LOCAL PLANNING PANEL AGENDA

27 May 2024

LIVERPOOL CITY COUNCIL

LIVERPOOL THE GREAT SOUTH WEST

MATTERS FOR THE LOCAL PLANNING PANEL'S DETERMINATION

Monday, 27 May 2024

LIVERPOOL CIVIC PLACE, COUNCIL CHAMBERS
LEVEL 1, 50 SCOTT ST, LIVERPOOL NSW 2170

Commencing at **2:00 PM**

Submissions by the applicant and concerned parties will be considered at the meeting. A concerned party is deemed to be a person who has made a written submission in respect to the application. The Panel shall, upon request, hear submissions from persons who identify prior to a meeting that they wish to make a submission to be considered by the Panel. Presentations to the Panel by the applicant and concerned parties shall be restricted to **3 minutes each**. The Panel Chairperson has the discretion to extend the period if considered appropriate.

Should you wish to address the Panel, please advise Amanda Merchant, Panel Support Officer on 8711 7712, by 4pm, 24th May 2024.

For further information relating to the Local Planning Panel please refer to Council's web page:

Liverpool Local Planning Panel / Liverpool City Council (nsw.gov.au)

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2	DEVELOPMENT APPLICATION DA-347/2023 DEMOLITION OF EXISTING STRUCTURES AND CONSTRUCTION OF A SINGLE STOREY 28 PLACE CENTRE-BASED CHILDCARE, CAR PARKING, FENCING AND ASSOCIATED SITE WORKS LOT 428 DP 234857 14 SATELBERG STREET, HOLSWORTHY NSW 2173	243 - 536

ITEM No.	SUBJECT	PAGE No.
3	DEVELOPMENT APPLICATION DA-224/2023 FIT-OUT AND OPERATION OF LEVEL 6 WITHIN THE APPROVED MIXED USE CIVIC BUILDING FOR THE PURPOSE OF A CHILDCARE CENTRE FOR 90 CHILDREN. LOT 100 DP 877435, LOT 12, DP 657056, LOT 22 DP 441010 LOT 1 DP 514817, AND LOT 201 DP 1224084 40-46, 48, 52, 64 SCOTT STREET LIVERPOOL AND 306-310 MACQUARIE STREET LIVERPOOL NSW 2170.	537 - 627

Item Number:	**1**
Application Number:	DA-581/2023
Proposed Development:	Demolition of existing structures, construction of six x two storey attached dwellings and Torrens title subdivision into six lots
Property Address	Nos. 75-77 Leacocks Lane, Casula 2170
Legal Description:	Lot 101 DP 1045986
Applicant:	SK BUILDING DESIGN PTY LTD
Land Owner:	Mr & Mrs M A M Al-Zohairy
Cost of Works:	$1,875,793.30
Recommendation:	Refusal
Assessing Officer:	Ben Paterson

1 EXECUTIVE SUMMARY

The subject Development Application (DA) seeks consent for *Demolition of existing structures, construction of six x two storey attached dwellings and Torrens title subdivision into six lots* at Nos. 75-77 Leacocks Lane, Casula NSW 2170**.**

The development site is identified and known as Nos. 75-77 Leacocks Lane and is legally defined as Lot 101 in Deposited Plan (DP) 1045986.

The site is zoned R2 Low Density Residential under Liverpool Local Environmental Plan (LLEP) 2008 and the proposed development is permissible with consent. The proposed development is identified as 'integrated development' requiring approval from NSW Rural Fire Services (RFS). RFS has considered the information submitted. General Terms of Approval, under Division 4.8 of the *Environmental Planning and Assessment Act 1979*, and a Bush Fire Safety Authority, under section 100B of the *Rural Fires Act 1997*, have been issued subject to conditions.

A key issue associated with the assessment of the subject Development Application relates to the variation to the minimum lot size as per Clause 4.1 Minimum Subdivision Lot Size of the LLEP 2008. As demonstrated in this report, it is considered that insufficient planning grounds to justify contravening the development standard have been established and the variation to the minimum lot size development standard is not supported in this instance.

The proposal also includes a number of non-compliance issues with the Liverpool Development Control Plan (LDCP) 2008, with regards to the following:

- Lot widths;
- Site planning;
- Private open space;
- Solar access;
- Cut and Fill;
- Fence Heights; and
- Overshadowing.

These non-compliance issues remain outstanding and are not considered to be acceptable in this case.

The application was required to be notified in accordance with the Liverpool Community Participation Plan 2022 between 16 November 2023 and 30 November 2023, and three (3) submissions were received raising concerns with the proposal. The concerns relate to traffic congestion, safety, privacy, stormwater run-off and bulk.

The application is referred to the Liverpool Local Planning Panel (LLPP) in accordance with the *Local Planning Panels Direction – Development Applications and Applications to Modify Development Consent, endorsed by the Minister for Planning and Public Spaces,* as the development falls in the category of:

> ***Departure from Development Standards***
> *Development that contravenes a development standard imposed by an Environmental Planning Instrument (EPI) by more than 10% or non-numerical development standards.*

The application has been assessed pursuant to the provisions of the Environmental Planning and Assessment Act 1979 (EP&A Act) and it is recommended the application be **refused** based on insufficient information submitted and inconsistencies with relevant environmental planning instruments (EPI's) and policies. Accordingly, the proposed development would be contrary to the public interest.

2. SITE DESCRIPTION AND LOCALITY

2.1 The site

The subject site is known as Nos. 75-77 Leacocks Lane, being legally defined as Lot 101 in Deposited Plan (DP) 1045986. The subject allotment is irregular in shape and has two street frontages. The primary street frontage to Leacocks Lane has an arc length of 25.5m and the rear frontage facing both Cusack Avenue and Keneally Way has a combined frontage length of 31.24m. The site has varying side depths of between 71.5m and 76.345m. The site has a total area of 1774.7m^2. The site has a significant fall by over 4.5m from the eastern frontage to the west, where it has a further cross fall by approximately 2m from the northern side of the site down to the southern side.

The subject site currently contains a two-storey residence, concrete driveway, metal shed located to the rear and multiple mature trees. Multiple additional vehicle crossovers to both Leacocks Lane, Cusack Avenue and Keneally Way form part of this application.

A site inspection was carried out on 13 February 2024. The photos (Figures 1 – 6) show the subject site and the surrounding area's character.

Figure 1: Existing residence (Nos. 75-77 Leacocks Lane)

Figure 2: C1 - Natural Parks and Nature zone directly opposite the site

Figure 3: Neighbouring dwellings to the south (No. 79-83 Leacocks Lane)

Figure 4: Neighbouring dwelling to the north (No. 73B Leacocks Lane)

Figure 5: Existing site rear (viewed from Keneally Way)

Figure 6: Road Junction of Cusack Avenue and Keneally Way at rear

An existing easement for underground co-axial cable (3.66m wide) traverses across the frontage of the site. A copy of the title associated with the easement was provided, which identifies the easement was registered in 1966 and was an easement for P.M.G. co-axial cable.

Further research conducted on this easement has shown that the easement is associated with a telecommunications engineering and construction project which began in the early 1960s. The project was designed to significantly increase telecommunications transmissions capacity between Sydney and Melbourne and their centres, along its route including Canberra. The cable's route was approximately 960 kilometres and roughly followed the Hume Highway as it existed at that time.

Its prime purpose was to boost the capacity for telecommunications between the two major cities. The cable was made up of three pairs of tubes, each pair capable of carrying 1,260 simultaneous telephone connections. Although the easement for underground cables has no

'Inservice' electricity infrastructure, no easement is considered redundant until released by Endeavour Energy and shall be managed as if the assets are in place.

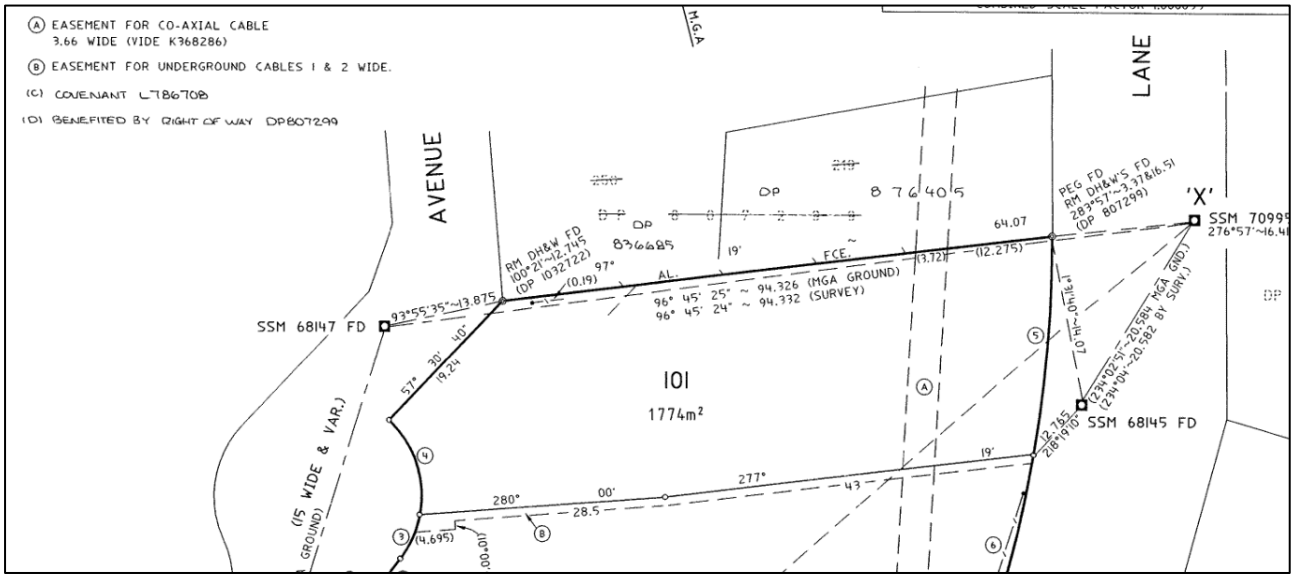


Figure 7: Extract of DP 1045986.

The proposed development does not involve any building works over the easement, except for the driveways. As such, the development is acceptable in relation to the easement as access to the easement would be maintained.

2.2 The locality

The subject site is located within a relatively low-density residential area of Casula. The surrounding area is characterised by one and two storey dwelling houses with internal garages and hardstand spaces. Vehicle access is primarily from Leacocks Lane, however, the proposed development details additional access from Cusack Ave and Keneally Way to the rear of the site. The site is within the Georges River local catchment and is subject to State Environment Planning Policy (SEPP) (Biodiversity and Conservation) 2021.

The site is located approximately 1km south-west of Casula Train Station, 1km south-east of Casula Mall, 2.5km east of the Westlink M7 and South-Western Motorway junction and is within proximity to several local schools.

Figure 8: Locality Surrounding the Proposed Development (Source: NearMap)

The land immediately to the south (Nos. 79-83 Leacocks Lane) consists of eight attached two-storey townhouses strata subdivided on land of approximately 2,074m^2. Immediately to the north of the site (Nos. 71, 73A and 73B Leacocks Lane) there are three; one to two storey detached dwellings. Further north (Nos. 65-69 Leacocks Lane) is a vacant parcel of land with an approved six-lot Torrens title subdivision.

Figure 9: Immediate Locality Surrounding the Proposed Development (Source: NearMap)

2.3 Site Constraints

Potential Site Constraints	Site Constraints
• Bushfire • Flooding • Heritage Items • Aboriginal Heritage Items • Environmental Sensitive Land • Threatened Species/ Flora/Habitat/Critical Communities • Aircraft Noise • Acid Sulphate Soils • Flight Paths	• Bushfire Prone Land: Vegetation Buffer 100m and 30m (Potential to affect proposed Lot A only) • Moderate Salinity Risk • Co-axial cable easement • 6.5m fall of land from N/E corner down to S/W corner • 300m from rail line

• Railway Noise • Road Noise/Classified Road • Contamination	
Are there any restrictions on the title or 88B instrument?	**Yes.** Easement for Underground Cables 1 and 2 wide. (Proposed Lots A, B, and C affected)

3. BACKGROUND/HISTORY

The following is a summary of recent applications regarding the site:

DATE	Description
07 December 2022	A pre-DA meeting was held (PL-94/2022) regarding a proposal to *demolish an existing house and subdivision of the land into four or five lots*. Preliminary advice was provided to the applicant noting that the option to create four lots provided a better planning outcome.
09 November 2023	The subject Development Application DA-581/2023 lodged for *demolition of existing structures, construction of six x two storey attached dwellings and Torrens title subdivision into six lots.*
16 – 30 November 2023	The subject application placed on notification and three submissions were received.
17 January 2024	A request for additional information (RFI) letter was sent to the applicant in relation to the following matters: • Clause 4.6 Variation not supported • Cost of Works • Arborist Report • Demolition Statement • Schedule of Colours and Finishes • Bedroom Size • Building Height Sections • FSR Calculations • Minimum Lot Width • Street Tree Planting • Waste Management Plan (WMP) • Setback Non-compliance • Landscaped Area • Private Open Space (POS)

	• Cut & Fill • Building Design & Appearance • Solar Access • Storage • Landscaping • Fencing • Overshadowing • Privacy • Letterboxes • Stormwater Plan • Traffic Impact Assessment (TIA)
29 January 2024	The applicant contacted Council and it was discussed that Council did not support the proposed non-compliance with LLEP 2008 Clause 4.1 - Minimum Lot Size, however, this application would proceed to the Liverpool Local Planning Panel (LLPP) in which a different outcome may be sought by the applicant. It was also noted that variations to POS and minimum lot width requirements may be considered but only if all other non-compliances are addressed.
05 February 2024	The applicant provided amended plans that was referred to the relevant referral sections and bodies. The information was not considered to have sufficiently addressed all items within the original issued RFI.
04 March 2024	A 7-day follow up letter was issued to the applicant.
11 March 2024	The applicant requested a 14-day extension, and a 7-day extension was permitted instead.
18 March 2024	The applicant provided amended plans that were re-referred to the relevant bodies. The information was not considered to have sufficiently addressed all items within the Request for Additional Information.

The submitted documents were found to be unsatisfactory in response to the issues raised by Council and there is insufficient level of information submitted with the subject application to make a full and proper assessment of the development. As such the proposal has been recommended for **refusal** in this instance.

4. DETAILS OF THE PROPOSAL

The development application seeks approval for the *'demolition of existing structures, construction of six x two storey attached dwellings and Torrens title subdivision into six lots.'*

The proposal seeks approval, specifically, for the following:

- Demolition of the existing two-storey residence, shed and driveway.

- Construction of six attached two-storey dwellings consisting of three to four bedrooms each.
- A six lot Torrens title subdivision.
- Vehicle crossings to Leacocks Lane, Cusack Ave and Keneally Way.
- Landscaping and associated site works.

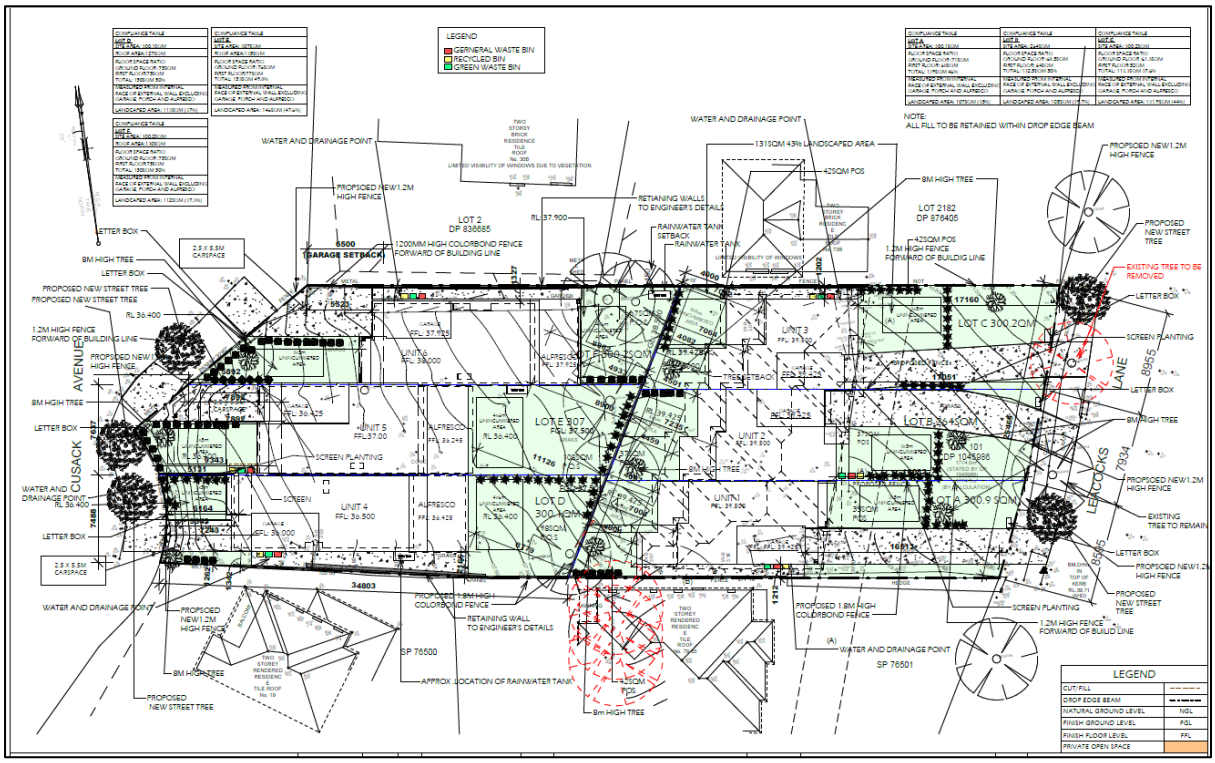


Figure 10: Site Plan (source: SK Building Design)

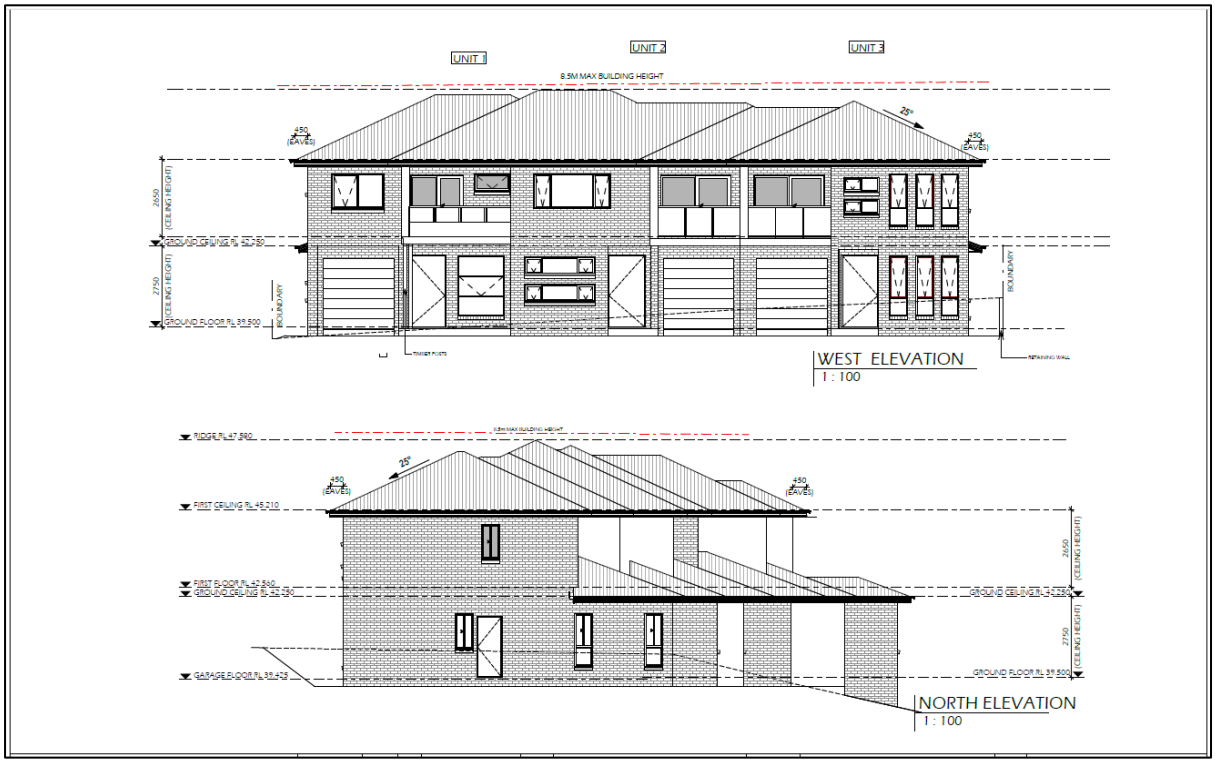


Figure 11: Elevations Units 1-3 (source: SK Building Design)

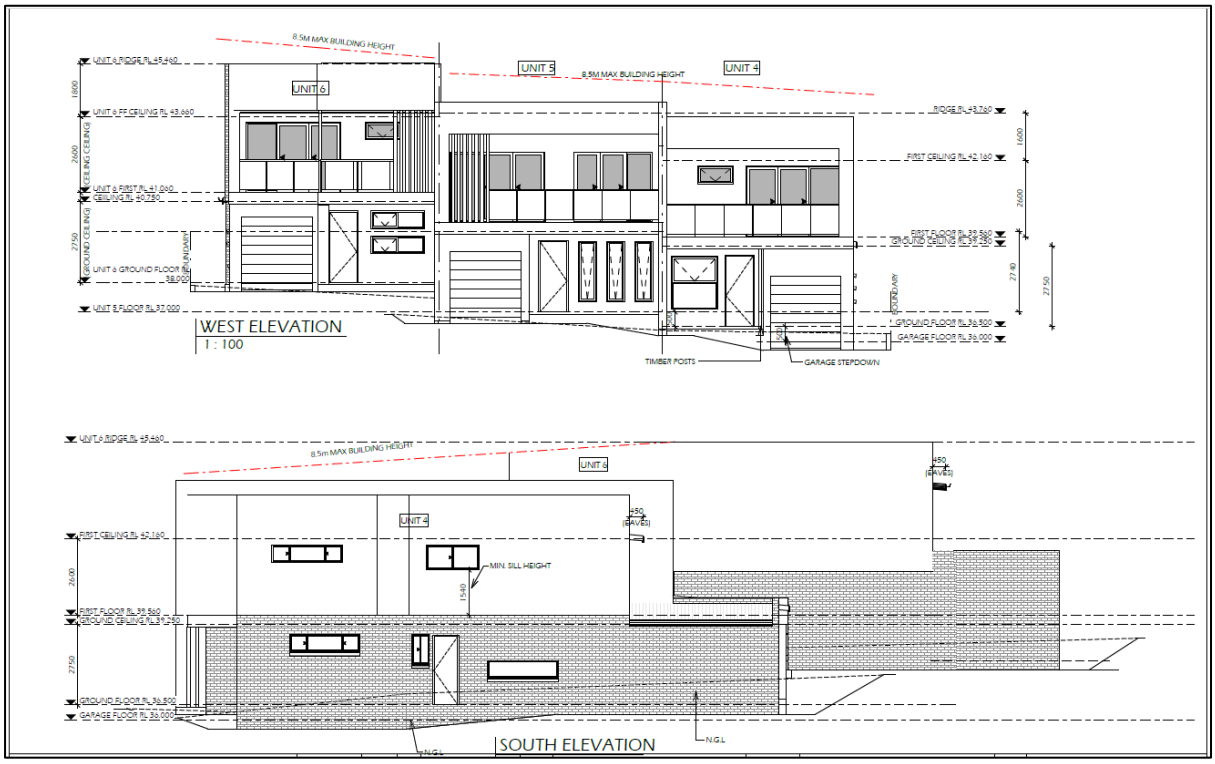


Figure 12 Elevations Units 4-6 (source: SK Building Design)

Figure 13: Perspective Units 1-3 (source: SK Building Design)

Figure 14: Perspective Units 4-6 (source: SK Building Design)

5. STATUTORY CONSIDERATIONS

5.1 Relevant matters for consideration

The relevant planning instruments/policies applicable to the proposed development are as follows:

- State Environmental Planning Policy (Resilience and Hazards) 2021.
- State Environmental Planning Policy (Sustainable Buildings) 2022.
- State Environmental Planning Policy (Biodiversity and Conservation) 2021.
- Liverpool Local Environmental Plan (LLEP) 2008.
- Liverpool Development Control Plan (LDCP) 2008.
  - Part 1: General Controls for All Development; and
  - Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) on Lots in the R2, R3 & R4 zones.

Contributions Plans

- Liverpool Contributions Plan 2018 – Established Areas – applies to all developments pursuant to Section 7.11 of the EPA & Act.

6. ASSESSMENT

The development application has been assessed in accordance with the relevant matters of consideration prescribed by Section 4.15 Evaluation of the EP&A 1979 and the Environmental Planning and Assessment Regulation 2021, as follows:

6.1 Section 4.15(1)(a)(i) – Any Environmental Planning Instrument

(a) State Environmental Planning Policy (Biodiversity and Conservation) 2021

The subject land is located within the Georges River catchment and as such State Environmental Planning Policy (Biodiversity and Conservation) 2021 – Chapter 6 Water Catchments applies to the application. SEPP (Biodiversity and Conservation) 2021 – Chapter 6 Water Catchments generally aims to maintain and improve the water quality and river flows of the Georges River and its tributaries. The DA was referred to Council's Land Development engineering section who reviewed the application and raised no objections to the proposed development, subject to the lodgment of additional information and standard conditions.

Accordingly, the proposed development is considered to meet the objectives of the SEPP and is unlikely to have a negative impact on the environmental quality of the Georges River Catchment.

(b) State Environmental Planning Policy (Resilience and Hazards) 2021

The proposal has been assessed under the relevant provisions of SEPP (Resilience and Hazards) 2021, specifically Chapter 4 – Remediation of Land. Under the former SEPP Guidelines if the site is contaminated, the consent authority must be satisfied that it is suitable in its contaminated state for the development. If the site requires remediation, the consent authority must be satisfied that it will be remediated before the land is used for the development. Furthermore, the consent authority must consider a preliminary contamination investigation in certain circumstances.

Consideration has been given to the existing and historical residential use of the site where a contamination assessment is not considered necessary in this instance.

Based on the above assessment, the proposal is considered to satisfy the relevant objectives and provisions of Clause 4.6 of Chapter 4. Therefore, it is considered that the subject site is suitable for the proposed development.

(c) State Environmental Planning Policy (Sustainable Buildings) 2022

State Environmental Planning Policy (BASIX) 2004 was repealed on 1 October 2022 and was replaced by State Environmental Planning Policy (Sustainable Buildings) 2022. Higher BASIX thermal performance and energy standards would apply to all new residential buildings across NSW.

Despite this, the proposed development is not required to be assessed against State Environmental Planning Policy (Sustainable Buildings) 2022 as '*Savings and transitional provisions'* apply, which state:

> ***4.2 Savings and transitional provisions***
> *(1) This policy does not apply to the following –*
> *(c) a development application for BASIX development or BASIX optional development submitted on the NSW planning portal on or after 1 October 2023, if the BASIX certificate that accompanies the development application was issued before 1 October 2023,*

A BASIX certificate has been prepared on 13 September 2023 for the proposed development which is considered satisfactory in addressing thermal comfort and water conservation of the dwelling in relation to SEPP (Building Sustainability Index: BASIX) 2004.

(d) Liverpool Local Environmental Plan 2008

(i) Zoning

The subject site is zoned **R2 Low Density Residential** under LLEP 2008, and an extract of the zoning map is provided in Figure 10 below.

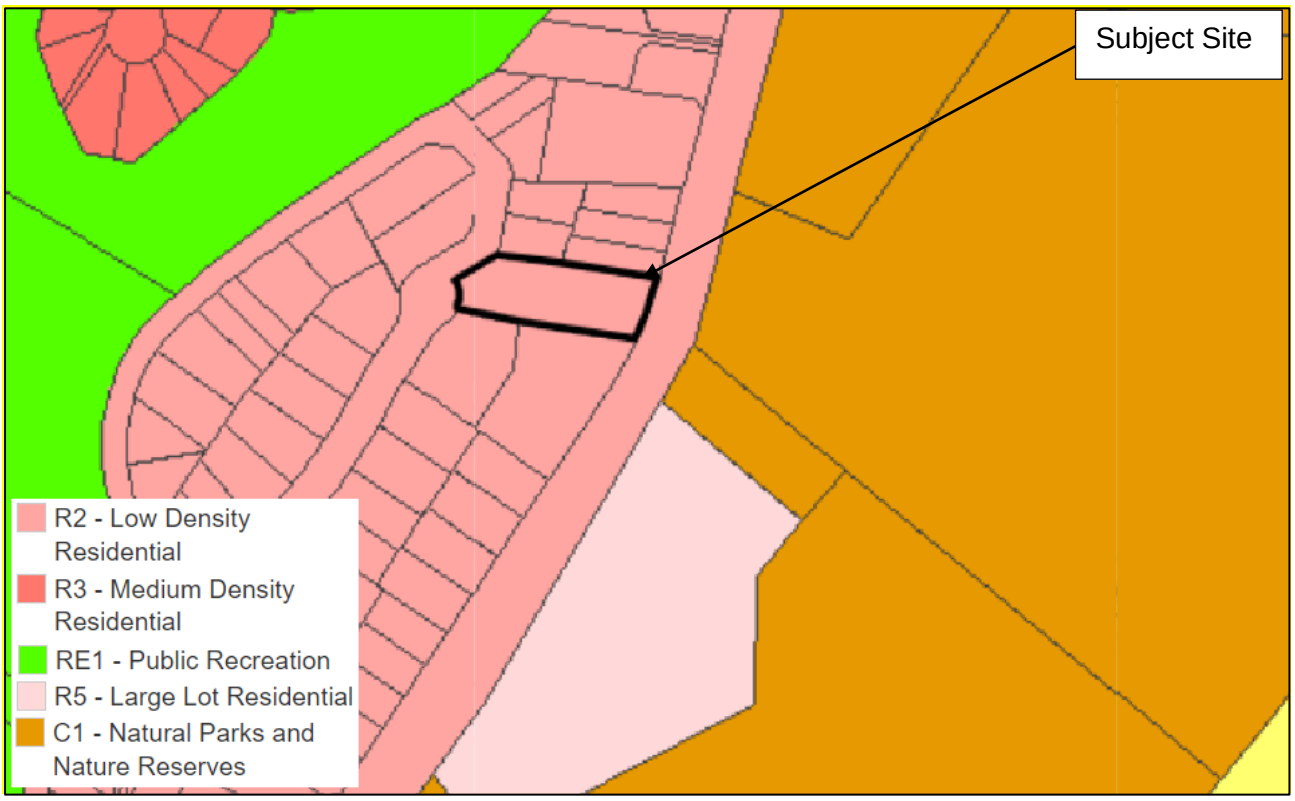


Figure 15: Zoning Map (source: NSW Legislation)

(ii) PERMISSIBILITY

The proposed development is best described as a "subdivision" and "attached dwelling" which are permissible forms of development in the R2 Low Density Residential zone with consent.

Pursuant to the LLEP 2008: ***attached dwelling*** *means a building containing 3 or more dwellings, where—*
(a) each dwelling is attached to another dwelling by a common wall, and
(b) each of the dwellings is on its own lot of land, and
(c) none of the dwellings is located above any part of another dwelling.

The subject application proposes six two-storey dwellings attached by a common side wall, each on its own subdivided lot of land. The proposal is appropriately defined as an "attached dwelling" and as a result, is permissible with consent.

(iii) OBJECTIVES OF THE ZONE

The objectives of the **R2 Low Density Residential** zone are as follows:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

- *To provide a suitable low scale residential character commensurate with a low dwelling density.*
- *To ensure that a high level of residential amenity is achieved and maintained.*

The proposal is not consistent with the objectives of the zone in that:

- Whilst the proposed application would result in a net increase of six attached dwellings, the proposed design is not considered to be consistent with a low-density residential environment.
- The proposal presents as a form of an 'overdevelopment' that would detract from the existing low scale residential character of the locality and of the street frontage especially given the mix of single and two-storey detached housing within the locality. It is considered a development, of this style of attached compact housing would be more suitable for a medium-to-high density residential area.
- As noted within this report, the proposal consists of several areas of non-compliance with development standards and controls that would adversely affect the residential amenity to both the future occupants of the development and adjoining properties.

(iv) PRINCIPAL DEVELOPMENT STANDARDS

LLEP 2008 contains principal development standards which are relevant to the proposal, as detailed below.

Development Provision	Requirement	Proposed	Comment
4.1 Minimum subdivision lot size	The minimum lot size is 300m^2.	Lot A: 300.9m^2 Lot B: 264m^2 Lot C: 300.2m^2 Lot D: 300.1m^2 Lot E: 307m^2 Lot F: 300.2m^2 *It is noted that the total of combined lot areas provided within the architectural plans = 1,772.4m^2. This does not align with the total surveyed area of 1,774.7m^2.*	**Non-Compliance.** *Refer to Section (v) Clause 4.6 Variation request below.*
4.3 Height of Buildings	Max Height = 8.5m from NGL.	Unit 1: 8.49 m Unit 2: 8.48 m Unit 3: 7.17 m Unit 4: 7.44 m	**Complies.**

		Unit 5: 7.63 m Unit 6: 7.86 m	
4.4 Floor Space Ratio (FSR)	Max FSR: 0.5:1	Unit 1: 138.3: 300.9 m^2 0.46:1 Unit 2: 131: 264 m^2 0.496:1 Unit 3: 110.63:300.2 m^2 0.37:1 Unit 4: 148.51:300.1 m^2 0.49:1 Unit 5: 151.72:307 m^2 0.494:1 Unit 6: =146.87:300.2 m^2 =0.489:1	**Complies.**

As demonstrated in the above compliance table, the proposed development is not consistent with the provisions of LLEP 2008 with relation to the minimum subdivision lot size development standard.

(v) CLAUSE 4.6 EXCEPTIONS TO DEVELOPMENT STANDARDS (VARIATION TO CLAUSE 4.1 MINIMUM SUBDIVISION LOT SIZE)

Clause 4.1 (3) of the LLEP 2008 states:

"The size of any lot resulting from a subdivision of land to which this clause applies is not to be less than the minimum size shown on the Lot Size Map in relation to that land."

The subject proposal seeks a variation to the minimum subdivision lot sizes contained within LLEP 2008. As stated in the LLEP 2008 table above, the minimum subdivision lot size is 300m^2. Lot B of the proposed development demonstrates a lot area of 264m^2, resulting in a numerical shortfall of 36m^2, or a 12% variation.

The objectives of Clause 4.1 are as follows:

(a) to ensure that lot sizes are consistent with the desired residential density for different locations,
(b) to ensure that lot sizes are able to accommodate development that is suitable for its purpose and consistent with relevant development controls,
(c) to prevent fragmentation of land which would prevent the achievement of the extent of development and nature of uses envisioned for particular locations,
(d) to minimise traffic impacts resulting from any increase in the number of lots on classified roads,
(e) to minimise any likely impact of subdivision and development on the amenity of neighbouring properties,
(f) to ensure that subdivision reflects and reinforces the predominant subdivision pattern of the area,
(g) to ensure that lot sizes allow buildings to be sited to protect natural or cultural features including heritage items and retain special features such as trees and views.

Consequently, pursuant to Clause 4.6 of LLEP 2008, the applicant has submitted a written request seeking a variation to the minimum subdivision lot size control as prescribed by Clause 4.1.

Pursuant to Clause 4.6(2) the 4.1 Minimum Subdivision Lot Size standard is not expressly excluded from the operation of this clause, and it may be varied.

(i) Changes to Clause 4.6 (3)

It is noted that as of 1 November 2023 the NSW government introduced changes to Clause 4.6. The subject application was lodged on 16 November 2023, and therefore these changes would be applicable. Notably there is no longer the need for an applicant to provide a written request to vary a development standard built into this clause, however, the consent authority is now required to be satisfied the applicant has demonstrated that compliance is unreasonable or unnecessary and there are sufficient environmental planning grounds to justify the contravention.

Note: Applicants are still required to provide with any DA involving a contravention of development standard, a document which argues the abovementioned tests, as per Clause

35B of the Environmental Planning and Assessment Regulations 2021, which stipulates the following:

35B Additional requirements for development applications involving contravention of development standards

(1) This section applies to a development application that proposes, in accordance with a relevant EPI provision, development that contravenes a development standard imposed by any environmental planning instrument.

(2) The development application must be accompanied by a document that sets out the grounds on which the applicant seeks to demonstrate that—

(a) compliance with the development standard is unreasonable or unnecessary in the circumstances, and
(b) there are sufficient environmental planning grounds to justify the contravention of the development standard.

(3) In this section—

relevant EPI provision means—

(a) clause 4.6 of a local environmental plan that adopts the provisions of the Standard Instrument, or
(b) an equivalent provision of another environmental planning instrument.

(ii) Clause 4.6 (3) Assessment:

Clause 4.6 (3) requires the consent authority to be satisfied the applicant has demonstrated that-

(a) compliance with the development standard is unreasonable or unnecessary in the circumstances, and
(b) there are sufficient environmental planning grounds to justify the contravention of the development standard.

The applicant's contention is that compliance with the minimum subdivision lot size development standard is unreasonable and unnecessary; and that they have provided sufficient environmental planning grounds to justify the contravention as assessed below.

Consistency with the Objectives of the Development Standard

Applicant's Written Request

The applicant has argued that strict compliance with the minimum subdivision lot size development standard is considered unreasonable in this instance as the proposed development, inclusive of the sizes proposed, satisfies the objectives of the development standard as follows:

> ***(a) to ensure that lot sizes are consistent with the desired residential density for different locations,***

In support, the applicant's written demonstration argues, in part:

- *Lot B is intended for the construction of a new, two-story attached dwelling within the R2 Low Density Residential Zone. This new dwelling has been designed to fit entirely within a compliant building envelope, ensuring it remains well below the height of buildings standard outlined in the Local Environmental Plan (LEP). Moreover, it features setbacks that comply with the controls prescribed under the applicable DCP.*

Council Comment: As evidenced by both the inability of the development to provide adequate private open space or minimum lot widths in accordance with LDCP the dwelling is not considered to fit entirely within a compliant building envelope.

- *The design of this dwelling is one of high architectural character and is highly articulated, matching the bulk and scale of other single and two-story dwellings in the surrounding streetscape.*

Council Comment: The design of the dwellings is an overdevelopment in terms of bulk and scale. The proposal departs from predominantly detached and semi-detached dwellings within the immediate vicinity by incorporating a row of three attached dwellings. Given the abundance of detached housing in the locality and even mix of single and two-storey development it is considered this style of attached compact housing is more suitable to a medium-to-high density residential area. This bulk and scale are further exacerbated by the non-compliance with the minimum lot widths set out within LDCP 2008.

- *The addition of landscaped areas including the large landscaped front setback will further soften the visual impact of the built structures when viewed from the street and neighbouring properties.*

Council Comment: The addition of landscaped areas within the front setback assists in softening the visual impact of the structures to the eastern elevation frontage however the western elevation frontage has not been adequately addressed. Furthermore, this additional landscaped area comes at the expense of available landscaping within rear yards as demonstrated by numerous non-compliances with the minimum private open space requirements set out within the LDCP.

- *The thorough assessment provided in the SEE demonstrates that this deviation from the lot size standard is not the result of design non-compliance, and it does not lead to any further variation to any of the LEP development standards or the built form objectives set out in the Liverpool Development Control Plan (DCP). The proposal otherwise fully adheres to those objectives.*

Council Comment: As addressed above the proposed variation to the lot size requirement does result in numerous other non-compliances, specifically non-compliance with the minimum lot width and private open space requirements. As detailed below in the assessment of this report the proposal fails to meet the criteria set out within LDCP 2008 and is consequently not consistent with the desired low density residential character of the area.

(b) to ensure that lot sizes are able to accommodate development that is suitable for its purpose and consistent with relevant development controls,

In support, the applicant's written demonstration argues, in part:

- *The development proposes residential lots that accommodate dwellings and achieve appropriate amenity based on full compliance with relevant state and local policies, in particular demonstrating suitable compliance with Liverpool Development Control Plan 2008. Attached dwelling development is also a desired future character for the zone and wider area.*

Council Comment: The application would provide a housing type of attached dwellings which is a permitted form of development under LLEP 2008, however, given the predominance of detached housing in the locality and even mix of single and two-storey development within the locality in this instance it is considered this style of attached compact housing is more suitable to a medium-to-high density residential area.

The proposal is considered an overdevelopment that would detract from the existing low scale residential character of the street frontage. As it would be noted in this report, the proposal consists of several areas of non-compliance with development requirements that would significantly affect residential amenity to both the future occupants of the development and surrounding properties.

(c) to prevent fragmentation of land which would prevent the achievement of the extent of development and nature of uses envisioned for particular locations,

In support, the applicant's written demonstration argues, in part:

- *Attached dwellings are an envisioned form of development within the locality being a permissible form of development in the R2 Low Density Residential zone. The proposed Torrens title subdivision and construction of detached dwellings would prevent fragmentation of land, achieving orderly development and a typical subdivision pattern*

Council Comment: Whilst the proposed subdivision pattern does not cause fragmentation, both the reduced lot size and several non-compliant lot widths prevent a functioning, attractive and safe environment for residents. It also does not accommodate for the potential future needs of users of the land in respect to building requirements, vehicular and pedestrian access, or amenity.

(d) to minimise traffic impacts resulting from any increase in the number of lots on classified roads,

In support, the applicant's written demonstration argues, in part:

- *The proposed development is consistent with the intensity envisioned within a low-density residential context. Any additional traffic generation resulting from the proposed development would be commensurate with the existing scenario and wider context and therefore the development is not considered to generate traffic impacts*.

Council Comment: The provided Traffic and Parking Statement notes that the development is a low trip generator and is not considered likely to result in congestion that would have a detrimental impact on existing traffic and parking patterns.

It is noted that the application has received three submissions, all of which raise several traffic-related concerns, particularly relating to the introduction of three additional driveways and associated car parking to Cusack Ave and Keneally Way. Given the narrow nature of the street, fears for pedestrian safety are raised and the real potential for congestion is presented. Limited on-street parking is already a concern with residents and visitors currently having to park on the grass over the kerb. Whilst numerical compliance is achieved in terms of parking requirements, the additional need for parking would only exacerbate the issues raised by surrounding residents.

(e) to minimise any likely impact of subdivision and development on the amenity of neighbouring properties,

In support, the applicant's written demonstration argues, in part:

- *The proposal has been designed to ensure it remains within a compliant building envelope. The proposed dwelling will have more than compliant setbacks and an overall height that complies with the maximum height of buildings development standard.*

  The proposed development also does not compromise the amenity of any adjoining properties, with all properties maintaining sufficient solar access on the winter solstice. The proposal will not result in overshadowing of neighbouring properties or privacy concerns.

  Therefore, the proposed variation is not envisioned to impact on the amenity of neighbouring properties.

Council Comment: The proposal in its current form is likely to compromise the amenity of the adjoining properties. Overshadowing diagrams demonstrate that the overshadowing to the southern properties, such as at No.19 Cusack Avenue, has not been appropriately considered. Furthermore, the significant cut and fill proposed does not provide for an appropriate response to the natural slope of the site.

Privacy concerns are raised in one of the three submissions. Although mitigating measures such as raised sill-heights have been incorporated into the window design the potential for overlooking remains.

(f) to ensure that subdivision reflects and reinforces the predominant subdivision pattern of the area

In support, the applicant's written demonstration argues, in part:

- *The proposed subdivision would reflect the predominant desired subdivision pattern of the area and is considered to be an orderly arrangement.*

Council Comment: As mentioned under item (c), whilst the proposed subdivision pattern does not cause fragmentation, both the reduced lot size and several non-compliant lot widths prevent a functional, attractive, and safe environment for residents. Nor does it allow for the potential future needs of users of the land in respect to building requirements, vehicular and pedestrian access, or amenity.

(g) to ensure that lot sizes allow buildings to be sited to protect natural or cultural features including heritage items and retain special features such as trees and views.

In support, the applicant's written demonstration argues, in part:

- *The subject site does not contain any heritage items or special features such as significant trees or views, therefore the proposed lot sizes would allow appropriate siting of the detached dwellings.*

Council Comment: No objection. The site does not contain any heritage items and significant views to Leacock Regional Park are retained.

Consistency with the Objective of Land Use Zone.

The objectives of the **R2 Low Density Residential** zone are as follows:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

- *To provide a suitable low scale residential character commensurate with a low dwelling density.*
- *To ensure that a high level of residential amenity is achieved and maintained.*

The proposal is not consistent with the objectives of the zone in that:

- Whilst the proposed application would result in a net increase of six attached dwellings, the proposed design is not considered to be consistent with a low-density residential environment.
- The proposal fails to comply with several key development requirements under LLEP 2008 and LDCP 2008. Accordingly, the proposal presents as a form of an 'overdevelopment' that would detract from the existing low scale residential character of the locality and of the street frontage especially given the mix of single and two-storey detached housing within the locality. It is considered a development, of this style of attached compact housing would be more suitable for a medium-to-high density residential area.
- As noted within this report, the proposal consists of several areas of non-compliance with development standards and controls that would adversely affect the residential amenity to both the future occupants of the development and adjoining properties.

(a) That compliance with the development standard is unreasonable or unnecessary.

Applicant's Written Request

In support, the applicant's written demonstration argues, in part:

- *The departure from the development standard is 12% (36m2) for Proposed Lot B. It is considered that Lot B proposes a minor variation as the proposal has been designed to achieve full compliance with all applicable development objectives of the LLEP 2008 and LDCP 2008. Ensuring full compliance with all other standards and controls coupled with a relatively minor departure from the minimum lot size, particularly considered all other lots are compliant, is considered to demonstrate that compliance with the standard is unreasonable in this case as the development can be sited with full adherence to local provisions.*

Council Comment: As demonstrated by the non-compliances with minimum lot width, overshadowing and private open space LDCP controls, the dwelling is not considered to be in full compliance and as such a departure from the minimum lot size control would only further exacerbate the impact of the development on the amenity of both the future occupants of the development and surrounding properties.

- *The proposed subdivision is considered a regular and orderly pattern and a consistent form of development for the site when considering the existing Torrens title subdivisions within the locality. There are various other instances of lots where the minimum site area is less than 300m2, as occurring at 121a and 121b, and 107*

Leacocks Lane, all within proximity of the subject site. Further, all other lots proposed as part of the development are compliant and are similar to the proposed Lot B in configuration and development potential. As such, the proposed subdivision should be considered an orderly development of the site.

Council Comment: The provided examples of lots in which the site area is less than 300m^2 would offer only limited comparability to the subject site. It is noted that the subdivision creating lots 121A (305.5m^2) and 121B (295.4m^2) Leacocks Lane were registered in 1996, before the current LLEP 2008 development standards came into place. Furthermore, lot 121B involves a much smaller variation of 4.6m^2, or 1.5%.

It is noted that the subdivision of lot 107 Leacocks Lane creates Lot 1 (299.90m^2) and Lot 2 (300m^2). Given that a much smaller variation of 0.10m2 (0.33%) is proposed an appropriate Clause 4.6 Variation was lodged and accepted.

The assertion that minimum lot size development standards have been abandoned in some parts of the locality is not supported. The objective of the control is to to ensure that lot sizes are consistent with the desired residential density and that lot sizes can accommodate development that is suitable for its purpose and consistent with relevant development standards and controls, which under the R2 zone is for a low scale, low density residential environment. Each application for variation is assessed on its own merit, despite this the provided examples of variations to lot size are not considered to be comparable to the proposed design.

- *The proposal provides a dwelling typology consistent with the current desired character for the locality and the R2 zone under the LLEP 2008, in the form of attached dwelling development. The proposed dwelling typology is particularly considerate to the objectives and permitted development of the zone.*

Council Comment: The application would provide a housing type of attached dwellings which is a permitted form of development under LLEP 2008, however, given the abundance of detached housing in the locality and even mix of single and two-storey development it is considered this style of attached compact housing is more suitable to a medium-to-high density residential area.

- *The proposed variation to minimum subdivision lot size does not inhibit the ability for any future dwelling re-development of the site to demonstrate full compliance with the relevant controls, as evidenced by the proposed dwelling on Lot B.*

Council Comment: As evidenced by the non-compliances that are a consequence of the minimum lot size variation the proposed subdivision lot size inhibits not only the current proposed dwellings ability to achieve LDCP compliance but also any future re-development of the site.

- *The proposed variation does not result in an overdevelopment of the subject site, as the proposal maintains compliance with the maximum permissible Floor Space Ratio, and other building envelope controls such as Landscaped Area, Private Open Space,*

and Setbacks. Therefore, the proposed Lot B should be considered sufficient in terms of proposed lot area to facilitate a high level of residential amenity.

