PENRITH
CITY COUNCIL

MAJOR ASSESSMENT REPORT

Application number:	DA20/0644
Proposed development:	Demolition of Existing Structures & Construction of 200 Place Child Care Centre including Related Car Parking, Fencing, Tree Removal, Landscaping & Drainage & Site Works
Property address:	15 - 17 Garswood Road, GLENMORE PARK NSW 2745
Property description:	Lot 4211 DP 1150762
Date received:	7 October 2020
Assessing officer	Lauren Van Etten
Zoning:	SEPP WSA - Affected by Obstacle Limitation SEPP WSA - Affected by Wildlife Buffer Zone E4 Environmental Living - LEP 2010
Class of building:	Class 9b
Recommendations:	Refuse

Executive Summary

Council is in receipt of a development application for the construction of a child care centre at 15-17 Garswood Road, Glenmore Park. The subject site is zoned E4 Environmental Living under the provisions of Penrith Local Environmental Plan 2010. The proposal is a permissible land use in the E4 zone with consent.

On 22 December 2020, a letter was issued which outlined the application could not be supported due to inadequate information and unsatisfactory character and amenity impacts arising from the scale and density of the proposal. The letter recommended the withdrawal of the application and future re-lodgement should the issues be resolved. On 20 January 2021, Council was served with the Class 1 Application.

The application was notified and advertised to adjoining and nearby residences and publicly exhibited from 26 October to 25 November 2020. 60 submissions were received, 50 of which were unique.

As the development application is the subject of more than 10 unique submissions by way of objection, the development application is to be determined by the Penrith Local Planning Panel as per the Local Planning Panels Direction issued by the Minister for Planning under Section 9.1 of the Environmental Planning and Assessment Act 1979. Given the appeal, Council is subject to the direction and control of the Penrith Local Planning Panel in the course of these proceedings.

An assessment under Section 4.15 of the Environmental Planning and Assessment Act 1979 has been undertaken and the application is recommended for refusal.

Site & Surrounds

The Site is legally described as Lot 4211 in DP 1150762, and is known as 15-17 Garswood Road, Glenmore Park. The Site is located on the northern side of Garswood Road and is an irregular shaped allotment which widens towards the rear. The site has a frontage of 50m to Garswood Road and rear width of 86.79m. The eastern and western boundary dimensions are 148.90m and 130m respectively and the site area is 9024m2 by DP 1150762. The Site falls approximately 6m from the northern rear to the southern street frontage.

The Site contains 37 trees as surveyed by the applicant's arborist report, noting 16 Leylendii are grouped as ‘Tree 27’. A single storey dwelling house currently exists on the Site with detached ancillary structures, on-site sewage management infrastructure and vehicular access from Garswood Road.

The Site and immediately surrounding land, bounded by The Northern Road to the east, the M4 Motorway to the north, South Street to the west and Garswood Road to the south, is zoned E4 Environmental Living with rural-residential dwellings on large lots. Approximately 180m to the east, along the eastern side of The Northern Road is the suburb of Orchard Hills, zoned RU4 Primary Production Small Lots. Approximately 400m to the west is zoned R2 Low Density Residential consisting generally of smaller urban blocks with more modern dwelling construction, with a series of one and two storey dwellings.

The opposite (southern) side of the street contains Glenmore Park Golf Club, which is zoned RE2 Private Recreation.

Proposal

The proposed development includes:

- Demolition of existing structures;
- Construction of a child care centre for 200 children and 25 staff;
- The floor area consists of 1266.51m^2, excluding the decks and pergolas which consists of approximately 430m^2;
- The outdoor play area comprises 1400m^2 of soft fall cover;
- Construction of an at grade car park to accommodate 45 car spaces (including 1 accessible space) consisting of 1250m^2;
- Access via an entry and exit driveway proposed to Garswood Road;
- Earthworks associated with the car park, driveways, outdoor play areas and stormwater management measures;
- Stormwater drainage is proposed via a pit and pipe system and on-site detention (OSD) tank setback 15m from Garswood Road, connecting to the street.
- The OSD tank is predominantly below ground, however there is a retaining wall around the perimeter of the tank as there is approximately 750mm fall across the land from the northern side of the tank to the southern side.
- Hours of operation from 7:00am to 6:00pm, Monday to Friday with staff shoulder arrival from 6:30am;
- The removal of 27 existing trees and landscaping, and planting of 36 replacement trees; and
- An acoustic fence 1.8m high along the sides and rear of the outdoor play areas, setback 3m from the side and rear boundaries. The acoustic fence is to be constructed from an impervious material such as masonry, lapped-and-capped timber, clear polycarbonate, toughened glass, a proprietary modular system or a combination, free from holes or gaps.
- A retaining wall is proposed underneath the acoustic fence with up to 1.1m of cut along the northern and western boundaries and 1m of fill along the southern side of the facility.

Background
In 2019, a prelodgement meeting was held for a child care centre for 172 children (PL19/0081). Key issues discussed related to character and amenity impacts, hardstand areas/site coverage, landscape buffers, wastewater management, acoustic and traffic impacts.

Education and Care Services National Regulations
It is noted that the proposed 25 staff is based on the requirements of the Regulations, more specifically as detailed in Part 4.4, Clause 123:
(a) for children from birth to 24 months of age—1 educator to 4 children; (therefore 5 staff are required for the 20 children proposed);
(b) for children over 24 months and less than 36 months of age—1 educator to 5 children; (therefore 6 staff are required for 30 children proposed);
(c) for children aged 36 months of age or over (not including children over preschool age)—1 educator to 11 children; (11 staff are required for the 120 children proposed); and
(d) for children over preschool age, 1 educator to 15 children (2 staff are required for the 30 children proposed).

Plans that apply

- Local Environmental Plan 2010 (Amendment 4)
- Development Control Plan 2014
- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
- State Environmental Planning Policy (Western Sydney Aerotropolis) 2020
- State Environmental Planning Policy No 55—Remediation of Land
- State Environmental Planning Policy No 64—Advertising and Signage
- Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River

- ## Section 1.7 - Application of Part 7 of Biodiversity Conservation Act 2016

In accordance with Clause 1.7, this Act has effect subject to the provisions of Part 7 of the Biodiversity Conservation Act 2016 which contains additional requirements with respect to assessments, consents and approvals under this Act. In accordance with Section 7.2 of the Biodiversity Conservation Act 2016 (BC Act), an activity is likely to significantly affect threatened species if it is carried out in an area of outstanding biodiversity value. Inadequate information was submitted regarding the impacts to Trees 2, 4, 5, 7 and 22 by the proposed development. Those trees form part of an endangered ecological community being Cumberland Plain Woodland. The Site is included in the Biodiversity Values Land Map. Given the proposed development has not accounted for biodiversity impacts, including during construction, a Test of Significance (5 part test) is required in a accordance with the requirements of the Biodiversity Conservation Act 2016 and associated regulations.

- ## Section 4.15 - Evaluation

The proposed development has been assessed in accordance with the matters for consideration under Section 4.15 of the Environmental Planning and Assessment Act 1979, and having regard to those matters, the following issues have been identified for further consideration.

- ## Section 7.12 - Developer Contributions

The site and proposal are subject to Penrith City Council's CityWide Section 7.12 Development Contributions Plan for Non Residential Development. Based on the applicable rate under this Development Contributions Plan, the following development contribution applies to the proposal: 1% x $4,091,316 (cost of construction works) = $4,091,316. However, conditions have not been provided in this regard given the recommendation is for refusal for reasons outlined elsewhere within this report.

Section 4.15(1)(a)(i) The provisions of any environmental planning instrument

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

An assessment against the relevant criteria under State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 has been undertaken and a detailed discussion is provided below.

Clause 3 Aims of Policy

Given the character and amenity impacts listed below, the proposal is considered inconsistent with the third objective of Clause 3 Aims of Policy:

- *establishing consistent State-wide assessment requirements and design considerations for educational establishments and early education and care facilities to improve the quality of infrastructure delivered and to minimise impacts on surrounding areas.*

Clause 22 Centrebased child care facility- Concurrence of Regulatory Authority required for certain development

The proposal complies with regulation 107 (indoor unencumbered space requirements) of the Education and Care Services National Regulations. The proposal also complies with the outdoor space requirements under regulation 108 (outdoor unencumbered space requirements). The proposal provides 700m2 of indoor unencumbered space (650m2 is required) and provides 1500m2 of unencumbered outdoor space (1400m2 is required). Accordingly, in this instance Clause 22 does not apply to the proposal and concurrence of the Regulatory Authority is not required.

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

Clause 23 requires that before determining a development application for development for the purpose of a centrebased child care facility, the consent authority must take into consideration any applicable provisions of the Child Care Planning Guideline. An assessment was undertaken against the provisions of the Child Care Planning Guideline dated August 2017 and details of non-compliance are summarised below.

Child Care Planning Guideline (August 2017)

The proposal is inconsistent with Part 2 Design quality principles (context, landscape) and objectives and considerations in Part 3 regarding local character, building design and landscaping as detailed below.

Principle 1 - Context : Good design responds and contributes to its context, including the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Well-designed child care facilities respond to and enhance the qualities and identity of the area including adjacent sites, streetscapes and neighbourhood.

- Comment: The site and surrounds have an open, semi-rural character with a low density residential development pattern, predominantly surrounded by landscaping, with generous front and rear setbacks (at least 60m and 30m respectively) containing driveways, pockets of biodiversity, gardens, extensive turf and open low rural style fencing. The exceptional site is directly to the northern rear with a right of carriageway along its rear boundary due to access directly being from The Northern Road, however it remains predominantly landscaped particularly surrounding the dwelling. There are sheds of varying sizes associated with the dwellings as well. However, built forms and hardstand areas are limited in comparison to the landscaped settings, albeit ranging from modest dwellings to those which are 600-850m2. All boundary fencing is of an open nature and typically of a rural style.
- In relation to the likely future character, given the E4 zoning of the area and the lack of sewer available to the surrounding properties, it is not considered that the character will substantially change over time. The locality is therefore considered to maintain its established character in the medium to long term.
- The proposal, on the other hand, includes a built form surrounded by car parking and artificial play area and fences, which alters the ratio of landscape to hardstand areas within the rear half of the site and thus disrupts the character of the locality as viewed from neighbouring properties. Refer to the discussion within Part 3 below as to how the proposal responds to the relevant objectives and considerations in this regard.

Principle 5 - Landscape: Landscape and buildings should operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

- Comment: The proposal does not contribute to the open landscaped character in the rear half and is therefore not considered a contextual fit. Refer to the discussion within Part 3 below as to how the proposal responds to the relevant objectives and considerations in this regard.

Principle 6 - Amenity: Good design positively influences internal and external amenity for children, staff and neighbours. Achieving good amenity contributes to positive learning environments and the well-being of students and staff. Good amenity combines appropriate and efficient indoor and outdoor learning spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, service areas and ease of access for all age groups and degrees of mobility.

- Comment: The proposal will result in unacceptable visual impacts for neighbours as it fails to reflect and respond to the landscaped character of the locality. Refer to the discussion within Part 3 below as to how the proposal responds to the relevant objectives and considerations in this regard.

Child Care Planning Guideline, Part 3 Matters for Consideration		
Section	**Objectives and Considerations**	**Proposal**

3.1 Site Selection and Location	Objective: 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 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 Objective: To ensure that sites for child care facilities are appropriately located. C3 A child care facility should be located: 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 physical characteristics of the site make it unsuitable for development as a child care centre with the scale proposed. The site is constrained by its irregular shape in an area characterised by generous landscaped setbacks surrounding built forms. The proposal is heavily concentrated towards the rear where the lot width is greater. However even then the landscape setbacks proposed are minimal (3m alongside the play area and rear and 1-5m alongside the car park) resulting in character and amenity impacts as further discussed below. A proposal of this scale cannot be re-located closer to the front given the lot width narrows from 86m down to 50m. The inability to provide a compatible balance of built form to landscaping, including extensive hardstand surfaces, incompatible side and rear setback treatment and an inadequate landscape presentation to the adjoining properties are all a consequence of the inappropriate scale proposed on a constrained site. Regarding location, the proposal is within a rural-residential area and there is no bus stop within Garswood Road.

3.2 Local Character, Streetscape and Public Domain Interface	Objective: 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 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 treatment of the rear setback does not retain the open landscaped character nor balance the hardstand surfaces proposed. The proposal reduces the current rear setback from a depth of 40m of landscaped area to 3 metres of landscaping, replacing the remainder with an enclosed play area with artificial groundcover, shade sails and the child care facility itself. The side setbacks are also reduced to 3m. Consequently, the existing open green corridor is disrupted and the hedge and a solid acoustic fence are adjacent the private open spaces of the neighbouring properties. The expansive hardstand surfaces, coupled with their siting, are inconsistent with the existing landscaped character of the locality. Collectively the built form/pergolas, car parking area and artificially covered play areas result in hardstand surfaces covering at least 45% of the site, all of which is concentrated within the rear half of the property. This is not designed in character nor does it reflect the predominant form of dwellings integrated into the landscape. Further, the proposed solid acoustic fence is uncharacteristic among the open rural fencing within the locality and it is extensive, occupying a third of the site's perimeter with only a 3m boundary setback. The fences impact is compounded by the 1m retaining wall underneath it. The fence disrupts the open landscaped setting rather than reinforcing this context. Refer to the discussion against C18 and C19 regarding landscaping.

3.3 Building orientation, envelope and design	C12 Objective: To ensure that the scale of the child care facility is compatible with adjoining development and the impact on adjoining buildings is minimised. Objective: 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.	In addition to the discussion above, the scale of the facility is not incompatible in itself but rather in combination with its surrounding hardstand surfaces, which results in a comparably larger built form with less landscaping. The proposal is also inconsistent with Part D1, Section 1.2.2B. of Penrith Development Control Plan (DCP) 2014. The rural DCP side and rear setbacks apply as per Clause 26 (d)(ii) of the Child Care SEPP. The proposal is contrary to the objective for setbacks to preserve trees and other vegetation and provide adequate areas for landscaping given solid fences and artificial groundcover for play areas are proposed within the required 5m setbacks
	Objective: 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 responds to its natural environment including local landscape setting and climate contributes to the identity of the place retains and reinforces existing built form and vegetation where significant	As aforementioned, within the rear half of the property, the built form does not contribute to the character of the area as it does not respond to the treatment of prevailing rear and side setbacks, nor respond to its natural environment including the open landscaped character.

3.4 Landscaping	Objective: To provide landscape design that contributes to the streetscape and amenity. C18 Appropriate planting should be provided along the boundary integrated with fencing. 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 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.	The landscaping proposal includes little variety in plant species with dense rows of hedges trees covering the sides and rear of the play area, car park and evacuation area, contrary to the open landscaped character with informal diverse scattered plantings. Pyrus is proposed along the side and rear boundaries, adjacent the acoustic fence. This species is not acceptable due to the lack of quality shade it provides during the warmer months. In addition, the acoustic fence and retaining wall also adjoins the car park without landscaping in between to soften the incompatible treatment. While the proposal intends to preserve existing trees, Council's Arborist has raised concern regarding unaccounted impacts of the proposal upon these trees as well. The extensive large, paved area for car parking is inadequately screened given the absence of landscaped blister islands throughout, the inadequate side setback that reduces to 1m to the west, and the car park's visible location relative to adjoining dwellings. The turf proposed underneath the car spaces is unsustainable as well. The absence of landscaping within both the parking area and play areas is inadequate and fails to contribute to the amenity of the site and surrounds with a lack of trees. These two hardstand areas are both as large as the built form. The proposal does not positively affect amenity for neighbours in terms of view or outlook and the size of the car park is excessive and will not create a cool outdoor environment or reduce summer heat.

3.5 Visual and acoustic privacy	Objective: To minimise impacts on the 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	Screening has not been provided to the decks facing the eastern and western side boundaries given they are elevated 1m above natural ground level
3.6 Noise and air pollution	Objective: 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	An air quality assessment has not been provided to demonstrate that the proposal (which is close to major roads) can meet air quality standards in accordance with relevant legislation and guidelines.
3.8 Traffic, parking and pedestrian circulation	Objective: 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. 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. Objective 34: To provide vehicle access from the street in a safe environment that does not disrupt traffic flows. Objective: To provide a safe and connected environment for pedestrians both on and around the site.	Refer to the appendix of this report for discussion against the DCP parking rates. Inadequate information has been provided regarding roadway capacity, residential amenity and measures to accommodate the increase in demand which may result from the proposal. The Traffic and Parking Assessment Report (Motion Traffic Engineers, August 2020) report does not include commentary regarding traffic volumes, performance, modelling, and amenity to justify the proposal. More specifically, the environmental capacity performance standards on residential streets are detailed in the RTA's Guide to Traffic Generating Development (2002). The Guide recommends that the maximum peak hour volume on a residential collector roadway is 300 veh/hr as the

		environmental goal, and 500 veh/hr as the absolute maximum. The 158 trips generated by the development in the AM peak results in Garswood Road exceeding the maximum performance standards specified in the RTA guidelines which consequently can impact surrounding amenity. In addition, recent Council volume counts suggest the volumes provided in the traffic report significantly underestimate eastbound volumes, yet overestimate westbound volumes. Further, modelling of the Garswood Road / The Northern Road intersection has not considered the ultimate arrangement and ultimate traffic demand, i.e. applying a 2% annual growth rate plus development traffic to these volumes.
	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	Refer to the appendix of this report for further details regarding accessible parking.

Part 4 Applying the National Regulations to development proposals

Regulation 113 of the Education and Care Services National Regulations
The outdoor play area does not provide trees or natural vegetation as required by Regulation 113.

State Environmental Planning Policy (Western Sydney Aerotropolis) 2020

The Aerotropolis SEPP commenced on 1 October 2020. Consideration has been given to the relevant clauses and the proposed development, specifically in relation to the future Western Sydney Airport provisions.

Clause 21 Wildlife hazards

The Aerotropolis SEPP contains a map that relates to wildlife buffer areas. This map is titled the "Wildlife Buffer Zone Map". The map shows that the subject site is within a 13 kilometre 'wildlife buffer zone' of the airport site. The objective of Clause 21 is to regulate development on land surrounding the airport site where wildlife may present a risk to the operation of the airport. Certain types of development then trigger the requirements for further consideration under Clause 21. The proposed development is not one of the types of uses that warrant additional consideration under the SEPP with regard to wildlife and the operation of the airport.

Clause 24 Airspace operations
The subject site is also identified as being located within the Obstacle Limitation Surface (OLS) Map area. Clause 24 of the SEPP relates to development that would penetrate the prescribed air space for the airport and be a 'controlled activity'. The proposed development does not penetrate the prescribed air space nor is it a controlled activity, therefore not triggering any additional considerations under this clause.

State Environmental Planning Policy No 55—Remediation of Land

SEPP 55 aims to provide a framework for the assessment, management and remediation of contaminated land throughout the state. Clause 7 of SEPP 55 prevents consent authorities from consenting to a development unless it has considered whether the land is contaminated and is satisfied that the land is suitable (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out. Council's Environmental Management Officer reviewed the proposal and noted that insufficient information has been submitted to demonstrate that the proposal will be able to achieve compliance with the provisions of State Environmental Planning Policy (SEPP) No. 55 – Remediation of Land.

More specifically, a Preliminary Site Investigation prepared by Geotesta (dated 21 September 2019, ref NE728) was provided with the application. The Investigation determined that the site is considered suitable for the proposed use. However no preliminary sampling for contaminants or analysis had been undertaken. A review of aerial images for the subject property has been undertaken, and the following occurrences have been identified:

- Unidentified material spread north of the existing rainwater tank and north-east of the existing dwelling (noting that this material does not appear to correlate with the construction of the rainwater tank on 9 March 2015).
- A waste/burn pile located north of the existing rainwater tank and north-east of the existing dwelling on 30 August 2018 to 29 October 2019.
- Unidentified material spread north of the existing dwelling and garden bed on 29 December 2018 to present.

It is noted that the Preliminary Site Investigation has not provided commentary regarding any of the abovementioned instances of unidentified material and the waste/burn pile identified on the subject property.

Having regard to the inadequate information detailed above, it is considered that the application has not demonstrated that the site is suitable for the proposed development and thus not satisfied the provisions of Clause 7 of SEPP 55.

State Environmental Planning Policy No 64—Advertising and Signage

The number of proposed signs is incompatible in the rural-residential context. A revised signage plan could remove the excessive signs i.e. the wall signs and ensure only one sign is proposed on the façade to integrate with the area’s rural landscape character. However, as detailed elsewhere within this report, there are reasons for refusal for this application.

Sydney Regional Environmental Plan No.20 - Hawkesbury Nepean River

An assessment has been undertaken of the proposal against relevant criteria within Sydney Regional Environmental Plan No. 20—HawkesburyNepean River (No. 2—1997) and insufficient information has been submitted to demonstrate consistency with Sydney Regional Environmental Plan No. 20 and the objectives and controls within Part C3.2 of the DCP relating to water quality given no Water Sensitive Urban Design Strategy was submitted with the application to justify the water conservation measures provided.

Local Environmental Plan 2010 (Amendment 4)

Provision	Compliance
Clause 1.2 Aims of the plan	Does not comply - See discussion
Clause 2.3 Permissibility	Complies - See discussion
Clause 2.3 Zone objectives	Does not comply - See discussion
Clause 2.7 Demolition requires development consent	Complies
Clause 4.3 Height of buildings	Complies
Clause 7.1 Earthworks	Complies - See discussion
Clause 7.4 Sustainable development	Does not comply - See discussion
Clause 7.7 Servicing	Does not comply - See discussion

Clause 1.2 Aims of the plan

Clause 1.2 (2) states *"The particular aims of this Plan are as follows—*

> *(aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,*
> *(a) to provide the mechanism and planning framework for the management, orderly and economic development, and conservation of land in Penrith,*
> *(b) to promote development that is consistent with the Council's vision for Penrith, namely, one of a sustainable and prosperous region with harmony of urban and rural qualities and with a strong commitment to healthy and safe communities and environmental protection and enhancement,*
> *(c) to accommodate and support Penrith's future population growth by providing a diversity of housing types, in areas well located with regard to services, facilities and transport, that meet the current and emerging needs of Penrith's communities and safeguard residential amenity,*
> *(d) to foster viable employment, transport, education, agricultural production and future investment opportunities and recreational activities that are suitable for the needs and skills of residents, the workforce and visitors, allowing Penrith to fulfil its role as a regional city in the Sydney Metropolitan Region,*
> *(e) to reinforce Penrith's urban growth limits by allowing rural living opportunities where they will promote the intrinsic rural values and functions of Penrith's rural lands and the social well-being of its rural communities,*
> *(f) to protect and enhance the environmental values and heritage of Penrith, including places of historical, aesthetic, architectural, natural, cultural, visual and Aboriginal significance,*
> *(g) to minimise the risk to the community in areas subject to environmental hazards, particularly flooding and bushfire, by managing development in sensitive areas,*
> *(h) to ensure that development incorporates the principles of sustainable development through the delivery of balanced social, economic and environmental outcomes, and that development is designed in a way that assists in reducing and adapting to the likely impacts of climate change."*

The proposal is contrary to cl 1.2 (2) (b) of the PLEP 2010 as it is inconsistent with Council's vision for Penrith, namely, a region with a harmony of urban and rural qualities given the expansive hardstand surfaces are incompatible with the existing semi-rural qualities of the area.

The proposal is contrary to cl 1.2 (2) (c) of the PLEP 2010 because it does not safeguard residential amenity due to its design, capacity and scale impacts on local character.

The proposal is contrary to cl 1.2 (2) (e) of the PLEP 2010 as it does not reinforce Penrith's urban growth limits by promoting the intrinsic rural values and functions of Penrith's rural lands and the social well-being of its rural communities given its alteration to the semi-rural character of the area fails to reflect the domination of landscape over built form.

Clause 2.3 Permissibility

The subject site is zoned E4 Environmental Living under the provisions of Penrith Local Environmental Plan 2010. The proposal is defined as a centrebased child care facility which is a permissible land use in the E4 zone with consent.

Clause 2.3 Zone objectives

The proposal is inconsistent with the first three objectives of the E4 Environmental Living zone, namely:

- To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.
- To ensure that residential development does not have an adverse effect on those values.
- To minimise conflict between land uses within the zone and land uses within adjoining zones.

As detailed throughout this report, the proposal does not integrate into the semi-rural landscaped setting given the expansive hardstand surfaces, fence types and incompatible landscaping opportunities. The proposal will not maintain the rural character and visual quality of the area as viewed from neighbouring properties. In addition, it is noted there are impacts to trees unaccounted for by the application within the front and rear setback. The proposal is not considered to be of low impact relative to the aesthetic values of an Environmental Living zone nor does it minimise conflict between commercial and residential land uses in an aesthetic sense.

Clause 7.1 Earthworks

Clause 7.1 stipulates that prior to granting development consent for earthworks, Council must consider matters such as impacts on existing drainage patterns, environmental functions and processes, existing and likely amenity of adjoining properties and future land uses and any new impacts. The proposed child care centre will generate minor earthworks associated with the build.

While the facility is to be flush with natural ground level along the south eastern side, as viewed from the streetscape, there is approximately 1.1m cut proposed along the northern side of the proposed outdoor play area and 1m of fill proposed along the south-western side. It is noted that 1m of fill is typical in a rural context as per the controls within D1 Rural Development within Penrith Development Control Plan 2014. Moreover, given the visual impact of this level difference is mostly internalised, being viewed from within the play area rather than from neighbouring properties, the proposal is consistent with the objectives of this clause as the earthworks are not considered detrimental to environmental functions and processes or neighbouring uses within the area. It is noted the 1m of fill is not adequately screened from the car park however this is a landscaping issue rather than an earthworks issue.

Clause 7.4 Sustainable development

Clause 7.4 states that "*in deciding whether to grant development consent for development, the consent authority must have regard to the principles of sustainable development as they relate to the development based on a "whole of building" approach by considering each of the following—*
(a) conserving energy and reducing carbon dioxide emissions,
(b) embodied energy in materials and building processes,
(c) building design and orientation,
(d) passive solar design and day lighting,
(e) natural ventilation,
(f) energy efficiency and conservation,"

The absence of landscaping within the parking and outdoor play areas (1250m^2 and 1400m^2 respectively) is inadequate and fails to contribute to the amenity of the site and surrounds with a lack of trees. In addition, the car park and driveways are proposed with a dark colour (ironstone). The scale of hardstand surfaces does not create a cool outdoor environment or reduce summer heat, contrary to Clause 7.4 of Penrith Local Environmental Plan 2010 (a) and (f) and Penrith's Cooling the City Strategy.

Clause 7.7 Servicing

Clause 7.7(2) states *"Before granting development consent for development on any land to which this Plan applies, the consent authority must be satisfied that—*
(a) the development will be connected to a reticulated water supply, if required by the consent authority, and
(b) the development will have adequate facilities for the removal and disposal of sewage"

The proposal has not satisfied the requirements of Clause 7.7(2)(b) Servicing of Penrith Local Environmental Plan 2010 (PLEP) Clause (2)(b) since evidence that the site can be serviced by sewer services has not been submitted and the site is currently not connected to reticulated sewer.

Section 4.15(1)(a)(ii) The provisions of any draft environmental planning instrument

Draft State Environmental Planning Policy (Remediation of Land) 2018
The proposal has been assessed against the applicable provisions of Draft State Environmental Planning Policy (Remediation of Land) 2018 and the associated guideline document, and is considered to be unacceptable. Refer to the discussion under State Environmental Planning Policy No. 55 Remediation of Land for detail.

Draft State Environmental Planning Policy (Environment) 2017

The intent of the new State Environmental Planning Policy (Environment) 2017 is to combine seven existing State Environmental Planning Policies into a simple, modern and accessible instrument. The proposal has been assessed against the applicable provisions of Draft State Environmental Planning Policy (Environment) 2017. Refer also to the discussion under Sydney Regional Environment Plan No. 20 Hawkesbury Nepean River (No. 2 1997) for detail regarding the inadequacies of the proposal relative to this policy.

Section 4.15(1)(a)(iii) The provisions of any development control plan

Development Control Plan 2014

Provision	Compliance
C1 Site Planning and Design Principles	N/A
C2 Vegetation Management	Does not comply - see Appendix - Development Control Plan Compliance
C3 Water Management	Does not comply - see Appendix - Development Control Plan Compliance
C4 Land Management	Does not comply - see Appendix - Development Control Plan Compliance
C5 Waste Management	Does not comply - see Appendix - Development Control Plan Compliance
C6 Landscape Design	N/A
C7 Culture and Heritage	N/A
C8 Public Domain	N/A
C9 Advertising and Signage	Does not comply - see Appendix - Development Control Plan Compliance
C10 Transport, Access and Parking	Does not comply - see Appendix - Development Control Plan Compliance
C11 Subdivision	N/A
C12 Noise and Vibration	Does not comply - see Appendix - Development Control Plan Compliance
C13 Infrastructure and Services	Does not comply - see Appendix - Development Control Plan Compliance
D1.1. Rural Character	N/A
D1.2. Rural Dwellings and Outbuildings	Does not comply - see Appendix - Development Control Plan Compliance
D1.3. Farm buildings	N/A
D1.4 Agricultural Development	N/A
D1.5. Non-Agricultural Development	N/A
D5.1. Application of Certification System	N/A
D5.2. Child Care Centres	Complies - see Appendix - Development Control Plan Compliance
D5.3. Health Consulting Rooms	N/A
D5.4. Educational Establishments	N/A
D5.5 Parent Friendly Amenities	N/A
D5.6. Places of Public Worship	N/A
D5.7. Vehicle Repair Stations	N/A
D5.8. Cemeteries, Crematoria and Funeral Homes	N/A
D5.9. Extractive Industries	N/A
D5.10 Telecommunication Facilities	N/A

Section 4.15(1)(a)(iv) The provisions of the regulations

Council's Building Surveyor reviewed the proposal relevant to the regulations and the proposal complies with the requirements of the Regulations subject to conditions. Notwithstanding the application is to be refused for other reasons, as outlined elsewhere within this report.

Section 4.15(1)(b)The likely impacts of the development

Local Character

The proposal is considered to have an undesirable impact on the existing character of the local area. Refer to earlier discussions in this report. The development proposal is inconsistent with controls of the Educational Establishment SEPP, Penrith LEP and Penrith Development Control Plan 2014 (PDCP) which are related to context, landscaping and setbacks. Limited opportunities are provided for compatible landscaping within the side and rear setbacks. This is due to the minimal setbacks proposed and an excess of structures and hardstand areas, including retaining walls, acoustic fences, extensive awnings, decks, softplay areas, car park, and driveway areas. Subsequently the hardstand surfaces are not adequately mitigated by landscaping nor preserving the open landscaped character of the semi-rural locality.

Further, the proposal is heavily concentrated towards the rear where the lot width is greater intensifying the impacts upon the neighboring properties. However, a proposal of this scale cannot be re-located closer to the front given the lot width narrows from 86m down to 50m, thus signifying an overdevelopment of the site.

Residential Amenity

The proposal will not positively affect amenity for neighbours in terms of views or outlook. Further, the size of the car park is excessive and will increase the urban heat island effect, noting existing heat island issues and the number of extreme temperature days Penrith experiences. The proposal is significantly lacking in landscaped area across the rear half of the site and the design limits opportunities for necessary planting.

Traffic, Parking, Access and Maneuvering

The proposal fails to provide adequate on-site parking for ancillary staff and accessible spaces. The requirement to provide additional off-street parking will result in more hardstand surface area at the expense of site landscaping which is incompatible with the character of the area.

The application has not demonstrated that there is adequate space for the parking and manoeuvring of waste vehicles.

The application has not demonstrated that the amenity of the surrounding area will not be affected nor that there will be no impacts on the safe operation of the surrounding road network.

Stormwater Management

The application has not demonstrated that the proposal can adequately manage stormwater run-off from the site in terms of stormwater quality.

Vegetation

There are a number of established native trees on the site which contribute to the landscape character of the area. The impacts of the proposal upon these trees, namely the on-site detention basin, the driveways, and the acoustic fence/retaining walls, has not been appropriately considered to allow for an assessment of the likely impacts.

Noise and Privacy Impacts

The submitted Acoustic Report is not satisfactory. The Noise Impact Assessment does not adequately address the noise impact of waste collection nor road traffic noise based on forecasted volumes from The Northern Road into the future. Certain calculations within the report are omitted and others are unclear I.e. whether The Northern Road and M4 Motorway roadworks affect the noise criteria.

Waste impacts

This application was accompanied by a waste management plan, which was deemed inadequate. There is no provision for the parking or collection of waste, contrary to Penrith Council's Waste Management Guidelines for Industrial, Commercial and Mixed Use.

Accessibility

The proposal is not connected to employment areas, town centres, business centres or shops given there is no access to public transport within Garswood Road.

Servicing

The application has not demonstrated that the site can be serviced by sewer services and the site is currently not connected to reticulated sewer.

Air quality/odour impacts

The application has not demonstrated that the proposal (which is close to major roads) can meet air quality standards in accordance with the relevant legislation and guidelines.

Contamination

The proposal has not demonstrated that the site is suitable nor satisfied the provisions of Clause 7 of *State Environmental Planning Policy No. 55 - Remediation of Land.*

Section 4.15(1)(c)The suitability of the site for the development

The Site is not considered suitable for development of a child care centre of the size proposed and represents an overdevelopment of the site for the following reasons:

The physical characteristics of the site make it unsuitable for development as a child care centre with the scale proposed. The site is constrained by its irregular shape in an area characterised by generous landscaped setbacks surrounding built forms.

The inability to provide a compatible balance of built form to landscaping, including extensive hardstand surfaces, incompatible side and rear setback treatment and an inadequate landscape presentation to the adjoining properties are all a consequence of the inappropriate scale proposed on a constrained site.

Section 4.15(1)(d) Any Submissions

Community Consultation

In accordance with Council's Community Participation Plan, the Application was advertised and notified to adjoining and nearby residences between 26 October and 25 November 2020. 60 submissions were received of which 50 were unique. The issues raised are discussed below.

Traffic, parking and waste collection impacts	The Traffic and Parking Assessment Report (Motion Traffic Engineers, August 2020) report did does not include commentary regarding traffic volumes, performance, modelling, and amenity to justify the proposal. The Application does not demonstrate that integrated on-site waste collection can be facilitated, contrary to Penrith Council's Waste Management Guidelines for 'Industrial, Commercial and Mixed Use'. A reason of refusal relate to inadequate information regarding traffic generation, access and circulation. The proposal does not comply with the Penrith Development Control Plan 2014 (DCP) parking rates in terms of a failure to provide parking for support staff. Administration and food preparation staff have not been included in the total number of staff required and there is no parking provision for these staff members. Inadequate parking is a reason for refusal.
Safety Concerns regarding traffic circulation within the site and within Garswood Road	There are internal and external traffic calming measures that could be conditioned however is noted the recommendation of this report is for refusal given other reasons for refusal as detailed elsewhere within this report. Given the length of the internal circulation roadway and parking aisle, traffic calming measures, such as speed humps, could be required. Further, speed cushion devices could be provided at the existing refuge/chicane near the development on Garswood Rd. Delineation measures such as centre line markings could be provided along Garswood Road to assist with accommodating the additional traffic volume. A dilapidation report for Garswood Rd between South St and The Northern Road could identify the required maintenance measures to be undertaken by the developer to ensure the roadway (including the pavement, subbase, kerb/gutter, and footpath) is maintained at a satisfactory condition.

Semi-rural character impacts	The scale of the proposed hardstand and built form components, together with their siting, is incompatible with the landscape and fails to reflect the domination of landscape over built form. The proposed solid acoustic fence is also uncharacteristic among the open rural fencing within the locality and it is extensive, occupying a third of the site's perimeter with only a 3m boundary setback. The disruption to the semi-rural character is a reason for refusal as it is inconsistent with the objectives and controls for the zone, as well as the objectives of the SEPP and the controls within the guidelines associated with the SEPP.
Non-compliance with the E4 zone objectives	As detailed within this report, the expansive hardstand surfaces are inconsistent with the existing landscaped character of the locality. The proposal is not considered to be of low impact relative to the aesthetic values of an Environmental Living zone, nor does it minimise conflict between commercial and residential land uses.
Noise and privacy impacts	The Environmental Noise Impact Assessment (Day Design Pty Limited, 25 September 2020) does not assess how waste collection will affect noise impacts to surrounding sensitive receivers, nor whether The Northern Road and M4 Motorway roadworks affect the noise criteria established within the report, nor assess the impacts of road traffic noise based on forecasted volumes from The Northern Road into the future, as is required by the NSW Road Noise Policy . The calculations relied upon to produce Table 9 within the Environmental Noise Impact Assessment (Day Design Pty Limited, 25 September 2020) have not been shown in detail. As a result, it is unclear how the impact on residential receivers has been determined given the different separation distances to R1 , R2 and R3. Insufficient noise regarding acoustic impacts is included as a reason for refusal. Regarding privacy, given the setbacks to the building proposed 8-14m to the east and 13-15m to the west, visual privacy impacts could mitigated via a condition to the landscaping plan and screening of the decks. However, as previously noted, there are other reasons for refusal.
Urban heat impacts from the hardstand surfaces proposed	The scale of hardstand surfaces does not create a cool outdoor environment or reduce summer heat, contrary to consideration 19 of the CCPG and Clause 7.4 of Penrith Local Environmental Plan 2010 (a) and (f). This is a reason for refusal regarding amenity impacts.

Stormwater impacts	Council's Development Engineer reviewed the proposal and raised no objections in this regard.
Air quality impacts	An air quality assessment was not provided to demonstrate that the proposal (which is close to major roads) can meet air quality standards in accordance with relevant legislation and guidelines, and as required by Consideration 28 of the CCPG. This issue is a reason for refusal regarding insufficient information.
Poor access to public transport	The proposal is contrary to Part 3.1 (consideration 3) of the Child Care Planning Guidelines which requires child care facilities to be located "near or within employment areas, town centres, business centres, shops; with access to public transport including rail, buses, ferries; and in areas with pedestrian connectivity to the local community, businesses, shops, services and the like". The proposal is within a rural-residential area and there is no bus stop within Garswood Road. This issue is a reason for refusal regarding site suitability.
Emergency evacuation concerns	An emergency evacuation plan was submitted with the application and reviewed by Council's Social Planner who raised no objections. Concerns regarding the evacuation routes, relative to traffic, are addressed in the response to traffic concerns above.
Inadequate information regarding connection to sewer	The proposal has not satisfied the requirements of Clause 7.7(2)(b) Servicing of Penrith Local Environmental Plan 2010 (PLEP) Clause (2)(b) since evidence that the site can be serviced by sewer services has not been submitted and the site is currently not connected to reticulated sewer. This issue is a reason for refusal regarding site suitability.
Inadequate information regarding carpark lighting	No information was provided in this regard.
Insufficient local demand for additional child care facility of proposed scale	The Educational Establishments and Child Care Facilities SEPP and associated Child Care Planning Guideline were gazetted on 1ac September 2017. The SEPP has been introduced to facilitate the effective delivery of educational establishments and early education and care facilities across the state. Clause 26(b) of the SEPP stipulates that any provision of a development control plan that specifies a requirement for demonstrated need or demand for child care services does not apply to development for the purpose of a centre based child care facility .
Impact upon property values	No evidence has been provided from registered property values to suggest that the proposed development will affect property prices of the adjoining properties or their resale potential.
Information request regarding which properties were re-notified when the subject site was re-zoned E4	This enquiry is separate to the subject development application. Council's City Planning Team can be contacted in this regard.

Referrals

The application was referred to the following stakeholders and their comments have formed part of the assessment:

Referral Body	Comments Received
Building Surveyor	No objections - subject to conditions
Children Services	No objections - subject to conditions
Development Engineer	No objections - subject to conditions
Environmental - Environmental management	Not supported
Environmental - Waterways	Not supported
Environmental - Public Health	No objections - subject to conditions
Environmental - Biodiversity	Not supported
Waste Services	Not supported
Traffic Engineer	Not supported
Community Safety Officer	No objections - subject to conditions
Social Planning	No objections

Section 4.15(1)(e)The public interest

The proposal will not enhance the character and environment of the local area and will not contribute to the semi-rural amenity of residents surrounding the site.

The proposal departs from key requirements under State Environmental Planning Policy (Educational Establishments and Child Care Centres) 2017 and its associated Child Care Planning Guidelines and Penrith Development Control Plan 2014 (Parts C and D1) in relation to character, landscaping and minimising impacts.

A total of 51 submissions objecting to the proposal were received. Consideration should be given to the concerns raised in these submissions to the extent that those matters are consistent with the issues set out above.

Conclusion

In assessing this proposal against the relevant environmental planning policies, primarily being State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017, State Environmental Planning Policy No. 55 Remediation of Land, Penrith Local Environmental Plan 2010 and Penrith Development Control Plan 2014, the proposal does not satisfy the aims, objectives and provisions of these policies. The site is not suitable for the proposed development, the proposal is not in the public interest, and there is likely to be negative impacts arising from the proposed development. Therefore, the application is recommended for refusal.

Recommendation

That DA20/0644 for the demolition of existing structures and construction of a 200 place Child Care Centre, including related car parking, fencing, tree removal, landscaping, drainage and site works at 15-17 Garswood Road, Glenmore Park, be refused.

CONDITIONS

Refusal

1 X Special 01 (Refusal under Section 4.15(1)(a)(i) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(a)(i) of the *Environmental Planning and Assessment Act 1979* as the proposal has not satisfied the provisions of Clause 7 of *State Environmental Planning Policy No. 55 - Remediation of Land.*

2 X Special 02 (Refusal under Section 4.15(1)(a)(i) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act as the proposal is inconsistent with the following provisions of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017:

- Clause 3 The proposal is inconsistent with the following aims and objectives of this plan;

- *establishing consistent State-wide assessment requirements and design considerations for educational establishments and early education and care facilities to improve the quality of infrastructure delivered and to minimise impacts on surrounding areas.*

- Clause 23 The proposal is inconsistent with the following applicable provisions of the Child Care Planning Guideline as follows:

- Part 2, Principle 1 Context, Principle 5 Landscape and Principle 6 Amenity;
- Part 3 Matters for Consideration;
- 3.1 Site Selection and Location;
- 3.2 Local Character, Streetscape and Public Domain Interface;
- 3.3 Building orientation, envelope and design;
- 3.4 Landscaping;
- 3.5 Visual and acoustic privacy;
- 3.6 Noise and air pollution; and
- 3.8 Traffic, parking and pedestrian circulation.

-Clause 26 (1)(d)(ii) The proposal is inconsistent with the matters for consideration regarding side and rear setbacks and car parking rates.

3 X Special 03 (Refusal under Section 4.15(1)(a)(i) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act as the proposal is inconsistent with the following provisions of Local Environmental Plan 2010:

1) Clause 1.2 The proposal is inconsistent with the following aims and objectives of this plan:

(b to promote development that is consistent with the Council's vision for Penrith, namely, one of a sustainable and prosperous region with harmony of urban and rural qualities and with a strong commitment to healthy and safe communities and environmental protection and enhancement,
(c) to accommodate and support Penrith's future population growth by providing a diversity of housing types, in areas well located with regard to services, facilities and transport, that meet the current and emerging needs of Penrith's communities and safeguard residential amenity,
(e) to reinforce Penrith's urban growth limits by allowing rural living opportunities where they will promote the intrinsic rural values and functions of Penrith's rural lands and the social well-being of its rural communities,

2) Clause 2.3. The proposal is inconsistent with the objectives of the E4 Environmental Living zone, specifically:

- *To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.*
- *To ensure that residential development does not have an adverse effect on those values.*
- *To minimise conflict between land uses within the zone and land uses within adjoining zones.*

3) The proposal is unsatisfactory having regard to the following principles of sustainable development under Clause 7.4 Sustainable development as the scale of hardstand surfaces does not create a cool outdoor environment or reduce summer heat

(a) conserving energy and reducing carbon dioxide emissions,
(f) energy efficiency and conservation,

4) The proposal is unsatisfactory having regard to Clause 7.7 Servicing (2)(b) since evidence that the site can be serviced by sewer services has not been submitted and the site is currently not connected to reticulated sewer.

4 X Special 04 (Refusal under Section 4.15(1)(a)(iii) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(a)(iii) of the *Environmental Planning and Assessment Act 1979* as the proposal is inconsistent with the following provisions of Penrith Development Control Plan 2014:

Part C City-wide Controls

- DCP Principles;
- Section C2 Vegetation Management;
- Section C3 Water Management;
- Section C4 Land Management;
- Section C5 Waste Management;
- Section C9 Advertising and Signage;
- Section C10 Transport, Access and Parking;
- Section C12 Noise and Vibration; and
- Section C13 Infrastructure and Services.

Part D2 Residential
Section D1 Rural Development.

5 X Special 07 (Refusal under Section 4.15(1)(b) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(b) of the *Environmental Planning and Assessment Act 1979* in terms of the likely impacts of the development including those relating to:

(i) Local Character
(ii) Residential Amenity
(iii) Traffic, Parking, Access and Maneuvering
(iv) Stormwater Management
(v) Vegetation
(vi) Noise and Privacy Impacts
(vii) Waste impacts
(viii) Air quality/odour impacts
(ix) Contamination

6 X Special 08 (Refusal under Section 4.15(1)(c) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(c) of the Environmental Planning and Assessment Act as the site is not suitable for the proposed development due to the irregular shape which makes it unsuitable for development as a child care centre with the scale proposed.

7 X Special 10 (Refusal under Section 4.15(1)(e) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(e) of the Environmental Planning and Assessment Act as the proposal is not in the public interest.

8 X Special 9 (Refusal under Section 4.15(1)(d) of EPA Act 1979)

The application is not satisfactory for the purpose of Section 4.15(1)(d) of the *Environmental Planning and Assessment Act 1979* having regard to the matters raised in the public submissions received insofar as those matters coincide with the preceding reasons for refusal of the application.

Appendix - Development Control Plan Compliance

Development Control Plan 2014

Part C - City-wide Controls

In accordance with Clause 26(1)(d)(ii) of the Educational Establishments SEPP, the provisions of the Child Care Planning Guideline generally take precedence over a DCP, other than building height, side and rear setbacks and car parking rates. Notwithstanding, matters not addressed within the Child Care guidelines are addressed below.

C3 Water Management

Water Quality

Section 3.1 of Council 's Water Sensitive Urban Design (WSUD) Policy requires new development over 2500m2 to have a 80% on-site water reuse. The WSUD Policy does apply to this development given the its size. Therefore, the proposal is required to demonstrate compliance via water reuse calculations or by demonstrating water efficiency and the submission of a WSUD strategy.

The supporting documents do not include a WSUD strategy nor do the plans and documents demonstrate that the proposed rainwater tank is sized appropriately to meet a minimum of 80% of the non- potable demand in compliance with Section 3.1 of Council's WSUD Policy. No justification has been submitted either regarding the assumptions on the numbers of toilets and landscaped area which will be serviced by the supply of rainwater.

C2 Vegetation Management

The Basic Tree Assessment report (Monaco Designs Pty Limited, 31 August 2020) does not include the proposed development plans within the appendix, or the proposed plans with overlay of the tree protection zones and structural root zones of trees to be retained. Therefore the submissions requirements have not been addressed as outlined in Part C2 4 (b)(i) of Penrith DCP 2014.

In addition, some measurements of the diameter breast height (DBH) of the trees on the site have not been calculated in accordance with AS 4970- 2009, Protection of trees on development sites, contrary to Part C2 6 (a) of Penrith DCP 2014. The size of the tree protection zones (TPZs) and the level of intrusion into the TPZs as well as the impacts of this cannot be appropriately assessed.

Relying on the estimates of DBH from the dimensions included in the Basic Tree Assessment report, the impacts to Trees 2, 4, 5, 7 and 22 are not appropriately considered, contrary to Section 4 (b)(vi) of Part C2 Vegetation Management within Penrith DCP 2014. No detail is provided to demonstrate that appropriate setbacks in accordance with AS 4970- 2009, Protection of trees on development sites can be provided or that sufficient space has been provided to permit trees to grow to maturity.

The Basic Tree Assessment report does not discuss whether the species of T22 (corimbia citriodora) is a safety concern being adjacent to the outdoor play area, contrary to Section 4(b)(viii) of C2 Vegetation Management within Penrith DCP 2014. As Tree 22 is on the adjoining property to the west, any development consent cannot result in third party property damage.

Biodiversity Impacts

As aforementioned, the impacts to Trees 2, 4, 5, 7 and 22 are not appropriately considered by the Basic Tree Assessment Report. Those trees form part of an endangered ecological community being Cumberland Plain Woodland. The Site is included in the Biodiversity Values Land Map. Given the proposed development has not accounted for biodiversity impacts, including during construction, a Test of Significance (5 part test) is required in accordance with the requirements of the Biodiversity Conservation Act 2016 and associated regulations.

C4 Land Management

The proposal has not demonstrated that the site is suitable regarding contamination nor satisfied the provisions of Clause 7 of *State Environmental Planning Policy No. 55 - Remediation of Land.* Refer to the discussion against SEPP No. 55 Remediation of Land for further details in this regard.

C5 Waste Management

On-site waste management is proposed. However, there is no provision for the parking or collection of waste, contrary to Penrith Council's Waste Management Guidelines for Industrial, Commercial and Mixed Use.

The submitted Traffic Report has not detailed swept paths to demonstrate access to the waste storage area can be accommodated via the width of the driveways. Council's Traffic Engineer reviewed the proposal in this regard and raised objection. More specifically:

"The Application does not demonstrate that integrated on-site waste collection can be facilitated, contrary to Penrith Council's Waste Management Guidelines for 'Industrial, Commercial and Mixed Use'. A waste collection vehicle (service vehicle) must be able to safely and efficiently access the site and the nominated collection point. In accordance with AS 2890.2, there must be sufficient manoeuvring area on-site to allow the collection vehicle to enter and exit the site in a forward direction and service the development efficiently with little or no need to reverse. Swept path models do not illustrate how a standard waste collection vehicle will enter, service and exit the site with a 0.5m unobstructed clearance from all obstructions".

C9 Advertising and Signage

The DCP states that only one building identification sign is to be erected on the property. The DCP also states that in rural zones, signage shall not be freestanding in the landscape, but shall relate to walls, fences or buildings. The objectives of these controls are to ensure that the amenity, landscape and character of rural and residential areas are maintained and roadside clutter minimised.

It is noted that three signs are proposed, two of which are freestanding. While two signage walls could be deleted from the plans to remain reflective of the area's landscape and rural character, this application is to be refused for reasons outlined elsewhere within this report.

C10 Transport, Access and Parking

The DCP specifies that car parking for child care centres is required to be provided at a rate of 1 car space per 10 children, plus 1 car space per employee. 24 staff are required based on the ratio requirements for face to face service delivery under the Education and Care Services National Regulations. The development proposes to employ 25 individuals and provide for 200 children, requiring 45 car spaces be provided on site. The proposal provides 45 parking bays (25 staff and 20 visitor bays). However, the proposal does not comply with the Penrith Development Control Plan 2014 (DCP) parking rates in terms of a failure to provide parking for support staff. Administration and food preparation staff have not been included in the total number of staff required and there is only 1 parking space for these staff members. in addition, the proposal only provides 1 accessible space whereas 2 accessible parking spaces are required as per Australian Standard 2890.6 requirements.
The requirement to provide additional off-street parking in accordance with the preceding requirements will result in more hardstand surface area at the expense of site landscaping which is incompatible with the character of the area.

C12 Noise and Vibration

Section C12.4 applies to all industrial development, commercial development and aims to ensure that the amenity of development surrounding commercial development is not adversely impacted. The information submitted has not demonstrated the development will not adversely

impact on the amenity of the area

The Environmental Noise Impact Assessment (Day Design Pty Limited, 25 September 2020) does not assess how waste collection will affect noise impacts to surrounding sensitive receivers, nor assess whether The Northern Road and M4 Motorway roadworks affect the noise criteria established within the report, nor assess the impacts of road traffic noise based on forecasted volumes from The Northern Road into the future, as is required by the NSW Road Noise Policy.

The calculations relied upon to produce Table 9 within the Environmental Noise Impact Assessment (Day Design Pty Limited, 25 September 2020) have not been shown in detail. As a result, it is unclear how the impact on residential receivers has been determined given the different separation distances to R1 , R2 and R3.

The Environmental Noise Impact Assessment (Day Design Pty Limited, 25 September 2020) also refers to a basement for staff parking however there is no basement proposed. It is unclear if the report was based on such an error and whether the removal of this assumption would alter the likely impacts on surrounding sensitive receivers.

C13 Infrastructure and Services
Refer to discussion against Clause 7.7 of Penrith Local Environmental Plan regarding the insufficient information as to sewer options.

