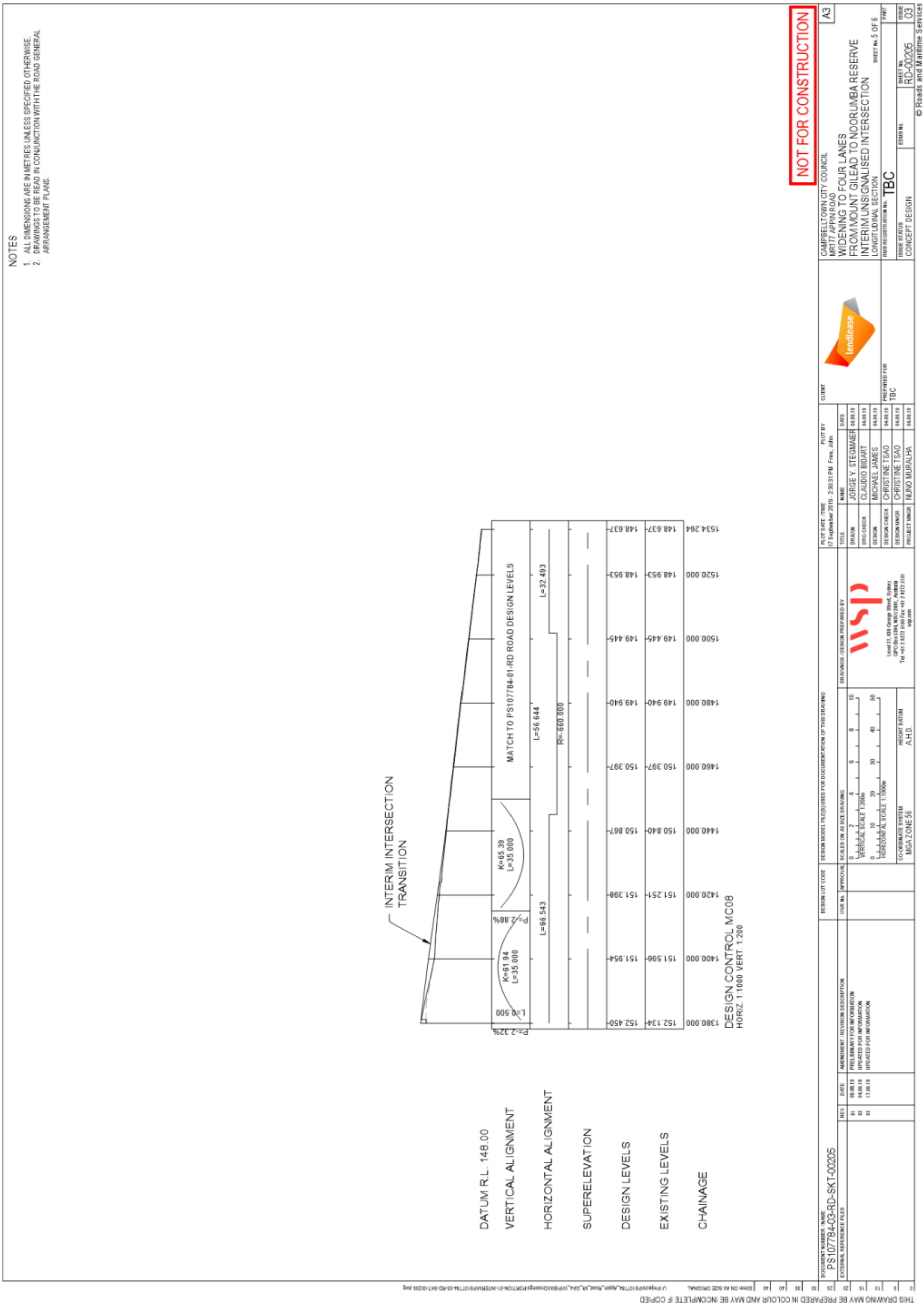
DESIGN CONTROL MC08
HORIZ. 1:1000 VERT 1:200
CAMPBELLTOWN CITY COUNCIL
MRTT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
LONGITUDINAL SECTION
SHEET No. 4 OF 6
TBC
CONCEPT DESIGN
PS107784-03-RD-SKT-00204
RD-00204
03
A3
Lendlease
© Roads and Maritime Services



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1. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
2. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ROAD GENERAL ARRANGEMENT PLANS.
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MATCH TO PS107784-01-RD ROAD DESIGN LEVELS
DATUM R.L. 148.00
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HORIZONTAL ALIGNMENT
SUPERELEVATION
DESIGN LEVELS
EXISTING LEVELS
CHAINAGE
DESIGN CONTROL MC08
HORIZ 1:1000 VERT 1:200
NOT FOR CONSTRUCTION
CAMPBELLTOWN CITY COUNCIL
MR177 APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
LONGITUDINAL SECTION
CONCEPT DESIGN
PS107784-03-RD-SKT-00205
RD-00205
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NOTES
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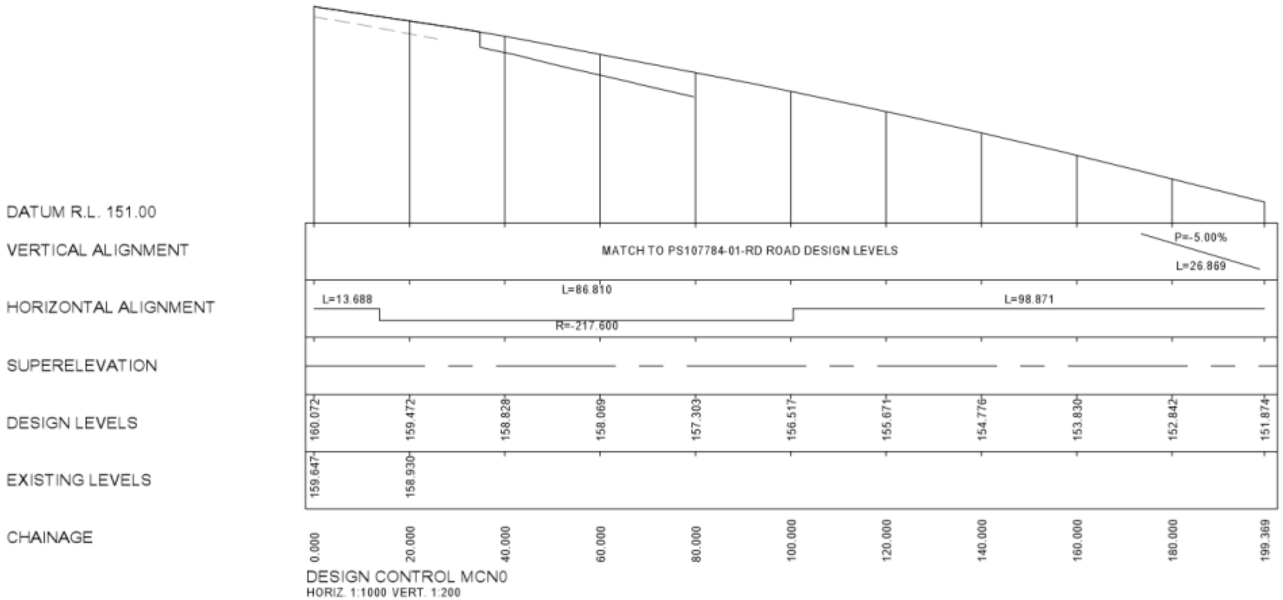
2. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ROAD GENERAL ARRANGEMENT PLANS.



NOT FOR CONSTRUCTION

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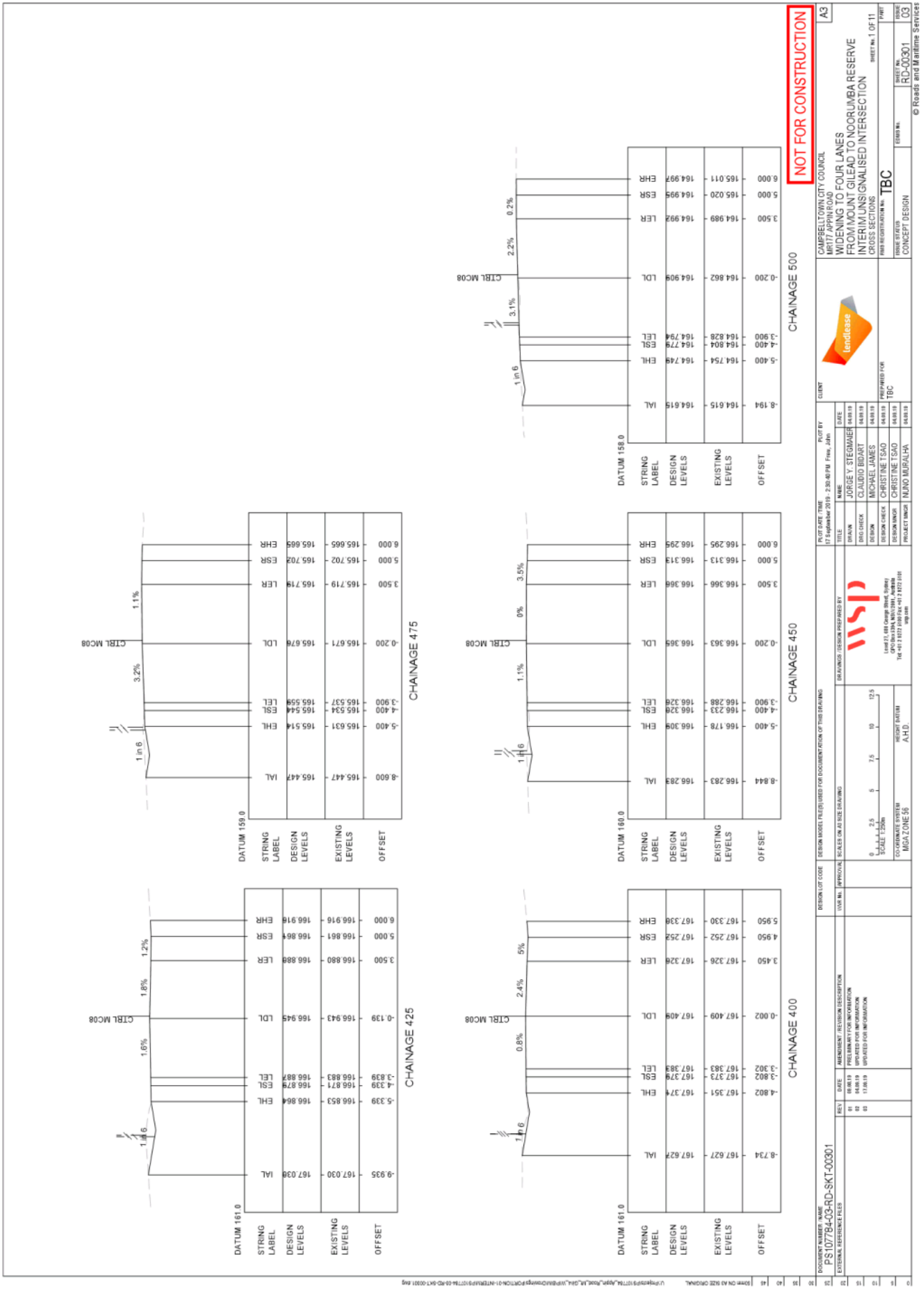
REV / DATE / AMENDMENT / REVISION DESCRIPTION	01 / 17.09.19 / PRELIMINARY FOR INFORMATION
SCALES ON A3 SIZE DRAWING	VERTICAL SCALE 1:200m; HORIZONTAL SCALE 1:1000m
CO-ORDINATE SYSTEM	MGA ZONE 56
HEIGHT DATUM	A.H.D.
DRAWINGS / DESIGN PREPARED BY	wsp, Level 27, 680 George Street, Sydney
PLOT DATE / TIME	17 September 2019 - 2:30:35 PM
PLOT BY	Frew, John
CLIENT	Lendlease
PREPARED FOR	TBC

TITLE	NAME	DATE
DRAWN	JORGE Y. STEGMAIER	04.09.19
DRG CHECK	CLAUDIO BIDART	04.09.19
DESIGN	MICHAEL JAMES	04.09.19
DESIGN CHECK	CHRISTINE TSAO	04.09.19
DESIGN MNGR	CHRISTINE TSAO	04.09.19
PROJECT MNGR	NUNO MURALHA	04.09.19