Council Comment: The design of the dwellings is an overdevelopment in terms of bulk and scale. The proposal departs from detached and semi-detached dwellings in the near vicinity by incorporating a row of three attached dwellings. Given the abundance of detached housing in the locality and even mix of single and two-storey development it is considered this style of attached compact housing is more suitable to a medium-to-high density residential area. This bulk and scale are further exacerbated by the non-compliance with minimum lot width, private open space, and overshadowing controls.

(b) That there are sufficient environmental planning grounds to justify contravening the development standard

Applicant's Written Request

The below objects of the Environmental Planning and Assessment Act 179 (EPA Act) and matters for consideration outlined in section 4.15 of the EPA Act are addressed below:

(g) Object: to promote good design and amenity of the built environment

In support, the applicant's written demonstration argues, in part:

- *The proposed development, including the proposed height exceedances, promotes good design and amenity of the built environment. The proposal addresses the transitional character of the site by organising a subdivision layout to provide a variety of housing types in an area of high accessibility to local amenities. In proposing dwellings in conjunction with the subdivision, it has been demonstrated that satisfactory outcomes relating to solar access, visual impact, streetscape presentation, privacy for adjoining properties, and the establishment landscaping and private open space can be achieved despite the proposed variation.*

Council Comment: The proposed development involves a variation to minimum lot size rather than height exceedances as described above. This variation results in numerous other consequential non-compliances which would have a detrimental impact on solar access, streetscape presentation and private open space.

Likely Impacts of the Development

In support, the applicant's written demonstration argues, in part:

- *Despite the variation in minimum subdivision lot size, the proposal does not result in any additional adverse effects on the built and natural environment. The development in its current context (noting the existing housing shortage) contributes positively to the social and economic development of both the site and the wider locality.*
- *The development proposes residential allotments that are designed to provide suitable occupant amenity in compliance with the applicable planning controls. Thus,*

rejecting the application based on non-compliance with the minimum lot size requirement for one lot is unlikely to be in the public benefit and would not otherwise contribute to the improvement of the community.

- *The proposal can achieve and maintain the existing residential amenity for the locality through compliant building siting and design of the development.*
- *The development's low-density approach aligns with the established character of the locality, promoting diversity in housing types.*
- *The subdivision arrangement of the proposed lots promotes orderly and efficient development that is consistent with the existing and desired future character of the area and the provision of attached dwellings.*
- *The proposal does not introduce any additional unreasonable traffic, either from vehicles or pedestrians as a result of the additional lots, that is not already envisioned or commensurate with a low-density environment.*
- *The proposal achieves the desired density in a configuration which addresses site specific conditions and opportunities and provides improved outcomes in relation to solar access and overshadowing, privacy, landscape and open space opportunities, and streetscape presentation.*
- *The proposal otherwise is generally compliant satisfies all relevant aspects outlined in Section 1.3 (Objects of the Act) as per the Environmental Planning and Assessment Act of 1979.*

Council Comment: The design of the dwellings is an overdevelopment in terms of bulk and scale. The proposal departs from detached and semi-detached dwellings in the near vicinity by incorporating a row of three attached dwellings. Given the abundance of detached housing in the locality and even mix of single and two-storey development it is considered this style of attached compact housing is more suitable to a medium-to-high density residential area. This bulk and scale are further exacerbated by the non-compliance with the minimum lot widths as set out within LDCP 2008 which would compromise overall residential amenity.

The Public Interest

It is noted that following the changes to Clause 4.6 the consent authority is no longer required to be satisfied that the proposed development is in the public interest because of consistency with the objectives of the development standards and the zone. Regardless, in support, the applicant's written demonstration argues, in part:

- *The proposed development, inclusive of the development control variation, is in the public interest. It provides for the achievement of desirable development in a key location without significant impacts, which is consistent with the strategic vision established for the site and surrounds.*

Council Comment: The application received three submissions raising several areas of concern. All three submissions raise several traffic-related concerns, particularly relating to the introduction of three additional driveways and associated car parking to Cusack Ave and Keneally Way. Given the narrow nature of the street, fears for pedestrian safety are raised and the potential for congestion is presented. Limited on-street parking is already of concern

with residents and visitors currently having to park on the grass over the kerb, where the additional parking requirements would only exacerbate this issue.

The environmental impact is also addressed in each submission, noting the reduction in landscaped area and loss of open space. Further concerns regarding retaining walls, stormwater runoff and potential privacy issues are raised.

Council shares similar concerns to those raised within the submissions and given the resultant non-compliances it is considered that approval of the variation request would be contrary to the public interest.

Recommendation

The proposed variation to Clause 4.1 – Minimum Subdivision Lot Size is not supported, as the proposal does not:

- Demonstrate that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case.
- Provide sufficient environmental planning grounds to justify contravening the development standard.
- The proposal is not consistent with the objectives of the zone or standard, and therefore approval would not be in the public interest.

6.2 Section 4.15(1)(a)(ii) - Any Draft Environmental Planning Instrument

There are no draft Environmental Planning Instruments which apply to the development.

6.3 Section 4.15(1)(a)(iii) - Any Development Control Plan

(a) Liverpool Development Control Plan (LDCP) 2008

The application has also been assessed against the relevant controls of LDCP 2008, particularly Part 1 General Controls for all Development and Part 3.4 Semi-Detached and Attached Dwellings (Duplexes and Terraces) on Lots in the R2, R3 & R4 Zones.

The development is not considered to achieve general compliance with the provisions of LDCP 2008. All relevant compliance tables can be found in Report Attachment 2. The below variations are sought by the applicant.

Variation 1: Lot Width

Pursuant to *LDCP Part 1: General Controls for all Development: 21 Subdivision of Land and Buildings » 21.4 Residential Zones (Except R5)* the minimum permissible lot width is **9m**.

Objectives

a) To provide a functional, attractive and safe environment for residents that are consistent with community standards and needs.

b) To minimise adverse effects on the natural environment.

c) To provide for the needs of future users of the land in respect to building requirements vehicular and pedestrian access, provision of services and an amenity appropriate to the zoning of the land.
d) Provide for the economic utilisation of the land resource of the area.
e) To achieve a balance between the development / subdivision of residential, commercial and industrial land and the amenity of existing occupants.
f) To provide for an equitable and efficient distribution of public amenities and services.
g) To minimise Council's future maintenance costs for roads, services and open spaces.

A variation to all six lot widths is proposed:

Lot A: 8.595m width
Lot B: 7.934m width
Lot C: 8.955m width
Lot D: 7.488m width
Lot E: 7.637m width
Lot F: 8.488m width

The proposed average width is 8.183m. This equates to a variation of 0.817m (9%) which is not supported by council. The DCP notes that "*Minor variations may be considered if the average width of the lot is greater than the Minimum Lot Width as stated"* however, as the average lot width is 8.183m this cannot be supported.

The three neighbouring properties directly to the North comply with these controls. It is noted that the Statement of Environmental Effects (SEE) makes reference to an approved variation at 65-69 Leacocks Lane, it is considered that the comparability between the subject site and the referenced site is limited. While a similar lot width variation has been sought the referenced approval involves dual attached dwellings, rather than blocks of three attached dwellings. This enables it to present as if it were two detached developments separated by an access driveway, whereas the subject proposal involves squeezing three smaller lot widths within the existing one large lot and as such the reduced lot widths is apparent and the proposal presents as one elongated development.

Further to this, each development application is to be assessed on its own current merits, independent of existing precedents.

With regards to Lot B in particular, the reduced site width further exacerbates the non-compliance with the minimum subdivision lot size. As detailed by the numerous non-compliances within this report it cannot reasonably be deduced that these lot width variations allow development that is suitable for its purpose and is consistent with the objectives of this control.

Variation 2: Site Planning
Pursuant to *LDCP Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zones: 2 Site Planning*

Control 1. The layout of the Semi-detached dwellings and Attached dwellings must be designed around the sites attributes such as slope, existing vegetation, land capability and/or solar access.

Objectives

a) To ensure that Semi-detached dwellings and Attached dwellings are designed around the site attributes, such as streetscape character, natural landform, existing vegetation, land capability slope, solar access and, if relevant, heritage items.

b) To ensure privacy for residents and neighbours.

The layout of the attached dwellings is not considered to be designed appropriately around the site. The significant cut proposed has resulted in retaining walls over 1m in height causing significant overshadowing and differences in level between neighbouring properties.

Variation 3: Private Open Space – Location

Pursuant to *LDCP Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zones: 4 Landscaped Area and Private Open Space » Private Open Space*

Control 3. Private Open Space areas are not permitted within the primary street setbacks.

Objectives

a) To ensure that a minimum amount of Private Open Space is provided for outdoor activities and Principal Private Open Space areas are located adjacent to internal living areas.

b) To ensure that Private Open Space is clearly defined for private use.

c) To ensure that Private Open Space is private, landscaped, screened from overlooking and receives an adequate amount of solar access.

d) To ensure that existing or proposed buildings do not overshadow Private Open Space.

Despite the combined (front and rear setback) numerical compliance of the POS areas to achieve the minimum 60m^2 required, it is noted that Units 1, 2 & 3 rely on area within the primary front setback to achieve this compliance:

Unit 1: Front 35 m^2
Rear 42.16 m^2
Total POS 77.16 m^2

Unit 2: Front 37 m^2
Rear 43.30 m^2
Total POS 80.30 m^2

Unit 3: Front 42 m^2
Rear 43.58 m^2
Total POS 85.58 m^2

Unit 4: **Total POS (rear) 116.81 m^2**
Unit 5: **Total POS (rear) 128.37 m^2**
Unit 6: **Total POS (rear) 85.10 m^2**

The positioning of the POS within the front setback is largely due to the constraint of the telecommunications easement that cannot be developed upon. Screen planting has been provided to assist in utilising this front setback area as a private space. While this design results in a generous front setback distance and additional landscaping this is not considered an ideal solution as the limited rear POS is capable of being resolved via compliance with the minimum lot size and lot width controls.

As per the objectives of the LDCP the private open space is to be clearly defined for private use and located next to internal living areas, neither of which is sufficiently demonstrated. The delineation between public and private areas becomes ambiguous. It is considered that the proposal in its current form would set an unwanted precedent for future development within the locality.

Variation 4: Private Open Space – Solar Access

Pursuant to *LDCP Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zones: 4 Landscaped Area and Private Open Space » Private Open Space*

> *Control 4. Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.*
>
> *Control 6. The principal private open space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.*

It is noted that the shadow diagrams do not appear to accurately depict overshadowing caused by retaining walls and differences in levels between lots. Furthermore, no clothes drying facilities have been identified on plans. Council has identified non-compliance with the solar access available to the PPOS of Units 4 & 5:

Unit 1: 50% between 10am and 2pm
Unit 2: 50% between 10am and 2pm
Unit 3: 50% between 10am and 2pm

Unit 4: 50% between 9am and 11am (2 hours only).
Unit 5: Less than 50% provided.
Unit 6: 50% between 10am and 2pm

Given that insufficient solar amenity is achieved combined with the previously mentioned undesirable location of the POS within the front setback for Units 1 to 3 it is not considered that the proposed POS meets the objectives of this control.

Variation 5: Cut and Fill of Land

Pursuant to *LDCP Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zones: 5 Cut and Fill, Building Design, Streetscape and Layout » Cut and Fill of Land*

> *Control 1. The maximum cut on a site must not exceed 600mm.*
>
> *Objectives*
>
> *a) To reduce the incidence of change in natural ground levels.*
> *b) To encourage the architectural designs of dwellings which suit the contours of the land.*
> *c) To provide controls for cut and fill of land designed to minimise the incidence of soil erosion and subsequent sedimentation of waterways.*
> *d) To ensure that development on adjoining properties is not threatened or prejudiced by proposed cut and fill practices.*
> *e) To discourage and eliminate, where possible, the construction of retaining walls on allotment boundaries.*
> *f) To minimise overshadowing of neighbouring dwellings, their private open space or any solar panelling.*

The proposal involves significant cut in excess of 1.3m, requiring retaining walls to assist in the stepping down of proposed floor levels. Given the steep crossfall of the site there may be merit to the proposed design, however, as noted in Council's Requests for Additional Information consideration would only be afforded to this design if all other non-compliances were addressed in full.

As previously noted, the significant deviations in levels between proposed lots and neighbouring properties has the potential to cause overshadowing that does not appear to be accurately illustrated in the shadow diagrams.

Variation 6: Fence Height

Pursuant to *LDCP Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zones: 6 Landscaping and Fencing » Fencing » Boundary Fences*

> *Control 9. The maximum height of side boundary fencing within the setback to the street is 1.2 m.*
>
> *Objectives*
>
> *a) To provide a clear transition between public and private areas.*
> *b) To provide a visual element within the streetscape.*
> *c) To ensure fencing enhances the streetscape.*

It is noted that the front fence within the front setback of Units 1-3 reach 1.8m in height to ensure privacy to the POS. This variation is a direct consequence of the above non-compliance with the location of the POS within the primary setback. It is considered that the high fencing will pose both an unwanted precedent and visually intrusive element to the streetscape.

Variation 7: Overshadowing

Pursuant to *LDCP Part 3.4: Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zones: 8 Amenity and Environmental Impact » Overshadowing*

> *Control. Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least:*
> *- One living, rumpus room or the like.*
> *- 50% of the private open space.*
>
> *Objective.*
> *To minimise overshadowing of neighbouring dwellings and their private open space.*

The overshadowing to 19 Cusack Avenue is considered unreasonable. The neighbouring dwelling and POS are overshadowed for a significant portion of the day. The northern face of the property will be overshadowed from 9am to 3pm, while the principal private open space is unlikely to achieve solar access to greater than 50% of its area for at least three hours.

The northern face of the dwelling at 79 Leacocks Lane will also face considerable overshadowing for the duration of the day.

6.4 Bushfire Prone Land

The proposed development is designated Bushfire Prone Land: Vegetation Buffer 100m and 30m. Despite the mapping indicating that the extent of the bushfire prone land being minimal and only affecting the corner of proposed lot A, where subdivision is proposed the development is identified as 'integrated development' requiring a Bushfire Safety Authority (BFSA) from the RFS under Section 100B of the Rural Fires Act 1997 (NSW) and the Rural Fires Regulation 2013 (NSW).

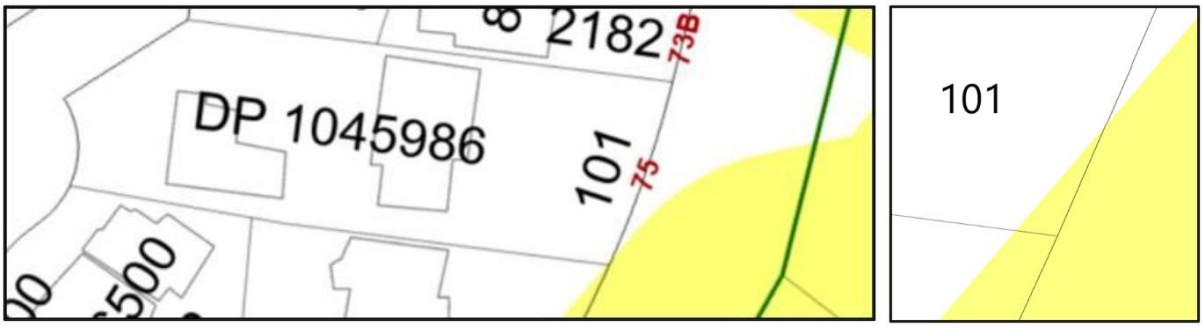


Figure 16: Bushfire Prone Land 2021: Vegetation Buffer 100m and 30m (Source: Geocortex)

The subject site is mostly cleared of vegetation with some garden plantings. The site has a Bushfire Attack level of BAL 12.5. As per the Bushfire Assessment Report, prepared by Apical Bushfire and Planning, dated 13 March 2024, the development satisfies the

Objectives and Performance requirements of '*Planning for Bush Fire Protection*' 2019, subject to implementation of the recommendation made by the report.

The New South Wales Rural Fire Service (NSW RFS) has considered the information submitted. General Terms of Approval, under Division 4.8 of the *Environmental Planning and Assessment Act 1979*, and a Bush Fire Safety Authority, under section 100B of the *Rural Fires Act 1997*, have been issued subject to conditions.

6.5 Section 4.15(1)(a)(iiia) - Planning Agreements

There are no Planning Agreements that apply to the development.

6.6 Section 4.15(1)(a)(iv) - The Regulations

The Environmental Planning and Assessment Regulation 2021 includes provisions in which the consent authority may request additional information under Clause 36.

It is considered that the applicant has not submitted sufficient additional information to ensure compliance with the relevant controls and EPI's following Council's initial RFI letter dated 17 January 2024 and with follow-up letters dated 1 February 2024 and 04 March 2024.

It is noted that Council has provided more than ample opportunities for the issues associated with the proposal to be resolved by the applicant. Therefore, a recommendation has been made based on the current level of information submitted.

6.7 Section 4.15(1)(b) - The Likely Impacts of the Development

(a) Natural Environment

The proposed development has the potential to cause a detrimental impact on the existing natural environment. The proposal involves significant cut and fill with retaining walls over 1m in height which does not provide for a satisfactory response to the existing slope of the land. Furthermore, there are 19 trees onsite and only five trees are proposed for retention. The submitted landscape plan provides insufficient level of information to enable a comprehensive assessment of the proposal against the controls within the LDCP, and as such it cannot be confirmed whether a compliant design has been proposed.

(b) Built Environment

The proposed development is an overdevelopment in which the detrimental impact on the built environment is considered undesirable. The amenity of surrounding properties is compromised, particularly in terms of visual aesthetic and overshadowing. As detailed within this report the proposal is not consistent with the desired future character of the locality or the objectives of the R2 zone. The variation to the minimum lot size requirements is not supported and is considered to result in a development that is not compatible with the low scale character of a R2 zoned locality.

(c) Social Impacts and Economic Impacts

The proposal, if in compliance, would have the potential to result in a positive economic impact in the locality through construction of the development and is unlikely to generate any identifiable detrimental social impacts. The site is well located in terms of proximity to services and amenities.

6.8 Section 4.15(1)(c) - The Suitability of the Site for the Development

The proposal does not comply with the relevant planning standards and controls and the subject site is not considered suitable for the proposed development.

6.9 Section 4.15(1)(d) - Any submissions made in accordance with the Act or the Regulations

(a) Internal Referrals

The following comments have been received from Council's internal departments:

DEPARTMENT	COMMENTS
Flooding	The development is not affected by mainstream flooding under 1% AEP flood event and overland flooding. No objections and subject to conditions of consent.
Development Engineer	No objections. Subject to additional information and conditions of consent.
Landscape	No objections and subject to conditions of consent.
Traffic & Transport	No objections and subject to conditions of consent.

(b) External Referrals

The following comments have been received from external departments:

DEPARTMENT	COMMENTS
NSW Rural Fire Service	No objection subject to their GTA conditions of consent.
Endeavour Energy	No objection subject to conditions of consent. <u>Note:</u> • Preference is for no activites to occur in easements and they must adhere to minimum safety requirements. • Street lighting should be reviewed and if necessary upgraded to suit any increase in both vehicular and pedestrian traffic. • Any proposed encroachments (including subdivision) would need to be referrred to Endeavour Energy's Easements Officer. • Driveways should be designed to increase the separation to the any electricity infrastructure on the road verge as much as

	reasonably possible. • The planting of large / deep rooted trees near electricity infrastructure is opposed by Endeavour Energy. <u>Easement:</u> • Unimpeded 24hour / 7day a week access must be available to our electricity assets. • Concreting over the cable easement is acceptable providing the ground cover is not reduced. • Approval for concrete driveways is subject to the driveway being capable of supporting the heaviest vehicle likely to traverse it. • The planting of trees or the cultivation of shrubs with extensive root systems would not be permitted within the easement area. However, the planting of small shrubs and tilling of soil with a maximum root system 400mm deep may be considered. • Retaining walls are not permitted within the easement area.

(c) Community Consultation

The proposal was required to be advertised/notified in accordance with the Liverpool community participation Plan 2022, and three submissions were received which raised the following concerns:

Objection	COMMENTS
Limited car parking, potential for increased congestion, related safety concerns.	The estimated peak period traffic generation is of low impact on existing flows on Leacocks Lane and the surrounding road network can be readily accommodated without significant adverse impacts. The proposed development complies with Council's car parking requirements, and it is anticipated that existing on-street parking provisions can accommodate additional visitor parking. The proposed development is a low trip generator and is not considered likely to result in congestion that would impede emergency vehicle access.
Privacy Concerns, fence height, and windows.	The sitting of windows to habitable rooms and the incorporation of a minimum 1.5m sill height is designed to mitigate privacy concerns. Non-habitable room windows incorporate obscure glazing. The proposed boundary fencing complies with Council's requirements at 1.8m in height. It is noted that significant cut and retaining walls further offset window heights thus, mitigating overlooking concerns, particularly in relation to the surrounding dwellings to the north.
Stormwater runoff.	The proposal has been assessed by Councils Land Development Engineer who raised no objections subject to additional information

	and conditions of consent. It is noted that due to the fall of the land and proposed retaining wall locations stormwater runoff is directed away from surrounding dwellings to the north. The proposed drainage to the existing kerb inlet within Cusack Avenue does not raise any concerns.
Retaining wall heights.	Whilst the proposed retaining wall heights does raise concerns with regards to amenity of the occupants of the proposed dwellings, the existing ground level of surrounding properties is not compromised.
Significant dwelling density resulting in reduced green space. Suggestion to reduce the number of dwellings to minimise impact.	It is Council's view that the proposal is an overdevelopment of the site that would be inconsistent the low-density character of the R2 zoned locality. The proposed variation to the minimum lot size and width is not supported. An amended design in which the number of dwellings is reduced may assist in resolving these non-compliances.

6.10 Section 4.15(1)(e) - The Public Interest

Approval of the proposed development as submitted would be contrary to the public interest.

The objects of the Act, of relevance to the matters associated with this proposal, are as follows:

> *(c) to promote the orderly and economic use and development of land.*
> *(g) to promote good design and amenity of the built environment.*

The proposed development would not facilitate good design and amenity of the built environment. The proposed variation to minimum lot width and size requirements would not result in the orderly development of land.

Accordingly, the proposed development is inconsistent with Clause 1.3(c) and (g) of the EP&A Act. Therefore, the approval of the proposed development would be contrary to the public interest given the application is inconsistent with the objects of the Act and inadequate information has been submitted to demonstrate that key development standards and controls have been appropriately addressed in the assessment above.

7. DEVELOPMENT CONTRIBUTIONS

Section 7.11 development contributions would be applicable to the proposed development in accordance with Liverpool Contributions Plan 2022 and contributions have not been applied due to the recommended refusal of the subject application.

A Housing Productivity Contribution would also be applicable to the proposed development being for residential subdivision located within the Greater Sydney region. Contributions have not been applied due to refusal.

8. CONCLUSION

The application has been assessed having regard to the provisions of Section 4.15 of the EP&A Act 1979, the Environmental Planning Instruments, including applicable State Environmental Planning Policies, LLEP 2008, LDCP 2008, and relevant codes and policies of Council.

The proposed development is likely to result in significant adverse impacts upon surrounding properties and the locality.

Based on the assessment of the application, it is recommended that the application be **refused.**

9. RECOMMENDATION

That Development Application DA No 581/2023 be **refused**.

ATTACHMENTS

1. Draft Reasons for Refusal
2. Liverpool Development Control Plan (LDCP) 2008 - Compliance Tables
3. Request for Additional Information - 17 Jan 2024 - Confidential
4. Request for Additional Information - 01 Feb 2024- Confidential
5. Request for Additional Information - 04 March 2024 - Confidential
6. Architectural Plans
7. Applicants Cl4.6 Variation Justification
8. Waste management plan
9. Bushfire report
10. Traffic report
11. Arborist report
12. Endeavour Energy Response
13. NSW RFS Response

LIVERPOOL CITY COUNCIL

Our Ref: DA-581/2023
Contact: Customer Service
Ph: 02 8711 7975
Date: 27 May 2024

SK BUILDING DESIGN PTY LTD
66 MACKSVILLE ST
CARNES HILL NSW 2166

NOTICE OF DETERMINATION OF DEVELOPMENT APPLICATION
ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Pursuant to Section 4.16 of *the Environmental Planning and Assessment Act 1979*, Council has refused your Development Application, described as follows:

APPLICANT:	**SK BUILDING DESIGN PTY LTD**
LAND:	**75-77 LEACOCKS LANE, CASULA NSW 2170** **LOT 101 DP 1045986**
PROPOSED DEVELOPMENT:	**DEMOLITION OF EXISTING STRUCTURES, CONSTRUCTION OF 6 X TWO STOREY ATTACHED DWELLINGS AND TORRENS TITLE SUBDIVISION INTO 6 LOTS**
DETERMINATION:	**Delegated Authority**
DATE OF DETERMINATION:	**27 May 2024**
ATTACHMENTS:	**Reasons for Refusal**

REASONS FOR REFUSAL

1. The proposed development is inconsistent with the objectives in Section 1.3(c) and 1.3(g) of the *Environmental Planning and Assessment Act 1979* as a result of non-compliances with planning controls and unsatisfactory. The proposed development would not facilitate good design and amenity of the built environment, the proposed variation to minimum lot width and size requirements would not result in the orderly development of land.

2. Insufficient information has been submitted to Council to carry out a full assessment of the application pursuant to Section 4.15(1)a, 4.15(1)b), 4.15(1)(c), 4.15(1)(d) and 4.15(1)(e) of the *Environmental Planning and Assessment Act 1979 (*EP&A Act 1979).

3. The proposed development does not achieve satisfactory compliance with the Liverpool Local Environmental Plan 2008, Part 4.1 Minimum Subdivision Lot Size, pursuant to Sections 4.15(1)(a)(i), 4.15(1)(b) and 4.15(1)(c) of the Environmental Planning and Assessment Act 1979, for the reasons set out in the Council Officer's report.

4. The provided Clause 4.6 Variation request is not supported by Council as the proposal does not:

   - Demonstrate that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case.
   - Provide sufficient environmental planning grounds to justify contravening the development standard.
   - The proposal is not consistent with the objectives of the zone or standard, and therefore approval would not be in the public interest.

5. The proposed development does not achieve satisfactory compliance with the Liverpool Development Control Plan 2008, Part 1 General Controls for all Development, pursuant to Sections 4.15(1)(a)(iii), 4.15(1)(b) and 4.15(1)(c) of the Environmental Planning and Assessment Act 1979, for the reasons set out in the Council Officer's report, in particular:

   - Section 21 – Subdivision of land and buildings (Minimum Lot Width)

6. The proposed development does not achieve satisfactory compliance with the Liverpool Development Control Plan 2008, Part 3.4 Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* zone, pursuant to Sections 4.15(1)(a)(iii), 4.15(1)(b) and 4.15(1)(c) of the Environmental Planning and Assessment Act 1979, for the reasons set out in the Council Officer's report, in particular:

   - Section 2 – Site Planning
   - Section 4 – Landscaped Area and Private Open Space
   - Section 5 – Cut and Fill, Building Design, Streetscape and Layout
   - Section 6 – Landscaping and Fencing
   - Section 8 – Amenity and Environmental Impact

7. Pursuant to Section 4.15(1)(b) of the Environmental Planning and Assessment Act 1979, the proposed development has not adequately demonstrated the likely impacts of the development, and otherwise, based on the information submitted, is likely to have an adverse impact in terms of the following:

    a) Natural Environment - the applicant has not demonstrated that the proposed development would not create a detrimental impact on the natural environment.

    b) Built Environment – the applicant has not demonstrated that the proposed development would not create an adverse impact on the surrounding built environment.

8. Inadequate information has been submitted to demonstrate that the site would be suitable for the proposed development, pursuant to Section 4.15(1)(c) of the *Environmental Planning and Assessment Act 1979.*

9. The proposed development is not considered to be acceptable, having regard to the above reasons of refusal, it is considered that the proposal does not satisfactorily address concerns raised by public objectors, pursuant to the provisions of Section 4.15(1)(d) of the Environmental Planning and Assessment Act 1979.

10. Pursuant to Section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979, the proposal is not considered to be in the public interest, having regard to the above reasons of refusal, it would risk allowing an undesirable precedent for other poorly designed development within the locality, in the future.

ADVISORY NOTES

a) Section 8.2 of the EP&A Act provides that an applicant may request, within six (6) months of the date of the determination of the Development Application, that Council review its determination (this does not relate to designated development or Crown development).

    An application under Section 8.2 of the EP&A Act cannot be reviewed/determined after 6 months of the date of determination. Therefore, the submission of a Section 8.2 Application must allow sufficient time for Council to complete its review within the prescribed timeframe, including the statutory requirement for public notification.

b) Section 8.7 and 8.9 of the EP&A Act provides that an applicant who is dissatisfied with the determination of a Development Application, may appeal to the Land and Environment Court within six (6) months of the date of determination, or as otherwise prescribed by the EP&A Act.

If you have any further enquiries, please contact Ben Paterson on the abovementioned contact details.

Yours faithfully,

<REVIEW OFFICER>
<POSITION>
DEVELOPMENT ASSESSMENT

Liverpool Development Control Plan (LDCP) 2008

Control	Requirement	Complies/Comment
Part 1 General Controls for all Development		
Section 2 – Tree Preservation	Consider the impact of development on existing vegetation	**Complies.** A total of 19 trees onsite have been identified within the provided arborist report. A total of five trees are proposed for retention. A total of 11 trees are located within the footprint of the development and must be removed, a further four trees have moderate retention value and would be removed for the development. The application was referred to Council's Landscape officer who raised no objections, subject to conditions of consent.
Section 3 – Landscaping and Incorporation of existing trees	Incorporation of existing trees into development where appropriate	**Complies.** A total of five existing trees are to be incorporated into the development.
Section 4 – Bushland and Fauna Habitat Preservation	Consider the impact of development on bushland and habitats	**Complies.** No bushland or habitats are at threat by the proposed development.
Section 5 – Bushfire Risk	Land on or adjacent to bushfire-prone land to comply with RFS requirements	**Complies with Conditions** The Land is Zoned Bushfire Prone Land – Vegetation Buffer 100m and 30m. The required GTAs from NSW RFS would apply in any consent granted.
Section 6 – Water Cycle Management	Consideration of stormwater and drainage	**Complies** The submitted concept stormwater plans indicate standard drainage to the existing Cusack Ave outlet. The application was referred to Council Land Development Engineer who raised no objections subject to the lodgement of additional information and standard conditions.
Section 7 – Development Near a Watercourse	Consideration of impact on riparian corridors	**Complies** Development does not impact any nearby watercourses.
Section 8 – Erosion and Sediment Control	A Sediment Control Plan or Soil and Water Management Plan is required	**Complies.** A Sediment and Erosion control plan was submitted with the application. Conditions would be applied to the consent to ensure sediment and erosion are controlled during construction.
Section 9 – Flooding Risk	Flood affection of a property to be considered	**N/A** The land is not mapped as flood prone.
Section 10 – Contaminated Land Risk	Previous use to be considered in assessing risk	**Complies.** Existing and historical residential use does not warrant a land contamination assessment.

Section 11 – Salinity Risk	Salinity Management response required for affected properties	**Complies with Conditions.** Site is mapped as moderate salinity potential. Conditions would be applied to the consent to ensure compliance.
Section 12 – Acid Sulfate Soils Risk	Affected properties to consider the impact of development on soils	**N/A** The land is not mapped as containing any acid-sulfate soils.
Section 13 - Weeds	Noxious weeds are to be removed as part of development where applicable	**N/A** No noxious weeds were identified as being present on the site.
Section 14 – Demolition of Existing Development	Must comply with AS 2601-2001	**Complies.** A demolition plan and statement accompany the application demonstrating compliance with AS 2601-2001.
Section 15 – Onsite Sewage Disposal	S68 Application required where connection to sewer not available	**Complies** The site is connected to a sewer line.
Section 16 & 17 – Aboriginal Archaeology	An Aboriginal Heritage Impact Assessment is required where items of aboriginal archaeology exist	**Complies** Property is not associated with items of aboriginal archaeology or heritage items.
Section 20 – Car parking and access	2 spaces per dwelling	**Complies** The proposed dwellings provide at least two car parking spaces per dwelling. One within a single garage and one to the driveway. The car parking is accessed via new driveway crossovers to both Leacocks Lane, Cusack Ave and Keneally Way. The application was referred to Council's Traffic & Transport officer who raised no objections subject to compliance with the DCP and conditions of consent. Despite this numerical compliance it is noted that the application has received three submissions, two of which raise several traffic related concerns, particularly relating to the introduction of three additional driveways and associated car parking to Cusack Ave and Keneally Way. Given the narrow nature of the street, fears for pedestrian safety are raised and the real potential for congestion is presented. Limited on-street parking is already of concern with residents and visitors currently having to park on the grass over the kerb, the additional parking requirements would only exacerbate this issue.

	Any new dwelling house shall be provided with vehicle charging facilities.	**Complies** EV charging outlet is proposed within each garage. Conditions would be applied to the consent to ensure compliance.
Section 21 – Subdivision of land and buildings 21.4 Residential Zones (Except R5)	Minimum Lot Width Minimum lot width for sites Lot Size Map as per the LLEP 2008 map = **9m** *Note: Minor variations may be considered if the average width of the lot is greater than the Minimum Lot Width as stated in Table 7.*	**Non-compliance** Lot A: 8.595m width Lot B: 7.934m width Lot C: 8.955m width Lot D: 7.488m width Lot E: 7.637m width Lot F: 8.488m width The proposed average width is 8.183m. This equates to a variation of 0.817m (9%) which is not supported by council. The DCP notes that *Minor variations may be considered if the average width of the lot is greater than the Minimum Lot Width as stated,* however, as the average lot width is 8.183m this can not be supported. The three neighbouring properties directly to the North comply with these controls. It is noted that the Statement of Environmental Effects (SEE) makes reference to an approved variation at 65-69 Leacocks Lane, however, the comparability between this site and the proposed site is limited. The referenced approval is for a single dwelling on a large lot site, whereas this proposal involves squeezing three smaller lots widths within the existing one large lot. With regards to Lot B in particular, the reduced site width further exacerbates the non-compliance with the minimum subdivision lot size. As detailed by the numerous non-compliances within this report it cannot reasonably be deduced that these lot width variations allow development that is suitable for its purpose and is consistent with the objectives of this control.
	Street Lighting Street lighting shall be designed by the applicant to *AS1158* and the development will be required to meet the full cost of street lighting installation.	**Complies with Conditions** Conditions would be applied to the consent to ensure compliance.
	Street Tree Planting	**Potential to Comply**

	One street tree shall be planted for each allotment created	One existing street tree is provided to Lot B. A new street is provided for each other allotment. It is noted that the above non-compliance with the minimum lot width has limited the potential for the proposed street tree planting to match that of the pot size of the street tree being removed. If removal of the street tree is unavoidable, as per the proposed plans, it must be replaced in a location to be approved by Liverpool City Council's Tree Assessment Officer.
Section 23 – Energy Efficiency	New dwellings, including multi-unit development within a mixed-use building and serviced apartments intended or capable of being strata titled, are to demonstrate compliance with State Environmental Planning Policy – Building Sustainability Index (BASIX). A complying BASIX report is to be submitted with all development applications containing residential activities.	**Complies** BASIX certificates have been provided which outline water and energy conservation commitments. The BASIX certificates form part of the supporting documents for the application and would be conditioned to ensure development maintains sustainability measures.
Section 25 – Waste Management	Waste Management Plan shall be submitted for demolition, construction and ongoing waste management.	**Potential to Comply** A waste management plan has been submitted which outlines procedures for demolition, construction, and ongoing waste management. Each property must have a minimum of 2.3m available that is free of tree, shrub, or barrier for the bins to be presented for collection on the kerbside, this is to be carefully coordinated with the street tree placement. Conditions of consent would apply to ensure compliance and ensure bin locations are weather and vermin proof.

Part 3.4 Semi-Detached and Attached Dwellings (Duplexes and Terraces) in the R2, R3 and R4* Zones:

Control	Requirement.	Compliance/comment.
2 Site Planning	The layout of the Semi-detached dwellings and Attached dwellings must be designed around the sites attributes such as slope, existing	**Non-Compliance** The layout of the attached dwellings is not considered to be designed appropriately around the site. The significant cut

	vegetation, land capability and/or solar access.	proposed has resulted in retaining walls over 1m in height causing significant overshadowing and drops in level between neighbouring properties.
	There must be a direct link from at least one living area to the principal private open space area.	**Complies** Each dwelling provides a direct link from a family/dining area to the PPOS.
	The siting of windows of habitable rooms on the first floor must not overlook neighbouring properties.	**Complies** The siting of windows to habitable rooms on the first floor generally do not overlook neighbouring properties. Unit 1 has a window to the sitting room that overlooks the property to the south (79-83 Leacocks Lane), a 1.5m sill height has been incorporated to mitigate privacy concerns. Unit 4 has a window to the master bed and bed 2 overlooking the property to the south (19 Cusack Avenue), a 1.54m and 1.8m sill height have been incorporated to mitigate privacy concerns. Unit 6 has a window to bed 4 that overlooks the property to the north (30B Keneally Way), while it has a lower sill of 1.2m it is noted that there is an increased separation distance between the two dwellings of approximately 10m reducing the potential for overlooking.
	Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.1.	**Complies** The submitted concept stormwater plans indicate standard drainage to the existing Cusack Ave outlet. The application was referred to Council Land Development Engineer who provided no objection subject to the lodgement of additional information and standard conditions.
3 Setbacks	**Front Setback**	
	Ground floor: 4.5m	**Complies.** Unit 1: 16m 15.2m (to porch) Unit 2: 16m 16.4m (to porch) Unit 3: 16.4m 16.2m to porch

		Unit 4: 6.2m 5.1m (to porch) Unit 5: 9.35m 8.3m (to porch) Unit 6: 7m 6.25m (to porch) **Complies.**
	First floor: 5.5m	Unit 1: 15.4m 15.2m (to balcony) Unit 2: 16m 16m (to balcony) Unit 3: 16.2m 16.3m (to balcony) Unit 4: 7.2m 5.5m (to balcony) Unit 5: 10.4m 8.5m (to balcony) Unit 6: 6.65m 5.7m (to balcony)
	Garages must be set back a minimum of 1m behind the main face of the dwelling	**Complies.** Garages setback a minimum of 1m.
	Side Setback	
	Ground floor: 0.9m	**Complies.** Unit 1: LHS 1.212m Unit 2: N/A Unit 3: RHS 1.202m Unit 4: RHS 1.262m Unit 5: N/A Unit 6: LHS 1.327m
	First floor: 1.2m	**Complies.** Unit 1: LHS 1.212m Unit 2: N/A Unit 3: RHS 1.202m Unit 4: RHS 1.262m Unit 5: N/A Unit 6: LHS 1.327m
	Rear Setback	
	Ground floor: 4.0m	**Complies.** Unit 1: 4.004m Unit 2: 4.459m

	First floor: 7.0m	Unit 3: 4.000m Unit 4: 8.779m Unit 5: 11.85m Unit 6: 5.20m **Complies.** Unit 1: 7.004m Unit 2: 7.235m Unit 3: 7.012m Unit 4: 13.3m Unit 5: 15.6m Unit 6: 9.2m
	Note: Building encroachments may only occur if it is seen as beneficial for open space, solar access and the internal layout of the dwelling. The dwellings living areas should open out to open space.	**Noted.**
4 Landscaped Area and Private Open Space	**Landscaped Area**	
	A minimum of 20% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.	**Complies.** Unit 1: 129.09 (43%) Unit 2: 116.29 (44%) Unit 3: 140.98 (47%) Unit 4: 116.94 (39%) Unit 5: 140.36 (46%) Unit 6: 103.89 (35%)
	A minimum unincumbered area of 4 x 6m shall be provided in rear setback to accommodate deep rooted trees.	**Complies.** Unit 1: 4 x 6m Unit 2: 4 x 6m Unit 3: 4 x 6m Unit 4: 4 x 6m Unit 5: 4 x 6m Unit 6: 4 x 6m
	A minimum of 50% of the front setback area shall be Landscaped Area.	**Complies.** Unit 1: 96.93 (63%) Unit 2: 72.99 (54%) Unit 3: 97.40 (65%) Unit 4: 29.24 (58%) Unit 5: 40.73 (56%) Unit 6: 49.61 (55%)
	A minimum uninicumbered area of 3 x 5m shall be provided in front setback to accommodate deep rooted trees.	**Complies.** Unit 1: 3 x 5m Unit 2: 3 x 5m Unit 3: 3 x 5m Unit 4: 3 x 5m Unit 5: 3 x 5m

		Unit 6: 3 x 5m
	Private Open Space	
	The Private Open Space for each dwelling must have a minimum area of 60m2. (2.5m min width)	**Complies.** Unit 1: Front 35 m^2 Rear 42.16 m^2 **Total 77.16 m^2** Unit 2: Front 37 m^2 Rear 43.30 m^2 **Total 80.30 m^2** Unit 3: Front 42 m^2 Rear 43.58 m^2 **Total 85.58 m^2** Unit 4: **Total (rear) 116.81 m^2** Unit 5: **Total (rear) 128.37 m^2** Unit 6: **Total (rear) 85.10 m^2**
	Private Open Space areas are not permitted within the primary street setbacks.	**Non-Compliance** Despite the total numerical compliance of the above POS areas, it is noted that Units 1, 2 & 3 rely on area within the primary setback to achieve compliance. The positioning of the POS within the front setback is largely due to the constraint of the telecommunications easement that cannot be developed upon. Screen planting has been provided to assist in utilising this front setback area as a private space. While this design results in generous front setback distance and additional landscaping this is not considered an ideal solution as the limited rear POS is capable of being resolved via compliance with the minimum lot size and lot width controls. As per the objectives of the LDCP the private open space is to be clearly defined for private use and located next to internal living areas, neither of which is sufficiently demonstrated. It is considered that the proposal in its current form would set an unwanted precedent for future development within the locality.
	Private Open Space must have an area for clothes drying with at least 2 hours of full sun between 9.00am and 5.00pm at 21 June.	**Non-Compliance** The location of clothes drying facilities has not been identified on plans.

	The Private Open Space shall include a Principal Private Open Space area, which is directly accessible from the main living area of a dwelling with a minimum dimension of 4 x 6m.	**Complies.** Each unit provides direct access from the family/dining area to a PPOS of 4 x 6m dimension.
	The principal private open space must receive 3 hours of sunlight to at least 50% of the area between 9:00am and 5:00pm on 21 June.	**Non-Compliance** Unit 1: 50% between 10am and 2pm Unit 2: 50% between 10am and 2pm Unit 3: 50% between 10am and 2pm Unit 4: 50% between 9am and 11am Unit 5: Less than 50% provided. Unit 6: 50% between 10am and 2pm It is noted that the provided shadow diagrams do not appear to accurately depict overshadowing caused by retaining walls and differences in levels between the lots.
5 Cut and Fill, Building Design, Streetscape and Layout	**Cut and Fill of Land**	
	The maximum cut on a site must not exceed 600mm.	**Non-Compliance.** The proposal involves significant cut excess of 1.3m requiring retaining walls to assist in the stepping down of levels. Given the steep crossfall of the site there may be merit to the proposed design, provided that all other non-compliances are addressed in full.
	All retaining wall structures shall be masonry construction and designed by a suitably qualified person, or constructed as specified by the manufacture of the product. The retaining wall shall be constructed wholly inside (within) the boundary of the site.	**Complies by Condition** Conditions of consent would be imposed to ensure compliance.
	All slab constructions for dwellings that are above natural ground level are to be constructed using dropped edge beams to retain fill. The maximum fill within the confines of the slab must not exceed 1 m. All fill must be contained within the dwelling footprint.	**Complies.** Minor fill of <1m is proposed. Conditions of consent would be imposed to ensure compliance with drop edge beams.
	Contaminated fill, either imported or found on site is not permitted. Note: In the event of approval being granted to the erection of retaining wall(s) to contain proposed cut, Council will require the completion of such retaining wall(s)	**Complies by Condition** Conditions of consent would be imposed to ensure compliance.

	PRIOR TO the release of the occupation certificate.	
	Building Design and Appearance	
	All dwellings are to be orientated to the street.	**Complies.**
	The front pedestrian entrance must be visible from the street.	**Complies.**
	The front building facades shall be articulated. The façade should incorporate front porches, entries, pergolas and verandahs on front facades.	**Complies.** The proposal provides variation in façade design by adopting a traditional approach to Units 1-3 facing east compared to the modern approach of Units 4-6 facing west. The façades of all six proposed dwellings are articulated with front porches, entries, portico, balconies, changes in finishes, glazing, and recesses.
	Eave overhang must provide for sun shading and protect windows and doors. Eaves should have a minimum overhang of 400mm and be provided to a minimum of 70% of the dwelling.	**Complies.** Units 1-3 incorporate a 450mm eave overhang. Units 4-6 do not incorporate an eave as part of the modern design. Notwithstanding, the proposal still meets thermal comfort requirements as per the BASIX report.
	"Mirror – imaging" of facades on a Semi-detached dwellings and Attached dwellings are not permitted.	**Complies.** The amended design has reduced the instances of mirror-imaging through minor variations to window placement and balustrade design.
	The front building line of semi-detached dwellings must be staggered by a minimum of 1m.	**Complies.** Amended plans demonstrate a minimum 1m setback.
	Two Storey Dwellings	
	For two storey developments, a side wall must be articulated if the wall has a continuous length of over 10m.	**Complies.** The amended design incorporates recesses to the first-floor walls of Units 4 & 6.
	On two storey dual occupancies, balconies are encouraged to face the street or built over garages.	**N/A** Dual occupancies not proposed. Notwithstanding, balconies are designed to face the street.
	Balconies are not permitted on the first floor of the side and / or rear portion of the dwelling. Balconies may be considered if they address public open space / utilities.	**Complies.** Balconies are designed to face the street.
	Garages and Carports	
	Garages and carports must be designed to be the minor element	**Complies.** Garages are not considered to be a major

	of the façade.	element of the façade design.
	The maximum width of garage doors or carports must be no greater than 50% of the building frontage width.	**Complies.** Unit 1: 35% Unit 2: 31% Unit 3: 31% Unit 4: 36% Unit 5: 31% Unit 6: 34%
	Garage roofs shall be incorporated into the roof design of the house. Separate roofs for garages should be discouraged, unless actually separated from the dwelling.	**Complies.** Garage roofs are integrated within the building design.
	Garages and carports are to be compatible with the building design in terms of height, roof form, detail, materials and colours.	**Complies.** The timber garage door of Units 1-3 compliments the traditional façade aesthetic. The black finish to the garage door of Units 4-6 more suitably compliments the sleek modern design of these units.
	Internal Design of Attached Dwellings	
	All dwellings shall have habitable rooms located to the front of the dwelling for security and surveillance to the street.	**Complies.** All dwellings have habitable sitting rooms and bedrooms located to the front of the dwelling.
	Where possible, living rooms should take advantage of northern aspects.	**Complies on merit.** Unit 1: north-west aspect Unit 2: north-west aspect Unit 3: north-west aspect Unit 4: east aspect Unit 5: east aspect Unit 6: north-east aspect Despite the Living area of Units 4 & 5 not taking advantage of the northern aspect a sitting room has been located to the front of these dwellings that uses a slight north-west aspect.
	Access to private open space must be from at least one living room.	**Complies.** Access to each units rear POS is via a living area. Units 1-3 that incorporate an additional POS to the front of the dwelling allows for access via a sitting room.
	The internal layout of the dwelling is encouraged to incorporate cross ventilation.	**Complies.** Cross ventilation is achieved through the appropriate location of openable windows and doors.