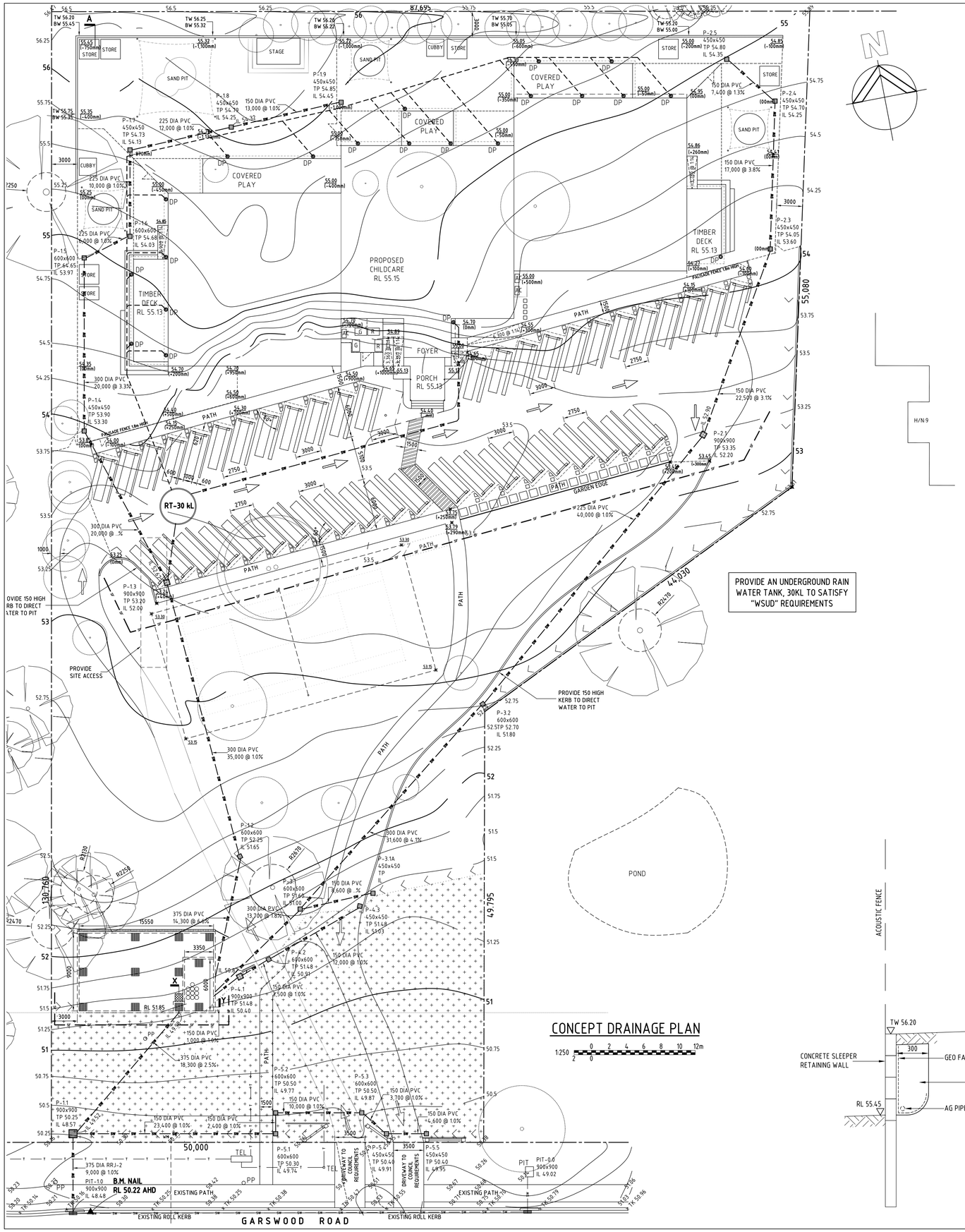
D1 Rural Land Uses

As aforementioned, the proposal is inconsistent with Part D1, Section 1.2.2B of the DCP. The rural DCP side and rear setbacks apply as per Clause 26 (d)(ii) of the Child Care SEPP. The proposal is contrary to the objective for setbacks to preserve trees and other vegetation and provide adequate areas for landscaping given sold fences and soft fall play areas are proposed within the required 5m setbacks.

D5 Other Land Uses

D5.2 Child Care Centres

It is noted that the controls within this section are overridden by the Educational Establishments and Child Care Facilities SEPP and associated Child Care Planning Guideline, other than those concerning building height, side and rear setbacks and car parking rates. These matters have been discussed elsewhere in this Appendix under Section C10 Transport, Access and Parking (car parking rates) and under Section D1 Rural Land Uses (side and rear setbacks) and Clause 4.3 Height of Buildings of Penrith LEP 2010.



PROVIDE AN UNDERGROUND RAIN WATER TANK, 30KL TO SATISFY "WSUD" REQUIREMENTS

CONCEPT DRAINAGE PLAN

1:250 0 2 4 6 8 10 12m

CALCULATIONS (WSUD)

SITE AREA (Sq.m.) = 9,020
AREA BYPASS FILTRATION TANK (Sq.m.) = 940
STORM FILTER 690 Nos. = 10
STORM FILTER DISCHARGE WITH 770 MM HEAD (L/s) = 16.0
STORM FILTER DISCHARGE WITH 1,210 MM HEAD (L/s) = 20.1
AREA REQUIRED FOR STORM CHAMBER (Sq.m.) = 20

'MUSIC' RESULTS

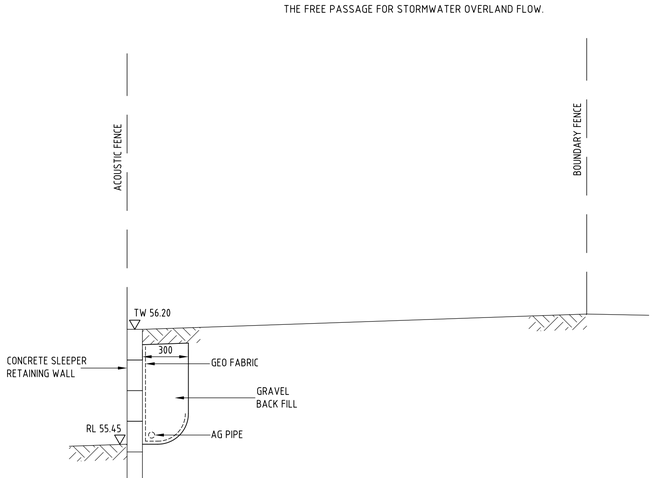
	SOURCE	RESIDUAL LOAD	REDUCTION (%)	TARGET (%)
TSS (kg/Y)	577	85.5	85.2	85
TP (kg/Y)	1.05	0.271	74.3	65
TN (kg/Y)	7.10	3.36	52.7	45
GP (kg/Y)	77.7	2.49	96.8	90

CALCULATIONS (OSD TANK)

SITE AREA (Sq.m.) = 9,020
AREA BYPASS OSD (Sq.m.) = 1,180
PERMISSIBLE SITE DISCHARGE (SEE DRAINS MODEL, MINOR FLOW) (L/s) = 48 > OR = 48
ORIFICE DIAMETER (mm) = 240
PERMISSIBLE SITE DISCHARGE (SEE DRAINS MODEL, MAJOR FLOW) (L/s) = 242 > OR = 217
SITE STORAGE REQUIREMENT (SEE DRAINS MODEL) (Cu.m.) = 135
SITE STORAGE PROVIDED ((12.0x9.0)+(3.55x2.8)-(1.1x1.1))x1.12+(6.2x3.55x0.24) (Cu.m.) = 136
TOP OF WATER LEVEL IN BELOW GROUND TANK (RL) = 50.379
MAX. DEPTH OF WATER IN BELOW GROUND TANK (51.379-50.17) (mm) = 1,209

CONSTRUCTION NOTES

1. DO NOT MEASURE FROM THE DRAWINGS AND ALL DISCREPANCIES SHALL BE NOTIFIED TO THE HYDRAULIC ENGINEER IMMEDIATELY AND SEEK ADVICE.
2. CONTRACTOR SHALL LOCATE ALL SERVICES WITHIN THE SITE AND IN COUNCIL FOOT PATH AND REPORT INVERT LEVELS TO THE UNDER SIGNED PRIOR TO COMMENCEMENT OF ANY WORK.
3. THE FINISHED GROUND LEVELS ARE CHOSEN IN SUCH A MANNER THAT ALL SURFACES ARE EVENLY GRADED AT MINIMUM 1% TO PREVENT PONDING AND DIRECTED TO PITS.
4. ALL LEVELS SHALL BE TAKEN FROM ESTABLISHED BENCHMARKS.
5. ALL PITS SHALL BE BENCHED AND STREAM LINED TO HALF PIPE HEIGHT.
6. PROVIDE STEP IRONS 'MASCOT SI.104' OR SIMILAR STAGGERED TO GIVE SPACING 300 VERTICAL AND 220 HORIZONTAL TO ALL PIT DEEPER THAN 1.0 METRE.
7. CONNECTION OF DISCHARGE PIPE TO EXISTING COUNCIL KERB & GUTTER, PIPE OR KERB INLET PIT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE COUNCIL REQUIREMENT.
8. SUITABLE AGPIPES SHALL BE PROVIDED AND CONNECTED TO STORMWATER SYSTEM AS INSTRUCTED BY THE ENGINEER AT SITE BEFORE ANY FILLING.
9. HIGH EARLY DISCHARGE PIT TO BE CONCRETE CAST / IN SITU, NOT PRECAST. PIT AT THE ROAD BOUNDARY WHERE DRAINAGE LINES ENTER PUBLIC ROAD AND FOOTWAY SHALL BE CONSTRUCTED WITH CAST IN SITU CONCTETE. PRECAST PITS ARE NOT ACCEPTABLE.
10. THE CHANGES TO ANY DEVELOPMENT AS PROPOSED IN THE ARCHITECTURAL DRAWING SHALL BE NOTIFIED IMMEDIATELY TO THE HYDRAULIC ENGINEER AND SEEK ADVICE.
11. ALL EXCAVATIONS WITHIN THE INFLUENCE OF BUILDINGS AND SERVICES SHALL BE UNDERTAKEN WITH THE KNOWLEDGE OF THE HYDRAULIC AND STRUCTURAL ENGINEER.
12. AREAS SPREADED WITH BARK SHALL BE BARRICADED TO PREVENT BARK GETTING INTO THE PITS AND STORMWATER SYSTEMS.
13. MINIMUM SLOPE FOR PAVED AREAS SHALL BE 1%, FOR LANDSCAPED AREAS MINIMUM SLOPE SHALL BE 2% AND GRADED DOWN TOWARDS THE GRATED PITS.
14. ALL GUTTERS TO BE 100x75 MIN. AND DOWN PIPES TO BE 100x75 (76 DIA.) MIN.. REFER TO ARCHITECT FOR MATERIAL SPECIFICATIONS.
15. MINIMUM OF 100mm Dia. PIPE SHALL BE USED FOR STORMWATER PIPES IN THE GROUND UNLESS NOTED OTHERWISE AND ALL STORMWATER PIPES SHALL BE LAID AT MINIMUM 1%. ANY DISCREPANCY SHALL BE REPORTED TO THE DESIGNER AND VERIFIED BY THE CONTRACTOR.
16. THE DETENTION AND DRAINAGE SYSTEM SHALL BE MAINTAINED AT REGULAR INTERVALS AND THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS.
17. ALL FENCES SHALL BE KEPT AT LEAST 100mm ABOVE THE GROUND LEVEL TO FACILITATE THE FREE PASSAGE FOR STORMWATER OVERLAND FLOW.



RETAINING WALL (TYPICAL) AT - A

1:20 0 1m 0.5 0

LEGEND

TP - TOP OF PIT
TWL - TOP WATER LEVEL
TW - TOP OF RETAINING WALL
GL - GUTTER LEVEL
RL - REDUCED LEVEL
TK - TOP OF KERB
IL - INVERT LEVEL

DA-20-

INDEX

NATURAL GROUND LEVEL x 14.53
DESIGN LEVEL 14.55
ROOF LINE
BOUNDARY LINE
SEDIMENT FENCE — SF — SF — SF —
EXISTING STORMWATER LINE — SW — SW — SW —
STORMWATER PIPE — SW — SW — SW —
PIPE CONNECTED TO "RT"
AGG. PIPE 75 DIA. — AG — AG — AG —
EXISTING SEWER MAIN — S — MH — S — SV —
TELSTRA — T — PIT — T — T —
WATER — W — W — HYD — W —
ELECTRICITY — E — E — E —
GAS — G — G — G — G —
DOWN PIPE DP
SPREADER SP
RAIN WATER HEAD RH
CLEANING EYE CE
TRENCH GRATE
CONTROL PIT
ACCESS PIT
SURFACE INLET PIT
PIT WITH ENVIRO POD 200 MICRON
AREA BYPASS 'OSD'
TREE TO BE RETAINED
TREE TO BE REMOVED

PIT SCHEDULE

1. PROVIDE LIGHT DUTY GRATES FOR NON VEHICULAR TRAFFICKED AREAS,
2. PROVIDE HEAVY DUTY GRATES FOR VEHICULAR TRAFFICKED AREAS,
3. PROVIDE 450x450 CLEAR OPENING FOR PITS DEPTH UP TO 450 mm U.N.O.,
4. PROVIDE 600x600 CLEAR OPENING FOR PITS DEPTH UP TO 600 mm U.N.O.,
5. PROVIDE 600x900 CLEAR OPENING FOR PITS DEPTH UP TO 900 mm U.N.O.,
6. PROVIDE 900x900 CLEAR OPENING FOR PITS DEPTH GREATER THAN 900 mm U.N.O.,
7. ALL PVC PIPES UNDER TRAFFICKED AREAS SHALL BE OF CLASS-6 AS PER AS1477,
8. ALL REINFORCED CONCRETE PIPES SHALL BE OF RUBBER RING JOINTS,
9. ALL TRENCH GRATES SHALL BE A MINIMUM OF 225 W x 225 H U.N.O.,
10. PROVIDE STEP IRONS TO PITS DEEPER THAN 1,000mm,

ISSUE	DESCRIPTION	DATE
A	FOR DA SUBMISSION	28 SEP 20

Registered Professional Engineer 564105
MR. Ram Baskaran
MIEAust CPEng (Civil)
NPER-3
Signature..... Date. 28 SEP 20
Registered on the NPER in the Category of Civil
National Professional Engineers Register Section Three

CONSULTING CIVIL ENGINEERS
Rammy Associates Pty Ltd
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Phone: 0419 989 185 Email: rammy.ramb@gmail.com

USE OF THESE DRAWINGS
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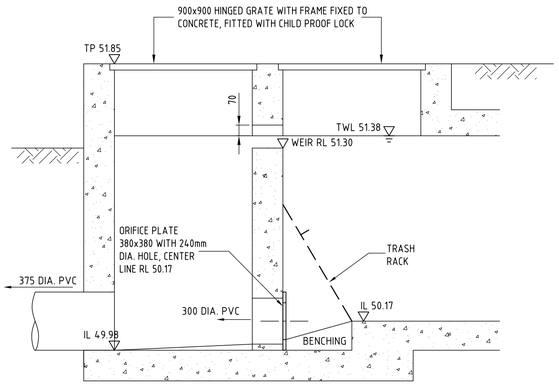
TITLE	CONCEPT DRAINAGE PLAN
PROJECT	PROPOSED CHILDCARE CENTER
LOCATION	15-17 GARSWOOD RD GLENMORE PK
LOT/D.P.	4211 / 1150762
OWNER	WIGGLES & GIGGLES PTY LTD
ARCHITECT	DESIGN M STUDIO
DESIGNED	RB
DRAFTED	RB
OUR REF. No.	19.08.28.1
DRAWING No.	D-01 1 OF 2

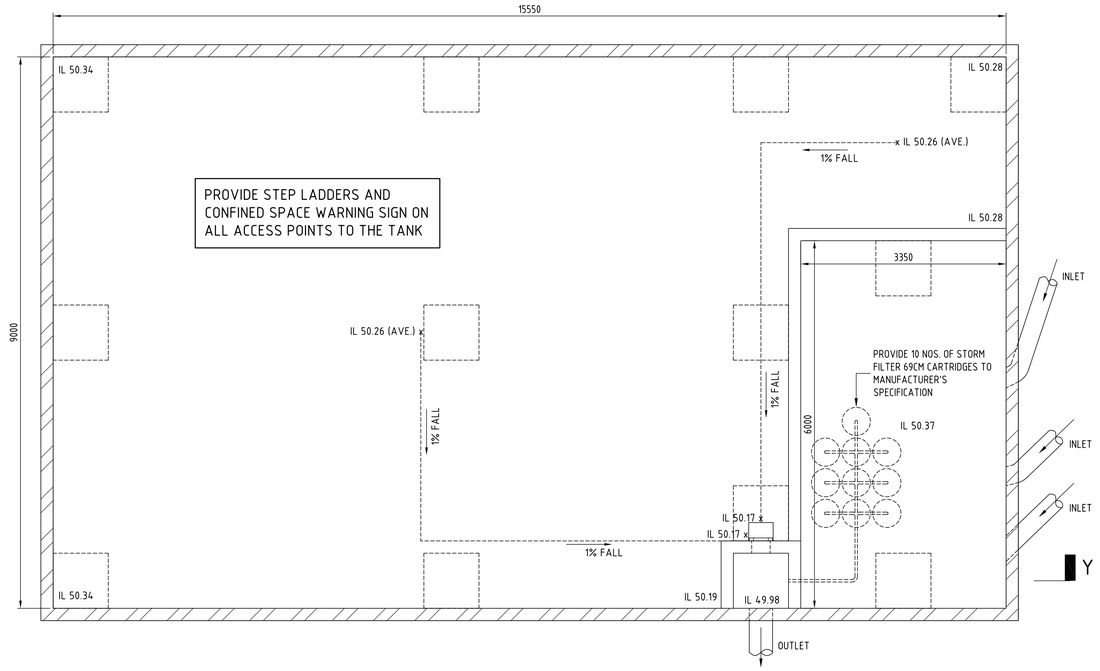
DA-20-



SECTION OF 'HED' PIT AT "X"

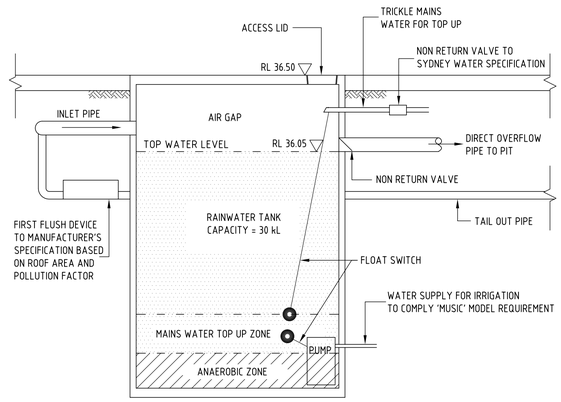
SCALE = 1:20

REFER DRAWINGS FROM STRUCTURAL ENGINEER'S FOR DETAIL OF STEEL AND CONCRETE IN THE TANK WALLS AND SLABS



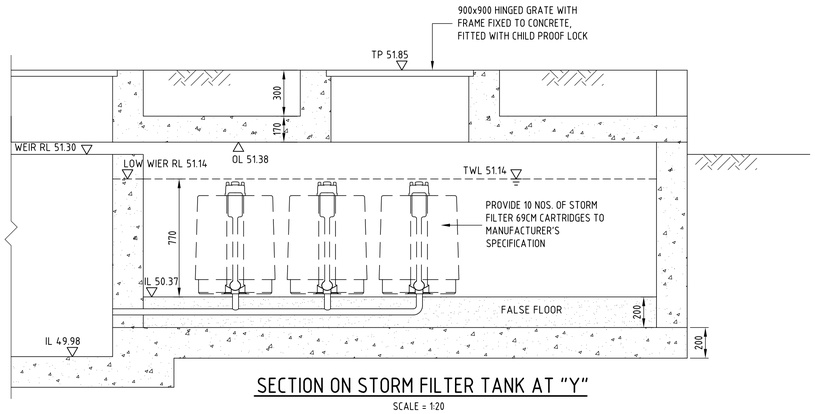
PLAN OF STORM FILTER & OSD TANK

SCALE = 1:50



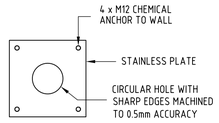
BELOW GROUND RAINWATER TANK CONFIGURATION

NOT TO SCALE



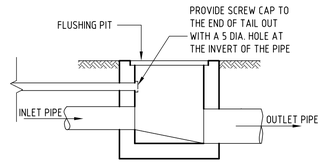
SECTION ON STORM FILTER TANK AT "Y"

SCALE = 1:20



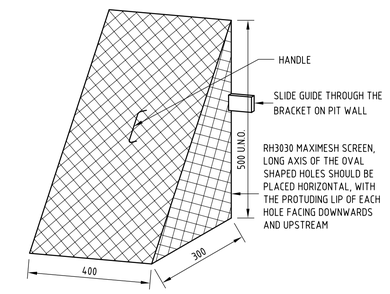
ORIFICE PLATE

NOT TO SCALE



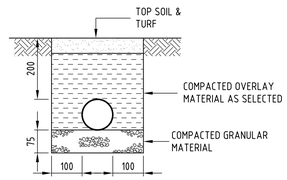
TAILOUT PIT

NOT TO SCALE



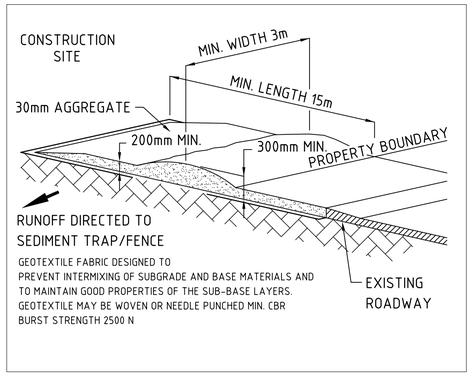
STANDARD NICHOLAS TRI SCREEN

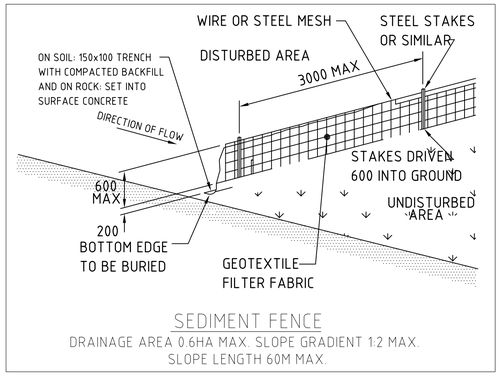
NOT TO SCALE



PIPE TRENCH

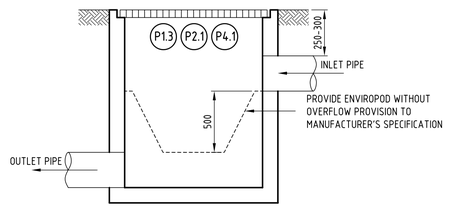
NOT TO SCALE





SEDIMENT FENCE

DRAINAGE AREA 0.6HA MAX. SLOPE GRADIENT 1:2 MAX. SLOPE LENGTH 60M MAX.



SECTION OF PITS WITH ENVIRO POD

NOT TO SCALE

ISSUE	DESCRIPTION	DATE
A	FOR DA SUBMISSION	28 SEP 20

Registered Professional Engineer 564105
MR. Ram Baskaran
MIEAust CPEng (Civil)
NPER-3
Signature..... Date.28 SEP 20
Registered on the NPER in the Category of
Civil
National Professional Engineers Register Section Three

CONSULTING CIVIL ENGINEERS
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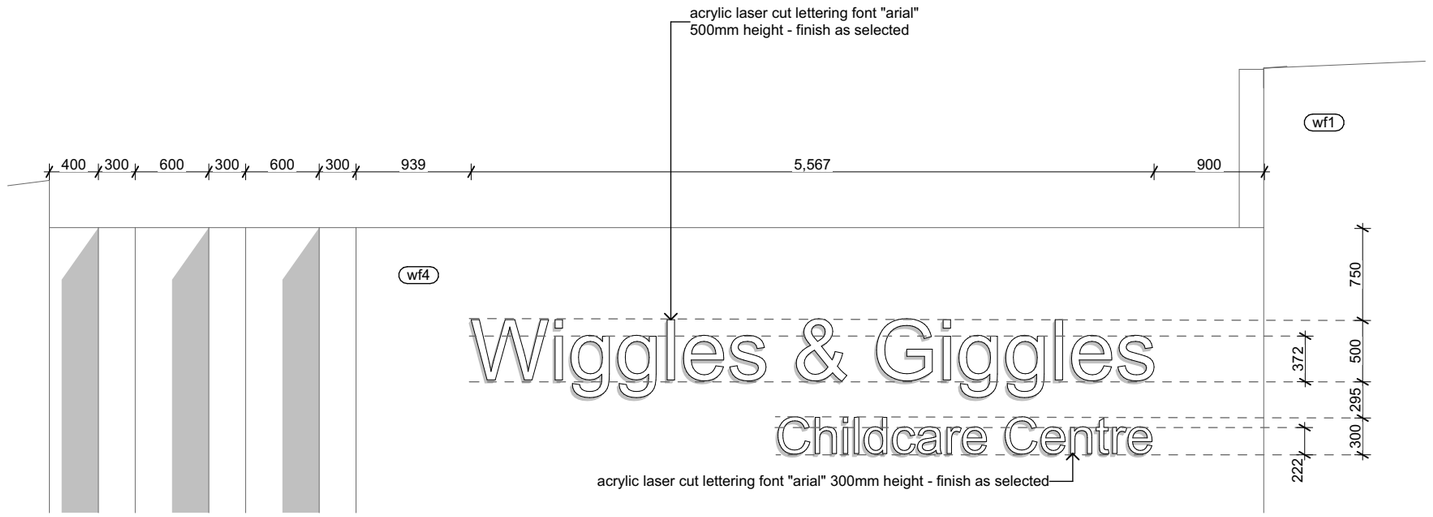
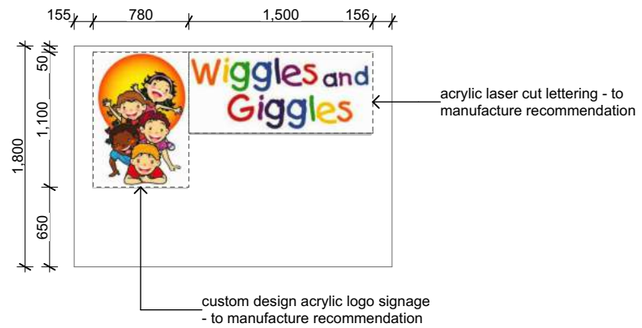
Phone: 0419 989 185 Email: rammy.ramb@gmail.com

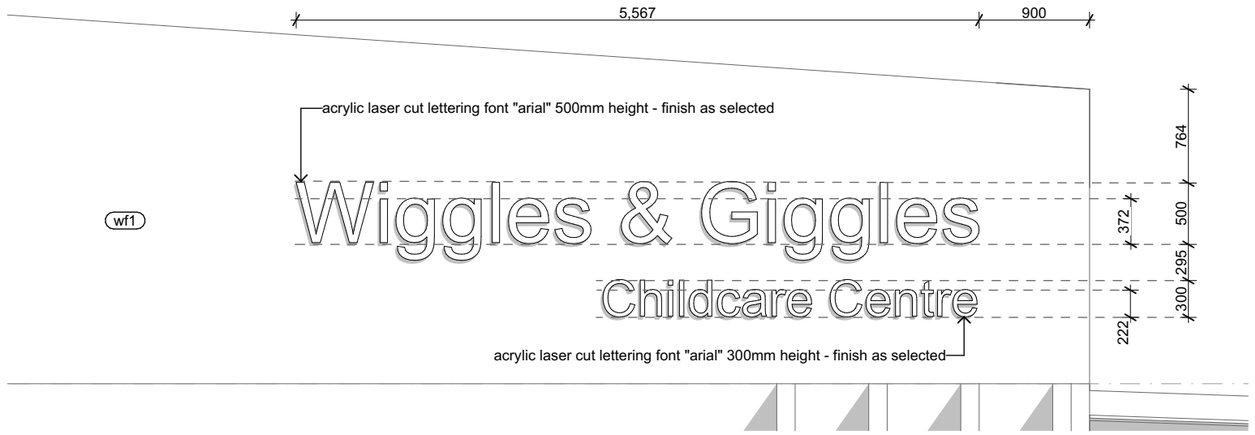
TITLE	DRAINAGE DETAILS
PROJECT	PROPOSED CHILDCARE CENTER
LOCATION	15-17 GARSWOOD RD GLENMORE PK
LOT/D.P.	4211 / 1150762
OWNER	WIGGLES & GIGGLES PTY LTD
ARCHITECT	DESIGN M STUDIO
DESIGNED	RB
DRAFTED	RB
OUR REF. No.	19.08.28.1
DRAWING No.	D-02 2 OF 2



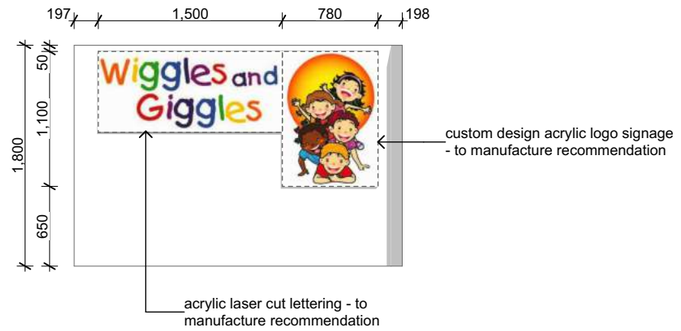
1 **SIGN 1 - FEATURE WALL**
1:50



3 **SIGN 3 - BOUNDARY WALL**
1:50



2 **SIGN 2 - FEATURE WALL**
1:50



4 **SIGN 4 - BOUNDARY WALL**
1:50

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NOTES:
All dimensions are in mm. Do not scale off drawing, Contractors to verify all dimensions on site & inspect site conditions prior to commencement of construction. Contractors to ensure all works to comply with NCC, Australian Standards and Council regulations.

ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** ADVERTISING SIGNAGE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:50 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A800	**ISSUE** DA01	**PAGE** 26 / 26

IN CASE OF FIRE

R EMOVE PEOPLE
from immediate danger

A LERT THE FIRE SERVICE
- break manual call point
- call 000

C ONFINE FIRE & SMOKE
close doors and windows (if safe to do so)

E VACUATE
to the ASSEMBLY AREA

EVACUATION PROCEDURES

STAGE 1:- Removal of people from the immediate Danger Area
Occupants and staff in the immediate danger area are to assemble a safe distance away from the fire and smoke. When the area has been evacuated all doors and windows should be closed to contain fire.

STAGE 2:- Removal to a Safe Area
If the severity of the smoke or fire warrants further evacuation, occupants should be moved through fire/smoke doors to a safe area.

STAGE 3:- Complete Evacuation of Entire Complex
Should the emergency necessitate evacuation of the whole building, the Manager or the Fire Service will direct occupants from the safe place to the ASSEMBLY AREA.

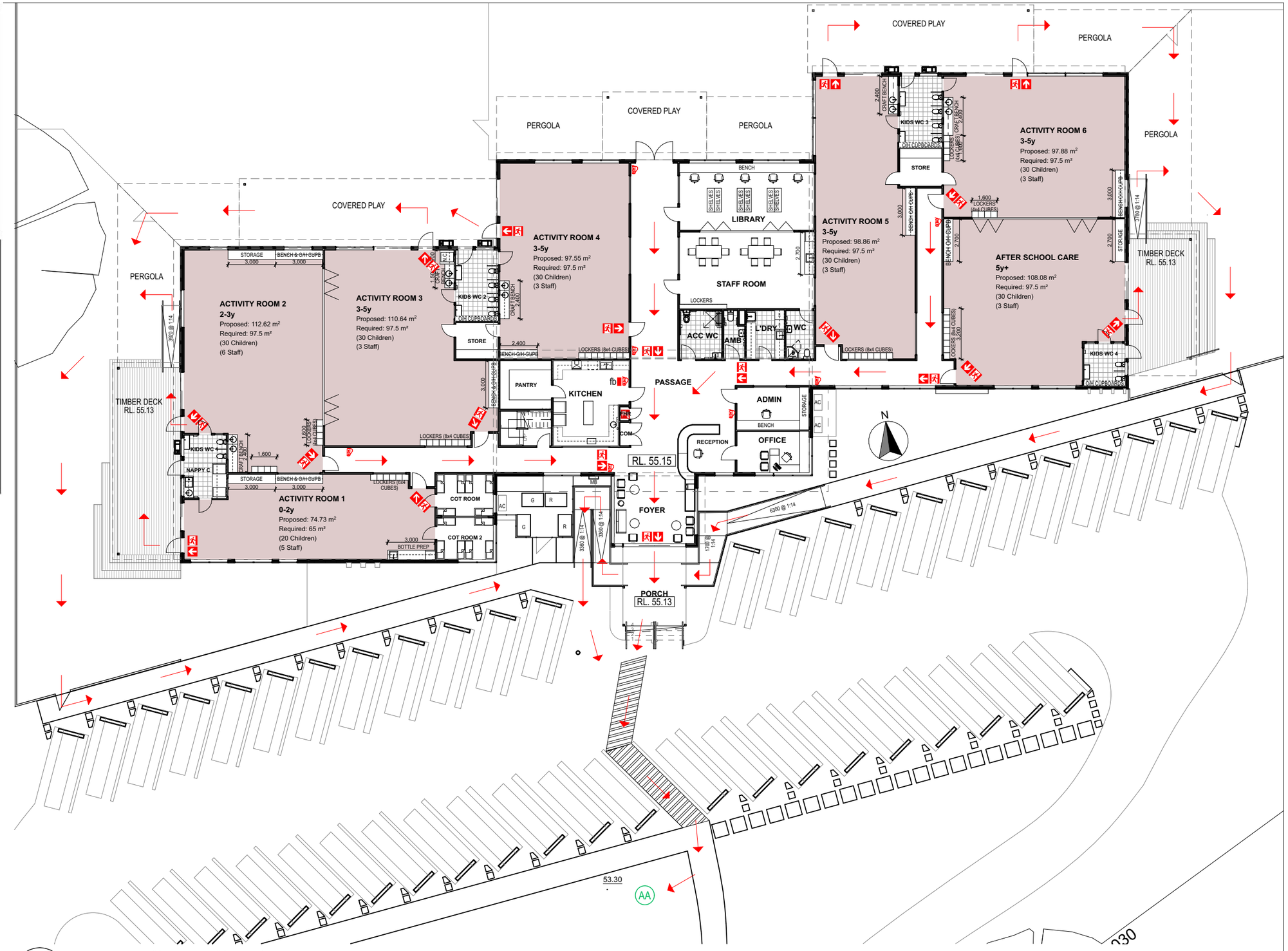
STAGE 4:- Roll Call.
To be conducted as soon as possible and to ensure all Persons are accounted for. Report all missing persons to FIRE OFFICERS.

Mobility impaired persons should evacuate immediately on hearing the fire alarm assisted by a nominated person.

000 EMERGENCY
In an emergency dial 000

LEGEND

	Fire hose reel as per AS2441	x1
	Fire extinguishers as per AS2444; AS1841; Part E1.6 (BCA)	x8
fb	Fire Blanket(s) as per AS2444; AS3504	x1
	Exit sign as per AS/NZ2293.3; Part E4.5 & E4.6 & E4.8 (BCA)	x19
	Exit path	
AA	Assembly Area	x1



1 EVACUATION PLAN
1:250

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NOTES:
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ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** EVACUATION PLAN		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:250 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A701	**ISSUE** DA01	**PAGE** 25 / 26

FINISHES SCHEDULE

CODE	IMAGE	DESCRIPTION	LOCATION
mr1		Colorbond metal roof & downpipes Brand: Colorbond Colour: Shale Grey	Roof & Downpipes
r1		Sofit paint Brand: Dulux Colour: Casper White Quarter	Sofit
wf1		Wall Cladding Panel Brand: Weathertex Product: Weathergroove 300mm Colour: Natural	External wall
wf2		Wall Cladding Panel Brand: Weathertex Product: Weathergroove Smooth 150mm Colour: Colorbond Woodland Grey	External wall
wf3		Wall Cladding Panel Brand: Scyon Product: Matrix Cladding 600x1200mm Colour: Dulux Sea Breeze Half	Feature blade walls
wf4		Stone Cladding Brand: Scyon Product: Matrix Cladding 600x1200mm Colour: Dulux Sea Breeze Half	External wall
w5		Hebel Wall Brand: Dulux Colour: Casper White Quarter	External wall (Outdoor Play Area)
w6		Hebel Wall (Feature) Brand: Dulux Colour: Sea Breeze Half	External wall (Outdoor Play Area)
w7		Hebel Wall (Feature) Brand: Dulux Colour: Foille	External wall (Outdoor Play Area)
w8		Hebel Wall (Feature) Brand: Dulux Colour: Pale Daffodil	External wall (Outdoor Play Area)

FINISHES SCHEDULE

CODE	IMAGE	DESCRIPTION	LOCATION
df		Aluminum Decorative Feature Brand: Supawood Product: Aluclick Material: Aluminium Colour: Woodgrain - Brown Oak	Suspended Ceiling over Porch
fr		Entry columns, Aluminium Frames,Trims & Gutter Brand: Colorbond Colour: Monument	Entry Columns External Window & Door Frames Gutter
bf1		Chainlink Fence Colour: Green	Boundary Fence
fe1		Palisade Fence/Gate Colour: Green	Outdoor Play Area Fence & Front Boundary Gate
fe2		Lapped-and-Capped Timber Fence Finish: Natural	Acoustic Fence
b1		Frameless Glass Balustrade Glass: Clear Fixtures: Stainless Steel	Entry Porch
b2		Accessible Handrail Glass: Clear Handrail: Stainless Steel Fixtures: Stainless Steel	Entry Ramp & Steps
si		Acrylic Laser Cut Lettering Signage Colour: White	Building Facade
ss		Shade Sail Fabric Colour: Beige Structure Colour: White	Outdoor Play Area
ca		Driveway / Carpark Colour: Colourbond Ironstone	Driveway/Carpark

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NOTES:
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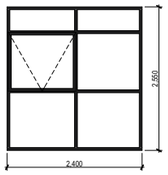
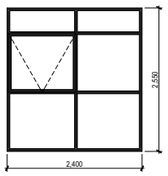
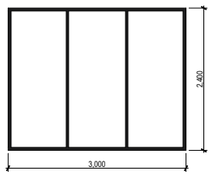
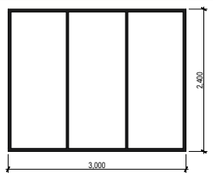
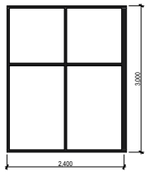
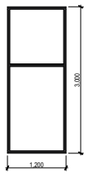
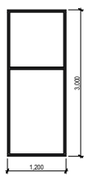
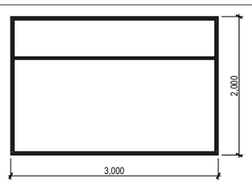
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SCHEDULE OF FINISHES		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A608	**ISSUE** DA01	**PAGE** 24 / 26

Window Schedule

ID	Elevation	Width	Height	Sill Height	Head Height	Outside Frame Finish	Glass
EW-01		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-02		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-03		3,000	2,400	300	2,700	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-04		3,000	2,400	300	2,700	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-05		2,400	3,000	1,200	4,200	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-06		1,200	3,000	1,200	4,200	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-07		1,200	3,000	1,200	4,200	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-08		3,000	2,000	1,000	3,000	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark

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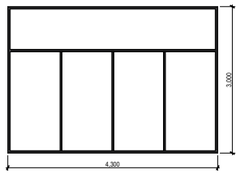
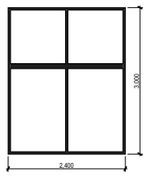
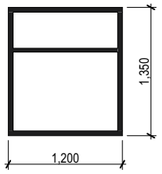
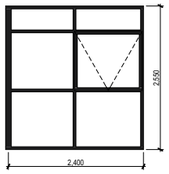
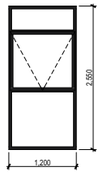
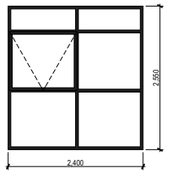
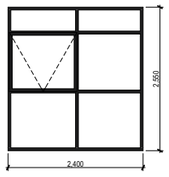
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** WINDOW SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A600	**ISSUE** DA01	**PAGE** 16 / 26

Window Schedule

ID	Elevation	Width	Height	Sill Height	Head Height	Outside Frame Finish	Glass
EW-09		550	3,000	0	3,000	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-10		4,300	3,000	0	3,000	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-11		2,400	3,000	1,200	4,200	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-12		1,200	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-13		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-14		1,200	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-15		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-16		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark

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NOTES:
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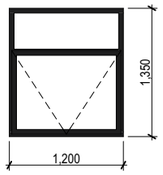
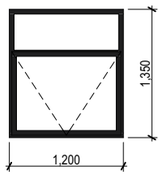
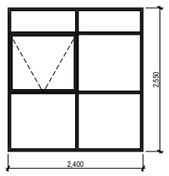
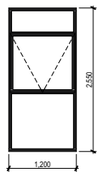
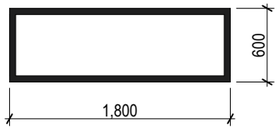
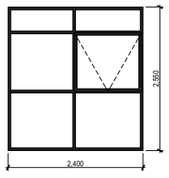
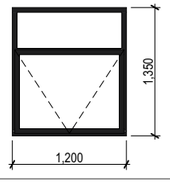
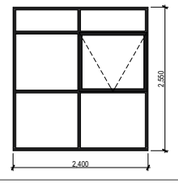
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** WINDOW SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A601	**ISSUE** DA01	**PAGE** 17 / 26

Window Schedule

ID	Elevation	Width	Height	Sill Height	Head Height	Outside Frame Finish	Glass
EW-17		1,200	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-18		1,200	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-19		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-20		1,200	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-21		1,800	600	1,200	1,800	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-22		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-23		1,200	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-24		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark

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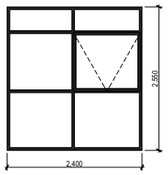
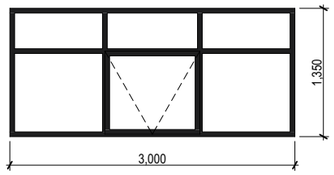
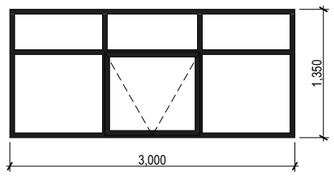
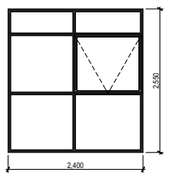
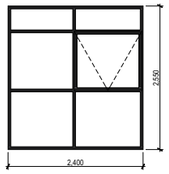
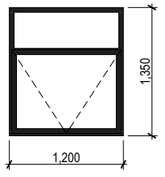
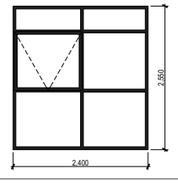
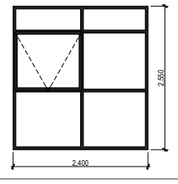
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** WINDOW SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A602	**ISSUE** DA01	**PAGE** 18 / 26

Window Schedule

ID	Elevation	Width	Height	Sill Height	Head Height	Outside Frame Finish	Glass
EW-25		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-26		3,000	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-27		3,000	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-28		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-29		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-30		1,200	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-31		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-32		2,400	2,550	0	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark

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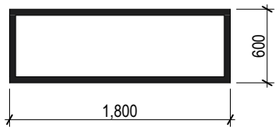
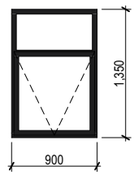
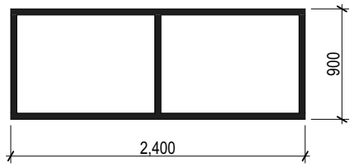
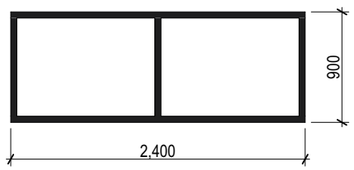
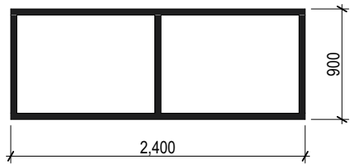
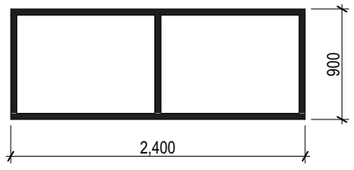
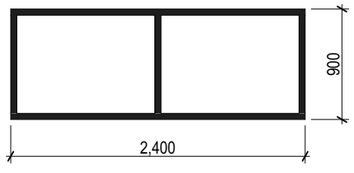
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** WINDOW SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A603	**ISSUE** DA01	**PAGE** 19 / 26

Window Schedule

ID	Elevation	Width	Height	Sill Height	Head Height	Outside Frame Finish	Glass
EW-33		1,800	600	1,200	1,800	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-34		900	1,350	1,200	2,550	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-35		2,400	900	4,400	5,300	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-36		2,400	900	4,400	5,300	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-37		2,400	900	4,400	5,300	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-38		2,400	900	4,400	5,300	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark
EW-39		2,400	900	4,400	5,300	COLORBOND® Steel MONUMENT®	Glass - Tinted Dark

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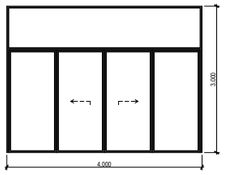
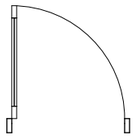
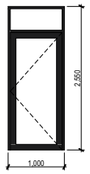
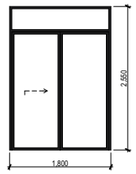
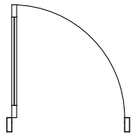
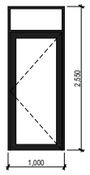
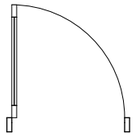
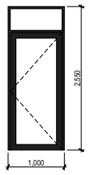
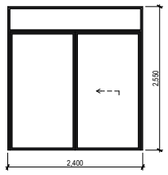
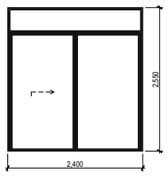
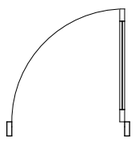
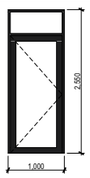
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** WINDOW SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A604	**ISSUE** DA01	**PAGE** 20 / 26

Door Schedule

ID	Leaf Width	Opening Width	Opening Height	Sill Height	Head Height	Plan Preview	Elevation	Outside Frame Finish	Glass	Handle Height	Fire Exit
ED-01	3,920	4,000	3,000	0	3,000			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-02	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-03	1,720	1,800	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-04	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-05	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-06	2,320	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-07	2,320	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-08	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒

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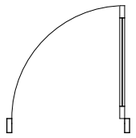
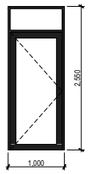
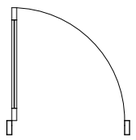
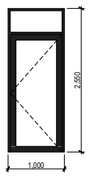
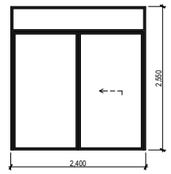
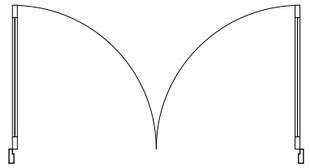
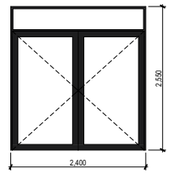
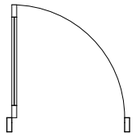
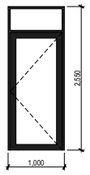
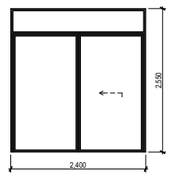
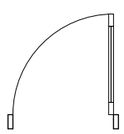
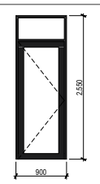
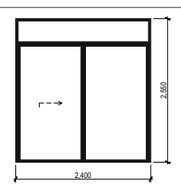
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** DOOR SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A605	**ISSUE** DA01	**PAGE** 21 / 26

Door Schedule

ID	Leaf Width	Opening Width	Opening Height	Sill Height	Head Height	Plan Preview	Elevation	Outside Frame Finish	Glass	Handle Height	Fire Exit
ED-09	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-10	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-11	2,320	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-12	2,344	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-13	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-14	2,320	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-15	820	900	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-16	2,320	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐

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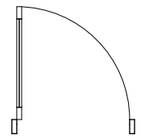
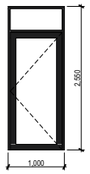
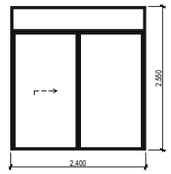
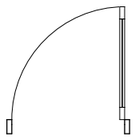
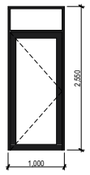
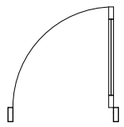
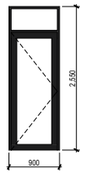
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** DOOR SCHEDULE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A606	**ISSUE** DA01	**PAGE** 22 / 26

Door Schedule

ID	Leaf Width	Opening Width	Opening Height	Sill Height	Head Height	Plan Preview	Elevation	Outside Frame Finish	Glass	Handle Height	Fire Exit
ED-17	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-18	2,320	2,400	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐
ED-19	920	1,000	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☒
ED-20	820	900	2,550	0	2,550			COLORBOND® Steel MONUMENT®	Glass - Tinted Dark	1,000	☐

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NOTES:
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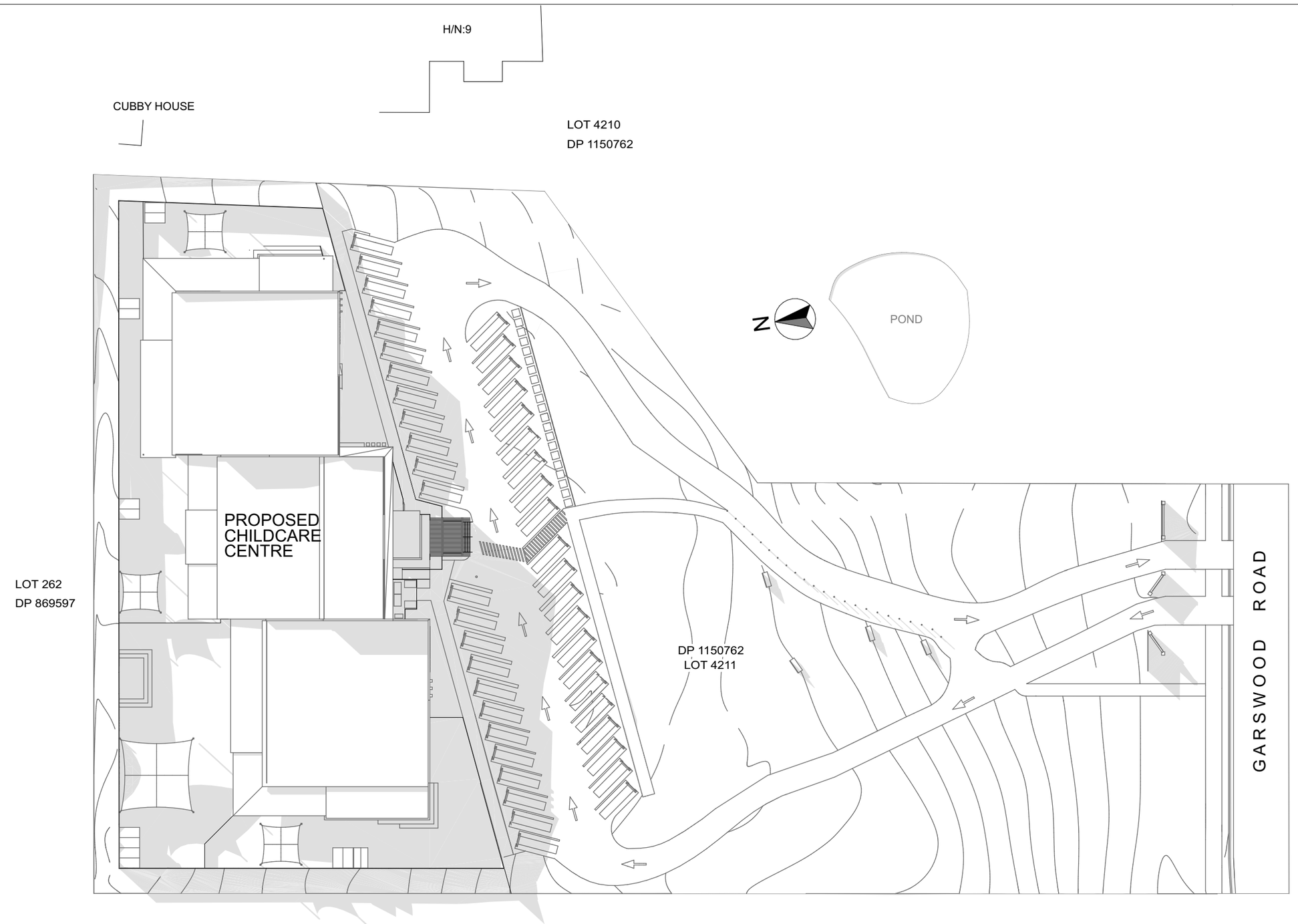
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** **DOOR SCHEDULE**		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A607	**ISSUE** DA01	**PAGE** 23 / 26