CAMPBELLTOWN CITY COUNCIL
MR177 APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
LONGITUDINAL SECTION
SHEET No. 6 OF 6
A3
RMS REGISTRATION No. TBC
ISSUE STATUS: CONCEPT DESIGN
SHEET No. RD-00206
ISSUE 01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CHAINAGE 475
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DATUM 159.0
DATUM 161.0
STRING LABEL
DESIGN LEVELS
EXISTING LEVELS
OFFSET
IAL
LDL
LER
ESR
EHR
EHL
ESL
LEL
CAMPBELLTOWN CITY COUNCIL
MRITT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
CONCEPT DESIGN
TBC
PS107784-03-RD-SKT-00301
RD-00301
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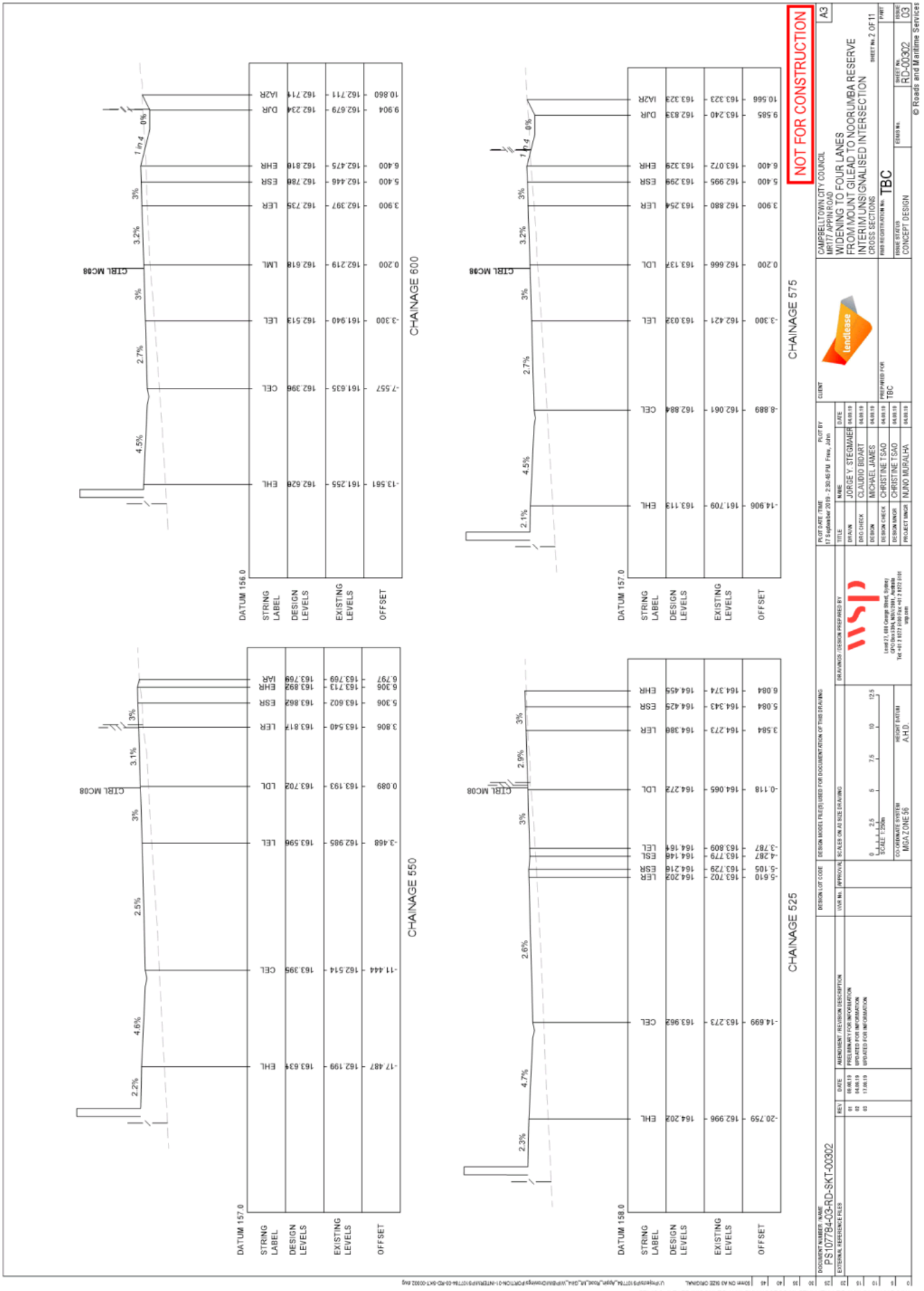
A3
© Roads and Maritime Services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EXISTING LEVELS
OFFSET
CAMPBELLTOWN CITY COUNCIL
MRTT APPN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
PS107784-03-RD-SKT-00302
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CONCEPT DESIGN
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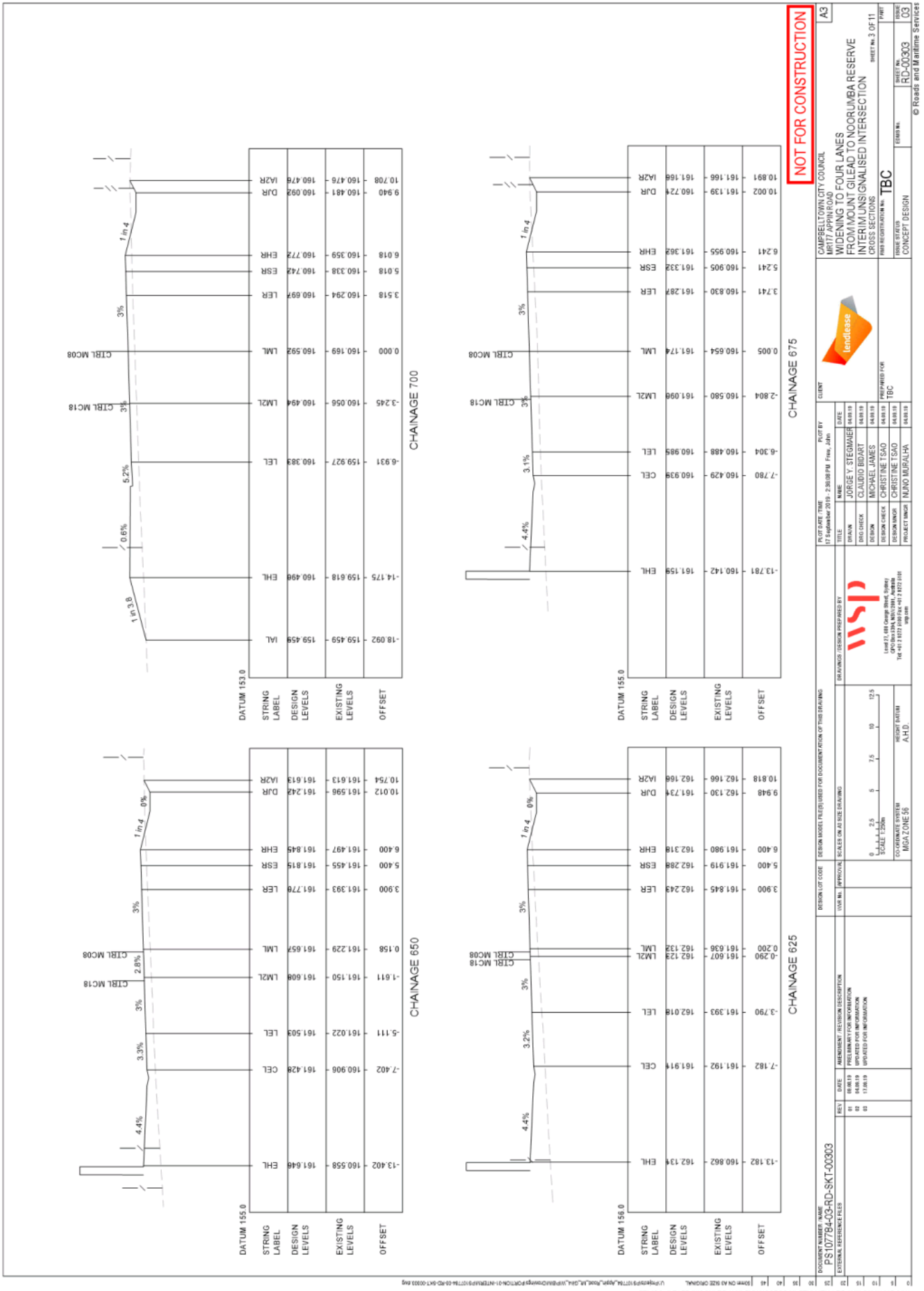
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CTRL MC18
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0.6%
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3.1%
3.2%
3.3%
2.8%
0%
IAL
EHL
LEL
LM2L
LML
LER
ESR
EHR
DJR
IA2R
CEL
CAMPBELLTOWN CITY COUNCIL
MRITT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
SHEET No. 3 OF 11
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TBC
Lendlease
WSP
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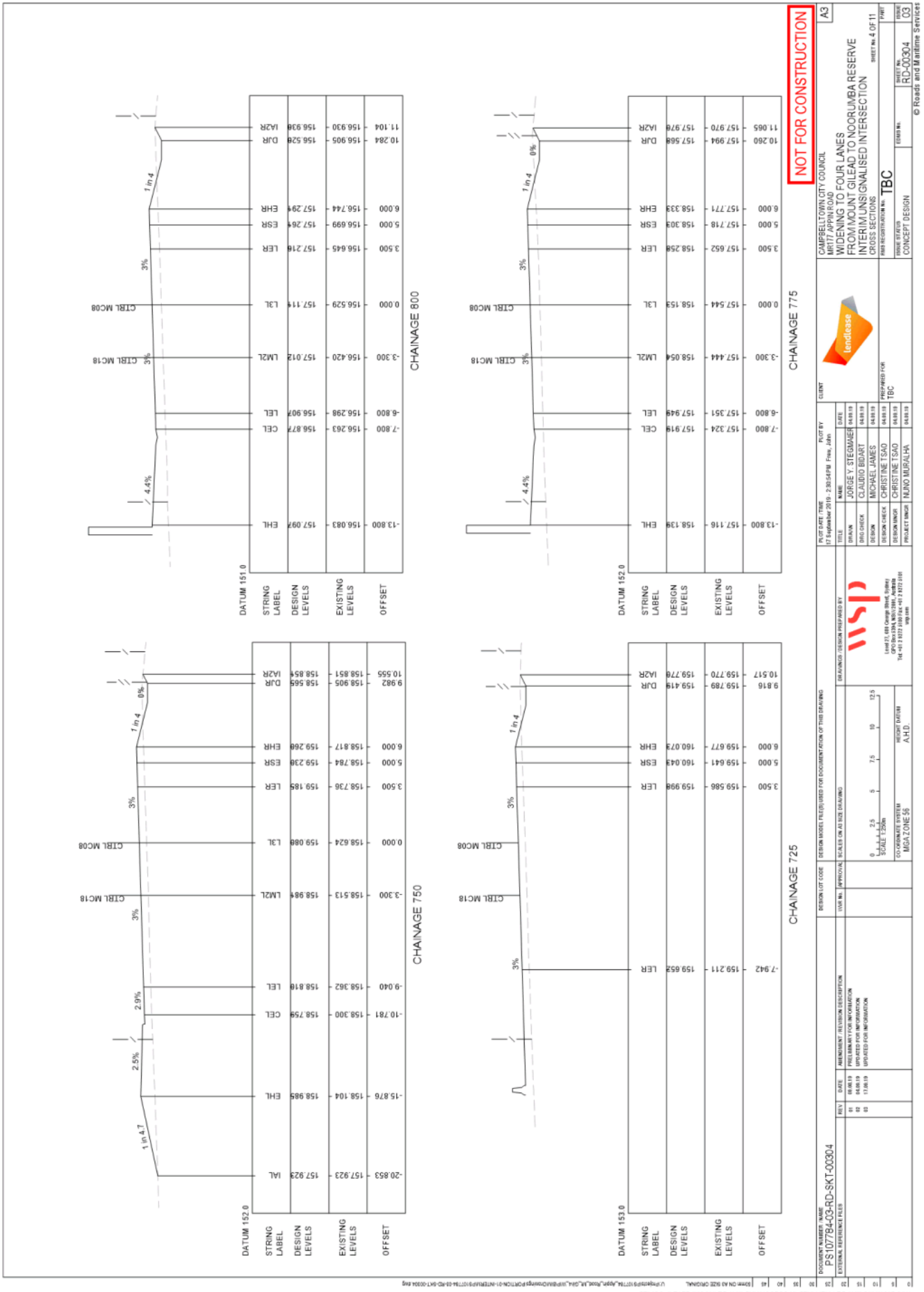
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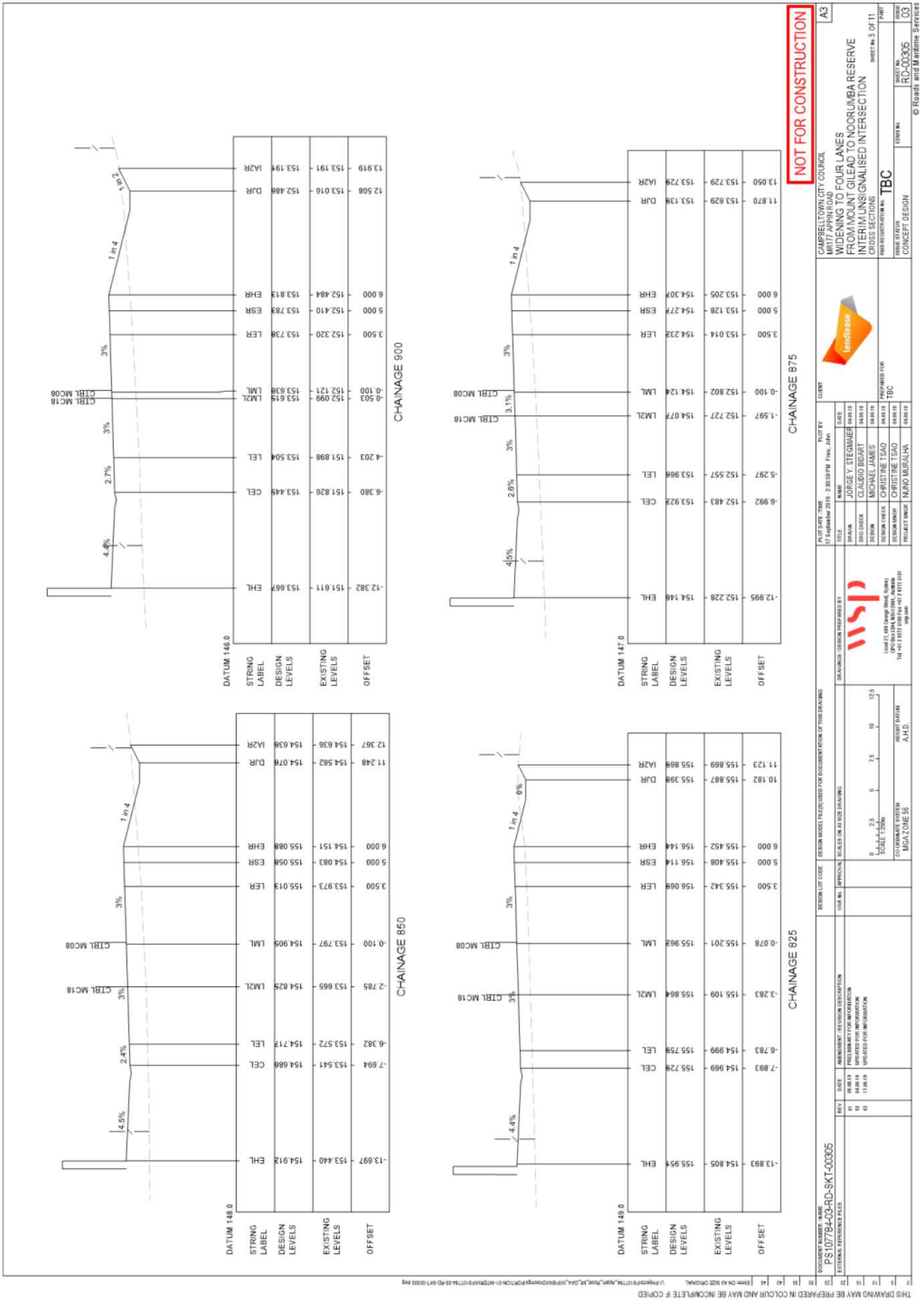
EXISTING LEVELS
OFFSET
CAMPBELLTOWN CITY COUNCIL
MRITT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
PS107784-03-RD-SKT-00304
RD-00304
CONCEPT DESIGN
© Roads and Maritime Services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EXISTING LEVELS
OFFSET
CAMPBELLTOWN CITY COUNCIL
MRITT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
PS107784-03-RD-SKT-00305
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CONCEPT DESIGN
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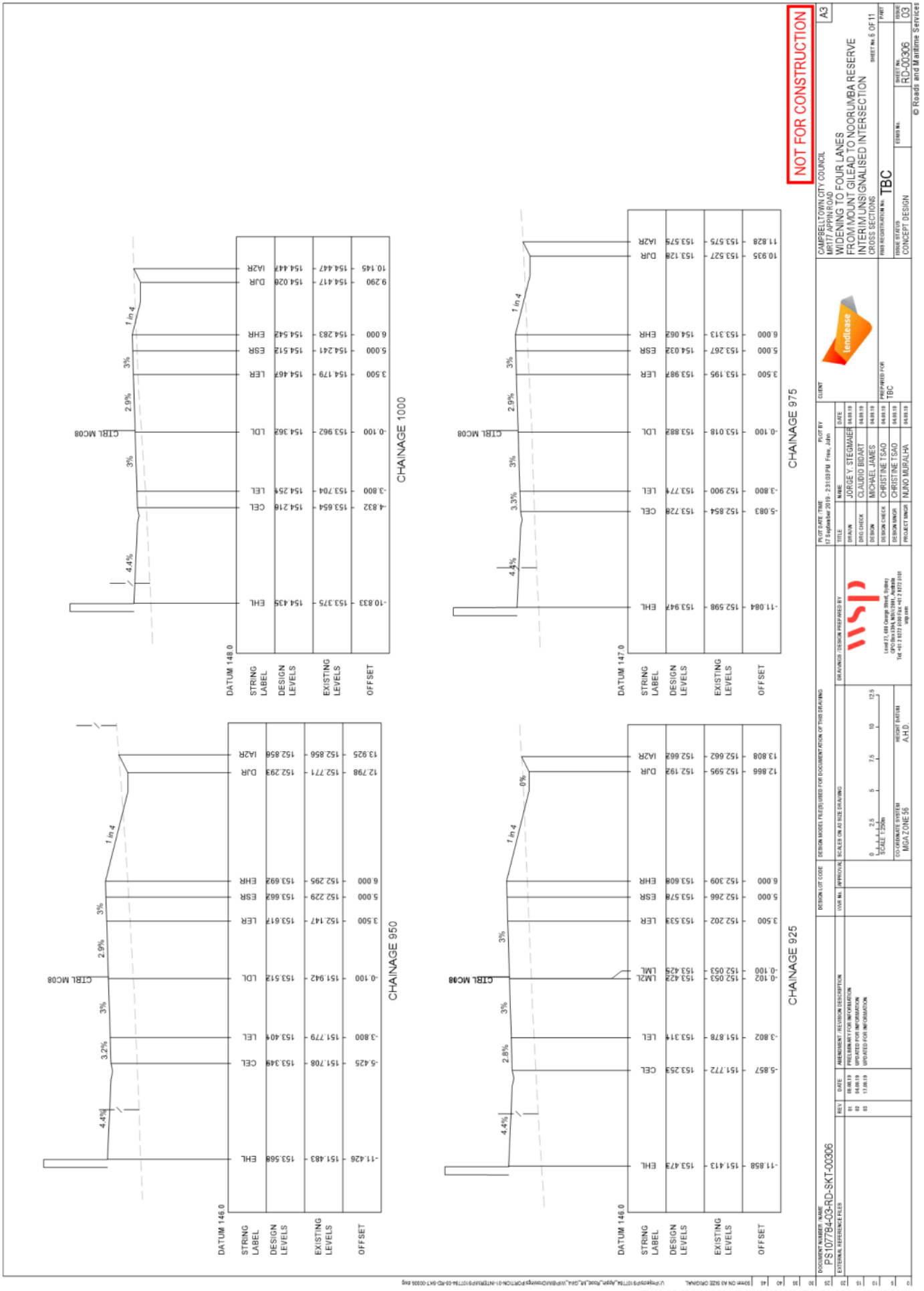
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EXISTING LEVELS