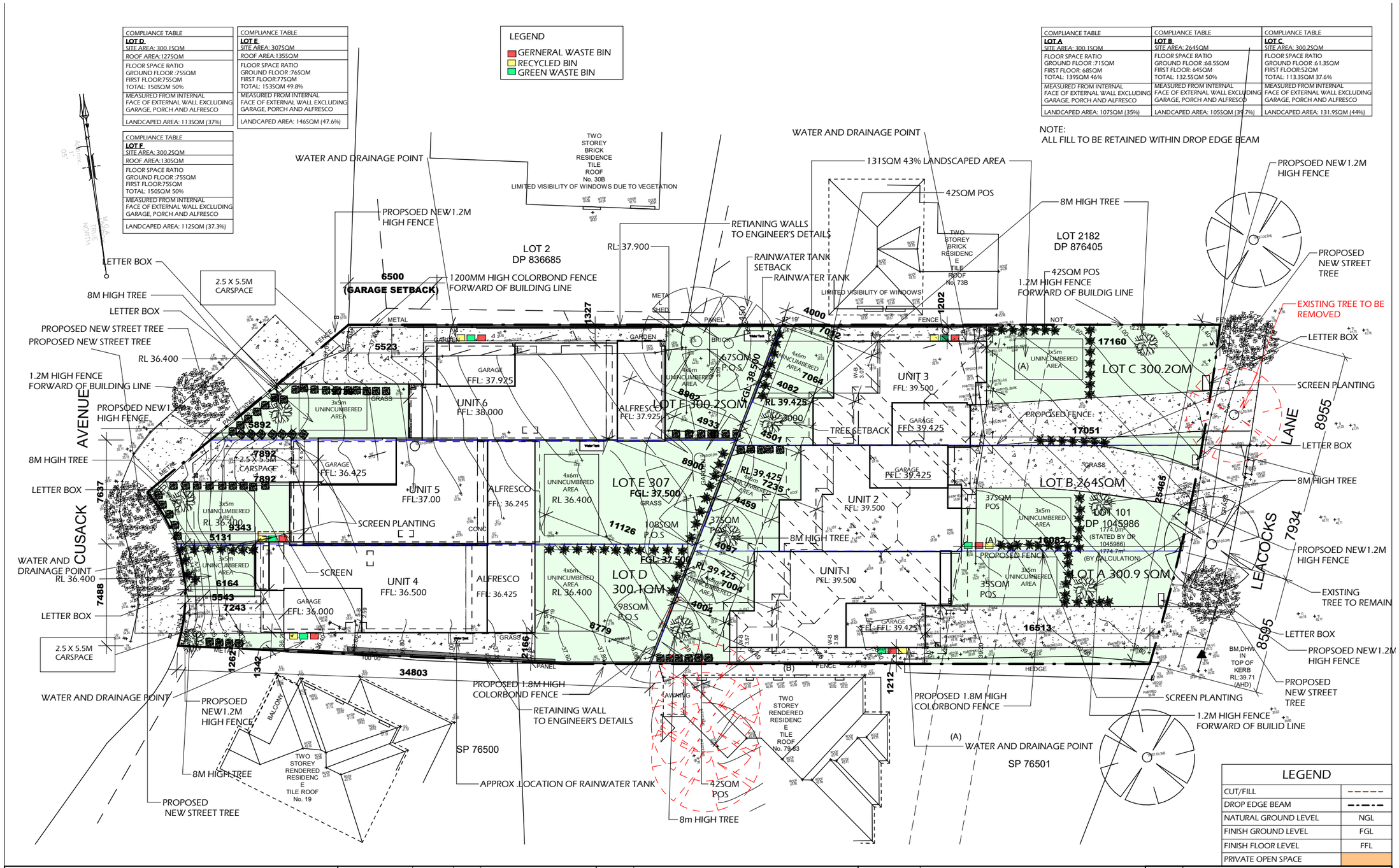
	Bathrooms, ensuites, laundries and walk in wardrobes should be located to the side or rear of the dwelling.	**Complies.** Wet areas and W.I.R are located to the sides of each dwelling.
	Each dwelling of the semi-detached and attached dwelling must provide a minimum storage area of 8m3.	**Potential to Comply.** Units 1-3: Under stair storage has been provided to each unit. Additional attic space is available for storage. Units 5-6: Under stair storage has been provided to each unit. Additional storage space has been provided to the first floor. Further clarification is required as to Unit 4 first floor storage location.
	Locate active use rooms or habitable rooms with windows overlooking communal/public areas (e.g. playgrounds, gardens).	**Complies.** Habitable rooms including bedrooms overlook public areas such as the street.
6 Landscaping and Fencing	**Landscaping**	
	The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8 m height at maturity within the front and rear setback areas.	**Complies.** Each unit provides for a tree of minimum 8m height within the front and rear setback areas.
	Landscape planting should be principally comprised of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Species selected in environmentally sensitive areas should be indigenous to the locality. However, Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.	**Complies** Proposed planting species are native.
	The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (600 – 1800mm) especially along paths and close to windows and doors.	**Potential to Comply.** The landscape plan provides for a mix canopy trees, shrubs and groundcover. Planting with a mature height of 2-2.5m is proposed. Further variation is recommended.
	Landscaping in the vicinity of a driveway entrance should not obstruct visibility for the safe ingress and egress of vehicles and pedestrians.	**Complies.** Landscaping is appropriately setback to reduce visibility issues.
	Tree and shrub planting along side and rear boundaries should assist in providing effective screening to	**Potential to Comply.** Screen planting of 2.5m mature height is proposed along internal boundaries,

	adjoining properties. The minimum height of screening to be provided is 2.5 to 3m at maturity.	additional screen planting to surrounding lots are recommended.
	The development must be designed around significant vegetation on the site. Note: It is important to retain significant vegetation to maintain an existing streetscape and enhance the visual appearance of new dwellings.	**Complies.** Five existing trees are to be incorporated into the development.
	At least one tree shall be planted in the landscaped area. The tree must reach a mature height of over 8m.	**Complies.** Each unit provides for a tree of minimum 8m in height within the front and rear setback areas.
	Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry.	**Potential to Comply.** Additional information regarding species of trees adjacent to POS area is to be provided.
	Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.	**Complies by Condition** Mature trees are located a minimum of 3m from the building. A condition of consent would be included to ensure compliance.
	Fencing	
	Primary Frontage	
	The maximum height of a front fence is 1.2m.	**Complies.** Proposed 1.2m front fence.
	The front fence may be built to a maximum height of 1.5m if the fence is setback 1m from the front boundary with suitable landscaping in front of the proposed fence.	**N/A**
	Fences should not prevent surveillance by the dwelling's occupants of the street or communal areas.	**Complies.**
	The front fence must be 30% transparent.	**Complies.** Open horizontal timber slats to the top half of the front fence ensures a degree of transparency.
	Front fences shall be constructed in masonry, timber, metal pickets and/or vegetation and must be compatible with the proposed design of the dwelling.	**Complies.** The proposed front fence is masonry with timber slats.
	Boundary Fences	
	The maximum height of side boundary fencing within the setback to the street is 1.2 m.	**Non-Compliance** It is noted that the front fence within the front setback of Units 1-3 reach 1.8m in height to ensure privacy to the POS.
	Boundary fences shall be lapped and capped timber or metal sheeting.	**Complies by Condition** A condition of consent would be imposed to ensure compliance

7 Car Parking and Access	Two car parking spaces shall be provided for each dwelling.	**Complies.** Two car spaces have been accommodated for. One within the garage and one to the driveway of each unit.
	One space per dwelling is permitted in front of the setback from the street frontage.	**Complies.**
	A car parking space is to be a minimum dimension of 2.5 x 5.5m.	**Complies.**
	A single garage is to be a minimum of 3 m wide internally and unobstructed.	**Complies.** Garage widths are 3m minimum.
	Kerbs shall be provided along the edge of all internal driveways.	**N/A** No internal driveway proposed.
8 Amenity and Environmental Impact	**Overshadowing**	
	Adjoining properties must receive a minimum of three hours of sunlight between 9am and 5pm on 21 June to at least: - One living, rumpus room or the like. - 50% of the private open space.	**Non-Compliance.** The overshadowing to19 Cusack Avenue is considered unreasonable. The neighbouring dwelling and POS are overshadowed for a significant portion of the day and will receive solar access to <50% of their POS.
	Privacy	
	Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling.	**Complies.** The siting of windows to habitable rooms on the first floor generally do not overlook the windows of neighbouring properties. Unit 1 has a window to the sitting room that overlooks the property to the south (79-83 Leacocks Lane), a 1.5m sill height has been incorporated to mitigate privacy concerns. The side facing windows of Units 4 & 6 are appropriately offset from neighbouring dwellings due to an increased separation distance.
	Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space	**Complies.** Minimum sill heights of 1.5m have been incorporated to side facing windows of habitable rooms.
	Building siting, window location, balconies and fencing must consider the importance of the privacy of on site and adjoining buildings and private open spaces.	**Complies.** As noted above the building siting and window location appropriately addresses privacy concerns. It is noted that concerns regarding fence height have been raised within the submissions, however, the proposal

		incorporates compliant 1.8m high fencing.
	Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.	**Potential to Comply.** Screen planting of 2.5m mature height is proposed along internal boundaries, additional screen planting to the surrounding lots is recommended.
	Acoustic Privacy	
	Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings.	**Complies by Condition** A condition of consent would be imposed to ensure compliance
	Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas.	**N/A**
	Where party walls are provided they must be carried to the underside of the roof and be constructed in accordance with Part F5 of the *Building Code of Australia.*	**Complies by Condition** A condition of consent would be imposed to ensure compliance
	The proposed buildings must comply with the Environment Protection Authority criteria and the current relevant Australian Standards for noise and vibration and quality assurance	**Complies by Condition** A condition of consent would be imposed to ensure compliance
9 Site Services	**Letterboxes**	
	Letterboxes shall to be provided for each dwelling on site, easily accessible from the street, able to be securely locked and provided in accordance with Australia Post's requirements.	**Complies.** A letterbox has been located to the front boundary and adjacent to the driveway of each dwelling.
	Freestanding letterbox structures should be designed and constructed of materials that relate to the main building.	**Complies by Condition** A condition of consent would be imposed to ensure compliance
	Residential numbering should be attached to the letterbox so that it is clearly visible from the street frontage. Numbers should be 75mm in height, reflective and in contrast to the backing material.	**Complies by Condition** A condition of consent would be imposed to ensure compliance
	Frontage Works and Damage to Council Infrastructure	
	Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be	**Complies by Condition** A condition of consent would be imposed to ensure compliance

	provided at no cost to Council.	
	Council must be notified of any works that may threaten Council assets. Council m ust give approval for any works involving Council infrastructure.	**Complies by Condition** A condition of consent would be imposed to ensure compliance
	Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting it may be a condition of consent that street trees be provided in the footpath area immediately in front of the site.	**Potential to Comply** One existing street tree is provided to Lot B. A new street is provided for each other allotment. It is noted that the above non-compliance with the minimum lot width has limited the potential for the proposed street tree planting to match that of the pot size of the street tree being removed. If removal of the street tree is unavoidable, as per the proposed plans, it must be replaced in a location to be approved by Liverpool City Council's Tree Assessment Officer.



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PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:
REV.A	01.02.24	SK	DA FEEDBACK	

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ALL MEASUREMENTS ARE IN MILLIMETRES.
ALL DIMENSIONS ARE FRAME TO FRAME.

CLIENT:

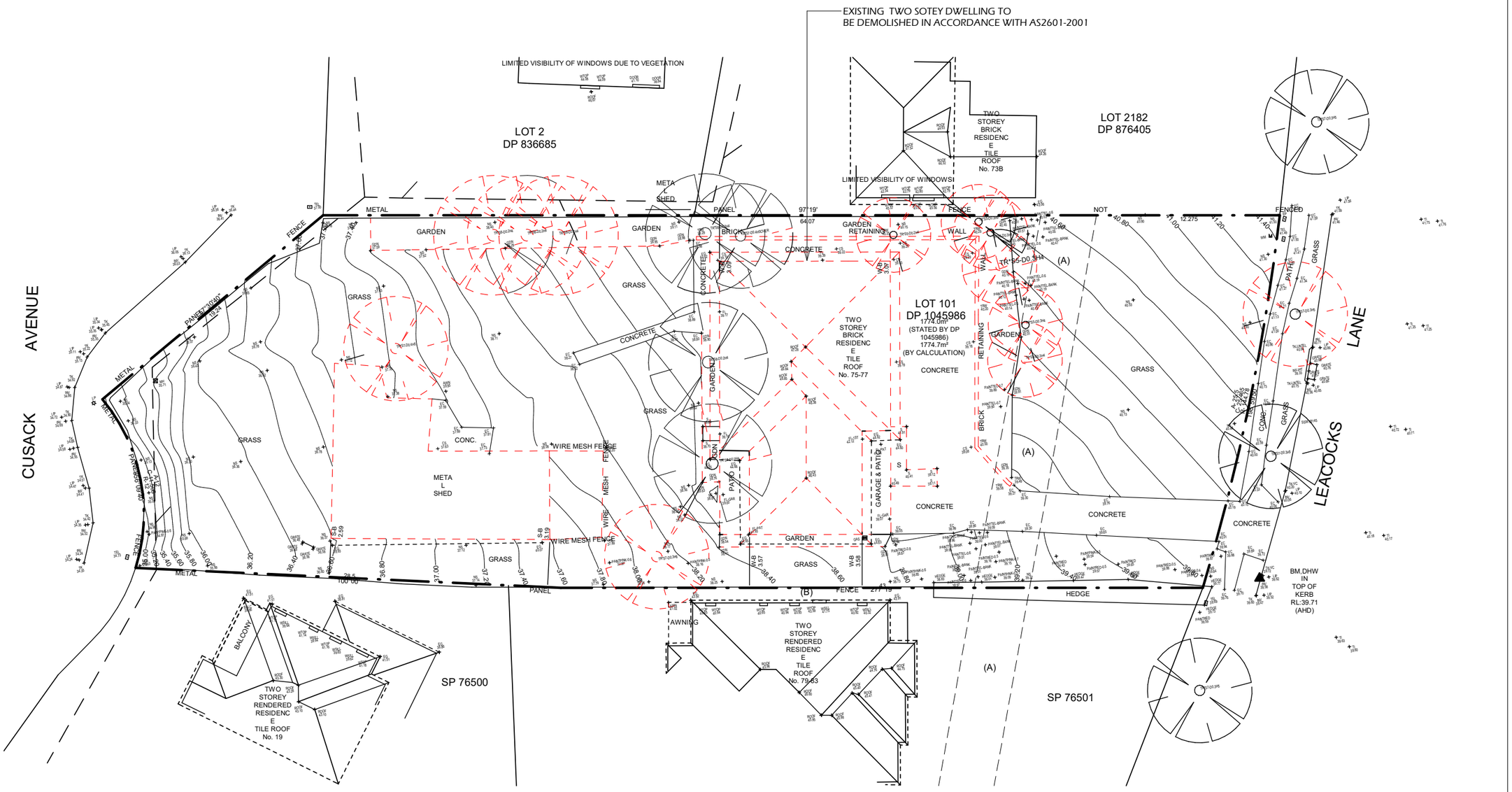
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: SITE PLAN

SHEET NO: 02

SCALE: As indicated

JOB NO: 75-LEA



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CLIENT:

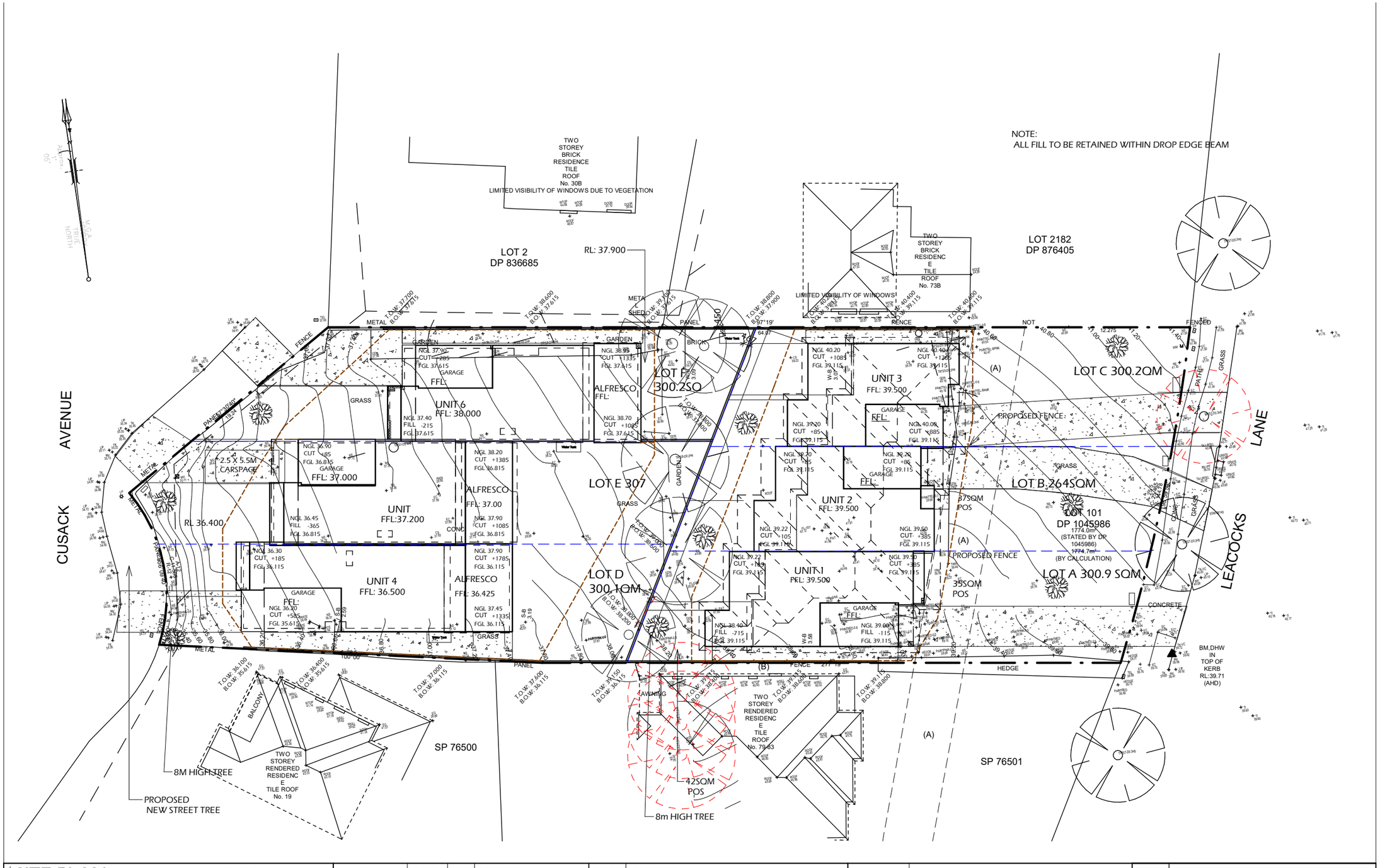
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: DEMOLITION PLAN

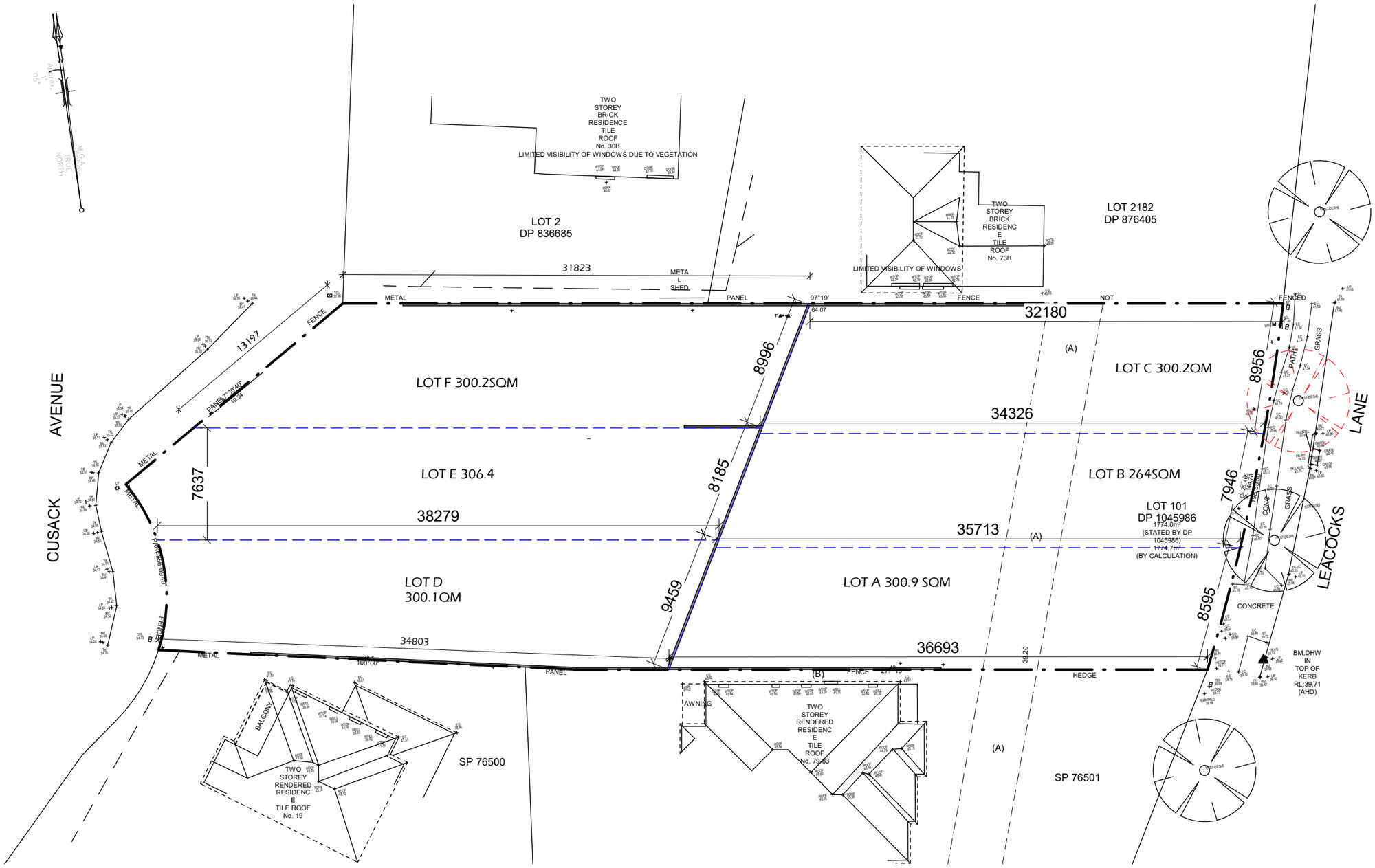
SHEET NO: 02.1

SCALE: 1 : 250

JOB NO: 75-LEA



SITE PLAN	M: 1300 315 660 E: INFO@SKBUILDINGDESIGN.COM.AU W: WWW.SKBUILDINGDESIGN.COM.AU	PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:	COPYRIGHT THIS PLAN IS THE PROPERTY OF SK BUILDING DESIGN AND MUST NOT BE USED IN WHOLE OR IN PART. LEGAL ACTION WILL BE TAKEN AGAINST ANY PERSON INFRINGING THE COPYRIGHT. DO NOT SCALE DRAWING, FIGURED DIMENSION ONLY TO BE USED. DIMENSIONS TO BE VERIFIED ON SITE BEFORE THE FABRICATION OF ANY BUILDING COMPONENTS. ALL MEASUREMENTS ARE IN MILLIMETRES. ALL DIMENSIONS ARE FRAME TO FRAME.	CLIENT:		DWG:	CUT & FILL PLAN
1 : 250	SK BUILDING DESIGN bdaa ACCREDITED BUILDING DESIGNER	REV A	01.02.24	SK	DA FEEDBACK			ADDRESS:	75-77 LEACOCKS LANE STREET, CASULA , 2170	SHEET NO:	02.2
										SCALE:	1 : 250
										JOB NO:	75-LEA



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REV.A	01.02.24	SK	DA FEEDBACK	

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CLIENT:

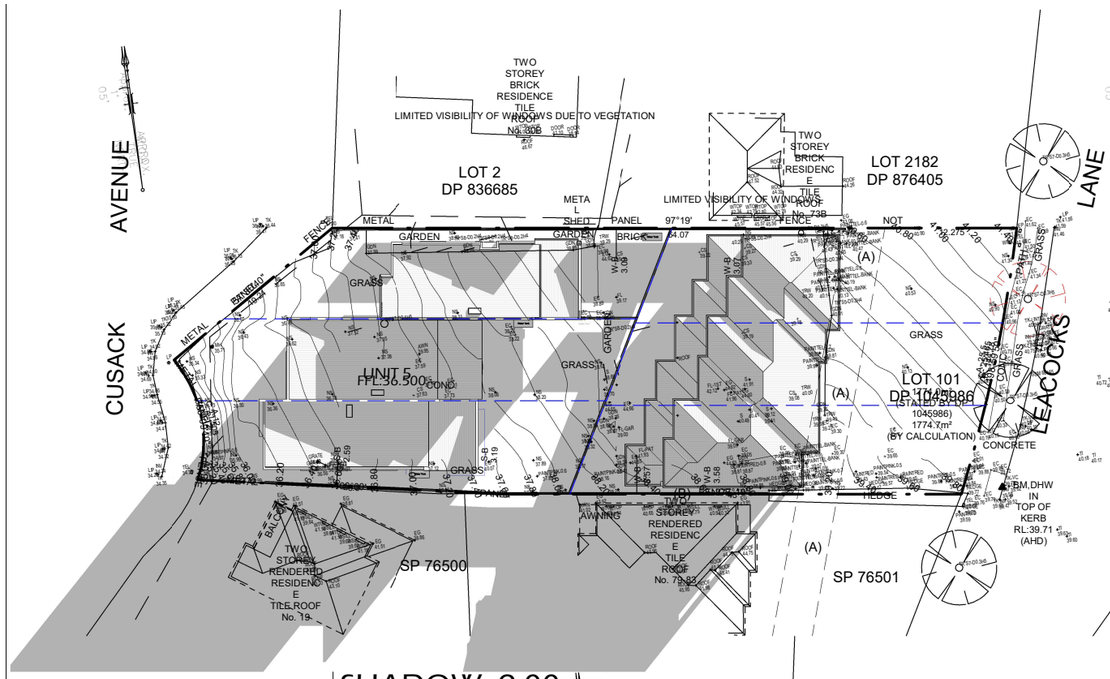
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: SUBDIVISION PLAN

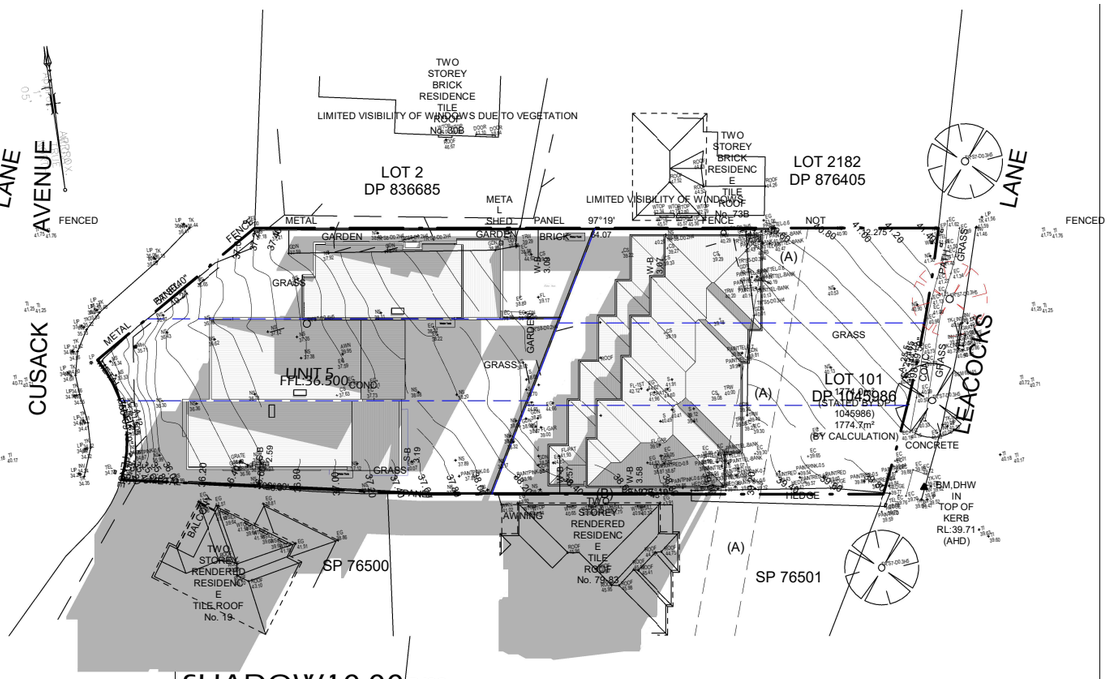
SHEET NO: 02.3

JOB NO: 75-LEA

SCALE: 1 : 250



SHADOW 9.00am
1 : 500



SHADOW10.00am
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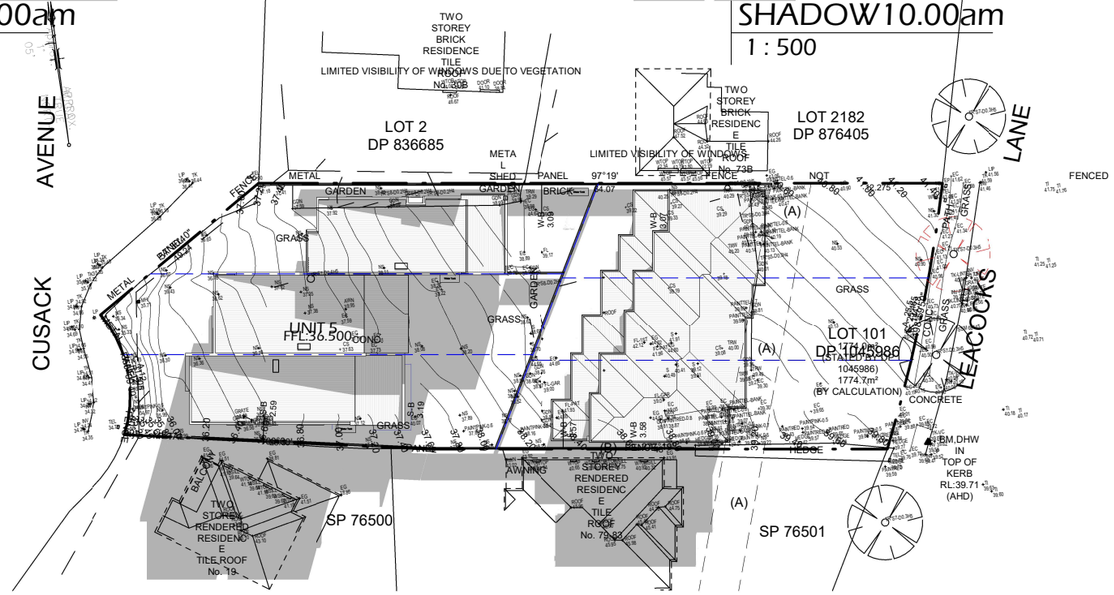

SHADOW 11am
1 : 500

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REV.A	01.02.24	SK	DA FEEDBACK	

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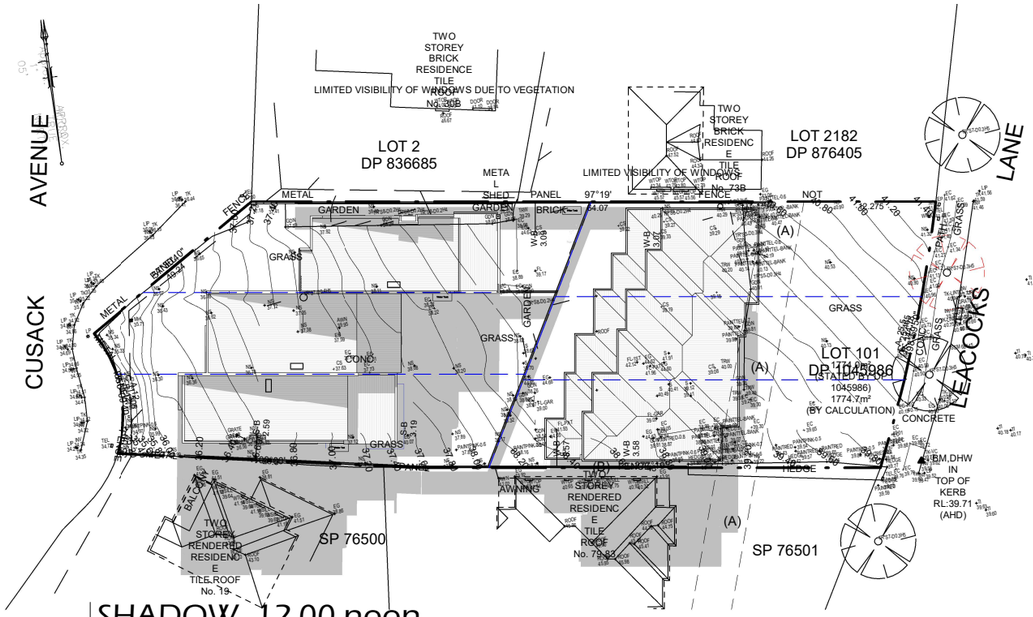
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: SHADOW DIAGRAM 9am

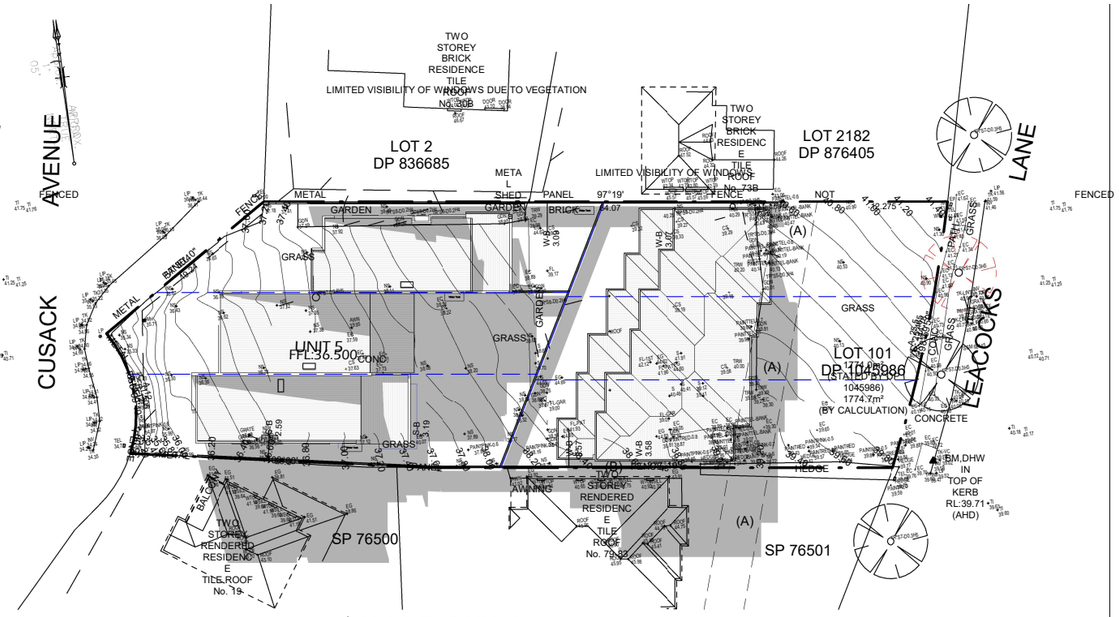
SHEET NO: 02.4

JOB NO: 75-LEA

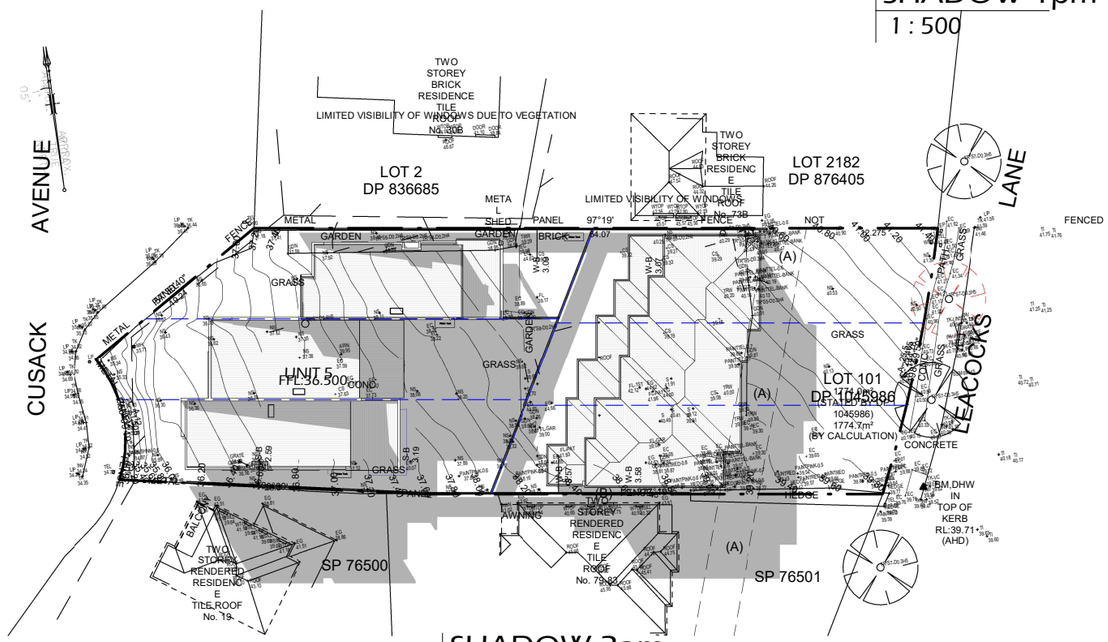
SCALE: 1 : 500



SHADOW 12.00 noon
1 : 500



SHADOW 1pm
1 : 500



SHADOW 2pm
1 : 500

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CLIENT:

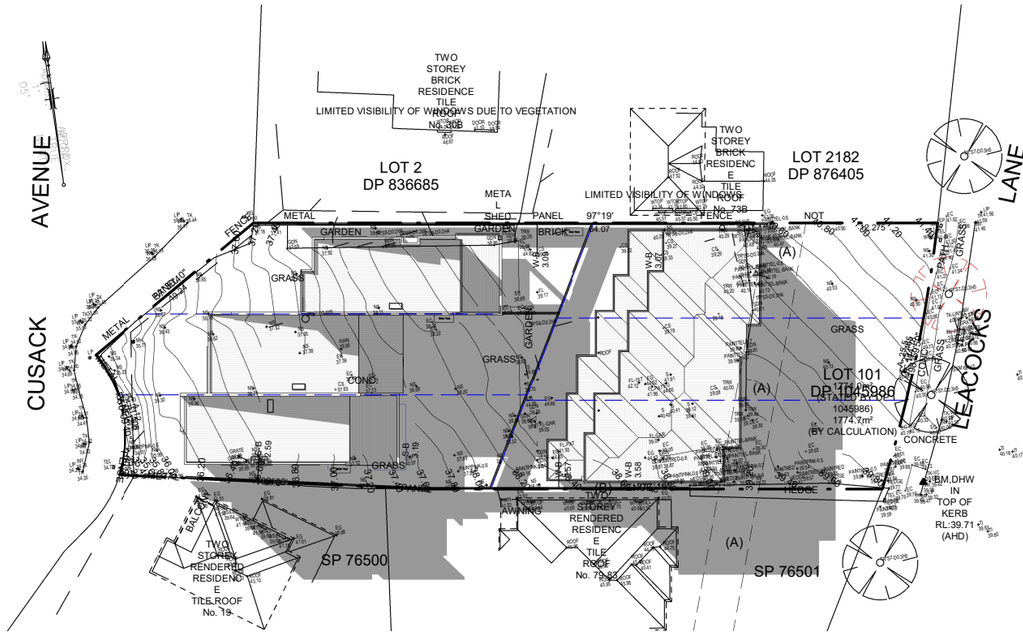
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: SHADOW DIAGRAM 12 noon

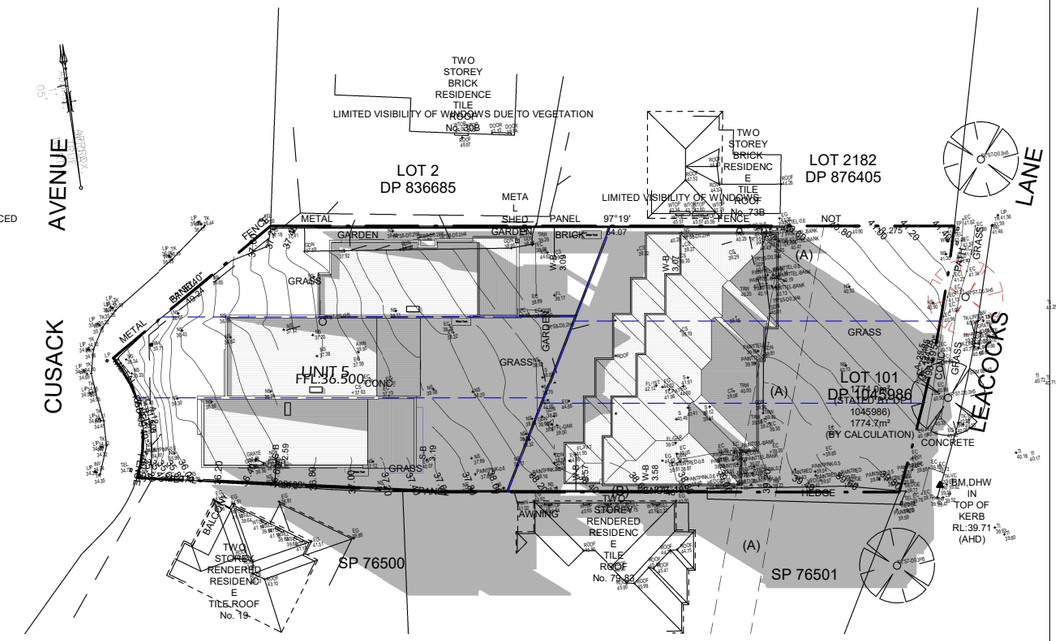
SHEET NO: 02.5

JOB NO: 75-LEA

SCALE: 1 : 500



SHADOW 3.00pm
1 : 500



SHADOW 4pm
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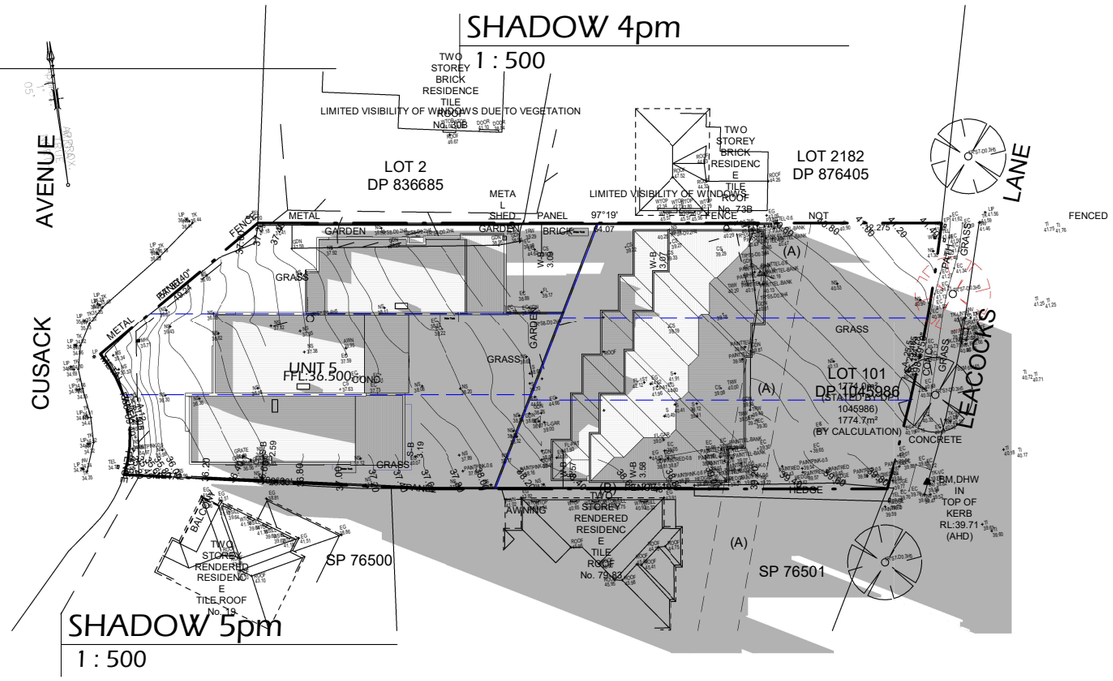

SHADOW 5pm
1 : 500

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REV.A	01.02.24	SK	DA FEEDBACK	

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CLIENT:

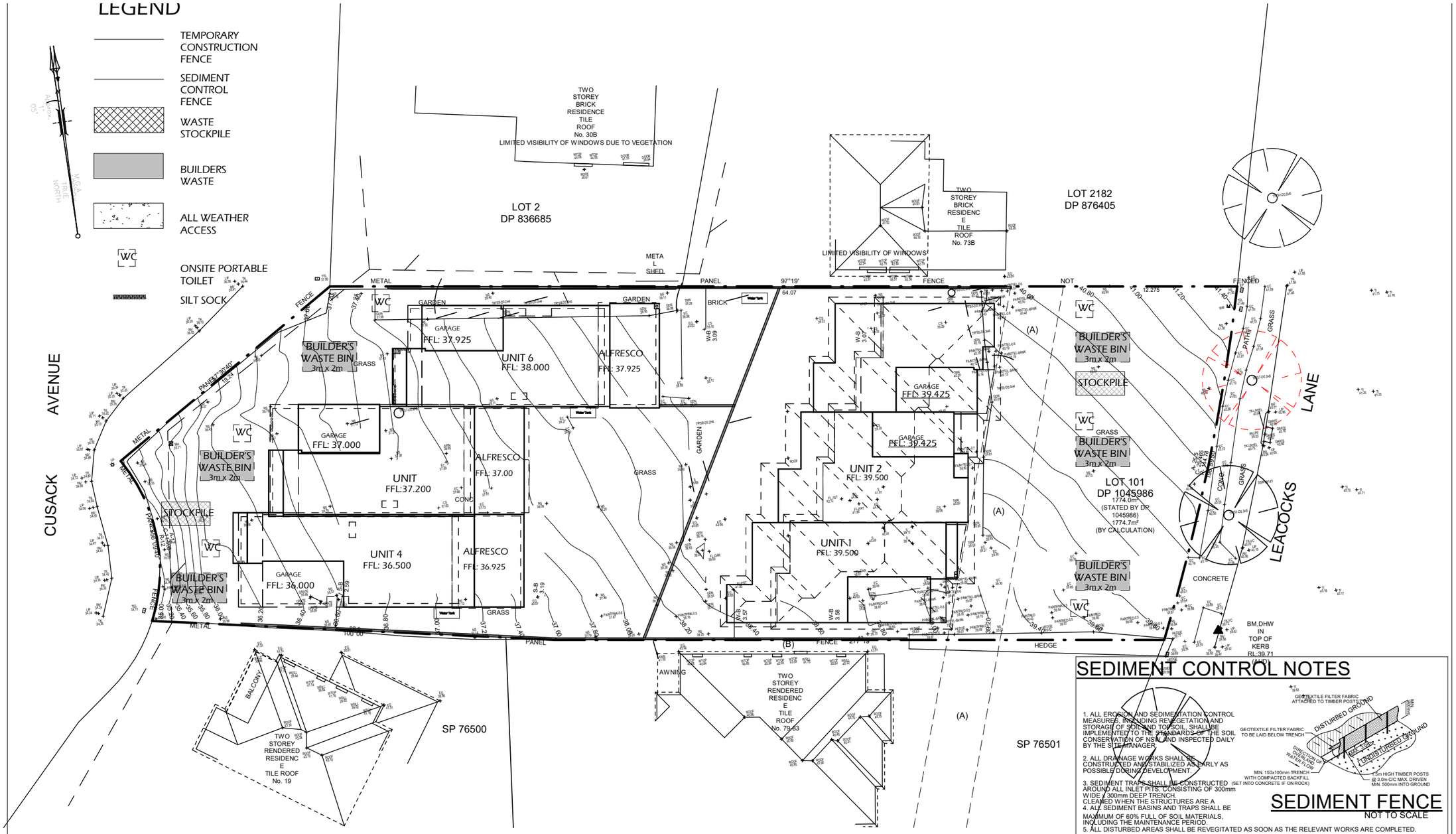
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: SHADOW DIAGRAM 3pm

SHEET NO: 02.6

JOB NO: 75-LEA

SCALE: 1 : 500



SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL SHALL BE IMPLEMENTED TO THE STANDARDS OF THE SOIL CONSERVATION OF NSW AND INSPECTED DAILY BY THE SITE MANAGER.

2. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILIZED AS EARLY AS POSSIBLE DURING DEVELOPMENT.

3. SEDIMENT TRAPS SHALL BE CONSTRUCTED AROUND ALL INLET PITS, CONSISTING OF 300mm WIDE / 300mm DEEP TRENCH. (SET INTO CONCRETE IF ON ROCK)
CLEANED WHEN THE STRUCTURES ARE A

4. ALL SEDIMENT BASINS AND TRAPS SHALL BE MAXIMUM OF 60% FULL OF SOIL MATERIALS, INCLUDING THE MAINTENANCE PERIOD.

5. ALL DISTURBED AREAS SHALL BE REVEGITATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.

6. SOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREA WHERE WATER MAY CONCENTRATE. ALL ROADS AND FOOTPATHS TO BE SWEPT DAILY.

7. FILTER SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR APPROVED EQUIVALENT BETWEEN POST AT 3.0m CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.