1 SHADOW DIAGRAM - 21 JUN AT 9AM

1:500

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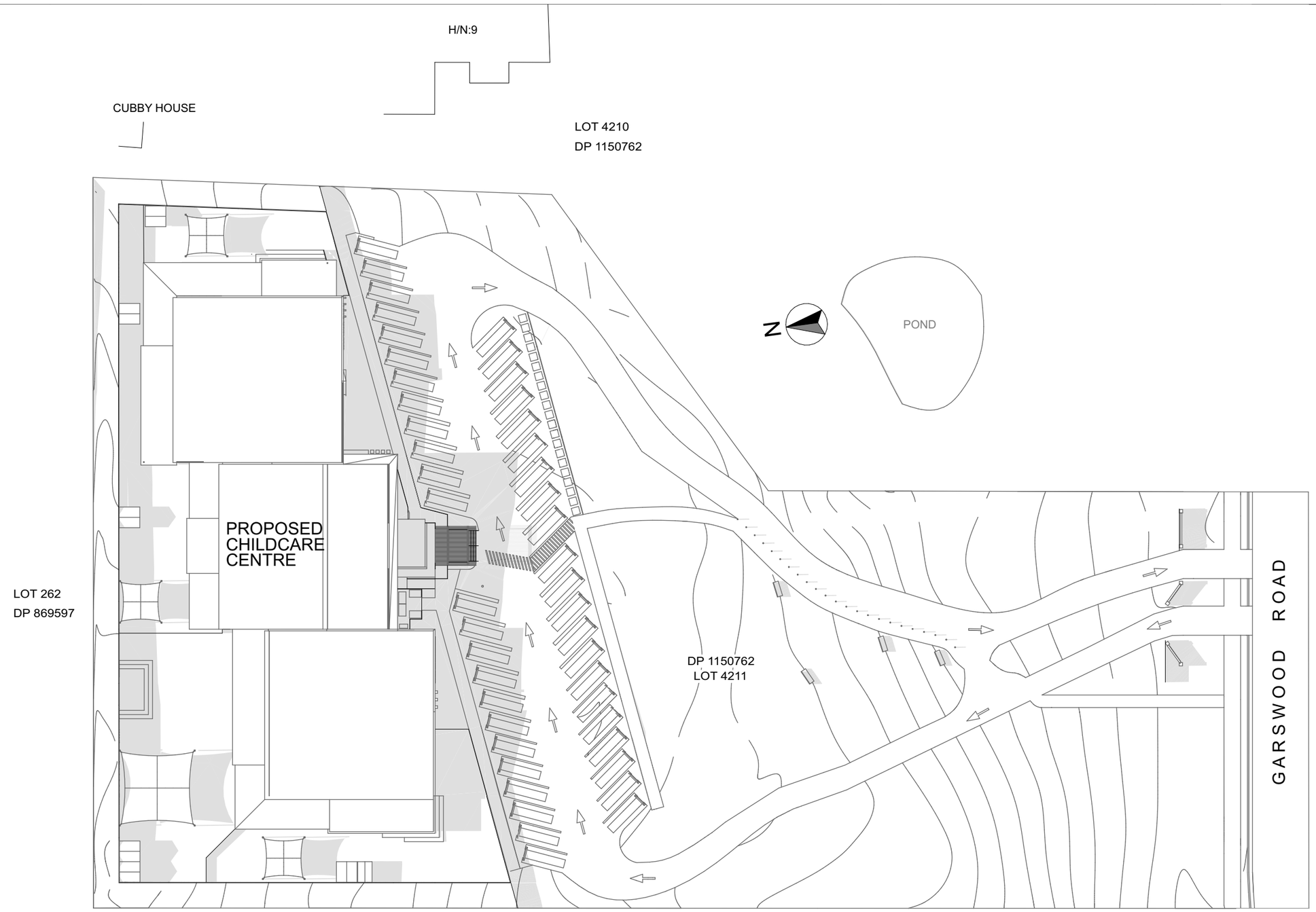
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SHADOW DIAGRAM 1 OF 3		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:500 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A500	**ISSUE** DA01	**PAGE** 13 / 26



2 SHADOW DIAGRAM - 21 JUN AT 12PM

1:500

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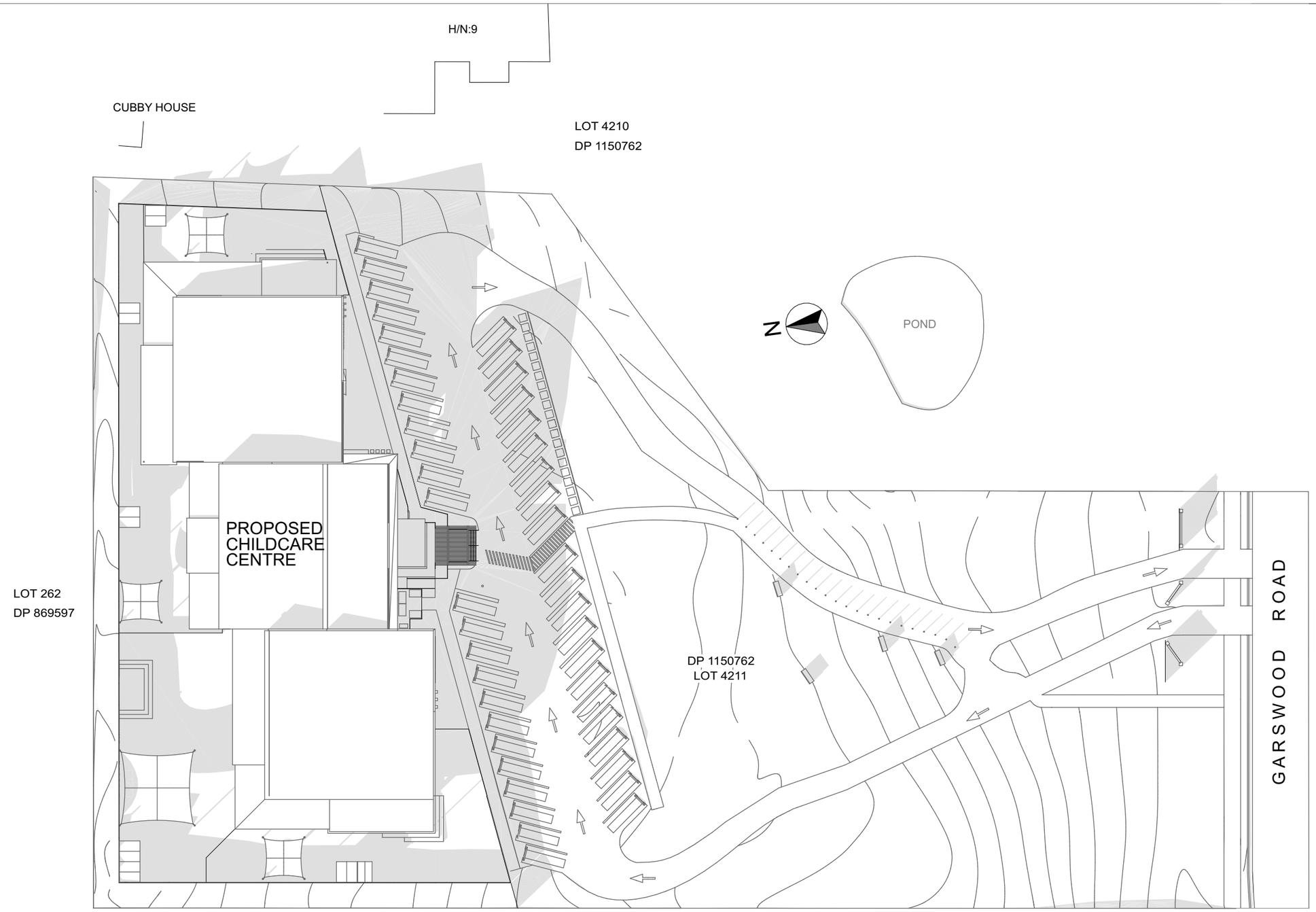
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SHADOW DIAGRAM 2 OF 3		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:500 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A501	**ISSUE** DA01	**PAGE** 14 / 26



3 SHADOW DIAGRAM - 21 JUN AT 3PM

1:500

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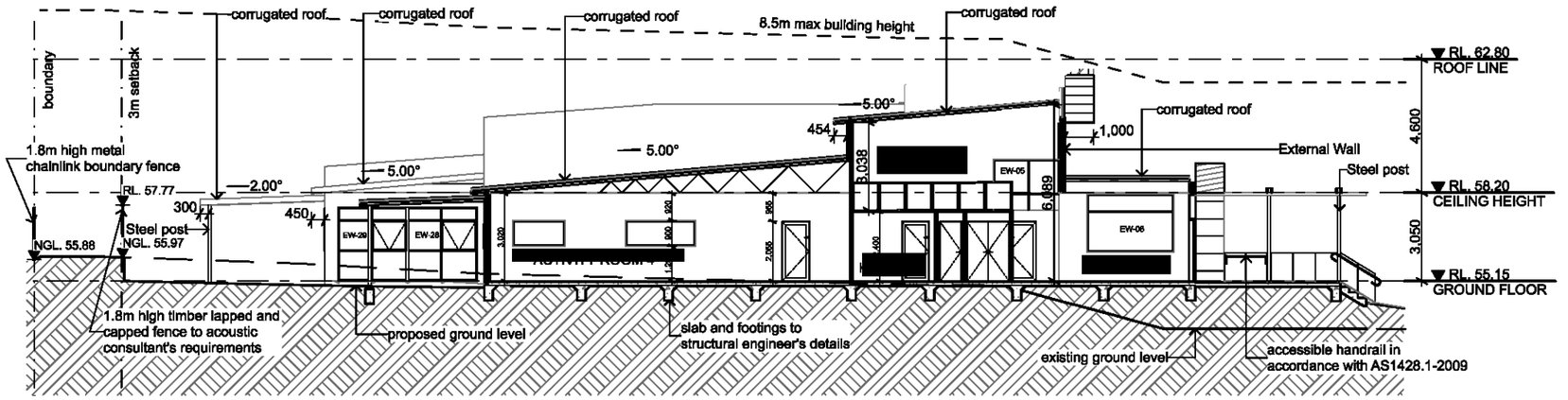
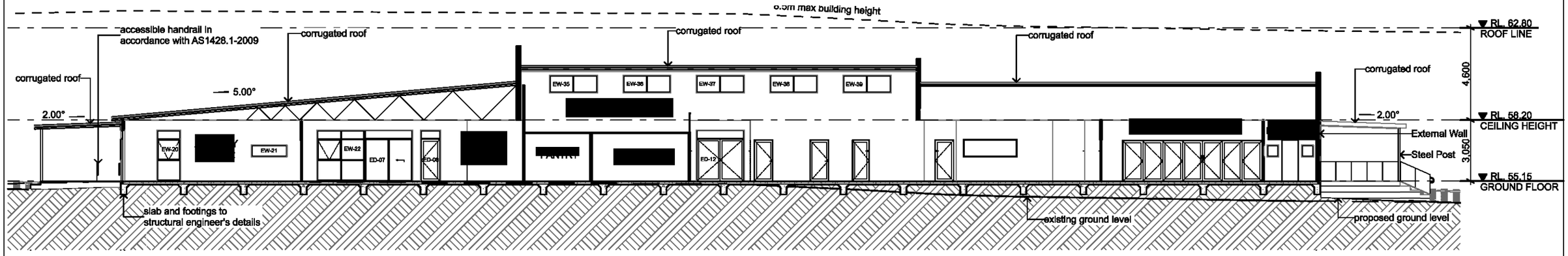
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SHADOW DIAGRAM 3 OF 3		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:500 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A502	**ISSUE** DA01	**PAGE** 15 / 26



1 SECTION
1:200



2 SECTION
1:200

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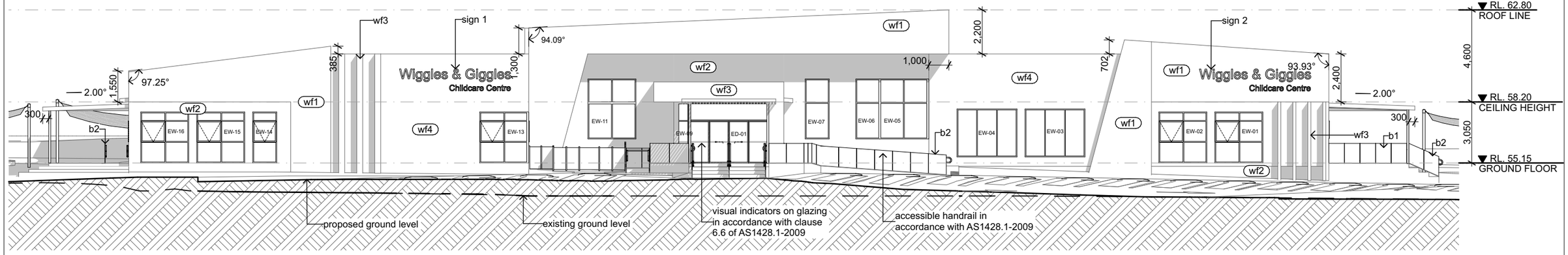
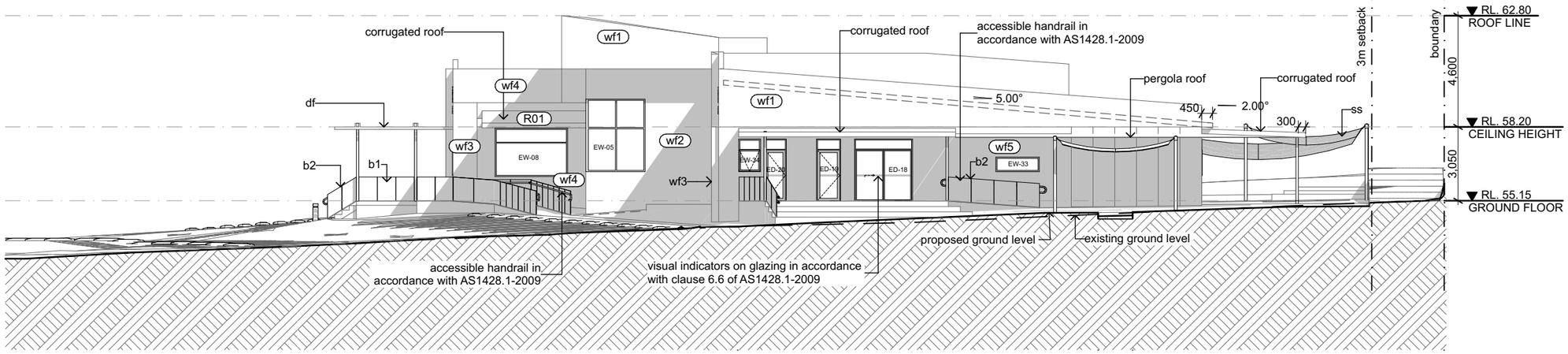
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SECTIONS		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:200 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A400	**ISSUE** DA01	**PAGE** 12 / 26



1 SOUTH ELEVATION (FRONT)
1:200



2 EAST ELEVATION (SIDE)
1:200

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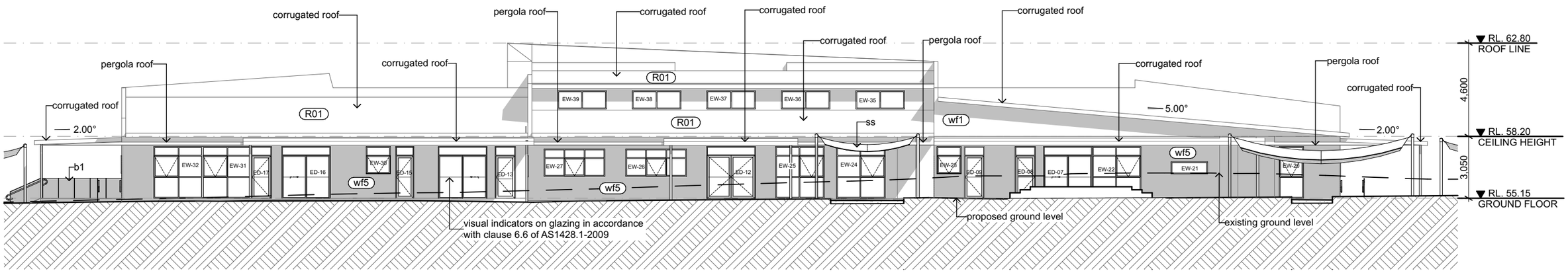
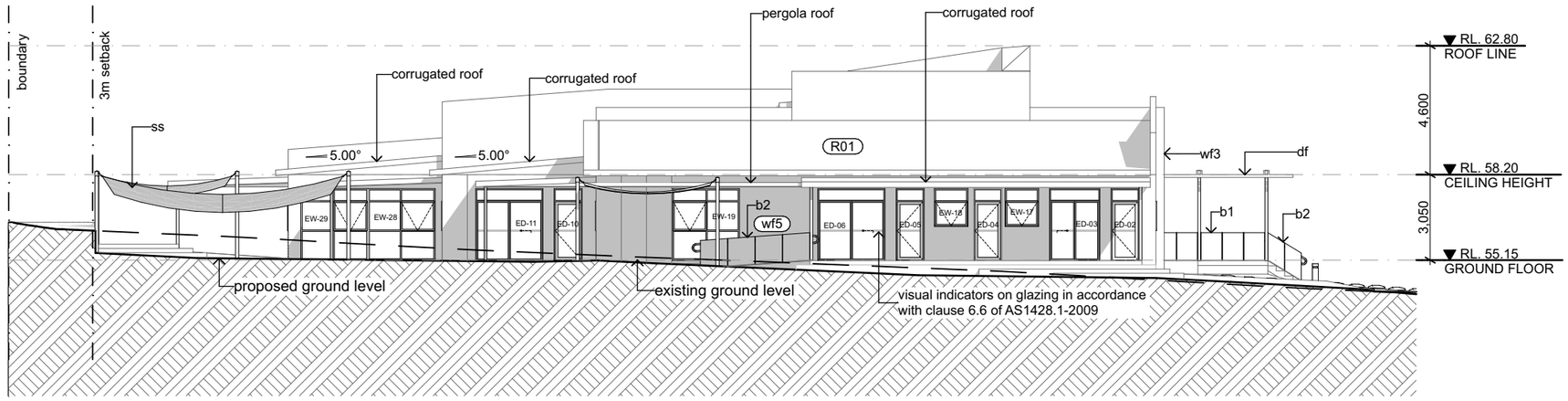
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** ELEVATIONS 1 OF 2		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:200 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A300	**ISSUE** DA01	**PAGE** 9 / 26



3 NORTH ELEVATION (REAR)
1:200



4 WEST ELEVATION (SIDE)
1:200

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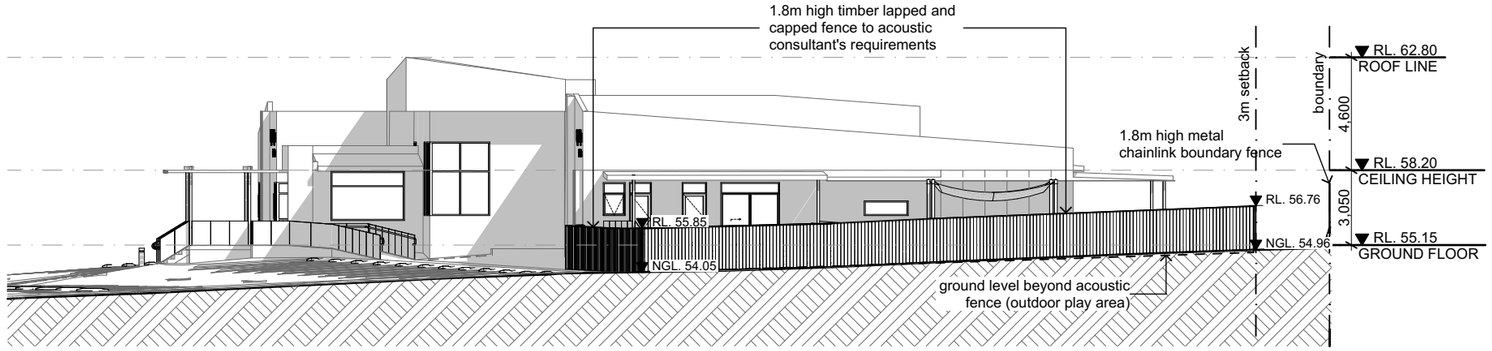
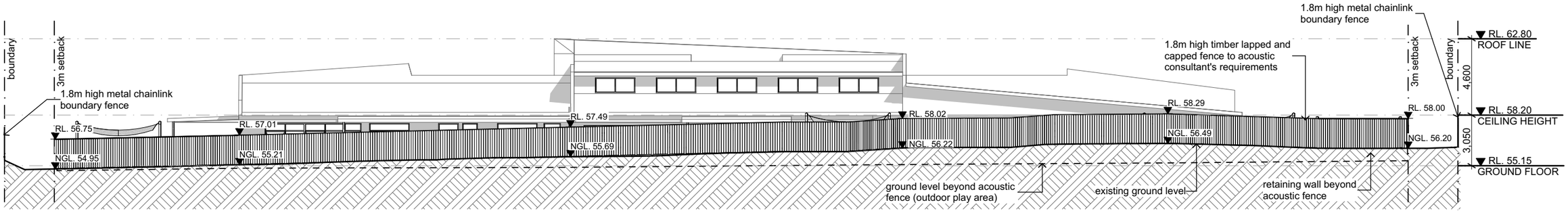
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

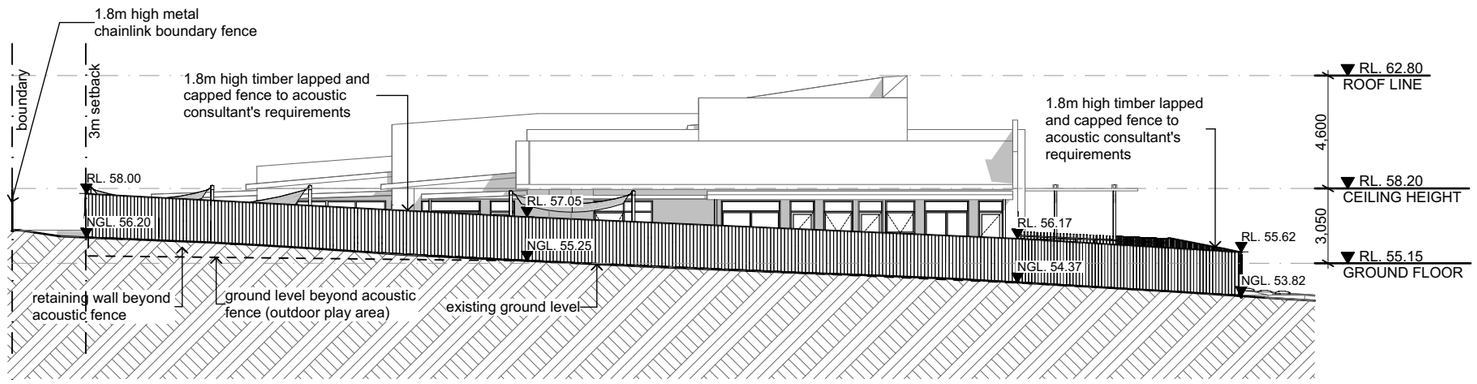
PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** ELEVATIONS 2 OF 2		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:200 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A301	**ISSUE** DA01	**PAGE** 10 / 26



5 EAST ELEVATION WITH FENCE (SIDE)
1:250



6 NORTH ELEVATION WITH FENCE (REAR)
1:250



7 WEST ELEVATION WITH FENCE (SIDE)
1:250

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NOTES:
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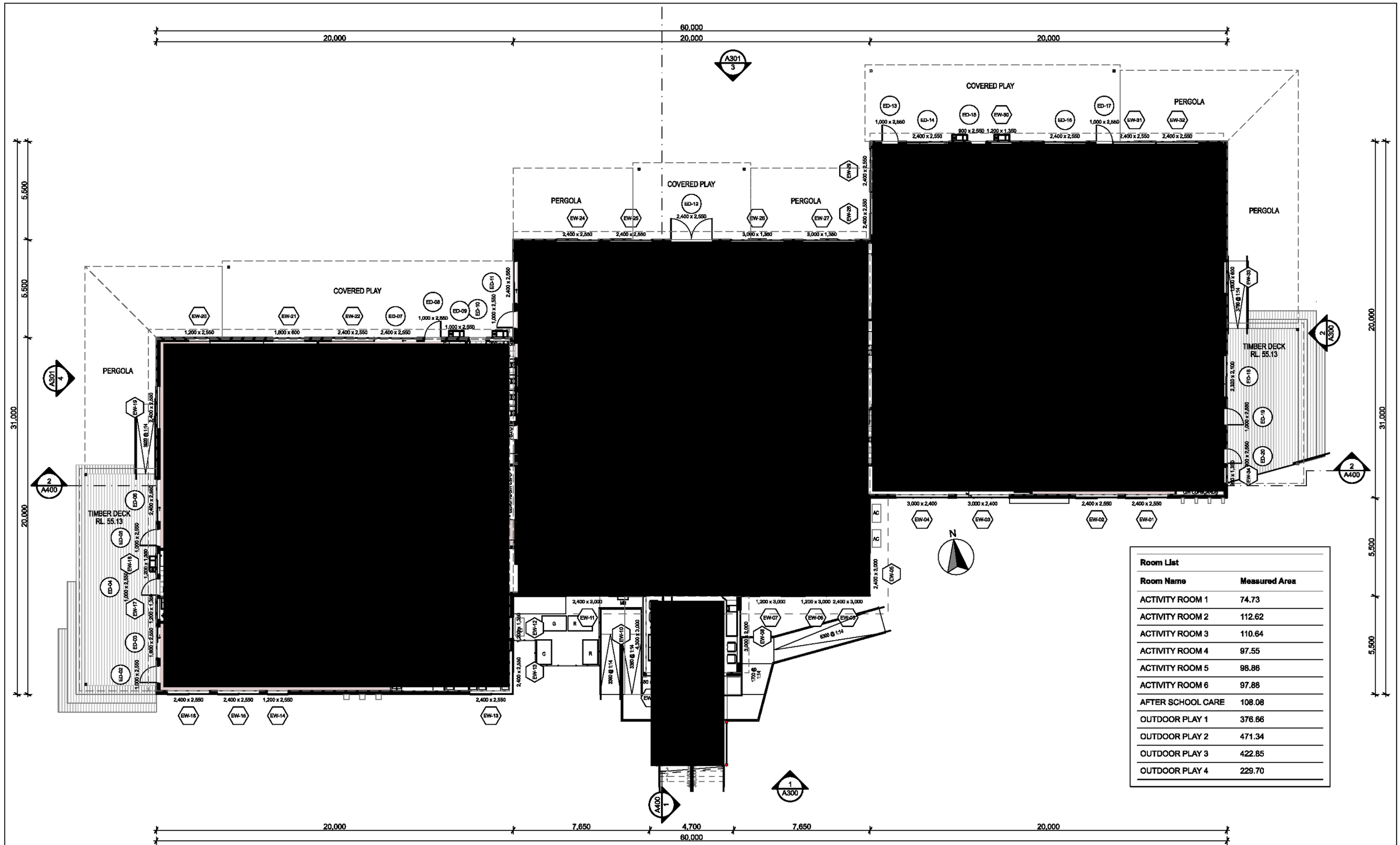
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** ELEVATIONS WITH FENCE		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:250 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A302	**ISSUE** DA01	**PAGE** 11 / 26



Room List	
Room Name	**Measured Area**
ACTIVITY ROOM 1	74.73
ACTIVITY ROOM 2	112.62
ACTIVITY ROOM 3	110.64
ACTIVITY ROOM 4	97.55
ACTIVITY ROOM 5	98.86
ACTIVITY ROOM 6	97.88
AFTER SCHOOL CARE	108.08
OUTDOOR PLAY 1	376.66
OUTDOOR PLAY 2	471.34
OUTDOOR PLAY 3	422.85
OUTDOOR PLAY 4	229.70

1 GROUND PLAN
1:200

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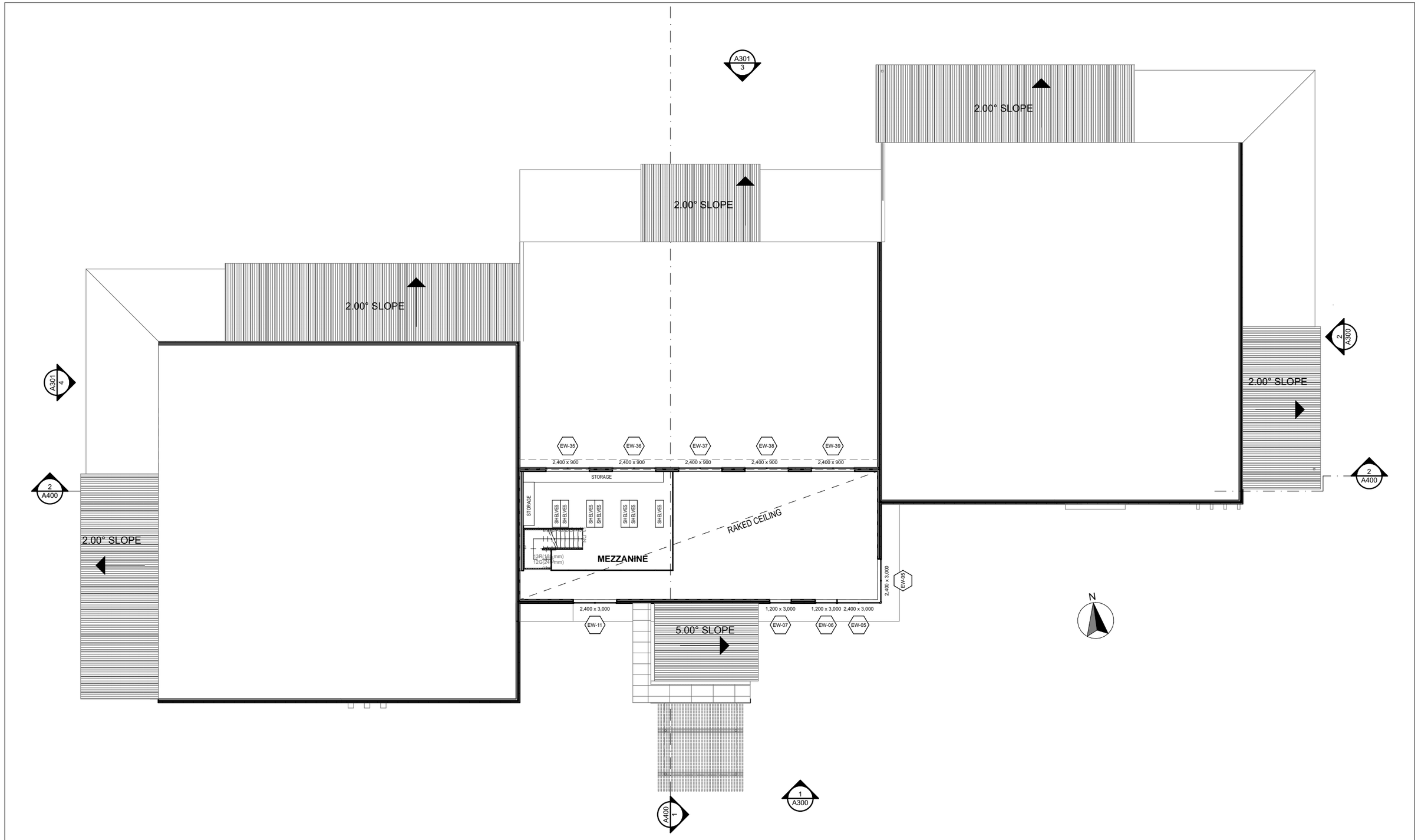
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** GROUND FLOOR		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:200 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A200	**ISSUE** DA01	**PAGE** 6 / 26



1 MEZZANINE PLAN
1:200

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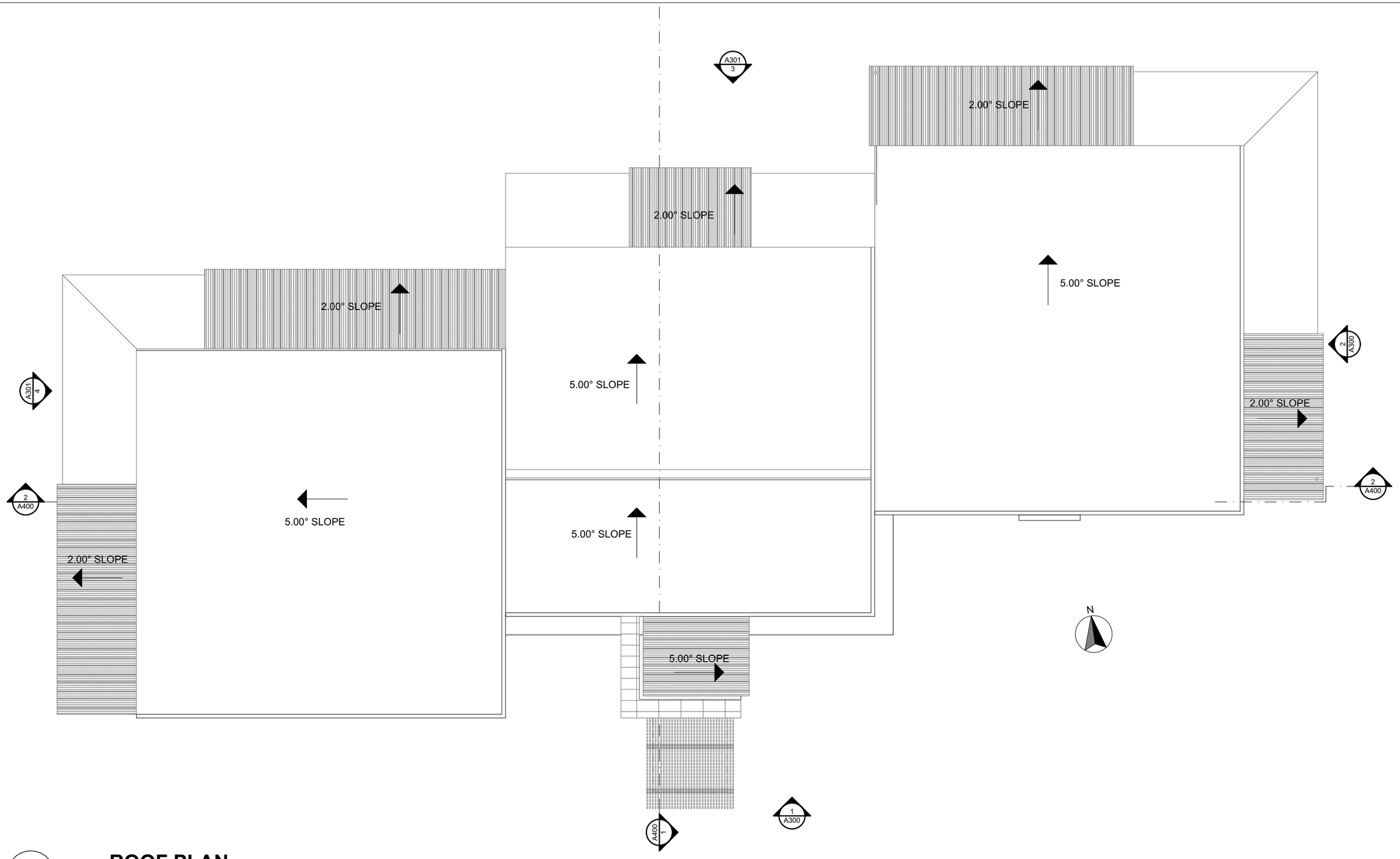
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** CEILING PLAN		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:200 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A201	**ISSUE** DA01	**PAGE** 7 / 26



1 ROOF PLAN
1:200

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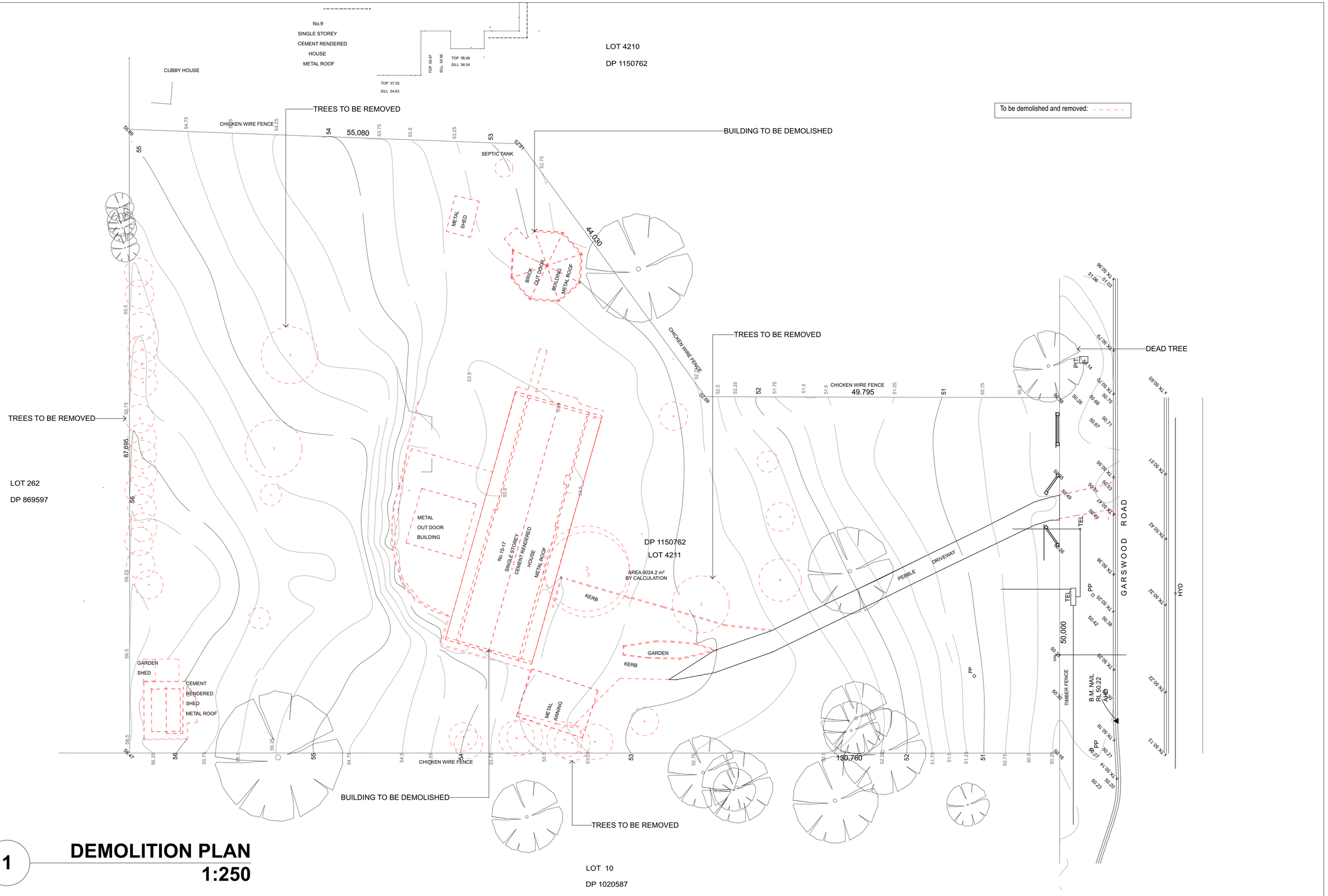
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** ROOF PLAN		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:200 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A202	**ISSUE** DA01	**PAGE** 8 / 26



1 DEMOLITION PLAN
1:250

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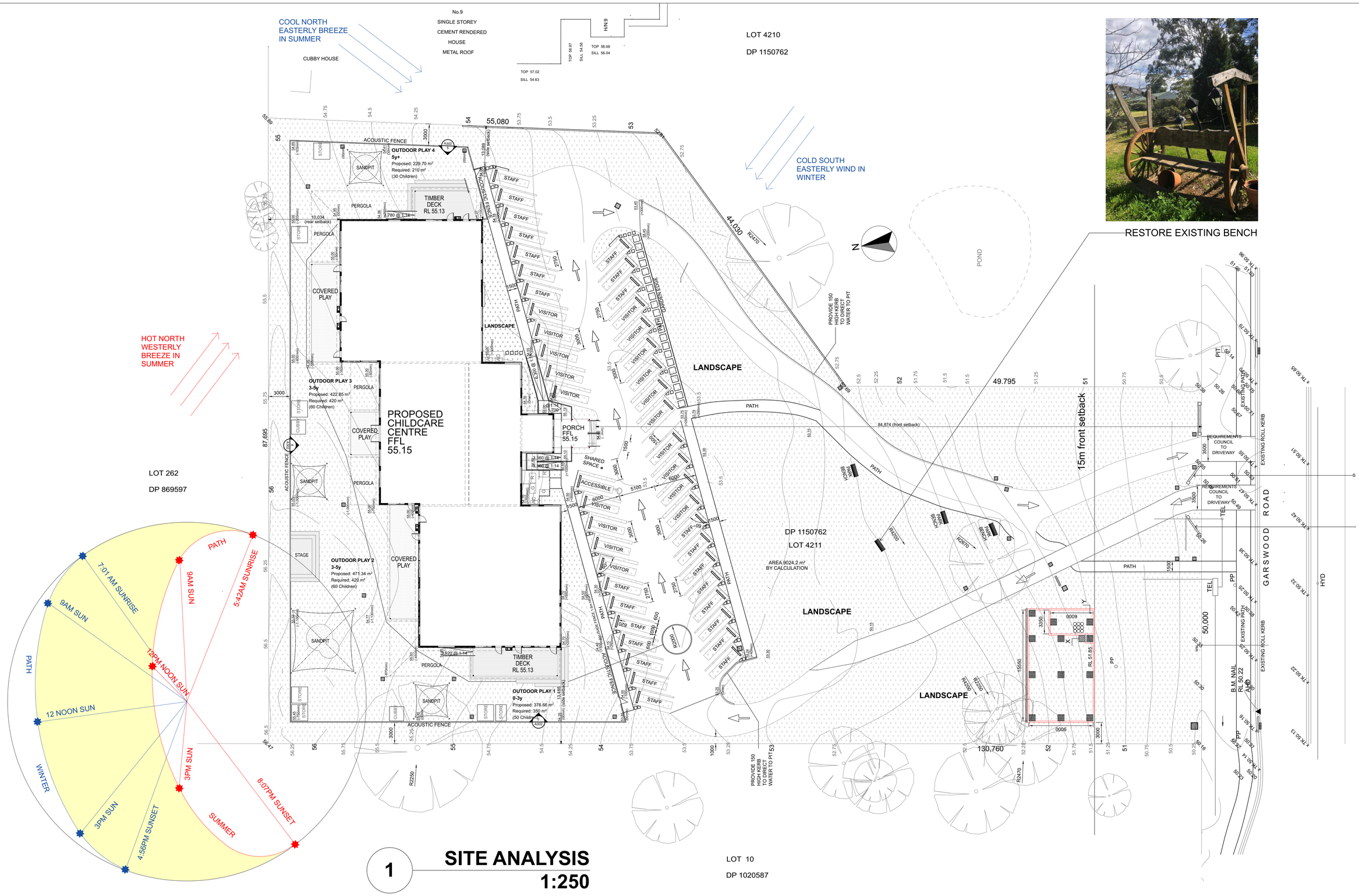
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** DEMOLITION PLAN	
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:250 @ A1	**DATE** 30/09/20 / **DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A102	**ISSUE** DA01 / **PAGE** 5 / 26



1

SITE ANALYSIS
1:250

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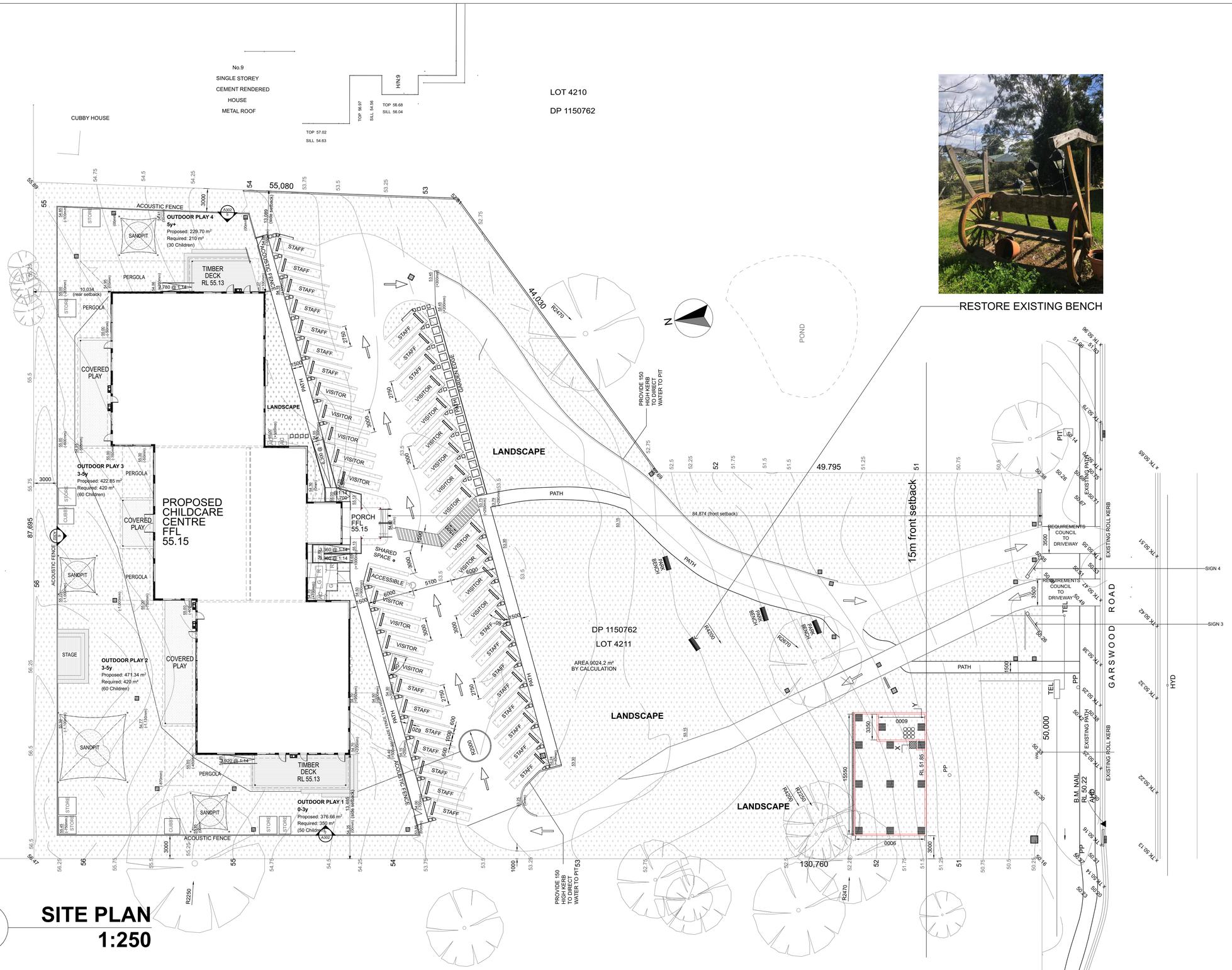
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SITE ANALYSIS		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:250 @ A1	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A101	**ISSUE** DA01	**PAGE** 4 / 26



1 **SITE PLAN**
1:250

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ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** SITE PLAN		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:250 @ A1	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A100	**ISSUE** DA01	**PAGE** 3 / 26

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ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** 3D VISUALISATIONS		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A001	**ISSUE** DA01	**PAGE** 2 / 26

Development Application for Proposed Child Care Centre

15-17 GARSWOOD ROAD GLENMORE PARK NSW 2745

DRAWING LIST

Subset	Layout ID and Name	Drawing ID	Drawing Name
A0 General			
	A000 COVER PAGE		CALCULATIONS
	A000 COVER PAGE		DRAWING LIST
	A000 COVER PAGE		LOCATION MAP
	A001 3D VISUALISATIONS	1	VIEW
	A001 3D VISUALISATIONS	2	VIEW
	A001 3D VISUALISATIONS	3	VIEW
	A001 3D VISUALISATIONS	4	VIEW
	A001 3D VISUALISATIONS	5	VIEW
	A001 3D VISUALISATIONS	6	VIEW
A1 Site and Location Drawings			
	A100 SITE PLAN	1	SITE PLAN
	A101 SITE ANALYSIS	1	SITE ANALYSIS
	A102 DEMOLITION PLAN	1	DEMOLITION PLAN
A2 Plans			
	A200 GROUND FLOOR		PLAY AREA CALCULATIONS
	A200 GROUND FLOOR	1	GROUND PLAN
	A201 CEILING PLAN	1	MEZZANINE PLAN
	A202 ROOF PLAN	1	ROOF PLAN
A3 Elevations			
	A300 ELEVATIONS 1 OF 2	1	SOUTH ELEVATION (FRONT)
	A300 ELEVATIONS 1 OF 2	2	EAST ELEVATION (SIDE)
	A301 ELEVATIONS 2 OF 2	3	NORTH ELEVATION (REAR)
	A301 ELEVATIONS 2 OF 2	4	WEST ELEVATION (SIDE)
	A302 ELEVATIONS WITH FENCE	5	EAST ELEVATION WITH FENCE (SIDE)
	A302 ELEVATIONS WITH FENCE	6	NORTH ELEVATION WITH FENCE (REAR)
	A302 ELEVATIONS WITH FENCE	7	WEST ELEVATION WITH FENCE (SIDE)
A4 Sections			
	A400 SECTIONS	1	SECTION
	A400 SECTIONS	2	SECTION
A5 Shadow Diagram			
	A500 SHADOW DIAGRAM 1 OF 3	1	SHADOW DIAGRAM - 21 JUN AT 9AM
	A501 SHADOW DIAGRAM 2 OF 3	2	SHADOW DIAGRAM - 21 JUN AT 12PM
	A502 SHADOW DIAGRAM 3 OF 3	3	SHADOW DIAGRAM - 21 JUN AT 3PM
A6 Schedules			
	A600 WINDOW SCHEDULE		WINDOW SCHEDULE
	A601 WINDOW SCHEDULE		WINDOW SCHEDULE
	A602 WINDOW SCHEDULE		WINDOW SCHEDULE
	A603 WINDOW SCHEDULE		WINDOW SCHEDULE
	A604 WINDOW SCHEDULE		WINDOW SCHEDULE
	A605 DOOR SCHEDULE		DOOR SCHEDULE
	A606 DOOR SCHEDULE		DOOR SCHEDULE
	A607 DOOR SCHEDULE		DOOR SCHEDULE
	A608 SCHEDULE OF FINISHES		SCHEDULE OF FINISHES
A7 Evacuation			
	A701 EVACUATION PLAN	1	EVACUATION PLAN
A8 Signage			
	A800 ADVERTISING SIGNAGE	1	SIGN 1 - FEATURE WALL
	A800 ADVERTISING SIGNAGE	2	SIGN 2 - FEATURE WALL
	A800 ADVERTISING SIGNAGE	3	SIGN 3 - BOUNDARY WALL
	A800 ADVERTISING SIGNAGE	4	SIGN 4 - BOUNDARY WALL

SITE ATTRIBUTES

ITEM	ATTRIBUTE	DATA
1	Site Area	9024.2m^2 as surveyed
2	Zoning	E4 Environmental Living
3	Floor Area	1266.51m^2
4	Building Footprint	1279.42m^2

COMPLIANCE

CRITERIA	PENRITH LEP 2010	PENRITH DCP 2014	PROPOSED	COMPLY
Height	8.5m max		8.47m	YES
FSR	N/A		N/A	N/A
Front Setback		15m min	84.87m	YES
Side Setback (Single Storey)		5m min	10.08m & 13.49m	YES
Rear Setback (Single Storey)		5m min	10.83m	YES
Carparking		1 per 1 staff = 25 1 per 10 children = 20 Total: 45 spaces	25 spaces (staff) 20 spaces (visitors) Total: 45 spaces	YES

NATIONAL QUALITY FRAMEWORK

	0-2 YRS	2-3 YRS	3+ YRS	AFTER CARE 5+ YRS	TOTAL	COMPLY
Children	20	30	120	30	200 children	YES
Educator to child ratio	1:4	1:5	1:10	1:10	-	-
Staff Required	5	6	12	2	25 staff	YES
Indoor Space (3.25m^2)	65.00m^2 required	97.50m^2 required	390.00m^2 required	97.50m^2 required	650.00m^2 required	YES
	74.73m^2 proposed	112.62m^2 proposed	404.93m^2 proposed	108.08m^2 proposed	700.36m^2 proposed	
Outdoor Space (7m^2)	140.00 m^2 required	210.00m^2 required	840.00m^2 required	210.00m^2 required	1400.00m^2 required	YES
	150.66m^2 proposed	226.00m^2 proposed	894.19m^2 required	229.70m^2 required	1500.55m^2 required	

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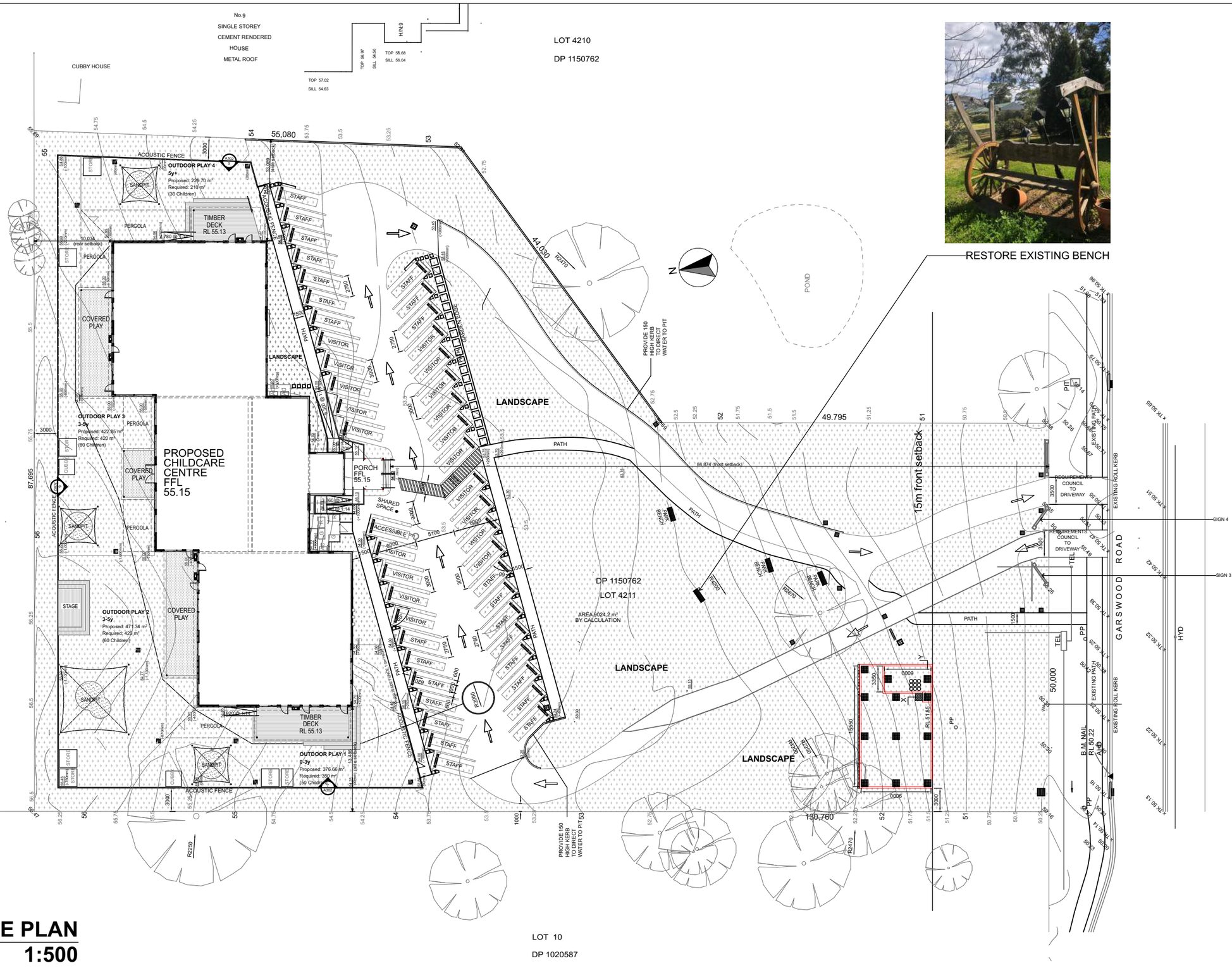
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** COVER PAGE	
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** NTS @ A3	**DATE** 30/09/20 / **DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A000	**ISSUE** DA01 / **PAGE** 1 / 26



1 SITE PLAN 1:500

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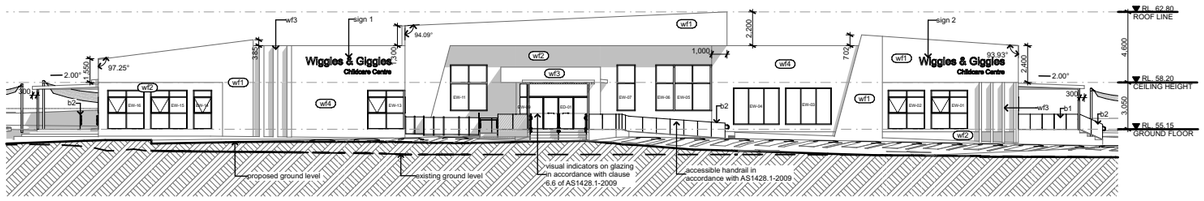
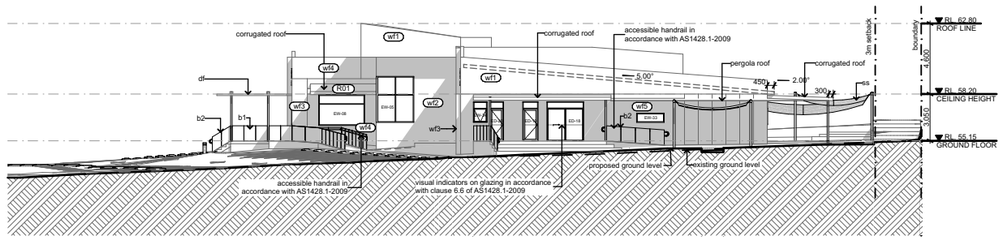
ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

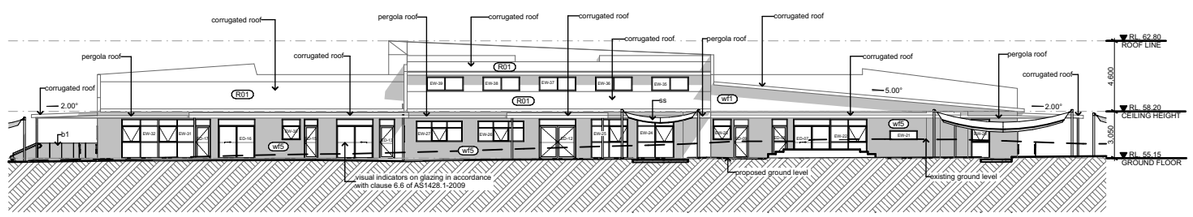
PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** NOTIFICATION PLAN 1 OF 2		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:500 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A900	**ISSUE** DA01	**PAGE** 1 / 2



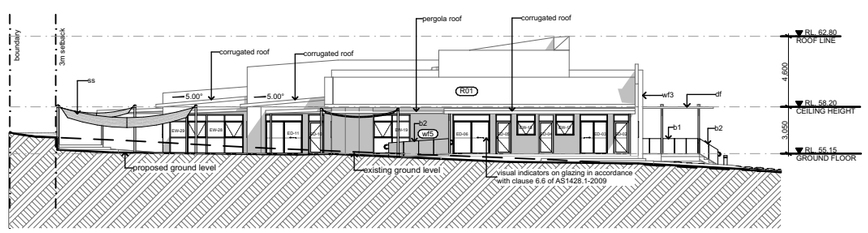
1 SOUTH ELEVATION (FRONT) 1:400



2 EAST ELEVATION (SIDE) 1:400



3 NORTH ELEVATION (REAR) 1:400



4 WEST ELEVATION (SIDE) 1:400

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ISSUE	DATE	DESCRIPTION
DA01	30/09/20	DA SUBMISSION

PROJECT TITLE: PROPOSED CHILDCARE CENTRE	**LOT NUMBER:** 4211	**DRAWING TITLE:** NOTIFICATION PLAN 2 OF 2		
CLIENT: WIGGLES AND GIGGLES	**DP NUMBER:** 1150762	**SCALE** 1:400 @ A3	**DATE** 30/09/20	**DRAWN** M.B.
COUNCIL: PENRITH CITY COUNCIL	**PROJECT ADDRESS:** 15-17 GARSWOOD ROAD, GLENMORE PARK NSW 2745	**DRG NO** A901	**ISSUE** DA01	**PAGE** 2 / 2

TYPICAL PLANT SELECTION CRITERIA - AS2303-2015
'TREE STOCK FOR LANDSCAPE USE' FOR FULL SPEC.