OFFSET
CTIRL MC08
1 in 4
4.4%
3.3%
3.2%
2.9%
2.8%
3%
0%
CAMPBELLTOWN CITY COUNCIL
MRITT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
TBC
CONCEPT DESIGN
RD-00306
03
PS107784-03-RD-SKT-00306
Lendlease
WSP
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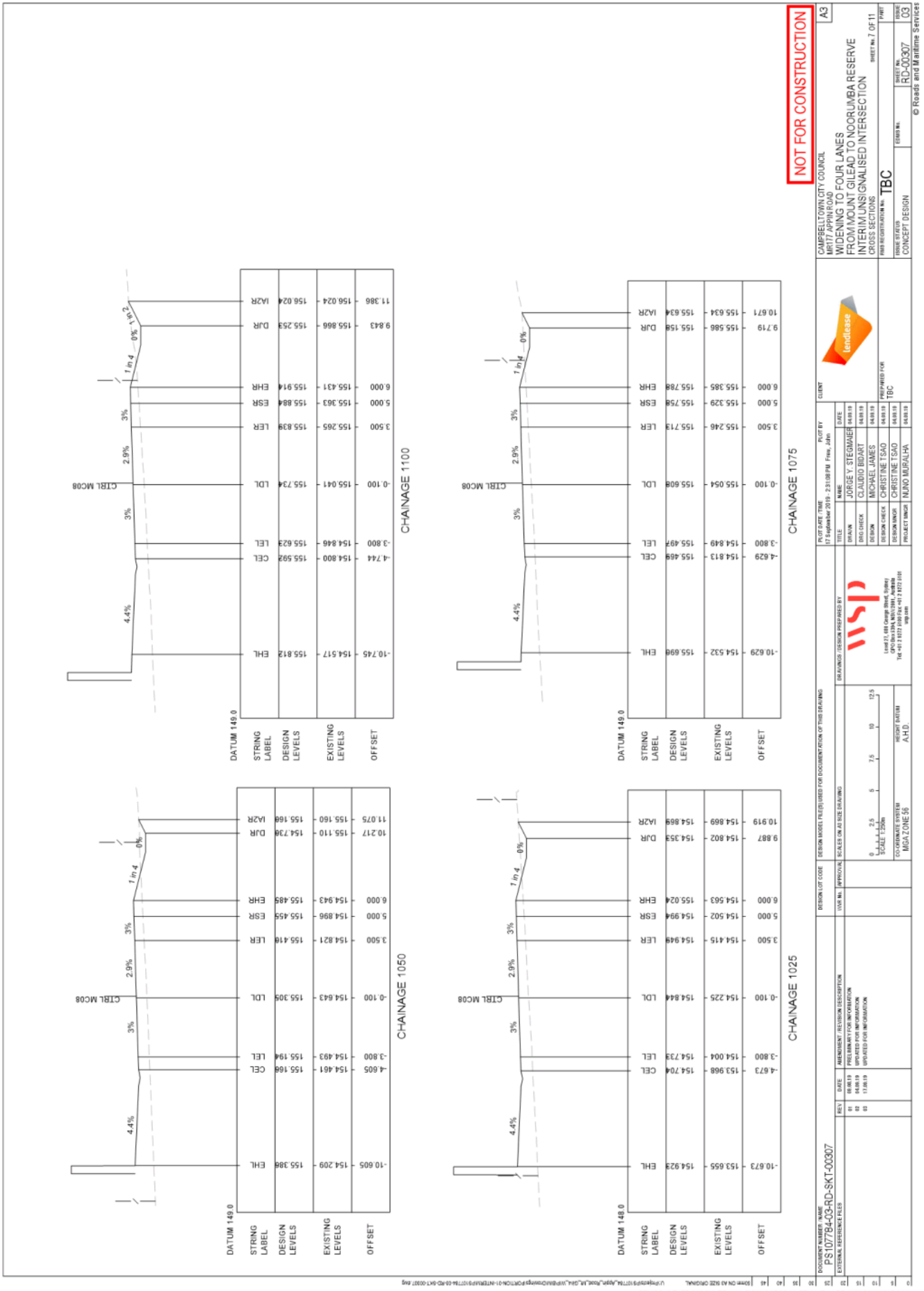
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EXISTING LEVELS
OFFSET
CAMPBELLTOWN CITY COUNCIL
MRITT / APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
TBC
CONCEPT DESIGN
RD-00307
03
PS107784-03-RD-SKT-00307
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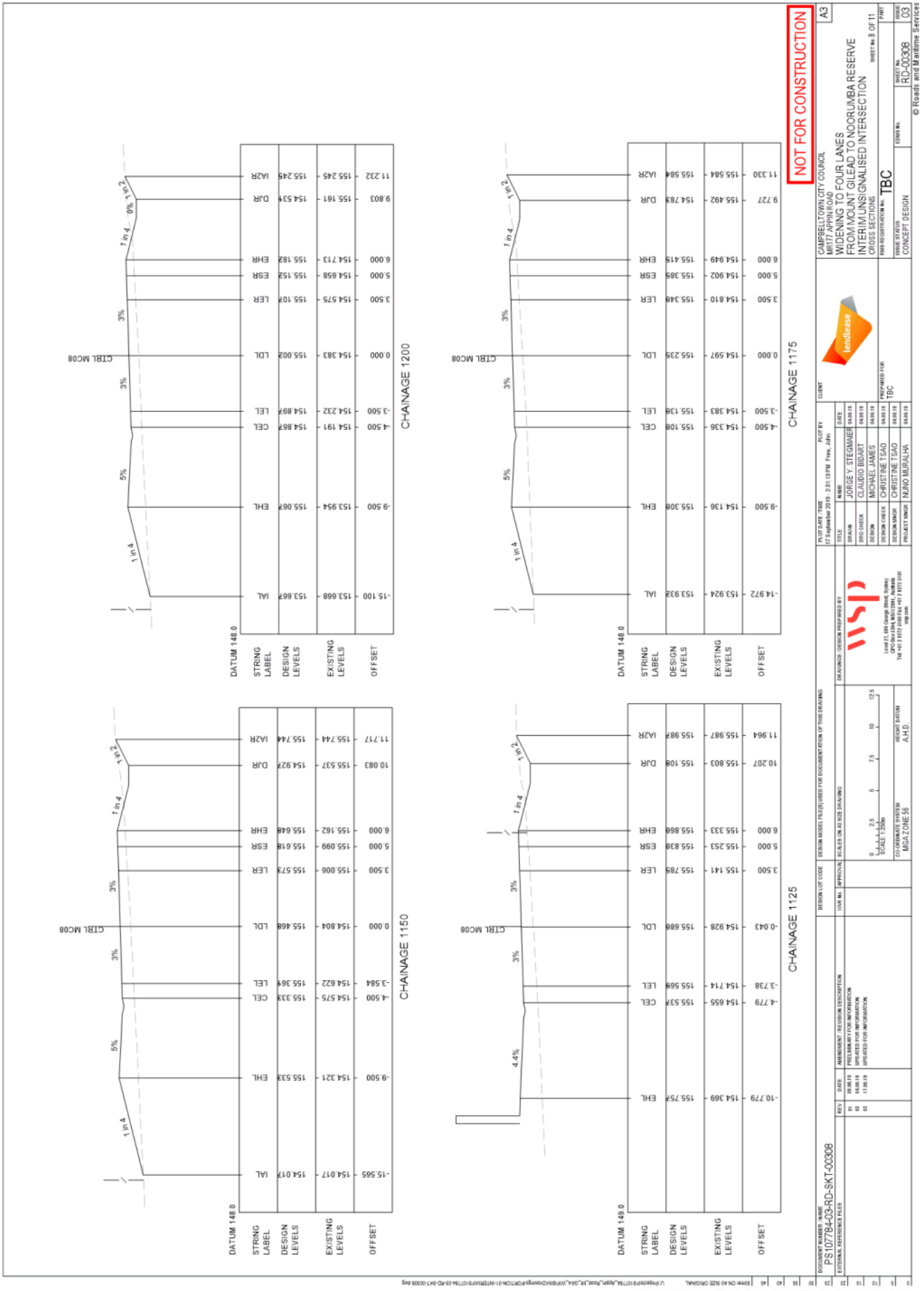
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DESIGN LEVELS
EXISTING LEVELS
OFFSET
IAL
EHL
LEL
CEL
ESR
EHR
LER
LDL
DUR
IAR
1 in 4
1 in 2
3%
5%
4.4%
CAMPBELLTOWN CITY COUNCIL
MRTT APPN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
TBC
CONCEPT DESIGN
PS107784-03-RD-SKT-00308
RD-00308
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A3
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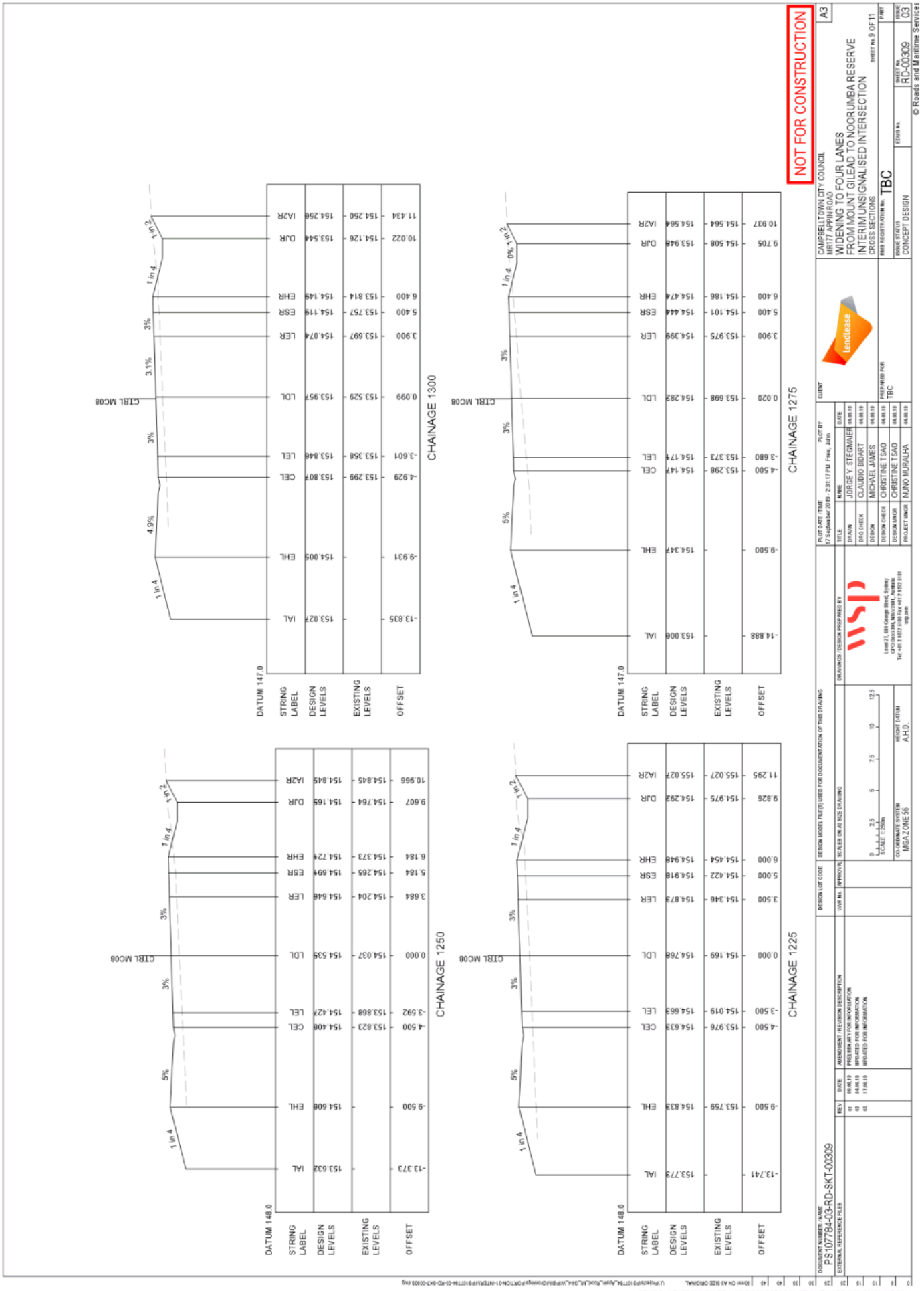
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OFFSET
IAL
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ESR
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1 in 4
1 in 2
5%
4.9%
3%
3.1%
0%
CAMPBELLTOWN CITY COUNCIL
MEITJ APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
TBC
CONCEPT DESIGN
PS107784-03-RD-SKT-00309
A3
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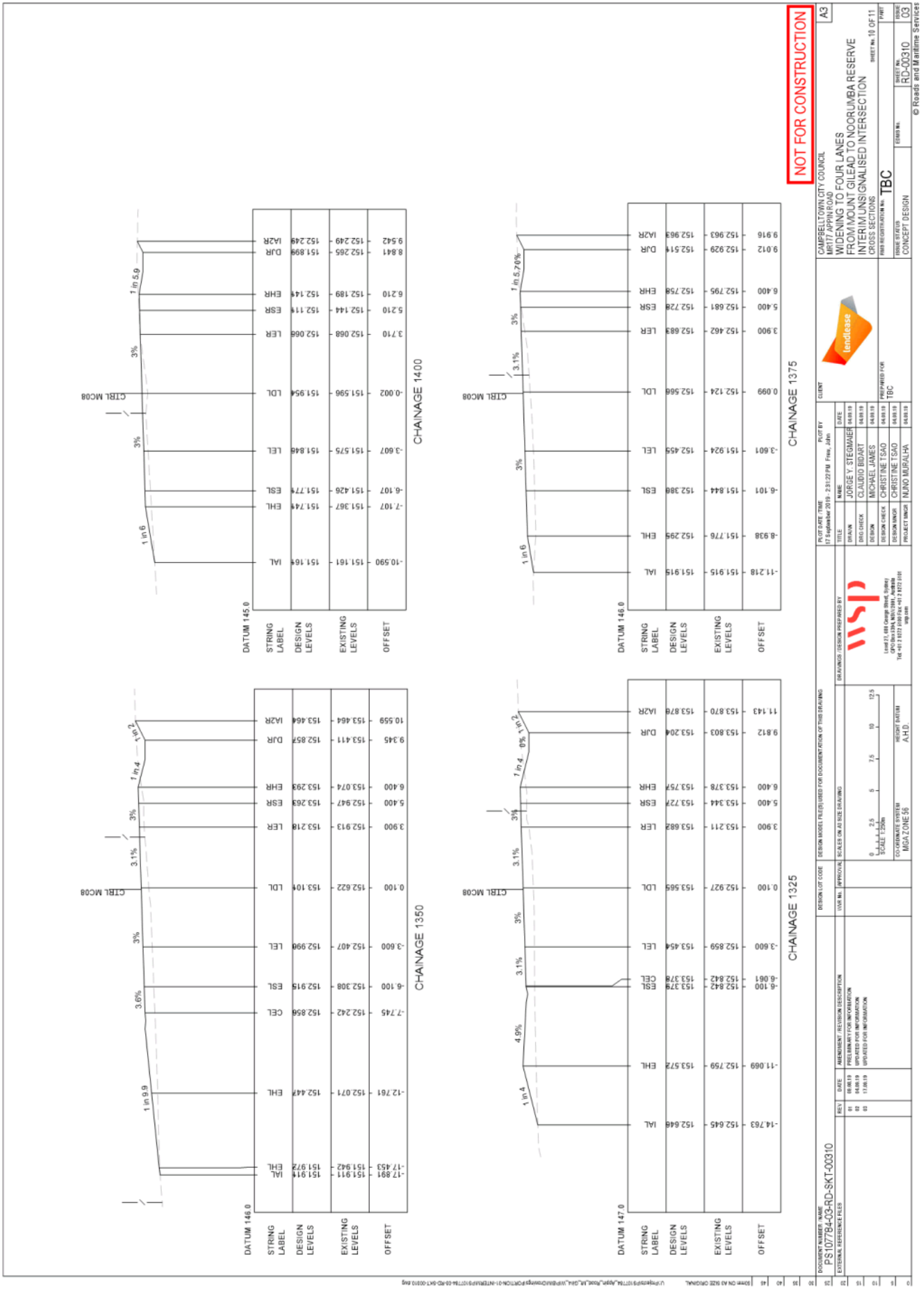
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EXISTING LEVELS
OFFSET
CTRL MC08
CAMPBELLTOWN CITY COUNCIL
MRTT APPIN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
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PS107784-03-RD-SKT-00310
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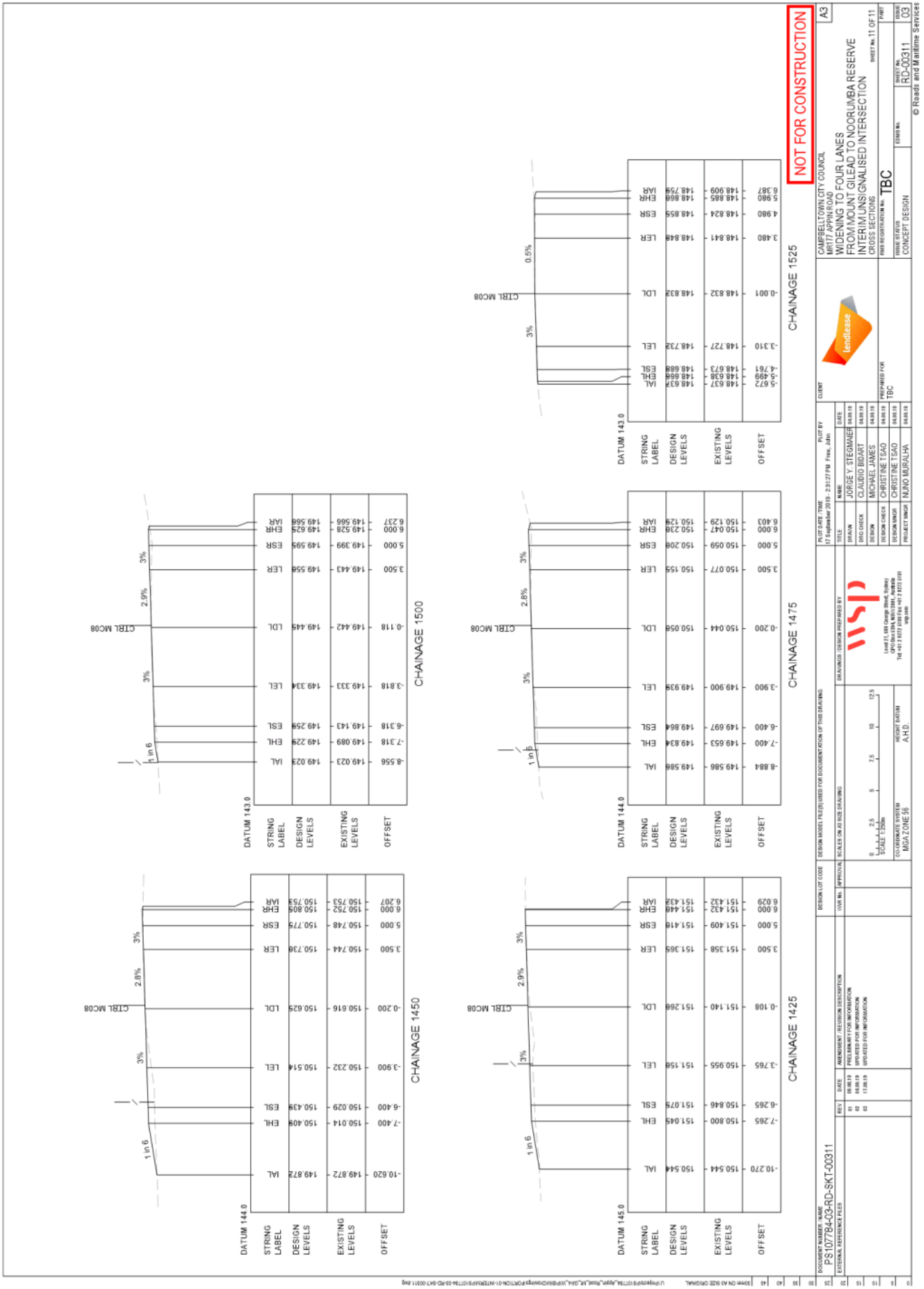
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DATUM 145.0
STRING LABEL
DESIGN LEVELS
EXISTING LEVELS
OFFSET
CAMPBELLTOWN CITY COUNCIL
MRITT APPN ROAD
WIDENING TO FOUR LANES
FROM MOUNT GILEAD TO NOORUMBA RESERVE
INTERIM UNSIGNALISED INTERSECTION
CROSS SECTIONS
CONCEPT DESIGN
PS107784-03-RD-SKT-00311
RD-00311
03
A3
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Transport Roads & Maritime Services