8. DUST PREVENTION MEASURES TO BE MAINTAINED AT ALL TIMES.

SEDIMENT FENCE

NOT TO SCALE

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PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:
REV.A	01.02.24	SK	DA FEEDBACK	

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CLIENT:

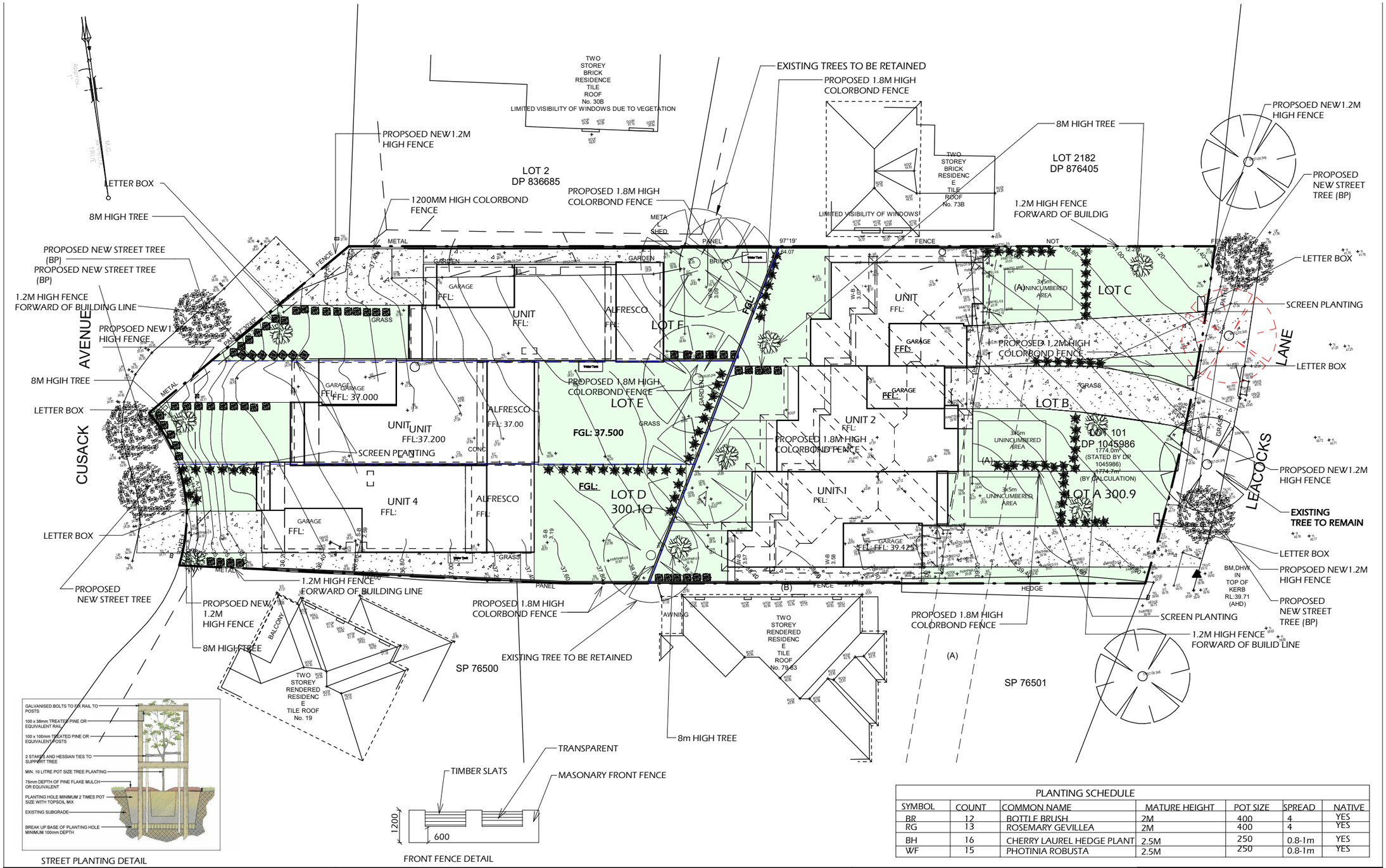
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: EROSION AND SEIDMENT COTROL PLAN

SHEET NO: 02.7

SCALE: 1 : 250

JOB NO: 75-LEA



STREET PLANTING DETAIL

FRONT FENCE DETAIL

PLANTING SCHEDULE						
SYMBOL	COUNT	COMMON NAME	MATURE HEIGHT	POT SIZE	SPREAD	NATIVE
BR	12	BOTTLE BRUSH	2M	400	4	YES
RG	13	ROSEMARY GEVILLEA	2M	400	4	YES
BH	16	CHERRY LAUREL HEDGE PLANT	2.5M	250	0.8-1m	YES
WF	15	PHOTINIA ROBUSTA	2.5M	250	0.8-1m	YES

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PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:
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CLIENT:

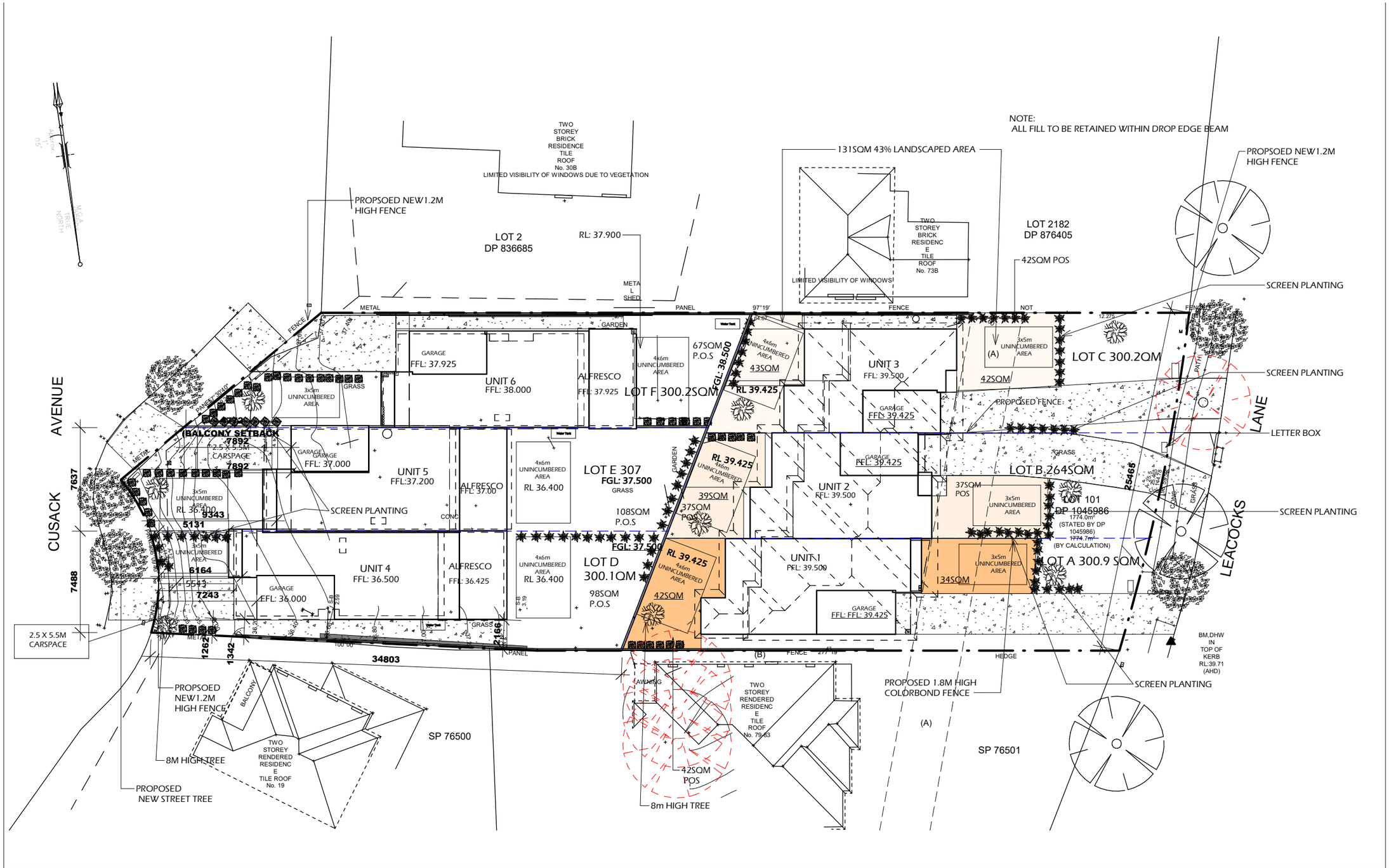
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: CONCEPT LANDSCAPE PLAN

SHEET NO: 02.8

SCALE: 1 : 250

JOB NO: 75-LEA



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CLIENT:

ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: PRIVATE OPEN SPACE

SHEET NO: 02.9

SCALE: 1 : 250

JOB NO: 75-LEA

UNITS 1-3

UNITS. 1-3

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REV.A	01.2.24	SK	DA FEEDBACK	

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CLIENT:

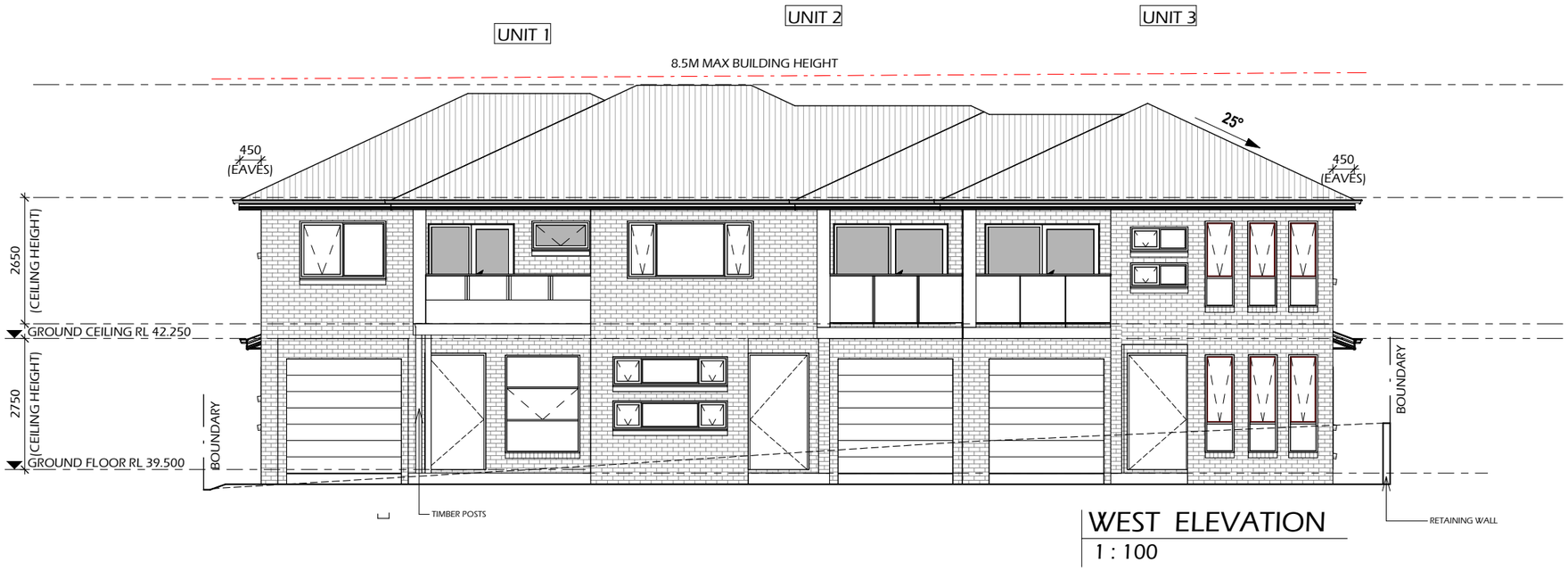
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: COVER SHEET

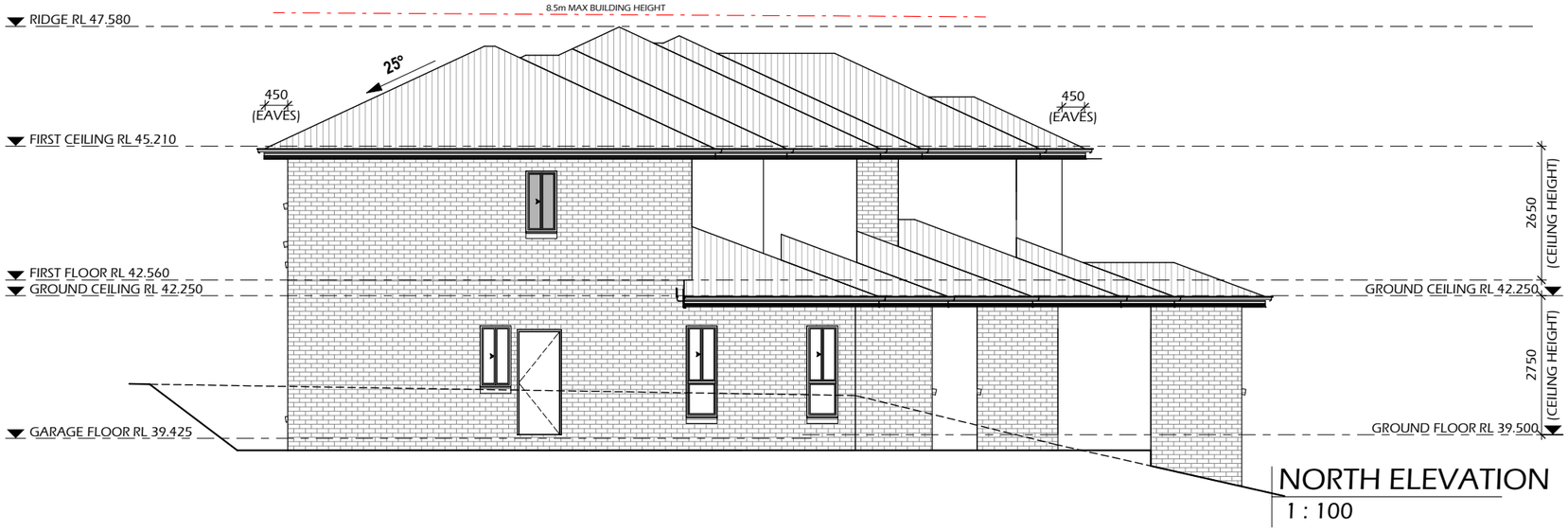
SHEET NO: 00

JOB NO: 75-LEA

SCALE:



WEST ELEVATION
1 : 100



NORTH ELEVATION
1 : 100

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PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:
REV.A	01.2.24	SK	DA FEEDBACK	

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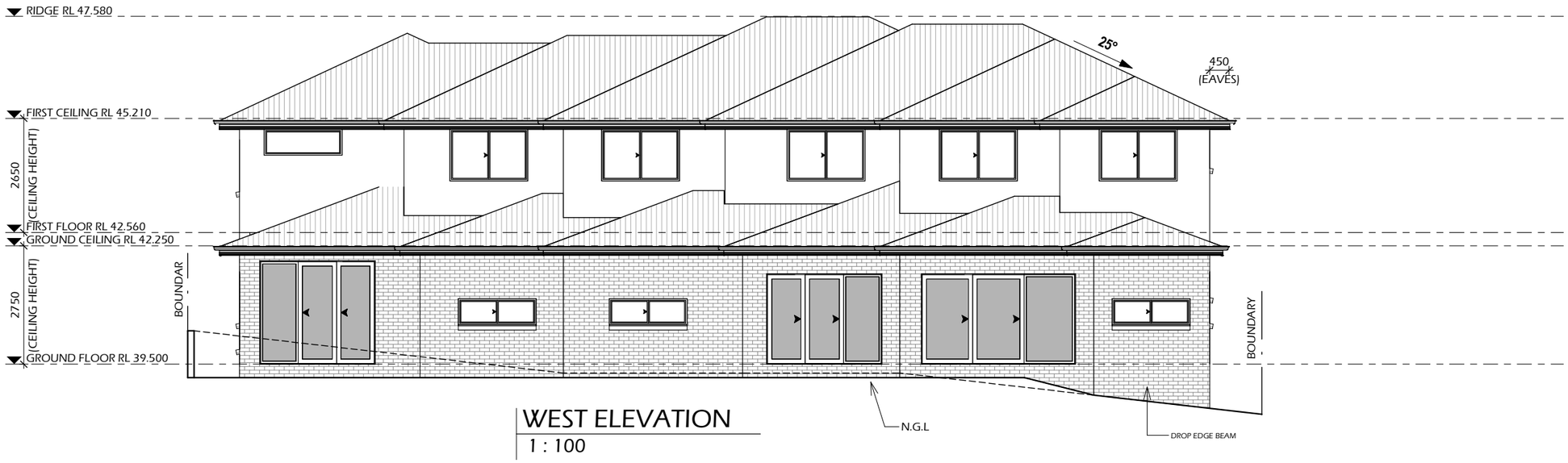
ALL DIMENSIONS ARE FRAME TO FRAME.

CLIENT:	
ADDRESS:	75-77 LEACOCKS LANE STREET, CASULA , 2170
DWG:	UNIT 1-3 ELEVATIONS
SHEET NO:	05
SCALE:	1 : 100
JOB NO:	75-LEA



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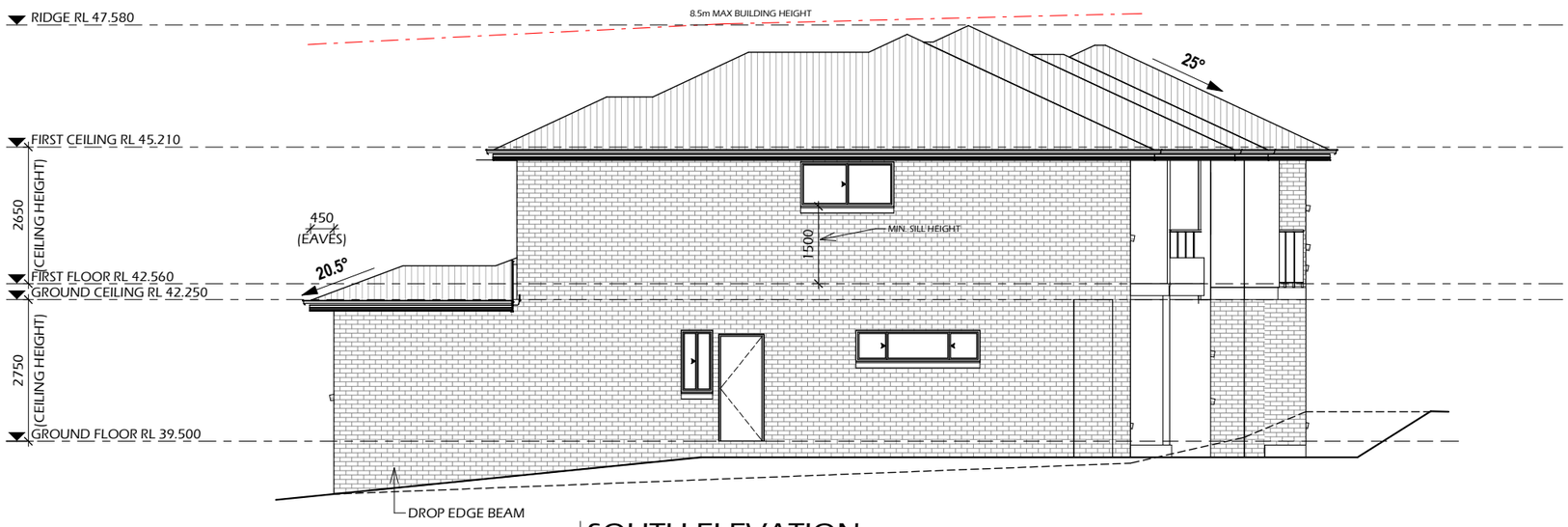
1 : 100



SOUTH ELEVATION
1 : 100

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REV.A	01.2.24	SK	DA FEEDBACK	

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CLIENT:

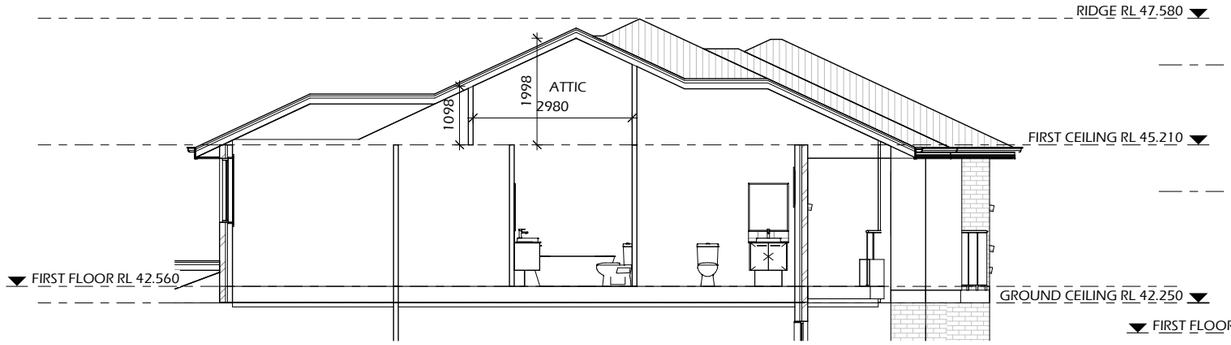
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: UNITS 1-3 ELEVATIONS

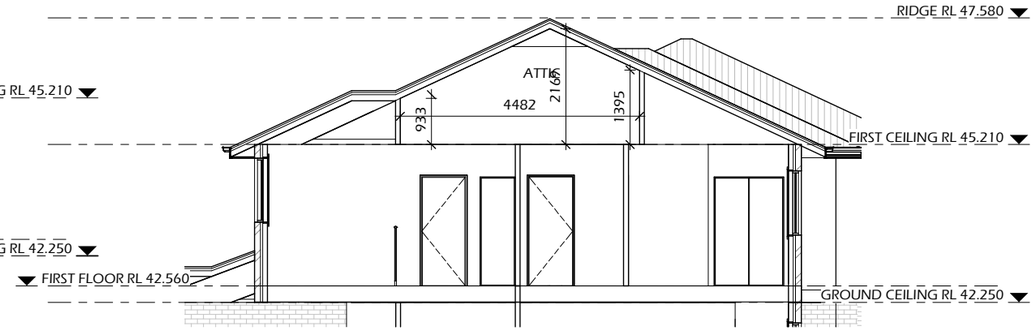
SHEET NO: 06

SCALE: 1 : 100

JOB NO: 75-LEA



UNIT 1 SECTION
1 : 100



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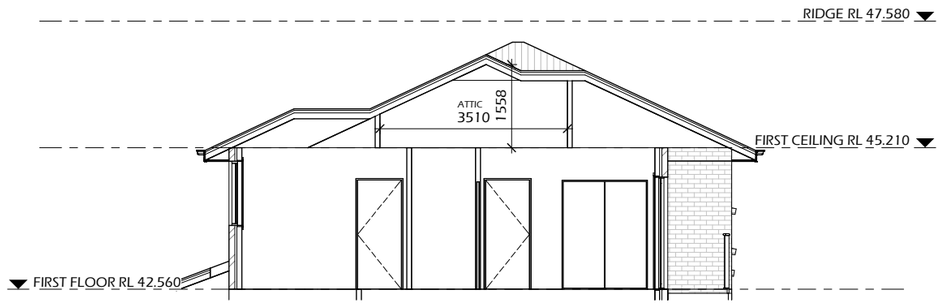

UNIT 3 SECTION
1 : 100

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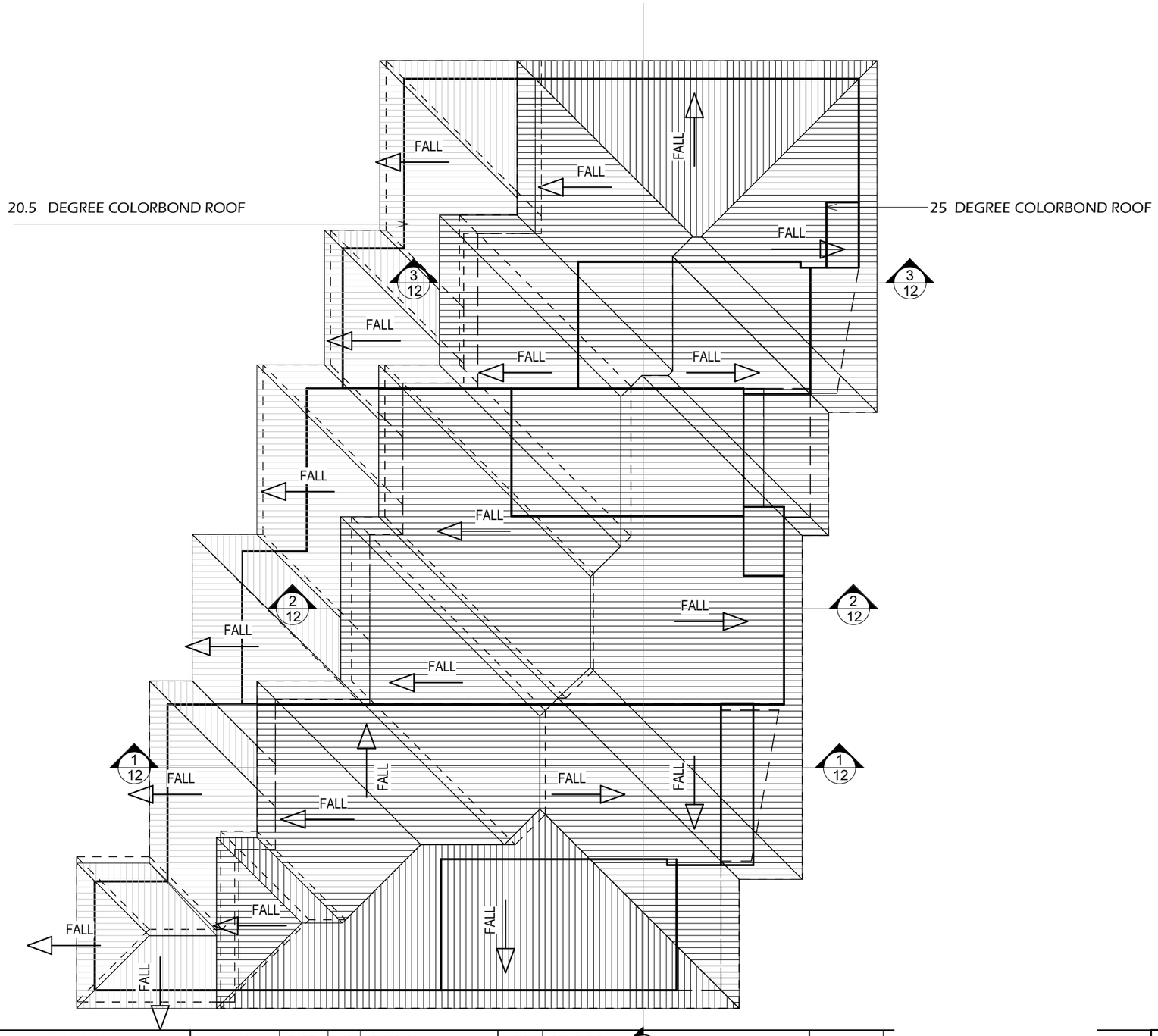
CLIENT:
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: UNIT 1-3 SECTION
SHEET NO: 12
SCALE: 1 : 100
JOB NO: 75-LEA



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CLIENT:

ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: ROOF PLAN UNIT 1-3

SHEET NO: 13

JOB NO: 75-LEA

SCALE: 1 : 100

.WINDOW & SLIDING DOOR SCHEDULE

WINDO W/DOOR	MARK	HEIGHT	WIDTH	STYLE	FRAME TYPE	OBSCURED GLAZING	AREA
W	01	2050	1570	AWNING WINDOW	STANDARD ALUMINIUM	No	3.2185
SD	03	2100	3579	STACKING	STANDARD ALUMINIUM	No	7.5159
W	04	600	1810	SLIDING	STANDARD ALUMINIUM	No	1.086
W	05	1200	610	SLIDING	STANDARD ALUMINIUM	No	0.732
W	06	1200	1810	AWNING	STANDARD ALUMINIUM	No	2.172
SD	07	2100	1810	SLIDING	STANDARD ALUMINIUM	No	3.801
W	08	600	1210	AWNING	STANDARD ALUMINIUM	Yes	0.726
W	09	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	10	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	11	860	1810	SLIDING	STANDARD ALUMINIUM	No	1.5566
W	11	500	1210	AWNING	STANDARD ALUMINIUM	No	0.605
W	15	600	1810	SLIDING	STANDARD ALUMINIUM	No	1.086
SD	16	2100	2679	STACKING	STANDARD ALUMINIUM	No	5.6259
W	17	1200	2650	AWNING	STANDARD ALUMINIUM	No	3.18
SD	18	2100	2410	SLIDING	STANDARD ALUMINIUM	No	5.061
W	19	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	20	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	21	2050	610	AWNING	STANDARD ALUMINIUM	No	1.2505
W	22	2050	610	AWNING	STANDARD ALUMINIUM	No	1.2505

.WINDOW & SLIDING DOOR SCHEDULE

WINDO W/DOOR	MARK	HEIGHT	WIDTH	STYLE	FRAME TYPE	OBSCURED GLAZING	AREA
W	23	2050	610	AWNING	STANDARD ALUMINIUM	No	1.2505
W	24	1200	610	SLIDING	STANDARD ALUMINIUM	No	0.732
W	25	1800	610	SLIDING	STANDARD ALUMINIUM	No	1.098
W	26	1800	610	SLIDING	STANDARD ALUMINIUM	No	1.098
SD	27	2400	2679	STACKING	STANDARD ALUMINIUM	No	6.4296
W	28	600	1810	SLIDING	STANDARD ALUMINIUM	No	1.086
SD	29	2100	2410	SLIDING	STANDARD ALUMINIUM	No	5.061
W	30	500	1210	AWNING	STANDARD ALUMINIUM	No	0.605
W	31	1800	610	AWNING	STANDARD ALUMINIUM	No	1.098
W	32	1800	610	AWNING	STANDARD ALUMINIUM	No	1.098
W	33	1800	610	AWNING	STANDARD ALUMINIUM	No	1.098
W	34	1200	610	SLIDING	STANDARD ALUMINIUM	Yes	0.732
W	35	600	1810	FIXED	STANDARD ALUMINIUM	No	1.086
W	36	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	38	600	2410	SLIDING	STANDARD ALUMINIUM	No	1.446
W	39	600	2410	AWNING	STANDARD ALUMINIUM	No	1.446
W	40	600	2410	AWNING	STANDARD ALUMINIUM	No	1.446

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REV.A	01.2.24	SK	DA FEEDBACK	

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CLIENT:

ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: WINDOWS & DOORS SCHEDULES

SHEET NO: 14

JOB NO: 75-LEA

SCALE:

UNIT -4-6

UNIT 4-6

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CLIENT:

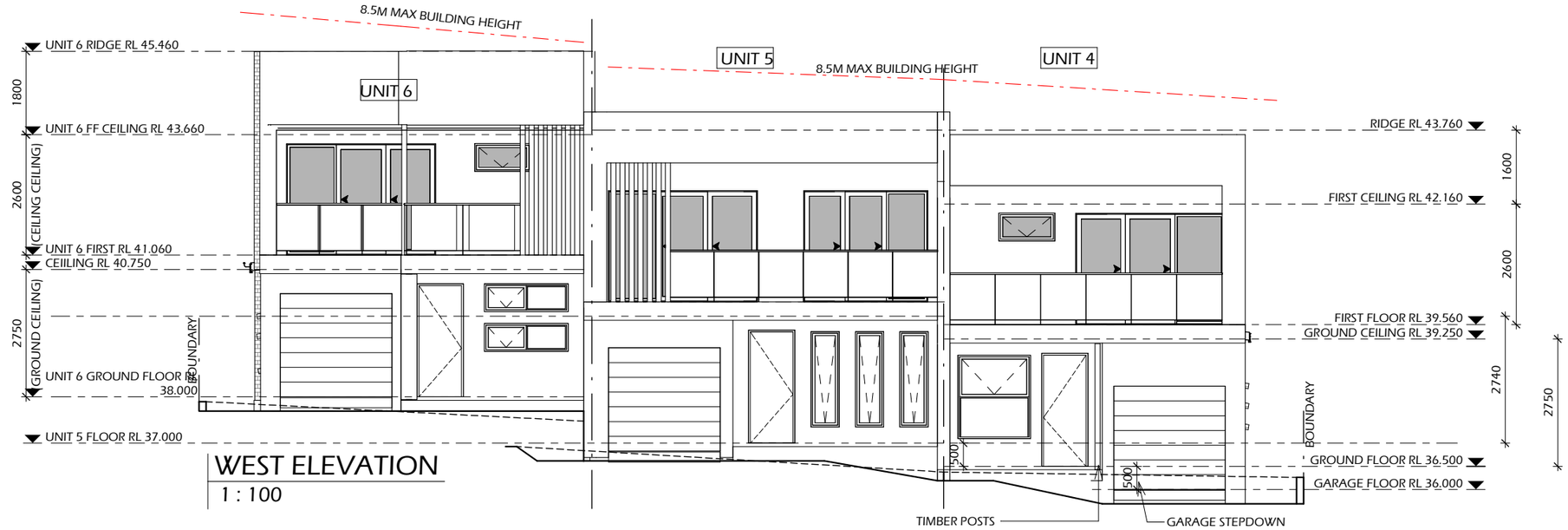
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: COVER SHEET

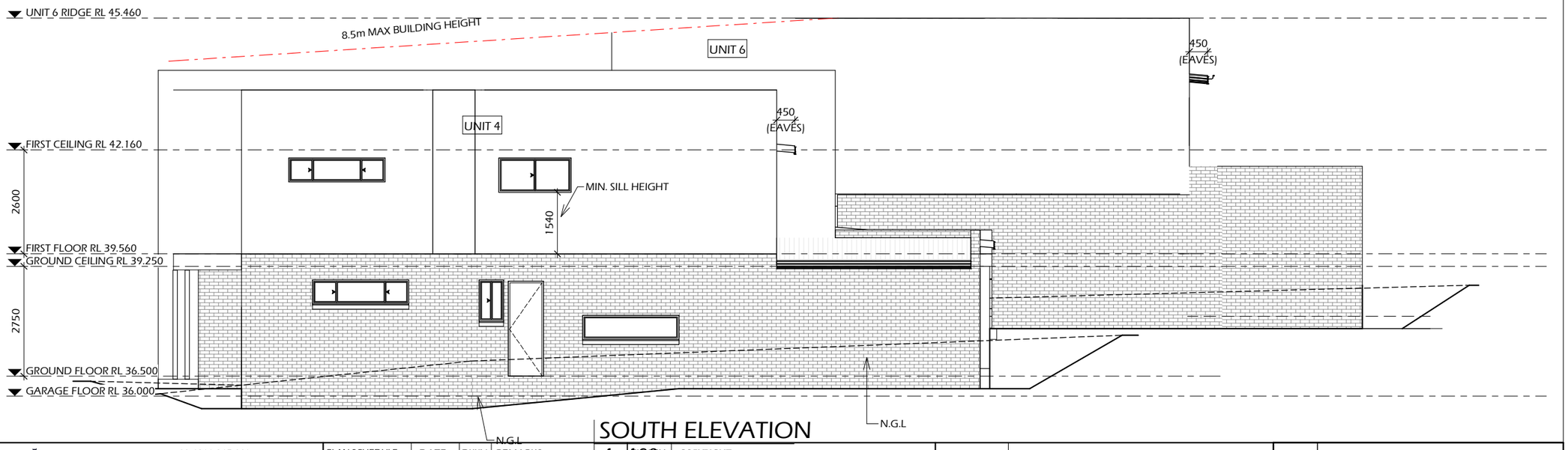
SHEET NO: 00

JOB NO: 75-LEA

SCALE:



WEST ELEVATION
1 : 100



SOUTH ELEVATION
1 : 100

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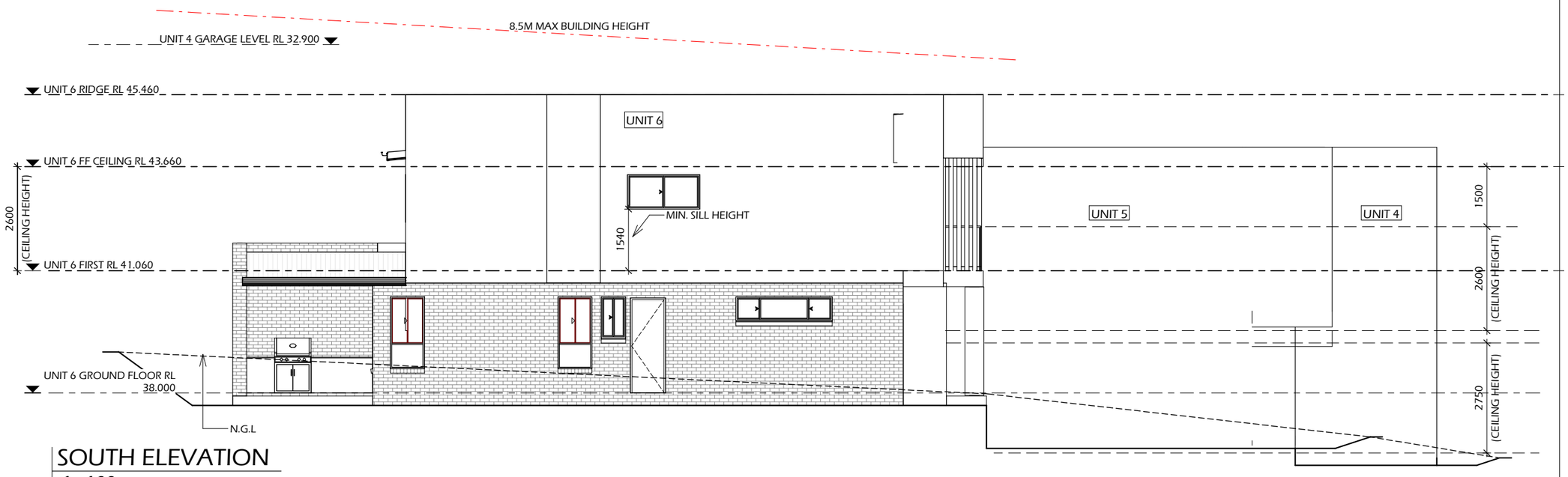
CLIENT:	
ADDRESS:	75-77 LEACOCKS LANE STREET, CASULA , 2170
DWG:	UNIT 4-6 ELEVATIONS
SHEET NO:	17
SCALE:	1 : 100
JOB NO:	75-LEA

EAST ELEVATION
1 : 100



SOUTH ELEVATION
1 : 100

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PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:

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CLIENT:

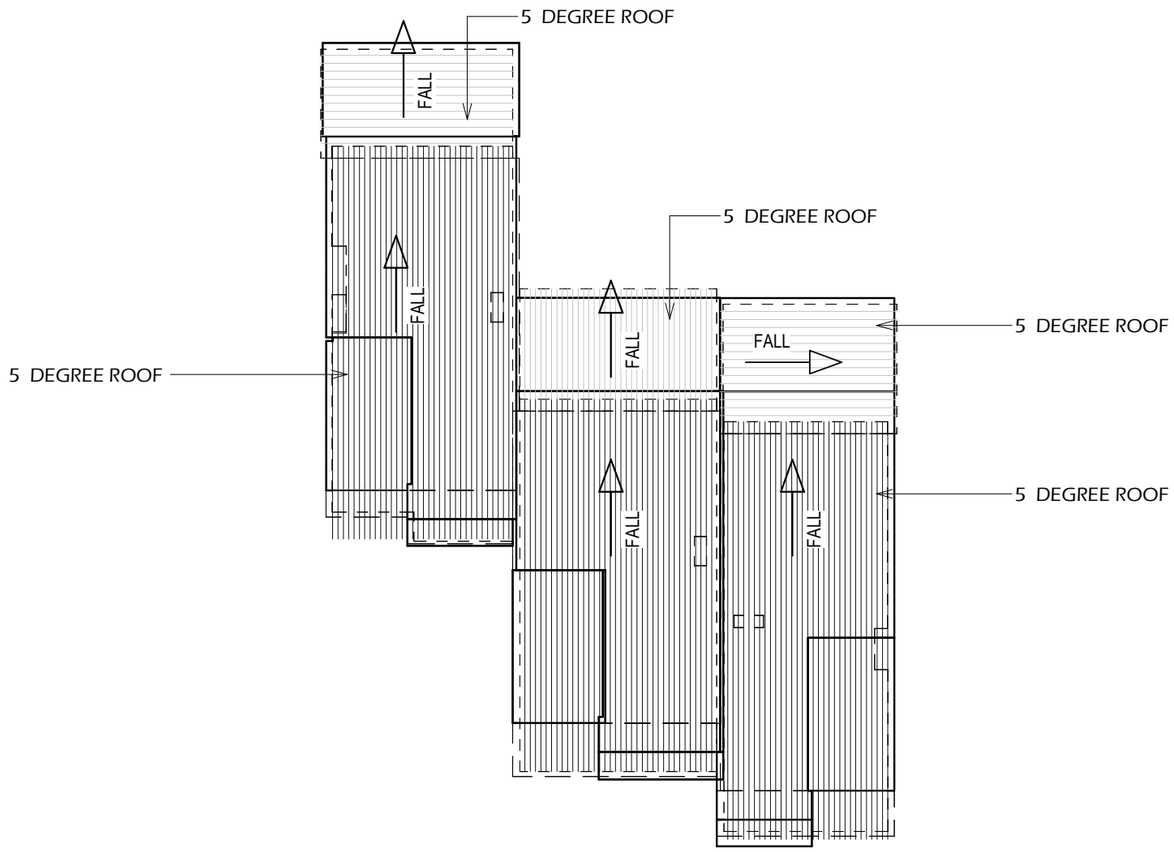
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: UNIT 4-6 ELEVATIONS

SHEET NO: 18

SCALE: 1 : 100

JOB NO: 75-LEA



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CLIENT:

ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: ROOF PLAN

SHEET NO: 20

JOB NO: 75-LEA

SCALE: 1 : 200

.WINDOW & SLIDING DOOR SCHEDULE

WINDOW/DOOR	MARK	HEIGHT	WIDTH	STYLE	FRAME TYPE	OBSCURED GLAZING	AREA
W	01	1800	1570	AWNING	STANDARD ALUMINIUM	No	2.826
W	03	600	2410	SLIDING	STANDARD ALUMINIUM	No	1.446
W	04	1030	610	SLIDING	STANDARD ALUMINIUM	No	0.6283
W	05	600	2410	FIXED	STANDARD ALUMINIUM	No	1.446
SD	06	2400	3010	SLIDING	STANDARD ALUMINIUM	No	7.224
W	07	1800	850	SLIDING	STANDARD ALUMINIUM	No	1.53
W	08	600	1210	AWNING	STANDARD ALUMINIUM	Yes	0.726
SD	09	2400	3219	STACKING	STANDARD ALUMINIUM	No	7.7256
W	10	600	2410	SLIDING	STANDARD ALUMINIUM	No	1.446
W	11	860	1810	SLIDING	STANDARD ALUMINIUM	No	1.5566
W	12	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	13	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
SL	14	1100	460	SKYLIGHT	STANDARD ALUMINIUM		0.506
W	15	2057	610	AWNING	STANDARD ALUMINIUM	No	1.25477
W	16	2057	610	AWNING	STANDARD ALUMINIUM	No	1.25477
W	17	2057	610	AWNING	STANDARD ALUMINIUM	No	1.25477
SD	18	2400	3010	SLIDING	STANDARD ALUMINIUM	No	7.224
W	19	1800	850	SLIDING	STANDARD ALUMINIUM	No	1.53

.WINDOW & SLIDING DOOR SCHEDULE

WINDOW/DOOR	MARK	HEIGHT	WIDTH	STYLE	FRAME TYPE	OBSCURED GLAZING	AREA
SD	20	2400	3219	STACKING	STANDARD ALUMINIUM	No	7.7256
SD	21	2400	2679	STACKING	STANDARD ALUMINIUM	No	6.4296
W	22	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	23	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
SL	25	1100	460	SKYLIGHT	STANDARD ALUMINIUM		0.506
SD	28	2400	3010	SLIDING	STANDARD ALUMINIUM	No	7.224
W	29	1800	850	SLIDING	STANDARD ALUMINIUM	No	1.53
W	30	1800	850	SLIDING	STANDARD ALUMINIUM	No	1.53
W	31	1800	850	SLIDING	STANDARD ALUMINIUM	No	1.53
W	32	1030	610	SLIDING	STANDARD ALUMINIUM	No	0.6283
W	33	600	2410	SLIDING	STANDARD ALUMINIUM	No	1.446
SD	34	2400	3219	STACKING	STANDARD ALUMINIUM	No	7.7256
W	35	600	1210	AWNING	STANDARD ALUMINIUM	Yes	0.726
W	36	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	38	1200	1810	SLIDING	STANDARD ALUMINIUM	No	2.172
W	39	860	1810	SLIDING	STANDARD ALUMINIUM	No	1.5566
SL	40	1100	460	SKYLIGHT	STANDARD ALUMINIUM		0.506
W	42	600	1810	AWNING	STANDARD ALUMINIUM	No	1.086
W	43	600	1810	AWNING	STANDARD ALUMINIUM	No	1.086

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CLIENT:

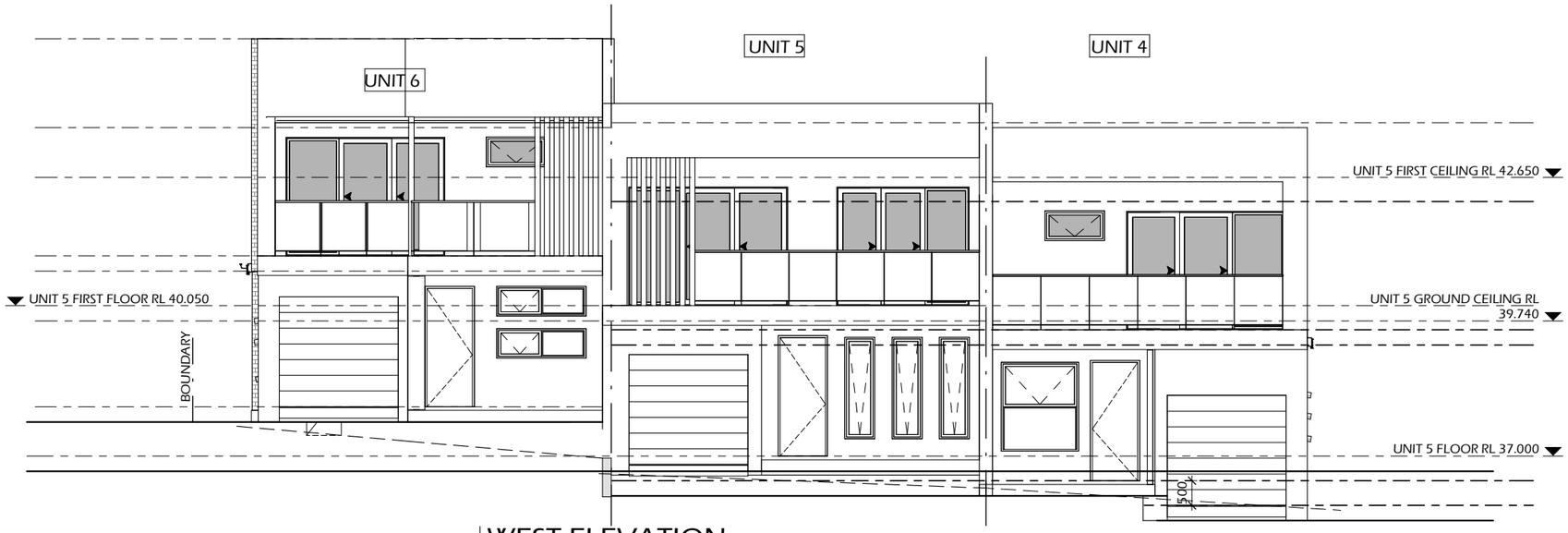
ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: WINDOWS & DOORS SCHEDULES

SHEET NO: 21

JOB NO: 75-LEA

SCALE:



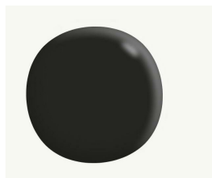
WEST ELEVATION
1 : 100

1. RENDER
SILKWORT

2. COLORBOND ROOF
SHALE GREY

3. ENTRY DOOR
BLACK

4. GARAGE DOOR
BLACK

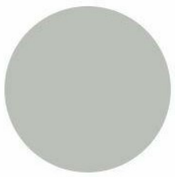


5. WINDOW FRAMES
BLACK

UNIT 4

UNIT 5RENDER
TRANQUIL RETREAT

UNIT 6
SILVER TEA



FASCIA AND GUTTER
SHALE GREY

DOWNPIPE
SILKWORT

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PLAN SCHEDULE	DATE:	DWN:	REMARKS:	CHK BY:

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CLIENT:

ADDRESS: 75-77 LEACOCKS LANE STREET, CASULA , 2170

DWG: COLOURS PLAN

SHEET NO: 22

JOB NO: 75-LEA

SCALE: 1 : 100

CLAUSE 4.6 REQUEST FOR VARIATION TO A DEVELOPMENT STANDARD

CLAUSE 4.1 MINIMUM SUBDIVISION LOT SIZE

AT

75-77 LEACOCKS LANE, CASULA

OCTOBER 2023

KMH CONSULTING

CONTENTS

1.0 INTRODUCTION 3
2.0 SUBJECT SITE..... 4
3.0 EXCEPTION TO THE DEVELOPMENT STANDARDS 5
3.1 JUSTIFICATION OF VARIATION..... 7
4.0 CONCLUSION 13

REPORT STATUS			
DATE	**REVISION**	**ISSUE**	**AUTHOR**
11 OCT 2023	1	Final	KH

Report Author:
Karl Harb
Town Planner & Accredited Certifier
KMH Development Consultants

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1.0 INTRODUCTION

This Clause 4.6 Variation Report has been prepared by KMH Consulting on behalf of Gege Constructions Pty Ltd to accompany a Development Application lodged with the Liverpool City Council for a residential development located at 75-77 Leacocks Lane, Casula.