ENSURE GOOD HEALTH AND VIGOUR. ENSURE FREEDOM FROM PESTS, DISEASES AND INJURY.

SPECIMENS SHOULD BE SELF SUPPORTING AT TIME OF PLANTING - STAKING ONLY TO BE USED WHEN NECESSARY- 1 GROWING SEASON MAX.

ENSURE EVIDENCE OF STEM TAPER - (INCREASE IN CALIPER DOWN THE STEM).

PRUNING:-
*ENSURE CLEAN STEM HEIGHT DOES NOT EXCEED 40% OF PLANT HEIGHT.
*ENSURE CUTS ARE AT BRANCH COLLAR ARE CLEAN WITH NO TEARS.

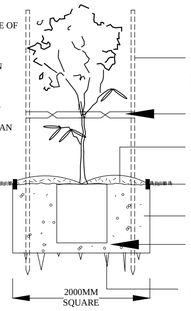
ENSURE APICAL DOMINANCE FOR TREES WITH TYPICAL EXCURRENT FORM - LEADER DEVIATION <15%.

ENSURE GOOD CROWN SYMMETRY AND SOUND STEM JUNCTIONS - NO INCLUDED BARK.

ENSURE SPECIMENS / BATCHES ARE CLEARLY LABELED - NOTING SPECIES CULTIVAR / VARIETY.

ENSURE SPECIMENS ARE FREE OF GIRDLING AND SUCKERING ROOTS.

ENSURE TRUNK POSITION IS WITHIN 10% OF POT CENTRE. IF TREE IS GRAFTED ENSURE SCION AND ROOTSTOCK ARE SOUND.



TYPICAL PLANTING CRITERIA

*SEEK ADVICE BEFORE SUBSTITUTING SPECIES
*REPLACEMENTS TO BE MADE WITHIN 12 MONTHS

3 x 40MM HARDWOOD STAKES AS REQUIRED. DON'T PIERCE ROOT BALL

(NOTE:- ONLY REQUIRED IN WINDY ENVIRONMENTS, VERY SANDY SOIL AND VERY WET CLAY - IF STAKING REQUIRED - REMOVE AS SOON AS PRACTICALLY POSSIBLE).

50MM WIDE JUTE WEBBING - TWIST ONCE AND GAL. STAPLE TO OUTSIDE OF STAKE. ENSURE TREE HAS AMPLE MOVEMENT

75 - 100MM SELECTED MULCH - DISH AROUND BASE OF TRUNK. TOP OF ROOT BALL TO FINISH FLUSH WITH TOP OF SOIL

SELECTED EDGING - REFER TO DETAIL

EXCAVATE HOLE AND INCORPORATE SOIL AMENDMENTS TO 30% MAX. IF REQUIRED.

TAMP SOIL GENTLY AROUND AND BENEATH ROOT BALL SO ROOT BALL DOES NOT MOVE - WATER WEEKLY FOR MINIMUM 4 WEEKS TO ESTABLISH.

SCARIFY SUB SOIL AND SIDES TO 100MM MINIMUM IN HEAVY CLAY SOILS. MAY BE REQUIRED TO MOUND PLANT.

45-75LTR TYPICAL PLANTING
(NTS)

CHILDCARE PLANNING GUIDELINES:-

C18 - USE EXISTING FEATURES WHERE FEASIBLE BY-
* INCORPORATE NATURAL FEATURES INTO THE SITE SUCH AS EXISTING TREES, ROCK OUTCROPS AND VEGETATION COMMUNITIES

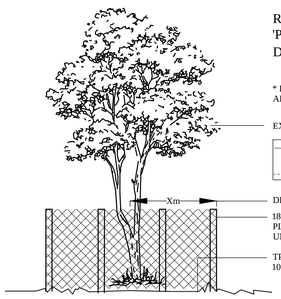
C19 - INCORPORATE CARPARKING INTO THE LANDSCAPE BY-
* PLANTING SHADE TREES TO CREATE COOL OUTDOOR ENVIRONMENTS AND REDUCE SUMMER RADIATION OF HEAT INTO BUILDINGS
* TAKING INTO ACCOUNT LOCAL CHARACTER AND STREETSCAPE
* USING LOW-LEVEL LANDSCAPING TO SOFTEN AND SCREEN PARKING AREAS

NATURAL PLAY AREAS:-

(AS PUBLISHED BY KIDSAFE NSW)
- NATURAL PLAYSPACES OFFER A BLEND OF NATURAL AREAS, ENVIRONMENTAL FEATURES AND PLANTS TO INTEREST CHILDREN IN LEARNING ABOUT THE WONDERS AND SECRETS OF THE NATURAL WORLD.
- SWINGS AND SLIDES MAY STILL BE INCLUDED, HOWEVER NATURAL PLAYSPACES OFFER UNSTRUCTURED SPACES AND ACTIVITIES FOR LEARNING AND SPONTANEOUS PLAY.
- THEY MAY INCLUDE THE FOLLOWING:-
* CREEKBEDS
* DIGGING PATCHES
* ROCKS AND BOULDERS
* UNSTRUCTURED PLAY AREAS (I.E. UNENCUMBERED GRASS AREAS)
* IMAGINATIVE, CREATIVE, EXPLORATORY (SCENTS, TEXTURE, COLOUR PLANTINGS)
* QUIET AREAS
* PLANTINGS

CHILDCARE / SAFETY FALL ZONES:-

(AS PUBLISHED BY KIDSAFE NSW)
- PLAYGROUND EQUIPMENT THAT MEASURES 600mm OR MORE ABOVE GROUND LEVEL REQUIRES A FALLING SPACE AND IMPACT AREA.
- SURFACES MUST HAVE PROOF TESTING IN ACCORDANCE WITH AS/NZS 4422.
- THE MAXIMUM HEIGHT OF PLATFORMS IN EDUCATION AND CARE SERVICES IS 1800mm.
- FOR STATIC EQUIPMENT ITEMS WITH PLATFORMS 600-1500mm ABOVE GROUND LEVEL THE FALLING SPACE AND IMPACT AREA IS 1500mm.
- A FALLING SPACE / IMPACT AREA OF 1700mm IS REQUIRED FOR THE MAXIMUM 1800mm PLATFORM HEIGHT IN SECS.
- SLIDES - FALLING SPACE AND IMPACT AREAS ARE REQUIRED TO BE PROVIDED SURROUNDING SLIDES ELEVATED MORE THAN 600mm ABOVE THE PLAY SURFACE.
- AN IMPACT AREA IS TO BE PROVIDED TO THE RUN-OUT SECTION AND BEYOND THE END OF SLIDES - MINIMUM 1000mm (REFER TO GUIDELINES)
- 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 BE PROVIDED SURROUNDING LOW EQUIPMENT ITEMS THAT ARE DESIGNED FOR CLIMBING, ROCKING OR JUMPING
- THE MAXIMUM FALL HEIGHT FOR MOVEABLE EQUIPMENT IS 1500mm (AT THE HIGHEST FOOT SUPPORT AND / OR PLATFORM)
- A MINIMUM FALL SPACE AND IMPACT AREA OF 1500mm IS REQUIRED FOR EQUIPMENT ITEMS THAT MEASURES 600mm OR MORE ABOVE THE GROUND.



REFER TO AS 4970-2009 - 'PROTECTION OF TREES ON DEVELOPMENT SITES'

* IRRIGATION WITHIN TPZ AT ARBORIST OR COUNCIL DISCRETION

EXISTING TREE SPECIES

TPZ BARRIER

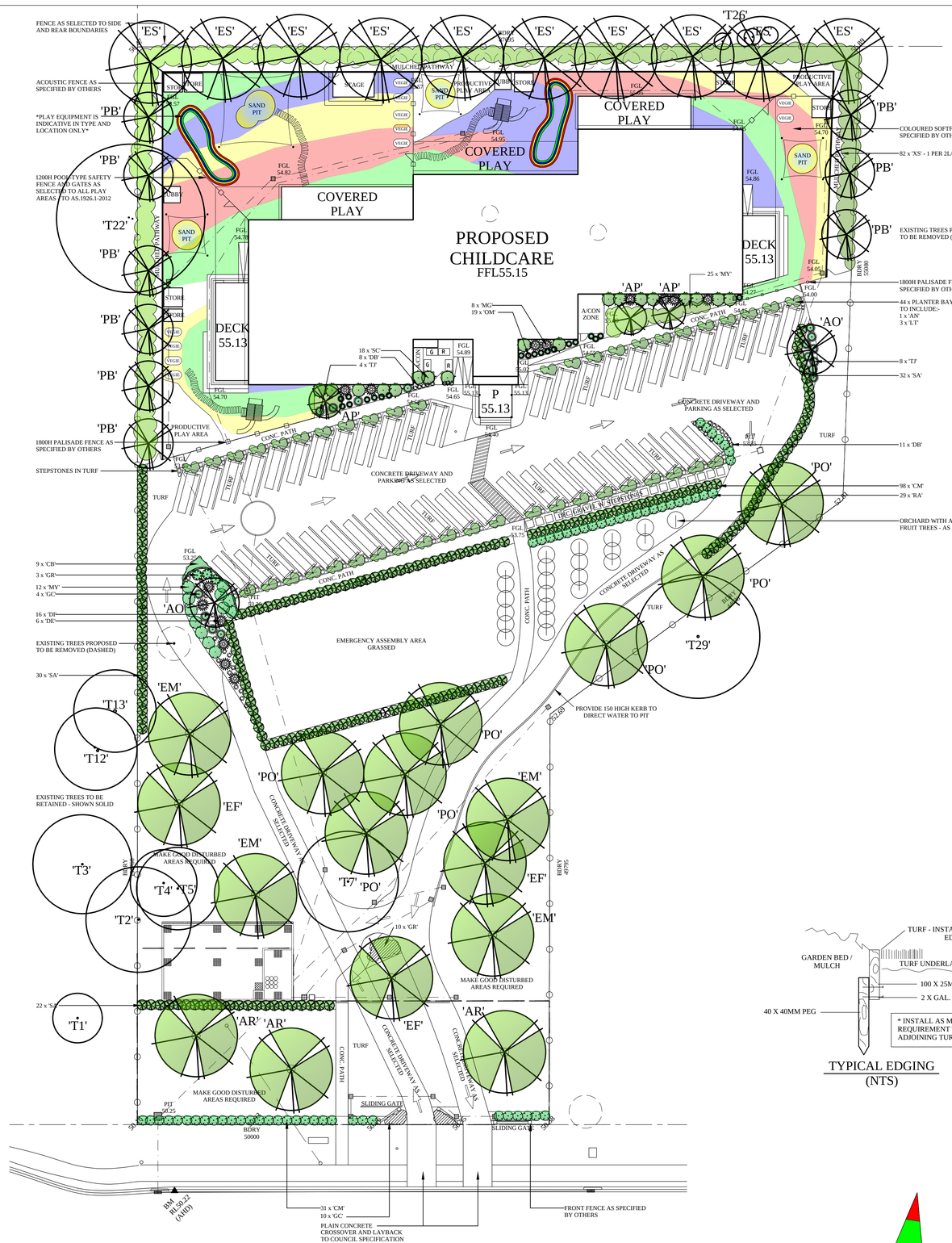
SRZ

DISTANCE AS SHOWN ON PLAN

1800MM TEMPORARY FENCE HIRE WITH PLASTIC FEET - NO STAKES IN GROUND UNLESS SPECIFIED

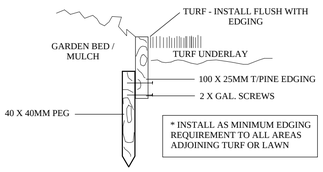
TPZ TO BE MULCHED WITH A MINIMUM 100MM RECYCLED LEAF LITTER MULCH

TYPICAL TREE PROTECTION
DETAIL - (NTS)
(IF NO ARBORIST REPORT REQUIRED)



GARSWOOD ROAD

REFER TO BASIC TREE ASSESSMENT BY MONACO DESIGNS FOR ARBORICULTURAL DOCUMENTATION - ONLY TREES PROPOSED TO BE RETAINED SHOWN ON LANDSCAPE PLAN FOR CLARITY



TYPICAL EDGING
(NTS)

PLANT SCHEDULE

BOTANIC NAME	KEY	QTY	POT SIZE	HT (M)
TREES				
ACER 'OCTOBER GLORY' (MAPLE)	AO	2	45L	5-10
ACER PALMATUM (JAPANESE MAPLE)	AP	2	45L	5-10
AGATHUS ROBUSTA (KAURI PINE)	AR	3	45L	>10
EUCALYPTUS FIBROSA (GREY IRONBARK)*	EF	3	45L	>10
EUCALYPTUS MOLUCANNA (GREY BOX)*	EM	4	45L	>10
EUCALYPTUS SIDEROXYLON (MUGGA)	ES	10	45L	>10
PLATANUS ORIENTALIS (PLANE TREE)	PO	7	45L	>10
PYRUS 'BRADFORD' (ORNAMENTAL PEAR)	PB	9	45L	>10
SHRUBS				
ABELIA 'NANA'	AN	44	200MM	1
CALLISTEMON 'MACARTHUR' (BOTTLEBRUSH)*	CM	129	200MM	1.5
CAREX 'BLUE CASCADE' (BLUE SEDGE)*	CB	27	150MM	0.3
DIANELLA 'BREEZE' (FLAX LILY)*	DB	19	150MM	0.5
DIETES IRIOIDES (EVERGREEN IRIS)	DI	16	150MM	1
DORYANTHES EXCELSA (GYMEA LILY)*	DE	6	200MM	1.5
GREVILLEA 'CARPET QUEEN (PROSTRATE GREVILLEA)*	GC	14	200MM	0.5
GREVILLEA 'ROBYN GORDON' (GREVILLEA)*	GR	13	200MM	1.5
LOMANDRA 'TANIKA' (MATT RUSH)*	LT	132	150MM	0.75
MISCANTHUS SINENSIS 'GRACILLIMUS' (MISCANTHUS)	MG	8	150MM	1.5
MYOPORUM PARVIFOLIUM (CREEPING BOOBIALLA)*	MY	37	150MM	0.1
ORTHROSANTHUS MULTIFLORUS (MORNING FLAG)*	OM	19	150MM	0.5
RAPHIOLEPSIS 'APPLE BLOSSOM'	RA	29	200MM	TRIM
SYZYGIUM AUSTRALE (LILLY PILLY)*	SA	84	200MM	TRIM
SYZYGIUM 'CASCADE' (POWDER PUFF LILLY PILLY)*	SC	18	200MM	2
TIBOUCHINA 'JULES' (LASIANDRA)	TJ	12	200MM	1
XYLOSMA SENTICOSUM (XYLOSMA)	XS	82	200MM	3-5

* = NATIVE SPECIES

GENERAL NOTES:-

* LANDSCAPE CONTRACTOR TO CHECK DA CONDITIONS AND STAMPED LANDSCAPE PLAN BEFORE COMMENCING WORKS TO ENSURE ADDITIONS / AMENDMENTS TO PLAN.
* GARDEN BEDS IN OSD BASIN TO CONSIST OF NON FLOATABLE DECORATIVE GRAVEL.
* REFER TO HYDRAULICS ENGINEERS PLAN FOR OSD DETAILS / FINAL LEVELS.
* MULCHED PLANTING BEDS TO BE A MINIMUM DEPTH OF 75MM AS SELECTED.
* CONTRACTORS RESPONSIBILITY TO CHECK AND ADJUST SOIL pH AS REQUIRED.
* PROVIDE TIMBER EDGE AS A MINIMUM BENEATH FENCING / GATES TO DEFINE TURF AND GARDEN BEDS / PATHWAYS. EDGING TO BE PROVIDED TO ALL AREAS WHERE DIFFERING MATERIALS MEET, ie TURF / GARDEN, TURF / GRAVEL PATH ETC.
* WEED MAT BENEATH GRAVEL PATHWAYS REQUIRED TO LIMIT MUD TRACKING.
* PREMIUM ORGANIC GARDEN MIX TO BE USED.
* ALL PLANTS TO BE HEALTHY AND VIGOROUS.
* CONTRACTOR TO MAKE GOOD TURF ON NATURE STRIP POST CONSTRUCTION.
* DO NOT SCALE ARCHITECTURAL SETOUT FROM LANDSCAPE DRAWING.
* EXISTING TREE SPREAD APPROXIMATE ONLY. REFER TO TREE REPORT WHEN APPLICABLE.
* SITE SURVEY PROVIDED BY OTHERS.
* BUFFALO TURF PREFERRED OVER KIKUYU.

PLANTING AND MAINTENANCE NOTES:-

* GLAZED OR POLISHED PLANTING HOLES, PARTICULARLY IN CLAY SOILS SHOULD BE AVOIDED. PLANTS TO BE MOUNDED WITHIN THESE SOIL TYPES.
* PLANTS SHOULD BE PLANTED STRAIGHT, WITH THE TOP OF THE ROOT BALL LEVEL WITH OR SLIGHTLY LOWER THAN THE SOIL SURFACE.
* PLANTS SHOULD BE WATERED AS SOON AS POSSIBLE AFTER PLANTING.
* PLANTING SHOULD BE AVOIDED AT THE HEIGHT OF SUMMER (DECEMBER - JANUARY)
* PLANTS SHOULD BE WATERED AT LEAST WEEKLY FOR SIX WEEKS TO AID ESTABLISHMENT. WATER CRYSTALS MAY BE USED TO REDUCE THE AMOUNT OF WATER REQUIRED.
*IF A FERTILISER IS TO BE APPLIED, A SLOW RELEASE 8 - 9 MONTH PLANT FOOD PREFERRED.
* ONLY SPECIES WITHIN THE LANDSCAPE PLAN SHOULD BE PLANTED. PERMISSION SHOULD BE SOUGHT BEFORE ALTERING THE PLANT SPECIES LIST (ON MOST OCCASIONS NURSERIES CAN SUBSTITUTE).
* STOCK SHOULD BE FREE OF PESTS, DISEASE AND WEEDS AND NOT POT BOUND.
* REPLACEMENT PLANTS SHOULD BE MADE AVAILABLE FOR ANY LOSSES OF PLANT STOCK THAT MAY OCCUR FOR A MINIMUM 12 MONTH PERIOD.
* WEEDS SHOULD BE REMOVED ON A FORTNIGHTLY BASIS.
* PEST OR DISEASE SAMPLES TO THE LOCAL NURSERY FOR IDENTIFICATION AND APPROPRIATE REMEDY.

THE PRODUCTIVE PLAY AND LEARNING AREA WILL CONSIST OF 100mm MULCH WITH DOTTED FRUIT TREES. LARGE ROCKS, 'NURSERY' LOGS ETC TO BE UTILISED IN THIS AREA TO ENGAGE CHILDREN, WHICH WILL STIMULATE SENSORY AND GROSS MOTOR SKILLS.

REFER TO HYDRAULICS ENGINEERS PLAN FOR OSD / DWARF WALL DETAILS - MULCH OSD WITH NON FLOATABLE DECORATIVE GRAVEL. ALL FINISHED GROUND LEVELS AS PER HYDRAULICS ENGINEERS DETAILS.

ALL FENCING SURROUNDING THE POOL / OSD BASIN ARE TO COMPLY WITH THE SWIMMING POOLS ACT 1992 AND AS.1926.1-2012

NOTE:- MONACO DESIGNS PL RESERVES THE RIGHT NOT TO UNDERTAKE NOR SUPPLY CERTIFICATION FOR OCCUPATION CERTIFICATE.
NOTE:- TO AID COMPLIANCE WITH BASIX LEGISLATION, PLANTS (WHERE APPLICABLE) HAVE BEEN SELECTED FROM THE LOCAL CITY COUNCIL / SHIRE PLANT LISTS.
NOTE:- LOCATION OF SEWER MAINS / LINES, WATER PIPES, UNDERGROUND ELECTRICITY AND OTHER SERVICES MUST BE OBTAINED PRIOR TO COMMENCEMENT OF ANY WORK ON SITE. DIAL BEFORE YOU DIG 1100.

MONACO
DESIGNS PL
14 York Street, Glenbrook NSW, 2773
ph & fax: 0247395136 mb: 0409123200
email: paul@monaco.net.au

PROJECT:
PROPOSED CHILDCARE

ADDRESS:
15-17 GARSWOOD ROAD,
GLENMORE PARK

CLIENT:
C/o- RAMY ASSOCIATES PL

TITLE: DA
LANDSCAPE CONCEPT

DATE:	SCALE:	SHEET No:
22 SEP 20 - A	1 : 300 - A1	1 OF 1
JOB No.	DRAWN:	
5592	CJ / PM	

LANDSCAPE PLANS
ARBORICULTURAL REPORTS
VEGETATION MANAGEMENT PLANS

DIAL 1100 BEFORE YOU DIG

T.N. TRUE NORTH APPROX. 3° 15'

M.M. MAGNETIC NORTH APPROX. 9° 30'

LOT 262
DP 869597

CHICKEN WIRE FENCE

97°43'05"
87.695

CUBBY HOUSE

GARDEN SHED

CEMENT RENDERED SHED METAL ROOF

0.15D/4H/1S

0.18D/3H/1S

GRASS

0.3D/4H/8S

0.3D/4H/8S

0.2D/6H/1S

0.3D/6H/1S

AREA 9024.2 m² BY CALCULATION

189°53'40"
55.08
CHICKEN WIRE FENCE

No.19
SINGLE STOREY
BRICK
HOUSE
TILE ROOF

CHICKEN WIRE FENCE

METAL OUTDOOR BUILDING

No.15-17
SINGLE STOREY
CEMENT RENDERED
HOUSE
METAL ROOF

METAL SHED

SEPTIC TANK

BRICK OUT DOOR BUILDING METAL ROOF

No.9
SINGLE STOREY
CEMENT RENDERED
HOUSE
METAL ROOF

TOP 57.02
SILL 54.63

SILL 54.56

TOP 56.97

TOP 56.68
SILL 56.04

0.6D/15H/5S

LOT 10
DP 1020587

METAL AWNING

KERB

KERB

GARDEN

LOT 4211
DP 1150762

LOT 4210
DP 1150762

241°35'45"
44.03

0.5D/7H/3S

CHICKEN WIRE FENCE

0.3D/12H/4S

7°46'05"
130.76

0.25D/10H/2S

0.25D/11H/3S

GRASS

0.3D/8H/2S

0.28D/6H/2S

0.3D/7H/2S

0.35D/15H/2S

0.3D/9H/2S

PEBBLE

DRIVEWAY

GRASS

DEAD TREE

187°53'40"
49.795
CHICKEN WIRE FENCE

0.3D/8H/2S

277°45'30"

TIMBER FENCE 50.00

GRASS

CONCRETE PATH

BM NAIL
RL 50.22
(AHD)

TRAFFIC ISLAND

DAM

LEGEND:

AHD	AUSTRALIAN HEIGHT DATUM
BM	BENCH MARK
TEL	COMMUNICATION PIT
E-G	EAVE & GUTTER
FL	FLOOR LEVEL
RL	REDUCED LEVEL
TK	TOP OF KERB
VC	VEHICLE CROSSING
WM	WATER METER
NS	NATURAL SURFACE
EC	ESGE OF CONCRETE
KBINV	KERB INVERT LEVEL
TOP	WINDOW TOP
SILL	WINDOW SILL
	SHURB
	TREE
	SEWER VENT
	POWER POLE

G A R S W O O D R O A D

NOTE :CONTOUR INTERVAL : 0.25

Details and level shown on this plan are for general desing works only any critical dimensions required should be requested independantly of this plan.Prior to any demolition, excavation or construction on this site the relevant Authorities should be contacted to detailed locations of all existing services and the possible location of future services.

EAST WEST SURVEYORS PTY LTD
Ph: 02 83862318 MOB 0403 818 643
ABN: 52 615 075 119
Office 2 Ground Floor, 123 Midson Road Epping NSW 2121
Email: info@eastwestsurveyors.com.au
www.eastwestsurveyors.com.au

DETAIL SURVEY OF LOT 4211 IN DP 1150762
No.15-17 GARSWOOD ROAD GLENMOREPARK
NSW 2745

SCALE
0 1 2 4
LENGTHS ARE IN METRES

ORIGINAL

SCALE	SHEET SIZE
1:200	A0

THE LAND IN THE SURVEY IS SHOWN ENCLOSED BY CONTINUOUS THICK LINES

SURVEYED : SL DATE: 05.09.2019
DRAWN : TJ DATE: 10.09.2019,25.08.2020

REFERENCE: 19/1668- DET REV3
SHEET 1 OF 1 SHEETS

DATUM :PM 45364
RL 50.82

LEGEND

O/S : OFFSET
PLD : PEG PLACED
CNR : CORNER
BDY : BOUNDARY

T.N. M.M.
TRUE NORTH
APPROX. 3° 15'
MAGNETIC NORTH
APPROX. 9° 30'

EASEMENT TO DRAIN WATER 8.8 WIDE

PEG FD AT BDY LINE

70.23

PIT

FENCE ON BDY

EASEMENT TO DRAIN WATER 2 WIDE

FENCE ON BDY

CYCLONE FENCE

BLACKTOWN ROAD

PIT

FENCE - BDY 0.70

FENCE - BDY 0.54

PEG FD AT BDY LINE

126.135

FENCE ON BDY

PEG FD AT BDY CNR

PIT

No.01
AMART

LOT 6
DP 258905

LOT 312
DP 803926

Action

1. Show existing easement in dashed line & label it to be abolished.
2. Label proposed easement in continuous line & label it.

GEOFFREY GALLEN
REGISTERED SURVEYOR
No: 1083

EAST WEST SURVEYORS PTY LTD
Ph: 02 83862318 MOB 0403 818 643
ABN: 52 615 075 119
Suite 2 Ground Floor, 123 Midson Road Epping NSW 2121
Email: info@eastwestsurveyors.com.au
www.eastwestsurveyors.com.au

PART OF DETAILS SURVEY OF
LOT6 IN DP258905 No1 ROWOOD ROAD

PROSPECT NSW 2148

SCALE
0 1 2 4
LENGTHS ARE IN METRES

ORIGINAL
SCALE 1:400
SHEET SIZE A2

DATE OF SURVEYED 15-05-2020

REFERENCE: 19/1396- BDY REV1
SHEET 1 OF 1 SHEETS

Proposed child care centre. at 15-17 Garswood Road Glenmore Park.

7. APPENDICES

APPENDIX A

CHECKLIST FOR STORMWATER CONCEPT PLAN (SCP)

Survey Information	Yes	No	NA
1. Site boundaries	☑	☐	☐
2. North point	☑	☐	☐
3. Services within the public footway	☑	☐	☐
4. Site features, including tree, structures, depressions	☑	☐	☐
5. Contours at 0.1m for flat sites ranging to 0.5m for steep sites and extending 10m into adjoining properties	☑	☐	☐
6. Top of kerb levels	☑	☐	☐
7. Boundary levels	☑	☐	☐
8. Benchmarks	☑	☐	☐
9. Levels to AHD where site is affected by overland flow, flooding or where works on Council's drainage network are required	☐	☐	☑
General	**Yes**	**No**	**NA**
1. Plans to scale of 1:100 or 1:200	☑	☐	☐
2. Designer's name, qualifications, contact details provided	☑	☐	☐
3. Design report, including details of any variations provided	☑	☐	☐
4. Plan number and date of issue shown	☑	☐	☐
5. Consistency between stormwater, architectural and landscape plans	☑	☐	☐
6. 1% AEP overland flow extents shown	☐	☐	☑
7. Development layout, building envelope and proposed driveway locations shown	☑	☐	☐
8. Drainage calculations to support the proposed design submitted	☑	☐	☐
9. Proposed finished floor, ~~garage~~ and ground surface levels shown	☑	☐	☐

10. Compliance with freeboard requirements	☑	☐	☐
11. Location and level of proposed retaining walls indicated	☑	☐	☐
12. Appropriate tail water selected	☑	☐	☐
13. No adverse impact on other properties or the stormwater network	☑	☐	☐
14. Mainstream flood / local overland flow flood report (if any)	☐	☐	☑
Drainage Layout	**Yes**	**No**	**NA**
1. Pipe size, grade and invert level indicated	☑	☐	☐
2. Pit location, size, invert level and surface level indicated	☑	☐	☐
3. Proposed connection point to Council's stormwater system	☑	☐	☐
OSD	**Yes**	**No**	**NA**
1. A catchment plan showing areas draining to the OSD system.	☑	☐	☐
2. Location and size of OSD system and WSUD measures shown	☑	☐	☐
3. Location and level of OSD discharge points shown	☑	☐	☐
4. Compliance with detention volume required	☑	☐	☐
5. Compliance with less than 15% of site area bypassing OSD system	☑	☐	☐
6. Compliance with the Permissible Site Discharge (PSD) requirements	☑	☐	☐
7. Compliance with OSD storage depths	☑	☐	☐
8. Overland flows clear from the OSD system	☐	☐	☑
9. OSD storage located within common areas, clear of private courtyards and accessible from the street	☑	☐	☐
10. Overflow weir provided and shown	☑	☐	☐
11. Details of discharge control pit shown	☑	☐	☐
12. Orifice details and calculations shown	☑	☐	☐
13. Typical sections of OSD storage, including basin invert level, centreline level of outlet orifice, top water level, finished surface levels provided	☑	☐	☐
14. Provision of design certification of the OSD system in accordance with this policy	☑	☐	☐

Others	Yes	No	NA
1. Location of Council's drainage easements, private inter-allotment easements shown (if any)	☐	☐	☑
2. Location and details of basement pump-out system provided (if any)	☐	☐	☑
3. Location and details of overland flow path shown (if any)	☐	☐	☑

PSE ACCESS CONSULTING
Access/**B**uilt **E**nvironment
Architectural **A**dvice/**T**raining
Adaptation/**C**ertification/**B.C.A /DDA**
ACAA Accredited.

ASSESSMENT REPORT

ACCESS AND COMPLIANCE REQUIREMENTS;

BUILDING CODES AUSTRALIA (BCA),
NATIONAL CONSTRUCTION CODE (NCC)-2019.
DISABILITY DISCRIMINATION ACT 1992 (DDA),
Disability (Access to Premises-Buildings) Standard-2010.

SUBJECT; CHILDCARE CENTRE.

SITE ADDRESS; 15-17 Garswood Road Glenmore Park.

REPORT BY; Mr PETER SIMPSON.
ACAA Accredited Access Consultant.
Accreditation No. 185.

20th September 2020.

14 Mashman Ave
Wentworthville 2145

Phone: 0419 489158
E-mail: **psadvice@bigpond.net.au**

SITE ADDRESS; 15-17 Garswood Road Glenmore Park..

This report is in regard to the proposed child care centre complying with, for Construction Certificate issuance, the National Construction Code (BCA/NCC-2019 & specifically Part D3), Disability (Access to Premises-Buildings) Standard-2010 (DAtPS) Children (Education and Care Services) Supplementary Provisions Regulation 2004 and related Australian Standards in addressing the requirements of Disability Discrimination Act 1992 (DDA) pertaining to access for (and applicable technical detail for Construction Certificate or/an Occupation Certificate issuance) and provision of appropriate services for people with disability.

COMPOSITION OF PROPOSED CHILDCARE CENTRE;

This childcare centre development at this address consists of;

1. Childcare centre over two level with street front entrance from Garswood Road.
2. Ground level entry/reception and children playrooms with facilities.
3. At level car parking (For employees and visitors each with individual spaces and one accessible (disabled) space) with street front driveway entrance from Garswood Road.
4. Proposed is to have non-covered and covered play areas.
5. Building contains reception/staff room/facilities/kitchen.
6. All areas are "Accessible" for people with disability (under the guidelines of AS1428.1 *Design for access and mobility* and below stated criteria) compliant with BCA/NCC-2019 unless items to be retained due to heritage significance.

REFERANCING;

- **Disability Discrimination Act 1992.**

Part 3 Objects

The objects of this Act are:

(a) to eliminate, as far as possible, discrimination against persons on the ground of disability in the areas of:

(i) work, accommodation, education, access to premises, clubs and sport; and

(ii) the provision of goods, facilities, services and land; and

(iii) existing laws; and

(iv) the administration of Commonwealth laws and programs; and

(b) to ensure, as far as practicable, that persons with disabilities have the same rights to equality before the law as the rest of the community; and

(c) to promote recognition and acceptance within the community of the principle that persons with disabilities have the same fundamental rights as the rest of the community.

Part 23 Access to premises

Disability Discrimination Act 1992

Part 4 Interpretation

premises includes:

(a) a **structure**, **building**, aircraft, vehicle or vessel; and
(b) a place (whether enclosed or built on or not); and
(c) a part of premises (including premises of a kind referred to in paragraph (a) or (b)).

(1) It is unlawful for a person to discriminate against another person on the ground of the other person's disability or a disability of any of that other person's associates:

(a) by refusing to allow the other person access to, or the use of, any premises that the public or a section of the public is entitled or allowed to enter or use (whether for payment or not); or
(b) in the terms or conditions on which the first-mentioned person is prepared to allow the other person access to, or the use of, any such premises; or
(c) in relation to the provision of means of access to such premises; or
(d) by refusing to allow the other person the use of any facilities in such premises that the public or a section of the public is entitled or allowed to use (whether for payment or not); or

➢ Building Codes Australia (BCA/NCC-2019);

The Building Codes Australia (BCA) calls for compliance with **BCA Part D3** ***Access for people with disability*** for general building access for people with disability

a) Buildings must be accessible as required by **Table D3.1**
b) Parts of buildings *required* to be *accessible* must comply with this Part and AS1428.1.
c) External access to a building *required* to be *accessible* must be in accordance with this part and AS1428.1, and must provide-
   (i). From the allotment boundary at the main points of entry; and
   (ii). From any accessible car parking space on the allotment in accordance with **D3.5;** and
   (iii). From any adjacent and associated *accessible* building on the allotment; and
   (iv). Through the principal public entrance.

D3.1 General building access requirements

SA D3.1

Buildings and parts of buildings must be *accessible* as *required* by Table D3.1, unless exempted by D3.4.

Table D3.1 Requirements for access for people with a disability

Class of building	Access requirements
Class 9b	
Schools and *early childhood centres*	To and within all areas normally used by the occupants.

BCA/NCC-2019; Part D3 Access for People with disability

SECTION D ACCESS AND EGRESS

OBJECTIVE

DP1 Access for people with a disability

Access must be provided, to the degree necessary, to enable—

(a) people to—

(i) approach the building from the road boundary and from any *accessible* carparking spaces associated with the building; and

(ii) approach the building from any *accessible* associated building; and

(iii) access work and public spaces, accommodation and facilities for personal hygiene; and

D3.0 Deemed-to-Satisfy Provisions

(b) Where a *Building Solution* is proposed as an *Alternative Solution* to the *Deemed-to-Satisfy Provisions* of—

(i) D1.1 to D1.16, D2.1 to D2.23 and D3.1 to D3.12; and

(ii) in a building containing an *atrium*, Part G3; and

(iii) for theatres, *stages* and public halls, Part H1; and

(iv) for public transport buildings, Part H2,

the relevant *Performance Requirements* must be determined in accordance with A0.10.

A2.2 Performance Solution

(1) A *Performance Solution* is achieved by demonstrating—

(a) compliance with all relevant *Performance Requirements*; or

(b) the solution is at least *equivalent* to the *Deemed-to-Satisfy Provisions*.

(2) A *Performance Solution* must be shown to comply with the relevant *Performance Requirements* through one or a combination of the following *Assessment Methods*:

(a) Evidence of suitability in accordance with Part A5 that shows the use of a material, product, *plumbing* and *drainage product*, form of construction or design meets the relevant *Performance Requirements*.

(b) A *Verification Method* including the following:

(i) The *Verification Methods* provided in the NCC.

(ii) Other *Verification Methods*, accepted by the *appropriate authority* that show compliance with the relevant *Performance Requirements*.

(c) *Expert Judgement*.

F2.4 Accessible sanitary facilities

In a building *required* to be *accessible*—

SA F2.4(a)

(a) *accessible* unisex *sanitary compartments* must be provided in *accessible* parts of the building in accordance with Table F2.4(a); and

Table F2.4(a) ACCESSIBLE UNISEX SANITARY COMPARTMENTS

Class of building	Minimum accessible unisex sanitary compartments to be provided
Class 5, 6, 7, 8 and 9 — except for within a *ward area* of a Class 9a *health-care building*	Where F2.3 requires closet pans— (a) 1 on every *storey* containing *sanitary compartments*; and (b) where a *storey* has more than 1 bank of *sanitary compartments* containing male and female *sanitary compartments*, at not less than 50% of those banks.

➢ Disability (Access to Premises-Buildings) Standard-2010.

Purpose of the Premises Standards

4. The purpose of the Premises Standards is to provide:

- a nationally applicable set of provisions that detail what must be done to provide for non-discriminatory access to public buildings for people with disability
- the first and perhaps the most significant step in the development of consistent and uniform requirements for non-discriminatory building access — bringing together the access requirements under the DDA and building law, and

Premises Standards would harmonise the requirements of the Building Code and the Disability Discrimination Act in relation to access to buildings through incorporation of the Access Code into the Building Code. The Access Code forms Schedule 1 of the Premises Standards and contains its technical requirements.

Part 1 Preliminary

1.3 Objects

The objects of these Standards are:

(a) to ensure that dignified, equitable, cost-effective and reasonably achievable access to buildings, and facilities and services within buildings, is provided for people with a disability; and

(b) to give certainty to building certifiers, building developers and building managers that, if access to buildings is provided in accordance with these Standards, the provision of that access, to the extent covered by these Standards, will not be unlawful under the Act.

Part 2 Scope of Standards

2.1 Buildings to which Standards apply

(1) Subject to subsection (2), these Standards apply to the following:

(a) a new building, to the extent that the building is:

(iii) a Class 3, 5, 6, 7, 8, 9 or 10 building;

ACCESS and COMPLIANCE;

The requirements of BCA Part D3 *Access for people with disabilities*/National Construction Code (NCC)-2019 & specifically Part D3 and called on standard AS1428.1-4, as well as associated standards/legislation, are met with these proposed alterations/additions and in their relation to the requirements to satisfy relevant State and Federal legislation with these requirements of BCA have been addressed in the following manner

- The BCA/NCC-2019 Part D3.2 (c) (ii) and AS1428.1 Clause 5.1.2 calls for a continuous uninterrupted path of travel from the allotment boundary to the main points of entrances and "from any required accessible car space on the allotment" to and within the proposed Childcare Centre. This is proposed to be provided by fully compliant accessible paths of travel as means of entry to the principal public entry foyer from allotment boundary.

- All pedestrian walkways for entry and/or exit are proposed to have, if applicable, the required Tactile Ground Surface Indicators (TGSI's) compliant with AS1428.4.1-2009 Clause 2.2.3 and Figure A1.

- All pedestrian walkways and paths of travel are proposed to be compliant with the design and technical specifications of AS1428.1 Clause 6 *Continuous accessible paths of travel* for their gradients, surface finish and other relevant features.

- The entrance doors to the childcare centre and all their internal doors, and their circulation areas, are proposed to be of a dimension mandated by AS1428.1-2009 Clause 13.3 *Circulation space at doorways on a continuous accessible path of travel* and Figure 31.

- The doors proposed to have a clear opening dimension (Minimum 850mm for single leaf or at least one of a duel leaf door configuration) compliant with AS1428.1-2009 Clause 13.2 *Clear opening of doorways* and their internal and external circulation spaces have dimensions/configuration compliant AS1428.1 Clause 13.3 & Figure 31 with appropriate 30% door jamb/architrave to wall colour luminance contrast.

- The entrance doorways are proposed to have a zero step entrance required by AS1428.1-2009 Clause 7.2 *Construction tolerances, abutment of surfaces.*

  - Door handles/gate latches, where required, are positioned to meet requirements of being "child-proof".

  - Items of access/**child safety** requirements such as entry door handle height or security gate latching are overridden by state regulations such as Children (Education and Care Services) Supplementary Provisions Regulation 2004.

    - **Children (Education and Care Services) Supplementary Provisions Regulation 2004**

      21 Child-proof gates at entry and exit points

      (1) Child-proof gates must be installed at each point of entry to or exit from the premises of the child-minding service.

      (2) The child-proof gates must:

      (a) be secured by means of child-proof locks, and

      (b) be designed:

      (i) to prevent children from entering or leaving the premises unsupervised, and

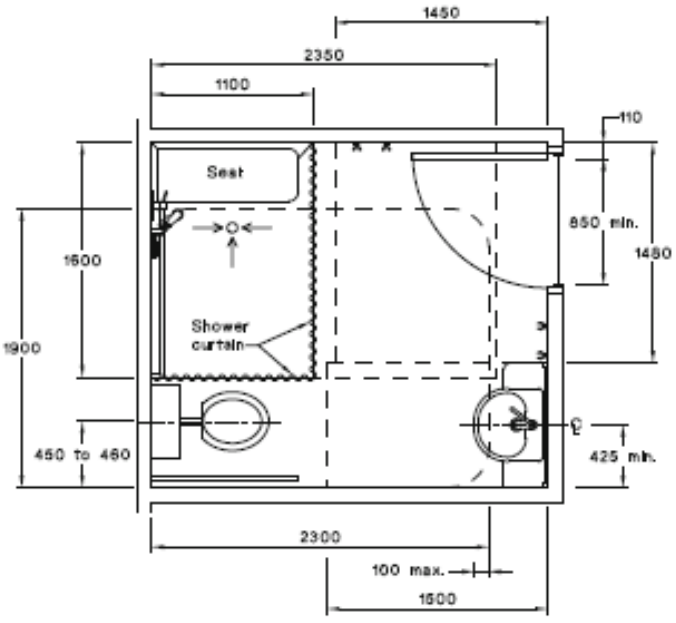
      (ii) to inhibit or impede intruders from entering the premises.

- Clear and uninterrupted paths of travel to and within this Childcare centre to all required facilities/outdoor play areas, by the occupants which includes staff, parents and children, is to be provided with well positioned furniture to avoid any type of hindrance to people with disability weather they be wheelchair or other mobility aid users. This is compliant with BCA/NCC-2019 Part D3.2 (c) (ii) and AS1428.1 Clause 5.1.2 *Continuous path of travel* and **DP2** ***Safe movement to and within a building***.

- All entry and internal doorways (part of *Continuous path of travel)* to the various offices/rooms/kitchen/amenities are of a dimension equal to or greater than that (850mm minimum clear opening for single leaf door or at least one leaf of a duel leaf door configuration) to be compliant with AS1428.1-2009 Clause 13.3 & Figure 31 as well as AS1428.2 Clause 11.5.1 *Clear opening of doorways* & Figure 7.

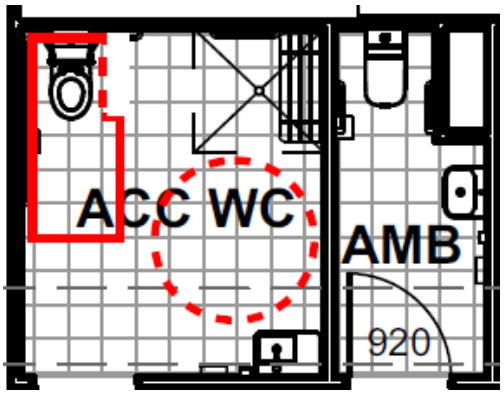
- Provided is a sanitary facility meeting the technical requirements of a unisex accessible (disabled) sanitary facility (2600mm X 3000mm).

  i. The technical specifications (no less than the dimensions required by AS1428.1-2009 Clause 15.2 *Accessible unisex sanitary facility* & Figure 50 at, typically 3000mm X 2600mm) for this accessible (disabled) unisex sanitary facility will be as follows,



DIMENSIONS IN MILLIMETRES

FIGURE 50 SANITARY COMPARTMENT SHOWING OVERLAP OF WASHBASIN FIXTURE INTO SHOWER CIRCULATION SPACE



ii. The entry door is compliant with **AS1428.1-2009 Clause 13.2** & Figure 30 with a minimum 850mm clear opening dimension and the maximum 5mm construction tolerance threshold specified by **AS1428.1-2009 Clause 7.2 *Construction tolerances for abutting surfaces*** Note: *a construction tolerance of up to 5mm is acceptable using rounded or bevelled edges.*

iii. The toilet pan is in the correct position as per **AS1428.1-2009 Clause 15.2.2 *WC Pan clearance* & Figure 28** at 800mm to front of pan & 450mm centre from the side wall & the seat 470mm high.

iv. The grab rails are proposed to be fitted correctly (at pan/shower) and design compliant with AS1428.1-2009 Clause 15.2.7 *Grab rails* & Figure 42 *Position of grab rails* as with all other fittings and fixtures.

v. The clear turning circle requirement of 1540mm and circulation spaces will be present to comply with AS1428.1-2009 Clause 15.6 *Circulation space in accessible sanitary facilities* or the called on requirements of AS1428.2-1992 Clause 6.2 Circulation space for 180° wheelchair turn with the required circulation spaces in front of the pan and basin with clear "exclusion zone".

AS 1428.2—1992 6

6.2 Circulation space for 180° wheelchair turn The space required for a wheelchair to make a 180° turn shall be not less than 2070 mm in the direction of travel and not less than 1540 mm wide.

vi. The floor is of a slip resistant surface (Specifications from manufacturer/supplier) as specified in AS1428.1-2009 Clause 7 *Floor and ground surfaces on a continual accessible path of travel and circulation spaces* with appropriate signage is installed along with an appropriate locking mechanism on the sanitary facility entrance door for privacy.

Car park;

At level car parking (with individual spaces and one accessible (disabled) space) areas provided one for staff only and one area for visitors each with street front driveway entrance from Garswood Roadf.

- This accessible (disabled) car parking space in each area is proposed to be technically and feature designed to comply with the AS2890-2009 Part 6 *Parking facilities-Off stre*et p*arking for people with disability* and Figure 22.

i. The parking space is proposed to be technically and feature designed to comply with the AS2890.2009 Part 6 *Parking facilities-Off stre*et p*arking for people with disability* Section 2.2 *Parking space-dimensions* Point 1 *Angle parking spaces.*

ii. The "Shared area" is proposed to be "any other suitable use i. e. pedestrian access" the pedestrian entrance to childcare centre through carpark.

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.