21 September 2019

Our Reference: SYD18/00924/06
Council Ref: 743/2018/DA-SW

The General Manager
Campbelltown City Council
PO Box 57
CAMPB ELLTOWN NSW 2560

Attention: **David Timmins**

Dear Lindy Deitz

PROPOSED 333 ALLOTMENT RESIDENTIAL SUBDIVISION - 901-913 APPIN ROAD, GILEAD

Reference is made to Council's letter dated 16 May 2018, regarding the abovementioned Application which was referred to Roads and Maritime Services (Roads and Maritime) for comment under *State Environmental Planning Policy (Infrastructure) 2007*.

Roads and Maritime has reviewed the submitted application and the additional information submitted by Matt Cooper dated 20 September 2019. Roads and Maritime provides concurrence under Section 138 of the *Roads Act 1993* for the construction of the interim un-signalised intersection on Appin Road, subject to the following requirements being included in the development consent:

1. The proposed works to construct the interim un-signalised intersection on Appin Road as shown on Preliminary Concept Design plans prepared by WSP dated 17 September 2019 (Plan references PS107784-03-RD-SKT-00101 to PS107784-03-RD-SKT-00311) shall be designed to meet Roads and Maritime requirements, and endorsed by a suitably qualified practitioner. The design requirements shall be in accordance with AUSTROADS and other Australian Codes of Practice. The certified copies of the civil design plans shall be submitted to Roads and Maritime for consideration and approval prior to the commencement of road works. Please send all documentation to development.sydney@rms.nsw.gov.au. The intersection shall be constructed and operational prior to the release of any subdivision certificate.

   The developer is required to enter into a Works Authorisation Deed (WAD) for the abovementioned works.

   Roads and Maritime fees for administration, plan checking, civil works inspections and project management shall be paid by the developer prior to the commencement of works.

Roads and Maritime Services

27-31 Argyle Street, Parramatta NSW 2150 |
PO Box 973 Parramatta NSW 2150 |

www.rms.nsw.gov.au | 13 22 13

2. Detailed design plans and hydraulic calculations of any changes to the stormwater drainage system are to be submitted to Roads and Maritime for approval, prior to the commencement of any works. Details should be forwarded to development.sydney@rms.nsw.gov.au.

   A plan checking fee will be payable and a performance bond may be required before Roads and Maritime approval is issued.

3. A Construction Traffic Management Plan detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be submitted to Council for approval prior to the issue of any Construction Certificate.

4. All vehicles are to enter and leave the site in a forward direction.

5. All vehicles are to be wholly contained on site before being required to stop.

6. A Road Occupancy Licence should be obtained from Transport Management Centre for any works that may impact on traffic flows on Appin Road during construction activities.

7. All demolition and construction vehicles are to be contained wholly within the site and vehicles must enter the site before stopping. A construction zone will not be permitted on Appin Road.

8. The developer shall be responsible for all construction works associated with the interim intersection on Appin Road, and public utility adjustment/relocation works, necessitated by the above work and as required by the various public utility authorities and/or their agents.

9. All works/regulatory signposting associated with the proposed development are to be at no cost to Roads and Maritime Services.

10. Part of the subject property was previously affected by a Road Widening Order under Section 25 of the *Roads Act 1993*, as published in Government Gazette No. 24 of 20 February 1970 Folio 552 and defined by DP 537524. However, this part of the Road Widening Order was abandoned (approval 80/24) by the Commissioner for Main Roads. However part of the subject property is affected by a road widening proposal, as shown by pink colour on the attached Aerial – "X".

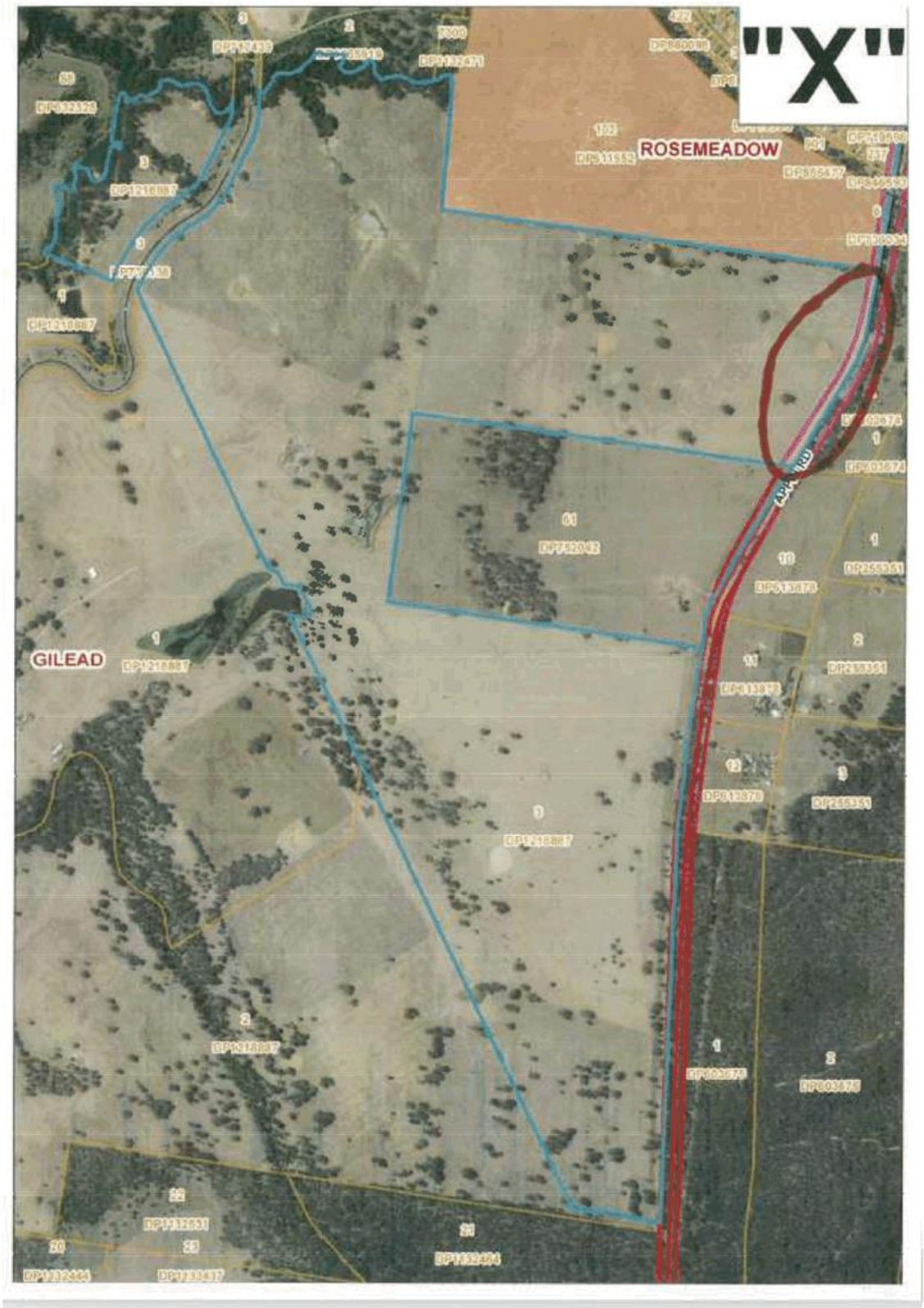
    Any new buildings or structures, together with any improvements integral to the future use of the site are to be erected clear of the land reserved for road widening - pink colour and the Appin Road corridor boundary (unlimited in height or depth).

Any inquiries in relation to this Application can be directed to the undersigned on 8849 2219 or development.sydney@rms.nsw.gov.au.

Yours sincerely

[redacted]

Pahee Rathan
Senior Land Use Assessment Coordinator
North West Precinct



3

Natural Resources Access Regulator

Contact: Jeremy Morice
Phone: 02 4275 9320
Email: jeremy.morice@nrar.nsw.gov.au

General Manager
Campbelltown City Council
PO Box 57
Campbelltown NSW 2560

Our ref: IDAS1107446
Your ref: DA743/2018

Attention: Belinda Borg
Emailed: Belinda.Borg@campbelltown.nsw.gov.au

17/05/2019

Dear Madam

Re: Integrated Development Referral – General Terms of Approval
Dev Ref: DA743/2018
Description: Subdivision of land to create 333 residential lots and 5 residue lots and associated civil works, including the removal of vegetation, dam dewatering, earthworks and the construction of roads and infrastructure
Location: Lot 61 DP752042 901 and 913 Appin Road
GILEAD

I refer to your recent letter regarding an integrated Development Application (DA) proposed for the above location. Attached, please find Natural Resources Access Regulator's General Terms of Approval (GTA) for part of the proposed development requiring a Controlled Activity Approval under the *Water Management Act 2000* (WM Act), as detailed in the subject DA.

Please note Council's statutory obligations under section 4.47 of the *Environmental Planning and Assessment Act 1979* (EPA Act) which requires a consent, granted by a consent authority, to be consistent with the general terms of any approval proposed to be granted by the approval body.

If the proposed development is approved by Council, NRAR requests these GTA be included (in their entirety) in Council's development consent. Please also note NRAR notification:

- if any plans or documents are amended and these amendments significantly change the proposed development or result in additional works or activities (i) in the bed of any river, lake or estuary; (ii) on the banks of any river lake or estuary, (iii) on land within 40 metres of the highest bank of a river lake or estuary; or (iv) any excavation which interferes with an aquifer.

  NRAR will ascertain from the notification if the amended plans require review of or variation/s to the GTA. This requirement applies even if the amendment is part of Council's proposed consent conditions and do not appear in the original documentation.

- if Council receives an application under s96 of the EPA Act to modify the development consent and the modifications change the proposed work or activities described in the original DA.
- of any legal challenge to the consent.

As the proposed work or activity cannot commence before the applicant applies for and obtains an approval, NRAR recommends the following condition be included in the development consent:

The attached GTA issued by NRAR do not constitute an approval under the *Water Management Act 2000*. The development consent holder must apply to NRAR for a Controlled Activity Approval **after consent** has been issued by Council **and before** the commencement of any work or activity.

A completed application form must be submitted to NRAR together with any required plans, documents, application fee, security deposit or bank guarantee (if required) and proof of Council's development consent. Finalisation of an approval can take up to eight (8) weeks from the date the application and all required supporting documentation is received.

Application forms are available from the NRAR website at:

www.industry.nsw.gov.au » Water » Licensing & Trade » Approvals.

NRAR requests that Council provide a copy of this letter to the development consent holder.

NRAR also requests a copy of the determination for this development application be provided by Council as required under section 91A (6) of the EPA Act.

Yours sincerely

[redacted]

For
Alison Collaros
Manager Licensing & Approvals (East)
Natural Resources Access Regulator
NSW Department of Industry

NSW GOVERNMENT | Natural Resources Access Regulator

General Terms of Approval

for proposed development requiring approval under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS1107446
Issue date of GTA:	17 May 2019
Type of Approval:	Controlled Activity
Description:	Subdivision of land to create 333 residential lots and 5 residue lots and associated civil works, including the removal of vegetation, dam dewatering, earthworks and the construction of roads and infrastructure
Location of work/activity:	901 and 913 Appin Road GILEAD
DA Number:	DA743/2018
LGA:	Campbelltown City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources

The GTA issued by NRAR do not constitute an approval under the *Water Management Act 2000*. The development consent holder must apply to NRAR for the relevant approval **after development consent** has been issued by Council **and before** the commencement of any work or activity.

Condition Number	Details
	Design of works and structures
GT0009-00010	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to Natural Resources Access Regulator, and obtained, for a controlled activity approval under the Water Management Act 2000.
GT0019-00003	Any proposed excavation on waterfront land must be undertaken in accordance with a plan submitted as part of a controlled activity approval, to be approved by Natural Resources Access Regulator.
	Erosion and sediment controls
GT0014-00007	A. The consent holder must ensure that any proposed materials or cleared vegetation, which may: i. obstruct water flow, or ii. wash into the water body, or iii. cause damage to river banks, are not stored on waterfront land, unless in accordance with a plan held by Natural Resources Access Regulator as part of a controlled activity approval. B. When the carrying out of the controlled activity has been completed, surplus materials must be removed from waterfront land.
	Plans, standards and guidelines
GT0002-00431	A. This General Terms of Approval (GTA) only applies to the proposed controlled activity described in the plans and associated documents found in Schedule 1, relating to Development Application 7432018 provided by Council to . B. Any amendments or modifications to the proposed controlled activity may render the GTA invalid. If the proposed controlled activity is amended or modified, Natural Resources Access Regulator, Parramatta Office, must be notified in writing to determine if any variations to the GTA will be required.
GT0004-00003	A. A security deposit must be provided, if required by Natural Resources Access Regulator. B. The deposit must be: i. a bank guarantee, cash deposit or equivalent, and ii. equal to the amount required by Natural Resources Access Regulator for that controlled activity approval.
GT0005-00192	A. The application for a controlled activity approval must include the following plan(s): - Vegetation Management Plan, Sediment and Erosion Control Plan, Stormwater Drainage Plan, Stormwater Outlet Structure Plan. B. The plan(s) must be prepared in accordance with Natural Resources Access Regulator's

Natural Resources Access Regulator

General Terms of Approval

for proposed development requiring approval under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS1107446
Issue date of GTA:	17 May 2019
Type of Approval:	Controlled Activity
Description:	Subdivision of land to create 333 residential lots and 5 residue lots and associated civil works, including the removal of vegetation, dam dewatering, earthworks and the construction of roads and infrastructure
Location of work/activity:	901 and 913 Appin Road GILEAD
DA Number:	DA743/2018
LGA:	Campbelltown City Council
Water Sharing Plan Area:	Greater Metropolitan Region Unregulated River Water Sources

	guidelines located on the website https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities.
GT0010-00006	All documents submitted to Natural Resources Access Regulator as part of an application for a controlled activity approval must be prepared by a suitably qualified person.
GT0030-00006	The application for a controlled activity approval must include plans prepared in accordance with Natural Resources Access Regulator's guidelines located on the website https://www.industry.nsw.gov.au/water/licensing-trade/approvals/controlled-activities.
	Rehabilitation and maintenance
GT0023-00002	Vegetation clearance associated with the proposed water supply work(s) must be limited to where the water supply works is to be constructed, as shown on the approved plan(s).
	Reporting requirements
GT0016-00003	The consent holder must inform Natural Resources Access Regulator in writing when any proposed controlled activity carried out under a controlled activity approval has been completed.

SCHEDULE 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by NRAR for integrated development associated with DA743/2018 as provided by Council:

- 1. Riparian Plan, prepared by Kingfisher Urban Ecology Wetlands, dated February 2019
- 2. Revised Stage 1 Civil Works Plans, Ref.80216021-10, Rev 7, prepared by Cardno, dated 6/10/2017
- 3. Subdivision Plans, 43240 012 SUB-1A & 1B, prepared by LTS Lockley, dated 9/10/2017
- Statement of Environmental Effects

All communications to be addressed to:

Headquarters
4 Murray Rose Ave
Sydney Olympic Park NSW 2127

Telephone: 1300 NSW RFS
e-mail: records@rfs.nsw.gov.au

Headquarters
Locked Bag 17
Granville NSW 2142

Facsimile: 8741 5433

The General Manager
Campbelltown City Council
PO Box 57
CAMPBELLTOWN NSW 2560

Your Ref: 743/2018/DA-SW
Our Ref: D18/5972
DA18061913565 AJ

ATTENTION: Rennie Rounds

23 April 2019

Dear Madam

Integrated Development Application - 901 & 913 Appin Road Gilead 2560

I refer to your correspondence dated 16 May 2018 seeking general terms of approval for the above Integrated Development Application.

The New South Wales Rural Fire Service (NSW RFS) has considered the information submitted. General Terms of Approval, under Division 4.8 of the 'Environmental Planning and Assessment Act 1979', and a Bush Fire Safety Authority, under Section 100B of the 'Rural Fires Act 1997', are now issued subject to the following conditions:

1. The development proposal is to generally comply with the subdivision layout identified on the drawing prepared by LTS numbered 43240 012 SUB, revision date 22 November 2018, unless amended by conditions of this bush fire safety authority.
2. In recognition that the rezoning of this site was supported by NSW RFS based on three proposed points of access onto Appin Road, the following shall be satisfied prior to issue of any subdivision certificate:

   - Council shall be satisfied that the proposed two points of access onto Appin Road have adequate capacity to provide safe access to and from the site for fire fighting vehicles and for residents evacuation the site during an emergency.

Asset Protection Zones

The intent of measures is to provide sufficient space and maintain reduced fuel loads so as to ensure radiant heat levels of buildings are below critical limits and to prevent direct flame contact with a building. To achieve this, the following conditions shall apply:

3. At the issue of subdivision certificate and in perpetuity the entirety of Stage 1A and 1B including proposed Lots 998 and 999 shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

4. At the issue of subdivision certificate and until such time as future stages are development such that the hazard is removed, temporary asset protection zones in accordance with Image 8 of the Bushfire Hazard Assessment Report prepared by Building Code & Bushfire Hazard Solutions P/L dated 9/3/18, shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'. A suitable legal instrument shall ensure the creation and maintenance of these APZs until such time as the hazard is removed.

Water and Utilities

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions shall apply:

5. Water, electricity and gas are to comply with section 4.1.3 of 'Planning for Bush Fire Protection 2006'.

6. Fire hydrant spacing, sizing and pressures shall comply with Australian Standard AS 2419.1– 2005 'Fire Hydrant Installations'.

Access

The intent of measures for public roads is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area. To achieve this, the following conditions shall apply:

7. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

8. If through connections to future stages are not yet open, temporary turning heads shall be provided for dead end roads connecting to future stages. Turning heads shall incorporate a minimum 12 metre out radius.

9. Two unimpeded public access roads onto Appin Road shall be provided, at a minimum, for every stage of the proposal. In this regard, prior to the issue of a subdivision certificate, the temporary connection of Road 19 to Appin Road in accordance with Image 1 of the bushfire assessment addendum prepared by Building Code & Bushfire Hazard Solutions dated 31/8/18 shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

General Advice – consent authority to note

This approval is for the subdivision of the land only. Any further development application for class 1,2 & 3 buildings as identified by the 'Building Code of Australia' must be subject to separate application under section 4.14 of the EP & A Act and address the requirements of 'Planning for Bush Fire Protection 2006' or 'Planning for Bush Fire Protection 2018' (whichever is applicable at that time).

Separation distances between future construction on proposed lots along the northern perimeter of Stage 1A to the adjoining northern vegetation are likely result in a bushfire attack level (BAL)of BAL 40 and may restrict future complying development or dual occupancy/multi dwelling development occurring on these lots.

Future residential development within large Lots 998 and 999 will require adequate separation from retained vegetation on adjoining lot to comply with either Table A2.4 of Planning for Bushfire Protection 2006, or Table A1.12.5 pre-release Planning for Bushfire Protection 2018, or AS3959-2009 to achieve a construction level no greater than BAL 29.

Should you wish to discuss this matter please contact Anna Jones on 1300 NSW RFS.