The proposed subdivision arrangement does not meet the minimum lot size mandated by Clause 4.1 of the Liverpool Local Environmental Plan 2011 (LLEP 2011).

The lot size departure arises due to the proposed arrangement of Lot B, which proposes a lot size of 264m^2, representing a 36m^2 variation (12%) to the minimum standard, requiring 300m^2. Despite the departure to the minimum lot size control, the proposal results in a development that provides optimal amenity outcomes (including streetscape and overshadowing) and results in development which is compatible with the low-density residential character of the locality. The proposed lot size variation ensures that orderly and economic development of the land is achieved while maintaining a desirable level of amenity for the subject dwelling and adjoining properties, noting that efficient redevelopment of a site of this scale is a positive outcome for the site.

In accordance with the principles set out in Wehbe v Pittwater Council [2007] NSW LEC 827, strict compliance with the minimum lot size development standards set out in Clause 4.1 of the LLEP 2011 is considered unreasonable and unnecessary in this case as the proposed development satisfies the objectives of the development standard.

This report demonstrates that the proposed development will, despite not meeting the minimum required size for lot B, be in the public interest given that it will continue to be consistent with the objectives of the lot size standard (LLEP 2011 Clause 4.1); and the objectives of the land zoning which apply to the site.

The application seeks approval for the subdivision of the site into 6 Torrens title lots and the construction six (6) attached dwellings including demolition of existing buildings, tree removal and associated site works. A summary of the proposed subdivision lot sizes is provided below at **Table 1** and **Figure 1**.

LLEP 2011 – CLAUSE 4.1 MINIMUM SUBDIVISION LOT SIZE	
Minimum subdivision lot size STANDARD: 300m^2	PROPOSED: Lot A: 300.9m^2 **Lot B: 264m^2** Lot C: 300.2m^2 Lot D: 300.1m^2 Lot E: 307m^2 Lot F: 300.2m^2
All lots comply with the LEP minimum subdivision lot size standard, except for Lot B, which has a departure from the standard of 36m^2 (12%). A written request to vary the development standard (Clause 4.6 Variation) has been prepared and demonstrates that compliance with the standard is unreasonable or unnecessary and that there are sufficient environmental planning grounds to justify contravening the standard.	

Table 1: Proposed subdivision arrangement

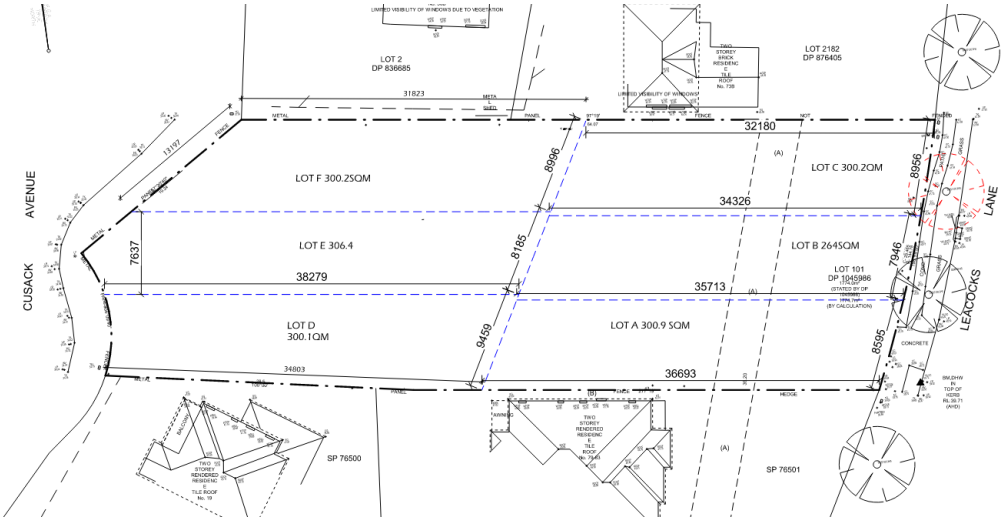

Figure 1: Proposed subdivision arrangement

2.0 SUBJECT SITE

The subject site is known as 75-77 Leacocks Lane, Casula. The legal property description is Lot 13 DP 264420. The site is an irregular allotment that has a frontage also to Keneally Way. The subject site currently features a dwelling house and detached outbuildings. Refer to **Figure 2**.

The subject site is located on the western side of Leacocks Lane. The area is generally characterised by low density residential development consisting primarily of single and double storey detached dwellings. The land to the east of Leacocks Lane forms part of the Leacock Regional Park. An aerial map of the locality and adjoining development is shown at **Figure 2**.

Figure 2: Aerial context of subject site (Source: NearMap, Sept 2023)

The subject site and surrounds are zoned R2 Low Density Residential pursuant to the Liverpool Local Environmental Plan 2008. A zoning map of the site and surrounds is provided below at **Figure 3** below.

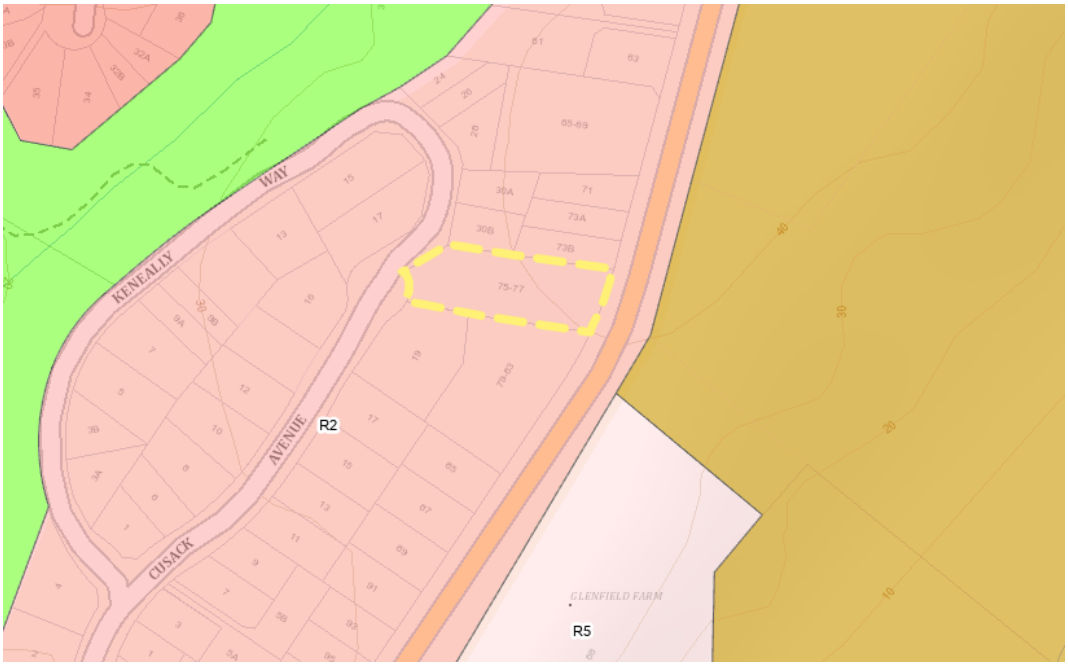

Figure 3: Zoning context of subject site (Source: ePlanning Spatial Viewer)

The subject site is burdened by an easement for co-axial cable (3.66m wide) which transverses across the frontage of the site.

3.0 EXCEPTION TO THE DEVELOPMENT STANDARDS

The applicant seeks consent for development that will exceed a development standard imposed by the LLEP 2011.

Under Clause 4.6 of LLEP 2011, development consent may be granted for development even though the development would contravene a development standard. Clause 4.6 of the LLEP 2011 relevantly provides as follows:

4.6 Exceptions to development standards

(1) The objectives of this clause are as follows—

(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,

(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.

(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.

(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating—

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

(b) that there are sufficient environmental planning grounds to justify contravening the development standard.

(4) Development consent must not be granted for development that contravenes a development standard unless—

(a) the consent authority is satisfied that—

(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and

(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and

(b) the concurrence of the Planning Secretary has been obtained.

(5) In deciding whether to grant concurrence, the Planning Secretary must consider—

(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and

(b) the public benefit of maintaining the development standard, and

(c) any other matters required to be taken into consideration by the Planning Secretary before granting concurrence.

The Land and Environment Court has considered the question of contravention of development standards in a number of cases, both in its former application under State Environmental Planning Policy No. 1 – Development Standards and also in the current format as it appears under Clause 4.6.

This submission has been prepared having regard to the latest authority on Clause 4.6, contained in the following NSW Land and Environment Court (Court) judgments:

- Winten Property Group Limited v North Sydney Council [2001] NSWLEC 46;
- Wehbe v Pittwater Council [2007] NSWLEC 827;
- Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 1009 (Four2Five No 1);
- Four2Five Pty Ltd v Ashfield Council [2015] NSWLEC 90 (Four2Five No 2);
- Four2Five Pty Ltd v Ashfield Council [2015] NSWCA 248 (Four2Five No 3);
- Initial Action Pty Ltd V Woollahra Council [2018] NSW LEC 118.
- Moskovich v Waverley Council [2016] NSWLEC 1015; and
- Randwick City Council v Micaul Holdings Pty Ltd [2016] NSWLEC 7.

Key elements from the above cases are outlined below.

In the decision of *Wehbe v Pittwater Council [2007] NSW LEC 827*, Chief Justice Preston outlined the rationale for the development standard, and the ways by which a development standard might be considered unreasonable and/or unnecessary. In his decision Chief Justice Preston noted:

"The rationale is that development standards are not ends in themselves, but means of achieving ends. The ends are environmental or planning objectives. Compliance with a development standard is fixed as the usual means by which the relevant environmental or planning objective is able to be achieved. However, if the proposed development proffers an alternative means of achieving the objective, strict compliance with the standard would be unnecessary (it is achieved anyway) and unreasonable (no purpose would be served)."

Wehbe v Pittwater Council [2007] NSW LEC 827 also established the 'five-part test' to determine whether compliance with a development standard is unreasonable or unnecessary based on the following:

1. *The objectives of the development standard are achieved notwithstanding non-compliance with the standard (unreasonable and unnecessary);*
2. *The underlying objective or purpose is not relevant to the development (unnecessary);*
3. *The underlying objective or purpose would be defeated or thwarted if compliance was required (unreasonable);*
4. *The development standard has been virtually abandoned or destroyed by the Council's own decisions in granting development consent that departs from the standard (unreasonable and unnecessary); and*
5. *The zoning of the particular land on which the development is proposed to be carried out was unreasonable or inappropriate so that the development standard was unreasonable or unnecessary.*

It is considered that in this case, strict compliance with the development standard imposed by Clause 4.1 of the LLEP 2011 is unreasonable and unnecessary because the objectives of the development standard are achieved notwithstanding the proposed non-compliance with the standard.

Initial Action Pty Ltd V Woollahra Council [2018] NSW LEC 118 sets out the correct approach to assessing a written request under Clause 4.6.

> *Firstly, the consent authority must be satisfied that the request seeking to justify the contravention of the development standard has adequately addressed the following matters required to be demonstrated by clause 4.6(3):*
>
> *(a) Compliance with the development standard is unreasonable or unnecessary in the circumstances of the case; and*
> *(b) There are sufficient environmental planning grounds to justify contravening the development standards.*
>
> *Secondly, the consent authority must be satisfied that the proposed development will be in the public interest because it is consistent with the objectives of the particular development standard that is contravened and the objectives for development for the zone in which the development is proposed to be carried out (clause 4.6(4)(a)(ii)). The consent authority must be directly satisfied about the matter in clause 4.6(4)(a)(ii) and not indirectly satisfied that the written request has adequately addressed the matter.*

The following report sets out the applicant's written request under Clause 4.6 of the LLEP 2011 (taking the above principles into account).

3.1 JUSTIFICATION OF VARIATION

In accordance with Clause 4.6(3) and (4) of LLEP 2011 and having regard to the established law on Clause 4.6, this section identifies that:

- Compliance with the Development Standard is unreasonable and/or unnecessary in this instance as the objectives of the development standard are satisfied notwithstanding the proposed non-compliance.
- There are sufficient environmental planning grounds to justify contravening the development standard; and
- The proposed development is in the public interest because it is consistent with the objectives of the development standard and the relevant land zones which apply to the site.

Consistency with the Objectives of the Development Standard

In accordance with the principles set out in *Wehbe v Pittwater Council [2007] NSW LEC 827*, strict compliance with the minimum subdivision lot size development standards set out in Clause 4.1 of the LLEP 2011 is considered unreasonable in this case as the proposed development, inclusive of the lot sizes proposed, satisfies the objectives of the development standard as follows:

Cl4.1 Minimum Subdivision Lot Size - Objectives	
(a) to ensure that lot sizes are consistent with the desired residential density for different locations,	Lot B is intended for the construction of a new, two-story attached dwelling within the R2 Low Density Residential Zone. This new dwelling has been designed to fit entirely within a compliant building envelope, ensuring it remains well below the height of buildings standard outlined in the Local Environmental Plan (LEP). Moreover, it features setbacks that comply with the controls prescribed under the applicable DCP. The design of this dwelling is one of high architectural character and is highly articulated, matching the bulk and scale of other single and two-story dwellings in the surrounding streetscape. The addition of landscaped areas including the large landscaped front setback will further soften the visual impact of the built structures when viewed from the street and neighbouring properties. The thorough assessment provided in the SEE demonstrates that this deviation from the lot size standard is not the result of design non-compliance, and it does not lead to any further variation to any of the LEP development standards or the built form objectives set out in the Liverpool Development Control Plan (DCP). The proposal otherwise fully adheres to those objectives. Consequently, this low-density development aligns with the desired residential density for the area.
(b) to ensure that lot sizes are able to accommodate development that is suitable for its purpose and consistent with relevant development controls,	The development proposes residential lots that accommodate dwellings and achieve appropriate amenity based on full compliance with relevant state and local policies, in particular demonstrating suitable compliance with Liverpool Development Control Plan 2008. Attached dwelling development is also a desired future character for the zone and wider area.
(c) to prevent fragmentation of land which would prevent the achievement of the extent of development and nature of uses envisioned for particular locations,	Attached dwellings are an envisioned form of development within the locality being a permissible form of development in the R2 Low Density Residential zone. The proposed Torrens title subdivision and construction of detached dwellings would prevent fragmentation of land, achieving orderly development and a typical subdivision pattern

(d) to minimise traffic impacts resulting from any increase in the number of lots on classified roads,	The proposed development is consistent with the intensity envisioned within a low-density residential context. Any additional traffic generation resulting from the proposed development would be commensurate with the existing scenario and wider context and therefore the development is not considered to generate traffic impacts.
(e) to minimise any likely impact of subdivision and development on the amenity of neighbouring properties,	The proposal has been designed to ensure it remains within a compliant building envelope. The proposed dwelling will have more than compliant setbacks and an overall height that complies with the maximum height of buildings development standard. The proposed development also does not compromise the amenity of any adjoining properties, with all properties maintaining sufficient solar access on the winter solstice. The proposal will not result in overshadowing of neighbouring properties or privacy concerns. Therefore, the proposed variation is not envisioned to impact on the amenity of neighbouring properties.
(f) to ensure that subdivision reflects and reinforces the predominant subdivision pattern of the area,	The proposed subdivision would reflect the predominant desired subdivision pattern of the area and is considered to be an orderly arrangement.
(g) to ensure that lot sizes allow buildings to be sited to protect natural or cultural features including heritage items and retain special features such as trees and views.	The subject site does not contain any heritage items or special features such as significant trees or views, therefore the proposed lot sizes would allow appropriate siting of the detached dwellings.

<u>Consistency with the Objectives of Land Use Zone</u>

It is considered that the proposal, despite the subdivision lot size variation of Lot B, would meet the objectives of the R2 Low Density Residential zone, for the following reasons:

R2 Low Density Residential – Zone Objectives	
To provide for the housing needs of the community within a low density residential environment.	The proposed development aims to address the community's housing requirements in a low-density residential setting. This objective is accomplished by constructing attached residences with a strong emphasis on residential amenity. These homes will be situated in a highly accessible location, in close proximity to All Saints Catholic College and Leacocks Regional Park, as well as shopping facilities along Hume Highway.
To enable other land uses that provide facilities or services to meet the day to day needs of residents.	The proposal is considered to meet the day to day needs of residents as the site will retain its existing, satisfactory access to essential facilities and services. Given its strategic location, both current and future occupants will enjoy convenient access to schools, Casula Shopping Mall, as well as bus stops located

	within moments of the site. Additionally, residents will have direct access to Leacocks Regional Park, which is situated adjacent to the site.
To provide a suitable low scale residential character commensurate with a low dwelling density.	The proposal maintains a fitting low-scale residential ambiance that aligns with the established character of the Casula low-density residential area. This would be evident through an increased emphasis on landscaping and a reduction in hard surfaces. Additionally, the proposed design finishes and color choices harmonize with recent developments in the nearby vicinity, as well as with the architectural style of detached residences in the surrounding area. These aspects underscore the visual representation of a low-scale residential project that remains in harmony with the low-density housing environment.
To ensure that a high level of residential amenity is achieved and maintained.	Future occupants of the site can anticipate a significant level of residential amenity, while the amenity for adjacent properties will be preserved. The planned development is expected to provide a high degree of residential amenity to neighbouring properties, with adequate solar access preserved due to the site's orientation and full compliance with rear, front, and side setbacks, thus also mitigating potential privacy concerns. It is likely that the proposed development and subdivision will result in a well-organized development and a standard subdivision pattern, consequently having a minimal impact on the residential amenity of the locality.

(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and

The compliance with the numerical control of this development standard is considered unreasonable and unnecessary in this instance, for the following reasons:

- The departure from the development standard is 12% (36m^2) for Proposed Lot B. It is considered that Lot B proposes a minor variation as the proposal has been designed to achieve full compliance with all applicable development objectives of the LLEP 2008 and LDCP 2008. Ensuring full compliance with all other standards and controls coupled with a relatively minor departure from the minimum lot size, particularly considered all other lots are compliant, is considered to demonstrate that compliance with the standard is unreasonable in this case as the development can be sited with full adherence to local provisions.

- The proposed subdivision is considered a regular and orderly pattern and a consistent form of development for the site when considering the existing Torrens title subdivisions within the locality. There are various other instances of lots where the minimum site area is less than 300m2, as occurring at 121a and 121b, and 107 Leacocks Lane, all within proximity of the subject site. Further, all other lots proposed as part of the development are compliant and are similar to the proposed Lot B in configuration and development potential. As such, the proposed subdivision should be considered an orderly development of the site.

- The proposal provides a dwelling typology consistent with the current desired character for the locality and the R2 zone under the LLEP 2008, in the form of attached dwelling development. The proposed dwelling typology is particularly considerate to the objectives and permitted development of the zone.

- The proposed variation to minimum subdivision lot size does not inhibit the ability for any future dwelling re-development of the site to demonstrate full compliance with the relevant controls, as evidenced by the proposed dwelling on Lot B.

- The proposed variation does not result in an overdevelopment of the subject site, as the proposal maintains compliance with the maximum permissible Floor Space Ratio, and other building envelope controls such as Landscaped Area, Private Open Space, and Setbacks. Therefore, the proposed Lot B should be considered sufficient in terms of proposed lot area to facilitate a high level of residential amenity.

As discussed above, strict compliance with the development standard is considered unreasonable and unnecessary in this instance as it is unlikely there would be any significant impacts associated with the variation and in accordance with the applicable planning controls. The variation of one lot in a 6-lot subdivision is minor in nature when considering that the built form and natural environment will remain consistent with the wider locality and the desired future character. It would therefore be unreasonable to restrict the site from achieving a currently desired development type in the form of attached dwellings.

b) "that there are sufficient environmental planning grounds to justify contravening the development standard."

As outlined above, there needs to be sufficient environmental planning grounds to justify contravening the development standard (Clause 4.6(3)(b) of the LLEP 2011). In considering the relevant environmental planning grounds, it is necessary to consider the objects of the Environmental Planning and Assessment Act 1979 (EPA Act) and the matters for consideration outlined in section 4.15 of the EPA Act.

Objects of the EP&A Act

The proposed variation to the development standard will promote the objects of the EP&A Act. The relevant objective of the EP&A Act which is relevant to the proposed building height variation is addressed below:

Object (g): "To promote good design and amenity of the built environment".

The proposed development, including the proposed height exceedances, promotes good design and amenity of the built environment. The proposal addresses the transitional character of the site by organising a subdivision layout to provide a variety of housing types in an area of high accessibility to local amenities. In proposing dwellings in conjunction with the subdivision, it has been demonstrated that satisfactory outcomes relating to solar access, visual impact, streetscape presentation, privacy for adjoining properties, and the establishment landscaping and private open space can be achieved despite the proposed variation.

Therefore, the variation to the subdivision lot size of Lot B will not result in any significant adverse impact to the amenity of adjoining properties.

Section 4.15 EPA Act

Under section 4.15 of the EPA Act, a consent authority is required to take into account the following matters (being those matters that are of relevance to the development the subject of the development application):

- The provisions of any environmental planning instrument;
- The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality; and

- The public interest.

Environmental Planning Instruments

As discussed within this Clause 4.6 Variation Report, the proposed development is consistent with the applicable zone objectives for the site and is permissible with development consent under the relevant land zoning for site. The proposal remains consistent with the objectives of Clause 4.1 – Minimum Subdivision Lot Size of the LLEP 2011. In addition, the proposal is otherwise fully compliant with the provisions of the LLEP 2011.

The proposed minimum subdivision lot size variation does not prevent the development's compliance with any other proposed EPI or SEPP.

Likely Impacts of the Development

- Despite the variation in minimum subdivision lot size, the proposal does not result in any additional adverse effects on the built and natural environment. The development in its current context (noting the existing housing shortage) contributes positively to the social and economic development of both the site and the wider locality.

- The development proposes residential allotments that are designed to provide suitable occupant amenity in compliance with the applicable planning controls. Thus, rejecting the application based on non-compliance with the minimum lot size requirement for one lot is unlikely to be in the public benefit and would not otherwise contribute to the improvement of the community.

- The proposal can achieve and maintain the existing residential amenity for the locality through compliant building siting and design of the development.

- The development's low-density approach aligns with the established character of the locality, promoting diversity in housing types.

- The subdivision arrangement of the proposed lots promotes orderly and efficient development that is consistent with the existing and desired future character of the area and the provision of attached dwellings.

- The proposal does not introduce any additional unreasonable traffic, either from vehicles or pedestrians as a result of the additional lots, that is not already envisioned or commensurate with a low-density environment.

- The proposal achieves the desired density in a configuration which addresses site specific conditions and opportunities and provides improved outcomes in relation to solar access and overshadowing, privacy, landscape and open space opportunities, and streetscape presentation.

- The proposal otherwise is generally compliant satisfies all relevant aspects outlined in Section 1.3 (Objects of the Act) as per the Environmental Planning and Assessment Act of 1979.

The Public Interest

The proposed development, inclusive of the development control variation, is in the public interest. It provides for the achievement of desirable development in a key location without significant impacts, which is consistent with the strategic vision established for the site and surrounds.

Notwithstanding the proposed subdivision lot size variation, the proposed development remains consistent with the relevant objectives of:

- The EP&A Act;
- The land zoning applicable to the site;
- The applicable height control; and
- Strategic planning policies which apply to the site.

4.0 CONCLUSION

The applicant considers that the consent authority can be satisfied that this request adequately addresses the matters required to be demonstrated by Clause 4.6(3), being:

> (a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and
> (b) that there are sufficient environmental planning grounds to justify contravening the development standard.

It is also considered that the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out.

In those circumstances, the consent authority is permitted to grant development consent for the development notwithstanding the contravention of the subject development standard.

ANNEXURE 3

FORM – WASTE MANAGEMENT PLAN

FACT SHEET

Waste Management Plan – Construction			
Will you use Site Cleaners?	☐ Yes, for some work or ☐ Yes, for all work or ☐ No	Estimated total volume or weight	_____
Please supply details of site cleaners used	ABN Number_____ Name_____ Phone_____ Mobile_____		
If using site cleaners for all work, please STOP here. DO NOT continue to complete form.			
All Excavation Material including Swimming Pools	☐ Less than 10m^3 ☐ More than 10m^3	☐ Reuse onsite ☐ Reuse offsite ☐ Landfill Disposal	
Address if reused off site _____ Name and Address of licensed landfill _____			

Type of Material	Less than 10m^3	More than 10m^3	How will you manage this waste?		
			Onsite	Recycle	Landfill
Bricks	☐	☐	☐	☐	☐
Concrete	☐	☐	☐	☐	☐
Tiles	☐	☐	☐	☐	☐
Timber (clean or treated) ……..	☐	☐	☐	☐	☐
Plasterboard	☐	☐	☐	☐	☐
Green Waste	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

Principal Off-Site Recycler	Principal Licensed Landfill Site
_____	_____ _____

ANNEXURE 3

FORM – WASTE MANAGEMENT PLAN

FACT SHEET

Waste Management Plan – Demolition
Demolition Containing Asbestos **Please fill in if applicable**

Tick ☑ if under 10m² ☐ **Tick ☑ if over 10m²** ☐

(If under 10m², complete General Demolition Waste details)

Work Cover Licence No.	
Demolition Contractor Details	
Licensed Landfill	

General Demolition Waste

Type of Material	Less than 10m³	More than 10m³	How will you manage this waste?		
			Onsite	Recycle	Landfill
Bricks	☐	☐	☐	☐	☐
Concrete	☐	☐	☐	☐	☐
Tiles	☐	☐	☐	☐	☐
Timber (clean)	☐	☐	☐	☐	☐
Timber (treated)	☐	☐	☐	☐	☐
Asphalt	☐	☐	☐	☐	☐
Metals	☐	☐	☐	☐	☐
Plasterboard	☐	☐	☐	☐	☐
Green Waste	☐	☐	☐	☐	☐
Other- specify	☐	☐	☐	☐	☐

Principal Off-Site Recycler	Principal Licensed Landfill Site

ANNEXURE 3

FORM – WASTE MANAGEMENT PLAN

FACT SHEET

Waste Management Plan – Ongoing Waste and Recycling (Medium & High Density Residential Development only)	
☐ **Residential Development Multi Unit Dwellings (MUD)** ☐ **Mixed Residential/Commercial Development**	☐ **Commercial/Industrial Development (including Child Care Centres)**

If you have ticked the commercial/industrial development option, a commercial waste service must be provided. As Council does not provide a commercial waste service, please STOP here. DO NOT continue to complete form.

Council specifications for waste collection

Garbage bins and Recycling Bins provided by Council to RFBs at 120 litres per unit per week as follows:

Bin Types	Bin Allocation for Proposed Units- Weekly Service	Bin Allocation for Proposed Units- Twice weekly Service	Truck Required To Service Bin
240 litre mobile bin*	1 per 2 units	1 per 4 units	Side lift
360 litre mobile bin**	1 per 3 units	1 per 6 units	Side lift
660 litre bulk plastic bin	1 per 6 units	1 per 12 units	Rear Lift
1100 litre bulk plastic bin	1 per 9 units	1 per 18 units	Rear Lift
1m3 metal bin	1 per 8 units	1 per 16 units	Front lift
1.5m3 metal bin	1 per 13 units	1 per 26 units	Front lift
3 m3 metal bin	1 per 25 units	1 per 50 units	Front lift
4.5m3 metal bin	1 per 38 units	1 per 76 units	Front lift

*Mobile bins must be presented to kerb for collection
**Only provided for garbage not recycling
Note: 240 litre garden waste bins, on request for use in common areas, collected fortnightly ONLY

Please complete the table below by indicating the number and size of bins required for the number of units proposed (which will determine the frequency of waste collections per week).

Bin Type	Number of Individual Units	Number of Bins Required	Collection
			☐ Weekly ☐ Twice weekly

Dimensions of each bin type:

Bin Receptacle	Length (mm)	Width (mm)	Height (mm)	Bin Footprint (m^2/bin)
140L	640	535	920	0.27
240L	730	580	1060	0.42
360L	865	650	1100	0.42
660L	1420	780	1210	1.16
1100L	1420	1100	1270	1.71
1m3	1740	1100	1100	0.99
1.5m3	2040	1250	1220	1.46
3m3	2040	1650	1590	2.10
4.5m3	2040	1995	1830	3.20

ANNEXURE 3

FORM – WASTE MANAGEMENT PLAN

FACT SHEET

Waste Management Plan – Ongoing Waste and Recycling (Medium & High Density Residential Development only)		
5.	What is the maximum distance from any dwelling to the garbage disposal point (whether disposal is to a bin bay or chute)?	_____ metres
6.	Is there a storage area provided for the storage of bulky waste?	Yes ☐ No ☐
a	What are the dimensions of this room?	_____ metres (height) _____ metres (depth) _____ metres (width)

Collection vehicle specifications:

Vehicle	Length	Width	Height	Servicing height	Weight (loading)	Turning Radius
Side	9.5m	2.5m	3.5m	3.5m	23.0t	Kerb to kerb 10.3m Wall to Wall 11.0m
Rear	9.9m	2.5m	3.4m	3.4m	22.5t	Kerb to kerb 10.5m Wall to Wall 11.5m
Front	10.2m	2.5m	4.3m	6.4m	27.5t	Kerb to kerb 12.3m Wall to Wall 13.2m

Storage of Waste:

1.	Is there sufficient space allocated within each dwelling for one day's waste and recycling?	Yes ☐ No ☐
2.	Is there a waste storage area or enclosure provided that can house the total number of bins nominated above? This includes sufficient space for separation of each bin type, movement of bins and access by residents and waste collection vehicles.	Yes ☐ No ☐
a	Please advise the dimensions of this area	_____ metres (height) _____ metres (depth) _____ metres (width) _____ metres (area)
3.	Is there a compactor provided in the garbage room? *Please note compaction units will not be supplied or maintained by Council. Any proposal seeking to utilise a static compaction unit is required to be provided and maintained privately. This requirement would be imposed by way of a restriction on the title of the land.*	Yes ☐ No ☐ **If *NO*, proceed to question '4'**
a	Please detail the type of system (i.e.: carousel, optic sensors, number of bins, automatic bin exchange, size etc?	
b	What is the ceiling height of the garbage room?	_____ metres
c	What is the compactor diameter?	_____ metres
d	Compaction ratio?	_____/_____
4.	Is there a garbage chute system installed?	Yes ☐ No ☐ **If *NO*, proceed to question '5'**
a	Is there a waste service room or enclosed chute space provided on each storey?	Yes ☐ No ☐
b	Is there sufficient space allocated for recycling in the service room(s)?	Yes ☐ No ☐
c	How many storeys will the chute service?	_____

ANNEXURE 3

FORM – WASTE MANAGEMENT PLAN

FACT SHEET

Collection of Waste:

7.	Is there a caretaker on-site responsible for managing waste?	Yes ☐ No ☐
8.	What is the available street frontage for presenting bins to kerbside, if applicable?	_____ metres
9.	If requesting on site collection of bins, please verify the collection vehicle and that the required specifications can be met?	Side ☐ Rear ☐ Front ☐
a	All vehicle access and loading facilities designed in accordance with the relevant vehicle specification above?	Yes ☐ No ☐
b	The waste storage area or enclosure is located at ground level of first underground level?	Yes ☐ No ☐
c	If using any of the metal bins, an opened waste storage area has been provided close to an access point where the collection vehicle can drive straight into to access bins?	Yes ☐ No ☐ NA ☐
d	The waste storage area or enclosures opening and access path will have clearance of all vehicles and obstacles and relevant signage to this affect?	Yes ☐ No ☐
e	The driveway is of a thickness and structural integrity to withstand the weight loading of the relevant vehicle as specified above?	Yes ☐ No ☐
f	The building is designed to ensure all collection vehicles are off the road at all times when collecting bins?	Yes ☐ No ☐
g	Collection vehicles can enter and leave the site in a forward direction with minimal or no reversing?	Yes ☐ No ☐
10.	What is the maximum distance from garbage/recycling room to the collection point or street frontage?	_____ metres

Note: Council and its contractors are indemnified from and against all actions, claims, demands and other proceedings which may be made or recovered in respect of any damage to property, personal injury or death which relates to carrying out waste and recycling collection on site.

Mixed Residential/Commercial (only)

11.	Do the residential and commercial waste areas have a separate collection point?	Yes ☐ No ☐

Bushfire Assessment Report (BFSA Subdivision)

Apical
Bushfire and Planning

Client: Mr Saman Al-Zohairy

Address: 75-77 Leacocks Lane Casula, NSW 2170

Lot/DP: 101/1045986

Proposal: 6-lot subdivision residential

Bushfire Assessment Report
(BFSA Subdivision)

Apical Bushfire Planning Pty Ltd

Report:	75-77 Leacocks Lane Casula, NSW – BFSA Subdivision Report
Prepared for:	Mr Monther and Saman Al-Zohairy
Prepared by:	Romy Brien & Daniel Anderson
Project no:	LP2024/0306
Date:	13/03/2024

Prepared by:_____

Daniel Anderson (M.Env.Sc, GCert.PBP.)

PBAD LEVEL 2 BUSHFIRE PRACTITIONER

BPAD- 48898

BPAD Bushfire Planning & Design Accredited Practitioner Level 2

DISCLAIMER

Apical Bushfire Planning P/L cannot be held liable for any loss of life or property in the event of a bushfire affecting an assessed site or location. This report has been based on all relevant bushfire codes and regulations about the construction of a building in a bushfire prone area within the State of NSW. Apical Bushfire Planning has no control over workmanship and is not always asked by the Principal Certifying Authority prior to the release of an occupation certificate to advise if the construction standards and recommendations in this report have been adhered to. Buildings degrade over time and vegetation if not managed will regrow having effect on both landscapes prone to fire and building performance to exposures. In addition, construction standards are subject to change. Due to significant variance of bushfire behaviour, we do not guarantee that the dwelling will withstand the passage of bushfire even if this development is constructed to the prescribed standards.

AS3959 (2018) states "It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature of behaviour of fire, and extreme weather conditions."

This report reflects our opinions as derived from valid data collection of site bushfire risk, expected radiant heat loads derived from hazard vegetation and applied asset protection zones and separations relating to the proposed development. Our views are based on our interpretation of Planning for Bushfire Protection (2019), AS3959 (2018) and the methodology for site specific bushfire assessment.

The Rural Fire Service have a higher authority and can upon their review, increase a nominated BAL-rating or reject any recommendation contained within this report. Any such recommendations made by the RFS take precedence by consent authorities. Our role is intermediary between our clients and the consenting authority within the planning approvals process. We apply our verified knowledge of the standards for bushfire protection to provide the best possible outcome for our client, from a bushfire safety perspective. Should the RFS modify our recommendations or reject a proposal we will not be held liable for any financial losses because of such determinations.

This document may only be used for the purpose for which it was commissioned.

PROPERTY DETAILS		
Unit No:	House No.: 75-77	Street: Leacocks Lane
Suburb – Casula, NSW 2170		Site Area m²: 1773.85m²
Lot(s): 101	Section:	Deposited Plan (DP): 1045986
Other:		Strata Plan (SP):

APPLICANT DETAILS			
Name: Mr Monther and Mr Saman Al-Zohairy		Care of: Gege Constructions Pty Ltd	
Postal Address		PO Box:	Telephone:
Suburb:	State:	Postcode:	Mobile:
Email:		Customer Reference: LP2024/0306	

DESCRIPTION OF DEVELOPMENT					
Please indicate by 'X'					
	New single dwelling		Alterations/Additions to Existing	x	Subdivision
	Dual Occupancy		Rural Residential		Rural
Details: *Please describe below, e.g. Single Storey Dwelling with Attached Garage.*					
- Proposed 6-lot subdivision (Residential Liverpool LGA – NSW)					
Building Code of Australia (BCA) Classification: (e.g. Class 1(a) / Class 10(a), Other):					

PROJECT SUMMARY	
Assessed as:	Subdivision on Bushfire Prone Land
Assessed by:	Romy Brien, officer – Daniel Anderson, BPAD accredited
Highest BAL on any façade:	BAL 12.5
PBP (2019) Compliance:	Yes
Project Description:	Six Lot Subdivision
Report Number:	LP2024/0306
Date:	13/03/2024

This report has been prepared for the owner of the land, in accordance with Planning for Bushfire Protection - A Guide for Councils, Planners, Fire Authorities and Developers, 2019, NSW Rural Fire Service (RFS) and Planning NSW.

Prepared under SECT 4.14 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Conforming to Australian Standard AS3959-2019 Building in Bushfire Prone Areas

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1 BUSHFIRE RISK ASSESSMENT RATING CERTIFICATION

I hereby certify, in accordance with s.4.14 of the Environmental Planning and Assessment Act 1979 that;

1	I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and
2	Subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements as DTS – AS3959-2019 & PBP-19 *

** The relevant specifications and requirements being; specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with theDepartment of Planning and any other document as prescribed by s.4.14 of the Environmental Planning and Assessment Act 1979.*

ISSUED TO	DATE	REVISION	ISSUED BY
Gege Constructions	15/03/2024	1	Daniel Anderson
Note: This register identifies the current custodians of controlled copies of this document.			

2 Introduction

The level of bush fire risk imposed upon a building is affected by the area you live, the vegetation, the distance from the vegetation to your home, and the ground slope.

Applications for development upon bush fire prone lands in NSW currently must include a bush fire assessment report to determine bushfire risk and bushfire protection measures relative to a planning proposal.

A Bushfire Safety Authority (BFSA) is required under section 100B of the Rural Fires Act 1997 (NSW) and the Rural Fires Regulation 2013 (NSW) when a Proponent intends to undertake either of the following activities:

- Subdivide bush fire prone land that could be used for residential or rural residential purposes (for example, building a house); or
- Undertake development that is categorised as a Special Fire Purpose Development within bush fire prone land (for example, building a school, childcare centre, hotel or place of assembly / gathering etc).

Development requiring BFSA is considered integrated development under Section 4.46 of the NSW EP&A Act. The BFSA process is critical in ensuring these developments can be designed and located in a manner to protect human life and facilitate appropriate firefighting opportunity.

A BFSA permits the relevant Planning Authority to approve developments to undertake the desired land-use activities and will ensure that the development complies with the relevant bush fire protection measures and performance standards regarding setbacks, APZ distances, provision of water supply and other matters that the authority considers necessary to protect people, property or the environment from bush fire danger.

A Bushfire Assessment Report will analyse a development to ensure that the proposal can demonstrate that the requirements and associated bushfire protection measures (BPM's) prescribed within PBP-2019 can be satisfied by the project.

The consideration of PBP-2019 coupled with the application of building performance criteria prescribed within AS3959-2018 (Australian Standards – Building Code of Australia) will work in an integrated fashion by managing both landscape risk and building performance measures to protect buildings and building occupants.

This development proposal is for subdivision (6-lot) for residential purposes. The subject site has an existing 2 story residence and shed proposed for removal under the development application. Built elements of the proposal include 6 building envelopes with associated infrastructure such as driveway access and landscaping.

Appendix A2.2 of PBP-2019 presents the assessment and submission requirements for 'infill' development including Bushfire Protection Measures (Section 3 of PBP-19 & Subdivision Development Section 5 PBP-19) which will be considered and presented within this assessment.

This Bushfire Assessment Report will address the following matters:

Clause 44 of the Rural Fires Regulation

1) a description (including the address) of the property on which the development the subject of the application is proposed to be carried out.
2) a classification of the vegetation on and surrounding the property (out to a distance of 140 metres from the boundaries of the property) in accordance with the system for classification of vegetation contained in PBP.
3) an assessment of the slope of the land on and surrounding the property (out to a distance of 100 metres from the boundaries of the property).
4) identification of any significant environmental features on the property.
5) the details of any threatened species, population or ecological community identified under the Threatened Species Conservation Act 1995 that is known to the applicant to exist on the property.
6) the details and location of any Aboriginal object (within the meaning of the *National Parks and Wildlife Act 1974*) or Aboriginal place (within the meaning of that Act) that is known to the applicant to be situated on the property.
7) a bush fire assessment for the proposed development (including the methodology used in the assessment) that addresses the following matters:

i. the extent to which the development is to provide for setbacks, including APZs
ii. ii. the siting and adequacy of water for firefighting
iii. the capacity of public roads in the vicinity to handle increased volumes of traffic in the event of a bush fire emergency
iv. whether or not public roads in the vicinity that link with the fire trail network have two-way access
v. the adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response
vi. the adequacy of bush fire maintenance plans and fire emergency procedures for the development site
vii. the construction standards to be used for building elements in the development
viii. the adequacy of sprinkler systems and other fire protection measures to be incorporated into the development.

8) an assessment of the extent to which the proposed development conforms with or deviates from the standards, specific objectives and performance criteria set out in Chapters 5-8 of PBP.

The property is zoned R2 low density residential under the Liverpool LEP 2008.

A concept Site Plan, showing the proposed layout of the subdivision and building envelopes as part of the proposal is provided as (Appendix 1).

The assessment of the site is based on the results of a field survey and BAL site assessment conducted by Mr Daniel Anderson Bushfire Planning Accredited Assessor: BPAD48898, During March 2024.

2.1 Summary Key Reference Information

The following key bushfire influential characteristics were found during the assessment of the site;

- The effective landform slope for bushfire influence towards the major bushfire hazard (grassy woodland - east) is flat for 60m and 10-15 degrees downslope over the next 100m (towards Glenfield Creek).
- An averaged ground slope of 5-10 meters downslope was calculated over 100m from the eastern outer wall of the eastern lots, to provide ground slope topography factor in overall determination of BAL risk.
- The subject site is mostly cleared of vegetation with some garden plantings and amenity trees surrounding the existing dwelling.
- Vegetation posing the bushfire threat was classified as Coastal Valley Grassy Woodland using Keith, D. 2004 and is comprised of Plant Community Type (PCT) id 849: Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion
- For assessment under PBP-2019, AUSLIG Vegetation Class – Grassy Woodland
  Fuel loads as categorised by gassy woodland are applied to the BAL risk determination.
- The overall bushfire risk for the development is designed to achieve a maximum **BAL 12.5kW/m²**
- The bushfire exposure of the dwellings ie; BAL Rating is determined using methodology 'Appendix 1 PBP-2019 and Table A1.12.5 of PBP-2019 for each directional elevation of the dwelling:
- The six class 1a buildings upon the site will be designed and constructed to meet BAL 12.5kw/m² performance levels (refer Section 3 & 5 of AS3959-2018 Construction Requirements).
- Bushfire Attack Levels (BAL) were determined for the proposal *(See Appendix Maps).*
- Implementation of construction standards under Sections 1, 3 & 5 of AS3959-2018 are required for compliant construction of the proposed class 1 buildings. Specific construction requirements to defend ember attack and increased tolerance for radiant heat exposure are warranted and applied from Section 7.5 'Additional Requirements' PBP-19.
- Access to lots A, B & C (east) will be via a private, sealed driveway off Leacocks Lane (east). Access to lots D, E & F will be accessed via a sealed, private driveway off Cusack Avenue (west site elevation).

Site Bushfire Hazard Rating

Classification of the vegetation up to 140m from the boundaries of the subject Development Site.

An assessment of the land on and surrounding the Development Site up to 140m from the boundaries of the subject Development Site is provided.

This assessment requests application AS: 3959-2018 Method 1 (DTS) to provide the prescribed APZ distances under an applied BAL performance model.

Site BAL ratings have been defined with reference to table A1.12.5 (Determination of bush fire attack level, FDI 100 – residential developments) and APZ minimum distances to BAL 29kW/m² by table A12.2.

Construction Standard

The siting of building locations of future dwellings for the site as reviewed by this work will not exceed BAL 12.5kw/m² exposures for any presented façade. Under current site conditions, zero clearing of vegetation is required to allow for suitable separation from surrounding vegetation (see map image 1).

Future infill development must consult Sections 3 & 4 in AS-3959-2018 (Construction of Buildings in Bushfire Prone Areas to meet the requirements of the BCA).

Building construction level for the presented lots forming the subdivision have been assessed via this report, BAL ratings for the lots under the proposal are present within the below table:

Table 1. AS-3959-2018 Construction Standards for each building footprint

Lot/Facade	North	East	South	West
Lot A	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot B	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot C	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot D	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot E	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot F	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²

Capacity of Public Roads - Access / Egress Considerations for Evacuation

Currently access is provided to the site via the sealed, public road Leacock's Lane (eastern boundary of the subject site). Under the development application access to lot's A, B & C will be via a private, sealed driveway off Leacock's Lane (east). Access to lots of D, E & F will be accessed via a sealed, private driveway off Cusack Avenue (west elevation).

The public road system as presented is deemed to be adequate for emergency services appliances given current road widths and general road conditions.

Evacuation considerations relating to the location of the development are deemed suitable with the overall objectives of PBP. The location is easily accessed by the current public road system, there are no known impediments to road access such as load rated bridges, flood affected water crossings or heavily forested areas / corridors.

Provision of Access for the purpose of Emergency Response

S3.4.1 [PBP-19] advises that – A perimeter road should be provided to separate bushland from urban areas, allowing more efficient use of firefighting resources. A perimeter road is located on the outer extremity of a local area or subdivision and usually runs parallel to the bush land interface.

No internal roads are proposed for the subdivision design. A compliant driveway with a single access point to the existing public road system (Leacocks Lane and Cusack Avenue) is proposed for each lot.

Proposed access roads:

- One-way, 4m wide bitumen sealed carriageway (kerb to kerb);
- Layback kerb and gutter design.
- Grass road verge (outer)
- Concrete footpath (1.5m) and (2.9m) grass verge inner

The provision of safe access and egress for the purpose of emergency response to the site is achieved by the proposal through the ability of the proposal to conform with the (DTS) deemed to satisfy (acceptable solutions) provided with S.5 of PBP-19.

Provision of Setbacks & identified APZ's.

Leacock's Lane provides adequate separation to the eastern grassy woodland vegetation hazard, the surrounding urban landscape is classified as low threat under Section 2.2.3.2 of AS3929-2018 which provides explanation of Low threat vegetation exclusions under the Bushfire Attack Level Determination Method 1.

Vegetation can be regarded as low threat due to factors such as flammability, moisture content or reduced biomass fuel load, this includes grassland areas that are managed to provide minimal fuel conditions.

- Minimized fuel conditions means that there is insufficient fuel available to significantly increase the severity of bushfire attack (for example short-cropped grass to a nominal height of 100mm from ground surface)

Provision of Bush Fire Maintenance Plans & Fire Emergency Procedures

The subdivision proposal can be deemed to conform and comply with all the performance criteria set out in S.3 and S.5 residential subdivision PBP-2019.

The proposal does NOT present any alternative solutions or deviations from the deemed-to-satisfy (DTS) acceptable solutions and is therefore considered to conform and comply with Appendix A2.1 PBP-2019 submission requirements for BFSA (Bushfire Safety Authority) as they are presented within.

The adequacy of Bush Fire Protection Measures

Water supplies to the development will be provided by the street mains and reticulated water supply as per the design plans presented with the application. The subdivision is to be serviced by reticulated (town water) supplies consistent with the acceptable solutions as per s.7 – Services (PBP 2019).

The existing street hydrants are adequate to cover the entirety of the building footprints (see map image). An auxiliary supply of water is not required to meet section 7 – Services (PBP-19).

The hydraulic and fire services engineer engaged for the development design will confirm the compliance performances for the reticulated water system design as part of the development conditions.

Siting and Adequacy of Water Supplies and Firefighting Equipment

Review of dedicated firefighting water supplies and associated equipment which must be accessible for firefighting and provided at the site to protect occupants. A sound and acceptable firefighting policy and available firefighting equipment such as static water supplies, fire pumps, fire hoses and fire sprinklers are installed and available to the site for firefighting activities.