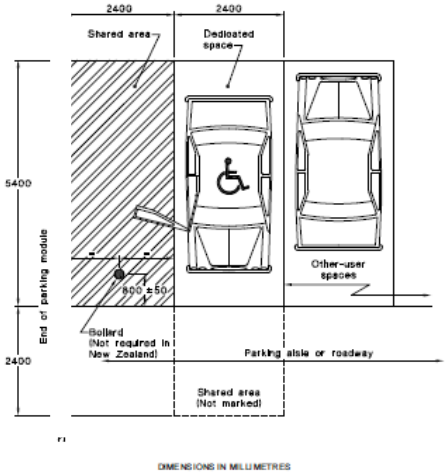


FIGURE 2.2 EXAMPLE OF AN ANGLE PARKING SPACE WITH SHARED AREA ON ONE SIDE ONLY—DIMENSIONS FOR AUSTRALIA ONLY*

A2.2 Angle parking spaces

The shared area can be shared with any other suitable use, noting that it needs to be accessible in accordance with AS 1428.1 and free of other than transitory obstructions at all times. In a typical case, as illustrated in Figure 2.3, a 2.4 m area can be shared between two

D3.5 Accessible carparking

Accessible carparking spaces—

(a) subject to (b), must be provided in accordance with Table D3.5 in—

(i) a Class 7a building *required* to be *accessible*; and

(ii) a carparking area on the same allotment as a building *required* to be *accessible*; and

(b) need not be provided in a Class 7a building or a carparking area where a parking service is provided and direct access to any of the carparking spaces is not available to the public; and

(c) subject to (d), must comply with AS/NZS 2890.6; and

(d) need not be identified with signage where there is a total of not more than 5 carparking spaces, so as to restrict the use of the carparking space only for people with a disability.

- The outdoor play areas and play equipment is accessible for children with disability with the surface finishes (Soft fall surface compound/Wetpour rubber ground surface or grass) providing minimal obstructions to their use yet minimises impact trauma in the event of an accident/mishap.
- The walkways and paths of travel (From the street, car parks and within property) are compliant with the design and technical specifications of AS1428.1-2009 Clause 10 *Walkways ramps and landings* for their gradients, surface finish and other relevant features.
- The appropriate crossfall and abutting surfaces are proposed to be compliant with AS1428.1-2009 Clause 10 *Walkways ramps and landings* Point 2 *Walkways.*
- Level abutting surfaces are proposed between interior, covered playground area and non-covered playground area for **access** "to all areas normally used by the occupants including staff, children and visitors"

- All staircases/ramps where required (**Except for fire isolated stairs BCA/NCC 2019 Part D3.3 *Parts of a building to be accessible* (a) which require one handrail but tread nosing**) comply with AS1428.1-2009 Clause 10.3 *Ramps*, Figure 14-19 & Clause 11 *Stairways*, Figure 26-29 in finish and construction detail with handrails compliant with AS1428.1-2009 Clause 12 *Handrails* with technical design Figure 14 & 15 *Ramp Handrails* and Figures 26 *Stair handrail*.

- All walkways/stairs have, where required, the required TGSI's at the top/intermediate and bottom landing (**Except for fire isolated stairs BCA/NCC 2019 Part D3.3 *Parts of a building to be accessible* (a)**) compliant with **AS/NZS 1428.4.2 Clause 2.2.3 and Figure A1**, for technical requirements, with appropriate luminance contrast also included on stair nosing, required on fire isolated stairs, as per Figure 27 to comply with BCA/NCC 2019 Part D3.8 *Tactile indicators*.

Dimensions refer to finished surfaces (e.g., face of wall tiles and floor finishes).

Unless otherwise indicated, limiting dimensions for an inclined surface on a continuous accessible path of travel shall be taken as horizontal and vertical only.

6 CONTINUOUS ACCESSIBLE PATHS OF TRAVEL

6.1 General

A continuous accessible path of travel shall not include a step, stairway, turnstile, revolving door, escalator, moving walk or other impediment.

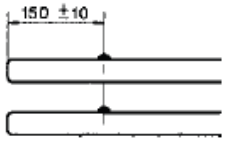
6.2 Heights of a continuous accessible path of travel

The minimum unobstructed height of a continuous accessible path of travel shall be 2000 mm or 1980 mm at doorways (see Figure 2).

6.3 Width of a continuous accessible path of travel

Unless otherwise specified (such as at doors, curved ramps and similar), the minimum unobstructed width (see Figure 2) of a continuous accessible path of travel shall be 1000 mm and the following shall not intrude into the minimum unobstructed width of a continuous accessible path of travel:

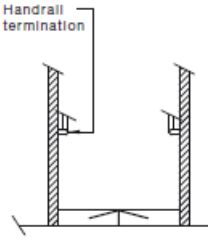
➢ If applicable in an area it would be suggest to implemented "Performance solution" to eliminate, being as far as possible where ramp situation require, the handrails protruding (300mm from ramp end or one tread width + 300MM EXTENSION AND TURNDOWN = 400mm +) into a transverse path of travel for people and having a domed button fitted as required, to these areas while retaining the requirements for access with flexibility in design allowed by AS1428.1-2009 Preface in regard this problem area and address the "performance requirements" of BCA/NCC.



(c) Domed buttons indicating discontinuity of handrail

DIMENSIONS IN MILLIMETRES

FIGURE 5 HANDRAILS



10.1.1 *General* The following general requirements apply for handrails:

(c) Where a handrail is not continued, a tactile indicator in the form of a domed button shall be provided in accordance with Figure 5.

Where the Building Code of Australia does not required the installation of TGSIs (e.g. residential aged care facilities), handrails shall have a raised tactile warning, in the form of a domed button 4 mm to 5 mm in height and 10 mm to 12 mm in diameter, and shall be provided on the top of the handrail, 150 ±10 mm from the end of the handrail.

➢ The domed button (raised tactile warning) provides for the vision impaired an equivalent tactile warning indicator for the "discontinuity of handrails" as with the 300mm extension and turndown at end of handrails.

➢ The "performance solution" demonstrates "as far as possible" the measures/goodwill (The handrails are terminated at a corner line turned 90 degree to wall or to ground, with domed button to indicate discontinuation of handrail for the vision impaired see Figure 26d I Appendix) without the handrails protruding (300mm from end of ramp + 300MM EXTENSION AND TURNDOWN = 400mm +) into a transverse path of travel along/past ramp and stairs) undertaken by the property owner provides access to the highest/safest degree possible for a person, vision impaired or not, with disability yet provided for appropriate access to the site.

The Australian Standard AS1428.1-2009 *Design for Access and Mobility* Preface allows while providing minimum design requirements, in a variety of situations, for "*flexibility in design where limitations are imposed by other building conditions*".

AS 1428.1—2009

Because of the variety of situations which may need to be addressed when designing buildings and facilities, it is seen as necessary for the Standard to provide a range of data so that the requirements for access can be met and allow for flexibility in design where limitations are imposed by other building conditions. The intention is to make the Standard a practical reference document for designers, particularly with regard to problem areas such as doorways and sanitary facilities.

BCA/NCC-2019; Part D3 Access for People with disability

SECTION D ACCESS AND EGRESS

OBJECTIVE

DO1

The *Objective* of this Section is to—

(b) safeguard occupants from illness or injury while evacuating in an emergency.

DP2 Safe movement to and within a building

So that people can move safely to and within a building, it must have—

(a) walking surfaces with safe gradients; and

(b) any doors installed to avoid the risk of occupants—

  (i) having their egress impeded; or

  (ii) being trapped in the building; and

(c) any stairways and ramps with—

  (i) slip-resistant walking surfaces on—

    (A) ramps; and

    (B) stairway treads or near the edge of the nosing; and

  (ii) suitable handrails where necessary to assist and provide stability to people using the stairway or ramp; and

  (iii) suitable landings to avoid undue fatigue; and

  (iv) landings where a door opens from or onto the stairway or ramp so that the door does not create an obstruction; and

  (v) in the case of a stairway, suitable safe passage in relation to the nature, volume and frequency of likely usage.

SUBJECT; CHILDCARE CENTRE.

SITE ADDRESS; 15-17 Garswood Road Glenmore Park.

The full implementation of these requirements, for Construction Certificate issuance, of the **BCA/NCC-2019 Part D3, Table 3.2,** Children (Education and Care Services) Supplementary Provisions Regulation 2004 and Disability (Access to Premises-Buildings) Standard-2010 has been actioned with the planning and designing of this childcare centre **providing access** "**to and within all areas normally used by the occupants including staff, children and visitors**".

- The plans assessed reflect the accessibility/services/facilities of the building comply (*suitable for use by a person with disability)* with AS 1428.1-2009 *Design for access and mobility* (public/common areas) and any other relevant Australian Standard.

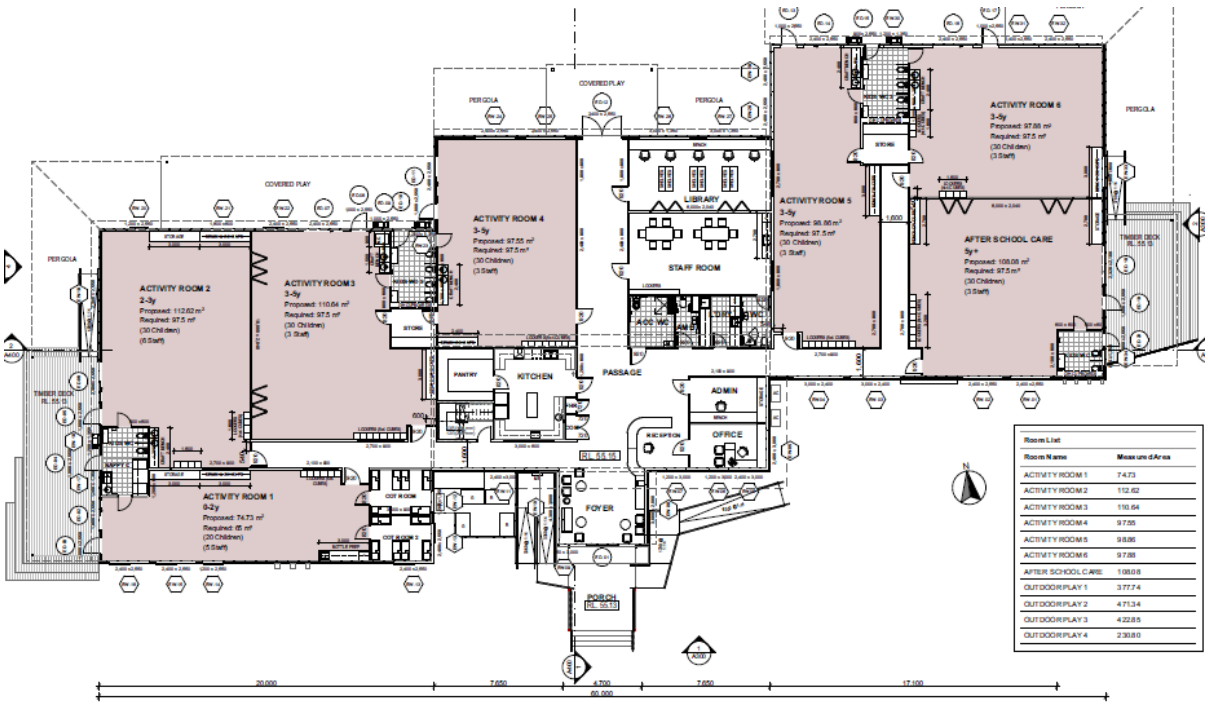
The technical requirements called for in the AS1428 series of standards, and related standards/codes, and detailed prescriptive technical requirements within the BCA/NCC-2019 of how the building is to be constructed and equipped have been adhered to in addressing the Disability Discrimination Act 1992 legislation in regard access to premises (and applicable technical detail for Construction Certificate issuance) for and provision of services/facilities for people with disability.

Yours sincerely

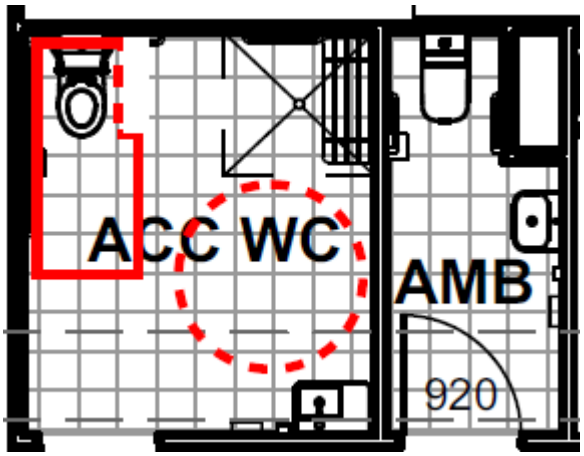
Peter Simpson

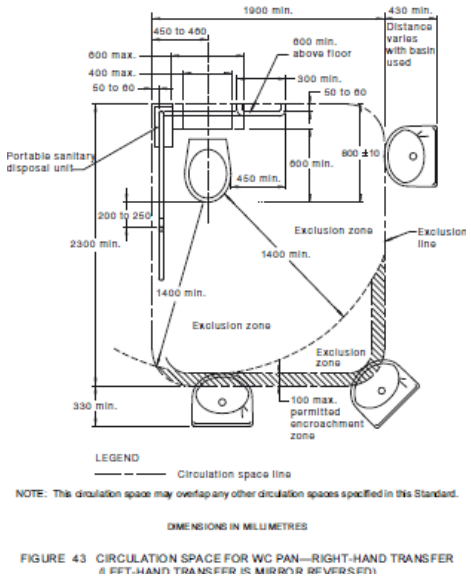
Peter Simpson
Accredited by;
Association of **C**onsultants in **A**ccess **A**ustralia.

APPENDIX;



GROUND PLAN





NOTE: This circulation space may overlap any other circulation spaces specified in this Standard.

DIMENSIONS IN MILLIMETRES

FIGURE 43 CIRCULATION SPACE FOR WC PAN—RIGHT-HAND TRANSFER
A LEFT-HAND TRANSFER IS MIRROR REVERSED)

Reinforcing of light frame walls in bathroom.

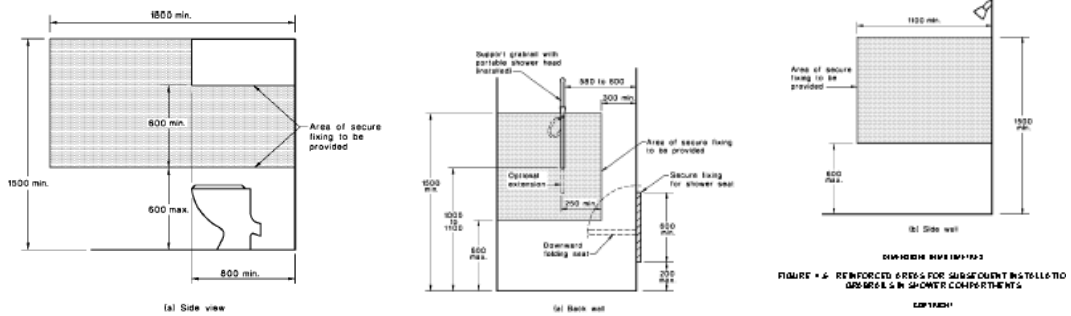


FIGURE 4.6 REINFORCED AREAS FOR SUBSEQUENT INSTALLATION OF GRABRAILS IN SHOWER COMPARTMENTS

10.3 Ramps

Ramps shall comply with the following:

(a) The maximum gradient of a ramp exceeding 1900 mm in length shall be 1 in 14.

(b) The gradient of a ramp shall be constant throughout its length with a maximum allowable tolerance of 3% provided no section of the ramp is steeper than 1 in 14.

(c) Ramps shall be provided with landings, as specified in Clause 10.8, at the bottom and at the top of the ramp and at intervals not exceeding the following:

  (i) For ramp gradients of 1 in 14, at intervals not greater than 9 m.

  (ii) For ramp gradients steeper than 1 in 20, at intervals not greater than 15 m.

  (iii) For ramp gradients between 1 in 14 and steeper than 1 in 20, at intervals that shall be obtained by linear interpolation.

(e) Ramps shall have a handrail complying with Clause 12 on each side of the ramp, as shown in Figure 14.

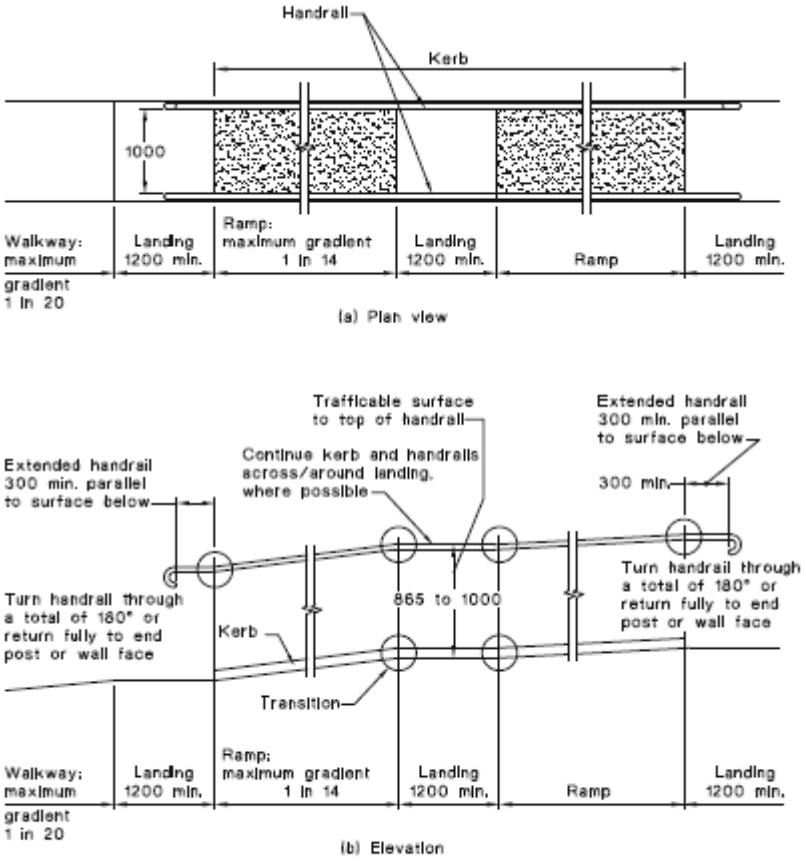
NOTE: Figures 15(A) and 15(B) show examples of suitable ramp handrail terminations.

(j) Kerbs or kerb rails shall—

  (i) be located so that the ramp-side face is either flush with the ramp-side face of the handrail or no greater than 100 mm away from the ramp-side face of the handrail, as shown in Figure 19;

  (ii) where the handrail is supported on a vertical post, the height of the top of the kerb or kerb rail shall be not less than 150 mm above the finished floor, as shown in Figures 19(a), 19(b) or 19(c); and

  (iii) where the kerb is at a height of 65 mm to 75 mm, the support posts shall be set back a minimum of 200 mm from the face of the kerb or kerb rail, as shown in Figure 19(d).



DIMENSIONS IN MILLIMETRES

FIGURE 14 RAMP HANDRAILS

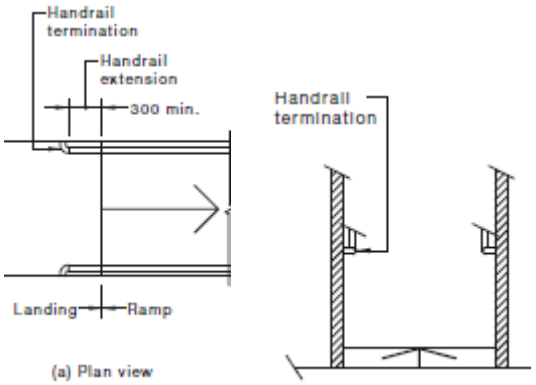


FIGURE 26(D) DETAIL FOR HANDRAILS TERMINATED BY TURNING HORIZONTALLY THROUGH 90° TO THE WALL

MONACO

DESIGNS PL

BASIC TREE ASSESSMENT

For:
Mr Ram Baskaran

Site Address:
15-17 Garswood Road,
Glenmore Park

Site Inspection Date:
26th August 2020

Report Issue Date:
31st August 2020 - DA Issue

Job No:
5592

mb: 0409123200
email: paul@monaco.net.au abn: 69078380168

TREE REPORTS LANDSCAPE PLANS
VEGETATION MANAGEMENT PLANS

1. Introduction

1.1 This basic tree assessment has been commissioned by Mr Baskaran to assess the health, condition and impact of the subject trees, as part of a Development Application to Penrith Council for a proposed Childcare Centre.

1.2 This report was not written with the intention of being used in a court of law.

2. Method

2.1 Observations and recordings of the trees were made using the Visual Tree Assessment (VTA) at ground level during a site inspection as noted. Access was available to the property.

2.2 Proposed Survey Plan prepared by East West Surveys (rev 4) was provided for reference.

2.3 Sketch Plan of proposed childcare centre.

2.4 Photographs included within this report were taken at time of initial inspection, unless noted otherwise.

2.5 Construction will be concrete slab and brick veneer, acoustic barriers, new concrete driveway location.

2.6 Crown spreads are taken as an average of the radii, unless the crown is severely distorted or the issue requires more accurate dimensioning.

3. The Site

3.1 The site currently supports a single storey dwelling with large expanses of hard surface.

4. Tree Assessment

	TREE ASSESSMENT													
No	**Scientific Name**	**Age Class**	**Health**	**Condition**	**Height (m)**	**Spread (m)**	**D BH (mm)**	**(On / Off Site)**	**Disease**	**Retention Value**	**Proposed to be removed or retained**	**TPZ – AS 4970 (rad. m)**	**SRZ – AS4970 (rad. m)**	**Encroach TPZ / SRZ**
1	*Brachychiton acerifolius*	M	G	G	7	6	300	Off	-	Very High	Retained	-	-	No
2	*Eucalyptus molucanna*	M	G	G	14	12	500 Bse	Bdy	-	Very High	Retained	6	2.47	No
3	*Corymbia citriodora*	M	G	G	14	12	300 Sur	Off	-	Very High	Retained	-	-	No
4	*Eucalyptus molucanna*	M	G	G	14	8	350	On	-	Very High	Retained	4.2	2.13	No
5	*Eucalyptus molucanna*	M	G	G	12	10	400	On	-	Very High	Retained	4.8	2.25	No
6	Not existing													
7	*Eucalyptus molucanna*	M	G	G	16	12	600	On	Y	Very High	Retained	7.2	2.67	?
8	*Jacaranda mimosifolia*	S	G	G	3	3	150 Bse	On	-	Mod	Removed	-	-	-
9	*Fraxinus 'CV'*	M	?	G	4	4	200 Bse	On	-	Mod	Removed	-	-	-
10	*Malus species* (assumed)	M	?	A	4	6	Mul ti	On	Y	Mod	Removed	4.2	2.13	No
11	*Jacaranda mimosifolia*	S	A	A	2	2	100	On	-	Low	TPO exempt			
12	*Corymbia citriodora*	M	G	g/ a	12	10	300 App	Off	Y	Very High	Retained	3.6	1.99	No
13	*Corymbia citriodora*	M	G	g/ a	12	10	300 app	Off	Y	Very High	Retained	3.6	1.99	No
14	*Fraxinus 'CV'*	M	?	G	6	8	300	On	Y	Mod	Removed	-	-	-
15	Unidentified - Deciduous	M	?	G	6	12	400	On	-	Mod	Removed	-	-	-
16	*Robinia* - Dead													
17	*Acer saccharinum (*assumed)	M	?	G	5	4	100	On	-	Mod/ Low	Removed	-	-	-
18	*Cupressocyparis* 'Leylendii'	M	G	G	5	5	?	On	Y	Low	Removed	-	-	-
19	*Cupressocyparis* 'Leylendii'	M	G	G	5	5	?	On	Y	Low	Removed	-	-	-
20	*Cupressocyparis* 'Leylendii'	M	G	A	3	4	?	On	-	Low	Removed	-	-	-
21	Dead													
22	*Corymbia citriodora*	M	G	G	18	18	400 Bse	Off	-	Very High	Retained	4.8	2.25	No
23	*Morus nigra*	TPO exempt - 2m high												
24	*Morus nigra*	TPO exempt – 2m high												
25	*Pinus radiata*	M	G	G	10	8	300	On	-	Mod/ Low	Removed	-	-	-

No	Scientific Name	Age Class	Health	Condition	Height (m)	Spread (m)	D BH (mm)	(On / Off Site)	Disease	Retention Value	Proposed to be removed or retained	TPZ – AS 4970 (rad. m)	SRZ – AS4970 (rad. m)	Encroach TPZ / SRZ
26	*Pinus radiata*	M	G	G	10	8	350	On	-	Mod/ Low	Removed	-	-	-
27	*Cupressocyparis* 'Leylendii' (Row)	M	a/ p	a/ p	4 av	-	150 Av	On	Y	Low	Removed	-	-	-
28	*Cupressocyparis* 'Leylendii' (Row)	S	G	G	4 av	-	150 App	Off	L	High	Retained	1.8	1.49	No
29	*Pinus radiata*	M	G	G	12	15	500 App	Off	-	High	Retained	6	2.47	No

5. Discussion

5.1 Trees 7 and 22 will be the only high / very high retention value trees affected by the proposed development.

6. Tree Protection / Management

6.1 It is recommended Council condition that trees 4, 5, 7 and 22 are to be protected during the demolition / construction period as per tree protection zones prescribed in Section 4.

6.2 Section 9 outlines typical tree protection method.

Regards
Paul Monaco

Paul Monaco, Bach. Hort. Sc. (AQF 7), Arboriculture (AQF 5, Bushland Regeneration.
Landscape and Horticultural Consultant, Consulting Arborist.
Quantified Tree Risk Assessment (QTRA) - 3923

7. Limitation of Liability

7.1 This report has been prepared by the arborist and must be accepted on the basis that all reasonable attempts have been made to identify factors and features relevant to the tree(s) specified. Unless otherwise stated, observations have been made by eye from ground level (VTA). No Resistographs, root mapping or other diagnostic tools / methods used unless noted otherwise.

8. References / Bibliography

8.1 Australian Standard AS 4970-2009 'Protection of Trees on Development Sites'.

8.2 Harris, R.W. et al (2004) 'Arboriculture – 4th Ed.', Prentice Hall.

8.3 Mattheck, C., et al (2015) 'The Body Language of Trees – Encyclopaedia of Visual Tee Assessment', Karlsruhe Institute of Technology – Campus North.

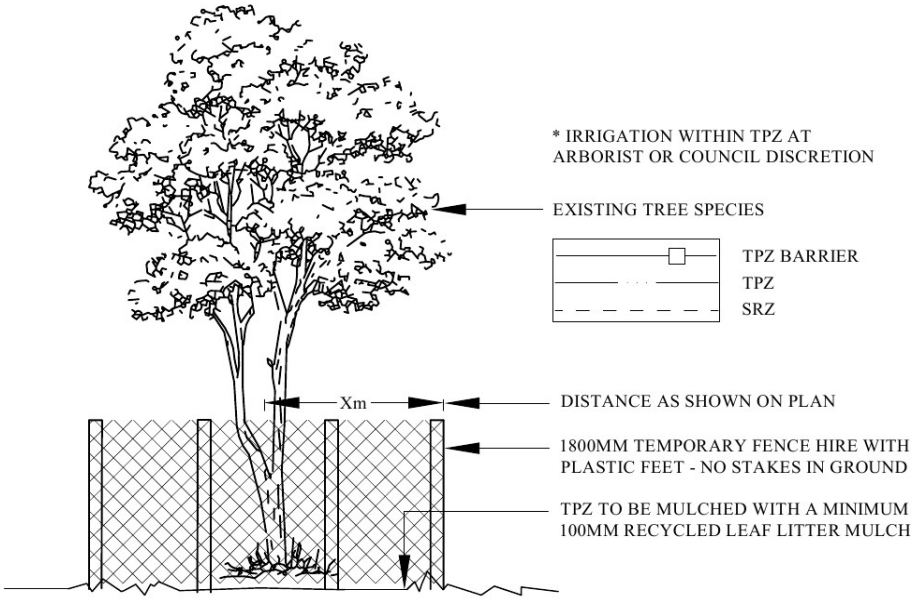
8.4 Raven, P.H., et al, (1986) 'Biology of Plants – 4th Ed.', Worth Publishers.

8.5 Roberts, J., Jackson, N., and Smith, M., (2013) 'Tree Roots in the Built Environment', Arboricultural Association – Research for Amenity Trees No. 8.

8.6 Shigo, A. (1997) 'A New Tree Biology', Shigo and Trees Associates.

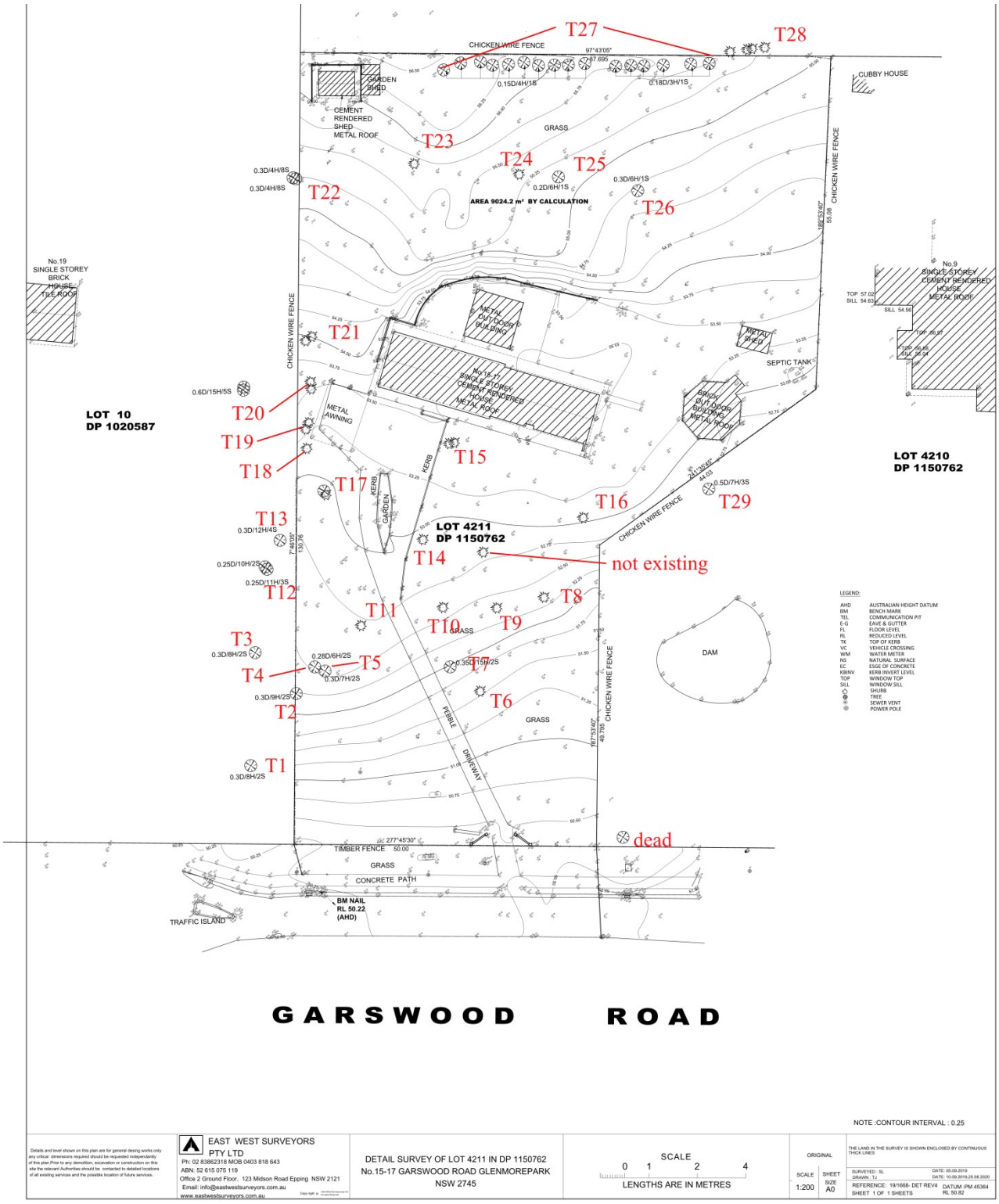
8.7 Shigo, A. (2008) 'Modern Arboriculture', Shigo and Trees Associates.

9. Tree Protection Barrier



TYPICAL TREE PROTECTION
DETAIL - (NTS)
(IF NO ARBORIST REPORT REQUIRED)

10.Site Plan – NTS



11. Photos

Plate 1 – Tree 7

Plate 2 – Tree on Lot 10 front setback

Plate 3 – Tree 14

Plate 4 – Trees 8-10

Plate 5 – Trees 23-26

Plate 6 – Trees 27

PRELIMINARY CONTAMINATION SITE INVESTIGATION REPORT

PROJECT:	**15-17 Garswood Road, Glenmore Park**
CLIENT:	**Rammy Associates Pty Ltd**
DATE:	**21/09/20**
REPORT No.:	**NE728**

GEOTESTA

GEOTESTA PTY LTD ABN 91 851 620 815
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1300 852 216 info@geotesta.com.au geotesta.com.au

Contents

Appendices

EXECUTIVE SUMMARY

Geotesta was engaged by Rammy Associates Pty Ltd to conduct a preliminary site contamination investigation on the property known as 15-17 Garswood Road (Lot 4211 DP 1150762), Glenmore Park, NSW 2748. The PSI includes a review of current and historical activities on the site, an assessment of the potential risk of soil contamination existing on the land. It is understood that the property will be used for the development of a Childcare.

In accordance with the Department of Urban Affairs and Planning and Environment Protection Authority Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy No. 55—Remediation of Land 1998, the site is considered to have a low potential risk of soil and groundwater contamination.

Based on the results of this investigation, the following conclusions are drawn:

- The site history, desk study and the site inspection indicate past activities on the site have a low potential for environmental impacts on the soil and groundwater.
- Based on the above findings the site subject to this PSI is suitable for the proposed childcare development.
- The demolition of the existing building and sheds must be carried out by a qualified and licenced contractor and site clearance certificate should be provided before any construction begins. The site should be cleared from any ACM (if applicable) potentially used in the construction of the building and sheds.
- In accordance with the Department of Urban Affairs and Planning and Environment Protection Authority Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy No. 55—Remediation of Land 1998, the site is suitable for the proposed Childcare Development and no further investigation is required.

1. INTRODUCTION

Geotesta was engaged by the Rammy Associates Pty Ltd to conduct a preliminary Site Investigation of the site referred to as 15-17 Garswood Road (Lot 4211 DP 1150762), Glenmore Park, NSW 2748. The site location and features is shown in Figure 1. The PSI is a review of current and historical activities on the site and an assessment of the potential risk of soil/groundwater contamination existing on the land.

The site is currently occupied with a large single-story dwelling located in the centre of the site. Adjacent to the large dwelling there is a double garage. The is covered shed next to the building. A small hexagon shaped structure is located to the east of the site. A shed with hot water tank is located in the east of the site and a poultry shed is located to the north-west of the site.

The site is relatively flat with an average slope of < 5%. Located approximately 212 m south is an unnamed creek. Surveyors Creek lies approximately 1.3km to the west of the site. The site is located within Penrith City Council.

This report is based only on the information provided at the time of this report preparation and may not be valid if changes are made to the site conditions and/or soil and groundwater.

Figure 1. Site Location and features

2. PLANNING GUIDELINES

It is understood that the land is to be used for residential development. This Site Investigation was conducted in general accordance with the Department of Urban Affairs and Planning and Environment Protection Authority Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy No. 55—Remediation of Land 1998.

Land contamination is most often the result of past uses. It can arise from activities that took place on or adjacent to a site and be the result of improper chemical handling or disposal practices, or accidental spillages or leakages of chemicals during manufacturing or storage. Activities not directly related to the site may also cause contamination; for example, from diffuse sources such as polluted groundwater migrating under a site or dust settling out from industrial emissions.

When carrying out planning functions under the EPA Act, a planning authority must consider the possibility that a previous land use has caused contamination of the site as well as the potential risk to health or the environment from that contamination. Decisions must then be made as to whether the land should be remediated, or its use of the land restricted, in order to reduce the risk. Failure to consider the possibility of contamination at appropriate stages of the planning decision process may result in:

- inappropriate land use decisions
- increased risk to human health
- detrimental effects on the biophysical environment
- impacts on the safety of existing and new structures
- delay in realising developments
- substantial fall in the land value and the passing on of unanticipated development costs to other parties

When an authority carries out a planning function, the history of land use needs to be considered as an indicator of potential contamination. Where there is no reason to suspect contamination after acting substantially in accordance with these Guidelines, the proposal may be processed in the usual way. However, where there is an indication that the land is, or may be, contaminated, the appropriate procedures outlined in these Guidelines should be followed.

Essentially, the Guidelines recommend that re-zonings, development control plans and development applications (DAs) are backed up by information demonstrating that the land is suitable for the proposed use or can be made suitable, either by remediation or by the way the land is used.

3. OBJECTIVE AND SCOPE

The objective of this PSI report is to comply with the Department of Urban Affairs and Planning and Environment Protection Authority Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy No. 55—Remediation of Land 1998 and gain a better understanding of the environmental risks associated with the site for human health and/or the environment as a result of previous and current land use. The general objective to be adhered is recommending the suitability of the site for residential development in relation to the management of contamination.

The PSI was conducted in general accordance and consideration of the Planning Guidelines and the Australian Standard AS 4482.1-2005 Guide to the sampling and investigation of potentially contaminated soil - Part 1: Non-volatile and semi-volatile compounds, the Australian Standard AS 4482.2-1999 Guide to the sampling and investigation of potentially contaminated soil - Part 2: Volatile substances, the National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999 (amended 2013), and other relevant NSW guidelines and legislation.

The scope of work carried out to achieve this objective consisted of:

- Performing a desktop assessment of the available information on the site history from historical aerial photographs, Section 149 Certificate and Geological and hydrogeological review;
- Searching records on previous notices issued by OEH and Penrith City Council,
- Inspecting the site to identify potential areas of environmental concerns;
- Preparing a report summarising above.

Activities undertaken to achieve the above objectives are reported and discussed in the following sections.

4. SITE DESCRIPTION

4.1 Site Details, Location and Topography

The site under investigation is situated at 15-17 Garswood Road, Glenmore Park, NSW 2748 on the northern side of Garswood Road and is approximately 55 km (by road) west of Sydney CBD. This site is located in Lot 4211 DP 1150762. The site location is shown in Figure 1. The proposed site is vacant and occupied with a large single-story dwelling in the centre of the site. A large double garage is attached to the dwelling. To the back of the property is an outhouse with hot water tank adjacent. A hexagon shaped gazebo is situated to the east of the property with a shed adjacent. To the north of the property is a poultry shed. The site is relatively flat with an average slope of < 5%. The site is rectangular in shape with an area of approximately 9,024 m^2. The site is located within Penrith City Council.

The site lies at an elevation of approximately 56 metres above sea level (ASL) referenced to Australian Height Datum (AHD) (http://en-au.topographic-map.com).

The site identification detail is presented in Table 1.

Table 1: Site Identification

Site Details	Site Observations
Address	15-17 Garswood Road, Glenmore Park, NSW 2748
Lot/DP	4211 in DP 1150762
Local Government Area	Penrith City Council
Site Area	9024 m2
Zoning	E4: Environmental Living
Current Land Use	Residential

4.2 Surrounding Land Use

The surrounding land use is summarised as follows:

- The northern side of the site is bound by residential properties and a big shed which is possibly being used for storage of building material.
- The site is bound by residential properties from both west and east.
- The site is bound to Garswood road from south.

4.3 Geological, Soil Landscapes and Drainage

The geological origin of the soil profile was identified from our visual examination of the soil samples, geotechnical experience, and reference to geological maps of the area. The geological map of the area indicates that the site is underlain by Bringelly Shale of the Wianamatta Group and comprises shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff (Penrith, 1:100 000, Geological Sheet 9030).

4.4 Site Regional Meteorology and Hydrogeology

The following climate information from the Commonwealth Bureau of Meteorology website (http://www.bom.gov.au/) can be obtained:

- Mean maximum temperature of 23.3°C from January to December at Orchard Hills Treatment Works, approximately 2.8km away from site.
- Mean minimum temperature of 11.6°C from January to December at at Orchard Hills Treatment Works, approximately 2.8km away from site.
- Mean annual rainfall of 810.6mm from January to December at Orchard Hills Treatment Works, approximately 2.8km away from site.

Groundwater salinity is mapped >14000mg/l and therefore unsuitable for stock use. The direction of the regional groundwater flow is expected to follow the slight slope of the regional topography.

4.5 Registered Bore Search

A search of Department Primary Industries - Office of Water records identified no existing groundwater well is located within an approximate distance of 500 metre from the site.

4.6 Acid Sulphate Soils

The Department for Infrastructure, Planning and Natural Resources (DIPNR) Acid Sulphate Soils Risk Mapping (1998) indicates that the site is not expected to be underlain by acid sulphate soils.

4.7 Site History

4.7.1 Historical Background

The original inhabitants of the Penrith area were the Darug people. First incorporated as a municipality on 12 May 1871, on 1 January 1949, the municipalities of Penrith, St Marys and Castlereagh and part of the Nepean Shire amalgamated to form a new Municipality of Penrith. Penrith was declared a City on 21 October 1959, and expanded westwards to include Emu Plains and Emu Heights, formerly part of the City of Blue Mountains, on 25 October 1963. As at the 2016 census the City of Penrith had an estimated population of 196,066.

4.7.2 Aerial Photograph Review

An aerial photograph search was conducted for the site and the local area. The 1970, 1986, 1994, 2002, 2006, 2009, 2014, and 2018 aerial photographs were viewed with the observations presented in Table 2 below. Photographs are presented in Appendix A for reference.

Table 2: Aerial Photography Observations

Year	Site Observations	Surrounding Area
1970	The site is a grass area, possibly used for farming of stock animals	A small dwelling is adjacent to the site to the north-west. Farmland surrounds the site
1986	A dwelling has been built in the centre of the site	No change from the previous photograph
1994	A swimming pool has been built next to the dwelling. A shed has been built to the north-east of the site	No change from the previous photograph
2002	The dwelling has been redeveloped. The poultry shed has been built to the north-west	A dwelling has been built in the lot north of the site
2006	A shed has been built west of the dwelling. An outhouse north of the dwelling has been built	A dwelling has been built in the lot east of the site
2009	No change from the previous photograph	No change from the previous photograph
2014	The shed has been demolished	An additional dwelling has been built to the north
2018	A hexagon shaped building has been built to the east	An additional dwelling

4.8 Site Walkover

Results of the site walkover inspection carried out on 7 September 2020 is presented below:

- A large single-story dwelling is in the centre of the site
- A double garage is located adjacent to the dwelling
- A small hexagon shaped structure is located to the east of the site
- A shed with hot water tank is located in the east of the site
- A covered shed is located adjacent to the dwelling
- A poultry shed is located to the north-west of the site

4.9 NSW OEH Records

The site or nearby surrounding areas have no notices under the Contaminated Land Management Act (1997) or the Environmentally Hazardous Chemicals Act (1985). No sites were identified in the List of NSW Contaminated Sites Notified to the EPA as of 15th June 2020 in the surrounding area.

4.10 Planning Certificate

Planning Certificate Under Section 10.7 (Certificate No: 20/04175) for the site was sourced from Penrith City Council on 16 September 2020. The certificate is presented in Appendix B. The Planning Certificate, which is applicable to Lot 4211 DP 1150762, indicates that there are no matters arising under Section 59(2) of the Contaminated Land Management Act 1997 (Act), as follows:

- The land is NOT significantly contaminated land (or part of the land) within the meaning of the Act at the date when the certificates were issued.
- The land is NOT the subject to a management order within the meaning of the Act at the date when the certificates were issued.
- The land is NOT the subject of an approval voluntary management proposal within the meaning of the Act at the date when the certificates were issued.
- The land is NOT the subject of an ongoing maintenance order within the meaning of the Act at the date when the certificates were issued.
- The land is NOT the subject of a site audit statement within the meaning of the Act at the date when the certificates were issued.

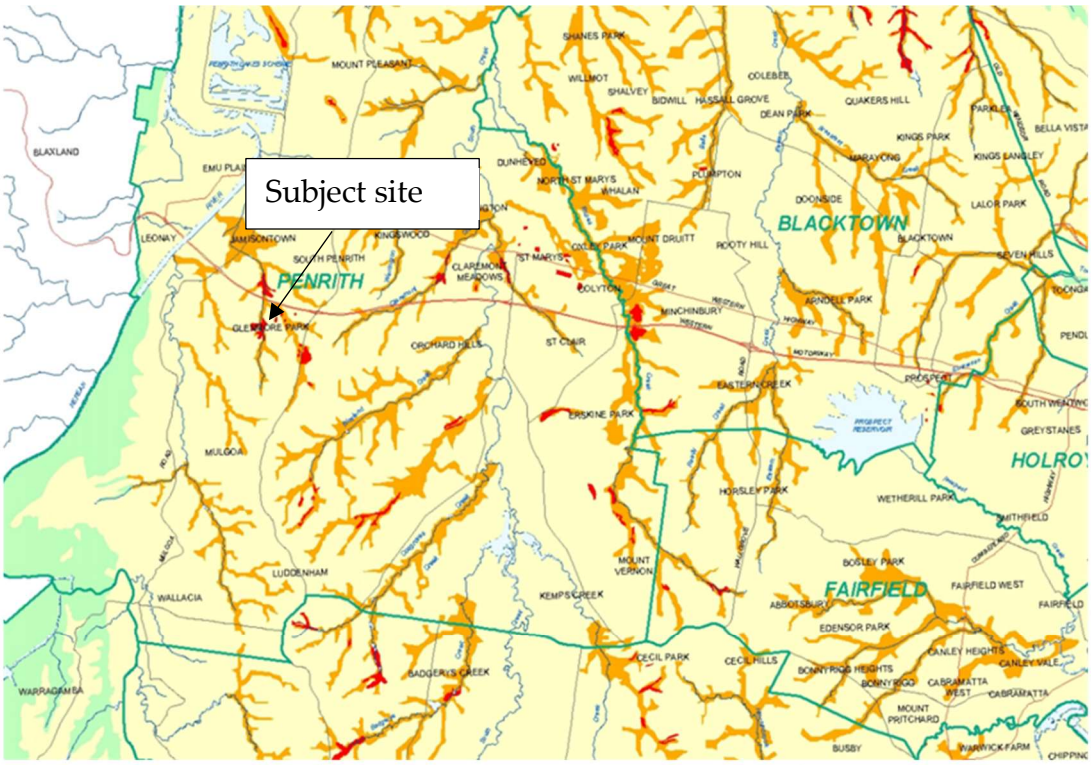
4.11 Salinity Mapping

The 1:100,000 Salinity Potential in Western Sydney Sheet indicates that the site is in located in an area of moderate to high salinity potential (see Figure 2)

As a result of the following observations/inspections at the site:

- ✓ Vegetation growth appeared healthy and uninhibited.
- ✓ No water marks or salt crystals were observed on the ground surface.

Figure 2. Salinity Potential in Western Sydney map (source: Department of Infrastructure, Planning and Natural Resources)



MAPPING CATEGORY	ASSOCIATED SOIL LANDSCAPES	LANDFORM - GEOLOGY
KNOWN SALINITY Areas where there is a known occurrence of saline soil, or where air photo interpretation and field observations have confirmed more than one of these: a - scalding b - salt efflorescence c - vegetation dieback d - salt tolerant plant species e - waterlogging A high relative wetness index occurs in these areas.	* Salinity outbreaks occur in Blacktown (bt), Luddenham (lu) and Richmond (ri) Soil Landscapes - common at breaks of slope, lower slopes and drainage lines. * Berkshire Park (bp) and Upper Castlereagh (up) Soil Landscapes have localised salinity due to the impermeable nature of the clay parent material. * South Creek (sc), Monkey Creek (mk), Freemans Reach (fr) and Theresa Park (tp) Soil Landscapes have common saline outbreaks due to high run-on and low local relief. * Soils in the above landscapes have high clay content in subsoils and are imperfectly to poorly drained.	* Break of slope, lower slope and drainage lines of Wianamatta Shales (Rwb,Rwa and Rwm). * Localised salinity also occurs at the geological boundary between Tertiary Gravels (Tl, Tr) and underlaying Wianamatta Shales (Rwb,Rwa/ Quaternary Alluvials (Qpd, Qpa, Qpl, Qal). * Localised salinity occurs in Quaternary Alluvium (Qal, Qpn. Qpd) which underlies many of the drainage systems and wetland margins.
HIGH SALINITY POTENTIAL Areas where soil, geology, topography and groundwater conditions predispose a site to salinity. These conditions are similar to areas of known salinity (see above). These areas are most common in lower slopes and drainage systems where water accumulation is high (ie. high relative wetness index).	* Soil Landscapes include Birrong (bi), Blacktown (bt) Berkshire Park (bp), Freemans Reach (fr), South Creek(sc0, Theresa Park (tp), Richmond (ri) and Luddenham (lu). Drainage systems and convergent slopes are areas of highest risk. * Soils in these landscapes have high clay content in the subsoils, low permeability and high run-on. * Soil profiles may display signs of high salt concentrations at depth (i.e. >0.5m).	* Salinity is most likely to occur in lower slopes, foot-slopes, floodplains and creek lines on Quaternary Sediments (Qal, Qpn, Qpd, Qpc, Qpp, Qha)/Wianamatta Shales (Rwb, Rwm, Rwa) where run-on is high, resulting in seasonally high water tables and soil saturation.
MODERATE SALINITY POTENTIAL Areas on Wianamatta Group Shales and Tertiary Alluvial Terraces. Scattered areas of scalding and indicator vegetation have been noted but no concentrations have been mapped. Saline areas may occur in this zone, which have not yet been identified or may occur if risk factors change adversely.	* Areas of Agnes Banks (ab), Berkshire Park (bp), Blacktown (bt), Luddenham (lu) and Lucas Heights (lh). * Steeper areas with moderate to high local relief and well drained subsoils such as Picton (pn), West Pennant Hills (wp) and Glenorie (gn) are at a lower risk of developing salinity. * Soils are moderate to well-drained due to their elevated position in the landscape.	* Hill-slopes and hill-crests on Wianamatta Shales (Rwb, Rwm, Rwa). * Raised abandoned alluvial terraces and drainage lines on Quaternary Alluvium (Qal, Qpn, Qpd, Qpc, Qpp) from Richmond to Camden and east to Rookwood. Localised areas of elevated, well-drained Tertiary Gravels (Ta, Tl, Tr).
VERY LOW SALINITY POTENTIAL Areas where salinity processes do not operate or are of minor significance. Soils are rapidly drained and underlaying strata (Hawkesbury/Narrabeen Sandstone) are highly permeable, resulting in continual flushing and removal of salts in the landscape. No salinity has been observed in these areas and is not expected to occur.	* Rapidly drained soil landscapes with shallow soils include Warragamba (wb) and Hawkesbury (ha). * Gymea (gy) and Faulconbridge (fb) Soil Landscapes consist of highly permeable sands with well-drained subsoils. * Soils are well to rapidly drained. * Soils have high sand content.	* Occurring on Hawkesbury and Narrabeen Sandstone (Rh, Rno). * Groundwater is relatively fresh in these areas due to the sandstone's elevated position in the landscape and highly permeable nature, resulting in continuous flushing of the system (removal of any accumulated salts).

5. POTENTIAL RECEPTORS AND SENSITIVE ENVIRONMENTS

A summary of the identified sensitive receptors of contamination potentially sourced from the site are as presented in Table 3. The residents and visitors/workers on site are identified as potential sensitive environmental receptors.

Table 3: Potential Receptors and Sensitive Environments

Receptors/Environments	Potential Pathway
Human Receptors: • Future site workers and visitors • Site labourers/workers • Residents of adjacent properties • Trespassers	• Direct skin contact • Ingestion of contaminated soil • Inhalation via airborne dust
Sensitive Environments: • Water dam to the east of the site • Unnamed creek located 200m south of the site • Site flora and fauna	• Migration via stormwater run-off or within groundwater • Migration into underlying soil

6. CONCLUSIONS/RECOMMENDATIONS

A preliminary site investigation (PSI) of 15-17 Garswood Road Glenmore Park was undertaken by Geotesta to investigate the likelihood of the presence of contamination on the site. The investigations include a review of site history and a site inspection. Based on the results of this PSI and the scope of works conducted the following conclusions can be made:

- The site has been occupied by the existing residential building from the 1980's. Therefore, it is estimated that the site has been in its current residential configurations for over 30 years. No significant changes were observed on the site during this period.
- Given that no evident sources of mobile contamination could be visually identified on site, it is considered that potential contaminants associated with past and present land uses are minimal;
- The site condition and the past and current site activities described in this PSI indicate a low potential for significant or gross contamination of the soil and groundwater; and
- Based on the above findings the site subject to this PSI is suitable for the proposed childcare development.
- The demolition of the existing building and sheds must be carried out by a qualified and licenced contractor and site clearance certificate should be provided before any construction begins.
- In accordance with the Department of Urban Affairs and Planning and Environment Protection Authority Managing Land Contamination: Planning Guidelines, State Environmental Planning Policy No. 55—Remediation of Land 1998, no further investigations are required;

These conclusions are made within the limitations of the work, which has been undertaken. A statement of these limitations is attached to this report.

Should you have further queries about this report, do not hesitate to contact the undersigned.

For and on behalf of

GEOTESTA PTY LTD

DOCUMENT CONTROL

Date	Version	Report Prepared By:	Report Reviewed and issued by:
10 August 2020	NE702	**Alex Gibson** BSc (Hons) MSc MIEAust Environmental Engineer	**Dr. Mohammad Hossein Bazyar** BEng MEng Ph.D MIEAust CPEng NER Senior Consultant

7. REFERENCES

Geological Map of Penrith, Geological Series Sheet 9030, Scale 1:100,000 Edition 1, 1991, Department of Minerals and Energy.

Bureau of Meteorology (2017), www.bom.gov.au.