Yours sincerely

Martha Dotter
A/Team Leader Development Assessment & Planning

For general information on bush fire protection please visit www.rfs.nsw.gov.au

Subsidence Advisory NSW

117 Bull Street, Newcastle West NSW 2302
Tel 02 4908 4300 | www.subsidenceadvisory.nsw.gov.au
24 Hour Emergency Service: Free Call 1800 248 083
ABN 87 445 348 918

FN17-60402P1
TSUB18-00105

LEND LEASE
ATTN: MATT COOPER
Via email: matt.cooper@lendlease.com

Dear Matt

RE PROPOSED SUBDIVISION OVER 2 STAGES - 333 TORRENS TITLE RESIDENTIAL LOTS & 5 TORRENS TITLE RESIDUE LOTS WITH ASSOCIATED CIVIL WORKS INCLUDING ROAD CONSTRUCTION, PERMANENT AND TEMPORARY STORMWATER MANAGEMENT FACILITIES, SERVICES, GROUND CONTOURING AND TREE REMOVAL AT 901 APPIN ROAD AND 913 APPIN ROAD GILEAD; LOT 3 DP 1218887 & LOT 61 DP 752042;

NOTICE OF DETERMINATION

I refer to the application detailed above. Subsidence Advisory NSW has determined to grant approval under section 22 of the *Coal Mine Subsidence Compensation Act 2017*.

Approval has been granted, subject to the conditions set out in the attached determination under Schedule 2. The stamped approved plans have also been attached.

Should you have any questions about the determination I can be contacted by phone on 02 4908 4300 or via email at john.johnston@finance.nsw.gov.au

Yours faithfully,

[redacted]

John Johnston
Senior Risk Engineer

4 June 2018

DETERMINATION

Issued in accordance with section 22 of the *Coal Mine Subsidence Compensation Act 2017*

As delegate for Subsidence Advisory NSW under delegation executed 4 June 2018 approval is for the development described in Schedule 1, subject to the conditions attached in Schedule 2.

Determination Date: 4 June 2018

Approval to Lapse on: 4 June 2023

The conditions of approval are imposed for the following reasons:

a) To confirm and clarify the terms of Subsidence Advisory NSW approval.

b) To minimise the risk of damage to surface development from mine subsidence.

John Johnston
Senior Risk Engineer

Date: 4 June 2018

SCHEDULE 1

Application No: **TSUB18-00105**

Applicant: **LEND LEASE**

Site Address: **901 APPIN ROAD AND 913 APPIN ROAD GILEAD**

Lot and DP: **LOT 3 DP 1218887 & LOT 61 DP 752042**

Proposal**: SUBDIVISION OVER 2 STAGES - 333 TORRENS TITLE RESIDENTIAL LOTS & 5 TORRENS TITLE RESIDUE LOTS WITH ASSOCIATED CIVIL WORKS INCLUDING ROAD CONSTRUCTION, PERMANENT AND TEMPORARY STORMWATER MANAGEMENT FACILITIES, SERVICES, GROUND CONTOURING AND TREE REMOVAL**

Mine Subsidence District: **SOUTH CAMPBELLTOWN**

SCHEDULE 2

CONDITIONS OF APPROVAL

GENERAL	
Plans, standards and guidelines	
1.	The development being undertaken strictly in accordance with the details set out on the application form, any information submitted with the application and the plans submitted, as amended or as modified by the conditions of this approval. **Note**: Any proposal to modify the terms or conditions of this approval, whilst still maintaining substantially the same development to that approved, will require the submission of formal advice for consideration by Subsidence Advisory NSW. If amendments to the design result in the development not remaining substantially the same as that approved by this approval, a new Application will have to be submitted to Subsidence Advisory NSW.
2.	This approval expires 5 years after the date the approval was granted if subdivision works have not physically commenced.
3.	Subsidence Advisory NSW is to be notified of any changes to lot numbering and the registered DP number.
4.	Approval under section 22 of the *Coal Mine Subsidence Compensation Act 2017* is also required for the erection of all improvements on the land. As a guide, improvements shall comply with Subsidence Advisory NSW nominated Surface Development Guidelines, or otherwise assessed on merit.

Dispute Resolution

If you are dissatisfied with the determination of this application an appeal may be formally submitted with the Chief Executive Officer for an independent internal review. The application must be made in writing and must provide reasons why the determination should be changed.

NSW GOVERNMENT | Planning, Industry & Environment

IRF19/6592

Secretary's Certificate

Satisfactory Arrangements for designated State public infrastructure

Development Application
DA 743/2018/DA-SW

In accordance with the provisions of clause 6.1 in the *Campbelltown Local Environmental Plan 2015*, I, Brett Whitworth, Acting Deputy Secretary Greater Sydney, Place and Infrastructure, as delegate for the Secretary of the Department of Planning, Industry and Environment, certify that satisfactory arrangements have been made to contribute to the provision of designated State public infrastructure in relation to:

Development application number:	DA 743/2018/DA-SW
Address:	913 Appin Road, Gilead Lot 1 DP 1240836 and Lot 61 DP 752042
Development application description:	Subdivision of land to create 333 residential lots and 5 residue lots and associated civil works; including the removal of vegetation, dam dewatering, earthworks and the construction of roads and infrastructure
Map at Attachment A:	Yes

Brett Whitworth
Acting Deputy Secretary
Greater Sydney, Place and Infrastructure

Date: 23 October 2019

(as delegate for the Secretary)

**the satisfactory arrangements certificate is being issued in relation to the above development application only.*

320 Pitt Street Sydney NSW 2000 | GPO Box 39 Sydney NSW 2001 | dpie.nsw.gov.au

Planning, Industry & Environment

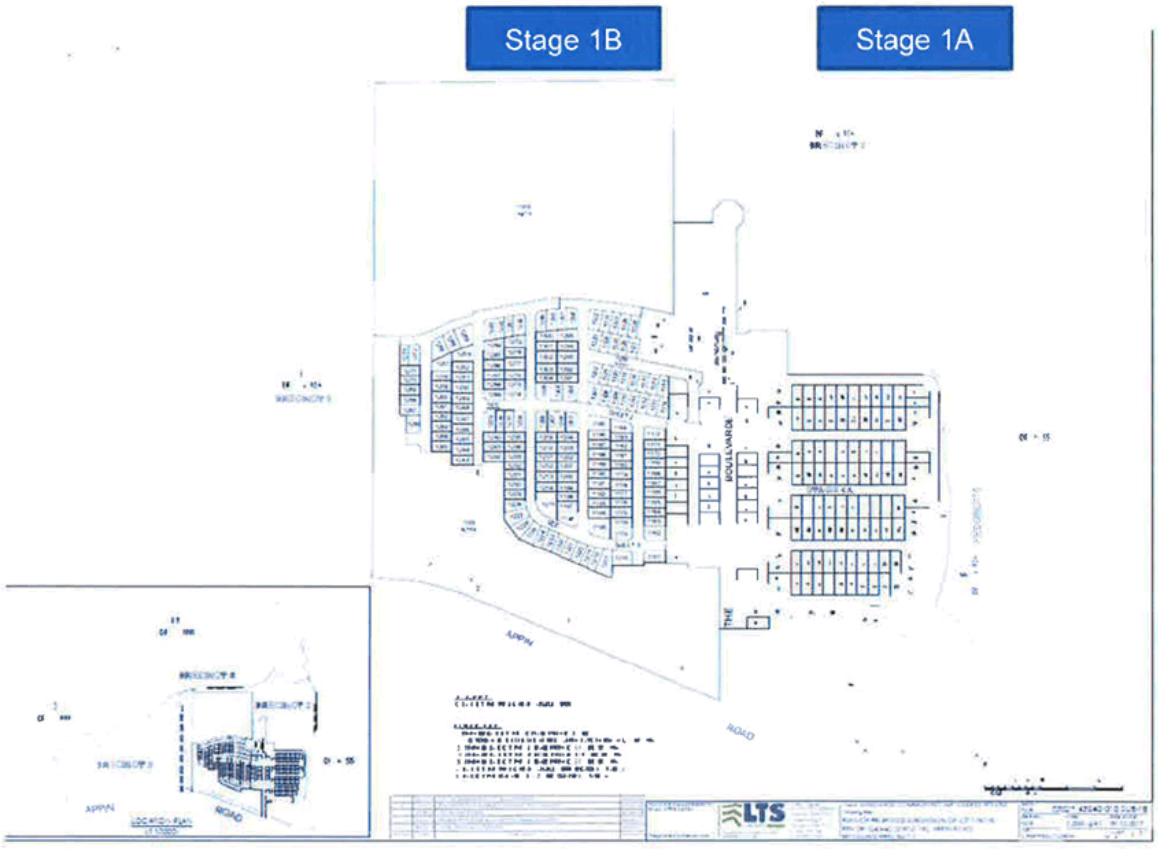
IRF19/6592

Secretary's Certificate

Satisfactory Arrangements for designated State public infrastructure

Development Application
DA 743/2018/DA-SW

Attachment A



Attachment 15

State Environmental Planning Policy (Sydney Region Growth Centres) 2006		
Clause	**Comment**	**Compliance**
Part 2 Land use and other development controls resulting from precinct planning		
7A Controls applying to Colebee, Edmondson Park, Bingara Gorge, Menangle Park, Mount Gilead and Glenlee Precincts For the purposes of this Policy, the provisions applying to the carrying out of development in the following precincts are those specified below for the precincts— (d) the provisions of Campbelltown Local Environmental Plan 2015 are specified for the land within Menangle Park Precinct and Mount Gilead Precinct within the Greater Macarthur Growth Area,	The provision of the Campbelltown Local Environmental Plan 2015 apply to land within the Mount Gilead Precinct. This report provides an assessment of the proposal against the relevant provisions of the Campbelltown Local Environmental Plan 2015.	Yes
Part 3 Land Use—Environment Conservation and Recreation Zones		
8 Application of Part and of other planning instruments (1) This Part applies to land within a growth centre precinct that is zoned under this Part. (2) Land that is zoned under this Part is not subject to the provisions of any environmental planning instrument (other than a State environmental planning policy or regional environmental plan) applying to the land concerned, except to the extent that this Policy otherwise provides. (3) This Part does not apply to land to which a Precinct Plan applies or land referred to in clause 7A.	This part does not apply as the land is referred to in clause 7A.	Not applicable
Part 4 Development controls—general		

Attachment 15

16 Development applications in growth centres—matters for consideration until finalisation of precinct planning for land (1) Until provisions have been specified in a Precinct Plan or in clause 7A with respect to the development of the land, consent is not to be granted to the carrying out of development on land within a growth centre unless the consent authority has taken into consideration the following— (a) whether the proposed development will preclude the future urban and employment development land uses identified in the relevant growth centre structure plan, (b) whether the extent of the investment in, and the operational and economic life of, the proposed development will result in the effective alienation of the land from those future land uses, (c) whether the proposed development will result in further fragmentation of land holdings, (d) whether the proposed development is incompatible with desired land uses in any draft environmental planning instrument that proposes to specify provisions in a Precinct Plan or in clause 7A, (e) whether the proposed development is consistent with the precinct planning strategies and principles set out in any publicly exhibited document that is relevant to the development, (f) whether the proposed development will hinder the orderly and co-ordinated provision of infrastructure that is planned for the growth centre, (g) in the case of transitional land—whether (in addition) the proposed development will protect areas of aboriginal heritage, ecological diversity or biological diversity as well as protecting the scenic amenity of the land.	Provisions have been specified in clause 7A with respect the development of the land. Accordingly, the provisions of the clause do not prevent consent from being granted.	Not applicable

Attachment 15

(2) This clause does not apply to land zoned under Part 3.		
17 Referral to Department of Planning after release of precinct (1) This clause applies to land within a growth centres precinct that has been released by the Minister under the Environmental Planning and Assessment Regulation 2000 for urban development, and so applies until provisions have been specified in a Precinct Plan or in clause 7A with respect to the development of the land. (2) The consent authority must, in the case of a development application for the carrying out of development (not being for a single residential dwelling)— (a) with a capital investment value of more than $500,000, or (b) in respect of land that has an area of more than 2 hectares, or (c) that is a subdivision of land (being a subdivision that creates 2 or more lots), refer the application to the Director-General of the Department of Planning for comment. (3) The consent authority must take any comments received from the Director-General of the Department of Planning (within 21 days after the development application was referred to the Director-General for comment) into consideration when determining whether to grant consent to any such development. (4) In this clause, capital investment value of development has the same meaning as in the Environmental Planning and Assessment Regulation 2000. (5) Despite subclause (1), this clause does not apply to land within the Alex Avenue and Riverstone Precincts that is not land	This clause does not apply to the land as provisions have been specified in clause 7A with respect to the development of the land.	Not applicable

Attachment 15

to which the Alex Avenue and Riverstone Precinct Plan 2010 (as referred to in Appendix 4) applies. (6) Despite subclause (5), this clause does apply to Lot 2, DP 563818.		
18 Water recycling and conservation (1) This clause applies to land within a growth centre— (a) that is serviced by a water recycling plant, or (b) that will be serviced by a water recycling plant as soon as the plant becomes operational. (2) A consent authority must not grant consent to the carrying out of development on land unless the consent authority is satisfied that recycled water from the water recycling plant will be provided to the development. (3) However, the consent authority may grant consent if it is satisfied that the development will be provided with recycled water from a water recycling or water conservation system approved by the Minister and specified in the Table to this clause. (4) Despite subclause (1), this clause does not apply to land in the Wilton Growth Area.	This clause does not apply as the land is not serviced by a water recycling plant. This clause does not apply as the land will not be serviced by a water recycling plant.	Not applicable Not applicable
18A Public utility undertakings and clearing of native vegetation (1) Development for public utility undertakings (other than electricity generating works or water recycling facilities) may be carried out without consent on land to which this Policy applies (subject to subclause (3)).	Development for public utility undertakings not proposed.	Not applicable

Attachment 15

(2) A public authority, or a person acting on behalf of a public authority, must not carry out development comprising the clearing of native vegetation (within the meaning of the Native Vegetation Act 2003) on land that is not subject land (within the meaning of clause 17 of Schedule 7 to the Threatened Species Conservation Act 1995) unless the authority or person has— (a) given written notice of the intention to carry out the development to the Department of Planning and Infrastructure, and (b) taken into consideration any response to the notice that is received from that Department within 21 days after the notice is given. (3) (Repealed)	A public authority, or a person acting on behalf of a public authority is not proposing the clearing of native vegetation no land that is not subject to biodiversity certification.	Not applicable
18B Electricity generating works and water recycling facilities (1) The consent authority must not grant consent to development for the purpose of electricity generating works or water recycling facilities unless it is satisfied that the development— (a) will be of a small scale, and (b) is likely to have only a minor environmental impact, and (c) is consistent with the principles of ecologically sustainable development.	Development for the purpose of electricity generating works or water recycling facilities not proposed.	Not applicable
Part 5 Development controls—flood prone and major creeks land		
19 Development on flood prone and major creeks land—additional heads of consideration		

Attachment 15

(1) This clause applies to development requiring consent that is carried out on flood prone and major creeks land (other than any such land to which clause 20 applies). (2) Consent is not to be granted to the carrying out of development to which this clause applies unless the consent authority has taken the following into consideration— (a) whether or not the development will adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, (b) whether or not the development will alter flow distributions and velocities to the detriment of other properties or the environment of the floodplain, (c) whether the development will enable safe occupation of the flood prone and major creeks land, (d) whether or not the development will detrimentally affect the floodplain environment or cause avoidable erosion, siltation, salinity, destruction of riparian vegetation or a reduction in the stability of the riverbank/watercourse, (e) whether or not the development will be likely to result in unsustainable social and economic costs to the flood affected community or general community, as a consequence of flooding, (f) whether or not the development is compatible with the flow conveyance function of the floodway, (g) whether or not the development is compatible with the flood hazard, (h) in the case of development consisting of the excavation or filling of land, whether or not the development— (i) will detrimentally affect the existing drainage patterns and soil stability in the locality, and	This clause does not apply as the development would not be carried out on flood prone or major creeks land, meaning land coloured blue on the South West Growth Centre Development Control Map.	Not applicable

Attachment 15

(ii) will significantly impact on the likely future use or redevelopment of the land, and (iii) will adversely impact on the existing and likely amenity of adjoining properties, and (iv) will minimise the disturbance of relics, and (v) will adversely impact on any watercourse, drinking water catchment or environmentally sensitive area.		
Part 6 Development controls—vegetation		
21 Land to which Part applies (1) This Part applies to the following land— (a) land zoned under Part 3, (b) flood prone and major creeks land, (c) transitional land, (d) land that is— (i) under State Environmental Planning Policy (Western Sydney Parklands) 2009, in an environmental conservation area shown on the State Environmental Planning Policy (Western Sydney Parklands) 2009 Environmental Conservation Areas Map, and (ii) in a growth centre.	This Part does not apply as: The land is not zoned under Part 3 of the GC SEPP. The land is not flood prone and major creeks land. The land is not transitional land. The land is not under State Environmental Planning Policy (Western Sydney Parklands) 2009, in an environmental conservation area shown on the State Environmental Planning Policy (Western Sydney Parklands) 2009 Environmental Conservation Areas Map, and in a growth centre. While the land is in a growth centre, it does not satisfy the requisite criteria of clause 21(d)(i) above.	 Not applicable Not applicable Not applicable Not applicable

ECO LOGICAL AUSTRALIA PTY LTD
ABN 87 096 512 088
www.ecoaus.com.au

Mark Anderson
Development Manager, NSW Communities
Level 2, 88 Phillip Street
Parramatta NSW 2150
c/o
Mark Anderson

ELA Reference Number: 20SUT – 15054

10 November 2020

Dear Mark,

RE: Mt Gilead Stage 1 A-B Subdivision Application Flora, Fauna and Koala Habitat Assessment (DA 743/2018)

I refer to your request for advice on the assessment required of impacts to flora, fauna and koala habitat for a proposed Stage 1 A-B subdivision application (**DA**) within the Mount Gilead MDP lands study area as shown in **Figure 1**. I understand that the DA seeks consent to subdivide land to create 333 residential lots and 5 residue lots, and associated civil works on parts of Lots 1 and 2 in DP 1240836 and part Lot 61 752042 (**DA Site**). The civil works involve the construction of new roads, refinement of ground levels, removal of trees, installation of new services, temporary erosion and sediment control measures and permanent stormwater management facilities.