Landscaping

Any future landscaping prescribed within the plan shall be designed and maintained in accordance with the principals identified in sections 7.4 Landscaping.

The surrounding yard areas of the site must be managed to provide an Inner Protection Area (IPA), Asset Protection Zone (APZ). Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy.

3 Assessments and Methods

Apical Bushfire & Planning was commissioned by the Landholders to undertake the required Bushfire Hazard Assessment for this development proposal after it was established that the property was located on bushfire prone land (Buffer to category 2), as such the proposal is subject to the considerations outlined in Planning for Bushfire Protection, NSW Rural Fire Service 2019 (stated as – *PBP 2019-NSW, RFS*).

The development aims to comply with 'Deemed to satisfy' solutions determined for the required Bush fire Attack Level (BAL) determined for the siting of the class 1a buildings and the presented bushfire protection measures. This assessment will present key management actions and provided interventions for each key criterion.

Building performance will also be delivered by the builders through application of a minimum BAL 12.5kW/m² construction standard pursuant with the NCC & AS3959-2018 requirements.

Methodology applied by our site assessment for determination of bushfire attack (BAL) is based on the application of the site assessment methodology and bushfire attack level tables included within Appendix 1, NSW Planning for Bushfire Protection Guidelines, 2019 (PBP) NSW, RFS.

Terrain (slope) and landform assessment of the site was determined by investigation of the land using slope digital elevation model (DEM) provided by 'Nearmap', surveyed land contours for the site and surrounds and onsite assessment using a clinograph. Land slope / gradients were verified via a site inspection (12/03/2024) of the subject property.

Vegetation extent within the subject area and surrounds has been derived from available aerial photo interpretation (API), cross referencing with NSW Vegetation data layers (P5MA, Keith Classifications, AUSLIG) on a GIS platform and a site inspection (12/03/2024) conducted prior to finalising this report.

The extent and location of the proposed 'buildings', are based on the Liverpool-DCP and supplied concept site layout (SK Building Design)

Site mapping imagery was obtained via access to geo-rectified aerial image photos provided via Nearmap and dated [January/2024].

Photographic images of the subject property and surrounding vegetation and landscapes are also included within this report (as Figures) i.e. (Site Photos) presenting site condition at the time of inspection.

Environmental constraints and Aboriginal Heritage items were reviewed via correspondence to current NSW DPIE (OEH) databases for correlation with environmental and aboriginal heritage land and item protections.

4 PROPERTY DETAILS

DESCRIPTION OF DEVELOPMENT					
Please indicate by 'X'					
X	Infill development		Alterations/Additions to Existing	X	Subdivision
	Dual Occupancy		Rural Residential		Rural
Details *Please describe below, e.g. Single Story Dwelling with Attached Garage.*					
Development type: Proposed 6-lot subdivision, residential zoning.					
National Construction Code (NCC):					
Zoning of Lot: R2 Low Density Residential					
Local Government Area: Liverpool					
Assessment Type: Section 4.15 NSW EP&A Act (Development under referral to the RFS) (BFSA)					

5 PROPOSAL

This proposal is for a 6-lot, residential subdivision of land with an existing single residence. Future occupation of the land will include the construction of six class 1 buildings (residential dwellings) with associated infrastructure such as driveway access and landscaping.

The development area will consist of use of the land for:

- House dwelling
- Bushfire protection measures and separation firefighting space.
- Suitable landscaping elements

The development area of the proposal relates to an approximate area of 1,500m² which includes:

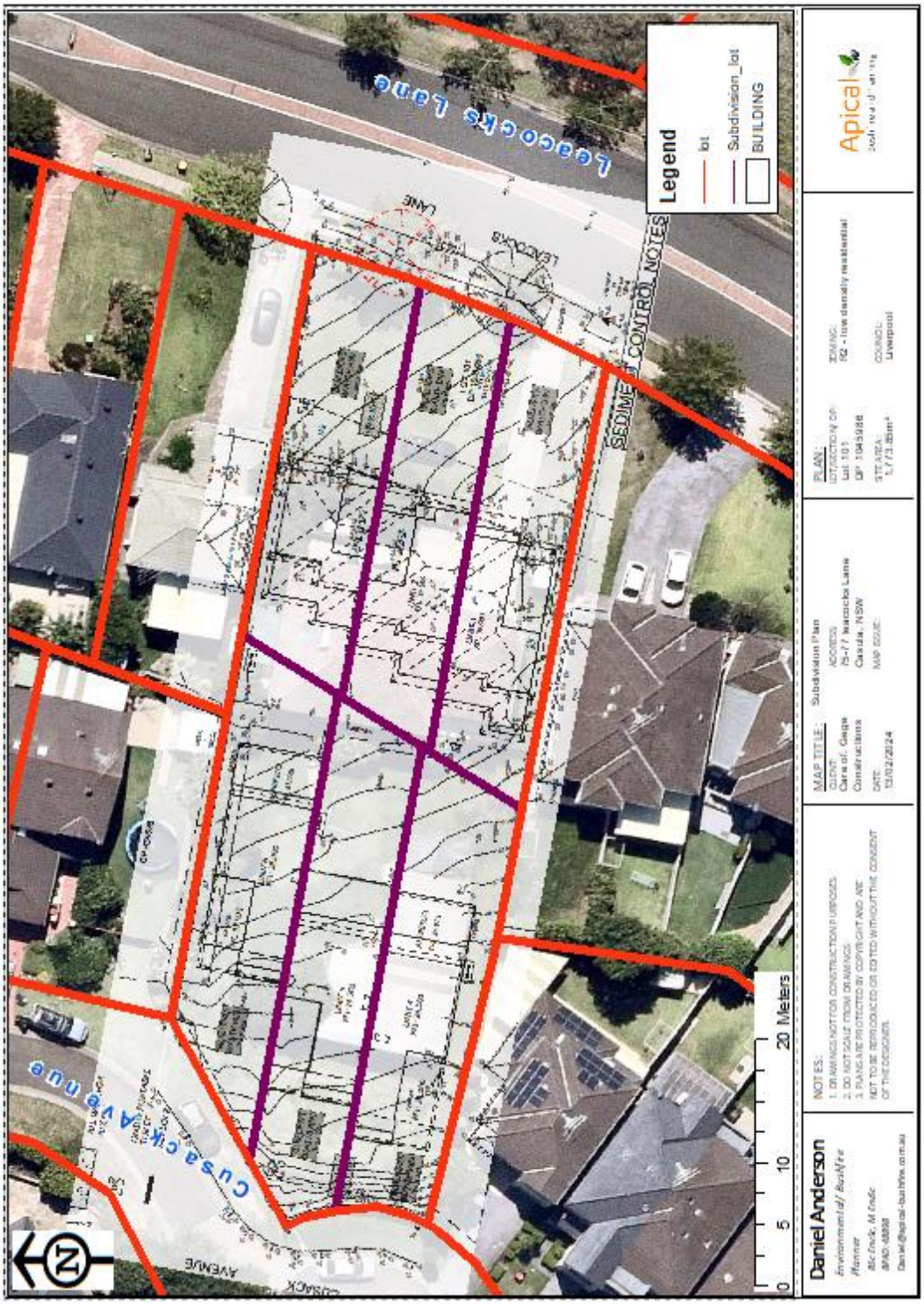
- 6 x units (building footprint)
- Driveway and landscape areas.

The bushfire protection measures devised and presented within this report have been determined via review and integration with the documented objectives of *PBP 2019-NSW,* RFS and project concept plans provided by the commissioned surveyors.

"The aim of PBP-2019 is to provide for protection of human life and minimise impacts on property from the threat of bushfire".

More specifically, the objectives of this assessment are to present interventions and solutions which:

a) afford occupants of any building adequate protection from exposure to a bushfire;
b) provide for a defendable space to be located around buildings;
c) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;
d) ensure that safe operational access and egress for emergency service personnel and residents is available;
e) provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the asset protection zone (APZ); and
f) ensure that utility services (Water provision) are adequate to meet the needs of firefighters (and others assisting in bushfire fighting").



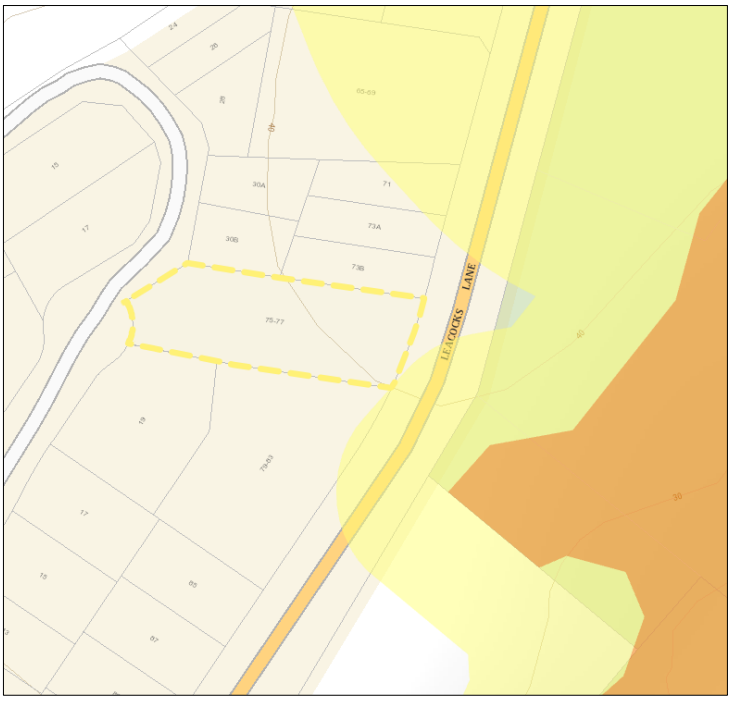
Map Image 1. Site subdivision plan

6 Site Constraints

Table 2. Relevant site constraints – Local and State Government Planning

Reference	Planning Layer	Site Relevance
NSW Government	NSW Biodiversity Values Map	Not relevant
Local Government	Terrestrial Biodiversity Map	Not within lot
Local Land services	Natural Resources Sensitivity Map	Not relevant
Local Government	Environmentally Sensitive Land	Not relevant
Local Government	Scenic Land Protection	Not relevant
NSW Government	NSW Bushfire Prone Land Map	Buffer to category 2
Local Government	Riparian Land/Watercourses	Not relevant
Local Government	Flood Prone Land Map	Not relevant
NSW Government	Rivers & Foreshores / Marine Protection Areas	Not relevant
NSW Government	Wetland Areas (SEPP 14)	Not relevant
NSW Government	Aboriginal Heritage Information System	Not relevant
NSW Government	Core Koala Habitat Area (SEPP Koala Habitat Protection)	Not relevant

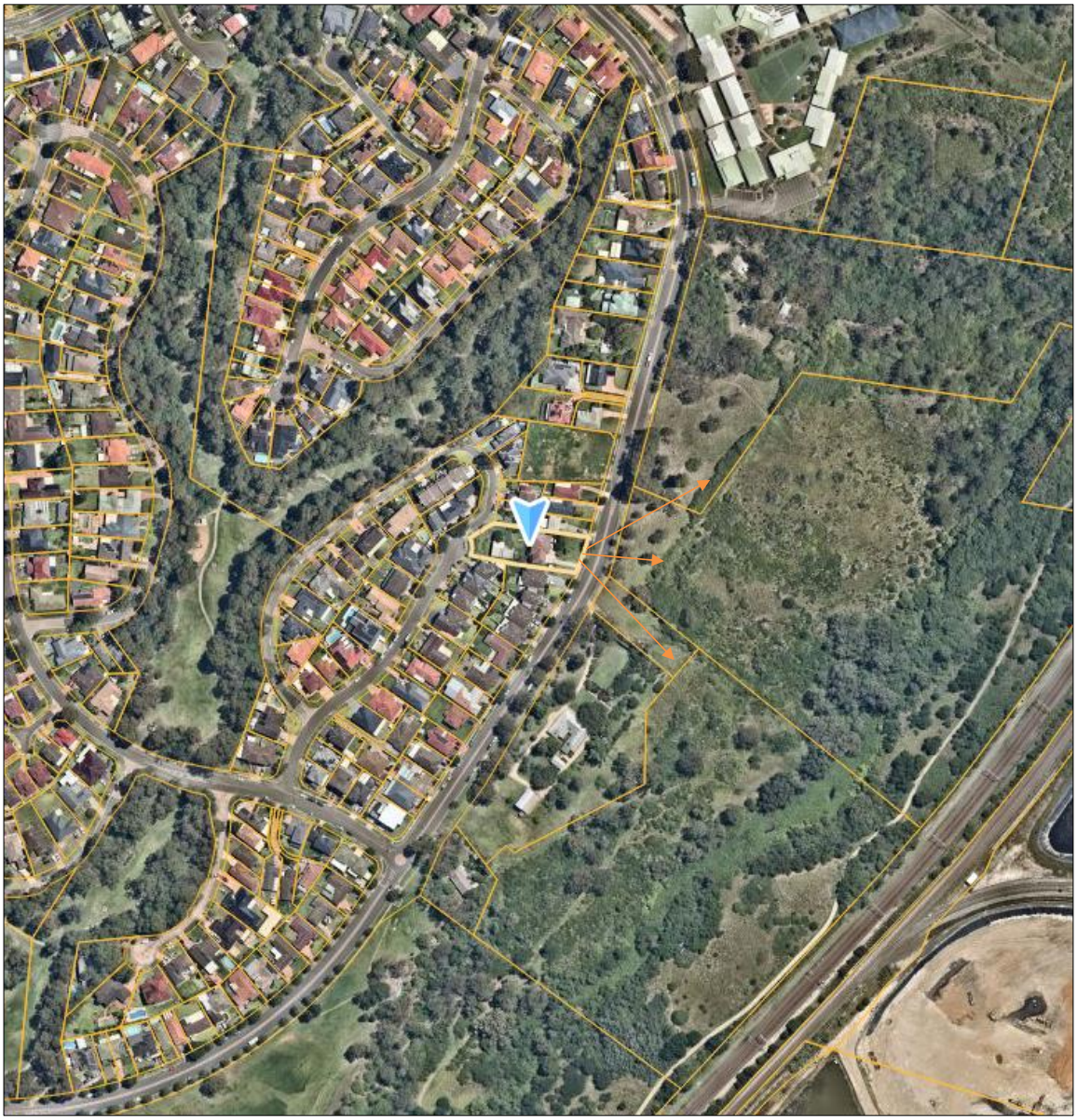
Map Image 2. Bushfire Prone Land Map



Certified Bushfire Prone Land Map extract obtained from the Planning Portal managed by the Department of Planning, Industry and Environment www.planningportal.nsw.gov.au. The subject site is mapped as bushfire affected. Date of Issue 12/03/2024.

7 SITE LOCATION

Map Image 3. Site location and surrounding bushfire landscape



8 Bushfire Attack

VEGETATION

The vegetation 60m (approx.) to the east of the subject site is mapped as Bushfire Prone Vegetation Category 2, on Council Bushfire Prone Land Maps. The south-east corner of the subject site touches the Category 2 buffer area (see map image 2).

A desktop review and data assessment was prepared to identify current vegetation cover and vegetation complexes within the surrounding landscapes of the subject site.

Actual vegetation occurring within the associated landscape and in conjunction with the proposal site were assessed at the site in the field during site assessment visits.

Vegetation structure, maintenance and actual hazard fuel ratings were evaluated in the field using field assessment guidelines derived to measure the fuel characteristics including load, structure and height of vegetation and vegetation biomass.

Our assessment of the fuel loads retained within the landscape were supported by a site visit, site photos and correlation of the ground cover and surface fuel loads with fact sheets and research papers such as Comprehensive Vegetation Fuel Loads – 2019 (NSW RFS) fuel modelling project (University of Wollongong).

Data reviews were undertaken through consultation with NSW Government State Government Databases such as consultation with available data layers including 'State Vegetation Mapping', 'Keith, 2006 Vegetation Mapping' and NSW Office of Environment & Heritage 'Plant Community Type (PCT)' data and metadata to determine vegetation type and class occurring in the broader surrounds to the site.

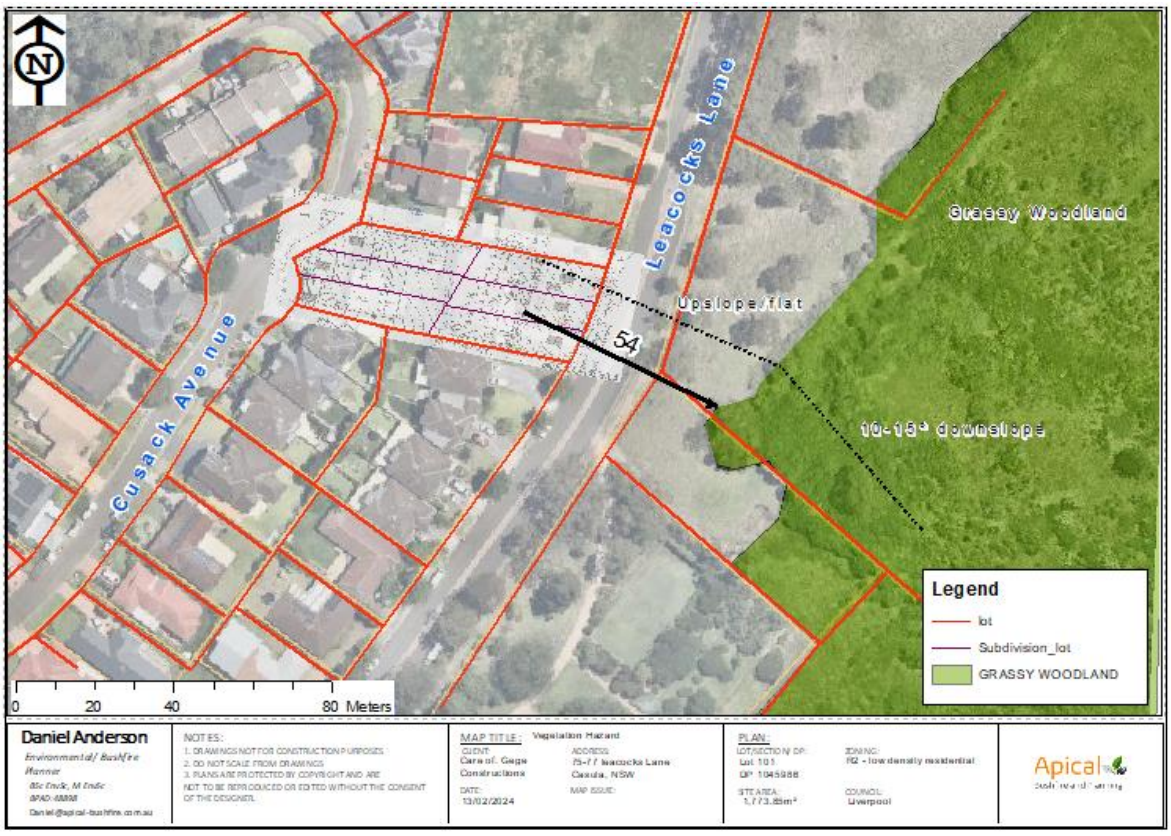
Vegetation posing the bushfire threat was classified as Coastal Valley Grassy Woodland using Keith, D. 2004 and is comprised of Plant Community Type (PCT) id 849: Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion. For assessment under PBP-2019, AUSLIG Vegetation Class – Grassy Woodland.

VEGETATION	VEGETATION CLASSIFICATION	SURFACE AND ELEVATED	OVERALL FUEL LOAD (INCLUDING BARK AND CANOPY)
Woodlands	Coastal Valley GW	10	18.07
	Tablelands Clay GW	10.5	18.61
	New England GW	10.5	20.2
	Southern Tableland GW	10.5	19.01
	Sub-alpine woodlands	18	27.3
	Western Slopes GW	10.5	18.3
	Floodplain transition woodlands	10.5	18.9

Figure 1. Reference: NSW RFS Comprehensive Vegetation Fuel Loads

Map image 4. NSW SEED Database PCT Map

Map Image 5. Surrounding Vegetation Hazard



Vegetation Classification

All vegetation within 140m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Table 3. Vegetation Classification to each directional facade

Photo ID:	North	Plot:	
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Residential/managed landscape to 140m			

Photo ID:	East	Plot:	Hazard
Vegetation Classification or Exclusion Clause			
Class B Woodland - Woodland B-05			
Description / Justification for Classification			
Grassy Woodland vegetation at 54m (5-10 degrees downslope). Road reserve Leacock's Lane approx. 14m width.			

Photo ID:	South	Plot:	
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Residential/managed landscape to 140m			

Photo ID:	West	Plot:	Subject site
Vegetation Classification or Exclusion Clause			
Excludable - 2.2.3.2(f) Low Threat Vegetation			
Description / Justification for Classification			
Residential/managed landscape to 140m			

Fuel Source (East Elevations)

Bushfire Attack Level – Determination AS3959-2018

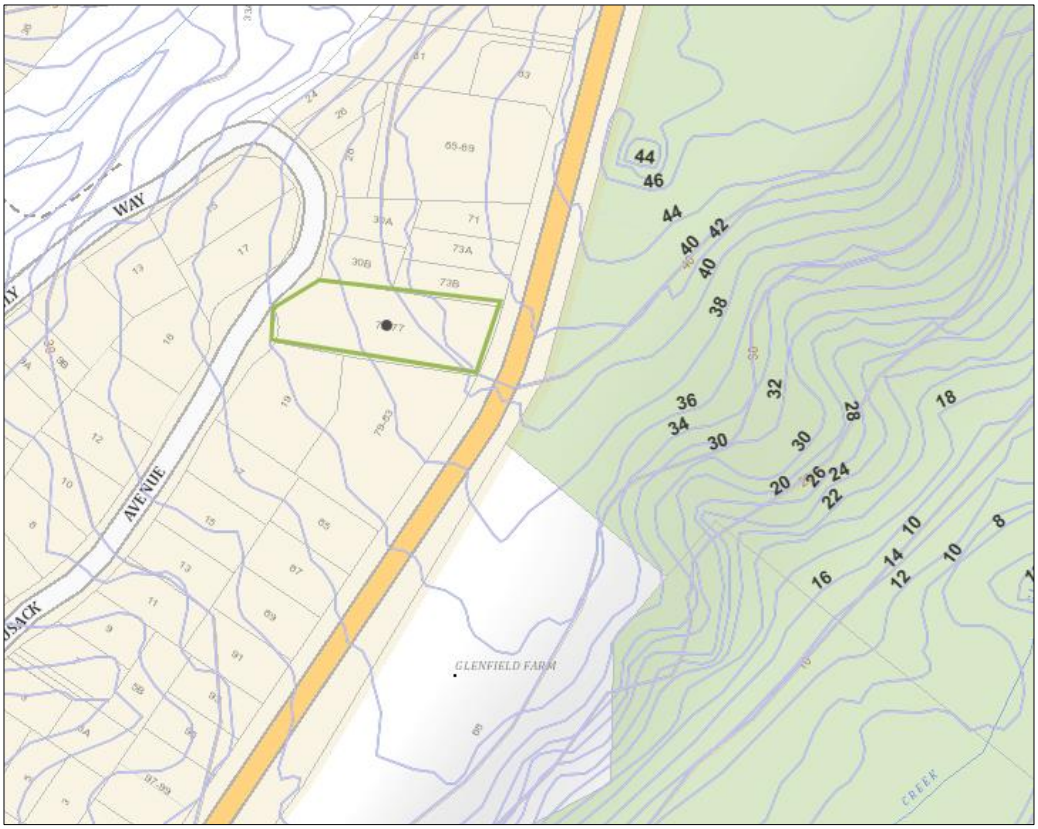
Bushfire Attack Level (BAL) Assessment is undertaken with the application of the site assessment methodology and bushfire attack level tables included within Appendix 1, NSW Planning for Bushfire Protection Guidelines, 2019 (PBP) NSW, RFS.

Bushfire Attack Level Determination Factors & Values (AS3959-2018)

Table 4. Bushfire Attack Level Factors Evaluated for the site

SITE DETERMINATION FACTORS	
Factor	**Value**
A) Relevant FDI	100
B) Flame Temperature	1090K
B) Slope – North Slope – South Slope – East Slope - West	Upslope/flat 5-10 degrees downslope 5-10 degrees downslope 0-5 degrees downslope
C) Vegetation Classification	Grassy woodland (east) Residential (north, south, west)
C) Building Location	See Site Plans Appendix A

Map Image 6. Site Contour Map



Source: https://portal.spatial.nsw.gov.au/portal/apps/webappviewer

Table 5. Current Bush Fire Hazard (DTS BAL ratings) - Referred to Appendix 1 PBP,2019.

Aspect	Distance to hazard	Vegetation up to 140m	Effective Slope to 100m	Bushfire Attack Level	Asset Protection Zone	Construction Requirements As3959-2018
NORTH	N/A	Managed/Residential	Upslope/flat	BAL 12.5kW/m²	To boundary	Sections 3, 5
EAST	54m	Grassy Woodland	0-5° downslope	BAL 12.5kW/m²	To boundary	Sections 3, 5
SOUTH	N/A	Managed/Residential	5-10° downslope	BAL 12.5kW/m²	To boundary	Sections 3, 5
WEST	N/A	Managed/Residential	5-10° downslope	BAL 12.5kW/m²	To boundary	Sections 3, 5

Map Image 7. Radiant Heat Exposure

Table 6. Determination of BAL FFDI 100 – residential developments (table A1.12.5 PBP-19)

KEITH VEGETATION FORMATION		BUSH FIRE ATTACK LEVEL (BAL)				
		BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
		Distance (m) asset to predominant vegetation class				
ALL UPSLOPE AND FLAT LAND	Rainforest	< 8	8 -< 11	11 -< 16	16 -< 23	23 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 18	18 -< 24	24 -< 33	33 -< 45	45 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 9	9 -< 12	12 -< 18	18 -< 26	26 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 7	7 -< 10	10 -< 14	14 -< 21	21 -< 100
	Tall Heath	< 12	12 -< 16	16 -< 23	23 -< 32	32 -< 100
	Short Heath	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
	Arid-Shrublands (acacia and chenopod)	< 5	5 -< 6	6 -< 9	9 -< 14	14 -< 100
	Freshwater Wetlands	< 4	4 -< 5	5 -< 7	7 -< 11	11 -< 100
	Grassland	< 8	8 -< 10	10 -< 15	15 -< 22	22 -< 50
> 0 > 5 DEGREES - DOWNSLOPE	Rainforest	< 11	11 -< 14	14 -< 21	21 -< 29	29 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 22	22 -< 29	29 -< 40	40 -< 54	54 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 12	12 -< 16	16 -< 23	23 -< 32	32 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 9	9 -< 12	12 -< 18	18 -< 26	26 -< 100
	Tall Heath	< 13	13 -< 18	18 -< 26	26 -< 36	36 -< 100
	Short Heath	< 8	8 -< 10	10 -< 15	15 -< 22	22 -< 100
	Arid-Shrublands (acacia and chenopod)	< 5	5 -< 7	7 -< 11	11 -< 16	16 -< 100
	Freshwater Wetlands	< 4	4 -< 6	6 -< 8	8 -< 12	12 -< 100
	Grassland	< 9	9 -< 12	12 -< 17	17 -< 25	25 -< 50
> 5 > 10 DEGREES - DOWNSLOPE	Rainforest	< 14	14 -< 18	18 -< 26	26 -< 37	37 -< 100
	Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 28	28 -< 36	36 -< 49	49 -< 65	65 -< 100
	Grassy and Semi-Arid Woodland (including Mallee)	< 15	15 -< 20	20 -< 28	28 -< 39	39 -< 100
	Forested Wetland (excluding Coastal Swamp Forest)	< 12	12 -< 16	16 -< 23	23 -< 33	33 -< 100
	Tall Heath	< 15	15 -< 20	20 -< 29	29 -< 40	40 -< 100
	Short Heath	< 9	9 -< 12	12 -< 18	18 -< 25	25 -< 100
	Arid-Shrublands (acacia and chenopod)	< 6	6 -< 8	8 -< 12	12 -< 18	18 -< 100
	Freshwater Wetlands	<5	5 -< 6	6 -< 10	10 -< 14	14 -< 100
	Grassland	< 10	10 -< 13	13 -< 20	20 -< 28	28 -< 50

Table 7. Radiant Heat Flux exposure and appropriate bush fire attack level (table A1.7 PBP-19)

Heat flux exposure	Description	AS 3959 construction level
N/A	Minimal attack from radiant heat and flame due to the distance of the site from the vegetation, although some attack by burning debris is possible. There is insufficient threat to warrant specific construction requirements.	Bush fire attack level: Low (BAL-LOW)
≤12.5	Attack by burning debris is significant with radiant heat (not greater than 12.5kW/m²). Radiant heat is unlikely to threaten building elements (such as unscreened glass). Specific construction requirements for ember protection and accumulation of debris are warranted.	Bush fire attack level: 12.5 (BAL-12.5)
>12.5 ≤19	Attack by burning debris is significant with radiant heat flux (not greater than 19kW/m²) threatening some building elements (such as screened glass). Specific construction requirements for embers and radiant heat are warranted.	Bush fire attack level: 19 (BAL-19)
>19 ≤29	Attack by burning debris is significant and radiant heat flux (not greater than 29kW/m²) threatens building integrity. Specific construction requirements for ember and higher radiant heat are warranted. Some flame contact is possible.	Bush fire attack level: 29 (BAL-29)
>29 ≤40	Radiant heat flux and potential flame contact could threaten building integrity.	Bush fire attack level: 40 (BAL-40)
>40	Significant radiant heat and significant higher likelihood of flame contact from the fire front will threaten building integrity and result in significant risk to residents.	Bush fire attack level – Flame Zone (BAL-FZ)

Note: Attack from burning debris increases with the bush fire attack level.

9 ENVIRONMENTAL FEATURES / ASSETS

A desktop review and data analysis were undertaken to identify the potential for the presence of important environmental features and attributes upon or near to the subject site.

The subject site does NOT trigger as an area of biological importance through consultation with NSW Government State Government Databases and Australian Government Databases to assess for the presence of threatened species and key threatened species habitats.

The subject area does NOT appear on the NSW Biodiversity Values Map nor is it expected to impact an area mapped as having high biodiversity value.

Map image 8. NSW Biodiversity Values Map (purple shading signifies 'high biodiversity value')

Source https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap,

10 BUSHFIRE PROTECTION MEASURES – (Subdivision)

Section 3 of PBP-2019 explains the importance and function of bushfire protection measures BPM's in reducing risk exposure to bushfire attack.

Key types of BPM's include; Asset Protection Zone (APZ), building construction siting and design, access, landscaping, water supply and utilities, and emergency management arrangements.

Additionally, section 7 of PBP-2019, NSW RFS identifies the performance criteria and acceptable solutions for bush fire protection measures regarding 'Infill' development types.

The intent of such measures is to minimize the risk of bushfire attack & provide protection for emergency services personnel, residents and others assisting in firefighting activities.

The inclusion of the supporting performance tables for each protection measure outline the 'deemed to satisfy' solutions specified in PBP-2019, with assessment responses provided in this report to show how each of the acceptable solutions has been addressed & implemented via this proposal.

10.1 Asset Protection Zones

The aim of APZs is to ensure there is a progressive reduction in flammable material towards any building. The intent of the APZ measures are to provide sufficient space and maintain reduced fuel loads, to ensure radiant heat levels at buildings are below critical limits measured at >29kW/m2 and to prevent direct flame contact with the building.

The appropriate APZ distance is based on vegetation type, ground slope and nature of the development. Suitable APZ areas can include roads and areas within a property which are managed consistently with APZ standards set out in Appendix 4 PBP-2019 and within the NSW RFS document 'Standards for Asset Protection Zones'.

This proposal allows the following implementation of asset protection zones:

i) North: to boundary
ii) South: to boundary
iii) East: to boundary
iv) West: to boundary

Table 8. Asset Protection Zone – Performance criteria PBP2019

	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	The intent may be achieved where:	
ASSET PROTECTION ZONES	› APZs are provided commensurate with the construction of the building; and › A defendable space is provided.	› an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1.
	› APZs are managed and maintained to prevent the spread of a fire to the building.	› APZs are managed in accordance with the requirements of Appendix 4 of PBP.
	› the APZ is provided in perpetuity. › APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	› APZs are wholly within the boundaries of the development site. › APZ are located on lands with a slope less than 18 degrees.
	Home-based child care: the building must not be exposed to radiant heat levels exceeding 29kW/m² (1090K).	› an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1.

10.1.2 Proposed APZ Implementation

Table 9. Asset Protection Zone Requirements (PBP-19)

INNER APZ (IPA) IS TO CONSIDER THE FOLLOWING RECOMMENDATIONS (PBP 2019).	
The Inner APZ (IPA) is the managed area closest to the asset (eg. dwelling). The IPA is managed to minimal fuel conditions and aims to mitigate the impact of direct flame contact and radiant heat on the development. The IPA also aims to provide defendable space.	
TREES	
•	Canopy cover should be less than 15% (at maturity) within the Inner APZ.
•	Trees (at maturity) should not touch or overhang the building.
•	Lower limbs should be removed up to a height of 2m above ground.
•	Canopies should be separated by 2 to 5m.
•	Preference should be given to smooth barked and evergreen trees.
SHRUBS	
•	Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire to-wards buildings.
•	Shrubs should not be located under trees shrubs should not form more than 10% ground cover.
•	Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twicethe height of the vegetation.
GRASS	
•	Should be kept mown (as a guide grass should be kept to no more than 100mm in height).
•	Leaves and vegetation debris should be removed.
OUTER APZ (OPA) IS TO CONSIDER THE FOLLOWING RECOMMENDATIONS (PBP 2019).	
No Outer APZ (OPA) is included within the proposal.	
TREES	
•	Canopy cover should be less than 30% (at maturity) within the Outer APZ.
•	Trees should have canopy separation canopies should be separated by 2 to 5m.
SHRUBS	
•	Shrubs should not form a continuous canopy.
•	Shrubs should form no more than 20% of ground cover.

The performance criteria and acceptable solutions for the Asset Protection Zone Areas prepared for this development are presented here.

The below table identifies the ability of the proposal to comply with the specified Asset Protection Zone separation distances (performance criteria).

An inner APZ of 20m is provided to the front, landscaped area of the site (east). Leacocks Lane provides a minimum 13m separation from the reserve adjacent to the grassy woodland interface. An outer APZ is provided as grassland (20m) from the roadway to the grassy woodland hazard.

10.1.3 Performance Criteria APZ

Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities. Performance Criteria for Asset Protection Zones (PBP-19)

- APZs are to be provided commensurate with the construction of the building; and
- A defendable space is to be provided.
- APZs are to be managed and maintained to prevent the spread of a fire to the building.
- The APZ is to be provided in perpetuity.
- APZ maintenance is to be practical, soil stability is not compromised and the potential for crown fires is minimised.

Table 10. Performance Criteria – Asset Protection Zones (PBP-19)

Performance requirement PBP 2019, NSW RFS	Acceptable Solution	Compliance
• *A defendable space is provided onsite.* • *An asset protection zone is provided and maintained the prevent the spread of a fire towards the building* • *The APZ is provided in perpetuity* • *The APZ is provided wholly within the boundaries of the development site*	APZ determined in accordance with Table A1.12.2 PBP-2019 **Intent:** To provide sufficient space and maintain reduced fuel loads, so as to ensure radiant heat levels at buildings are below critical limits and to prevent direct flame contact with a building. Furthermore, to minimise the risk of bushfire attack and provide protection for emergency services personnel, residents & others assisting firefighting activities.	Yes – A minimum APZ distance requirement for grassy woodland Vegetation Type with the given ground slope is provided. Leacock's lane road width and road reserves provide a suitable APZ separation between the hazard to the site. All APZ distances provided are to be managed as IPA for the determined distances under the NSW RFS guidelines for implementing APZ's. All ground-slopes affecting both the site and the APZ areas are below 18 degrees. Road corridors are provided for lot access and internal access to the site. The APZ areas are provided within the boundaries of the development site.

10.2 Building Construction & Design

Design considerations for the buildings need to be addressed to ensure adequate protection. Construction standards for buildings exposed to bushfire attack are provided for various levels of radiant heat exposure, flame contact, ember attack and increased winds within AS3959-2018 and the NASH standard.

Table 11. Performance criteria for PBP – Building Construction

Performance requirement PBP 2019, NSW RFS	Acceptable Solution	Compliance
• *Buildings are sited and designed to minimise the risk of bush fire attack.* • *Building can with-stand bush fire attack in the form of embers, radiant heat & potential flame contact.* • *Buildings are sited and designed to minimise the risk of bush fire attack* • *Buildings are sited and designed to minimise Fences & gates are designed to minimise the spread of bush fire*	Suitable BAL is determined in accordance with tables A1.12.5 to A1.12.7. Construction performance is provided in accordance with the NCC – AS3959-2019 Class 10 a building's are constructed in accordance with section 8.3.2 **Intent:** To ensure building location and building design meet deemed to satisfy construction standards to ensure buildings are protected from bushfire attack.	The performance of a building should be enhanced through the prescribed siting & design principles: • Avoidance of ridge tops and saddles / YES. • Build on cut in benches, rather than elevated / YES • Avoid Raised Floors: Piers and rafters are concrete and steel materials with raised floor void covered in non-combustible ember proofing. / YES • Locate habitable buildings near the property entrance / YES

10.3 Construction Standards

The construction standards and associated performance criteria for infill development require that new buildings can withstand bushfire attack in the form of wind, smoke, embers, radiant heat and flame contact. PBP 2019 requires that the construction standards be determined in accordance with AS3959 – 2018 and the NASH (National Association of Steel-framed Housing) standards.

A building with any facade identified as requiring a construction level must build all facades to at least BAL 12.5kW/m². Where more than one facade is exposed to a hazard, then the facade with the highest construction requirement is used to determine the appropriate level of construction. All other facades may be reduced by one level of construction unless that facade is also subject to the same bush fire attack level.

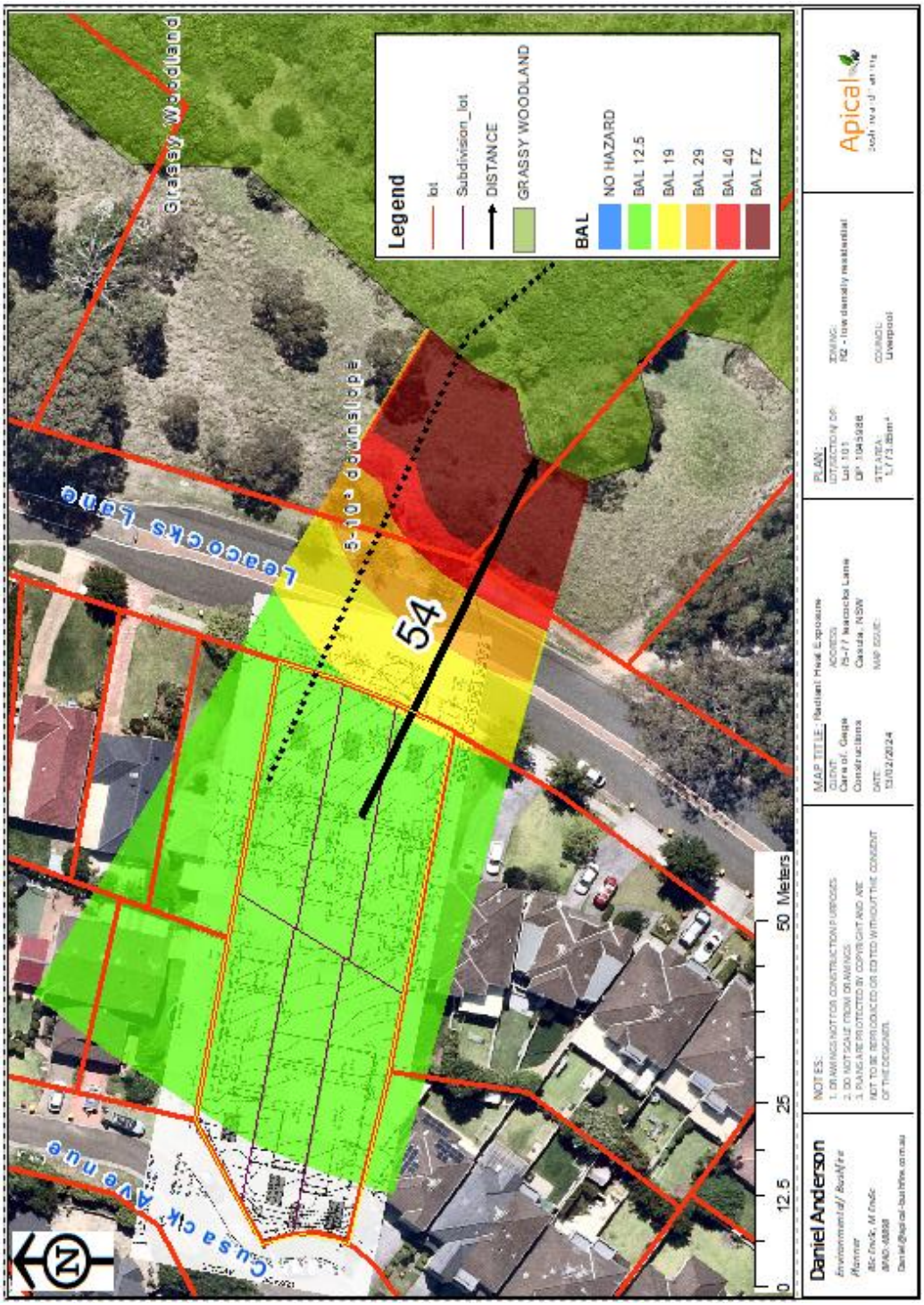
Table 12. AS-3959-2018 Construction Standards for each building footprint

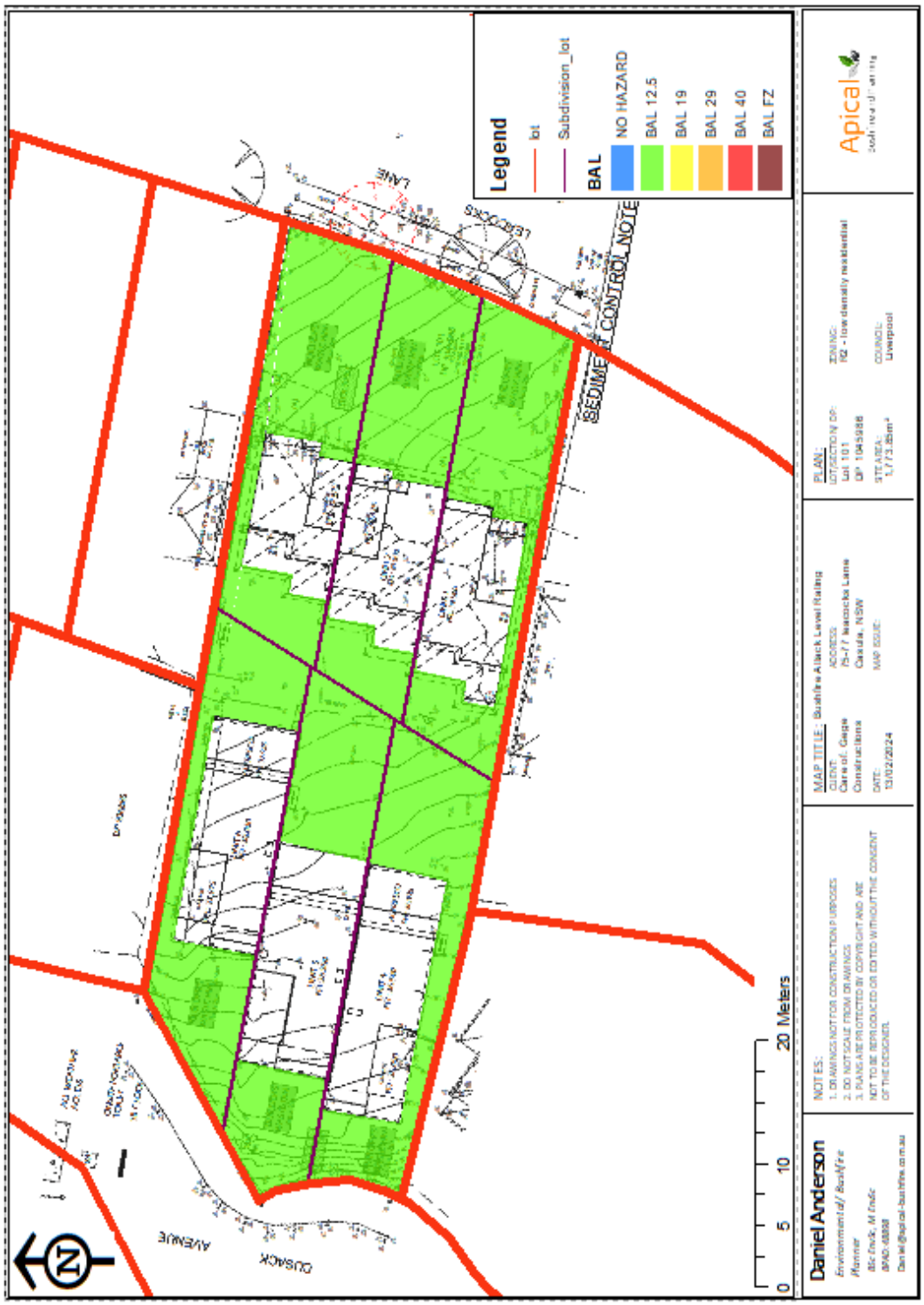
Lot/Facade	North	East	South	West
Lot A	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot B	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot C	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot D	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot E	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²
Lot F	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²	BAL 12.5 kW/m²

Table 13. Performance criteria for PBP – Building Construction Standards

Performance requirement PBP 2019, NSW RFS	Acceptable Solution	Compliance
in relation to construction standards: • *It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact.*	Construction determined in accordance with Table A1.12.5 – A1.12.7 PBP-2019 Building Construction Level has been determined at less than BAL 29 under AS3959-2018. **BAL 12.5 kW/m²**	Yes – Recommendations for building construction are referred to AS3959-2018. Sections 3 & 5 in AS-3959-2018 should be consulted. The construction of future dwellings as reviewed by this work has been designed to meet maximum BAL 12.5kw/m² exposures. Specific construction requirements for ember attack and radiant heat exposure are warranted.

Map image 9. Bushfire Factors affecting building envelopes and radiant heat exposure from adjacent grassy woodland hazard





Map Image 10. Construction Standards Persuant with AS-3959-2018

10.4 Access Requirements

The performance criteria and acceptable solutions for Public Roads or internal roads for 'Infill' developments in accordance with Appendix 3, PBP 2019 are provided in the below assessment table.

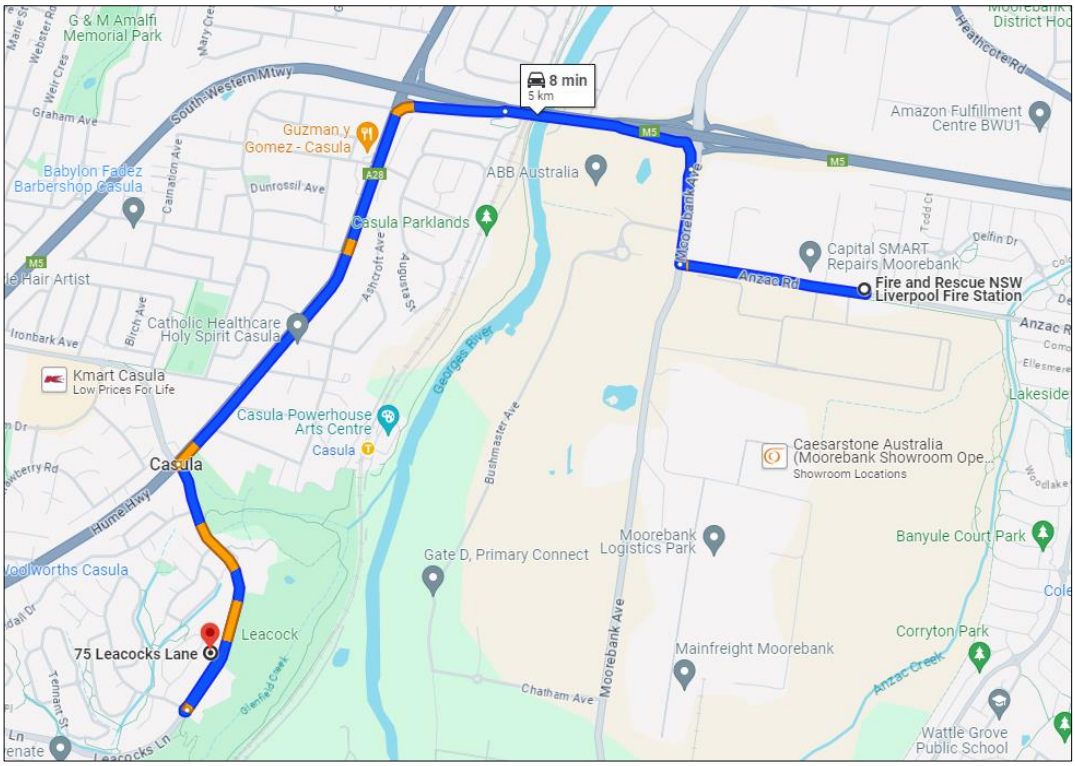
The intent of suitable access roads is to enable safe access and egress for residents to leave a dwelling under bushfire attack and for emergency service personnel to obtain clear and safe access to undertake firefighting operations.