EPA NSW, http://www.epa.nsw.gov.au/prclmapp/aboutregister.aspx.

NEPC (1999, amended 2013) National Environmental Protection (Assessment of Site Contamination) Measure (ASC NEPM, 1999 amended 2013).

NSW Department of Environment & Heritage (eSPADE, NSW soil and land information), www.environment.nsw.gov.au.

NSW EPA (2014), Waste Classification Guidelines, Part 1: Classifying waste.

NSW EPA (2011) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.

Standards Australia (2005) AS4482.1 2nd Edition: Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds.

NSW EPA (1995), Sampling Design Guidelines.

NSW DEC (2006), 2nd Ed. Contaminated Sites: Guidelines for the NSW Site Auditor Scheme.

WA DoH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-contaminated Sites in Western Australia.

State Environmental Planning Policy No 55 (1979), Environmental Planning and Assessment Act 1979.

Standards Australia, 2005. Guide to the sampling and Investigation of Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds. AS 4482.1

Information about this report

The report contains the results of a contamination investigation conducted for a specific purpose and client. The results should not be used by other parties, or for other purposes, as they may contain neither adequate nor appropriate information. In particular, the investigation does not cover contamination issues unless specifically required to do so by the client.

Test Hole Logging

The information on the test hole logs (boreholes, test pits, exposures etc.) is based on a visual and tactile assessment, except at the discrete locations where test information is available (field and/or laboratory results). The test hole logs include both factual data and inferred information.

Groundwater

Unless otherwise indicated, the water levels presented on the test hole logs are the levels of free water or seepage in the test hole recorded at the given time of measuring. The actual groundwater level may differ from this recorded level depending on material permeability (i.e. depending on response time of the measuring instrument). Further, variations of this level could occur with time due to such effects as seasonal, environmental and tidal fluctuations or construction activities. Confirmation of groundwater levels, phreatic surfaces or piezometric pressures can only be made by appropriate instrumentation techniques and monitoring programmes.

Interpretation of Results

The discussion or recommendations contained within this report normally are based on a site evaluation from discrete test hole data. Generalized, idealized or inferred subsurface conditions (including any geotechnical cross-sections) have been assumed or prepared by interpolation and/or extrapolation of these data. As such these conditions are an interpretation and must be considered as a guide only.

Change in Conditions

Local variations or anomalies in the generalized ground conditions do occur in the natural environment, particularly between discrete test hole locations. Additionally, certain design or construction procedures may have been assumed in assessing the soil-structure interaction behaviour of the site. Furthermore, conditions may change at the site from those encountered at the time of the geotechnical investigation through construction activities and constantly changing natural forces.

Any change in design, in construction methods, or in ground conditions as noted during construction, from those assumed or reported should be referred to GEOTESTA for appropriate assessment and comment.

Environmental Verification

Verification of the environmental/contamination assumptions and/or model is an integral part of the design process-investigation, construction verification, and performance monitoring. Variability is a feature of the natural environment and, in many instances,

verification of soil or rock quality, or foundation levels, is required. There may be a requirement to extend foundation depths, to modify a foundation system or to conduct monitoring as a result of this natural variability. Allowance for verification by geotechnical personnel accordingly should be recognized and programmed during construction.

Reproduction of Reports

Where it is desired to reproduce, the information contained in our contamination report, or other technical information, for the inclusion in contract documents or engineering specification of the subject development, such reproductions should include at least all of the relevant test hole and test data, together with the appropriate standard description sheets and remarks made in the written report of a factual or descriptive nature. Reports are the subject of copyright and shall not be reproduced either totally or in part without the express permission of Geotesta.

Appendix A
Aerial Photographs

Aerial Photo 1970

Aerial Photo 1986

Aerial Photo 1994

Aerial Photo 2002

Aerial Photo 2006

Aerial Photo 2009

Aerial Photo 2014

Aerial Photo 2018

Appendix B

Planning Certificate Under Section 10.7

PENRITH CITY COUNCIL

Civic Centre
601 High Street, Penrith

PO Box 60 Penrith NSW 2751
Telephone: 02 4732 7777
Facsimile: 02 4732 7958
Email: pencit@penrithcity.nsw.gov.au

PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Property No: 790766
Your Reference: NE723
Contact No.

Issue Date: 16 September 2020
Certificate No: 20/04175

Issued to: Geotesta Pty Ltd
7 Business Park Drive
NOTTING HILL VIC 3168

PRECINCT 2010

DESCRIPTION OF LAND

County: **Parish: MULGOA**

Location: 15-17 Garswood Road GLENMORE PARK NSW 2745
Land Description: Lot 4211 DP 1150762

- PART 1 PRESCRIBED MATTERS –

In accordance with the provisions of Section 10.7 of the Act the following information is furnished in respect of the abovementioned land:

1 *NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs*

1(1) The name of each environmental planning instrument that applies to the carrying out of development on the land:

Penrith Local Environmental Plan 2010, published 22nd September 2010, as amended, applies to the land.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, as amended, applies to the local government area of Penrith (except land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies).

The following State environmental planning policies apply to the land (subject to the exclusions noted below):

State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916.)
State Environmental Planning Policy No.21 - Caravan Parks.
State Environmental Planning Policy No.33 - Hazardous and Offensive Development.
State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which State Environmental Planning Policy (Penrith Lakes Scheme) 1989 applies.
State Environmental Planning Policy No.55 - Remediation of Land.
State Environmental Planning Policy No.64 - Advertising and Signage.

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PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

State Environmental Planning Policy No.65 - Design Quality of Residential Apartment Development.
State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4, 4A and 4B of the policy.)
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.
State Environmental Planning Policy (State Significant Precincts) 2005.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.
State Environmental Planning Policy (Infrastructure) 2007.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
State Environmental Planning Policy (Affordable Rental Housing) 2009.
State Environmental Planning Policy (State and Regional Development) 2011.
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017.
State Environmental Planning Policy (Education Establishments and Child Care Centre Facilities) 2017.
State Environmental Planning Policy (Primary Production and Rural Development) 2019.

1(2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act:

A Planning Proposal seeking an amendment to Penrith Local Environmental Plan 2010 applies to this land.

The Planning Proposal (Penrith Local Environmental Plan 2010 (Review Phase 1)) seeks to align the LEP with the planning priorities set in the Greater Sydney Commission's 'Greater Sydney Region Plan - A Metropolis of Three Cities' and 'Western City District Plan'. It also seeks to respond to immediate outcomes from recent draft planning strategies as well as address minor housekeeping amendments (See www.penrithcity.nsw.gov.au for details)

Draft State Environmental Planning Policy (Environment) applies to the land.

Draft State Environmental Planning Policy (Remediation of Land) applies to the land.

Draft State Environmental Planning Policy (Housing Diversity) 2020 applies to the land.

Draft State Environmental Planning Policy (Cumberland Plain Conservation) applies to the land.

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2014 applies to the land.

2 *ZONING AND LAND USE UNDER RELEVANT LEPs*

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

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Environmental Planning and Assessment Act, 1979

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. Any zone(s) applying to the land is/are listed below and/or in annexures.

(Note: If no zoning appears in this section see section 1(1) for zoning and land use details (under the Sydney Regional Environmental Plan or State Environmental Planning Policy that zones this property).)

Zone E4 Environmental Living
(Penrith Local Environmental Plan 2010)

1 Objectives of zone

- To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values.
- To ensure that residential development does not have an adverse effect on those values.
- To minimise conflict between land uses within the zone and land uses within adjoining zones.
- To ensure land uses are compatible with the available infrastructure, services and facilities and with the environmental capabilities of the land.
- To preserve and improve natural resources through appropriate land management practices.

2 Permitted without consent

Home occupations

3 Permitted with consent

Bed and breakfast accommodation; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Environmental facilities; Environmental protection works; Flood mitigation works; Home-based child care; Home businesses; Home industries; Information and education facilities; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; Respite day care centres; Roads; Schools; Secondary dwellings; Tank-based aquaculture

4 Prohibited

Industries; Service stations; Warehouse or distribution centres; Any other development not specified in item 2 or 3

Residential development and subdivision prohibited in certain rural, residential and environment protection zones

Under the terms of Clause 4.2A of Penrith Local Environmental Plan 2010 (PLEP 2010) on land within Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU4 Primary Production Small Lots, Zone RU5 Village, Zone R5 Large Lot Residential, Zone E3 Environmental Management or Zone E4 Environmental Living development consent must not be granted for the erection of a dwelling house on a lot resulting from the closure of part or all of a road, whether before or after the commencement of this Plan. This requirement does not apply to a lot created by the consolidation of a lot resulting from a road closure with an adjoining lot that did not result from a road closure.

Additional information relating to Penrith Local Environmental Plan 2010

Note 1: Under the terms of Clause 2.4 of Penrith Local Environmental Plan 2010 development may be carried out on unzoned land only with development consent.

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Note 2: Under the terms of Clause 2.6 of Penrith Local Environmental Plan 2010 land may be subdivided but only with development consent, except for the exclusions detailed in the clause.

Note 3: Under the terms of Clause 2.7 of Penrith Local Environmental Plan 2010 the demolition of a building or work may be carried out only with development consent.

Note 4: A temporary use may be permitted with development consent subject to the requirements of Clause 2.8 of Penrith Local Environmental Plan 2010.

Note 5: Under the terms of Clause 4.1A of Penrith Local Environmental Plan 2010, despite any other provision of this plan, development consent must not be granted for dual occupancy on an internal lot in Zone R2 Low Density Residential.

Note 6: Under the terms of Clause 5.1 of Penrith Local Environmental Plan 2010 development on land acquired by an authority of the State under the owner-initiated acquisition provisions may, before it is used for the purpose for which it is reserved, be carried out, with development consent, for any purpose.

Note 7: Under the terms of Clause 5.3 of Penrith Local Environmental Plan 2010 development consent may be granted to development of certain land for any purpose that may be carried out in an adjoining zone.

Note 8: Clause 5.10 of Penrith Local Environmental Plan 2010 details when development consent is required/not required in relation to heritage conservation.

Note 9: Under the terms of Clause 5.11 of Penrith Local Environmental Plan 2010 bush fire hazard reduction work authorised by the *Rural Fires Act 1997* may be carried out on any land without development consent.

Note 10: Under the terms of Clause 7.1 of Penrith Local Environmental Plan 2010 (PLEP 2010) development consent is required for earthworks unless the work is exempt development under PLEP 2010 or another applicable environmental planning instrument, or the work is ancillary to other development for which development consent has been given.

Note 11: Sex services premises and restricted premises may only be permitted subject to the requirements of Clause 7.23 of Penrith Local Environmental Plan 2010.

2(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

(Information is provided in this section only if any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed.)

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

2(g) whether the land is in a conservation area (however described):

(Information is provided in this section only if the land is in a conservation area (however described).)

2(h) whether an item of environmental heritage (however described) is situated on the land:

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

2A ZONING AND LAND USE UNDER STATE ENVIRONMENTAL PLANNING POLICY (SYDNEY REGION GROWTH CENTRES) 2006

(Information is provided in this section only if the land is within any zone under State Environmental Planning Policy (Sydney Region Growth Centres) 2006.)

3 COMPLYING DEVELOPMENT

HOUSING CODE

(The Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

RURAL HOUSING CODE

(The Rural Housing Code only applies if the land is within Zones RU1, RU2, RU3, RU4, RU6 or R5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Rural Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones.

LOW RISE HOUSING DIVERSITY CODE

(The Low Rise Housing Diversity Code only applies if the land is within Zones R1, R2, R3 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Low Rise Housing Diversity Code **may** be carried out on the land if the land is within one of the abovementioned zones.

GREENFIELD HOUSING CODE

(The Greenfield Housing Code only applies if the land is within Zones R1, R2, R3, R4 or RU5 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning

instrument, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.)

Complying development under the Greenfield Housing Code **may** be carried out on the land if the land is within one of the abovementioned zones, and if the land is identified as a Greenfield Housing Code Area by the Greenfield Housing Code Area Map.

HOUSING ALTERATIONS CODE

Complying development under the Housing Alterations Code **may** be carried out on the land.

GENERAL DEVELOPMENT CODE

Complying development under the General Development Code **may** be carried out on the land.

COMMERCIAL AND INDUSTRIAL ALTERATIONS CODE

Complying development under the Commercial and Industrial Alterations Code **may** be carried out on the land.

SUBDIVISIONS CODE

Complying development under the Subdivisions Code **may** be carried out on the land.

DEMOLITION CODE

Complying development under the Demolition Code **may** be carried out on the land.

COMMERCIAL AND INDUSTRIAL (NEW BUILDINGS AND ADDITIONS) CODE

(The Commercial and Industrial (New Buildings and Additions) Code only applies if the land is within Zones B1, B2, B3, B4, B5, B6, B7, B8, IN1, IN2, IN3, IN4 or SP3 under Penrith Local Environmental Plan 2010 or an equivalent zone in a non standard template planning instrument.)

Complying development under the Commercial and Industrial (New Buildings and Alterations) Code **may** be carried out on the land if the land is within one of the abovementioned zones.

FIRE SAFETY CODE

Complying development under the Fire Safety Code **may** be carried out on the land.

(NOTE: (1) Council has relied on Planning and Infrastructure Circulars and Fact Sheets in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) Penrith Local Environmental Plan 2010 (if it applies to the land) contains additional complying development not specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

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4 COASTAL PROTECTION

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 MINE SUBSIDENCE

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 ROAD WIDENING AND ROAD REALIGNMENT

The land is not affected by any road widening or road realignment under:
(a) Division 2 of Part 3 of the Roads Act 1993, or
(b) an environmental planning instrument, or
(c) a resolution of council.

7 COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS

(a) Council Policies
The land is affected by the Asbestos Policy adopted by Council.
The land is not affected by any other policy adopted by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

(b) Other Public Authority Policies
The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.
The land is not affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) if such uses are permissible on the land. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

(2) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for any other purpose not referred to in (1) above. Council reserves the

right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

8 LAND RESERVED FOR ACQUISITION

No environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

9 CONTRIBUTIONS PLANS

The Cultural Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith.

The Penrith City Local Open Space Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, excluding industrial areas and the release areas identified in Appendix B of the Plan (Penrith Lakes, Cranebrook, Sydney Regional Environmental Plan No. 30 - St Marys, Waterside, Thornton, the WELL Precinct, Glenmore Park and Erskine Park).

The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

Penrith Citywide Section 7.12 Development Contributions Plan for non-residential development applies to all land in the City of Penrith LGA, with the exception of land within the Lambridge Estate, WELL Precinct and Penrith City Centre that are currently subject to other development contributions plans for non-residential development.

9A BIODIVERSITY CERTIFIED LAND

(Information is provided in this section only if the land is biodiversity certified land under Part 8 of the *Biodiversity Conservation Act 2016*.)

10 BIODIVERSITY STEWARDSHIP SITES

(Information is provided in this section only if Council has been notified by the Chief Executive of the Office of Environment and Heritage that the land is land to which a biobanking stewardship agreement under Part 5 of the *Biodiversity Conservation Act 2016* relates.)

10A NATIVE VEGETATION CLEARING SET ASIDES

(Information is provided in this section only if Council has been notified of the existence of a set aside area by Local Land Services or it is registered in the public register under which section 60ZC of the *Local Land Services Act 2013* relates).

11 BUSH FIRE PRONE LAND

The land is not identified as bush fire prone land according to Council records.

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12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan approved under the *Native Vegetation Act 2003* applies and continues in force.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that an order has been made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is a direction by the Minister in force under section 75P(2)(c1) of the Act (repealed on 1st October 2011) that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect.)

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:
(a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or
(b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:
(a) there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land; and/or
(b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

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18 PAPER SUBDIVISION INFORMATION

(Information is provided in this section only if a development plan adopted by a relevant authority applies to the land or is proposed to be subject to a consent ballot, or a subdivision order applies to the land.)

19 SITE VERIFICATION CERTIFICATES

(Information is provided in this section only if there is a current site verification certificate, of which council is aware, in respect of the land.)

NOTE: The following matters are prescribed by section 59(2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate

(a) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 - a copy of which has been provided to Council.)

Note: Section 10.7(5) information for this property may contain additional information regarding contamination issues.

20 LOOSE FILL ASBESTOS INSULATION

(Information is provided in this section only if there is a residential premises listed on the register of residential premises that contain or have contained loose-fill asbestos insulation (as required by Division 1A of Part 8 of the home Building Act 1989))

21 AFFECTED BUILDING NOTICES AND BUILDING PRODUCT RECTIFICATION ORDERS

(Information is provided in this section only if Council is aware of any "affected building notice" and/or a "building product rectification order" in force for the land).

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PLANNING CERTIFICATE UNDER SECTION 10.7

Environmental Planning and Assessment Act, 1979

Note: The Environmental Planning and Assessment Amendment Act 2017 commenced operation on the 1 March 2018. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by the relevant government departments.

Note: This is a certificate under section 10.7 of the Environmental Planning and Assessment Act,1979 and is only provided in accordance with that section of the Act.
Further information relating to the subject property can be provided under section 10.7(5) of the Act. If such further information is required Council indicates that a full certificate under sections 10.7(2) **and** 10.7(5) should be applied for.
Contact Council for details as to obtaining the additional information.

Warwick Winn
General Manager

per

Please note:
Certain amendments to the Environmental Planning and Assessment Act 1979 No 203 (Act) commenced on 1 March 2018.
The Environmental Planning and Assessment (Amendment) Act 2017 No 60 makes structural changes to the Act and, as a consequence, the Act has been renumbered in a decimal format. For example, Section 149 Planning Certificates have become Section 10.7 Certificates. Some of the information in this certificate may refer to the previous version of the Act.
Council is committed to updating all relevant documents in a timely manner. This will include planning instruments, applications, approvals, orders, certificates, forms and other associated documents in both printed and electronic versions. Council is required to implement these changes and regrets any inconvenience caused to the local business, industry and the community.

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MUSIC-*link* Report

Project Details		Company Details	
Project:	15-17 Garswood Rd, Glenmore Park	**Company:**	Rammy Associates Pty Ltd
Report Export Date:	16/09/2020	**Contact:**	Rammy
Catchment Name:	15013 - 15-17 Garswood Rd	**Address:**	PO Box 280 Pendle Hill NSW 2145
Catchment Area:	0.908ha	**Phone:**	+61 419 989 185
Impervious Area*:	52.20%	**Email:**	rammy.ramb@gmail.com
Rainfall Station:	67113 PENRITH		
Modelling Time-step:	6 Minutes		
Modelling Period:	1/01/1999 - 31/12/2008 11:54:00 PM		
Mean Annual Rainfall:	691mm		
Evapotranspiration:	1158mm		
MUSIC Version:	6.3.0		
MUSIC-link data Version:	6.33		
Study Area:	Penrith		
Scenario:	Penrith Development		

* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effectiveness

Node: Receiving Node	Reduction
Flow	9.1%
TSS	85.1%
TP	74.1%
TN	52.3%
GP	95.8%

Treatment Nodes

Node Type	Number
Sedimentation Basin Node	1
Rain Water Tank Node	1
Buffer Node	2
Swale Node	1
GPT Node	2
Generic Node	1

Source Nodes

Node Type	Number
Urban Source Node	10

Comments

- The 'SF Chamber' node has been modified to represent the below ground filtration chamber. Default 'K' values have been manually adjusted to 1 in order to eliminate any performance from the actual tank, which would already be accounted for in the Filter Generic Node Target Elements. Not doing this would represent a duplication of the chamber attenuation effect. (For any questions, please Contact Ocean Protect on 1300 354 722).

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Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
GPT	1 x OceanGuard200um	Hi-flow bypass rate (cum/sec)	None	99	0.02
GPT	2 x OceanGuard200um	Hi-flow bypass rate (cum/sec)	None	99	0.04
Rain	30kL	% Reuse Demand Met	80	None	81.04
Receiving	Receiving Node	% Load Reduction	None	None	9.1
Receiving	Receiving Node	GP % Load Reduction	90	None	95.8
Receiving	Receiving Node	TN % Load Reduction	45	None	52.3
Receiving	Receiving Node	TP % Load Reduction	60	None	74.1
Receiving	Receiving Node	TSS % Load Reduction	85	None	85.1
Sedimentation	SF Chamber 20m²	High Flow Bypass Out (ML/yr)	None	None	0
Swale	Swale Approx. 50m	Bed slope	0.01	0.05	0.01
Urban	Driveway - 170m² (100% Imp.)	Area Impervious (ha)	None	None	0.017
Urban	Driveway - 170m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Driveway - 170m² (100% Imp.)	Total Area (ha)	None	None	0.017
Urban	Driveway - 460m² (100% Imp.)	Area Impervious (ha)	None	None	0.046
Urban	Driveway - 460m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Driveway - 460m² (100% Imp.)	Total Area (ha)	None	None	0.046
Urban	Driveway Carpark - 830m² (100% Imp.)	Area Impervious (ha)	None	None	0.083
Urban	Driveway Carpark - 830m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Driveway Carpark - 830m² (100% Imp.)	Total Area (ha)	None	None	0.083
Urban	Footpath - 30m² (100% Imp.)	Area Impervious (ha)	None	None	0.003
Urban	Footpath - 30m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Footpath - 30m² (100% Imp.)	Total Area (ha)	None	None	0.003
Urban	Landscape - 1010m² (100% Perv.)	Area Impervious (ha)	None	None	0
Urban	Landscape - 1010m² (100% Perv.)	Area Pervious (ha)	None	None	0.101
Urban	Landscape - 1010m² (100% Perv.)	Total Area (ha)	None	None	0.101
Urban	Landscape - 3330m² (100% Perv.)	Area Impervious (ha)	None	None	0
Urban	Landscape - 3330m² (100% Perv.)	Area Pervious (ha)	None	None	0.333
Urban	Landscape - 3330m² (100% Perv.)	Total Area (ha)	None	None	0.333
Urban	Paved - 340m² (100% Imp.)	Area Impervious (ha)	None	None	0.034
Urban	Paved - 340m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Paved - 340m² (100% Imp.)	Total Area (ha)	None	None	0.034
Urban	Play area - 1410m² (100% Imp.)	Area Impervious (ha)	None	None	0.141
Urban	Play area - 1410m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Play area - 1410m² (100% Imp.)	Total Area (ha)	None	None	0.141
Urban	Roof - 60m² (100% Imp.)	Area Impervious (ha)	None	None	0.006
Urban	Roof - 60m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Roof - 60m² (100% Imp.)	Total Area (ha)	None	None	0.006
Urban	Roof to RWT - 1440m² (100% Imp.)	Area Impervious (ha)	None	None	0.144
Urban	Roof to RWT - 1440m² (100% Imp.)	Area Pervious (ha)	None	None	0
Urban	Roof to RWT - 1440m² (100% Imp.)	Total Area (ha)	None	None	0.144

Only certain parameters are reported when they pass validation

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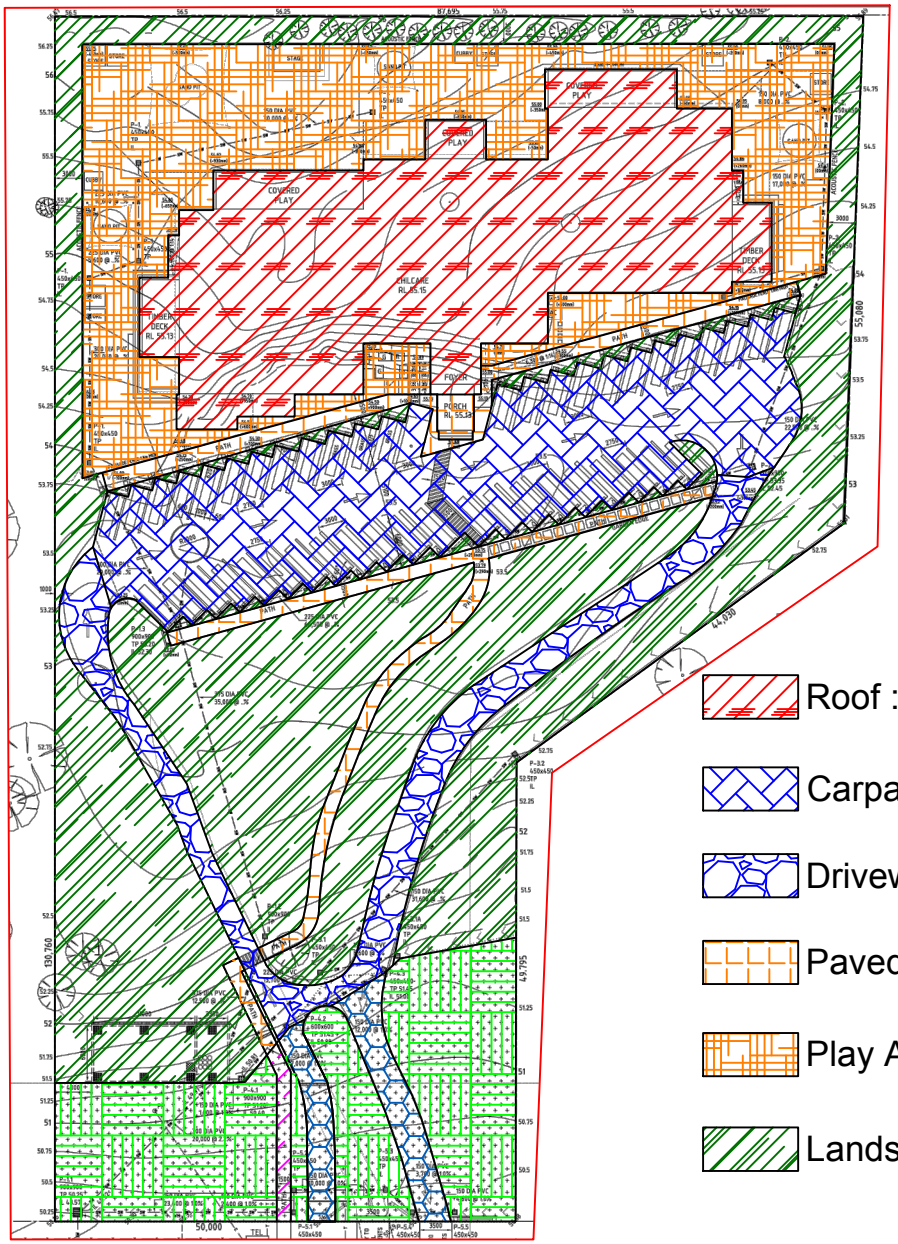
Failing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Sedimentation	SF Chamber 20m	Notional Detention Time (hrs)	8	12	0.338
Sedimentation	SF Chamber 20m	Total Nitrogen - k (m/yr)	500	500	1
Sedimentation	SF Chamber 20m	Total Phosphorus - k (m/yr)	6000	6000	1
Sedimentation	SF Chamber 20m	Total Suspended Solids - k (m/yr)	8000	8000	1

Only certain parameters are reported when they pass validation

MUSIC Model Site Area Breakup



Roof : 1500m²

Carpark: 830m²

Driveway: 460m²

Paved: 340m²

Play Area: 1410m²

Landscape: 3330m²

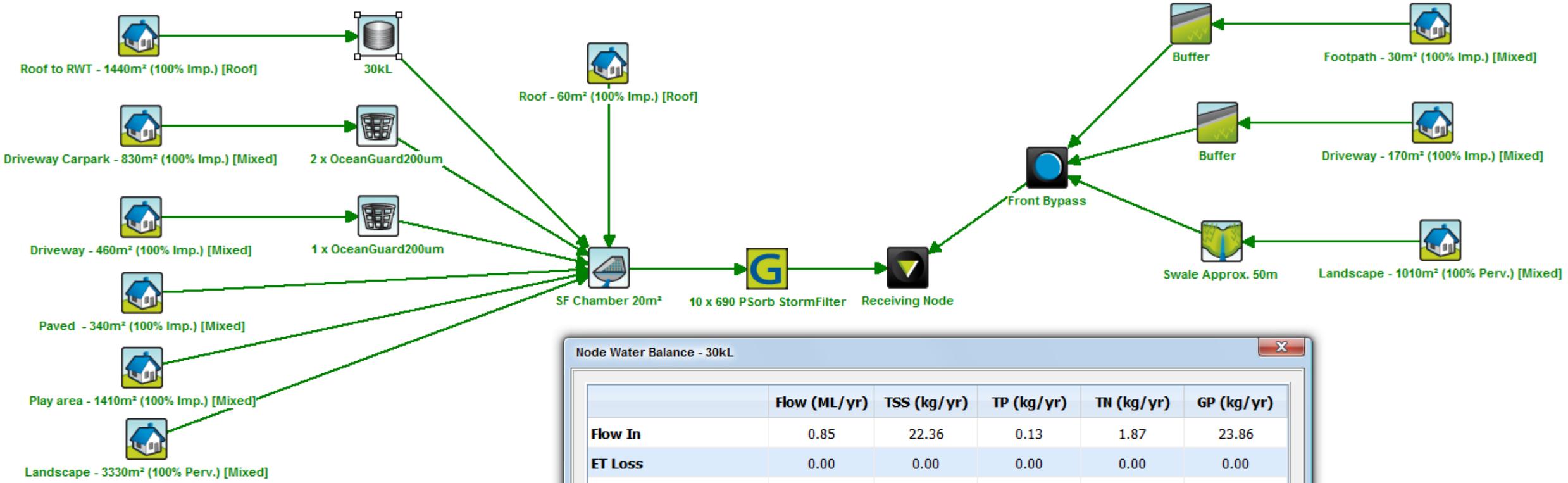
Bypass

Footpath: 30m²

Driveway: 170m²

Landscape: 1010m²

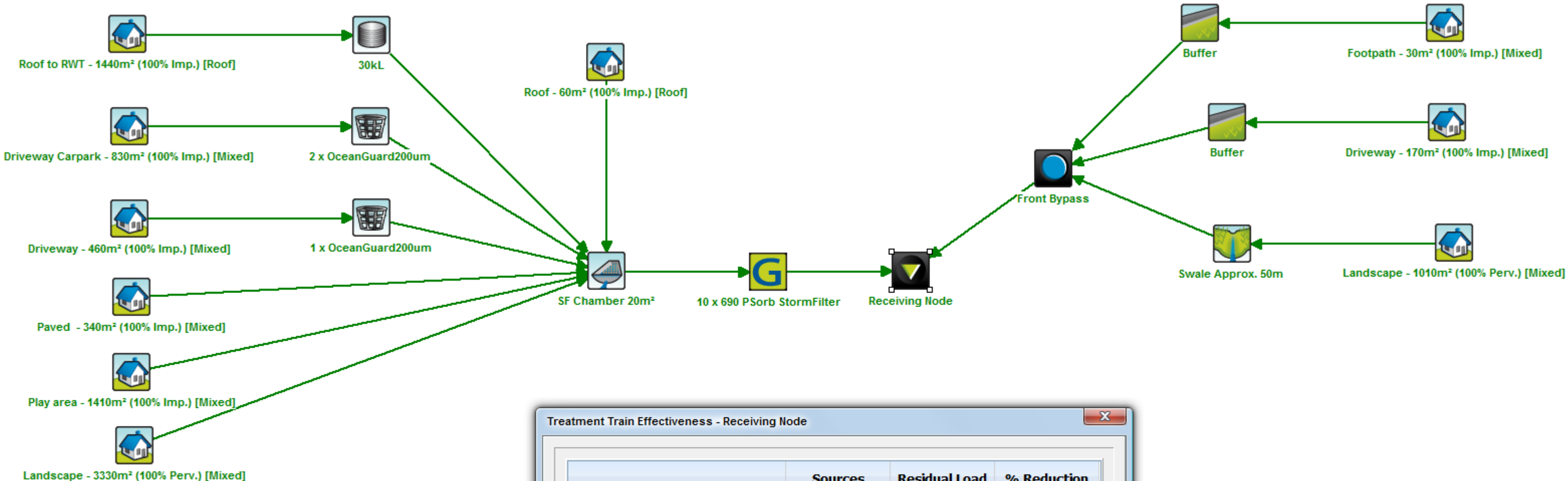
15013 - 15-17 Garswood Rd, Glenmore Park (Rev4 - Site Area Breakup)



Node Water Balance - 30kL

	Flow (ML/yr)	TSS (kg/yr)	TP (kg/yr)	TN (kg/yr)	GP (kg/yr)
Flow In	0.85	22.36	0.13	1.87	23.86
ET Loss	0.00	0.00	0.00	0.00	0.00
Infiltration Loss	0.00	0.00	0.00	0.00	0.00
Low Flow Bypass Out	0.00	0.00	0.00	0.00	0.00
High Flow Bypass Out	0.00	0.00	0.00	0.00	0.00
Pipe Out	0.56	11.15	0.08	1.16	0.00
Weir Out	0.00	0.01	0.00	0.00	0.00
Transfer Function Out	0.00	0.00	0.00	0.00	0.00
Reuse Supplied	0.30	3.86	0.04	0.52	0.00
Reuse Requested	0.36	0.00	0.00	0.00	0.00
% Reuse Demand Met	81.04	0.00	0.00	0.00	0.00
% Load Reduction	34.50	50.09	38.60	38.00	100.00

Decimal Places 2



Treatment Train Effectiveness - Receiving Node

	Sources	Residual Load	% Reduction
Flow (ML/yr)	3.23	2.93	9.1
Total Suspended Solids (kg/yr)	580	86.5	85.1
Total Phosphorus (kg/yr)	1.06	0.276	74.1
Total Nitrogen (kg/yr)	7.17	3.42	52.3
Gross Pollutants (kg/yr)	78.5	3.31	95.8

CARPARK AND DRIVEWAY CERTIFICATION OF A PROPOSED CHILDCARE CENTRE

15-17 Garswood Road in Glenmore Park

Prepared for: Rammy Associates Pty Ltd

N1206230A (version 1c)

August 2020

Motion Traffic Engineers Pty Ltd
Telephone:
940 33588
sydney@motiontraffic.com.au

ACN 600201583

1. INTRODUCTION

Motion Traffic Engineering was commissioned by Rammy Associates Pty Ltdto prepare a car park certification of a proposed childcare centre at 15-17 Garswood Road in Glenmore Park.

Car parking is provided on the ground level with vehicle access and egress via separate driveways leading to and from Garswood Road.

Reference is made to AS2890.1 (2004), AS2890.6 (2009) and Council's Development Control Plan for compliance.

2. DRIVEWAY

The details of the proposed inbound and outbound driveways from Garswood Road into the ground level from the perspective of the inbound and outbound movements respectively for description purposes are as follows:

- The driveways are 3 metres wide at the property line
- The gradient along the centreline of the driveways are below five percent

3. CAR SPACES

The details of the car parking area are as follows:

- The car parking aisle is 5.1 metres wide
- The general 60-degree car spaces have a base width of 2.75 metres and internal width of 2.4 metres and a length controlled by wheelstops of 6.9 metres. The car space length is 5.4 metres.
- The visitor 60-degree car spaces have a base width of 3.0 metres and internal width of 2.6 metres and a length controlled by wheelstops of 6.9 metres. The car space length is 5.4 metres.
- The 60-degree disabled car space has a space length of 5.4 metres and internal width of 2.6 metres.
    - A shared zone with the same dimensions as the disabled car space has been provided
    - A bollard within the shared zone has been provided

4. SWEPT PATHS

A swept turning path analysis is performed using a B85 car with 4.9 metres in length, as set in the Australian Standards to confirm that vehicle movements are adequate.

The following Swept Paths have been performed:

- B85 car forward inbound and reverse outbound for staff car spaces 14 and 15
- B85 car forward inbound and reverse outbound for the disabled car space

All swept paths show adequate manoeuvrability.

The swept paths are provided in the Appendix A of this report.

5. SIGHT DISTANCE

The car driver's vehicle sight distance requirement to enter the external road is stated in Figure 3.2 of AS2890.1.

The sight distance varies according to the speed of the external road. Garswood Road has a sign-posted speed limit of 50 km/hr.

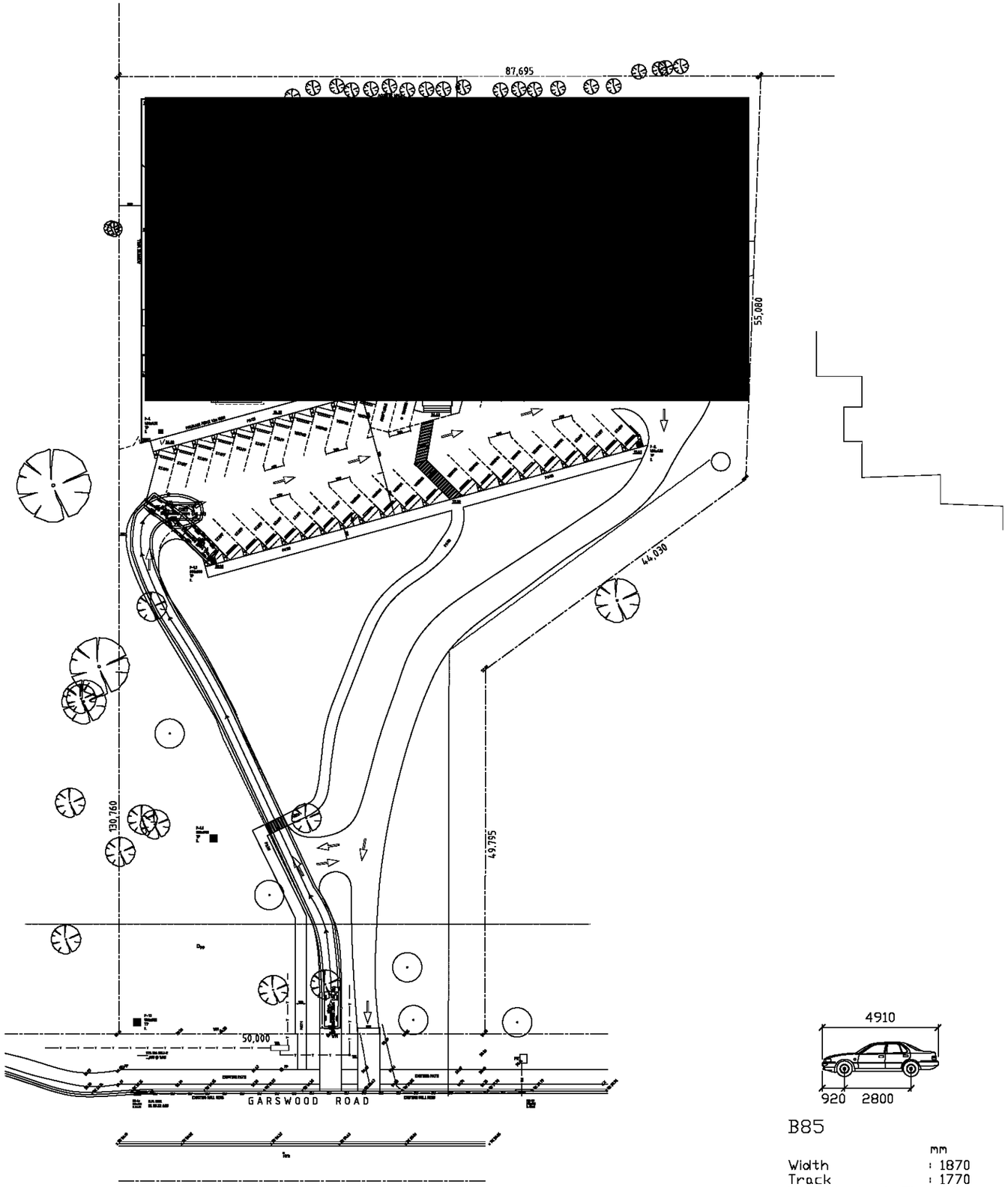
The minimum vehicle sight distance required is 45 metres. Site measurements showed that the minimum sight distance looking left and right is met.

The pedestrian sight distance as set out in Figure 3.3 of AS2890.1 is met as well.

6. CONCLUSIONS AND RECOMMENDATIONS

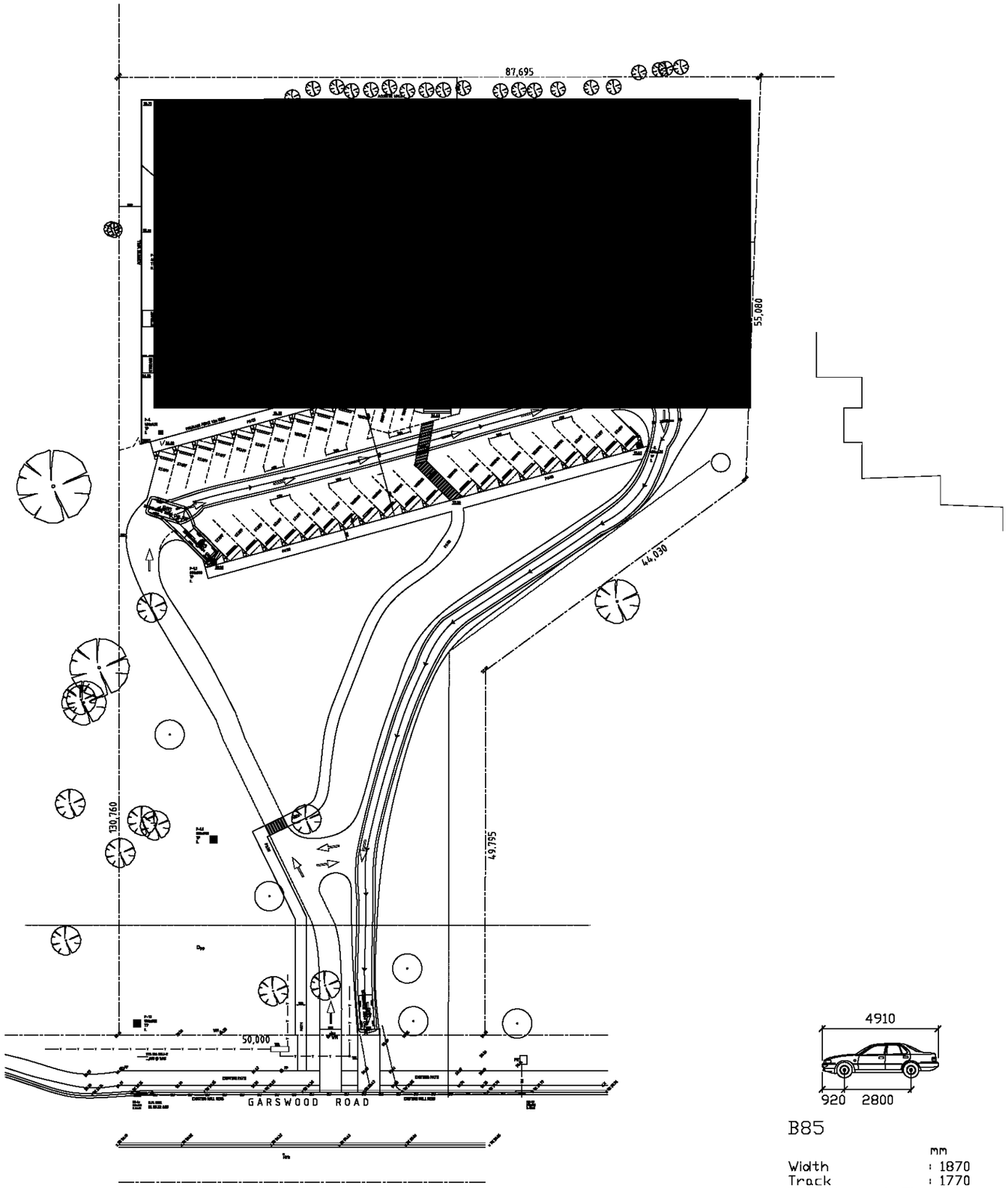
The car parking area and driveway is compliant with Australian Standards and Council's DCP.

APPENDIX A
Swept Paths



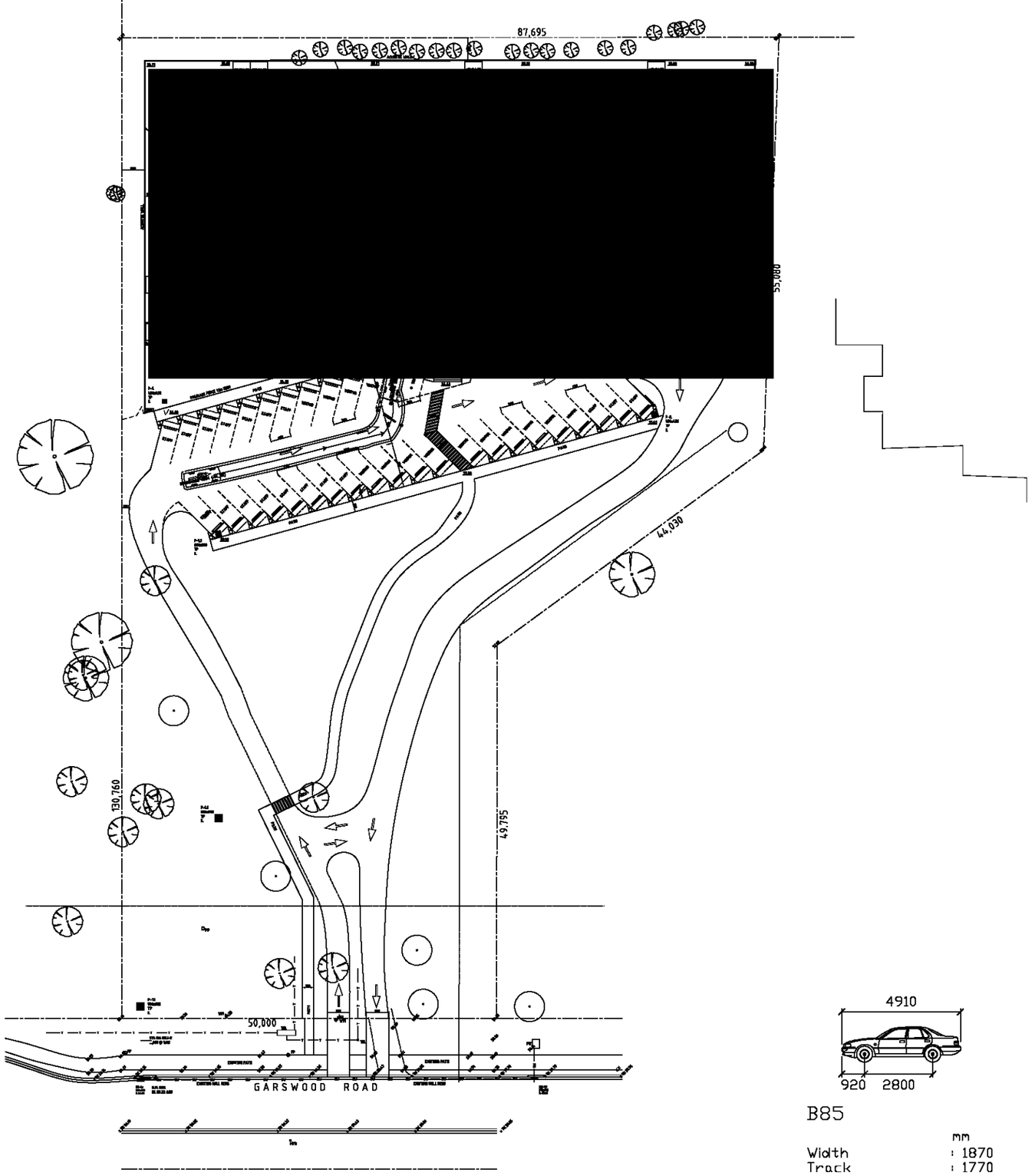
B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



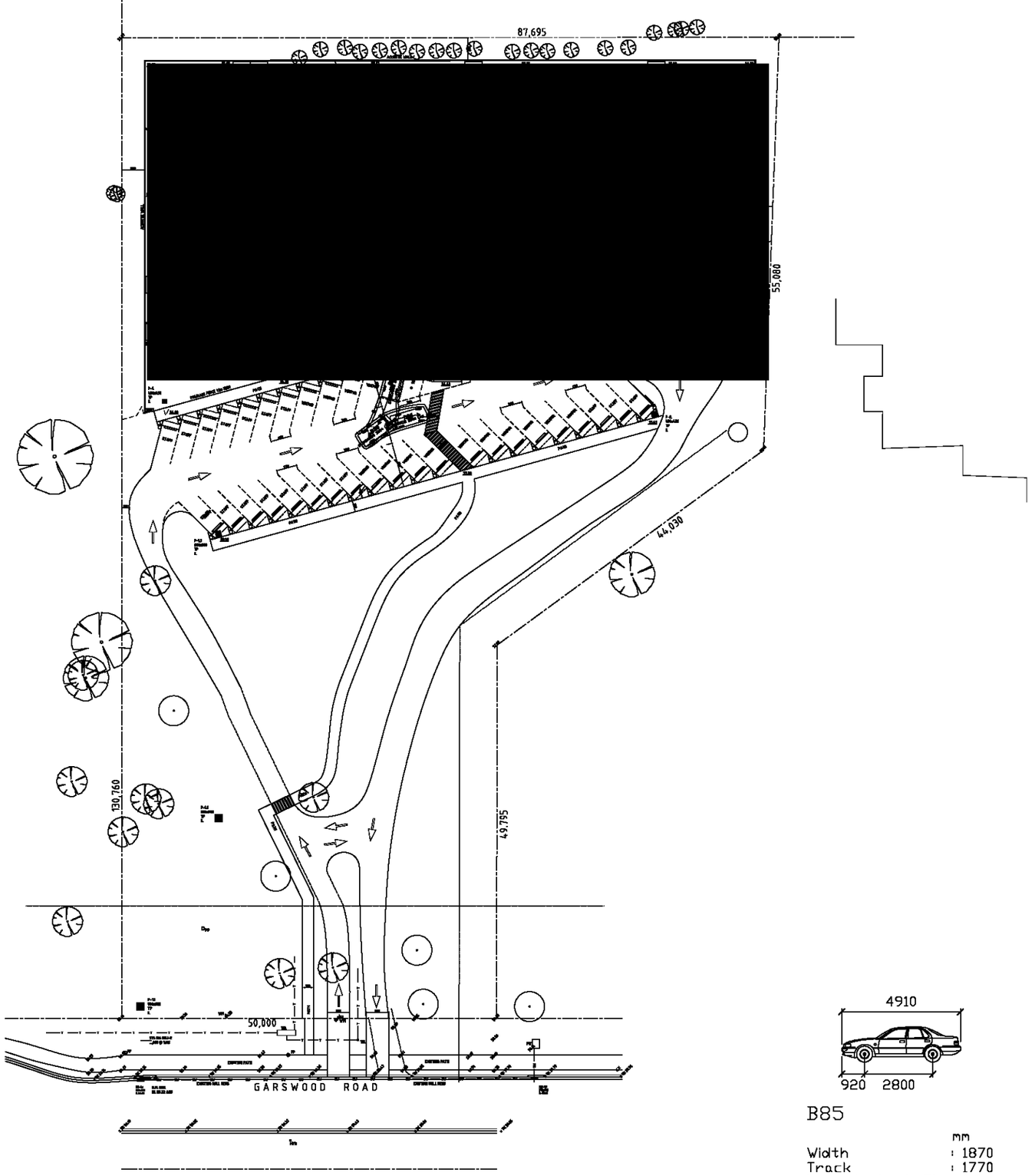
B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



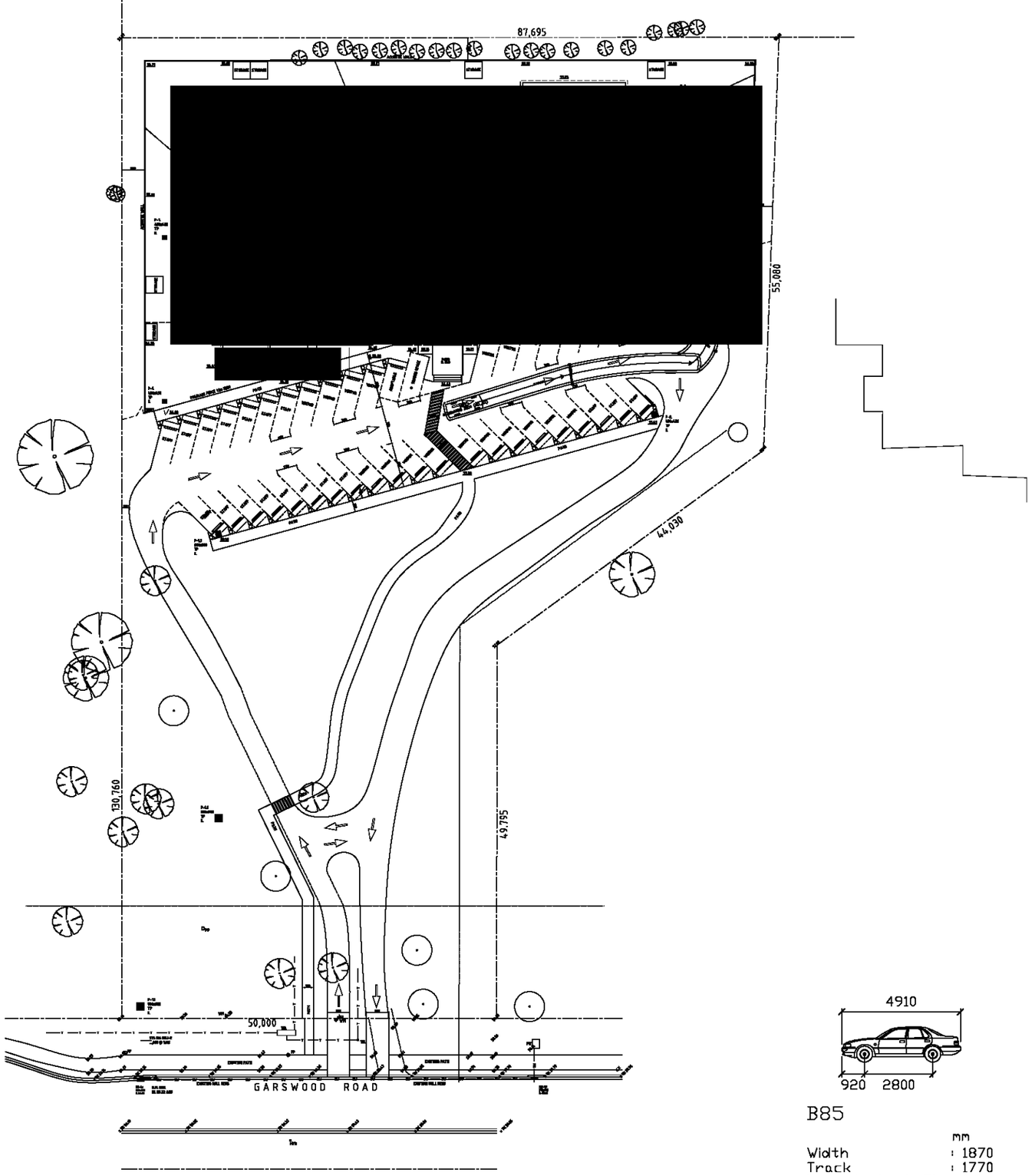
B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



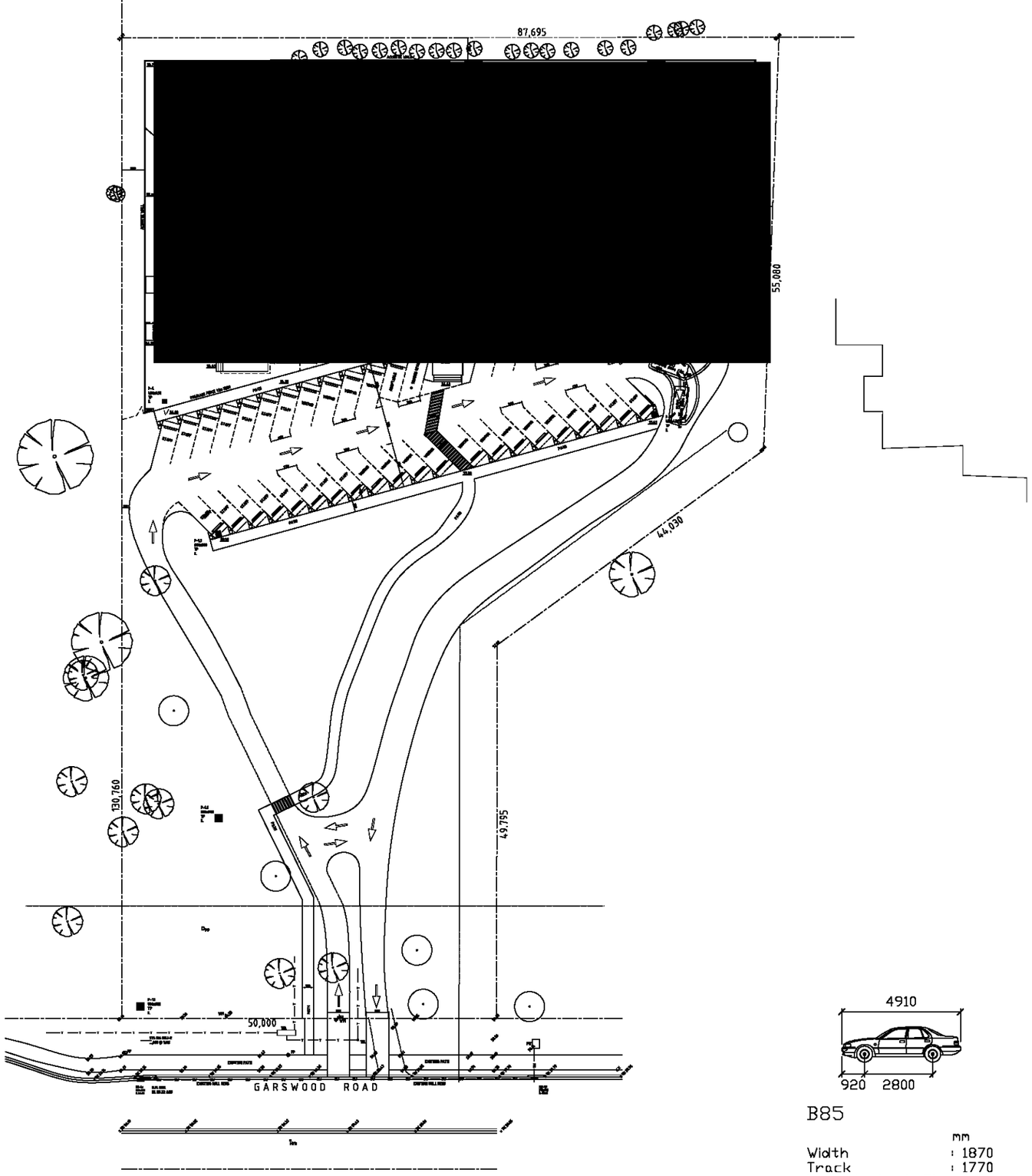
B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

TRAFFIC AND PARKING IMPACT ASSESSMENT OF A PROPOSED CHILDCARE CENTRE

15-17 Garswood Road, Glenmore Park

Traffic and Parking Impact Report

Prepared for: Rammy Associates Pty Ltd

N2062320A (Version 1c)

August 2020

Motion Traffic Engineers Pty Ltd
Telephone:
940 33588
sydney@motiontraffic.com.au

ACN 600201583

1. INTRODUCTION

Motion Traffic Engineers was commissioned by Rammy Associates to undertake a traffic and parking impact assessment of a proposed childcare at15-17 Garswood Road in Glenmore Park. The site is currently utilised as a residential property.