- On 28 June 2019, a Biodiversity Certification Agreement (**BCA**) was entered into by the Minister for Energy and Environment, Campbelltown City Council (**CCC**), Lendlease Communities (Mt Gilead) Pty Limited, Lendlease Communities (Mt Gilead No. 3) Pty Limited and Mt Gilead Pty Limited (see **Annexure A**). The BCA relates to the DA Site as well as Lots 3-5 DP 1240836 and part of Lot 2 DP 1218887 (**Mt Gilead Site**). The BCA binds 'affected parties' to fulfill certain conservation commitments on the Mt Gilead Site, including those relating to koalas (i.e. registration of three biobank sites, retirement of 284 koala species credits and the preparation of a Construction Environmental Management Plan) prior to any clearing and the commencement of any development on the Mt Gilead Site.

- Following execution of the BCA, by notice in the NSW Government Gazette on 5 July 2019 (see **Annexure B**), the Chief Executive of the then Office of Environment and Heritage (under delegation of the Minister), now part of the Department of Planning, Industry and Environment (**DPIE**), conferred biodiversity certification over the Mt Gilead Site, the area of which is shown in 'pink' on **Figure 1**.

The entering into of the BCA and conferral of biodiversity certification on the Mt Gilead Site followed a comprehensive environmental assessment process in relation to the subject lands which included the following:

- a preliminary ecological investigation undertaken over the broader Mt Gilead property by ELA in 2005 (ELA Due diligence assessment of Mt Gilead for Australand (ELA 2006) (see **Annexure C**);
- a detailed ecological assessment as part of the rezoning application in 2013 (ELA Ecological Assessment Report for the rezoning proposal ELA 2014)) (see **Annexure D**) (with the LEP being amended in September 2017); and
- the biocertification assessment between 2014 and 2016 (prepared in accordance with the Biocertification Assessment Methodology (**BCAM**) (ELA Final Biocertification Assessment Report and Strategy 2018)) (see **Annexure E)**).

These approvals cover all works associated with the described project/action being the residential development of the subject lands including associated infrastructure and community recreation areas within the land shown as '*land to be certified*' in **Figure 1**.

As outlined on page 7 of the BCA, the BCA was entered into under section 126ZH of the *Threatened Species Conversation Act 1995* (**TSC Act**) after its repeal and replacement by the *Biodiversity Conservation Act 2016* (**BC Act**), but in relation to an application for biodiversity certification to which clause 37 of the *Biodiversity Conservation (Savings and Transitional) Regulation* 2017 (**Regulation**) applies. By operation of section 40 of the Regulation, the BCA is taken to be a biodiversity certification agreement entered into under the BC Act.

Similarly, the conferral of biodiversity certification of the Mt Gilead Site on 5 July 2019 was made under section 126H of the TSC Act in relation to an application for biodiversity certification to which clause 37 of the Regulation applies. However, in accordance with clause 37(4) of the Regulation, the biodiversity certification is taken to be biodiversity certification under the BC Act.

Once land has been conferred with biodiversity certification, subsections 8.4(2) and (3) of the BC Act (which replace Section 126I of the TSC Act), apply. They state:-

> *(2) Development (including State significant development) under Part 4 of the Planning Act An assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the Environmental Planning and Assessment Act 1979.*
>
> *(3) A consent authority, when determining a development application in relation to development on biodiversity certified land under Part 4 of the Environmental Planning and Assessment Act 1979, is not required to take into consideration the likely impact on biodiversity of the development carried out on that land.*

Accordingly, CCC is not in my view required to take into consideration the impacts on biodiversity of the works proposed on the DA Site. "Biodiversity" in my view includes both flora and fauna, and as such, subsections 8.4(2) and (3) of the BC Act relieve CCC from being required to consider the following matters for the purposes of Part 4 of the *Environmental Planning and Assessment Act 1979* (**EPA Act**):

- the likely impact on biodiversity on the DA Site of tree removal (including the cultural and aesthetic impacts of tree removal);
- the likely impact on biodiversity on the DA Site of bulk earthworks;
- the likely impact of the proposed DA works on koalas.

- It also follows in my view that by operation of subsections 8.4(2) and (3) of the BC Act, CCC is not obliged to separately consider the provisions of the *State Environmental Planning Policy No 44—Koala Habitat Protection* (**SEPP 44**) or the *State Environmental Planning Policy (Koala Habitat Protection) 2019* (**Koala SEPP**).

- Further, in relation to the Koala SEPP, clause 5(3) was amended on 16 October 2020 to read:

- *(3) Despite subclause (1), this Policy does not apply to—*

  (a) land dedicated or reserved under the National Parks and Wildlife Act 1974, or acquired under Part 11 of that Act, or

  (b) land dedicated under the Forestry Act 2012 as State forest or a flora reserve, or

  (c) land on which biodiversity certification has been conferred, and is in force, under Part 8 of the Biodiversity Conservation Act 2016.

As the DA site has been conferred with biodiversity certification, the Koala SEPP does not apply.

- For clarity, sections 8.4 (2) and (3) of the BC Act do not relieve Lendlease of its obligations under the BCA and the conferral of biodiversity certification, and it must ensure that the works proposed under the DA comply with all applicable requirements of the BCA and the conditions of biodiversity certification.

Those parts of Lots 1 and 2 DP 1240836 (previously Lot 3 DP 1218887) and Lot 61 DP 752042 within the Mount Gilead study area that are subject to the DA are zoned R2 Low Density Residential, B1 Neighbourhood Centre and RE1 Public Recreation under the Campbelltown LEP 2015 and are wholly on land that is now 'certified (see **Figure 1**). Accordingly, development on biodiversity certified land is taken to be development that is *not likely to significantly affect any threatened species, population or ecological community or its habitat*. A consent authority is not required to take into consideration the likely impact of the development on biodiversity values.

Environmental Planning and Assessment Act 1979

- Notwithstanding my view above, for abundant caution and to ensure that CCC has been provided with sufficient material so it may take into consideration all matters it considers relevant in assessing the DA, this report provides an outline of the matters addressed as part of the biodiversity assessment process which resulted in the execution of the BCA and conferral of biodiversity certification on the Mt Gilead Site, including the likely impact on biodiversity of the development of the Mt Gilead Site as a whole, which includes the DA Site.

- In my view, koalas have been specifically addressed under the biocertification process as a 'species credit species' (see below) and in commitments made to reduce impacts during development (e.g. pre-clearance surveys, fencing) or after construction (e.g. management of offset areas, traffic, domestic animals etc) and any residual impacts are offset by conserving and managing koala habitat (as detailed in the BCA). This is evidenced by the following:-

  - the Macarthur-Onslow and Noorumba-Gilead and Biobank sites were registered in January 2019 (BA 208 and BA 209 respectively) (see **Annexures F and G**);
  - the Hillsborough Biobank site was submitted for registration in June 2020 (see **Annexure H**);
  - all credits, including 434 koala species credits (150 more than required), were 'retired' in October 2019 (see **Annexure I**);
  - active management of all three Biobank sites commenced in 2018;
  - the Construction Environmental Management Plan was prepared and submitted to Council in 2019 and approved in May 2020 (see **Annexure J**);
  - a dam dewatering plan was prepared and submitted to Council in 2019 and approved in April 2020 (see **Annexure K**);

Further, the Commonwealth Minister for the Environment has approved the Mt Gilead project (EPBC 2015/7599) under the *Environmental Protection and Biodiversity Conservation* Act 1999 (**EPBC Act**) and a separate Koala Management Plan (ELA 2019) (see **Annexure L**) has also been prepared and approved.

Finally **Attachment 1**) to this letter addresses how the DA is consistent with the requirements of the Campbelltown Comprehensive Koala Plan of Management (**CCKPoM**) (Biolink 2018) (see **Annexure M**) which we understand has been approved by the Planning Secretary in accordance with Cl 14 of the **Koala SEPP**, and is now taken as being an approved CKPoM under SEPP 44 as per the Savings and Transitional arrangements provided in clause 17 of the Koala SEPP.

Fisheries Management Act 1994

The Fisheries Management Act 1994 (**FM Act**) contains several provisions for the protection of fish habitat and threatened species. The proposed works:

- Will not impact on a waterway mapped as 'Key Fish Habitat' or a waterway that contains a threatened species record.
- Will not harm marine vegetation.
- Will not require, dredging of the bed and land reclamation of a Key Fish Habitat Creek.

Therefore, a Part 7 Permit under the FM Act is not required.

Water Management Act 2000

The Water Management Act 2000 (**WM Act**) requires an assessment of any Controlled Activity on 'waterfront land' – defined as the bed and bank of any river, lake or estuary and all land within 40m of the highest bank of a river, lake or estuary.

Whilst there are parts of a first and second order creeks identified under the Strahler Method that will be impacted by the subdivision DA, the Office of the Natural Resources Regulator (NRAR) has given "General Terms of Approval' for these impacts (**Annexure N**).

Commonwealth EPBC Act Approval

The proposed Mt Gilead Residential Development (EPBC 2015/7599) was referred to the former Department of the Environment and Energy (**DoTEE**) (now the Department of Agriculture, Water and the Environment) in 2015, determined a Controlled Action, and approved, subject to conditions, by the Minister's delegate on 21 December 2018 (**Annexure O**). As for the EPA Act, as long as the 'action' is consistent with the action described in the Preliminary Documentation Report and the conditions of approval, there is no need for further assessment of Matters of National Environmental Significance.

All of the conditions of the EPBC approval, (i.e. SSTF and CPW offsets, retirement of 150 koala species credits from Appin West Biobank site, preparation of a Koala Management Plan (**KMP**) and Construction Environmental Management Plan (**CEMP**) have been met (see **Annexures I, P and Q** being the retirement of required biodiversity credits and approval of the CEMP and KMP).

Conclusion

Consistent with the NSW and Commonwealth Ministers for the Environment approvals of the biocertification and Controlled Action applications, the Mt Gilead Site is exempt from further assessment of threatened species and endangered ecological communities listed under the NSW TSC, FM Act or Commonwealth EPBC Act.

Should you have any questions on this matter, please contact me on (02) 8536 8620.

Yours sincerely

Robert Humphries

Environmental Scientist

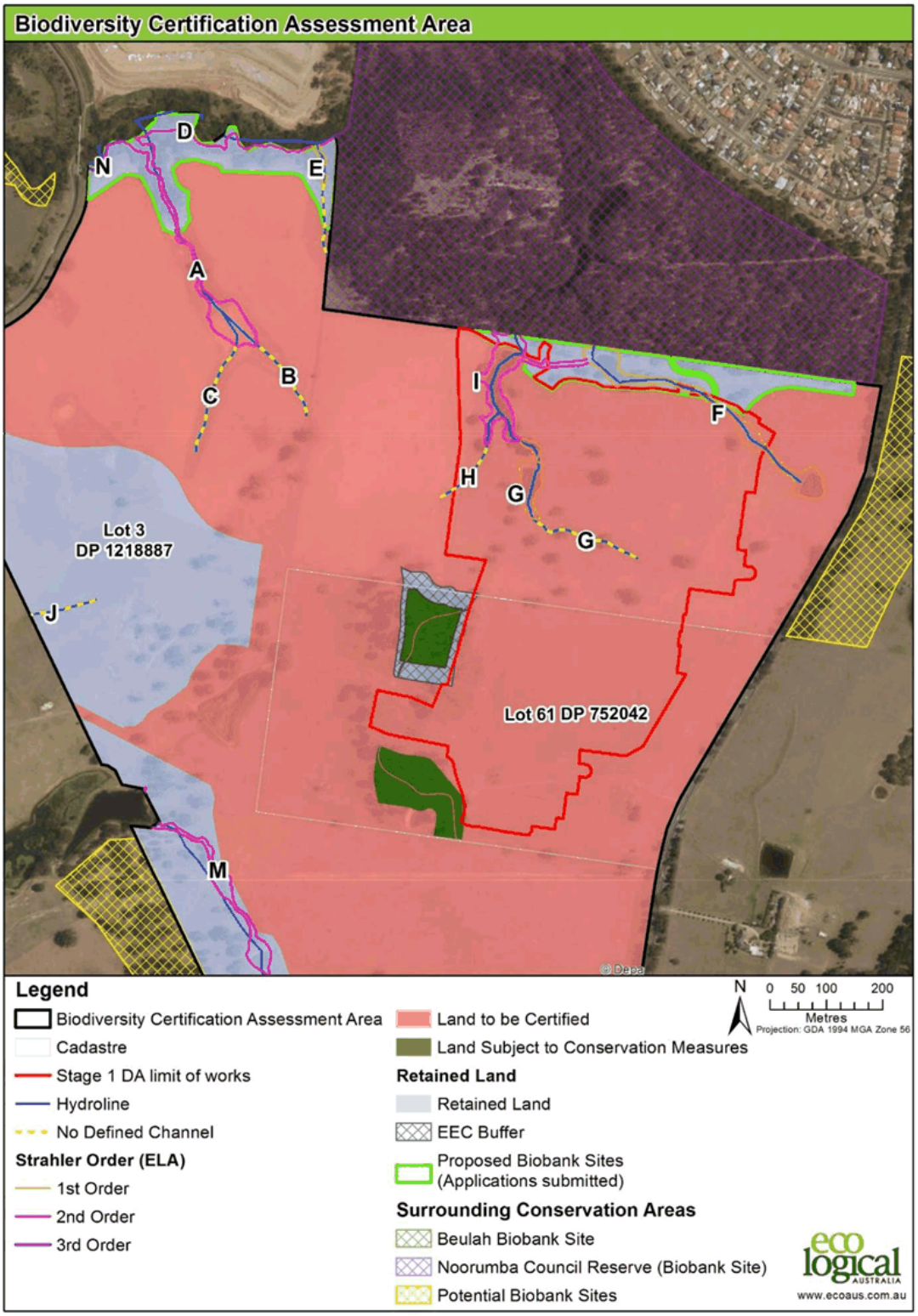


Figure 1: Extent of proposed subdivision DA boundary in relation to proposed biodiversity certified land.

ATTACHMENT 1: ASSESSMENT OF KOALA HABITAT IN ACCORDANCE WITH CAMPBELLTOWN CKPOM

Land subject to the DA

The DA Site comprises parts of Lots 1 and 2 DP 1240836 and part Lot 61 in DP and has a frontage of over 2.2km to the western side of Appin Road. Combined, the study area has an area of 216 ha and an irregular wedge shape as shown in **Figure 2** and is wholly contained in the Campbelltown LGA.

- The DA seeks approval for subdivision to create 333 residential lots and 5 residue lots to be carried out in two stages with associated civil works. The civil works involve the construction of new roads, refinement of ground levels, removal of trees, installation of new services, temporary erosion and sediment control measures and permanent stormwater management facilities. As outlined above, the DA Site is part of the larger Mt Gilead Site which is the subject of a **BCA** and has been conferred with biodiversity certification under the BC Act. The DA Site comprises:

    a. part of the site was the subject of development consent DA3868/2017DA-CW granted on 24 July 2019, which approved tree removal, dam dewatering, remediation and bulk earthworks; and
    b. the site is also the subject of DA 2984/2020, which seeks consent for tree removal dam dewatering, remediation and bulk earthworks on the Mt Gilead Site (and as such, on the DA Site). **(Figure 1)**.

- **Assessment of biodiversity as part of biodiversity certification application**

The biodiversity certification was granted following an application by CCC to the Minister for Energy and Environment, the preparation of which included detailed assessment of the biodiversity values of the Mt Gilead Site, including existing trees and koala habitat. See at **Annexure E** of copy of the final biodiversity certification application and accompanying reports lodged by CCC to the Minister on 31 May 2019.

In entering into the BCA, Mt Gilead and Lendlease collectively agreed to offset impacts to native vegetation by entering into Biobanking Agreements over 22.50 ha of land and retiring a specified number of biodiversity credits. The full extent of the parties' obligations under the BCA are outlined in part 4 of the BCA, enclosed at **Annexure A**.

By way of summary, the Mt Gilead Biodiversity Certification Assessment Report & Biocertification Strategy version 11 dated 2 July 2018 contained the following assessment:

- mapping the extent and condition of all native vegetation communities, including scattered paddock trees
- targeted survey for all threatened floras and fauna species known, likely or with the potential to occur
- avoiding, minimising and mitigating direct and indirect impacts to these biodiversity values
- assessing residual impacts and providing commitments to fully offset these residual impacts consistent with the Biodiversity Certification Methodology

Assessment under State Environmental Planning Policy No. 44 Koala Habitat Protection and State Environmental Planning Policy (Koala Habitat Protection) 2019

The Koala SEPP commenced on 1 March 2020 and replaced SEPP 44.

Clause 15 of the Koala SEPP states that '*a development application made, but not finally determined, before the commencement of the new SEPP in relation to land to which the policy applies, must be determined as if the Policy [SEPP 2019] had not commenced*'. Accordingly, this DA will be assessed under the former SEPP 44.

The SEPP 44 commenced on 13 February 1995 and applies to the Campbelltown local government area (**LGA**), within which the DA Site is located.

Section 6(c) of SEPP 44 says that it applies to land that has an area of more than 1 hectare, and as such, it applies to the DA Site.

Campbelltown Council has determined that the DA site is partly core koala habitat and has prepared a Comprehensive Koala Plan of Management (**CKPoM**) for the whole local government area, being a plan of management in accordance with Part 3 of SEPP 44.

The CKPoM was lodged with the Planning Secretary for approval in 2016

Section 17 of the Koala SEPP outlines that a document submitted for approval as a koala plan of management to the Planning Secretary before the commencement of the Koala SEPP, despite the requirements in Part 3 of the SEPP in relation to koala plans of management, may be approved by the Planning Secretary as a koala plan of management despite being prepared under SEPP 44. Section 17 confirms that on approval of the document, it is taken to be an approved koala plan of management for the purposes of the Koala SEPP.

The Planning Secretary granted approval to the CKPoM 30 July 2020 and as such, it is an approved koala plan of management under the Koala SEPP and SEPP 44.

In light of the above, as required under Part 2 of the SEPP 44, I provide below an assessment of the DA against SEPP 44 and the CKPoM.