The purpose of the road system for bushfire protection is:

- Provide firefighters with access to structures allowing for efficient use of firefighting resources.
- Provide evacuation routes
- Provide access to areas of bushfire hazard for firefighting and hazard mitigation purposes.

See below the travel routes and distances for firefigthing ordinates to get to the subject site from nearest NSW Fire & Rescue.

Map image 11. Access Provisions for emergency services



Fire and Rescue NSW Liverpool Fire Station is located approximately 5km from the subject location.

The driveway connection and vehicle turning bay will be constructed complying with **Australian Standards** (AS2890.1) which recommends domestic driveways are 3m minimum wide, with gradients not exceeding 10 degrees and cross slope falls not exceeding 3 degrees to maintain suitable firefighting access / egress.

Table 14. Performance Requirements – Site Access (PBP-19)

Performance requirement PBP 2019, NSW RFS	Acceptable Solution	Compliance
• safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire. *• Firefighting vehicles are provided with safe, all-weather access to structures. Vehicles can access the dwelling and exit the site safely.* *• The capacity of access roads is adequate for firefighting vehicles* *• Appropriate access to water supplies is available* *· access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.*	*Compliance with Appendix 3* Intent: To provide safe evacuation routes for residents fleeing a bushfire & provision of operational access to structures and water supply for emergency services. Roads to the site have appropriate capacity to support firefighting vehicles, turning bays and available water supplies are provided.	The site is located off Leacocks Lane and Cusack Avenue (public road system) The existing road provides two-way access. Each lot will be accessed via a sealed, private driveway. Australian Standards (AS2890.1) • Public Roads are two wheel drive all weather / YES • Maximum grades do not exceed 15 degrees with an average gradient not exceeding 10 degrees / YES • dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius/ N/A • Roll top curbing should be used upon the hazard side of the road / YES • Road surfaces, bridges, causeways upon access to the site are sufficient up to 23 tons to carry firefighting trucks / YES • Hydrants and water supplies are provided in accordance with AS2419:2005. For non-reticulated supplies a Cat 1 fire appliance can access to within 4m of a provide SWS source / N/A • Hydrants are provided outside of parking reserves and road carriageways / YES • Perimeter access road is linked to internal road / N/A • Public road has a cross fall >3 degrees / YES • 8m carriageway is provided kerb to kerb / N/A • The turning curves of roads have a minimum inner radius of 6m / YES • The grade for the access unsealed road does not exceed 10 degrees / YES • There is a minimum clearance height of (4) four meters above the road / YES • There are no bridges to restrict tanker access from local Townships to the site /YES

10.5 Water & Utility Services

The performance criteria and acceptable solutions for water, electricity and gas for residential subdivisions in accordance with Section 7 PBP 2019 are provided below. The intent of the measures is to provide adequate water services for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

Water supply:

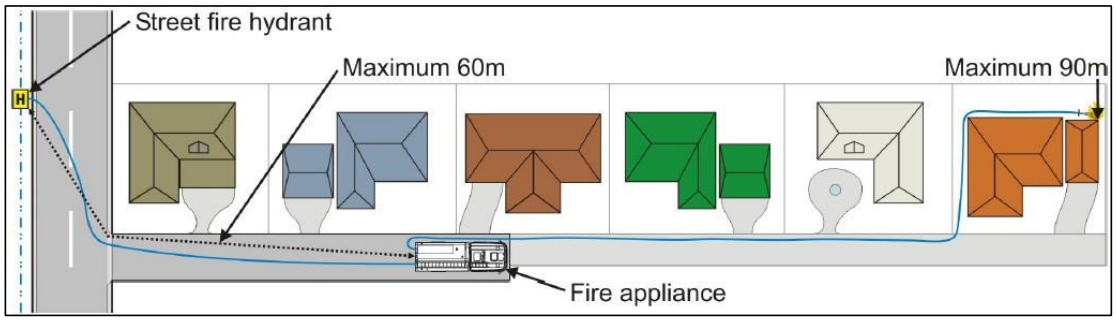
Section 6. Service Requirements – water.

Intent of measures: To provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fireto a building.

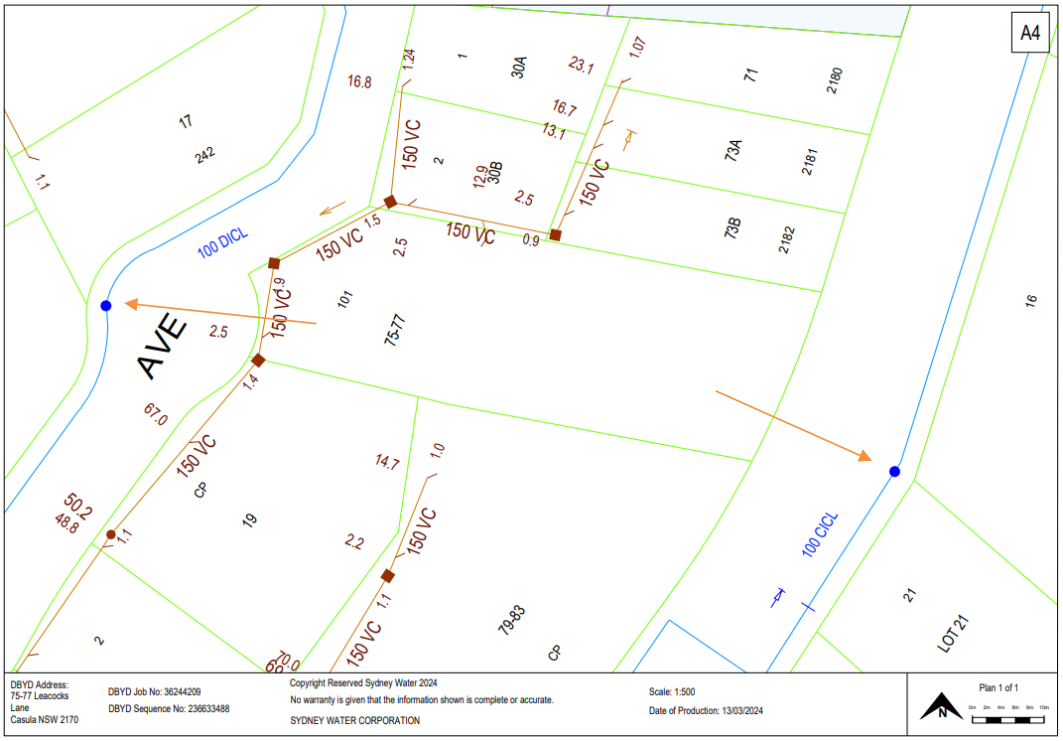
- An adequate water supply is to be provided for fire-fighting purposes.
- Water supplies are to be located at regular intervals.
- The water supply is to be accessible and reliable for fire-fighting operations.
- Flows and pressure are to be appropriate.
- The integrity of the water supply is to be maintained.
- A static water supply is to be provided for fire-fighting purposes in areas where reticulated water is not available.
- All above-ground water service pipes (including taps and connections) external to the building are to be metal.

The existing street hydrants are sufficient to cover the entirety of the building envelopes within the subject site (see map image 13).

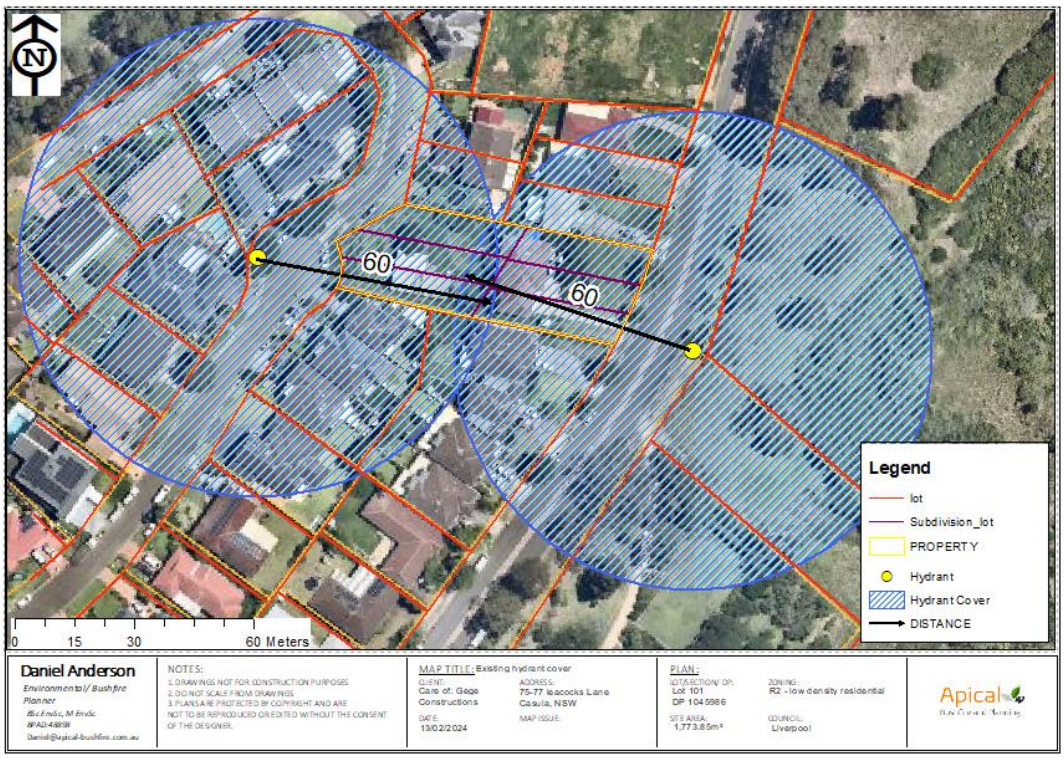
Figure 2. Extract from NSW Fire and Rescue requirements (2016).



Map image 12. Existing Street Hydrants (map provided by Sydney Water) Street Hydrant



Map Image 13. Street Hydrant Cover



Gas Supply:

Gas cylinder relief valves shall be directed away from the building and away from any hazardous materials such as firewood, etc. Gas bottles will be sited away from exposure to radiant heat sources. There must not be any polymer sheathed flexible gas supply lines to gas meters adjacent to a dwelling.

Electricity:

Table 15. Performance Criteria – Services (PBP-19)

PERFORMANCE CRITERIA (PBP 2019)	
Intent of measures: to provide adequate services of water for the protection of buildings during and afterthe passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.	
•	Location of electricity services is to limit the possibility of ignition of surrounding bush land or the fabric of buildings.
•	Location and design of gas services is not to not lead to the ignition of surrounding bushland or the fabric of buildings.
ELECTRICITY REQUIREMENTS	
•	Where practicable place electrical transmission lines are underground or,
•	If overhead electrical transmission lines are proposed:- lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and no part of a tree is closer to a power linethan the distance set out in accordance with the specifications in 'Vegetation Safety Clearances' issued by Energy Australia (NS179, April 2002).
•	No part of a tree is to be closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.
GAS REQUIREMENTS	
•	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is to be used.
•	All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
•	Connections to and from gas cylinders are to be metal.
•	Polymer-sheathed flexible gas supply lines are not to be used.
•	Above-ground gas service pipes are to be metal, including and up to any outlets.

Table 16. Compliance with PBP – Water & Utility Services

Performance requirement PBP 2019, NSW RFS	Acceptable Solution	Compliance
• *Adequate water and electricity services are provided for firefighting operations* • *A static water supply is provided for firefighting purposes. Water supply is accessible & reliable.* • *Water flows and pressures provided are appropriate.* • *The integrity of the water supply is maintained* • *Gas and electricity services are located so as not to contribute to the risk of fire to a building.* ***Electricity*** • *Location of electricity service limits the possibility of ignition with bushland or the fabric of the house.* ***Gas*** • *Location of gas service limits the possibility of ignition with bushland or the fabric of the house.*	*Compliance with section 7 PBP 2019 for services - water, electricity and gas.* **Intent:** To provide adequate services of water for the protection of buildings during and after the passage of a bushfire. An appropriate reticulated water supply must be provided to the subject site. To locate gas and electricity supplies so as not to contribute to the risk of a fire to a building.	• A water supply reserve dedicated to firefighting purposes is installed & maintained/ dedicated firefighting water supply required within subject site/N/A street hydrant sufficient • A suitable connection for firefighting purposes is available / access to street hydrant. • fire hydrant spacing, design and sizing comply with the Australian Standard AS 2419.1:2005 /yes • hydrants are not located within any road carriageway /No • fire hydrant flows and pressures comply with AS 2419.1:2005. • All above ground water pipes external to the building are metal, including taps & pumps are shielded / YES • Tanks located on the lower hazard side of a building are provided with adequate shielding for protection of firefighters / Yes • A connection to water supplies is located either within the IPA or non-hazard side of the dwelling. 65 mm storz outlets with ball valve is fitted. / street hydrant • Unobstructed access provided for water supplies at all times. / YES **Electricity:** • Where practical electricity transmission lines are underground / YES - There is serviced electricity supply to the site. (Underground). **Gas:** • If reticulated or bottled gas is installed, must be maintained in accordance with AS1596, metal piping is to be used / YES • All fixed gas cylinders are kept clear of flammable materials to 10 meters and shielded on the hazard side. / YES • Gas cylinders need to be kept close to the building, the release valves are directed away from the building, away from any combustible materials by 2m with metal connections / YES • Polymer sheathed flexible gas supply lines are **Not** to be used / YES

10.6 Landscaping

The performance criteria for landscaping to be designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions. PBP 2019 states that "the principles of landscaping for bushfire protection aim to:

- Prevent flame impingement on the dwelling;
- Provide a defendable space for property protection;
- Reduce fire spread;
- Deflect and filter embers;
- Provide shelter from radiant heat; and
- Reduce wind speed".

It is recommended that any future landscaping be designed and maintained in accordance with the following practices:

- maintaining a clear area of low-cut lawn or pavement adjacent to the house;
- keeping areas under fences, fence posts and gates and trees raked and cleared of fuel;
- utilising non-combustible fencing and retaining walls;
- breaking up the canopy of trees and shrubs with defined garden beds;
- Organic mulch should not be used in bushfire prone areas and non-flammable material should be used as ground cover, eg Scoria, pebbles, recycled crushed bricks.
- planting trees and shrubs such that:
  - the branches will not overhang the roof;
  - the tree canopy is not continuous.
- Fencing – boundary fencing will be constructed using non-flammable materials, such as colourbond steel.

Table 17. Performance Criteria – Landscaping (PBP-19)

Performance requirement	Acceptable Solution	Compliance
• *it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions.*	Compliance with Section 7 PBP-2019 **Intent:** Principles of landscaping & site maintenance are key factors in protecting human life, property and environmental values from the impacts of bushfire. To effectively protect buildings strategies must be implemented to minimize impacts from ember, wind, flame & heat attack.	The site / landscape plan developed for this proposal has considered the following bushfire management factors to ensure landscaping outcomes meet the below criteria. Design compliance with NSW RFS Asset Protection Zone Standards' / YES A clear area of lawn or pavement is maintained adjacent to the house / YES Tree branches will NOT overhanging the roof, tree canopy is NOT continuous, windbreaks or hedges are Not planted to increase connectivity to the house from existing fuel sources. / YES Prevent flame impingement on the dwelling / YES Provide a defendable space for property protection / YES Reduce Fire Spread / YES Deflect & Filter Embers / YES Provide Shelter from radiant heat / YES Reduce wind Speed / YES Do Not allow for vegetation branches to overhang the roof, avoid continuous hedge rows and reduce canopy cover nearby to the house. / YES

Table 18. Site Bushfire Features

Photo ID:	Hazard	**Plot:**	Eastern	
Vegetation Classification or Exclusion Clause				
Class B Woodland - Woodland B-05				
Description / Justification for Classification				
Eastern bushfire fuel hazard presented >60m from eastern façade of eastern lots. Vegetation runs down to Glenfield reek.				
Photo ID:	Street Hydrant	**Plot:**	Leacocks Lane	
Description / Justification for Classification				
Street Hydrant located across Leacocks Lane to front of subject site.				

Photo ID:	hazard	**Plot:**	southeast
Description / Justification for Classification			
Grassy woodland vegetation hazard – southeast.			

11 COMPLIANCE WITH PERFORMANCE CRITERIA

All development on Bushfire Prone Land must satisfy the aims and objectives of PBP 2019.

Table 19 below presents commentary on the key interventions and compliance measures presented in this report with reference to the specific objectives of PBP 2019 NSW-RFS.

It is pertinent that the key bushfire protection measures described herein, be implemented by the proponent and the referred standards and measures for the construction of the buildings be consulted and met to ensure that this development can provide adequate bushfire protection.

Table 19.Compliance with the specific objectives of PBP 2019.

PBP 2019 Specific Objective	Assessment / Comment
Afford occupants of any building adequate protection from exposure to a bushfire.	Site can provide suitable bushfire exposure protection through the applied construction requirements – as presented under the NCC and AS3959-2018.
Provide for a defendable space to be located around buildings.	Minimal clearing of vegetation within the site is required to allow for the built elements of the proposal. No clearing is required for bushfire protection. Separations from surrounding vegetation hazards are considered sufficient to allow for emergency services to defend the property in case of an emergency.
Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition.	Site access, site parking and clear defendable space are suitable under the proposal to the front (east and west). Access to the property for firefighting and access to the reticulated water network are suitably represented by the proposal.
Ensure that safe operational access and egress for emergency service personnel and residents is available.	Maintenance to the lawns and garden areas surrounding the home dwellings is recommended to provide suitable firefighting space and reduced vegetation flammability via application of APZ areas.
Ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bushfire fighting).	Site can provide suitable bushfire exposure protection through the applied construction requirements – as presented under the NCC and AS3959-2018. Water supply from existing street hydrants is sufficient as per the performance requirements of PBP-19 (see map image 13).

12 ADDITIONAL REQUIREMENTS

Fence & Gates

Fences & gates in bush fire prone areas may play a significant role in the vulnerability of structures during bushfires. All fences in bushfire prone areas should be made of either hardwood or non-combustible material only. In circumstances where the fence is within 6m of a building in areas of BAL-29 or greater they should only be made from non-combustible materials.

CONSULTANT DECLARATION						
I/We declare that all the information in the application and checklist is, to the best of my/our knowledge, true and correct. This Certificate has been prepared for the owner of the land by Apical Bushfire & Planning Pty Ltd, in accordance with; Planning for Bushfire Protection - A Guide for Councils, Planners, Fire Authorities and Developers, 2019 & 2019 NSW Rural Fire Service (RFS), Planning NSW and, Australian Standard AS3959-2019 Building in Bushfire Prone Areas.						
Certifier(s) Name – Daniel Anderson						Date – 15/03/2024
B-PAD 48898 – Level II						
Signature(s)	[redacted]					
Please indicate	X	PBP Practitioner	X	Landholder		Other - Associate

Note: All owner(s) of the land, the subject of this application, must sign this form. *If you are not the owner of the land, you must have all the owners sign the application.*

Note: *If signing on the owner's behalf, please state your legal authority and provide documentary evidence (e.g., copy of power of attorney, trust deed etc).* ***Note:*** *In the case of land that is the subject of a strata scheme under the Strata Schemes (Freehold Development) Act 1973 or the Strata Schemes (Leasehold Development) Act 1986, the owners corporation for that scheme must be constituted under the Strata Schemes Management Act 1996.A development application for a lot in a strata plan does not require the consent of the Body Corporate when that work does not affect any common property.*

Note: *In the case of land that is a community, precinct or neighborhood parcel within the meaning of the Community Land Development Act 1989, the association for the parcel must provide consent.*

Note: *If signing on behalf of a corporate body or company, the application should be signed by an authorised person under common seal and the position of that*
person in the corporate body or company must be stated on the form. Alternatively, the Common Seal is not required if two Directors or authorised persons sign the application form, or if you are a sole Director.

CONDITIONS
This certificate should only be used for the purpose for which it was expressly prepared and shall not be reproduced by any third party in part or full without the permission of Apical Bushfire & Planning Pty Ltd. The information and data collected to support the BAL determination was collected to the best of our knowledge, verified through supported on-ground site assessment methodologies and reflect the proposal (provided by the proponents) and site conditions (presented by the site) at the time of the assessment.

13 BIBLIOGRAPHY

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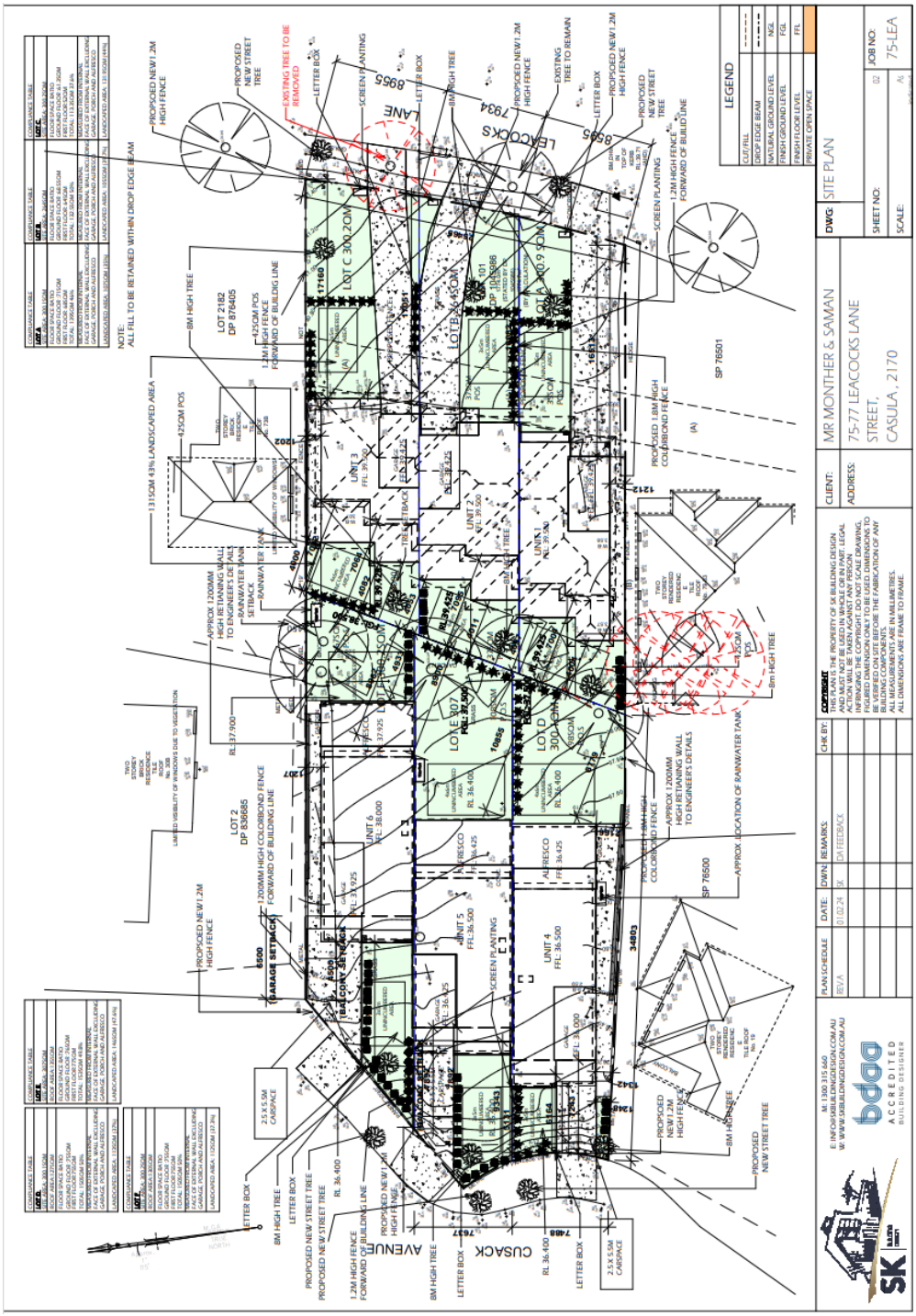
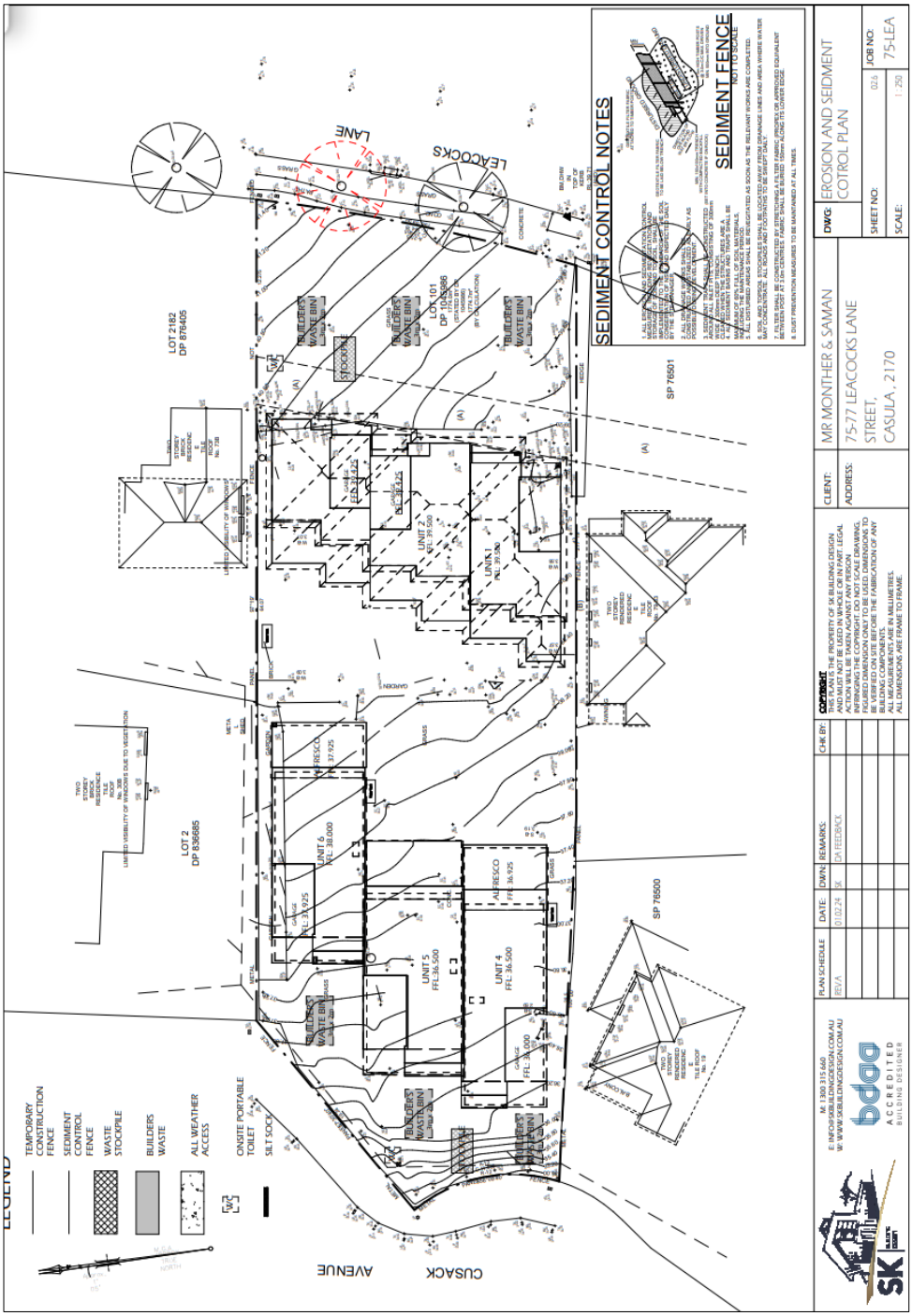
APPENDIX A. Siting and Layout Plan

Map Image A.1. Proposed subdivision Plan and placement of building envelopes (SK Building Design)



Map Image A.2. Sitting and layout Plan (SK Building Design)



TRAFFIC AND PARKING STATEMENT

Proposed Residential Development

75-77 Leacocks Lane, Casula

Prepared for: GEGE Constructions Pty Ltd

N244016A Version 1a

January 2024

Motion Traffic Engineers Pty Ltd

Telephone: 940 33588

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1.Introduction

Motion Traffic Engineers was commissioned by Mr Monther and Saman to undertake a traffic and parking impact statement for a proposed residential development at 75-77 Leacocks Lane in Casula. The site has frontage to Cusack Avenue and Leacocks Lane.

The site is currently a single house. The surrounding land use is primarily residential with Leacock Regional Park located opposite to Leacock Lane. Glenfield Farm is located on the south-east of the proposed site. The residential development has two site frontages for vehicle access/egress of units 1 to 3 via Leacocks lane and units 4 to 6 via Cussock Avenue.

This report focuses on the proposed Residential development and changes in car usage and car park utilisation of the proposed Residential development.

In the course of preparing this assessment, the proposed residential development and its environs have been inspected, plans of the development examined.

2.Background and Existing Conditions

2.1. Location and Land Use

The proposed residential development is within low density residential zone. The immediate surrounding land uses are mainly residential development on the north and south of the proposed site development. All Saints Catholic College is located nearby.

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

Figure 1: Location of the Proposed Residential Development on Aerial view

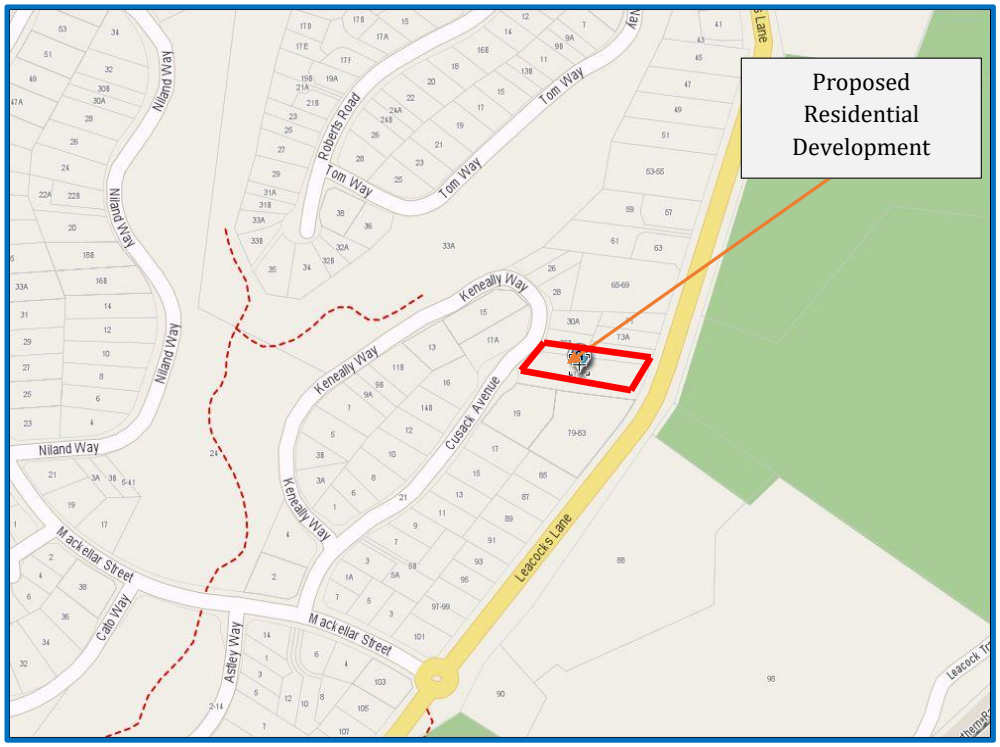

Figure 2: Location of the Proposed Residential Development Street Map

2.2. Road Network

This section describes the nearby roads near the proposed residential development.

Leacocks Lane is a collector road with one lane of traffic each way at midblock and a default speed limit of 50km/hr. A flush centre island separates the opposing lanes. Leacocks Lane in configured in a north-south direction, connecting Hume Highway (A28) to the both ends. Time unrestricted for on -street parking is permitted on both sides of the road.

Cussock Avenue is a local road with one lane each way and has a default speed limit of 50 km/hr. Cussock Avenue is configured east to west and on -street parking with no time restriction is permitted on both sides of the road.

2.3.Public Transport

The proposed residential development is located within 400 metres from the bus stop located on Leacocks Lane These bus stops are serviced by bus route 857, 870 and 871. These services provide transport to suburbs including Narellan, Camden Valley and Liverpool.

Overall, the site has good access to the public transport. Figure 5a shows the public transport map with respect to the location of the proposed residential development.

Figure 5b: Bus route 871 and Proposed Site Location

2.4. Intersection Description

As part of the traffic impact assessment, the performance of two nearby intersections was surveyed and assessed:

- Signalised intersection of Hume Highway with Kurrajong Road and Leacocks Lane
- Roundabout intersection of Leacocks Lane with Mackellar Street

External traffic travelling to and from the development is likely to travel through one of the intersections above.

The signalised intersection of Hume Highway with Kurrajong Road and Leacocks Lane is a four-leg intersection with all turn movements permitted. Right turn only lanes are provided on Hume Highway. Pedestrian crossings are provided on all approaches except for Hume Highway south east arm. Figure 6a presents the layout of this intersection using SIDRA 9.1– an industry standard intersection assessment software and Figure 6b represents the aerial view of the intersection. The number on the lanes represents the length of short lanes in metres.

The roundabout intersection of Leacocks Lane with Mackellar Street is a three leg intersection with one circulation lane and all turn movements permitted. Drivers on Mackellar Street should give way to traffic on Leacocks Lane Figure 6c presents the layout of this intersection using SIDRA 9.1 and Figure 6d represents the aerial view of the intersection. The number on the island represents the diameter in metres.

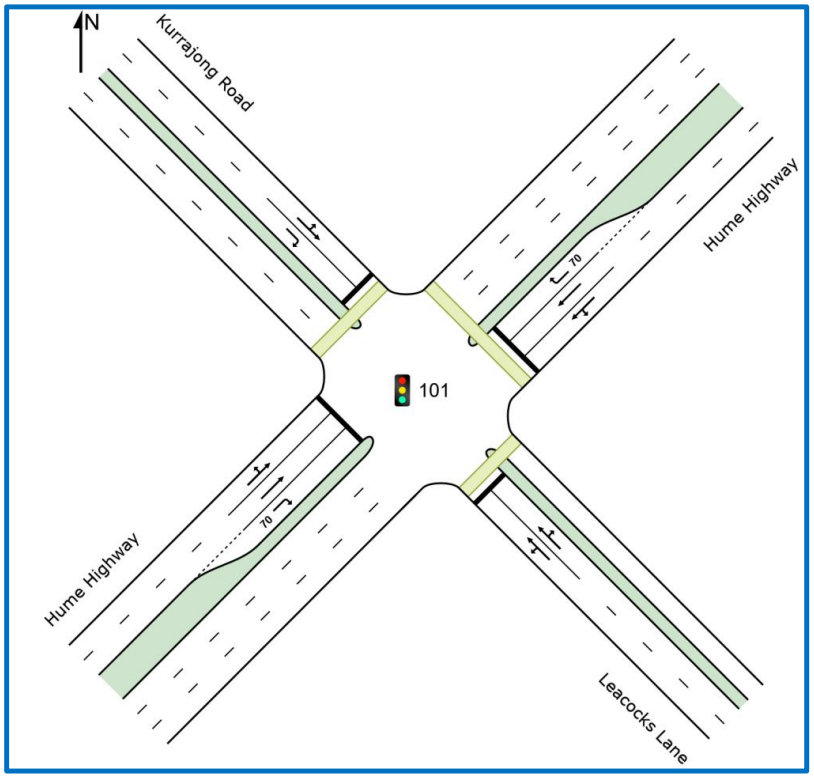

Figure 6a: Hume Highway with Kurrajong Road Leacocks Lane (SIDRA)

Figure 6b: Hume Highway with Kurrajong Road Leacocks Lane Aerial View

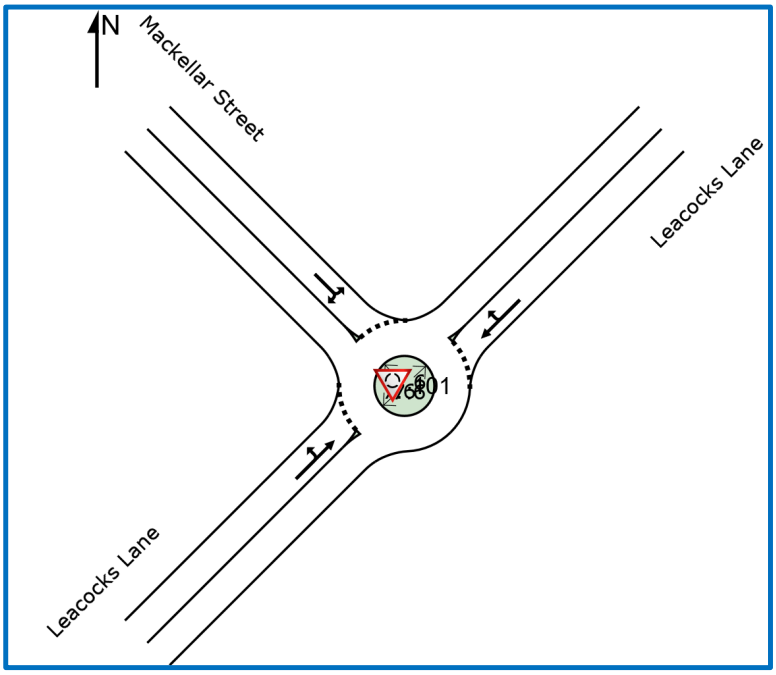

Figure 6c: Leacocks Lane with Mackellar Street (SIDRA)

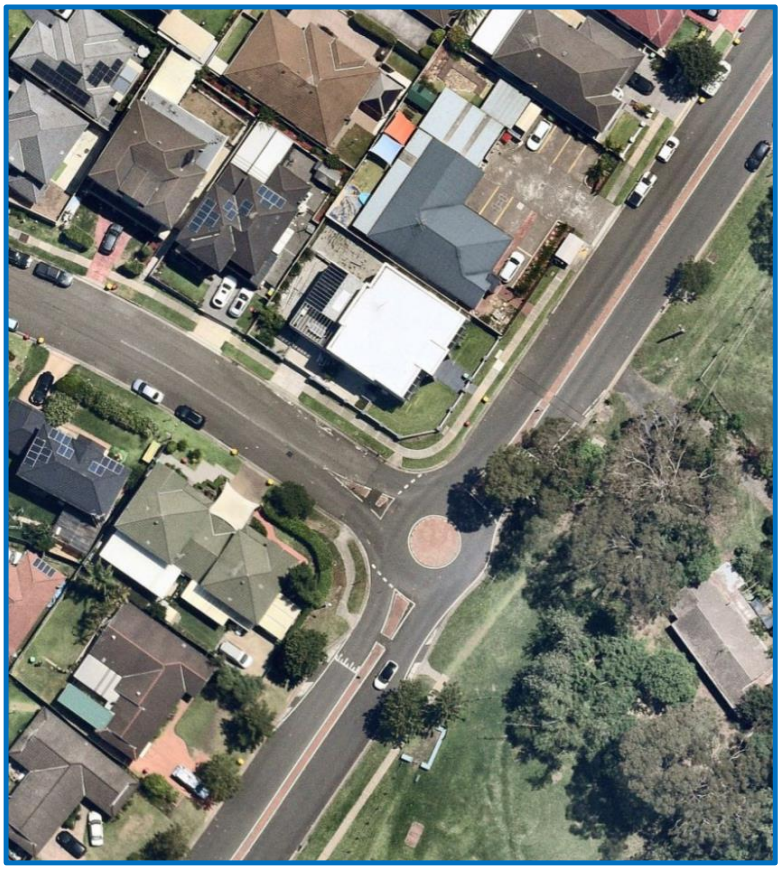

Figure 6d: Leacocks Lane with Mackellar Street Aerial View

The signalised intersection of Hume Highway with Kurrajong Road and Leacocks Lane experiences acceptable delays and queues in the weekday peak hours with an observed Level of Service C.

The roundabout intersection of Leacocks Lane with Mackellar Street has an excellent level of Service for the weekday peak hours.

2.5. On-Street Parking

On-street parking is available on Cusack Avenue and on Leacocks Lane. The on-street parking is time unrestricted. A driver needs to undertake minimal circulation to find a vacant car space. Many of the nearby dwellings have on-site parking and the tenants do not necessarily need to park on street.

2.6.Existing Conditions

The nearby intersection performs well with spare capacity.

The proposed residential development has access to bus services with bus service on Leacocks Lane.

Vacant on-street car spaces are available on Cusack Avenue and on Leacocks Lane.

3. Proposed Residential Development

A description of the for which approval is now sought features the following elements:

- Demolition of existing structures and buildings
- Construction of a six-two storey attached dwellings

The proposed residential development will consist of the following components:

Units 1 to 3

- Two-Four bedrooms and One-Three Bedroom

Units 4 to 6

- Three – four bedrooms

Each of the dwellings are over 100m2.

3.1. Parking and Vehicle Access

- Each dwelling has single car space garage. The open area in front of the garage allows for a second car to park.

The residential development has two site frontages for vehicle access/egress of units 1 to 3 via Leacocks lane and units 4 to 6 via Cussack Avenue.

A full scaled plan of the proposed residential development provided as part of the Development Application Approval.

4. Parking Requirements

4.1. Car Parking

The *Liverpool Councill Development Control Plan (DCP) 2008, amended 2019* states the following minimum car parking requirements as it applies to this proposed residential development as multi dwelling purposes.

- 2 spaces dwelling with a floor space greater than 100m2

Each of the dwellings have two car spaces and hence the residential development complies with Council's car parking requirements.

5. Traffic Generation and Impact

5.1. Traffic Generation

The *NSW RTA Guide to Traffic Generating Developments* 2002 publishes trip generation rates for residential dwellings for as follows for the peak hours:

Dwelling Houses

- 0.85 trips per dwelling in both AM/PM peak hours for three bedrooms units
- 0.9 trips per dwelling in both AM/PM peak hours for four bedrooms units

Table 5 and 6 presents the weekday peak hour trip generation for the proposed conditions respectively. The generated trips in the peak hour are low.

Type	Number of Units/Area GFA (M2)	Trip Generation rate (per 100 m	Trips Generated
Three Bedroom	1	0.85	1
Four Bedroom	5	0.9	5
		Total	6

Table 5: Projected Trips Generation of the Proposed Residential Development

5.2.Traffic Distribution

The generated trips by the proposed residential development are distributed using the following assumptions: 90 percent outbound and 10 percent inbound for the AM peak hour and presented in Table 8. The proposed residential is a low trip generator.

	Origin	Destination	Total
AM Peak Hour	5	1	6
PM Peak Hour	1	5	6

Table 8: Trips Distribution for the Residential traffic

5.3. Existing with Residential Traffic

The additional development trips are assigned onto the local traffic network. The following figures present the future traffic volume with the development trips (in red for origin trips and blue for destination trips) for the weekday AM and PM peak hours. The additional trips on the two nearby intersections will have no impact upon the overall intersection level of service. There will be minimal impacts on delays, congestion and queues.

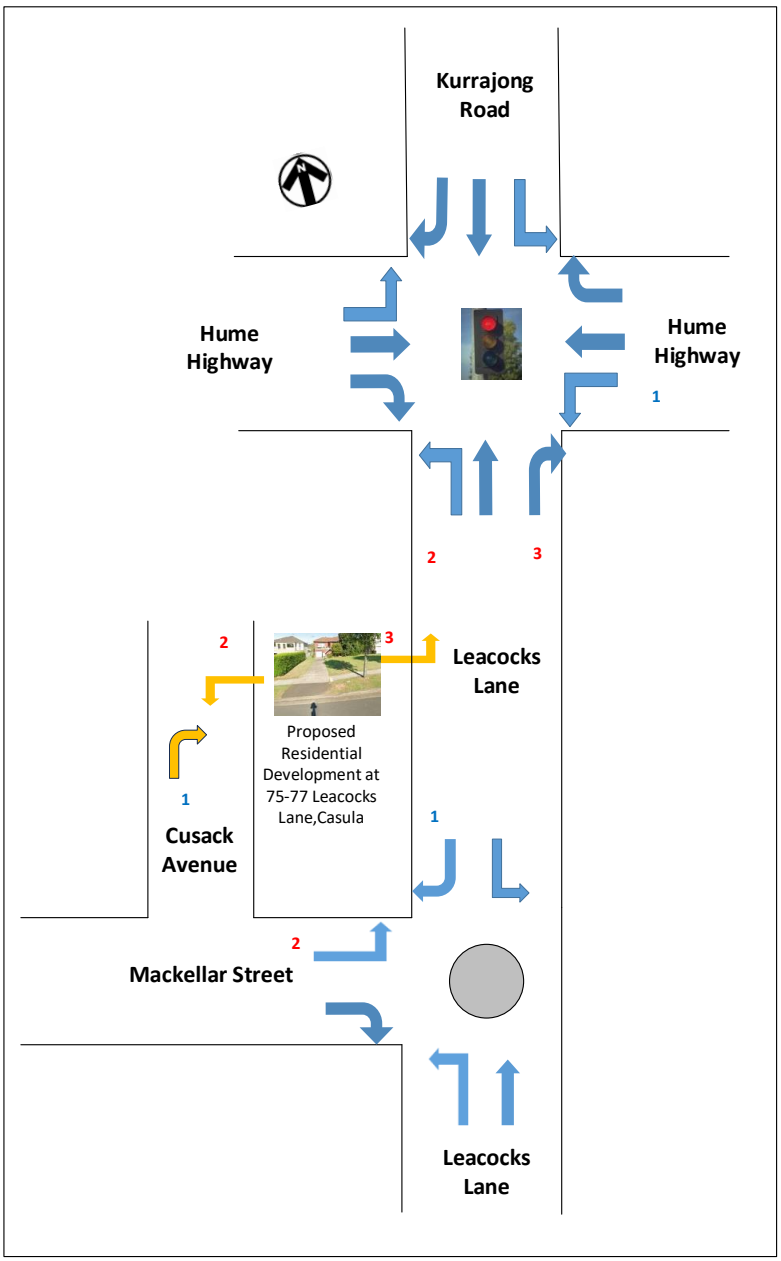

Figure 10a: Existing Weekday Traffic Volumes with Residential Traffic AM Peak Hour

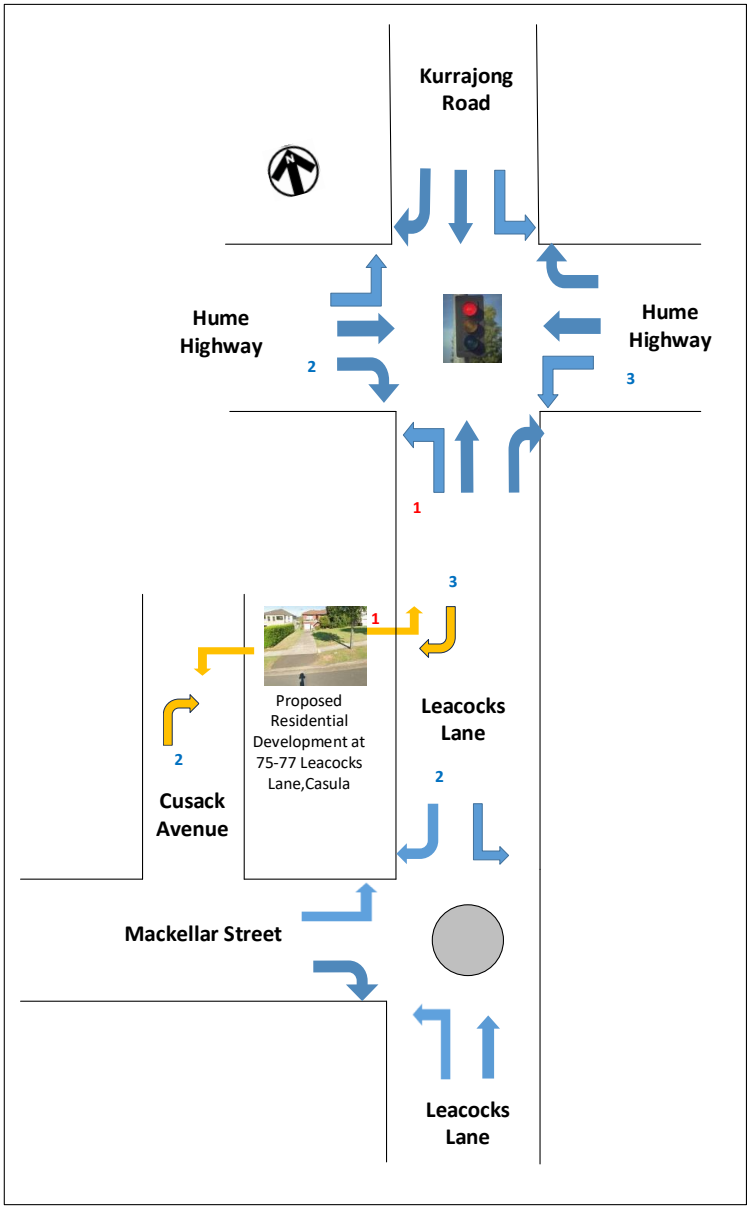

Figure 10b: Existing Weekday Traffic Volumes with Residential Traffic PM Peak Hour

6. Conclusions

This traffic statement relates to a proposed residential development at 75-77 Leacocks Lane in Casula. Based on the analysis and discussions presented in this report, the following conclusions are made:

- The site is located in a residential area with access to local bus services.
- The surrounding intersection currently operates at good Level of Service.
- The proposed residential development complies with council's car parking requirements.
- The proposed residential development is a low trip generator in the weekday peak hours
- The additional trips generated will not have a noticeable impact upon the adjacent intersections and road network.