This traffic report focuses on the proposed childcare centre and changes in car usage and car park utilisation and additional trips from the proposed childcare centre.

In the course of preparing this assessment, the subject site and its environs have been inspected, plans of the development examined, and all relevant traffic and parking data collected and analysed.

2. BACKGROUND AND EXISTING CONDITIONS OF THE PROPOSED LOCATION

2.1 Location and Land Use

The proposed Childcare Centre is located in an environmental living area (E4) with the Penrith Golf and Recreation Club at south. Residential area of Glenmore park is located in west and north of the childcare centre.

Figures 1 and 2 show the location of the development site from the aerial and street map perspective respectively.

Figure 3 shows photographs of the site.

Figure 1: Location of the Subject Site on Aerial

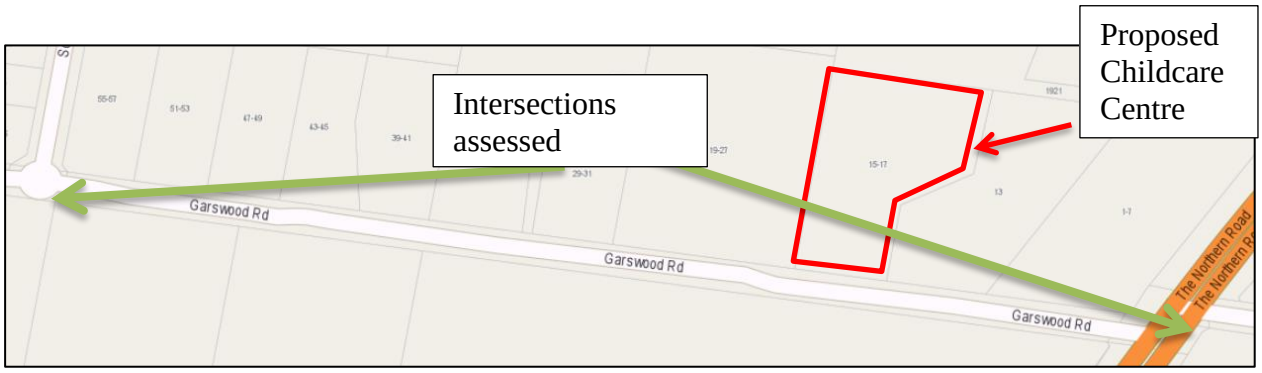


Figure 2: Street Map of the Location of the Development Site and assessed intersections

Figure 3: Photo of site from Garswood Road

2.2 Road Network

This section describes the roads near the proposed childcare centre.

Garswood Road is a collector road and has one lane each way. The default posted speed limit is 50km/hr. On-street parking is not permitted on either side of the road due to narrow width of the road. Figure 4a shows a photograph of Garswood Road.

South Street is a local road with one lane each way. No Parking is permitted on the street at any time due to narrow width. The default speed limit for the road is 50km/hr. Figure 4b shows a photograph of South Street.

The Northern Road is an arterial road with two lane each way on a divided carriageway. On street parking is not permitted on either side of the road. The sign-posted speed limit for the road is 70km/hr. Figure 4c shows a photograph of intersection of The Northern Road with Garswood Road.

Figure 4a: Garswood Road looking west

Figure 4b: South Street looking north

Figure 4c: Stop intersection of The Northern Road with Garswood Road

2.3 Public Parking Opportunities

The development site is located in an Environmental living area(E4). Site investigation shows that there are no convenient on street parking near the childcare. Garswood Road and South Street are too narrow for on-street parking.

2.4 Intersection Description

As part of the traffic assessment, two intersections are assessed:

- Stop intersection of The Northern Road with Garswood Road
- Roundabout intersection of Garswood Road with South Street

External traffic travelling to and from the development site will most likely need to travel through the above intersection.

The stop intersection of The Northern Road with Garswood Road is a three-leg intersection with all turn movements permitted except the right turn from Garswood into The Northern Road. Figure 5 presents the layout of this intersection using SIDRA – an industry standard intersection software. The number on the lane represents a short lane in metres.

The roundabout intersection of Garswood Road with South Street is a three-leg intersection with all turning movements permitted. The roundabout has one

circulating lane. The numbers on the layout represent the length of island diameter. Figure 6 presents the layout of this intersection using SIDRA.

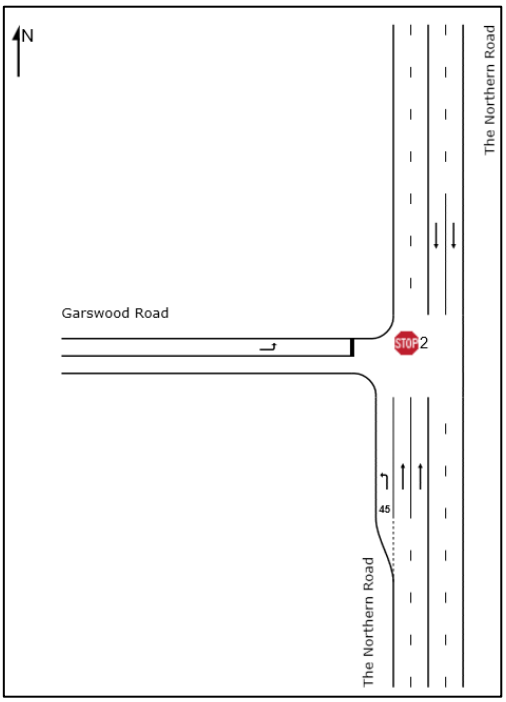


Figure 5: Stop intersection of The Northern Road with Garswood Road (SIDRA)

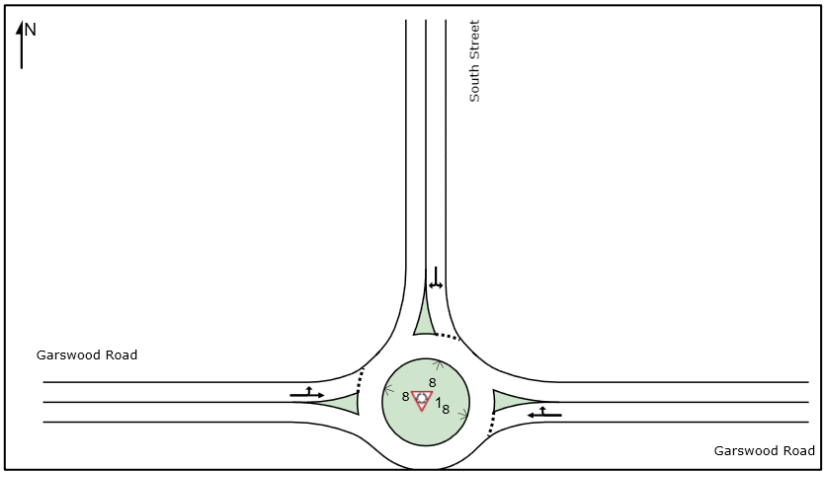


Figure 6: Roundabout intersection of Garswood Road with South Street (SIDRA)

2.5 Existing Traffic Volumes

As part of the traffic assessment, traffic counts have been undertaken at the intersection for the weekday AM period. The AM peak hour was 8am to 9am. The traffic surveys were undertaken on a weekday in January 2020.

The following Figures present the traffic volumes in vehicles for the weekday peak hours.

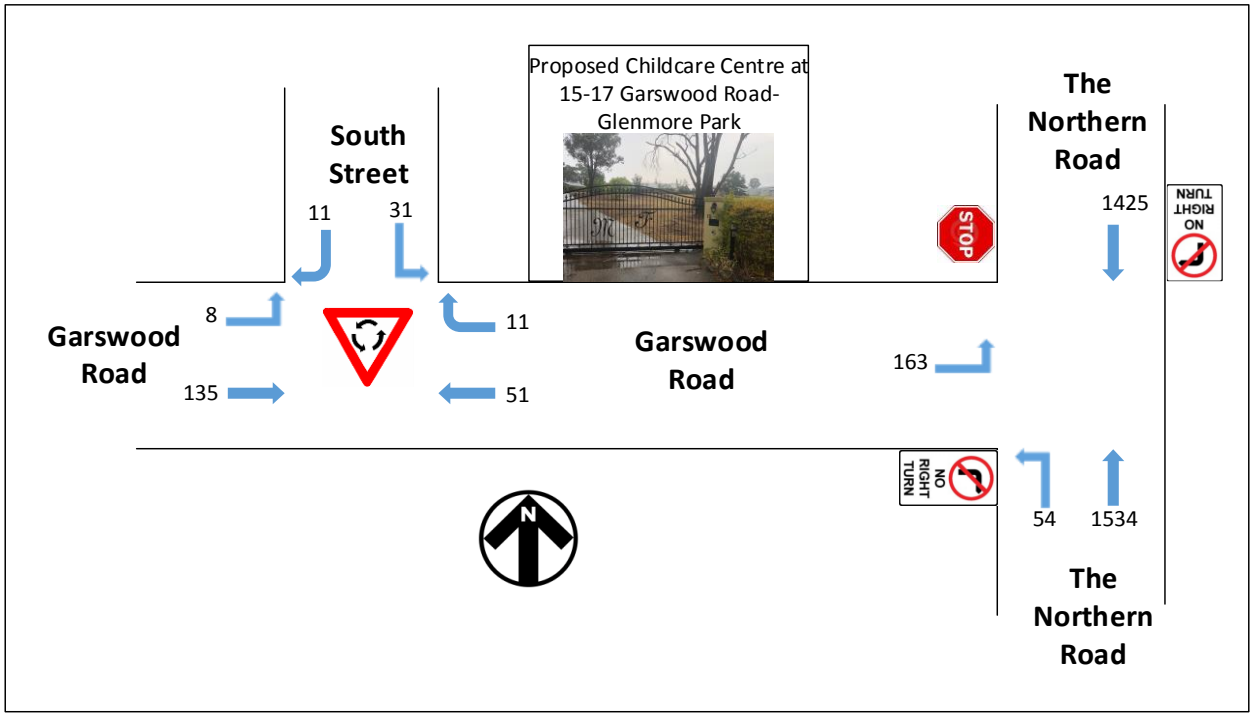


Figure 9: Existing Weekday Traffic Volumes AM Peak Hour

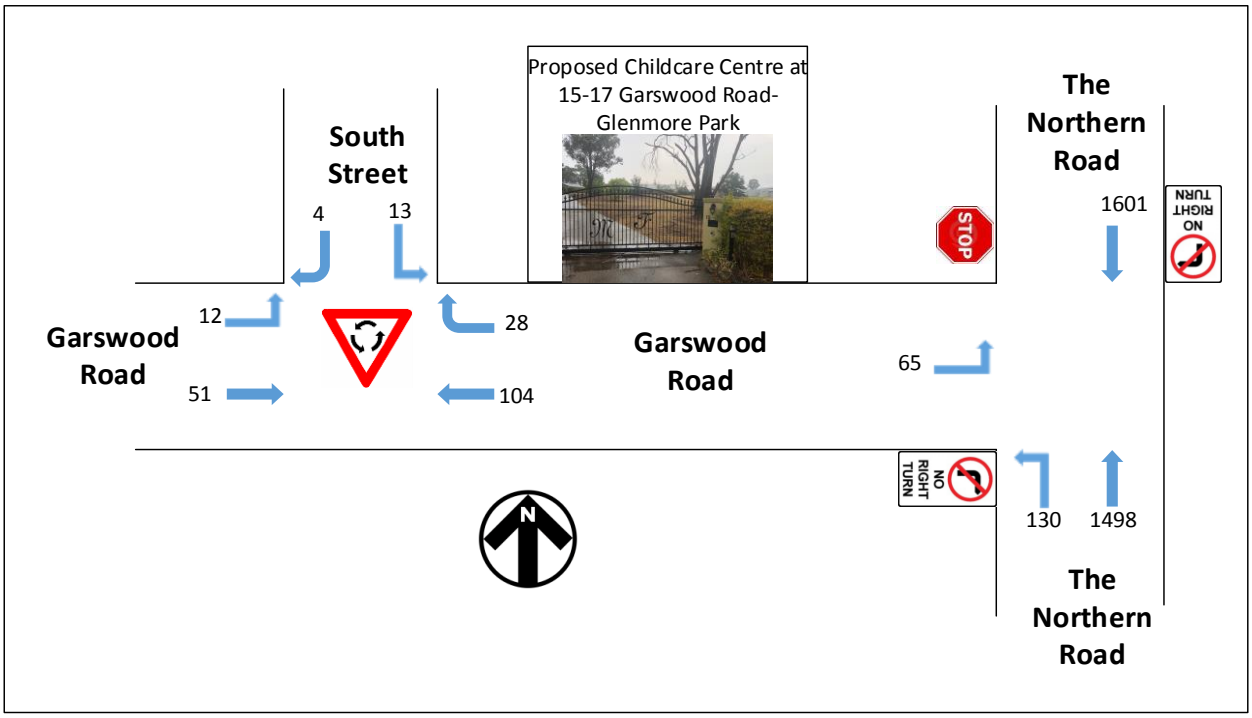


Figure 10: Existing Weekday Traffic Volumes PM Peak Hour

2.6 Intersection Assessment

An intersection assessment has been undertaken for:

- Stop intersection of the Northern Road with Garswood Road
- Roundabout intersection of Garswood Road with South Street

The existing intersection operating performance was assessed using the SIDRA software package (version 8) to determine the Degree of Saturation (DS), Average Delay (AVD in seconds) and Level of Service (LoS) at each intersection. The SIDRA program provides Level of Service Criteria Tables for various intersection types. The key indicator of intersection performance is Level of Service, where results are placed on a continuum from 'A' to 'F', as shown in Table 1.

LoS	Traffic Signal / Roundabout	Give Way / Stop Sign / T-Junction control
A	Good operation	Good operation
B	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	Satisfactory	Satisfactory, but accident study required
D	Operating near capacity	Near capacity & accident study required
E	At capacity, at signals incidents will cause excessive delays.	At capacity, requires other control mode
F	Unsatisfactory and requires additional capacity, Roundabouts require other control mode	At capacity, requires other control mode

Table 1: Intersection Level of Service

The Average Vehicle Delay (AVD) provides a measure of the operational performance of an intersection as indicated below, which relates AVD to LOS. The AVD's should be taken as a guide only as longer delays could be tolerated in some locations (i.e. inner city conditions) and on some roads (i.e. minor side street intersecting with a major arterial route). For traffic signals, the average delay over all movements should be taken. For roundabouts and priority control intersections (sign control) the critical movement for level of service assessment should be that movement with the highest average delay.

LoS	Average Delay per Vehicles (seconds/vehicle)
A	Less than 14
B	15 to 28
C	29 to 42
D	43 to 56
E	57 to 70
F	>70

Table 2: Intersection Average Delay (AVD)

The degree of saturation (DS) is another measure of the operational performance of individual intersections. For intersections controlled by traffic signals both queue length and delay increase rapidly as DS approaches 1. It is usual to attempt to keep

DS to less than 0.9. Degrees of Saturation in the order of 0.7 generally represent satisfactory intersection operation. When DS exceed 0.9 queues can be anticipated.

The results of the intersection analysis are as follows:

Stop intersection of The Northern Road with Garswood Road

- All turn movements have Los A or B for AM and PM peak hours
- There is spare capacity at this intersection

Roundabout intersection of Garswood Road with South Street

- The roundabout has an overall LoS A for both peak hours
- There is spare capacity at this intersection

The full Sidra results are presented in Appendix A.

2.7 Public Transport

The nearest bus stop to the development site is 1.1 km away on Saint Andrew Drive. This stop is serviced by the 799 bus routes and travels from Glenmore Park to Penrith and the adjacent suburbs. Figure 11 shows the proximity of the site to public transport services.

Overall, the site has access to public transport.

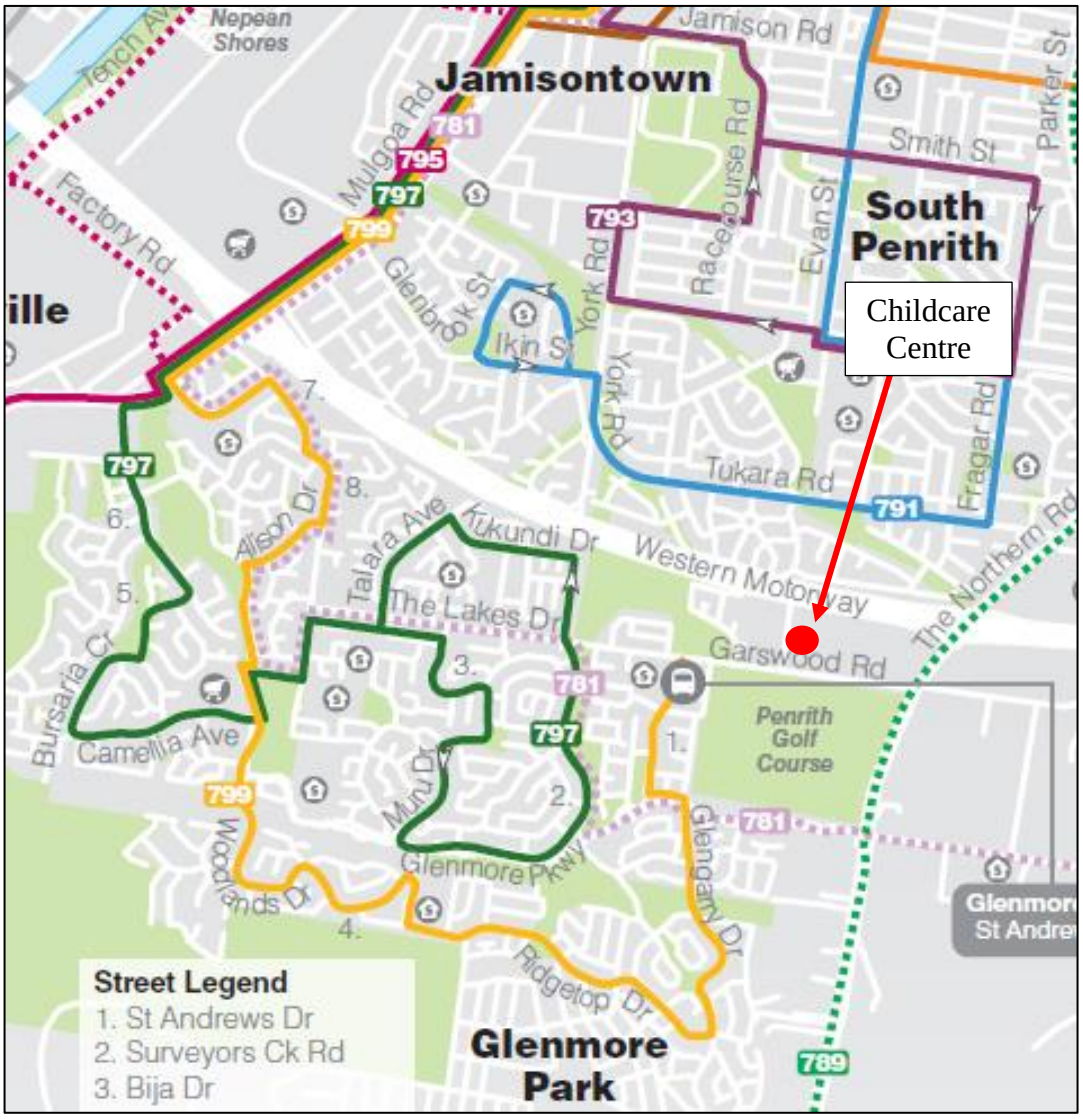


Figure 11: Public Transport Services Nearby

2.8 Conclusions on the Existing Conditions

The proposed childcare centre is located in a residential area Site investigation shows that Garswood Road and South Street are narrow for on-street parking.

The nearby intersection has spare capacity to accommodate additional traffic.

The site has access to public transport.

3. PROPOSED CHILDCARE

The proposed childcare will accommodate up to 200 children along with twenty-five staff:

- 20 children from 0-2 years old
- 30 children from 2-3 years old
- 120 children from 3-5 years old
- 30 children ages over preschool age

There is car park area on the ground floor level with vehicle access and egress via Garswood Road.

A total of forty-five (45) car spaces will be provided on the ground floor carpark; the details are as follows:

- Twenty-five staff car spaces
- Twenty visitor car spaces including;
- One accessible car space

A full scaled plan of the proposed childcare centre is provided as part of the Development Application. Scaled measurements should use these plans.

4. CAR PARKING CONSIDERATIONS

4.1 City of Penrith Planning Scheme

The car parking requirements for a childcare are presented in *Penrith Council's Development Control Plan 2014* with the car parking rates as follows as it applies to the proposed childcare centre:

Child Care Centres

- 1 car space per 10 children plus;
- 1 car space per 1 employee

The proposed childcare will accommodate 200 children and twenty-five (25) educators. Table 3 summarises the car parking requirements for the proposed childcare. The proposed childcare complies with Council's parking requirements.

There is no convenient on street parking available. The additional car spaces beyond Council's minimum requirements will ensure all parking demand will be met on site.

Use	Number	Car Parking Rate	Car Spaces Required	Car Spaces Provided
Children	200	1 per 10 children	20	20
Staff	25	1 per staff	25	25
Total			45	45

Table 3: Summary of car parking requirements

4.2 Staff Car Parking demand

Staff arrivals and departures are staged/staggered to ensure that the staff-student ratio is maintained with all staff on site in the core 9am to 5pm hour with peak staff car parking demand in the core period and does not coincide with the main drop off and pick up periods.

5. VEHICLE TRAFFIC IMPACT CONSIDERATIONS

This section discusses the vehicle traffic impacts of the proposed childcare centre.

5.1 Traffic Generation

The NSW RTA Guide to Traffic Generating Development document publishes trip generation rates for "long day care" for childcare centres as follows:

- 0.8 trips per child between 7am and 9am
- 0.3 trips per child between 2:30pm and 4pm
- 0.7 trips per child between 4pm and 6pm

Staff will arrive and leave before the drop off period (7am to 9am) and the pickup period (4pm to 6pm) respectively. Table 4 presents the estimated peak period trips.

Peak Hour	Land Use	Number of children	Trip Generation Rate per child	Trip Generated
AM	Childcare Centre	200	0.8	160
PM			0.7	140

Table 4: Trips generated by the proposed Childcare centre in the weekday peak periods

Peak Hour	Land Use	Number of Dwellings	Trip Generation Rate per dwelling	Trip Generated
AM	Residential	2	0.95	2
PM		2	0.99	2

Table 5: Trips generated by the existing development in the weekday peak periods

Table 6 presents the peak hour trips and trip distribution.

Peak Hour	Existing Trips	Proposed Trips	Net Trips
AM	2	160	158
PM	2	140	138
Peak Hour	**Origin**	**Destination**	**Total**
AM	79	79	158
PM	69	69	138

Table 6: Trips generated and distributed by the childcare in the weekday peak hours

5.2 Traffic Volumes

The additional development trips are assigned onto the local traffic network. The following figures present the existing with the development trips (in red for origin trips and blue for destination trips) for the weekday AM and PM peak hours.

The additional development trips represent a small proportion of the existing traffic volumes.

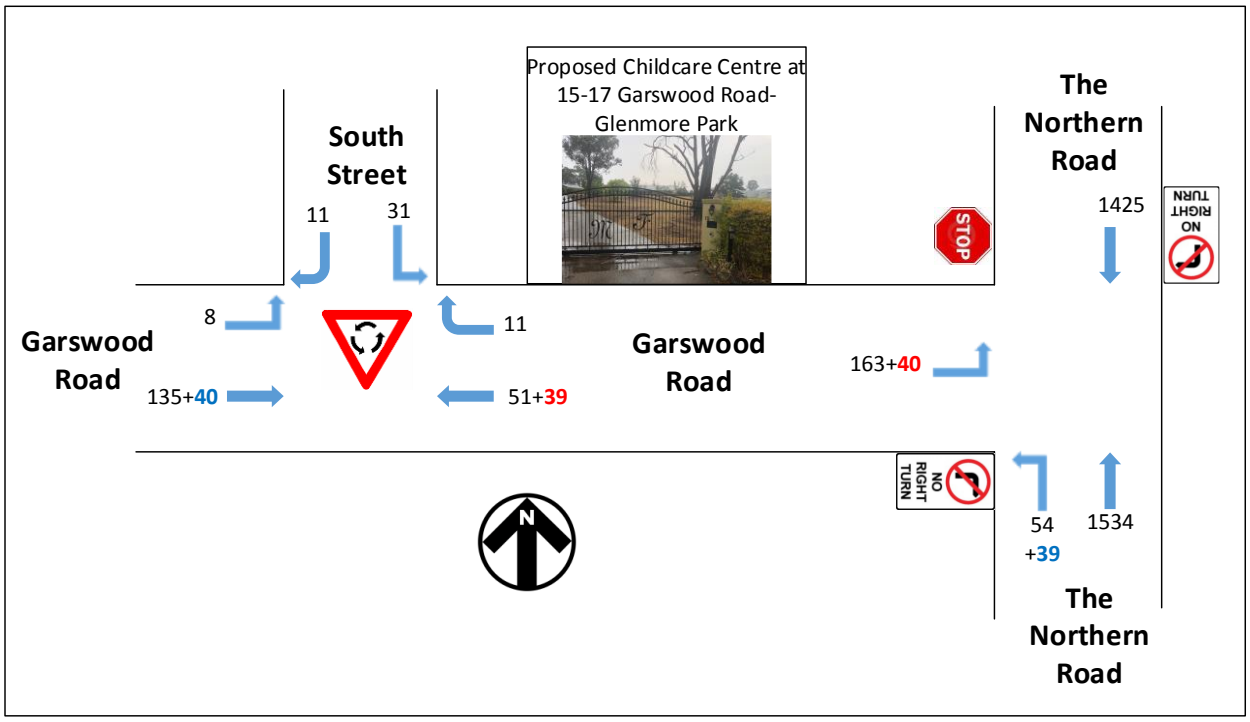


Figure 12: Weekday AM Peak Hour Traffic Volumes (Development Origin Trips in Red and Destination Trips in Blue)

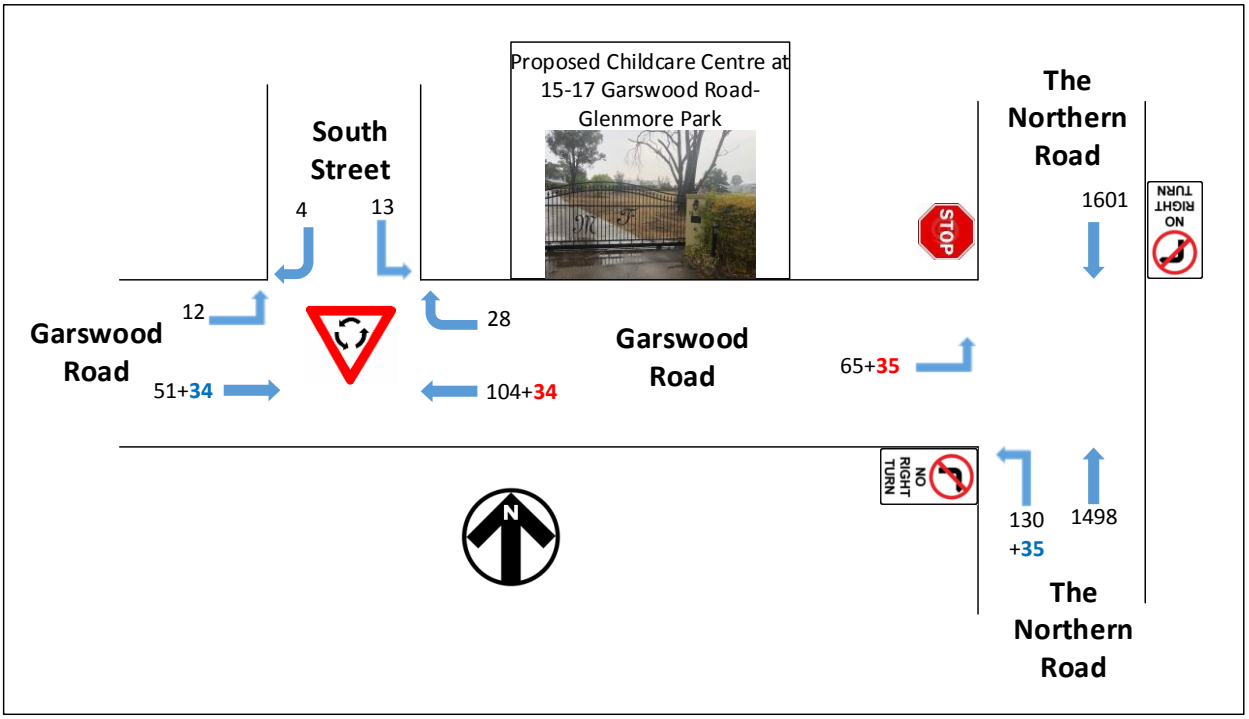


Figure 13: Weekday PM Peak Hour Traffic Volumes (Development Origin Trips in Red and Destination Trips in Blue)

5.3 Intersection Assessment

An intersection assessment has been undertaken for the two nearby intersections.

The results of the intersection analysis are as follows for the AM and PM peak hours:

Stop intersection of The Northern Road with Garswood Road

- All turn movements have Los A or B for AM and PM peak hours
- The additional trips do not change the LoS of any turn movement

Roundabout intersection of Garswood Road with South Street

- The roundabout has an overall LoS A for both peak hours
- The additional trips do not change the LoS of the overall intersection

The full Sidra results with the development traffic are presented in Appendix B. The existing conditions are presented in Appendix A.

6. CONCLUSIONS

Based on the considerations presented in this report, it is considered that:

Parking

- The proposed childcare centre complies with Council's car parking requirements

Traffic

- The proposed childcare centre is a high trip generator for the weekday AM and PM peak hours.
- The additional trips from the proposed childcare centre can be accommodated at the nearby intersections and road network without noticeably affecting intersection performance, delays or queues.
- There are no traffic engineering reasons why a planning consent for the proposed childcare centre at 15-17 Garswood Road, Glenmore Park, should be refused.

APPENDIX A

SIDRA Intersection Results for Existing Traffic Conditions

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: The Northern Road												
1	L2	57	0.0	0.031	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	1615	0.0	0.414	2.1	LOS A	0.0	0.0	0.00	0.31	0.00	76.2
Approach		1672	0.0	0.414	2.1	NA	0.0	0.0	0.00	0.31	0.00	74.6
North: The Northern Road												
8	T1	1500	0.0	0.385	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach		1500	0.0	0.385	0.1	NA	0.0	0.0	0.00	0.00	0.00	79.8
West: Garswood Road												
10	L2	172	0.0	0.444	20.1	LOS B	2.0	13.8	0.79	1.07	1.11	46.6
Approach		172	0.0	0.444	20.1	LOS B	2.0	13.8	0.79	1.07	1.11	46.6
All Vehicles		3343	0.0	0.444	2.1	NA	2.0	13.8	0.04	0.21	0.06	74.5

Table A1: Weekday Stop intersection of The Northern Road with Garswood Road AM Peak Hour

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Garswood Road												
5	T1	54	0.0	0.047	3.8	LOS A	0.2	1.7	0.07	0.47	0.07	45.7
6	R2	12	0.0	0.047	6.7	LOS A	0.2	1.7	0.07	0.47	0.07	46.7
Approach		65	0.0	0.047	4.3	LOS A	0.2	1.7	0.07	0.47	0.07	46.0
North: South Street												
7	L2	33	0.0	0.040	4.8	LOS A	0.2	1.3	0.30	0.54	0.30	45.6
9	R2	12	0.0	0.040	7.3	LOS A	0.2	1.3	0.30	0.54	0.30	44.4
Approach		44	0.0	0.040	5.5	LOS A	0.2	1.3	0.30	0.54	0.30	45.4
West: Garswood Road												
10	L2	8	0.0	0.103	4.1	LOS A	0.5	3.5	0.07	0.43	0.07	45.3
11	T1	142	0.0	0.103	3.8	LOS A	0.5	3.5	0.07	0.43	0.07	46.1
Approach		151	0.0	0.103	3.8	LOS A	0.5	3.5	0.07	0.43	0.07	46.1
All Vehicles		260	0.0	0.103	4.2	LOS A	0.5	3.5	0.11	0.46	0.11	45.9

Table A2: Weekday roundabout intersection of Garswood Road with South Street AM Peak Hour

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: The Northern Road												
1	L2	137	0.0	0.074	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	1577	0.0	0.404	2.0	LOS A	0.0	0.0	0.00	0.31	0.00	76.2
Approach		1714	0.0	0.404	2.3	NA	0.0	0.0	0.00	0.32	0.00	72.5
North: The Northern Road												
8	T1	1685	0.0	0.432	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach		1685	0.0	0.432	0.1	NA	0.0	0.0	0.00	0.00	0.00	79.8
West: Garswood Road												
10	L2	68	0.0	0.170	16.5	LOS B	0.6	4.0	0.71	1.00	0.71	48.8
Approach		68	0.0	0.170	16.5	LOS B	0.6	4.0	0.71	1.00	0.71	48.8
All Vehicles		3467	0.0	0.432	1.5	NA	0.6	4.0	0.01	0.18	0.01	75.1

Table A3: Weekday Stop intersection of The Northern Road with Garswood Road PM Peak Hour

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Garswood Road												
5	T1	109	0.0	0.089	3.7	LOS A	0.4	3.1	0.04	0.49	0.04	45.8
6	R2	29	0.0	0.089	6.6	LOS A	0.4	3.1	0.04	0.49	0.04	46.8
Approach		139	0.0	0.089	4.3	LOS A	0.4	3.1	0.04	0.49	0.04	46.0
North: South Street												
7	L2	14	0.0	0.015	4.4	LOS A	0.1	0.5	0.17	0.52	0.17	45.9
9	R2	4	0.0	0.015	6.9	LOS A	0.1	0.5	0.17	0.52	0.17	44.8
Approach		18	0.0	0.015	4.9	LOS A	0.1	0.5	0.17	0.52	0.17	45.7
West: Garswood Road												
10	L2	13	0.0	0.052	4.2	LOS A	0.2	1.7	0.12	0.44	0.12	45.0
11	T1	54	0.0	0.052	3.9	LOS A	0.2	1.7	0.12	0.44	0.12	45.9
Approach		66	0.0	0.052	3.9	LOS A	0.2	1.7	0.12	0.44	0.12	45.7
All Vehicles		223	0.0	0.089	4.3	LOS A	0.4	3.1	0.07	0.48	0.07	45.9

Table A4: Weekday roundabout intersection of Garswood Road with South Street PM Peak Hour

APPENDIX B

SIDRA Intersection Results for Developed Childcare Traffic Conditions

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: The Northern Road												
1	L2	98	0.0	0.053	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	1615	0.0	0.414	2.1	LOS A	0.0	0.0	0.00	0.31	0.00	76.2
Approach		1713	0.0	0.414	2.2	NA	0.0	0.0	0.00	0.32	0.00	73.6
North: The Northern Road												
8	T1	1500	0.0	0.385	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach		1500	0.0	0.385	0.1	NA	0.0	0.0	0.00	0.00	0.00	79.8
West: Garswood Road												
10	L2	214	0.0	0.553	21.8	LOS B	2.8	19.4	0.82	1.11	1.32	45.7
Approach		214	0.0	0.553	21.8	LOS B	2.8	19.4	0.82	1.11	1.32	45.7
All Vehicles		3426	0.0	0.553	2.5	NA	2.8	19.4	0.05	0.23	0.08	73.3

Table B1: Weekday Stop intersection of The Northern Road with Garswood Road AM Peak Hour with Childcare Traffic

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Garswood Road												
5	T1	95	0.0	0.074	3.8	LOS A	0.4	2.7	0.07	0.46	0.07	45.9
6	R2	12	0.0	0.074	6.7	LOS A	0.4	2.7	0.07	0.46	0.07	46.8
Approach		106	0.0	0.074	4.1	LOS A	0.4	2.7	0.07	0.46	0.07	46.0
North: South Street												
7	L2	33	0.0	0.042	5.1	LOS A	0.2	1.4	0.34	0.55	0.34	45.5
9	R2	12	0.0	0.042	7.6	LOS A	0.2	1.4	0.34	0.55	0.34	44.3
Approach		44	0.0	0.042	5.7	LOS A	0.2	1.4	0.34	0.55	0.34	45.3
West: Garswood Road												
10	L2	8	0.0	0.130	4.1	LOS A	0.7	4.6	0.07	0.43	0.07	45.3
11	T1	184	0.0	0.130	3.8	LOS A	0.7	4.6	0.07	0.43	0.07	46.1
Approach		193	0.0	0.130	3.8	LOS A	0.7	4.6	0.07	0.43	0.07	46.1
All Vehicles		343	0.0	0.130	4.1	LOS A	0.7	4.6	0.11	0.46	0.11	45.9

Table B2: Weekday Roundabout intersection of Garswood Road with South Street AM Peak Hour with Childcare Traffic

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: The Northern Road												
1	L2	174	0.0	0.094	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	46.6
2	T1	1577	0.0	0.404	2.0	LOS A	0.0	0.0	0.00	0.31	0.00	76.2
Approach		1751	0.0	0.404	2.3	NA	0.0	0.0	0.00	0.33	0.00	71.7
North: The Northern Road												
8	T1	1685	0.0	0.432	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	79.8
Approach		1685	0.0	0.432	0.1	NA	0.0	0.0	0.00	0.00	0.00	79.8
West: Garswood Road												
10	L2	105	0.0	0.262	17.5	LOS B	1.0	6.8	0.73	1.02	0.83	48.2
Approach		105	0.0	0.262	17.5	LOS B	1.0	6.8	0.73	1.02	0.83	48.2
All Vehicles		3541	0.0	0.432	1.7	NA	1.0	6.8	0.02	0.19	0.02	74.2

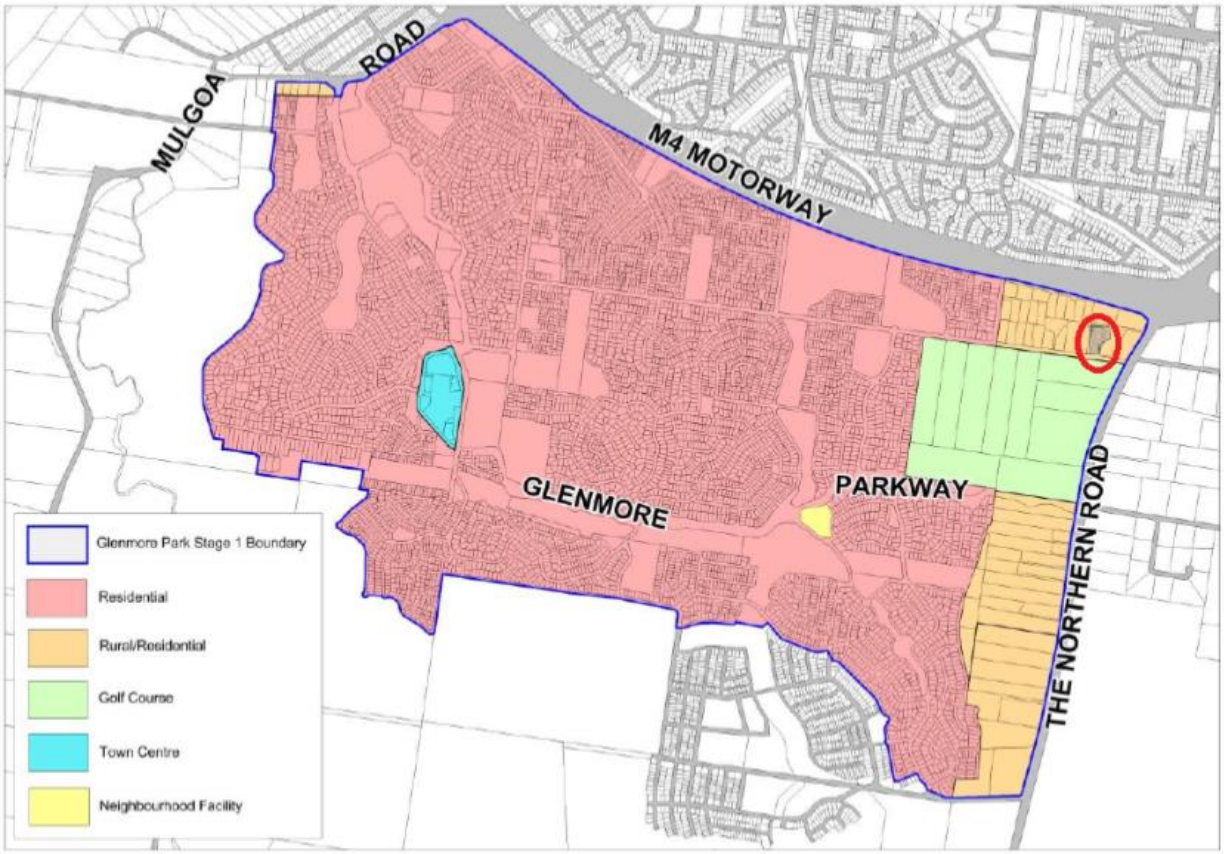
Table B3: Weekday Stop intersection of The Northern Road with Garswood Road PM Peak Hour with Childcare Traffic

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Garswood Road												
5	T1	145	0.0	0.111	3.7	LOS A	0.6	4.1	0.04	0.48	0.04	45.9
6	R2	29	0.0	0.111	6.6	LOS A	0.6	4.1	0.04	0.48	0.04	46.8
Approach		175	0.0	0.111	4.2	LOS A	0.6	4.1	0.04	0.48	0.04	46.1
North: South Street												
7	L2	14	0.0	0.015	4.5	LOS A	0.1	0.5	0.23	0.52	0.23	45.8
9	R2	4	0.0	0.015	7.0	LOS A	0.1	0.5	0.23	0.52	0.23	44.6
Approach		18	0.0	0.015	5.1	LOS A	0.1	0.5	0.23	0.52	0.23	45.6
West: Garswood Road												
10	L2	13	0.0	0.077	4.2	LOS A	0.4	2.6	0.12	0.44	0.12	45.1
11	T1	89	0.0	0.077	3.9	LOS A	0.4	2.6	0.12	0.44	0.12	45.9
Approach		102	0.0	0.077	3.9	LOS A	0.4	2.6	0.12	0.44	0.12	45.8
All Vehicles		295	0.0	0.111	4.2	LOS A	0.6	4.1	0.08	0.47	0.08	45.9

Table B4: Weekday roundabout intersection of Garswood Road with South Street PM Peak Hour with Childcare Traffic

Location Plan – 15 – 17 Garswood Road Glenmore Park

Zoning Plans



Extract from Part E7 Glenmore Park Stage 1 of Penrith Development Control Plan 2014

WASTE MANAGEMENT PLAN
DEMOLITION, CONSTRUCTION AND USE OF PREMISES

If you need more space to give details, you are welcome to attach extra pages to this form.

PLEASE COMPLETE ALL PARTS OF THIS FORM THAT ARE RELEVANT TO YOUR DEVELOPMENT APPLICATION (DA).

IF YOU NEED MORE SPACE TO GIVE DETAILS, YOU ARE WELCOME TO ATTACH EXTRA PAGES TO THIS FORM.

Council will assess the information you provide on this form along with your attached plans. We will take into account the types and volumes of waste that could be produced as a result of your proposed development, and how you are planning to:

- minimise the amount of waste produced
- maximise re-use and recycling
- store, transport and dispose of waste safely and thoughtfully.

APPLICANT DETAILS

First name: Ramakrishnan

Surname: Baskaran

Postal Address

Street No.: [redacted]

Street name: [redacted]

Suburb: [redacted]

Post code: [redacted]

Contact phone number: [redacted]

Email address: [redacted]

DETAILS OF YOUR PROPOSED DEVELOPMENT

Street No.: 15-17

Street name: Garswood Road

Suburb: Glenmore Park

Post code: 2748

What buildings and other structures are currently on the site?

House, Gazebo, Car port & 2 sheds

Briefly describe your proposed development

Demolition of existing structures and construct a center based childcare center for 200 children.

Applicant Signature: [redacted]

Date: 29/9/20

PENRITH CITY COUNCIL

SECTION 1: DEMOLITION

*Please include details on the plans you submit with this form, for example location of on-site storage areas/ containers, vehicle access point/s.

Materials		Destination		
		Re-use and recycling		Disposal
Material	Estimated volume (m^2 or m^3)	ON-SITE* Specify proposed re-use or on-site recycling	OFF-SITE Specify contractor and recycling facility	Specify contractor and landfill site
Excavation (eg soil, rock)	N/A			
Green waste	10 Cu.m.	Half of the green waste to be used as mulch	N/A	Remaining green waste sent to waste depot
Bricks	25 Cu.m.	N/A	Brandown Pty Ltd	N/A
Concrete	22 Cu.m.	N/A	Beandown Pty Ltd	N/A
Timber (Please specify type/s)	20 Cu.m.	N/A	Enviro Guard	N/A
Plasterboard	10 Cu.m.	N/A	N/A	Bowral
Metals (Please specify type/s)	8 Cu.m.	N/A	Brandown Pty Ltd	N/A
Other	N/A			

SECTION 2: CONSTRUCTION

*Please include details on the plans you submit with this form, for example location of on-site storage areas/ containers, vehicle access point/s.

Materials		Destination		
		Re-use and recycling		Disposal
Material	Estimated volume (m^2 or m^3)	ON-SITE* Specify proposed re-use or on-site recycling	OFF-SITE Specify contractor and recycling facility	Specify contractor and landfill site
Excavation (eg soil, rock)	120 Cu.m.	Half of soil to be regraded at the site	N/A	Remaining soil sent to waste depot
Green waste	2 Cu.m.	N/A	N/A	Waste Depot
Bricks	N/A			
Concrete	5 Cu.m.	N/A	Brandown Pty Ltd	N/A
Timber (Please specify type/s)	4 Cu.m.	N/A	Brandown Pty Ltd	N/A
Plasterboard	5 Cu.m.	N/A	N/A	Bowral
Metals (Please specify type/s)	7 Cu.m.	N/A	Brandown Pty Ltd	N/A
Other	N/A			

SECTION 3: WASTE FROM ON-GOING USE OF PREMISES

If relevant, please list the type/s of waste that may be generated by on-going use of the premises after the development is finished.	Expected volume (average per week)
Baby nappies, Food scraps, tissues & discarded food (200 chidren @ 6 Ltr/week)	1,200 Ltr
Cardboard, Packaging, glass & plastic (200 children @ 6 Ltr/week)	1,200 Ltr

SECTION 4: ON-GOING MANAGEMENT OF PREMISES

If relevant, please give details of how you intend to manage waste on-site after the development is finished, for example through lease conditions for tenants or an on-site caretaker/manager. Describe any proposed on-site storage and treatment facilities. Please attach plans showing the location of waste storage and collection areas, and access routes for tenants and collection vehicles.

Two waste bins each 660 Ltr capacity and two recycle bins each 660 Ltr capacity is proposed. General Waste & recycle material is proposed to be removed by a private contractor. Weekly collection is proposed outside the busy hours 7am to 9am & 4pm to 6pm.

Additional collection will be required during special events such as Christmas party, Easter celebrations & parents gathering. Director of the childcare will be entrusted with the arrangements of waste monitoring & collection.

Green waste will be handled by the landscape maintenance contractor, during the regular maintenance.

If the center is to be leased to others, the tenants obligation of removal of waste will be included in the contract.