SEPP 44

- **Clause 6** – as outlined above, under clause 6, Part 2 applies to the DA site.
- **Clause 7 - Step 1 — Is the land potential koala habitat?**
  Parts of the DA Site appear to contain small patches of core koala habitat as mapped in Figure 5.1 of the CKPoM, and part is mapped as potential koala habitat (refer to **Figure 2**)
- **Clause 8 - Step 2—Is the land core koala habitat?**
  As above, parts of the DA Site appear to contain small patches of core koala habitat as mapped in Figure 5.1 of the CKPoM.
- **Clause 9 - Step 3—Can development consent be granted in relation to core koala habitat?**

The CKPoM is a plan of management under clause 9. An assessment against the CKPoM is outlined below. With reference to the flowchart in Figure 6.1 of the CKPoM and in compliance with section 6.2.2(i) of the CKPoM, by way of summary:

- the DA Site is located within the Campbelltown LGA;
- the DA Site is larger than 1 hectare;
- parts of the DA Site appear to contain small patches of core koala habitat as mapped in Figure 5.1 of the CKPoM, and part of the DA Site is mapped as potential koala habitat (refer to **Figure 2**);
- the table below contains an assessment of the DA against the planning controls under section 6.4.1 of the CKPoM;
- the DA requires removal of (P)KFTs;
- the DA is categorised as a 'major development' under the CKPoM as it requires the removal of > 3 Preferred Koala Feed Trees (P)KFTs for each assessable land to which the DA relates;
- the table below contains an assessment of compensatory measures as required under Part 7 of the CCKPoM (delivered by way of the BCA, which is explored further below); and
- this report demonstrates consistency with the provisions of the CKPoM, and will be lodged with CCC for assessment.

In addition to the above, the below table addresses other relevant clauses in the CKPoM.

How DA is consistent with Part 6 and 7 of the Campbelltown CKPoM

CKPoM – Part 6 Development Assessment and Control	Comment
6.1 Application and exclusions	The DA is not excluded by (ii) and (iii), and as such, Part 6 applies to the DA
6.2.1 Register of development	We understand that this is CCC's obligation
6.2.2 Assessment and control standards	See above summary, with details provided in this table
6.2.3 Strategic Linkage Areas	The DA Site is not identified as a Strategic Linkage Area in Figure 5.3 of the CCKPoM, as such this section does not apply to the DA
6.2.4 Rezoning application	N/A
6.3.1 Vegetation Assessment Report	The biocertification assessment provides a description of each vegetation community in the DA Site and a list of all species recorded in each vegetation community (refer to Appendix F and G of **Annexure E**). All trees on the DA Site have been identified/mapped as koala habitat in the biocertification assessment (Refer to Figure 11 in ELA 2018 at Annexure E, and reproduced as **Figure 3** in this report), regardless of whether they are classified as PKFT in the CCKPoM. All trees to be impacted have been identified to species level (and whether they are a (P)KFT as defined by the CCKPoM), height and dbh recorded and Easting and Northern coordinates taken to 1m accuracy (Refer to ArborSite 2018, **Annexure Q**). The number of trees classified as PKFT by CCKPoM that will be impacted (i.e. *Eucalyptus tereticornis, E. punctata, E. longifolia or E. moluccana)* is **20** (see Figure 3, **9** of which are already impacted by the bulk earth works and all of which are on biodiversity certified land.
6.3.2 Koala Activity Assessment Report	Part of the DA Site appears to be mapped as Potential Koala Habitat in Figure 5.1 of the CCKPoM, contains (P)KFTs as shown in **Figure 4** and thus requires a KAAR (although Section 6.3.2 of the CKPoM states that this section only applies to land that is located outside the boundaries of mapped core koala habitat). Biolink (2018) in its South Campbelltown Koala Connectivity Study (ref to **Annexure R**), recorded evidence of Koalas at 12 of 25 Rapid_SAT sampling

	points, one of these positive sites was within the Mt Gilead study area (within the Hillsborough Biobank site), but not the land subject to the DA (refer to Figure 2 in **Annexure R**). Regardless, all trees on the DA Site have been identified/mapped as koala habitat in the biocertification assessment.
6.4.1 Development Controls for areas mapped as core Koala habitat	Parts of the DA Site appear to be mapped as core koala habitat in CCKPoM 2018. As such, Part 6.4 applies.
6.4.2 Retention of PKFTs and shelter trees	The DA is considered a 'Major Development' as it will result in the subdivision of land in to ≥ 3 lots and/or requires the removal of three or more PKFTs for each ha of assessable land. Assessable area is 34.39 ha, all of which is biodiversity certified land. Number of PKFTs to be removed is **20**. Number of PKFTs permitted to be removed by definition of 'Major Development' is not defined by CCKPoM. There are no (P)KFTs or shelter trees to be retained in the DA Site, as such there are no (P)KFTs or shelter trees within the extent of works to protect in accordance with AS 4970-2009. All (P)KFTs and shelter trees that are not on land subject to the DA (i.e. within Biobank sites and retained rural land) will be protected consistent with the requirements of AS 4970-2009 (Protection of Trees on Development Sites) in accordance with the Construction Environmental Management Plan approved by Council in May 2020 (**Annexure J)**
6.4.3 Swimming Pools	As the DA seeks consent only for subdivision, and not the construction of swimming pools, a condition in this regard is not appropriate at this stage.
6.4.4 Domestic Dogs	The DA seeks consent for subdivision and all lots created will be subject to Lendlease's Design Principles which include a permanently fenced dog/koala proof yard.
6.4.5 Fencing	All residential lots will have koala proof fencing (refer to domestic dog proof yards

6.4.6 Road Design	All perimeter roads around the residential development will have a maximum speed of 40kph, be accompanied by traffic calming devices, signage and have vegetation maintained along the verge (Refer to KMP ELA 2020b at **Annexure L**
6.4.7 Protection of koala from disturbance	Clearing of native vegetation will be subject to a Pre-clearance Protocol, supervised by a qualified ecologist (Refer to CEMP ELA 2020a, see **Annexure J)**. Appropriate conditions of consent should be imposed to ensure compliance with this section.
6.4.8 Planning Controls in 'potential' Koala habitat	Cl. not relevant.
6.5 Non-conforming Development	Cl. not relevant, land is not potential koala habitat (it is mapped as core habitat).
CCKPoM – Part 7 Compensation for Loss of Koala habitat	**Comment**
Context - the loss of native vegetation is listed as a Key Threatening Process (KTP) and can be a contributing factor to koala population decline. For koalas, a number of issues arise with regard to compensating for habitat losses arising from development:	
1. compensatory plantings take time before they can provide the equivalent food resource that the removed trees provided	10.79 ha of potential and core koala habitat impacted. 22.30 ha of koala habitat to be permanently protected in 3 registered Biobank sites on-site (16.60 existing habitat to be enhanced and 5.70 ha to be restored in accordance with BCA, see **Annexures F, G & H**). Management of biobank sites includes enhancement of existing woodland to improve koala habitat quality and access (e.g. removal of heavy African Olive, Privet and Blackberry infestations along Menangle Creek) and revegetation of cleared areas with preferred Koala feed trees (*Eucalyptus tereticornis, E. punctata, E. longifolia and E. moluccana*) consistent with Cumberland Plain Woodland and Shale Sandstone Transition Forest vegetation types) to widen strategic linkage areas. Additional 42.40 ha of existing koala habitat secured by purchase of 301 species credits from Noorumba Reserve and S32 Biobank sites where habitat will be enhanced through active conservation management (refer to **Figure 5**).

	Total koala habitat protected and managed for conservation (64.70 ha).
2. proposals for compensatory plantings may not necessarily be in the most appropriate location in terms of longer-term koala management objectives	CCKPoM does not identify any compensation areas to receive tree planting. Koala habitat offsets (Biobank sites) are all located in either 'Strategic Linkage Areas' (as per the CCKPoM) or mapped primary koala corridors that link the Georges River and Nepean River catchments and thus are consistent with strategic regional priorities.
3. compensatory plantings cannot be guaranteed in perpetuity, particularly if undertaken on lands that do not have a secure conservation tenure	The offsets are guaranteed in perpetuity in the form of registered biobanks which provide funding (held in a Trust Account) and annual reporting requirements to ensure compliance (See **Annexures F, G & H)**.
4. there is no supervision of planting to ensure that the planting succeeds over time	Biobank sites are registered on title in perpetuity, fully funded and subject to annual audit and compliance by the NSW Biodiversity Conservation Trust which has regulatory enforcement powers to ensure that conservation commitments are met.
5. there are no standards by which compensation can be determined for the loss of habitat.	NSW has a legislated Biodiversity Offset Scheme (**BOS**) that is subject to a gazetted methodology/standard. The conservation strategy has been approved by the Minister for the Environment as meeting an "improve or maintain" outcome.
While controls can be put into place to attempt to address these issues, none will provide an efficient management regime to ensure the compensatory planting will be effective. If compensatory planting has to be accommodated as a last resort, then overall responsibility should be borne by a responsible authority, such as Council, to supervise such planting in the most appropriate location having regard to the requirements for koala management as set out in the Plan.	The NSW Offset Scheme is a legislative and effective management regime. CCC as a party to the BCA has had input and endorsed the areas for loss of Koala habitat. The NSW Biodiversity Conservation Trust has the responsibility to supervise the performance of the offset areas and regulatory enforcement powers to rectify any non-compliance.
Overall objective: to provide a standardised approach to the compensation and offsetting of koala habitat loss with a transparent assessment process that enables loss to be quantified; and to belatedly provide a mechanism for effectively resourcing koala habitat rehabilitation and regeneration programs.	The NSW BOS is a legislated, standardised approach to compensation and offsetting of koala habitat loss.

Part 7.1 Major Development	
Major development *means a DA that relates to the subdivision of a single lot of land into ≥ three lots, and/or requires the removal of > three (P)KFTs for each assessable land to which the DA relates.*	
CKPoM – Part 7.1	**Comment**
(i) This section applies to any DA that relates to the subdivision of land into ≥ three lots, and/or requires the removal of three or more (P)KFTs for each hectare of assessable land.	Part 7.1 applies as greater than three PKFTs are proposed to be removed.
(ii) Where a proponent chooses to seek the removal of (P)KFTs or shelter trees in accordance with a DA, provision must be made to compensate for the loss of the associated habitat.	Compensatory measures for impacted habitat has been provided in the executed BCA (see **Annexure A**) 22.30 ha of koala habitat to be permanently protected in 3 registered Biobank sites on-site (16.60 existing habitat to be enhanced and 5.70 ha to be restored in accordance with BCA. Management of biobank sites includes enhancement of existing woodland to improve koala habitat quality and access (e.g. removal of heavy African Olive, Privet and Blackberry infestations along Menangle Creek) and revegetation of cleared areas with preferred Koala feed trees (*Eucalyptus tereticornis, E. punctata, E. longifolia and E. moluccana*) consistent with Cumberland Plain Woodland and Shale Sandstone Transition Forest vegetation types) to widen strategic linkage areas. Additional 42.40 ha of existing koala habitat secured by purchase of 301 species credits from Noorumba Reserve and S32 Biobank sites where habitat will be enhanced through active conservation management (**Figure 5**). Total koala habitat protected and managed for conservation (64.70 ha).
(iii) To ensure that the provision of compensation is: • equivalent to the importance of habitat being removed • geographically appropriate so as to contribute to the long- term conservation and viability of Campbelltown's koalas	Conservation areas are located in Strategic Areas and are of greater importance and are more geographically appropriate than the scattered paddock trees proposed to be removed.
the proponent shall agree to either, at the applicant's expense:	The proponent and Council have entered in to a legally binding BCA between the Minister administrating the *Threatened Species Conservation Act 1995* (NSW),

a) to enter into a legally binding agreement with Council to make a monetary contribution towards the Koala Habitat Rehabilitation Program detailed in Part 8 of the Plan, or b) to enter into a legally binding agreement with Council to undertake rehabilitation works in areas identified by the Koala Rehabilitation Program detailed in Part 8 of the Plan This will include payment of a Compensation Guarantee in the form of a Bank Bond which will be released once the required works have been implemented in accord with the agreement. The purpose of a Compensatory Guarantee is to allow Council to implement the required works in the event that the proponent is unable or unwilling to comply.	Lendlease, Mt Gilead Pty Limited and Campbelltown City Council, which is registered on the land title and outlines the required compensatory measures, the responsible parties and timing to secure. A copy of the BCA is enclosed at **Annexure A**. All requirements in the BCA (registration of three Biobank areas, retirement of credits, commencement of annual active conservation management) have been met (Refer **Annexures F, G, H, I, J, K** and **L)**.
(iv) The amount of the monies referred to in 7.1(iii)(a-b) above will be based on the value of the required 'compensation units' (CU) (for every cm of DBH or part thereof) arising from the total number and size of (P)KFTs and shelter trees that will be removed, as follows:	The amount of monies committed and already payed to secure and manage the Biobank areas and retire koala species credits is $2.378M, pursuant to the BCA.
(a) Small (DBH < 100mm) 8 CU/mm of DBH (b) Medium (DBH >100<300mm) 15 CU/mm of DBH (c) Large (DBH > 300mm) 25 CU/mm of DBH	The comparable value of compensation monies for the removal of 20 PKFTs is: $303,250 while the funds committed to conservation under the biobanking agreements is in excess of $2,378,000.
(v) The value of a CU as at the date of commencement of the Plan is $1.00, this value to be adjusted annually using the CPI increase for the 12 months prior to the review date.	Noted
(vi) Council must establish a special trust fund into which the monetary amount determined as compensation for the purposes of 7.1(iii)(a) above can be placed, and from which only habitat rehabilitation or regeneration works identified through the provisions of Part 8 of the Plan can be funded.	The $2.378M of biobank management funds are held by the NSW Biodiversity Conservation Trust.

Part 7.2 Minor Development

Minor development *means a DA that relates to construction of a single residential dwelling, and/ or the subdivision of land into ≤ two lots, and/or requires the removal of no more than two (P)KFTs for each hectare of assessable land to which the DA relates.*

Not Applicable

Part 7.3 Compensatory planting locations

CKPoM – Part 7.3	Comment

(i) Nothing in this Part prohibits the proponent from undertaking compensatory plantings and/or habitat rehabilitation measures on lands being the subject of the DA. However, such an action cannot otherwise be used to discount the obligations of the proponent for the purposes of this Part unless both:	Noted
a) an agreement as outlined in 7.1(iii)(b) above is in place, requiring both a caveat being placed on the property and payment of a Conservation Guarantee	The BCA is a legally binding document gazetted through the NSW Parliament and registered on the title of the DA Site.
(b) the proponent develops a Vegetation Management Plan (VMP) that meets the requirements set out in Council's VMP Guidelines, 2016; adequately addresses 8.1(v); and is formally approved by Council	The executed biobank agreements (see **Annexures F & G)** and submitted application **(Annexure H)**) include a management plan for the management of each biobank site and are fully funded in perpetuity and are required to be reviewed/updated every 5 years. They are functionally a VMP.
(ii) Development consent shall be conditional upon the agreement referred to in 7.3(i) above being registered and in place prior to issuing of a CC; and be subject to random audits.	BCA was executed on 28 June 2019 and thus was in place prior to the issuing of an construction certificate for the DA Site. The affected parties are required to meet their respective commitments in the BCA. The Biobank sites are subject to annual and random audit and compliance checks, in perpetuity. Given the above, adequate controls are in place to ensure the conservation outcomes are secured.

Whilst it is my view that the DA is not required to address the requirements of the CKPoM as the land has been biodiversity certified, the assessments of impacts to koala habitat has been comprehensive and is 'consistent' with the requirements of the CKPoM and SEPP 44

References

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Eco Logical Australia (ELA) 2018b. *Biobank Agreement Credit Assessment Report – Noorumba-Mt Gilead-Biobank Site*. Report prepared for Mt Gilead Pty Ltd, April 2018.

Eco Logical Australia 2018c. Biodiversity Certification Assessment & Biocertification Strategy (ELA 2018) for the planning proposal at Appin Road, Gilead. Report prepared for Mt Gilead Pty Ltd and MR & Mrs Dzwonnik, dated 2 July 2018.

Eco Logical Australia (ELA) 2018d. Mt Gilead Residential Development. EPBC Preliminary Documentation Assessment Report (EPBC 2015/7599). Final Proposed Action. Report prepared for Lendlease Communities (Mt Gilead) Pty Ltd, August 2018.

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Eco Logical Australia (ELA) 2020a. *Biobank Agreement Credit Assessment Report – Hillsborough Biobank Site*. Report prepared for Lendlease Communities (Mt Gilead No. 3) Pty Limited, dated June 2020.

Eco Logical Australia (ELA) 2020b. Mount Gilead Construction Environmental Management Plan. Prepared to meet the Statement of Developer Commitments in the Mt Gilead Biodiversity Certification Agreement. Report prepared for Lendlease Communities (Figtree Hill) Pty Limited, dated May 2020.