DAY DESIGN PTY LTD
CONSULTING ACOUSTICAL ENGINEERS

[redacted]

Environmental Noise Impact Assessment

Proposed Child Care Centre

15-17 Garswood Road, Glenmore Park, NSW

REPORT No
7041-1.1R

DATE ISSUED
25 September 2020

Prepared For:

[redacted]

Attn: Mr Ram Baskaran

Revision History

Report	Date	Prepared	Checked	Comment
Draft	18/09/2020	Alexander Mendoza	Stephen Gauld	For comment, by email
Draft 2	21/09/2020	Alexander Mendoza	Stephen Gauld	For comment, by email
Draft 3	24/09/2020	Alexander Mendoza	Stephen Gauld	For comment, by email
Final	25/09/2020	Alexander Mendoza	Stephen Gauld	

Document R\7041-1.1R, 28 pages plus attachments

Disclaimer

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Recommendations made in this report are intended to resolve acoustical problems only. No claims of expertise in other areas are made and no liability is accepted in respect of design or construction for issues falling outside the specialist field of acoustical engineering including but not limited to structural, fire, thermal, architectural buildability, fit for purpose, waterproofing or other aspects of building construction. Supplementary professional advice should be sought in respect of these issues.

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CONTENTS

TABLES

1.0 EXECUTIVE SUMMARY

A new child care centre (the Centre) is proposed to be constructed at 15-17 Garswood Road, Glenmore Park, NSW. The proposal involves the demolition of an existing single storey residential dwelling and construction of a new single storey building with a ground level car park.

The proposal includes 4 outdoor play areas, 6 indoor play rooms, one after school care room for children over 5 years old and associated offices, kitchen and laundry facilities.

The ground level car park will have capacity for 45 vehicles.

The Centre will have a total capacity for 200 children comprising:

- 0-2 years old – 20 children; and
- 2-3 years old – 30 children; and
- 3-5 years old – 120 children; and
- 5+ years old (After School Care) – 30 Children

The proposed hours of operation for the Centre are:

- Monday to Friday: 7:00 am – 6:00 pm.

The subject site is bounded on the west, north and east boundaries by residential premises on large lots. An active recreation area, the Penrith Golf Club, is located on the opposite side of Garswood Road to the south.

The various receptor locations nearby that may be affected by noise generating facets of the Centre are as follows:

- Children playing both outside and inside;
- Traffic generated by the development; and
- Mechanical plant serving the Centre.

Penrith City Council requires an acoustic assessment to accompany the development application to demonstrate that the noise impact from the Centre will not adversely affect the acoustic amenity of residential premises and active recreation areas nearby.

Acceptable noise limits have been derived from the Association of Australasian Acoustical Consultants *Guideline for Child Care Centres Acoustic Assessmen*t (the Guideline) and the Environmental Protection Authority's (EPA) *Noise Policy for Industry* (NPI) and *Road Noise Policy* (RNP).

Noise levels from the Centre's activities have been modelled to the nearest existing residential premises and active recreation areas. Recommendations are made in Section 8 of this report to reduce the noise emission to within the acceptable limits as established in Section 5.

2.0 CONSULTING BRIEF

Day Design Pty Ltd was engaged by Rammy Associates Pty Ltd on behalf of Wiggles and Giggles Pty Ltd to assess the potential environmental noise impact from a proposed Child Care Centre to be constructed at 15-17 Garswood Road, Glenmore Park, NSW. This commission involves the following:

Scope of Work:

- Inspect the site and environs
- Measure the background noise levels at critical locations and times
- Establish acceptable noise level criterion
- Prepare a site plan identifying the development and nearby noise sensitive locations
- Quantify noise emissions from the proposed Child Care Centre
- Calculate the level of noise emission, taking into account building envelope transmission loss, screen walls and distance attenuation
- Provide recommendations for noise control (if necessary)
- Prepare an Environmental Noise Impact Report.

3.0 SITE AND DEVELOPMENT DESCRIPTION

3.1 Site Description

The site is located on the north side of Garswood Road, on land zoned *E4; Environmental Living* under the Penrith Local Environment Plan 2010.

The subject site is bounded on the west, north and east boundaries by residential premises on large lots. An active recreation area, the Penrith Golf Club, is located on the opposite side of Garswood Road to the south.

Approximately 150 metres to the north is the M4/Western Motorway and approximately 150 metres to the east is the Northern Road. Both roads carry high volumes of road traffic including trucks and other heavy vehicles. Road traffic noise from these two roads is the dominant noise source within the existing acoustic environment.

The nearest noise sensitive receptors are shown in Figure 1 and in Table 1.

Table 1 Noise Sensitive Receptors

Receptor	Address	Direction From Site	Building type
R1	19-27 Garswood Road	West	Residential
R2	1921 The Northern Road	North	Residential
R3	13 Garswood Road	East	Residential
R4	Penrith Golf Club	South	Active Recreation

3.2 Development Description

The proposal includes 4 outdoor play areas, 6 indoor play rooms, one after school care room for children over 5 years old and associated offices, kitchen and laundry facilities.

The car park will have capacity for 45 vehicles.

The Centre will have a total capacity for 200 children comprising:

- 0-2 years old – 20 children; and
- 2-3 years old – 30 children; and
- 3-5 years old – 120 children; and
- 5+ years old (After School Care) – 30 Children

The proposed hours of operation for the Centre are:

- Monday to Friday: 7:00 am – 6:00 pm.

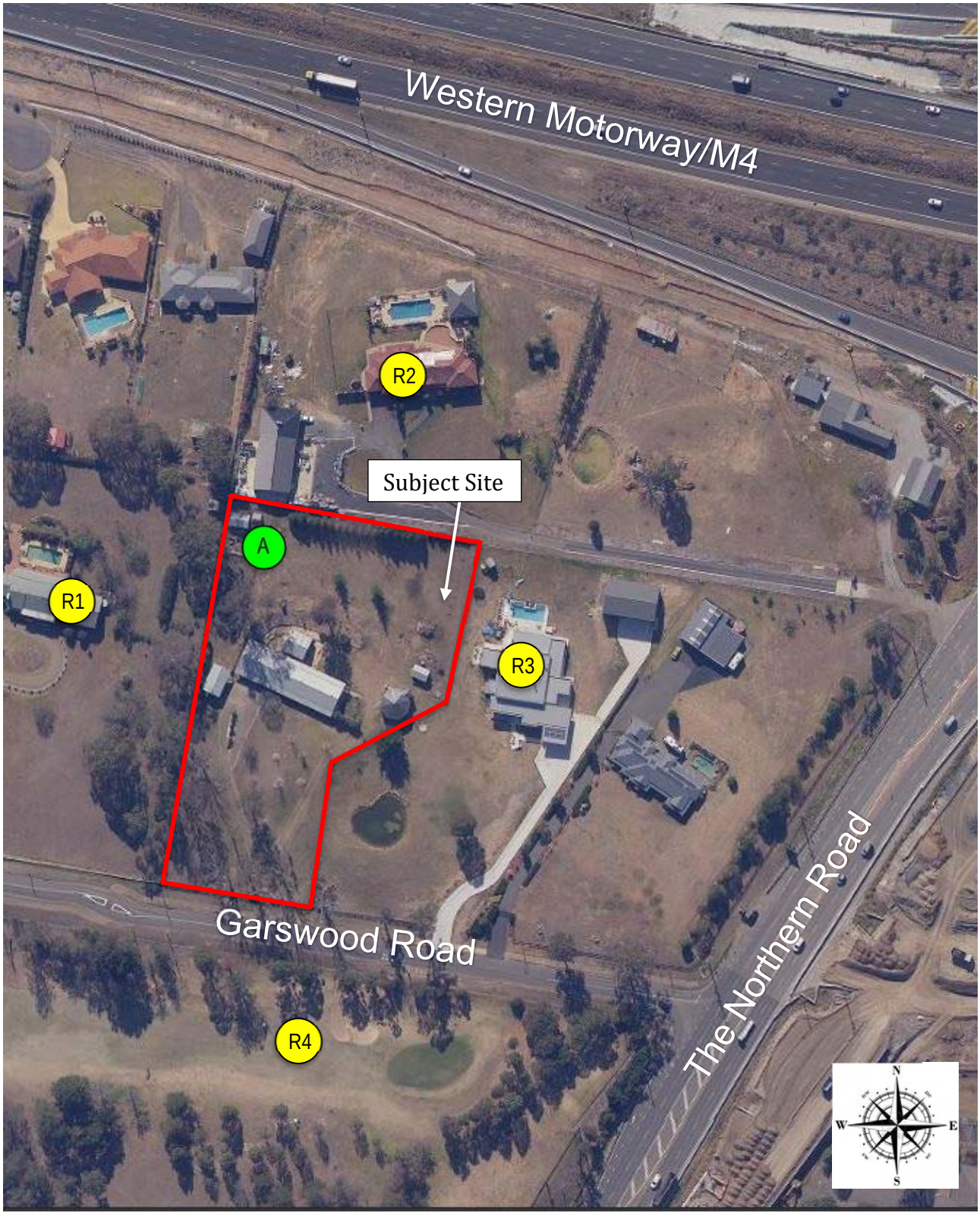


Figure 1 Location Plan, 15-17 Garswood Road, Glenmore Park, NSW.

4.0 MEASURED NOISE LEVELS

4.1 Long Term Noise Monitoring

The L_{90} background noise level is a statistical measure of the sound pressure level that is exceeded for 90% of the measurement period (typically 15 minutes).

The Rating Background Level (RBL) is defined by the NSW EPA as the median value of the (lower) tenth percentile of L_{90} ambient background noise levels for day, evening or night periods, measured over a number of days during the proposed days and times of operation.

An environmental noise logger was placed on site in the rear yard of 15-17 Garswood Road, Glenmore Park to measure the existing background noise levels in the area. The logger was placed approximately 1.5 metres above ground level at Location 'A', as shown in Figure 1.

The logger gathered noise data between Tuesday 25 August and Tuesday 1 September 2020. Details of instrumentation used during the noise surveys can be seen in the attached Appendix A.

The results of the background noise survey at the logger position is shown in the attached Appendix B and Table 2. While the Centre is not proposed to operate during the evening and night time periods, noise levels during these times are shown to provide a complete overview of the current acoustic environment.

Table 2 Ambient Background Levels – 15-17 Garswood Road, Glenmore Park

Location	Time Period	L_{90} Rating Background Level - dBA	Existing L_{eq} Noise Levels - dBA
Location 'A'- Ground Floor Level	**Shoulder Period (6:30 am – 7 am)**	**58**	**N/A**
	Day (7 am to 6 pm)	**46**	**60**
	Evening (6 pm to 10 pm)	*46*	*50*
	Night (10 pm to 7 am)	*38*	*55*

Meteorological conditions during the measurement surveys typically consisted of clear skies with temperatures ranging from 2°C to 27°C. Atmospheric conditions were considered ideal for noise monitoring. Therefore, noise level measurements were considered reliable and considered to be representative of the background noise levels at all nearby receptor locations.

It is noted that the early morning shoulder period is significantly higher than the day time RBL. This is likely due to local wildlife, such as birds, sheltering in the nearby trees and peak hour road traffic on the nearby M4 and The Northern Road.

5.0 NOISE CRITERIA

5.1 NSW DoPE –Child Care Planning Guide

The NSW Department of Planning and Environment (DoPE) published the Child Care Planning Guideline (CCPG) in August 2017 as a supplement to the State Environmental Planning Policy (SEPP) (Educational Establishments and Child Care Facilities) 2017.

The SEPP states that

> "*a consent authority must take into consideration this Guideline (CCPG) when assessing a development application (DA) for a centre-based child care facility.*"

The SEPP also determines that the Guideline

> "*will take precedence over a Development Control Plan (DCP), with some exceptions, where the two overlap in relation to a child care facility."*

The Guideline was introduced to

> *'assist industry to deliver early childhood education facilities that are of the highest standards'* and *'to align NSW planning controls with the National Quality Framework for early education and care, creating more certainty for developers and operators seeking service approval'.*

Section 3, Matters for Consideration, Subsection 3.5 Visual and acoustic privacy, contains the following for consideration:

'Objective: To minimise the impact of child care facilities on the acoustic privacy of neighboring residential developments.

C23

A new development, or development that includes alterations to more than 50 percent of the existing floor area, and is 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)*
- *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.*

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 area 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.'*

Subsection 3.6 Noise and air pollution, contains the following for consideration:

'***Objective: To ensure that outside levels on the facility are minimized 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 louvres or enclosed balconies (wintergardens)*
- *using materials with mass and/or sound insulation or absorption properties, such as solid balcony balustrades, external screens and soffits*
- *locating cot rooms, sleeping areas and play areas away from external noise sources.*

5.2 AAAC – Guideline for Child Care Centres Acoustic Assessment

5.2.1 AAAC Noise Criteria for Outdoor Play Areas

In May 2008, the Association of Australasian Acoustical Consultants (AAAC) first published the *Guideline for Child Care Centre Acoustic Assessment*. The guideline was updated in 2010 to assist both AAAC members and local Councils to assess the noise impact from proposed child care centres both accurately and fairly (see www.aaac.org.au).

It is common practice for councils to follow the recommendations of the EPA and require a noise criterion of background +5 dB at residential receptor locations for noise impact from sources such as mechanical plant, which may operate over a prolonged period of time.

However, children do not generally play outdoors for long periods of time, and as the duration of time for children playing outside is reduced, the overall noise annoyance reduces. Therefore, it is reasonable to allow a higher level of noise impact for a shorter duration. The AAAC document states that a total time limit of 2 hours of outdoor play per day (e.g. 1 hour in the morning and 1 hour in the afternoon) should allow an additional 5 dB noise impact.

Up to 2 hours (total) per day – The $L_{eq,\ 15min}$ noise level emitted from the outdoor play area shall not exceed the background noise level by more than 10 dB at the assessment location.

More than 2 hours per day – The $L_{eq,\ 15min}$ noise level emitted from the outdoor play area shall not exceed the background noise level by more than 5 dB at the assessment location.

5.2.2 AAAC Noise Criteria for Indoor Play Areas, Mechanical Plant and Car Park

The $L_{eq,\ 15min}$ noise level emitted from the cumulative noise impact of children playing indoors, mechanical plant and traffic on the site shall not exceed the background noise level by more than 5 dB at the residential assessment location.

5.2.3 AAAC Noise Criteria for External Noise Impact on Children

For noise emission from road traffic, train lines and industry the noise level within any location within an outdoor play area during the hours when the Centre is operating shall not exceed 55 dBA $L_{eq,\ 1\ hour}$.

The $L_{eq,\ 1\ hour}$ noise level from road, rail traffic or industry at any location within the indoor play or sleeping areas of the Centre during the hours then the Centre is operating, shall not exceed 40 dBA $L_{eq,\ 1\ hour}$.

5.3 NSW Environment Protection Authority

5.3.1 Sleep Disturbance

Given the proposed operating hours of the Centre (7 am to 6 pm), it follows that a number of staff will arrive prior to 7 am. As such, the potential for sleep disturbance, from maximum noise level events from vehicles arriving during the shoulder period of 6:30 am and 7 am, has been considered.

The Noise Policy for Industry provides the following guidance (NPI, Section 2.5) for setting appropriate trigger levels for sleep disturbance:

> *'Sleep disturbance is considered to be both awakenings and disturbance to sleep stages. 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 the greater,*
>
> *a detailed maximum noise level event assessment should be undertaken.'*

Additionally, Section 5.4 of the NSW Road Noise Policy provides the following advice with regard to sleep disturbance:

> *'From the research on sleep disturbance to date it can be concluded that:*
>
> - *Maximum internal noise levels below 50 – 55 dBA are unlikely to awaken people from sleep*
> - *One or two noise events per night, with maximum internal levels of 65 – 70 dBA are not likely to affect health and wellbeing significantly.*

It is noted that the early morning shoulder period is significantly higher than the day time RBL. This is likely due to local wildlife, such as birds, sheltering in the nearby trees and peak hour road traffic on the nearby M4 and The Northern Road.

As a conservative approach, we have use the day time RBL to set the sleep disturbance criterion.

5.4 Road Traffic Noise Criteria

The NSW Road Noise Policy (RNP), in Section 2.3.1, sets out road traffic noise assessment criteria for residential and non-residential land uses in Tables 3 and 4 of the policy. The relevant information in those tables is extracted and reproduced in Table 3 below.

Table 3 Road Traffic Noise Assessment Criteria - Residential

Road Category	Type of project/land use	Assessment Criteria – dB(A)	
		Day (7 am – 10 pm)	Night (10 pm – 7 am)
Local roads	1. Existing residences affected by **additional traffic** on existing local roads generated by land use developments	$L_{Aeq, (1\ hour)}$ 55dB (external)	$L_{Aeq, (1\ hour)}$ 50dB (external)

The noise criterion in Table 3 above is to be assessed at 1 metre from the nearest affected façade, as outlined in Table 7 of the RNP.

5.5 NSW Noise Policy for Industry

The Environmental Protection Authority published its Noise Policy for Industry (NPI) in 2017. For setting appropriate noise limits for the active recreation area, the Penrith Golf Club, we refer to the Table 2.2 of the NPI, which specifies recommended amenity noise levels for these areas as follows:

- $L_{eq, 15\ min}$ 55dBA – When in use

5.6 Project Specific Noise Criteria

Based on measurements of the existing acoustic environment and the relevant planning instruments and legislation, the noise criteria at each receptor applicable at each location is as shown in the following sections.

5.6.1 Residential Receptors

For residential premises:

- (46 + 5 =) **51 dBA** $L_{eq,\ 15\ minute}$ for outdoor play and the cumulative impact of all other noise sources including car park, mechanical plant and indoor play areas.

Compliance with the residential noise criteria is assessed at 1 metre from the façade of the receptor or outside the most affected first floor window.

5.6.2 Sleep Disturbance

Consideration has been given to sleep disturbance caused by noise generated by vehicles of staff arriving prior to 7 am.

Residential facades at ground floor level:

- (46 + 15 =) **61 dBA** L_{Amax} at ground floor level between 6.30 am and 7 am.

For all residential premises:

- **50 – 55 dBA** L_{Amax} internal level between 6.30 am and 7 am (staff arriving).

5.6.3 Active Recreation Areas

For all active recreation areas:

- **55 dBA** when in use

5.6.4 On-Road Traffic Noise Criterion

The following criterion will be applied for residential and non-residential receptors for additional on – road traffic noise generated by the use of the Centre:

- **55 dBA** (external) $L_{eq,\ 1\ hour}$ 1 metre from the nearest residential façade between 7 am and 10 pm.

5.6.5 External Noise Within Indoor Play and Sleeping Areas

The following criterion will be applied within any point of any indoor area within the Centre for external noise intrusion:

- **40 dBA** (internal) $L_{eq,\ 1\ hour}$ within any other room, when in use.

5.6.6 External Noise Within Outdoor Play Areas

The following criterion will be applied within any point of any outdoor play area within the Centre for external noise intrusion:

- **55 dBA** $L_{eq,\ 1\ hour}$ when in use.

6.0 CHILD CARE CENTRE NOISE EMISSION

The noise impacts to the nearby noise sensitive areas have been assessed from noise generated by the Centre as follows:

- Up to 200 children playing both outside and inside;
- Traffic generated by the use of the Centre; and
- Mechanical plant.

For a residence, the project noise trigger level and maximum noise levels are assessed at the reasonably most-affected point on or within the residential property boundary or, if that is more than 30 metres from the residence, at the reasonably most affected point within 30 metres of the residence, but not closer than 3 metres to a reflective surface and at a height of between 1.2–1.5 metres above ground level.

In assessing amenity noise levels within an active recreation area, the noise level is to be assessed at the reasonably most-affected point on or within the property boundary.

We have considered the noise impact at each of the residential receptor locations and active recreation areas, as outlined in Table 1. Noise modeling is based on preliminary architectural drawings provided by Design M Studio, as shown in Appendix D.

All distances used in noise calculations are approximate and are based on individual noise generating facets within the Centre, as shown in Appendix C, to the assessment location at each receptor. All residential receptor locations listed in Table 1, at which noise levels have been assessed, are representative of all adjacent residential receptors in the immediate area. Compliance at these nearest representative locations will ensure compliance at every other adjacent receptor.

6.1 Indoor and Outdoor Play Areas

Day Design Pty Ltd has previously measured and quantified the $L_{eq\ (15\ min)}$ sound level of children at a number of different child care centres. From this data we have been able to determine an L_{eq} sound power level (SWL) per child.

The AAAC has presented a range of A-weighted SWL's per child in its '*Guideline for Child Care Centre Acoustic Assessment*'. The logarithmic average of the full range of A-weighted SWL's for children has been used to represent the noise emission from a typical group of mixed aged children engaged in free play. It should also be noted that from previous experience, where passive/quiet activities are engaged in by children, the noise generated by children is generally 10 dB lower than active play.

The sound power levels for each group are presented in Table 4 and used in this assessment.

Table 4 Children at Play Indoor and Outdoor $L_{eq,\ 15\ min}$ Sound Power Levels

Number and Age of Children	Sound Power Levels (dB) at Octave Band Centre Frequencies (Hz)								
	dBA	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
10 children, 0 to 2 years	**79**	55	61	67	72	75	72	68	64
10 children, 2 to 3 years	**85**	61	67	73	79	81	78	74	70
10 children, 3 to 5 years	**88**	65	71	76	82	85	81	77	73
10 children, 5+ years	**90**	67	73	78	84	87	83	79	75

6.2 Car Park Noise Emission

Based on the RTA's '*Guide to Traffic Generating Developments*' prediction of 0.8 peak (morning 7 am – 9 am) vehicle trips per child for Child Care Centres (Long-day care), we have assumed, as a worst case scenario, a flow of cars equivalent to 160 trips in 1 hour arriving or leaving the car park in the morning peak. This is equivalent to 40 vehicle trips in a 15 minute period.

The SEL and L_{Amax} sound power level and spectra of vehicle noise is shown in Table 5. These levels are based on previous measurements by Day Design.

For the assessment of sleep disturbance we have assumed that staff vehicles will arrive at the Child Care Centre between 6:30 am and 7:00 am, enter the car park from the driveway on the north side of the subject site and park in the designated staff parking spaces at ground level.

For the assessment of vehicular activity from within the car park area we have assumed vehicles will travel at a rate of 10km/h. For additional noise generated by on-road traffic, we have assumed vehicles will travel at a rate of 30km/h as they approach or leave the Centre.

Table 5 Sound Power Levels of Car Park Noise

Description	Sound Power Levels (dB) at Octave Band Centre Frequencies (Hz)								
	dBA	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
SEL sound power level of car drive-by at approximately 10 km/h	**82**	86	82	78	77	78	73	70	64
SEL sound power level of car drive-by at approximately 30 km/h	**87**	93	86	84	82	83	76	69	63
L_{Amax} of car turning into driveway	**92**	98	92	90	88	88	83	80	76

6.3 Mechanical Plant

At the time of preparing this noise impact assessment report it is anticipated that three Actron SRA260C air conditioning units will serve the various areas of the Centre. It is also anticipated that exhaust fans may also be installed to ventilate bathrooms, kitchen and laundry areas however, specific models of ventilation fans had not yet been selected.

To determine the levels of noise at each residential receptor, sound power levels from an Actron SRA260C condenser unit (previously measured by Day Design) and typical exhaust fans for toilets, laundry and kitchen areas and have been used.

It is anticipated that two outdoor air conditioning condenser units will be installed at ground level on the south side of the building outside the Administration and Office areas and another unit will be installed at ground level outside the Cot Room, as shown in the architectural drawings attached as Appendix C. It is anticipated that toilet, laundry and kitchen exhaust fans will discharge at rooftop level.

Sound power levels used in the calculation of the noise contribution from the mechanical plant are shown in Table 6.

Table 6 $L_{eq,\ 15\ min}$ Sound Power Level – Mechanical Plant

Description	Sound Power Levels (dB) at Octave Band Centre Frequencies (Hz)								
	dBA	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
Typical Toilet/Laundry Exhaust Fan[1] - 2 off	**59**	51	47	50	53	58	43	36	31
Typical Kitchen Exhaust Fan[2] - 1 off	**65**	53	57	57	65	58	52	45	34
Typical Outdoor Condenser Unit[3] - 3 off	**75**	80	75	75	74	68	64	58	50

[1] *Spectral sound power level based on Fantech TD-500/150 SIL*
[2] *Spectral sound power level based on Fantech RSS0316AA10/10*
[3] *Spectral sound power level based on Actron SRC260C outdoor condenser unit.*

7.0 CALCULATED NOISE LEVELS AT RECEPTOR LOCATIONS

Knowing the sound power level of a noise source (See Tables 4 to 6), the sound pressure level (as measured with a sound level meter) can be calculated at a remote location using suitable formulae to account for distance losses, sound barriers, etc.

The following noise level calculations are shown for the ground and first floor levels of the nearest residential dwellings and for ground floor levels of active recreation areas. The calculated noise level at the receptor locations from the various noise producing facets of the Centre are shown in Tables 7 to 11.

7.1 Cumulative Noise Level –Indoor Play, Car Park and Mechanical Plant

Calculations assume all 200 children are playing inside and are distributed evenly throughout the indoor play areas with windows and doors partially open when the Centre is in use.

Calculations also assume that 1.8 metre high boundary fences are in place along the north, south east and west boundaries of the outdoor play areas only.

As specific items of mechanical plant have not yet been selected, noise level calculations for mechanical plant assume the sound power levels shown in Table 7.

Cumulative noise levels at levels for indoor play, car park use and mechanical plant are shown in Tables 7 and 8.

Table 7 Cumulative $L_{eq,\ 15\ minute}$ Noise Levels - Indoor Play, Car Park and Mechanical Plant (R1, R2)

Receptor Location	Calculated Noise Level - $L_{eq,\ 15\ min}$	Noise Criterion - $L_{eq,\ 15\ min}$	Compliance (Yes/No)
R1 – Residence (West)			
- Indoor play areas	GF - 36 dBA		
- Car park	GF - 35 dBA		
- Mechanical plant	GF - 9 dBA		
Cumulative Noise Level	GF - 39 dBA	51 dBA	Yes
R2 – Residence (North)			
- Indoor play areas	GF - 43 dBA		
- Car park	GF - 17 dBA		
- Mechanical plant	GF - 9 dBA		
Cumulative Noise Level	GF - 43 dBA	51 dBA	Yes

Table 8 Cumulative $L_{eq,\ 15\ minute}$ Noise Levels - Indoor Play, Car Park and Mechanical Plant (R3-R4)

Receptor Location	Calculated Noise Level - $L_{eq,\ 15\ min}$	Noise Criterion - $L_{eq,\ 15\ min}$	Compliance (Yes/No)
R3 – Residence (East)			
- Indoor play areas	GF - 46 dBA		
- Car park	GF - 45 dBA		
- Mechanical plant	GF - 30 dBA		
Cumulative Noise Level	GF - 48 dBA	51 dBA	Yes
R4 – Active Recreation (South)			
- Indoor play areas	GF - 27 dBA		
- Car park	GF - 28 dBA		
- Mechanical plant	GF - 13 dBA		
Cumulative Noise Level	GF - 31 dBA	55 dBA When in use	Yes

The calculated cumulative $L_{eq,\ 15\ minute}$ levels of noise from the general operation of the Centre is summarised in Tables 7 and 8 at each receptor location. With the aforementioned assumptions, the calculated cumulative levels of noise from the Centre indicate that the noise criteria is met at all receptor locations.

7.2 Outdoor Play Areas

The calculated $L_{eq,\ 15\ min}$ noise levels from activity in the outdoor play area for each receptor, are shown in Table 9. Using AAAC sound power levels for children, as established in Table 4, the calculated noise levels at each receptor location was determined by evenly distributing all 200 children into groups at separate locations across the outdoor play areas, as can be seen in Appendix C.

Calculations also assume that 1.8 metre high boundary fences are in place along the north, south east and west boundaries of the outdoor play areas only.

Table 9 Calculated L_{eq} Noise Levels - Outdoor Play

Receptor Location	Calculated Noise Level - $L_{eq,\ 15\ min}$	Noise Criterion - $L_{eq,\ 15\ min}$	Compliance (Yes/No)
R1 – Residence (West)	51 dBA	51 dBA	Yes
R2 – Residence (North)	51 dBA	51 dBA	Yes
R3 – Residence (East)	51 dBA	51 dBA	Yes
R4 – Active Recreation (South)	37 dBA	55 dBA When in use	Yes

The calculated $L_{eq,\ 15\ minute}$ levels of noise from children playing outdoors are summarised in Table 9 at the receptor locations. It can be seen that the level of noise emission from the use of the outdoor play areas is below the noise criterion established in Section 5 of this report for all receptor locations.

7.3 Sleep Disturbance

It is proposed that the Centre will accept children from 7 am. A number of staff will arrive and park within the basement car park, prior to 7 am to prepare for the arrival of the children, with more staff and parents arriving after 7 am.

The calculated L_{Amax} noise levels at the nearest façade of the most affected residential receptor locations 'R1', 'R2' and 'R3' are shown in Table 10.

Calculations also assume that 1.8 metre high boundary fences are in place along the north, south east and west boundaries of the outdoor play areas only.

Given that these receptors are the closest and most exposed to L_{max} noise events from the Centre, compliance at these receptor locations ensures compliance at all other receptors which are further away.

Table 10 Calculated L_{max} Noise Levels - (R1 – R3)

Receptor Location	Calculated Noise Level - L_{max}	Noise Criterion - L_{max}	Compliance (Yes/No)
R1 – Residence (West)	49 dBA	61 dBA	Yes
R2 – Residence (North)	26 dBA	61 dBA	Yes
R3 – Residence (East)	57 dBA	61 dBA	Yes

It can be seen from Table 10 that the L_{Amax} noise level at all residential receptor locations is below the sleep disturbance noise criterion established in Section 5 and is therefore acceptable.

7.4 On – Road Traffic

The external $L_{eq,\ 1\ hour}$ traffic noise levels at the residential receptor locations associated with additional on – road traffic throughout the day have been calculated. Calculations assume additional traffic will be travelling on Garswood Road. $L_{eq,\ 1\ hour}$ noise levels at receptor locations 'R1' - 'R4' are shown in Table 11.

Receptors 'R1', 'R3' and 'R4' are the closest and most exposed to additional traffic generated from the Centre. It is reasonable to assume that compliance at these locations will ensure compliance at all other receptor locations which are further away and shielded from the road by buildings and other structures.

Calculations consider distance attenuation only and assume a worst case scenario with all traffic from the Centre moving past each receptor exclusively. However, vehicles are more likely use the additional surrounding roads, therefore it is reasonable to assume noise levels will be lower in practice.

Table 11 Calculated $L_{eq,\ 1\ hour}$ Noise Levels - Additional On – Road Traffic

Receptor Location	Calculated Noise Level $L_{eq,\ 1\ hour}$	Noise Criterion $L_{eq,\ 1\ hour}$	Compliance (Yes/No)
R1 – At nearest façade	29 dBA	55 dBA	Yes
R3 – At nearest façade	30 dBA	55 dBA	Yes
R4 – At nearest affected point	39 dBA	55 dBA	Yes

The calculated external $L_{eq,\ 1\ hour}$ noise levels of noise from additional on-road traffic at the nearest residential locations are well below the noise criteria established in Section 5 and is therefore acceptable.

7.5 External Traffic Noise Within Outdoor Play Areas

The site is exposed to road traffic noise from the M4/Western Motorway to the north and The Northern Road to the east. Road traffic noise constitutes the dominant noise source within the existing acoustic environment, which is constant throughout the day when the Centre is to be in operation. Based on long term noise measurements conducted on site, as described in Section 4.1, we have calculated that the $L_{eq,\ 1hour}$ level of external road traffic noise within the play area is 60 dBA. No boundary fences were in place while the environmental noise logger gathered ambient noise data.

$L_{eq,\ 1hour}$ noise levels within the outdoor play area are shown in Table 12. Calculations assume attenuation due to new 1.8 metre high fences constructed along the east, north, west and south boundaries of the outdoor play areas.

Table 12 Calculated $L_{eq,\ 1\ hour}$ Road Traffic Noise Levels – Outdoor Play Areas

Receptor Location	Calculated Noise Level $L_{eq,\ 1\ hour}$	Noise Criterion $L_{eq,\ 1\ hour}$	Compliance (Yes/No)
Outdoor Play Area	53 dBA	55 dBA	Yes

The calculated external level of road traffic noise is below the noise criteria in Section 5 and is therefore acceptable.

7.6 External Noise Within Indoor Play and Sleeping Areas

Based on long term noise measurements conducted on site, as described in Section 4.1, we have calculated that the $L_{eq,\ 1hour}$ level of external road traffic noise at the facades of indoor play areas will be 53 dBA within for the outdoor play areas in Table 12 above.

We have assumed that windows and glazed doors comprise standard thickness glazing throughout the building. Standard façade construction with partially open windows/doors typically reduce external noise by up to 10 dB.

Table 13 Calculated $L_{eq,\ 1\ hour}$ Road Traffic Noise Levels – Indoor Play Areas

Receptor Location	Calculated Noise Level - $L_{eq,\ 1\ hour}$	Noise Criterion - $L_{eq,\ 1\ hour}$	Compliance (Yes/No)
Indoor Playrooms – Windows/Doors Open	**43 dBA**	40 dBA	**No +3 dB**
Indoor Playrooms – Windows/Doors Closed	35 dBA	40 dBA	Yes

It can be seen that the calculated internal levels of road traffic noise may exceed the noise criteria established in Section 5 when windows and/or glazed doors are open. The internal noise criterion is met when windows and/or glazed doors of indoor play areas are closed.

8.0 NOISE CONTROL RECOMMENDATIONS

8.1 Management Plan

We recommend the Child Care Centre's management implement a Noise Management Plan that should include, but not be limited to the following:

- Ensuring all staff and parents are provided with a copy of the Centre's Noise Management Plan and its implications for them during their time at the Centre
- Neighbours should be provided with the name and contact details of the Centre Director, and the invitation to contact that person at any time the Centre is operating.
- Staff arriving prior to 7 am should park in the dedicated Staff parking spaces.
- All external windows and sliding doors to all indoor play areas shall be kept closed except when in use.
- Facilitating children's small group play when outside and encouraging educators to engage in children's play and facilitate friendships between children.
- Crying children should be comforted as quickly as possible and moved indoors.

8.1.1 Outdoor Play Areas

Up to 200 children can utilise the outdoor play areas, as follows:

- Up to 20 children, 0-2 years old, within Outdoor Play Area 1 all day; ***and***
- Up to 30 children, 2-3 years old, within Outdoor Play Area 1 all day; ***and***
- Up to 60 children, 3-5 years old, within Outdoor Play Area 2 all day; ***and***
- Up to 60 children, 3-5 years old, within Outdoor Play Area 3 all day; ***and***
- Up to 30 children, 5+ years old, within Outdoor Play Area 4 all day.

Staff to child ratios shall be maintained in accordance with the requirements stipulated in the National Quality Framework (NQF).

8.2 Sound Barrier Fences

The sound barrier fences, as shown in Appendix C, should be constructed from an impervious material such as masonry, lapped-and-capped timber, clear polycarbonate, toughened glass, a proprietary modular system or a combination, free from holes or gaps.

We recommend that the use of Colorbond or sheet metal fencing be avoided in areas where the fence may be impacted with balls and other items during outdoor play activities.

8.2.1 Outdoor Play Areas – Up to 200 children

In order to meet the established noise criteria for all receptor locations with up to 200 children engaged in active play within each of the Outdoor Play Areas, we recommend the following fence heights are constructed:

- Construct a sound barrier fences along the west, north and east boundaries of the outdoor play area to a minimum height of 1.8 metres above finished ground level of the outdoor play area.

Acoustic fences and their required heights are shown in Appendix C.

8.2.2 Site Boundary Fences

Provided acoustic fences are constructed around the outdoor play areas, as specified in Section 8.2.1, additional acoustic fences along the boundaries of the site are not required to meet the established noise criteria.

8.3 Mechanical Plant

Outdoor air conditioning condenser units are proposed for the Centre and our calculations assume that units will be installed at ground level on the east façade. In this location, we recommend that the maximum total sound power level for all external condenser units is 75 dBA or less.

Rooms are to be ventilated to the standards set out in clause F4.5 of the Building Code of Australia and Australian Standards AS1668.2:1991.

8.4 Landscaping

Landscaping between the noise source and the receptors, in the form of trees and tall shrubs that provide visual screening of the noise source, will not reduce noise levels appreciably. However, they tend to make intrusive noise psychologically less offensive.

8.5 Construction Disclaimer

Recommendations made in this report are intended to resolve acoustical problems only. We make no claims of expertise in other areas of building construction and therefore the recommended noise controls should be implemented into the building design in consultation with other specialists to ensure they meet the structural, fire, thermal or other aspects of building construction.

We encourage clients to check with us before using materials or equipment that are alternative to those specified in our Acoustical Report.

9.0 CONCLUSION

Day Design Pty Ltd was engaged by Rammy Associates Pty Ltd on behalf of Wiggles and Giggles Pty Ltd to assess the potential environmental noise impact from a proposed Child Care Centre to be constructed at 15-17 Garswood Road, Glenmore Park, NSW.

Measurements and calculations show that, provided the noise control recommendations made in Section 8 of this report are implemented, the level of noise emitted by the proposed Child Care Centre at 15-17 Garswood Road, Glenmore Park, NSW, will meet the acceptable noise level requirements of the Association of Australasian Acoustical Consultants *Guideline for Child Care Centres Acoustic Assessmen*t and the Environmental Protection Authority's *Noise Policy for Industry* and *Road Noise Policy,* as detailed in Section 5 of this report, and is considered acceptable.

[redacted]

Alexander Mendoza, MDesSc (Audio and Acoustics), MAAS

Acoustical Consultant

for and on behalf of Day Design Pty Ltd

AAAC MEMBERSHIP

Day Design Pty Ltd is a member company of the Association of Australasian Acoustical Consultants, and the work herein reported has been performed in accordance with the terms of membership.

APPENDICES

Appendix A – Instrumentation
Appendix B – Ambient Noise Survey
Appendix C – Sound Barrier Fence Heights
Appendix D – Architectural Drawings
AC108-1 to 4 – Glossary of Acoustical Terms

NOISE SURVEY INSTRUMENTATION

Noise level measurements and analysis in this report were made with instrumentation as follows:

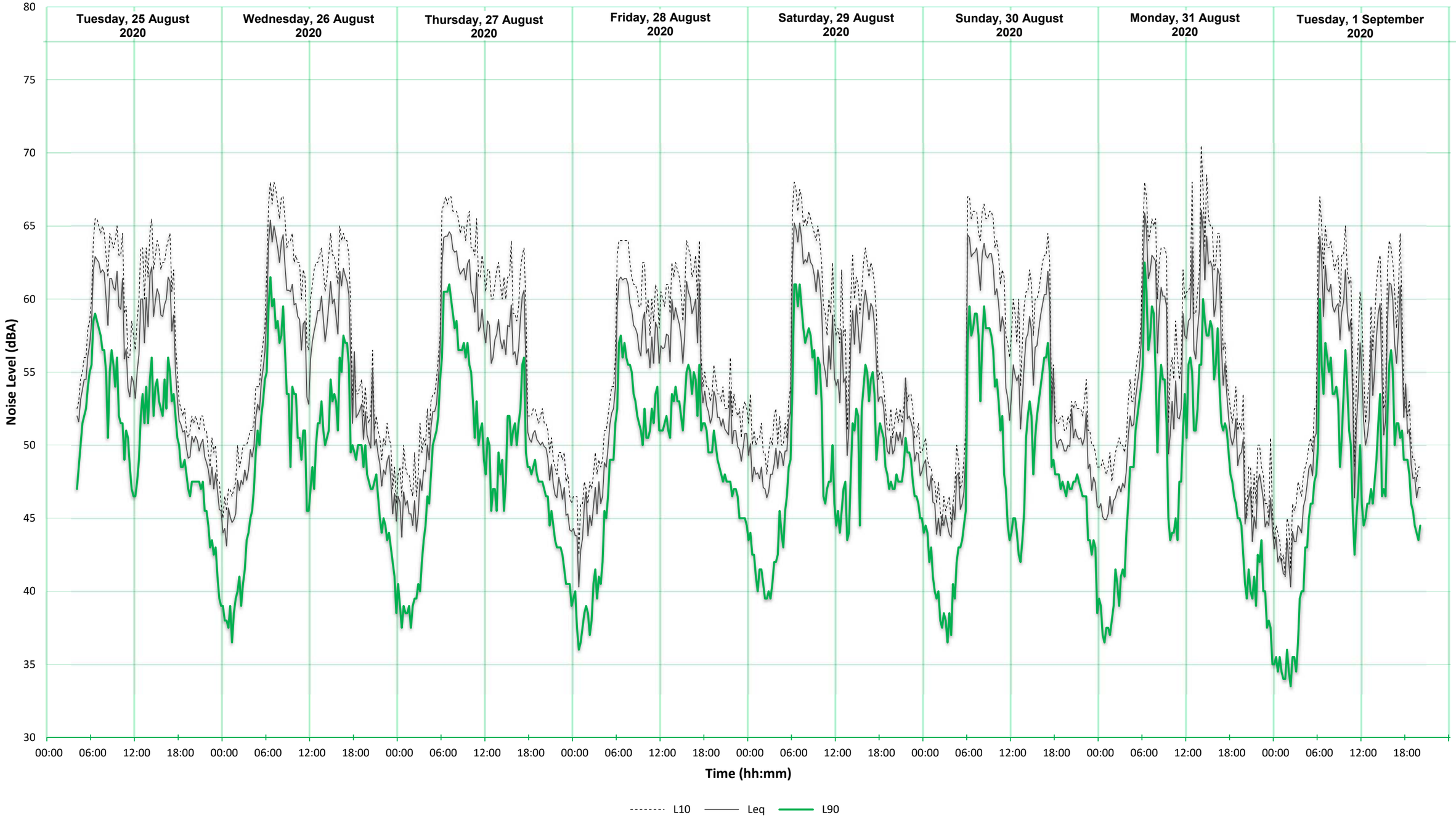
Table A1 Noise Survey Instrumentation

Description	Model No	Serial No
Infobyte Noise Logger (Type 2)	iM4	122
Condenser Microphone 0.5" diameter	MK 250	5219

An environmental noise logger is used to continuously monitor ambient noise levels and provide information on the statistical distribution of noise during an extended period of time. The Infobyte Noise Monitor iM4 (#122) is a Type 1 precision environmental noise monitor meeting all the applicable requirements of AS1259 for an integrating-averaging sound level meter.

All instrument systems had been laboratory calibrated using instrumentation traceable to Australian National Standards and certified within the last two years thus conforming to Australian Standards. The measurement system was also field calibrated prior to and after noise surveys. Calibration drift was found to be less than 1 dB during unattended measurements. No adjustments for instrument drift during the measurement period were warranted.

Located at 15-17 Garswood Rd, Glenmore Park, NSW



GLOSSARY OF ACOUSTICAL TERMS

ACOUSTICAL – Pertaining to the science of sound, including the generation, propagation, effects and control of both noise and vibration.

AMBIENT NOISE – The ambient noise level at a particular location is the overall environmental noise level caused by all noise sources in the area, both near and far, including road traffic, factories, wind in the trees, birds, insects, animals, etc.

AUDIBLE – means that a sound can be heard. However, there are a wide range of audibility grades, varying from "barely audible" to "just audible", "clearly audible" and "prominent". Chapter 83 of the NSW Environment Protection Authority – Environmental Noise Control Manual (1985) states:
"noise from a particular source might be offensive if it is clearly audible, distinct from the prevailing background noise and of a volume or character that a reasonable person would be conscious of the intrusion and find it annoying or disruptive".

It follows that the word "audible" in an environmental noise context means "clearly audible".

BACKGROUND NOISE LEVEL – Silence does not exist in the natural or the built-environment, only varying degrees of noise. The Background Noise Level is the average minimum dBA level of noise measured in the absence of the noise under investigation and any other short-term noises such as those caused by cicadas, lawnmowers, etc. It is quantified by the L_{A90} or the dBA noise level that is exceeded for 90 % of the measurement period (usually 15 minutes).

- **Assessment Background Level (ABL)** is the single figure background level representing each assessment period – day, evening and night (ie three assessment background levels are determined for each 24hr period of the monitoring period). Determination of the assessment background level is by calculating the tenth percentile (the lowest tenth percent value) of the background levels (L_{A90}) for each period (refer: NSW Industrial Noise Policy, 2000).
- **Rating Background Level (RBL)** as specified by the Environment Protection Authority is the overall single figure (L_{A90}) background noise level representing an assessment period (day, evening or night) over a monitoring period of (normally) three to seven days.

  The RBL for an assessment period is the median of the daily lowest tenth percentile of L_{90} background noise levels.

  If the measured background noise level is less than 30 dBA, then the Rating Background Level (RBL) is considered to be 30 dBA.

DECIBEL – The human ear has a vast sound-sensitivity range of over a thousand billion to one. The decibel is a logarithmic unit that allows this same range to be compressed into a somewhat more comprehensible range of 0 to 120 dB. The decibel is ten times the logarithm of the ratio of a sound level to a reference sound level. See also Sound Pressure Level and Sound Power Level.

Decibel noise levels cannot be added arithmetically since they are logarithmic numbers. If one machine is generating a noise level of 50 dBA, and another similar machine is placed beside it, the level will increase to 53 dBA, not 100 dBA. Ten similar machines placed side by side increase the sound level by 10 dBA, and one hundred machines increase the sound level by 20 dBA.

dBA – The human ear is less sensitive to low frequency sound than high frequency sound. We are most sensitive to high frequency sounds, such as a child's scream. Sound level meters have an inbuilt weighting network, termed the dBA scale, that approximates the human loudness response at quiet sound levels (roughly approximates the 40 phon equal loudness contour).

However, the dBA sound level provides a poor indication of loudness for sounds that are dominated by low frequency components (below 250 Hz). If the difference between the "C" weighted and the "A" weighted sound level is 15 dB or more, then the NSW Industrial Noise Policy recommends a 5 dBA penalty be applied to the measured dBA level.

dBC – The dBC scale of a sound level meter is similar to the dBA scale defined above, except that at high sound intensity levels, the human ear frequency response is more linear. The dBC scale approximates the 100 phon equal loudness contour.

EQUIVALENT CONTINUOUS NOISE LEVEL, L_{Aeq} – Many noises, such as road traffic or construction noise, vary continually in level over a period of time. More sophisticated sound level meters have an integrating electronic device inbuilt, which average the A weighted sound pressure levels over a period of time and then display the energy average or L_{Aeq} sound level. Because the decibel scale is a logarithmic ratio the higher noise levels have far more sound energy, and therefore the L_{Aeq} level tends to indicate an average which is strongly influenced by short term, high level noise events. Many studies show that human reaction to level-varying sounds tends to relate closely to the L_{Aeq} noise level.

FREE FIELD – This is a sound field not subject to significant reflection of acoustical energy. A free field over a reflecting plane is usually outdoors with the noise source resting on hard flat ground, and not closer than 6 metres to any large flat object such as a fence or wall; or inside an anechoic chamber.

FREQUENCY – The number of oscillations or cycles of a wave motion per unit time, the SI unit being the Hertz, or one cycle per second.

IMPACT ISOLATION CLASS (IIC) – The American Society for Testing and Materials (ASTM) has specified that the IIC of a floor/ceiling system shall be determined by operating an ISO 140 Standard Tapping Machine on the floor and measuring the noise generated in the room below. The IIC is a number found by fitting a reference curve to the measured octave band levels and then deducting the sound pressure level at 500 Hz from 110 decibels. Thus the higher the IIC, the better the impact sound isolation.

IMPACT SOUND INSULATION ($L_{nT,w}$) – Australian Standard AS ISO 717.2 – 2004 has specified that the Impact Sound Insulation of a floor/ceiling system be quantified by operating an ISO 140 Standard Tapping Machine on the floor and measuring the noise generated in the room below. The Weighted Standardised Impact Sound Pressure Level ($L_{nT,w}$) is the sound pressure level at 500 Hz for a reference curve fitted to the measured octave band levels. Thus the lower $L_{nT,w}$ the better the impact sound insulation.

IMPULSE NOISE – An impulse noise is typified by a sudden rise time and a rapid sound decay, such as a hammer blow, rifle shot or balloon burst.

INTRUSIVE NOISE LEVEL, L_{Aeq} – The level of noise from a factory, place of entertainment, etc. in NSW is assessed on the basis of the average maximum noise level, or the $L_{Aeq\ (15\ min)}$. This is the energy average A weighted noise level measured over any 15 minute period.

LOUDNESS – The degree to which a sound is audible to a listener is termed the loudness. The human ear perceives a 10 dBA noise level increase as a doubling of loudness and a 20 dBA noise increase as a quadrupling of the loudness.

MAXIMUM NOISE LEVEL, L_{Amax} – The rms maximum sound pressure level measured on the "A" scale of a sound level meter during a noise survey is the L_{Amax} noise level. It may be measured using either the Fast or Slow response time of the meter. This should be stated.

NOISE RATING NUMBERS – A set of empirically developed equal loudness curves has been adopted as Australian Standard AS1469-1983. These curves allow the loudness of a noise to be described with a single NR number. The Noise Rating number is that curve which touches the highest level on the measured spectrum of the subject noise. For broadband noise such as fans and engines, the NR number often equals the dBA level minus five.

NOISE – Noise is unwanted sound. Sound is wave motion within matter, be it gaseous, liquid or solid. "Noise includes sound and vibration".

NOISE REDUCTION COEFFICIENT – See: "Sound Absorption Coefficient".

OFFENSIVE NOISE - (Reference: Dictionary of the Protection of the Environment Operations Act 1997). *"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 likely to be harmful to) a person who is outside the premise 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."

PINK NOISE – Pink noise is a broadband noise with an equal amount of energy in each octave or third octave band width. Because of this, Pink Noise has more energy at the lower frequencies than White Noise and is used widely for Sound Transmission Loss testing.

REVERBERATION TIME, T_{60} – The time in seconds, after a sound signal has ceased, for the sound level inside a room to decay by 60 dB. The first 5 dB decay is often ignored, because of fluctuations that occur while reverberant sound conditions are being established in the room. The decay time for the next 30 dB is measured and the result doubled to determine the T_{60}. The Early Decay Time (EDT) is the slope of the decay curve in the first 10 dB normalised to 60 dB.

SOUND ABSORPTION COEFFICIENT, α – α Sound is absorbed in porous materials by the viscous conversion of sound energy to heat energy as the sound waves pass through it. Sound is similarly absorbed by the flexural bending of internally damped panels. The fraction of incident energy that is absorbed is termed the Sound Absorption Coefficient, α. An absorption coefficient of 0.9 indicates that 90 % of the incident sound energy is absorbed. The average α from 250 to 2000 Hz is termed the Noise Reduction Coefficient (NRC).

SOUND ATTENUATION – If an enclosure is placed around a machine, or a silencer is fitted to a duct, the noise emission is reduced or attenuated. An enclosure that attenuates the noise level by 30 dBA, reduces the sound energy by one thousand times.

SOUND EXPOSURE LEVEL (SEL) – The total sound energy of a single noise event condensed into a one second duration or in other words it is an L_{eq} (1 sec).

SOUND PRESSURE LEVEL, L_p – The level of sound measured on a sound level meter and expressed in decibels, dB, dBA, dBC, etc. $L_p = 20 \times \log (P/P_o)$ ... dB

where P is the rms sound pressure in Pascal and P_o is a reference sound pressure of 20 µPa. L_p varies with distance from a noise source.

SOUND POWER LEVEL, L_w – The Sound Power Level of a noise source is an absolute that does not vary with distance or with a different acoustic environment.

$L_w = L_p + 10 \log A$ ... dB, re: 1pW,
where A is the measurement noise-emission area in square metres in a free field.

SOUND TRANSMISSION CLASS (STC) – An internationally standardised method of rating the sound transmission loss of partition walls to indicate the decibels of noise reduction of a human voice from one side to the other. (Refer: Australian Standard AS1276 – 1979)

SOUND TRANSMISSION LOSS – The amount in decibels by which a random sound is reduced as it passes through a sound barrier. A method for the measurement of airborne Sound Transmission Loss of a building partition is given in Australian Standard AS1191 - 2002.

STATISTICAL EXCEEDENCE SOUND LEVELS, L_{A90}, L_{A10}, L_{A1}, etc – Noise which varies in level over a specific period of time (usually 15 minutes) may be quantified in terms of various statistical descriptors:

The L_{A90} is the dBA level exceeded for 90 % of the time. In NSW the L_{A90} is measured over periods of 15 minutes, and is used to describe the average minimum or background noise level.

The L_{A10} is the dBA level that is exceeded for 10 % of the time. In NSW the L_{A10} measured over a period of 10 to 15 minutes. It was until recently used to describe the average maximum noise level, but has largely been replaced by the L_{Aeq} for describing level-varying noise.

The L_{A1} is the dBA level that is exceeded for 1 % of the time. In NSW the L_{A1} may be used for describing short-term noise levels such as could cause sleep arousal during the night.

STEADY NOISE – Noise, which varies in level by 6 dBA or less, over the period of interest with the time-weighting set to "Fast", is considered to be "steady". (Refer AS 1055.1 1997)

WEIGHTED SOUND REDUCTION INDEX, R_w – This is a single number rating of the airborne sound insulation of a wall, partition or ceiling. The sound reduction is normally measured over a frequency range of 100 to 3,150 Hertz and averaged in accordance with ISO standard weighting curves (Refer AS/NZS 1276.1:1999).

Internal partition wall $R_w + C$ ratings are frequency weighted to simulate insulation from human voice noise. The $R_w + C$ is always similar in value to the STC rating value. External walls, doors and windows may be $R_w + C_{tr}$ rated to simulate insulation from road traffic noise. This is normally a lower number than the STC rating value.

WHITE NOISE – White noise is broadband random noise whose spectral density is constant across its entire frequency range. The sound power is the same for equal bandwidths from low to high frequencies. Because the higher frequency octave bands cover a wider spectrum, white noise has more energy at the higher frequencies and sounds like a hiss.