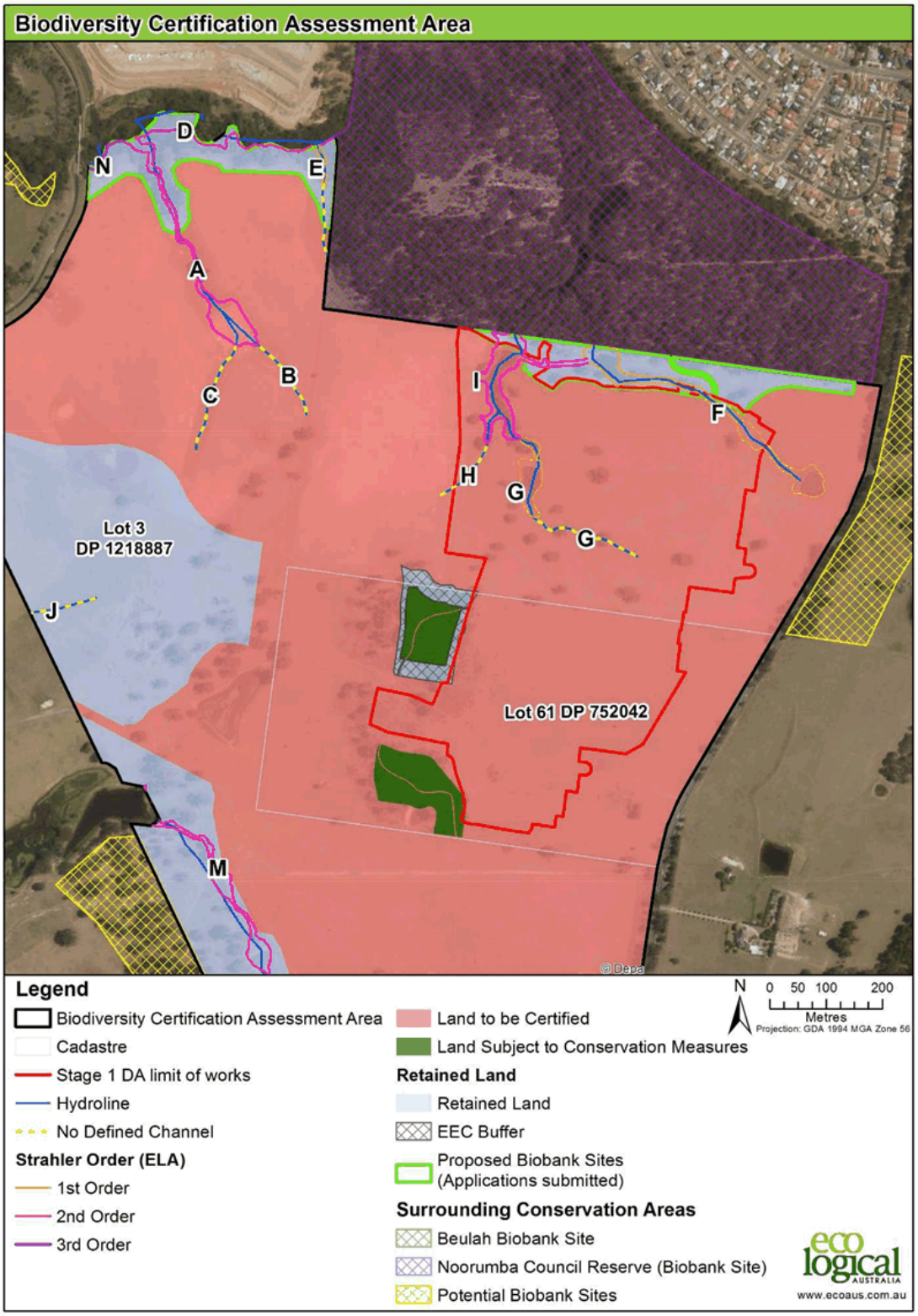

Figure 1: Extent of proposed subdivision DA in relation to proposed biodiversity certified land

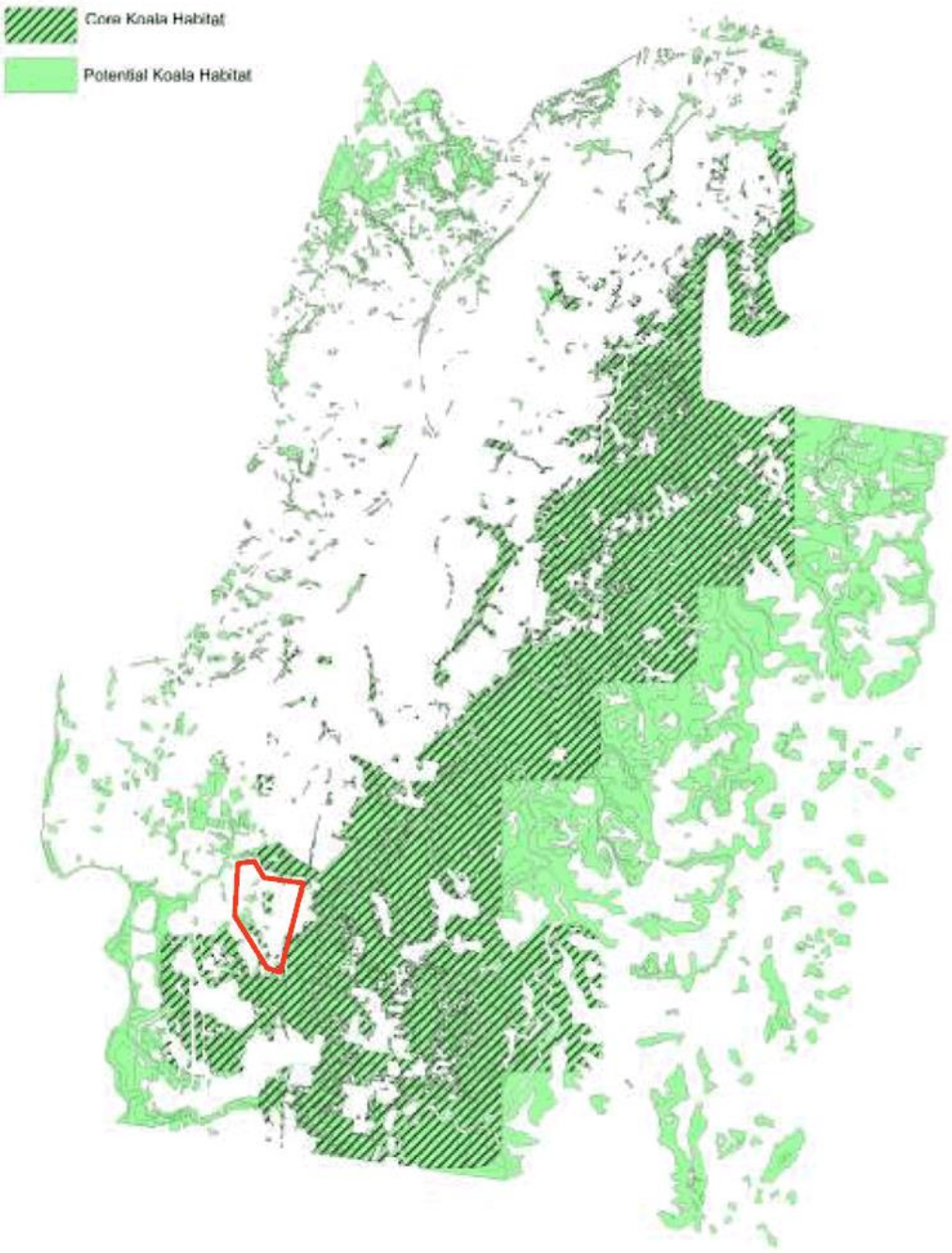

Figure 2: Extent of mapped potential and core koala habitat in the Mt Gilead Stage 1 study area from Fig 5.1 of the CCKPoM

Note: Approximate study area shown in red, there are small patches of core koala habitat in the DA area

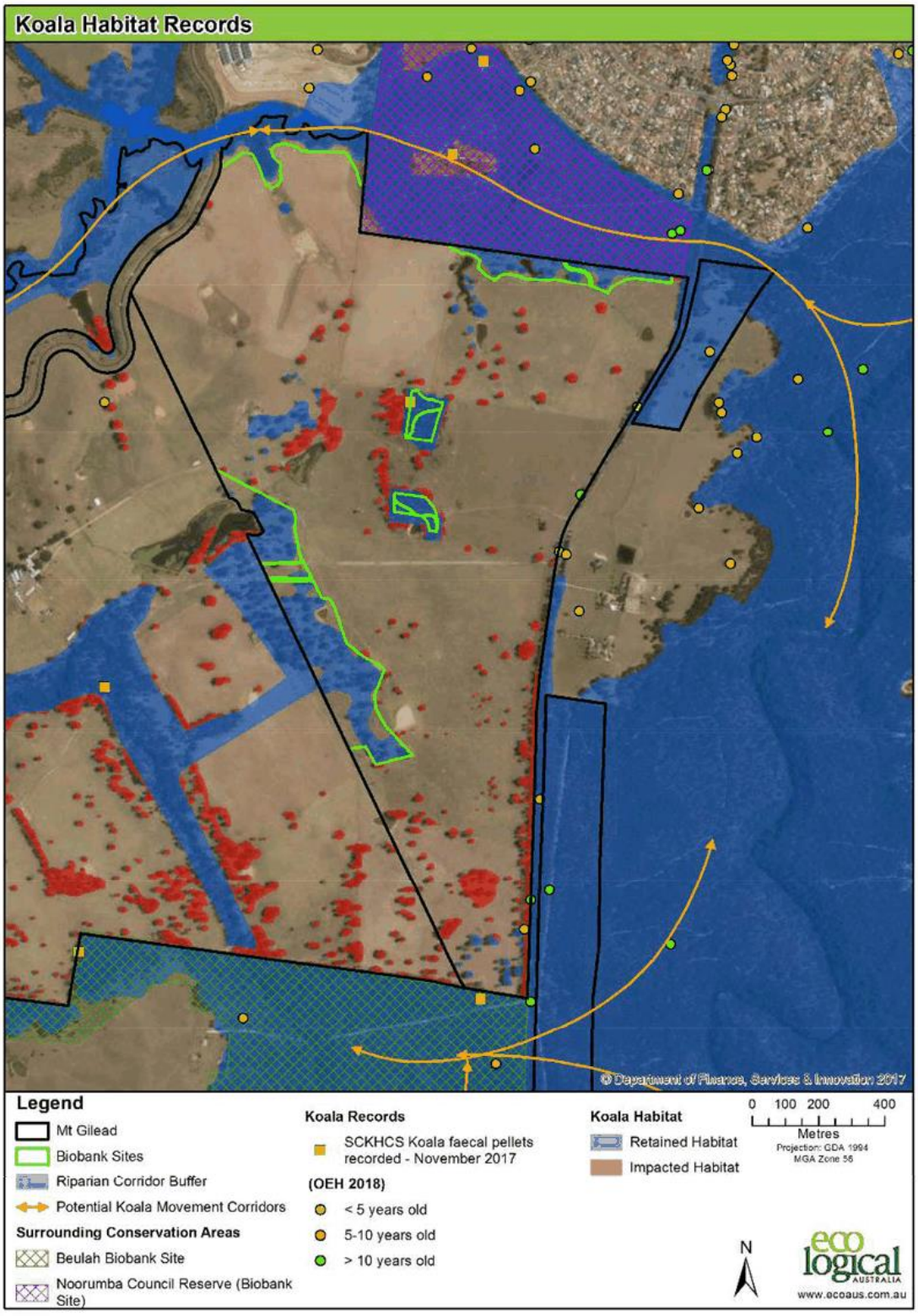

Figure 3: Koala habitat impacted and retained in study area

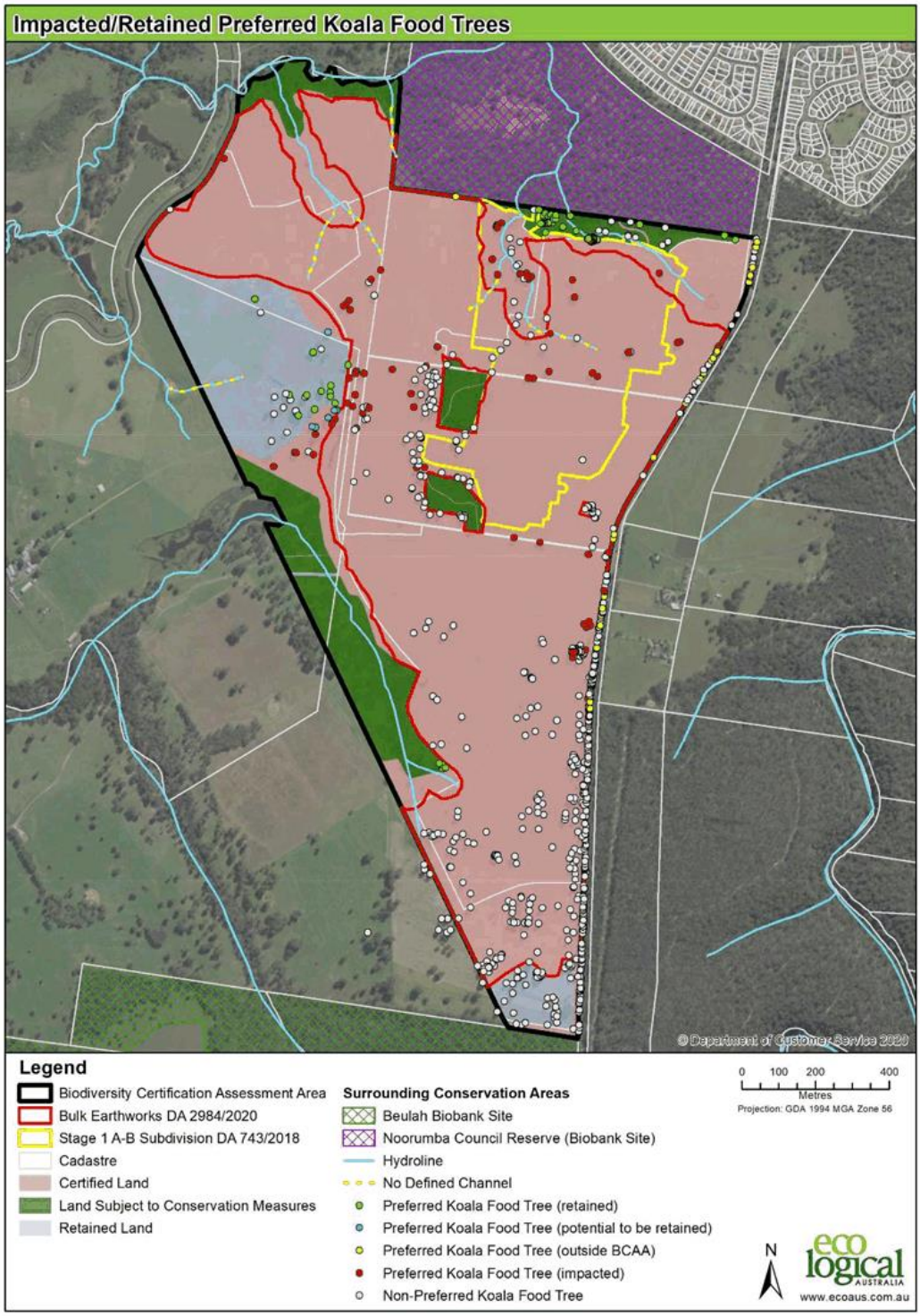

Figure 4: Location of PKFTs to be impacted by bulk earth works and Stage 1 A-B Subdivision DA within the study area

Note: No. of PKFTs conserved within the 22.50 ha of Biobank sites not shown.

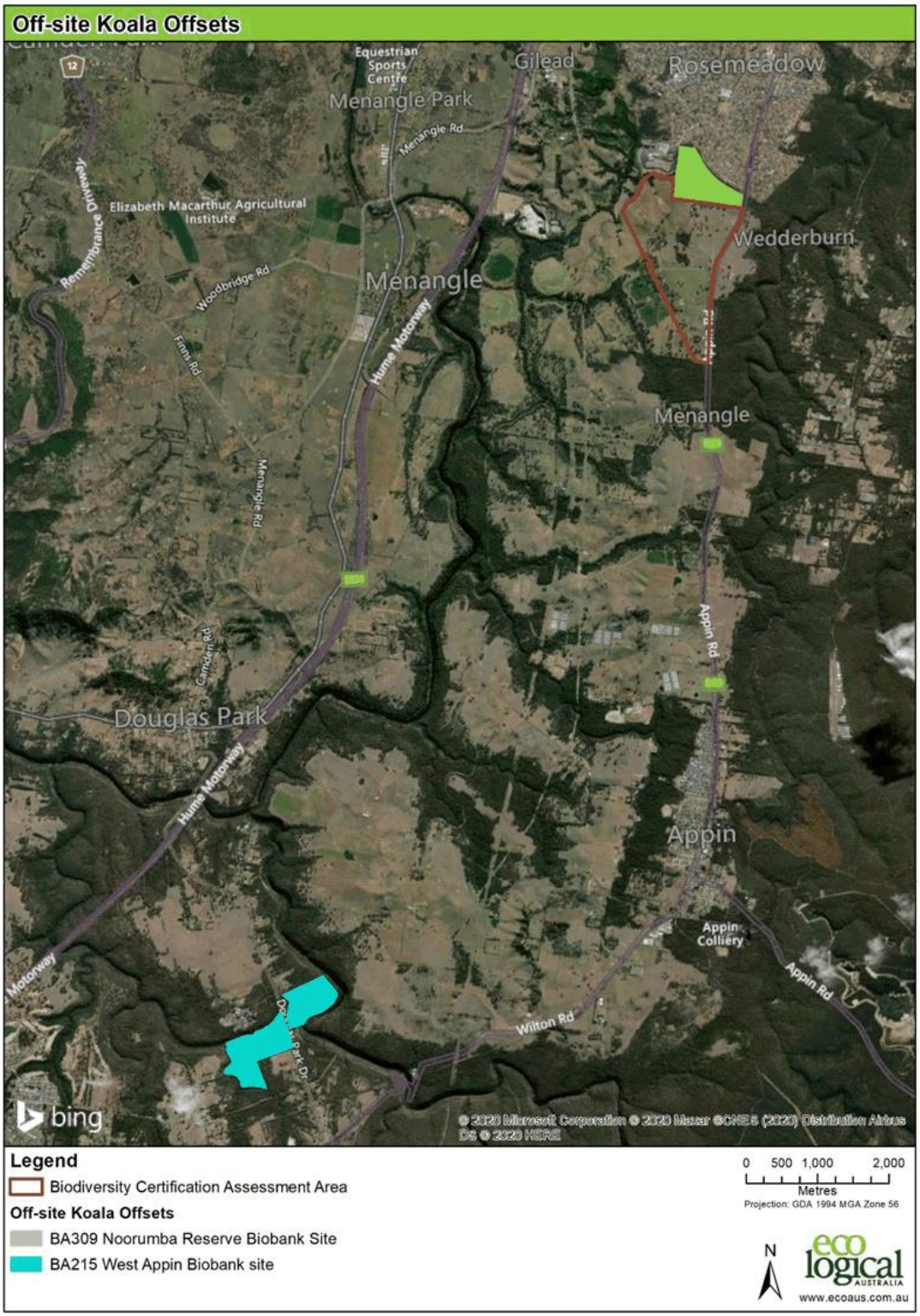

Figure 5: Location of off-site Koala Offsets (part of the Koala offset package)

5. CONFIDENTIAL ITEMS

5.1 Planning Proposal - Reclassification of Land - Campbelltown

Reason for Confidentiality

This report is **CONFIDENTIAL** in accordance with Section 10A(2)((f)) of the *Local Government Act 1993,* which permits the meeting to be closed to the public for business relating to the following: -

> details of systems and/or arrangements that have been implemented to protect council, councillors, staff and Council property.

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