There are no traffic engineering reasons why a development consent can be refused for the proposed residential development at 75-77 Leacocks Lane should be refused.

75-77 Leacocks Lane Casula NSW 2170
Arboricultural Impact Assessment

Prepared for Gege Constructions

Arbor Express
0466 586 842
www.arbor-express.com.au

Arboriculture Impact Assessment
75-77 Leacocks Lane Casula NSW 2170

Document Tracking

Project Name	75-77 Leacocks Lane Casula NSW 2170 Arboricultural Impact Assessment
Project Number	AIA24012675
Prepared by	Robert de Jong – AQF Level 5 Arborist
Status	Final
Version	v1
Last saved on	26/01/2024

This report should be cited as 'Arbor Express 75-77 Leacocks Lane Casula NSW 2170 Arboricultural Impact Assessment prepared for Gege Constructions'

ACKNOWLEDGEMENTS

This document has been prepared by Arbor Express Pty Ltd with support from Gege Constructions

Disclaimer
I do not assume responsibility for liability associated with the tree on/or adjacent to this project site, the future demise and/or any damage which may result therefrom. They take care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others. I cannot be held responsible for any consequences as result of work carried out outside specifications, not in compliance with Australian Standards or by inappropriately qualified staff. If further investigations such as, aerial, drill and root tests are recommended, the report shall not be considered final until all investigations have been completed as further defects may be found. I have made every effort to accurately identify the current tree health and hazards. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure, not all these symptoms are visible. There can be hidden defects that may result in a failure even though it would seem that other, more obvious defects would be the likely cause of failure. All standing trees have an element of unpredictable risk. The inspection was limited to a visual ground examination of the tree, without aerial inspections and below ground excavations. The assessments are limited and do not include specialized analysis. No internal diagnostics, aerial inspection and pathology test were conducted. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale.

Arbor Express

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Abbreviations

Abbreviation	Description
AE	Arbor Express
AIA	Arboricultural Impact Assessment
AQF	Australian Qualifications Framework
AS	Australian Standards
C	Canopy
DAB	Diameter Above Buttress
DBH	Diameter at Breast Height
H	Height
m	Metre
mm	Millimetre
NDE	Non-Destructive Excavation
NO	Number
NSW	New South Wales
SRZ	Structural Root Zone
TPP	Tree Protection Plan
TPZ	Tree Protection Zone
VTA	Visual Tree Assessment

1. Introduction

This AIA has been prepared for Gege Constructions in relation to a proposed development at 75-77 Leacocks Lane Casula NSW 2170. The address of the subject site is in Table 1 and mapped in Figure 1. The purpose of this report is to:

- Identify the trees within the site and adjacent surrounding area that are likely to be affected by the proposed development.
- Undertake a visual tree assessment of the subject trees.
- Assess the current overall health and condition of the subject trees.
- Evaluate the retention value of the subject trees.
- Identify trees to be removed, retained or transplanted.
- Determine the likely impacts of trees to be retained.
- Recommend tree protection measures to minimise the impacts to retained trees.
- Preparation of a tree protection plan for trees to be retained (if applicable).

Features of the subject site are tabulated below.

Table 1: Development site

Criteria	Description
Street address	75-77 Leacocks Lane Casula NSW 2170
Local government area	Liverpool City Council
Land zoning	R2: Low Density Residential
Biodiversity values map	The site is not in a high biodiversity area
10/50 entitlement	The site does not have a 10/50 entitlement

Figure 1: Location

2. Method

Visual Tree Assessment

The subject trees were assessed in accordance with a stage one visual tree assessment (VTA) as formulated by Mattheck and Breloer (1994)[1], and practices consistent with modern arboriculture.

A total of 19 subject trees were inspection on 24 January 2024.

The following limitations apply to this methodology:

- Trees were inspected from ground level, without the use of any invasive or diagnostic tools and testing.
- Tree height and canopy spread were estimated unless otherwise stated.
- Trees were inspected within limits of site access.
- No aerial inspections or root mapping was undertaken.
- Trees within adjacent properties or restricted areas were not subject to a complete visual inspection (i.e., defects and abnormalities may be present but not recorded).
- Tree identification was based on broad taxonomical features present and visible from ground level at the time of inspection.

Retention Values

The retention value of a tree or group of trees is determined using a combination of environmental, cultural, physical and social values.

- **High:** Priority for retention. These trees are considered important and should be retained and protected if possible. Design modifications or re-location of building/s should be considered to accommodate the setbacks as prescribed by Australian Standard AS 4970-2009 Protection of trees on development sites.
- **Medium:** Consider for retention. These trees are moderately important for retention. Their removal should only be considered if adversely affected by the proposed works and all other alternatives have been considered and exhausted.
- **Low:** Consider for removal. These trees are not considered important for retention, nor require special works or design modifications to be implemented for their retention.
- **Very Low:** These trees are considered to be potentially hazardous or very poor specimens or may be environmental or noxious weeds. The removal of these trees is therefore recommended regardless of the implications of any proposed development.

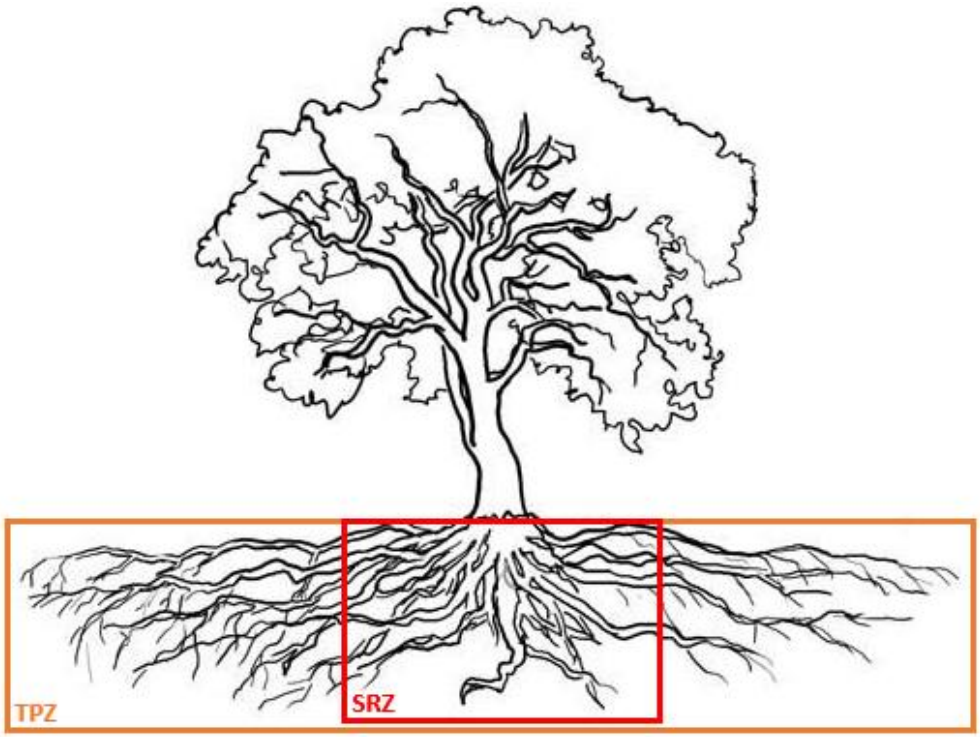
[1] VTA is an internationally recognised practice in the visual assessment of trees as formulated by Mattheck & Breloer (1994). Principle explanations and illustrations are contained within the publication, Field Guide for Visual Tree Assessment by Mattheck, C., and Breloer, H. Arboricultural Journa1, Vol 18 pp 1-23 (1994).

Protection Zones

Tree Protection Zone (TPZ): The TPZ, which refers to a specific area both above and below ground and at a distance from the trunk, is designated for the protection of a tree's roots and crown. Its purpose is to ensure the vitality and stability of a tree that is potentially at risk of damage due to development activities. The TPZ necessitates restricted access during the development process. It is possible to include groups of trees with overlapping TPZs within a single protection area. If work is to proceed within the TPZ, tree-sensitive measures must be implemented.

Structural Root Zone (SRZ): The SRZ is the area of the root system (as defined by AS 4970-2009) used for stability, mechanical support, and anchorage of the tree. Severance of structural roots (>40 mm in diameter) within the SRZ is not recommended as it may lead to the destabilisation and/or decline of the tree.

Figure 2: Indicative TPZ and SRZ

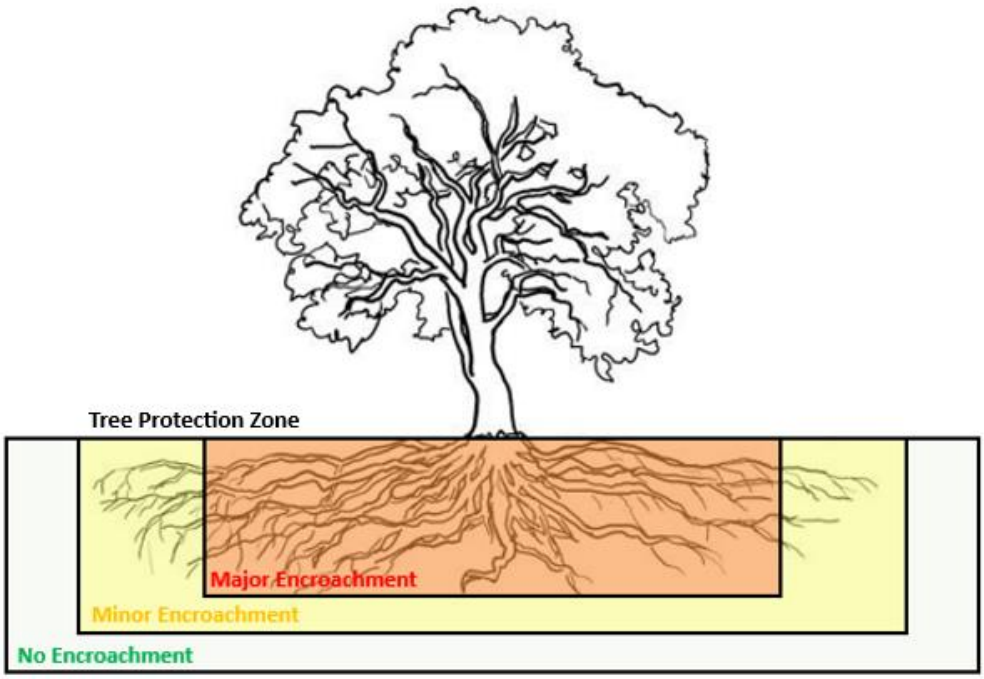


Impact Assessment

Trees can face potential harm from both physical and chemical damage to their roots or above-ground components. Instances of such damage include impacts related to site grading, soil compaction, excavation, and stockpiling within the Tree Protection Zone (TPZ). Additionally, alterations in site hydrology, changes in soil level, and site contamination can also contribute to adverse effects. The degree of encroachment into the TPZ and SRZ serves as a crucial factor in determining the potential level of impact. AS 4970-2009 defines types of encroachment as follows and as illustrated in Appendix E:

- **Minor encroachment**: if the proposed encroachment is less than 10% of the TPZ, and outside of the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.
- **Major encroachment**: If the proposed encroachment is greater than 10% of the TPZ, it must be demonstrated that the tree(s) remain viable. The area lost to this encroachment should be compensated for elsewhere and be contiguous with the TPZ. Root investigation by non-destructive methods may be required for any proposed works within this area.

Figure 3: Indicative zones of encroachment within the TPZ



3. Tree Schedule

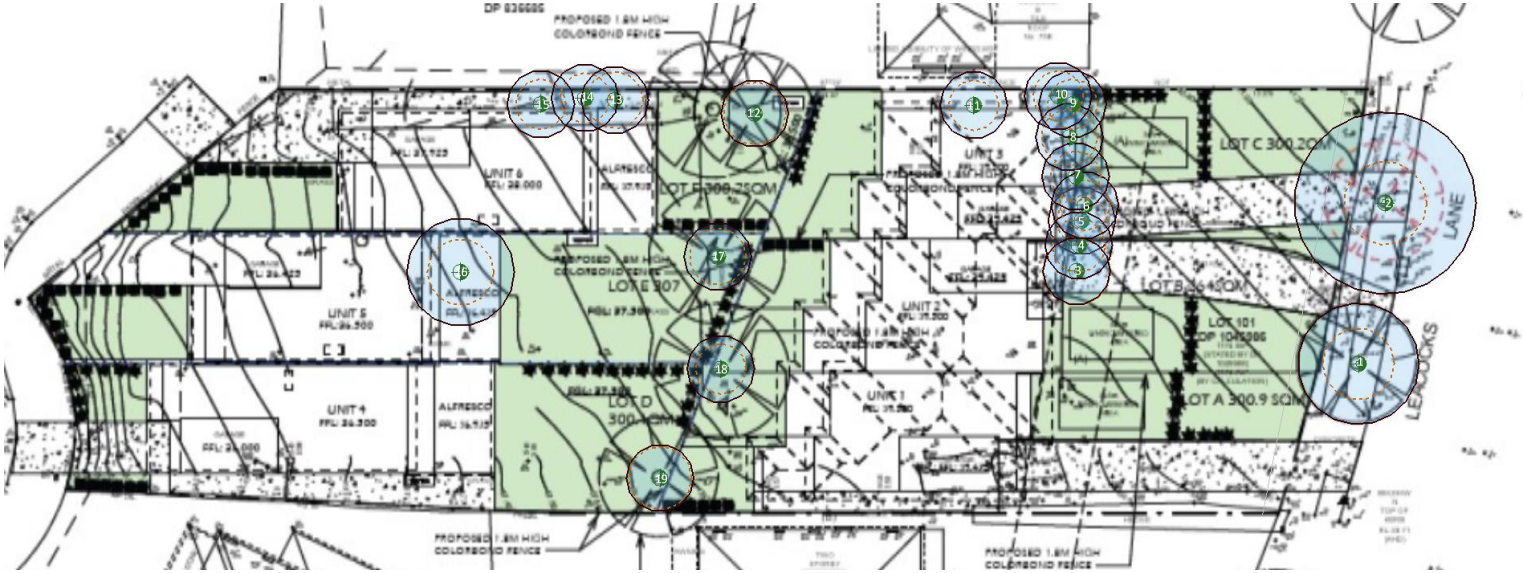
Tree #	*Botanical Name* (Common Name)	Height (m)	Canopy (m)	DBH (mm)	DAB (mm)	TPZ SRZ (m)	TPZ Encroachment	SULE	Retention Value	Action
1	*Liquidambar styraciflua* (Sweetgum)	10	6	300	350	3.60 2.10	14.2%	2A	Moderate	Retain
2	*Liquidambar styraciflua* (Sweetgum)	10	8	450	500	5.40 2.50	100.0%	2A	Moderate	Remove
3	*Syzygium smithii* (Lilly Pilly)	5	4	127	312	2.00 2.00	100.0%	2A	Moderate	Remove
4	*Syzygium smithii* (Lilly Pilly)	5	4	50 75 50	178	2.00 1.60	100.0%	2A	Moderate	Remove
5	*Olea europaea* (Olive)	6	3	89	70	2.00 1.50	100.0%	3A	Low	Remove
6	*Viburnum tinus* (Laurustinus)	3	2	32	64	2.00 1.50	100.0%	3A	Low	Remove
7	*Olea europaea* (Olive)	6	5	64	134	2.00 1.50	100.0%	3A	Low	Remove
8	*Melaleuca viminalis* (Weeping Bottlebrush)	5	4	127	197	2.00 1.70	100.0%	2A	Moderate	Remove
9	*Ligustrum vulgare* (Privet)	7	4	115	137	2.00 1.50	100.0%	3A	Low	Remove
10	*Viburnum tinus* (Laurustinus)	5	5	64	96	2.00 1.50	100.0%	3A	Low	Remove
11	*Viburnum tinus* (Laurustinus)	5	5	64	96	2.00 1.50	100.0%	3A	Low	Remove
12	*Cydonia oblonga* (Quince)	5	5	Multi stem	255	2.00 1.90	0.0%	3A	Low	Retain
13	*Citrus × limon* (Lemon)	5	4	Multi stem	201	Approx 2.00 1.70	100.0%	3A	Low	Remove
14	*Citrus × limon* (Lemon)	4	3	108	134	2.00 1.50	100.0%	3A	Low	Remove
15	*Citrus × limon* (Lemon)	3	3	89 102	131	2.00 1.50	100.0%	3A	Low	Remove
16	*Eriobotrya japonica* (Loquat)	7	6	197 178	293	3.20 2.00	100.0%	3A	Low	Remove
17	*Plumeria obtuse* (Frangipani)	4	4	Multi stem	201	Approx 2.00 1.70	0.0%	2A	Low	Retain
18	*Plumeria obtuse* (Frangipani)	4	3	Multi stem	121	Approx 2.00 1.50	0.0%	2A	Low	Retain

Arbor Express

Arboriculture Impact Assessment
75-77 Leacocks Lane Casula NSW 2170

Tree #	*Botanical Name* (Common Name)	Height (m)	Canopy (m)	DBH (mm)	DAB (mm)	TPZ SRZ (m)	TPZ Encroachment	SULE	Retention Value	Action
19	*Olea europaea* (Olive)	8	6	143	261	2.00 1.90	0.0%	4A	Low	Retain

4. Arboriculture Impact Assessment

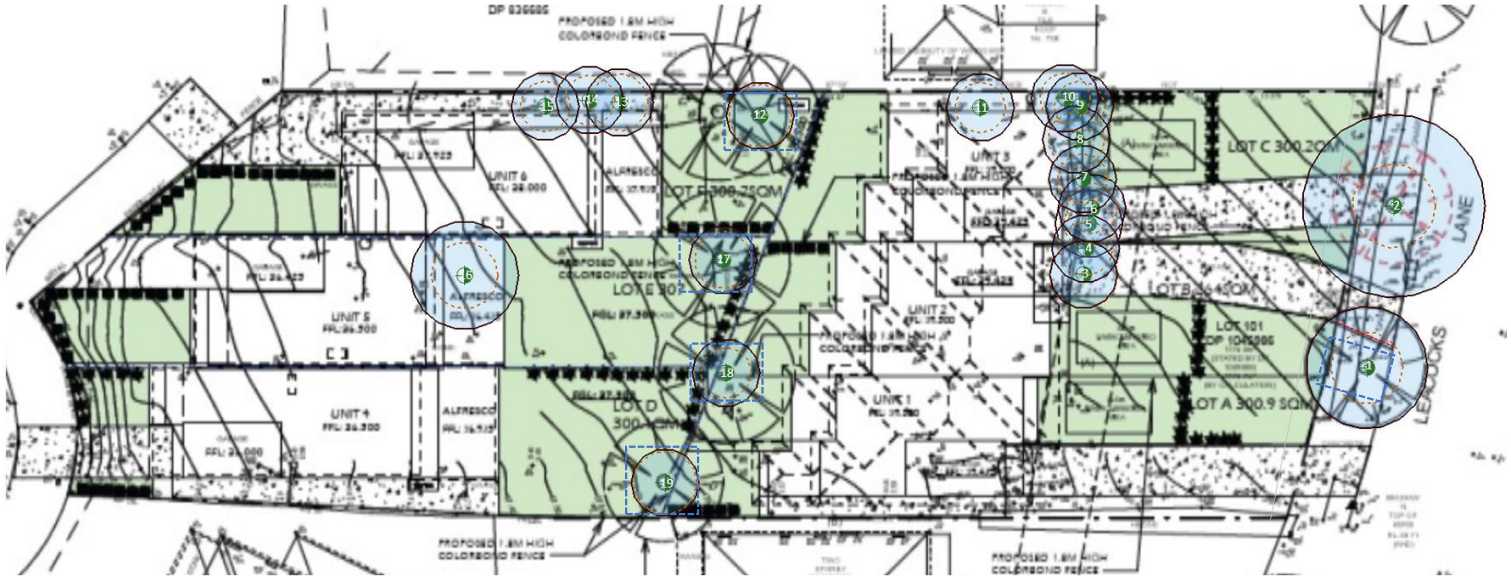


Legend

Tree Protection Zone

Structural Root Zone

5. Tree Protection Plan



Legend

Tree Protection Fencing	- - - - - -	Trunk Protection	
Proposed Root Mapping	- - - - - -	Ground Protection	

6. Site Photos

Photo 1: Tree 1

Photo 2: Tree 2

Photo 3: Trees 3-11

Photo 4: Tree 12

Photo 5: Tree 13-15

Photo 6: Tree 16

Photo 7: Tree 17

Photo 8: Tree 18

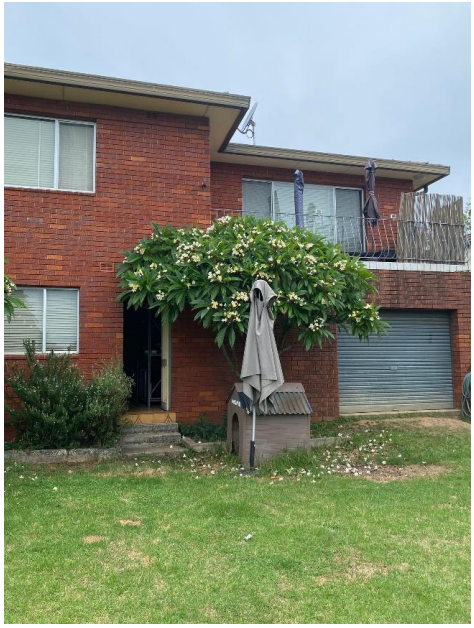


Photo 9: Tree 19

7. Recommendations

Tree Protection

A total of 5 individual trees are proposed for retention. The following mitigation measures will be required:

- The tree protection plan (Section 5) must be implemented.
- Mulch ground cover protection is required over the TPZ (where viable) of Trees 1, 12, 17, 18 and 19. This is to consist of 100mm depth layers of clean and ceritified Eucalyptus spp mulch.
- Tree protection fencing is required around the TPZs (where viable) of Trees 1, 12, 17, 18 and 19.
- All trees to be retained must be protected in accordance with AS 4970-2009, details of which are included in Appendix D.
- Root mapping investigations using NDE are to be conducted by an AQF Level 5 arborist prior to construction to locate roots of Tree 1 that may be situated within the footprint of the proposed driveway due to the major TPZ encroachment from the proposed driveway.
- No over-excavation, battering, or benching shall be undertaken beyond the footprint of any structure unless approved by the Project Arborist.

Tree Removal

Trees 2-11 and 13-16 are located within the footprint of the development and must be removed for the development to proceed. Trees 2, 3, 4 and 8 have moderate retention values but will need to be removed for the development to proceed.

8. Construction Hold Points for Tree Protection

Project Arborist

Below is a sequence of hold points requiring project arborist certification throughout the development process. It provides a list of hold points that must be checked and certified. All certifications must be provided in written format upon completion of the development. The final certification must include details of any instructions for remediation undertaken during the development. The principle contractor should be responsible for implementation of all tree protection requirements. **If alternative hold points have been suggested by Council in the DA condition then they should be adhered to throughout the development.**

Hold Point	Stage	Date Completed and Signature of Project Arborist Responsible
Project Arborist to hold pre construction site meeting with principle contractor to discuss methods and importance of tree protection measures and resolve any issues in relation to feasibility of tree protection requirements that may arise. Project Arborist to mark all trees approved for removal under DA consent.	Prior to development work commencing	
Project Arborist to assess and certify that tree protection has been installed in accordance with AS 4970-2009 prior to works commencing at site.	Prior to development work commencing	
In accordance with AS 4970-2009 the Project Arborist should carryout regular site inspections to ensure works are carried out in accordance with the recommendations. Site inspections are recommended on a monthly frequency.	On-going through the development	
The removal of existing structures inside the TPZ of any tree to be retained, such as the existing buildings and hard surfaces must be supervised by the Project Arborist.	Demolition	
Project Arborist to supervise all manual excavations and root pruning inside the TPZ of any tree to be retained. Project Arborist to approve all pruning of roots greater than 30mm inside TPZ. All root pruning of roots greater than 30mm in diameter must be carried out by an AQF level 5 Arborist.	Construction	
Project Arborist to certify that all underground services including storm water inside TPZ of any tree to be retained have been installed in accordance with AS 4970-2009.	Construction	
Project Arborist to approve relocation of tree protection for landscaping. All landscaping works within the TPZ of trees to be retained are to be undertaken in consultation with the Project Arborist to minimise the impact to trees.	Construction / Landscape	
After all demolition, construction and landscaping works are complete the Project Arborist should assess that the subject trees have been retained in the same condition and vigour. If changes to condition are identified the project Arborist should provide recommendations for remediation.	Upon completion of the development	

9. References

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Appendix A: Glossary of Terms

Abiotic - Pertaining to non-living agents, e.g. environmental factors.

Anchorage - The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree.

Branch:
- Primary. A first order branch arising from a stem.
- Lateral. A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches.
- Sub-lateral. A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs.

Branch collar - A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base.

Cambium - Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally.

Canker - A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria.

Compartmentalisation - The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region.

Condition - An indication of the physiological condition of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree.

Crown/Canopy - The main foliage bearing section of the tree.

Crown lifting - The removal of limbs and small branches to a specified height above ground level.

Crown reduction/shaping - A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape.

DAB (Diameter Above Buttress) - Trunk diameter measured above the root buttress.

Defect - In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback - The death of parts of a woody plant, starting at shoot-tips or root-tips.

Disease - A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms.

DBH (Diameter at Breast Height) - Stem diameter measured at a height of 1.4 metres or the nearest measurable point. Where measurement at a height of 1.4 metres is not possible, another height may be specified.

Deadwood - Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard.

Epicormic shoot - A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot.

Heartwood/false-heartwood - The dead central wood that has become dysfunctional as part of the aging processes and being distinct from the sapwood.

Included bark (ingrown bark) - Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact.

Lions tailing - A term applied to a branch of a tree that has few if any side-branches except at its end and is thus liable to snap due to end- loading.

Occlusion - The process whereby a wound is progressively closed by the formation of new wood and bark around it.

Pruning - The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs.

Reactive Growth/Reaction Wood - Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth).

Ring-barking - The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage.

Stress - In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature.

SRZ (Structural Root Zone) - The area around the base of the tree required for the tree's stability in the ground.

Topping - In arboriculture, the removal of the crown of a tree, or of a major proportion of it.

TPZ (Tree Protection Zone) - A specified area above and below ground and at a given distance from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development.

Veteran tree - Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.

Vigour - The expression of carbohydrate expenditure to growth (in trees).

Appendix B: Retention Value

Evaluating Sustainability and Landscape Significance to Determine Retention Value	
Retention Value	**Criteria and Categories**
High	These trees are considered to be worthy of preservation. As such, careful consideration should be given to their retention as a priority. Proposed site design and placement of buildings and infrastructure should consider the TPZ to minimize any adverse impact. In addition to TPZs, the extent of the canopy should also be considered, particularly in relation to a high-rise development. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.
Moderate	The retention of these trees is desirable. These trees should be retained as part of any proposed development, if possible; however, these trees are considered to be less critical for retention. If these trees must be removed, replacement planting should be considered in accordance with Council's Tree Replacement Policy to compensate for loss of amenity.
Low	These trees are not considered to be worthy of any special measures to ensure their preservation, due to current health, condition or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their SULE. These trees should not be considered as a constraint to future development of the site.
Very Low	These trees are considered to be potentially hazardous or very poor specimens or may be environmental or noxious weeds. The removal of these trees is therefore recommended regardless of the implications of any proposed development.

Appendix C: Safe Useful Life Expectancy (SULE)

	1 LONG SULE	2 MEDIUM SULE	3 SHORT SULE	4 REMOVALS	5 MOVED OR REPLACED
	Long: appeared to be retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Medium: appeared to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Short: appeared to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk, assuming reasonable maintenance.	Removal: trees which should be removed within the next 5 years.	Moved or Replaced: Trees which can be readily moved or replaced.
A	Structurally sound trees located in positions that can accommodate future growth.	Trees that may only live between 15 and 40 more years.	Trees that may only live between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Small trees less than 5 metres (m) in height.
B	Trees that could be made suitable for long-term retention by remedial tree care.	Trees that may live for more than 40 years but would be removed for safety or nuisance reasons.	Trees that may live for more than 15 years but would be removed for safety or nuisance reasons.	Dangerous trees through damage, structural defect, instability or recent toss of adjacent trees.	Young trees less than 1 5 years old but over 5m in height.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	Trees that may live for more than 40 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Dangerous trees through structural detects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control growth'.
D		Trees that could be made suitable for retention in the medium term by remedial tree care.	Trees that require substantial remedial tree care and are only suitable for retention in the short term.	Damaged trees that are' clearly not safe to retain.	
E				Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to	

	1 LONG SULE	2 MEDIUM SULE	3 SHORT SULE	4 REMOVALS	5 MOVED OR REPLACED
				provide space for new planting.	
F				Trees that are damaging or may cause damage to existing structures within 5 years.	
G				Trees that will become dangerous after removal of other trees for the reasons given in A) to F).	

Appendix D: Tree Protection Guidelines

The following tree protection guidelines must be implemented during the construction period if no tree specific recommendations are detailed.

Tree Protection Fencing

The TPZ is a restricted area delineated by protective fencing or the use of an existing structure (such as a wall or fence).

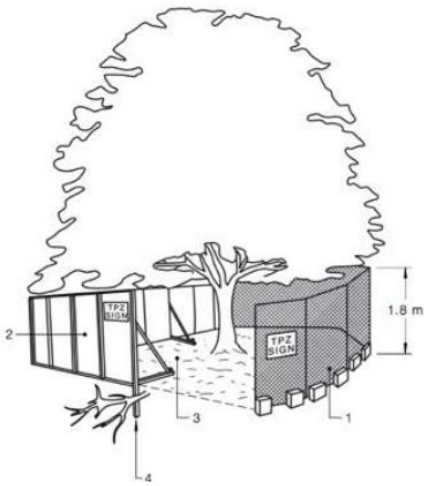
Trees that are to be retained must have protective fencing erected around the TPZ (or as specified in the body of the report) to protect and isolate it from the construction works. Fencing must comply with the Australian Standard, *AS 4687-2007, Temporary fencing and hoardings*.

Tree protection fencing must be installed prior to site establishment and remain intact until completion of works. Once erected, protective fencing must not be removed or altered without the approval of the Project Arborist.

If the protective fencing requires temporary removal, trunk, branch and ground protection must be installed and must comply with *AS 4970-2009, Protection of Trees on Development Sites*.

Tree protection fencing shall be:

- Enclosed to the full extent of the TPZ (or as specified in the Recommendations and Tree Protection Plan).
- Cyclone chain wire link fence or similar, with lockable access gates.
- Certified and Inspected by the Project Arborist.
- Installed prior to any machinery or material are brought to site and before the commencement of works.
- Prominently sign posted stating, “NO ACCESS - TREE PROTECTION ZONE”.



Legend:

1. Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2. Alternative plywood or wooden palling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3. Mulch installation across surface of TPZ (at the discretion of the Project Arborist). No excavation construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4. Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

Trunk Protection

Where the provision of tree protection fencing is impractical or must be temporarily removed, trunk protection shall be installed to avoid accidental mechanical damage.

Specifications for trunk protection are as follows:

- A thick layer of carpet underfelt, geotextile fabric, or similar wrapped around the trunk to a minimum height of 2m.
- 1.8m lengths of softwood timbers aligned vertically and spaced evenly around the trunk (with a small gap of approximately 50mm between the timbers).
- The timbers must be secured using galvanised hoop strap (aluminium strapping)

The timbers shall be wrapped around the trunk but not fixed to the tree, as this will cause injury/damage to the tree.

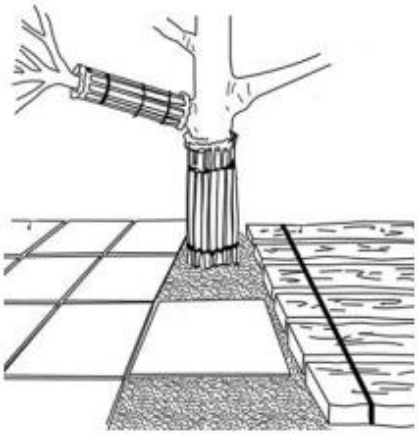
Ground Protection

Tree roots are essential for the uptake/absorption of water, oxygen and mineral ions (solutes). It is essential to prevent the disturbance of the soil beneath the dripline and within the TPZ of trees that are to be retained. Soil compaction within the TPZ will adversely affect the ability of roots to function correctly.

If temporary access for machinery is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Maintain a thick layer of mulch around all retained trees to a depth of 100 mm using coarse pine bark or wood chip material that complies with AS 4454. Where the existing landscape within the TPZ is to remain unaltered (e.g. garden beds or turf) mulch may not be required.

For heavy vehicle access within TPZ, ground protection may include a permeable membrane such as geotextile fabric beneath a layer of crushed rock or rumble boards.

If the grade is to be raised within the TPZ, the material should be coarser or more porous than the underlying material.



Notes:

5. For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
6. Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

Root Protection and Investigation

If incursions/excavation within the TPZ are unavoidable, root investigation may be needed to determine the extent and location of roots within the area of construction activity. The location and distribution of roots are found through non-destructive excavation (NDE) methods such as hydro-vacuum excavation (sucker truck), air spade and manual excavation. Root investigation does not guarantee the retention of the tree.

If the project arborist identifies conflicting roots that requiring pruning, they must be pruned with a sharp implement such as secateurs, pruners, handsaws or a chainsaw back to undamaged tissue. The final cut must be a clean cut.

Excavations

All approved excavations (including root investigations) within the TPZ must be carried out using tree sensitive methods under the supervision of the project arborist. These methods may include:

- Manual excavation (hand tools).
- Air spade.
- Hydro-vacuum excavations (sucker-truck).

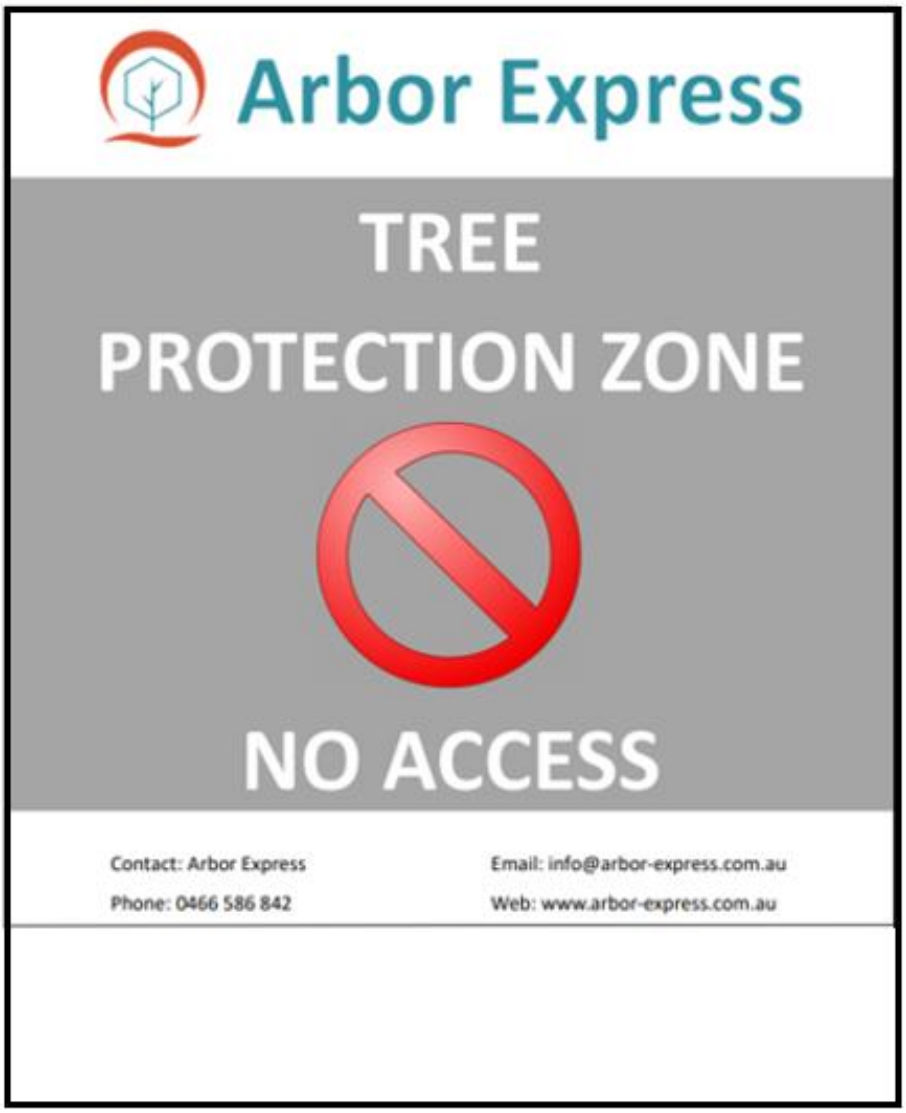
Where approved by the project arborist, excavations using compact machinery fitted with a flat-bladed bucket is permissible. Excavations using compact machinery shall be undertaking in small increments and guided by the Project Arborist, who is to look for and prevent root damage to roots (>50mm in diameter).

Exposed roots shall be protected from direct sunlight, drying out, and extremes of temperature by covering with geotextile fabric, and plastic membrane or glad wrap (where practical). Coverings shall be weighted to secure them in place. The geotextile fabric shall be kept damp at all times.

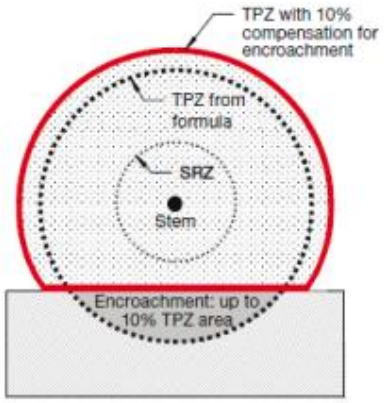
Underground Services

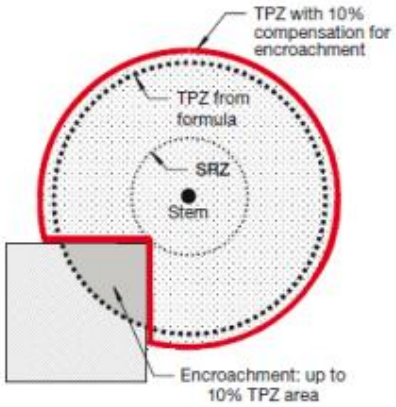
All underground services should be routed outside of the TPZ. If underground services need to be installed within the TPZ, they should be installed using horizontal directional drilling (HDD), non-destructive excavation (NDE) methods such as hydro-vacuum, Air Spade or manually excavated trenches. The horizontal drilling/boring must be at minimum depth of 600 mm below grade. Trenching for services is to be regarded as “excavation”. The project arborist should assess the likely impacts of boring and bore pits on retained trees.

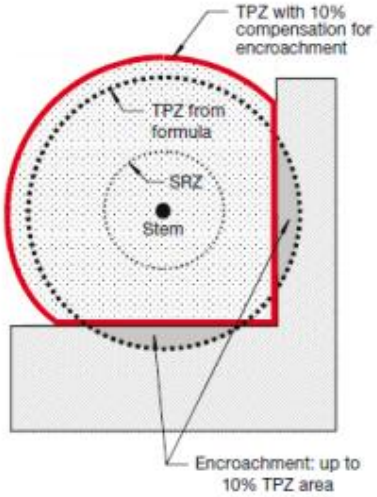
Example of a Tree Protection Sign

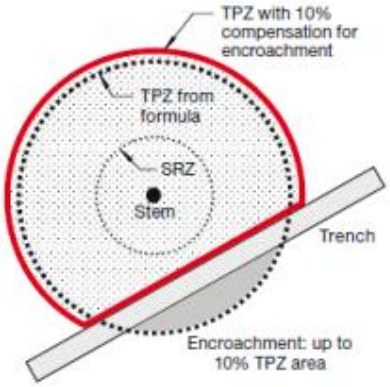


Appendix E: Encroachment into the Tree Protection Zones









Locations

- Sydney
- NSW South Coast (Wollongong to Bega)
- NSW Central Coast (Gosford to Newcastle)
- Southern Highlands
- Blue Mountains
- Canberra and Queanbeyan
- Regional NSW

Services

- Arborist Reports for Developments
- Tree Root Mapping
- Project Arborist
- Tree Health and Safety Assessments
- Tree Structural Testing (Resistograph)
- Flora & Fauna Assessments and Project Ecologist
- Vegetation Management Plans

Contact Us

- 0466 586 842
- Info@arbor-express.com.au

Development Application and Planning Proposal Review
NSW Planning Portal Concurrence and Referral

Authority	Authority's Reference	Agency Concurrence and Referral	Authority Contact	Authority Notification	Submission Due	Submission Made
Liverpool City Council	DA-581/2023	CNR-65593	Ben Paterson	12/02/2024	4/03/2024	12/02/2024

Address	Land Title
75-77 LEACOCKS LANE CASULA 2170	Lot 101 DP 1045986

Scope of Development Application or Planning Proposal

Demolition of existing dwelling. Proposed 6 lot Torrens title subdivision and attached dwellings.

Endeavour Energy's G/Net master facility model indicates:

Within or adjacent to the property the electrical network used in the distribution / supply of electricity are:

Electricity Infrastructure / Apparatus	Statutory allocation (road verge / roadway*)	Easement (or other form of property tenure**)	Protected works***	Freehold (adjoining or nearby)
Overhead Power Lines				
☐ *Low voltage*	☐	☐	☐	☐
☐ *High voltage*	☐	☐	☐	☐
☐ *Transmission voltage*	☐	☐	☐	☐
☐ *Pole / tower*	☐	☐	☐	☐
Underground Cables				
☒ *Low voltage*	☒	☐	☐	☐
☒ *High voltage*	☒	☐	☐	☐
☐ *Transmission voltage*	☐	☐	☐	☐
☒ *Streetlight / pillar*	☒	☐	☐	☐
Substation				
☐ *Pole mounted*	☐	☐	☐	☐
☐ *Padmount*	☐	☐	☐	☐
☐ *Indoor*	☐	☐	☐	☐
☐ *Zone*	☐	☐	☐	☐
☐ *Transmission*	☐	☐	☐	☐
Other:	☐	☐	☐	☐

Low voltage extra low voltage up to 1,000 volts alternating current (a.c.).
High voltage above 1,000 volts a.c and less than 33,000 volts a.c. [33 kilovolts (kV)].
Transmission voltage 33 kV up to 132,000 volts a.c. (132 kV).
*Rights provided in a public road or reserve. The allocation depends on the classification and date of roadway dedication.
** Other form of property tenure includes but is not limited to restriction, covenant, lease, licence etc.
***Protected works under Section 53 'Protection of certain electricity works' of the *Electricity Supply Act 1995* (NSW).
Other: provide detail of electricity infrastructure / apparatus.

Endeavour Energy
ABN 11 247 365 823
T 133 718
Level 40-42, 8 Parramatta Square,
10 Darcy Street Parramatta NSW 2150
PO Box 811, Seven Hills NSW 1730
endeavourenergy.com.au

Relevant / applicable clause numbers from Endeavour Energy's standard conditions for Development Application and Planning Proposal Review indicated by ☒ .

Cond-ition	**Advice**	**Clause No.**	**Issue**	**Detail**
☐	☐	1	Adjoining Sites	Adjoining or nearby development / use should be compatible with the use of Endeavour Energy's sites.
☐	☐	2	Asbestos	Area identified or suspected of having asbestos or asbestos containing materials (ACM) present in the electricity network.
☐	☒	3	Asset Planning	Applicants should not assume adequate supply is immediately available to facilitate their proposed development.
☐	☐	4	Asset Relocation	Application must be made for an asset relocation / removal to determine possible solutions to the developer's requirements.
☒	☐	5	Before You Dig	Before commencing any underground activity the applicant must obtain advice from the Before You Dig service.
☐	☒	6	Bush Fire	Risk needs to be managed to maintain the safety of customers and the communities served by the network.
☐	☐	7	Construction Management	Integrity of electricity infrastructure must be maintained and not impacted by vehicle / plant operation, excessive loads, vibration, dust or moisture penetration.
☐	☐	8	Contamination	Remediation may be required of soils or surfaces impacted by various forms of electricity infrastructure.
☐	☒	9	Demolition	All electricity infrastructure shall be regarded as live and care must be taken to not interfere with any part of the electricity network.
☐	☐	10	Dispensation	If a proposal is not compliant with Endeavour Energy's engineering documents or standards, the applicant must request a dispensation.
☐	☒	11	Driveways	For public / road safety and to reduce the risk of vehicle impact, the distance of driveways from electricity infrastructure should be maximised.
☐	☒	12	Earthing	The construction of any building or structure connected to or in close proximity to the electrical network must be properly earthed.
☒	☐	13	Easement Management	Preference is for no activities to occur in easements and they must adhere to minimum safety requirements.
☐	☐	14	Easement Release	No easement is redundant or obsolete until it is released having regard to risks to its network, commercial and community interests.
☐	☐	15	Easement Subdivision	The incorporation of easements into to multiple / privately owned lots is generally not supported.
☐	☒	16	Emergency Contact	Endeavour Energy's emergency contact number 131 003 should be included in any relevant risk and safety management plan.
☐	☐	17	Excavation	The integrity of the nearby electricity infrastructure shall not be placed at risk by the carrying out of excavation work.
☐	☐	18	Flooding	Electricity infrastructure should not be subject to flood inundation or stormwater runoff.
☐	☐	19	Hazardous Environment	Electricity infrastructure can be susceptible to hazard sources or in some situations be regarded as a hazardous source.
☐	☐	20	Look up and Live	Before commencing any activity near overhead power lines the applicant must obtain advice from the Look Up and Live service.
☐	☐	21	Modifications	Amendments can impact on electricity load and the contestable works required to facilitate the proposed development.
☐	☐	22	Network Access	Access to the electricity infrastructure may be required at any time particularly in the event of an emergency.
☒	☐	23	Network Asset Design	Design electricity infrastructure for safety and environmental compliance consistent with safe design lifecycle principles.

Cond-ition	Advice	Clause No.	Issue	Detail
☒	☐	24	Network Connection	Applicants will need to submit an appropriate application based on the maximum demand for electricity for connection of load.
☐	☐	25	Protected Works	Electricity infrastructure without an easement is deemed to be lawful for all purposes under Section 53 'Protection of certain electricity works' of the *Electricity Supply Act 1995* (NSW).
☐	☐	26	Prudent Avoidance	Development should avert the possible risk to health from exposure to emissions form electricity infrastructure such as electric and magnetic fields (EMF) and noise.
☐	☒	27	Public Safety	Public safety training resources are available to help general public / workers understand the risk and how to work safely near electricity infrastructure.
☐	☒	28	Removal of Electricity	Permission is required to remove service / metering and must be performed by an Accredited Service Provider.
☐	☐	29	Safety Clearances	Any building or structure must comply with the minimum safe distances / clearances for the applicable voltage/s of the overhead power lines.
☐	☐	30	Security / Climb Points	Minimum buffers appropriate to the electricity infrastructure being protected need to be provided to avoid the creation of climb points.
☒	☐	31	Service Conductors	Low voltage service conductors and customer connection points must comply with the 'Service and Installation Rules of NSW'.
☐	☐	32	Solar / Generation	The performance of the generation system and its effects on the network and other connected customers needs to be assessed.
☐	☒	33	Streetlighting	Streetlighting should be reviewed and if necessary upgraded to suit any increase in both vehicular and pedestrian traffic.
☐	☒	34	Sustainability	Reducing greenhouse gas emissions and helping customers save on their energy consumption and costs through new initiatives and projects to adopt sustainable energy technologies.
☐	☐	35	Swimming Pools	Whenever water and electricity are in close proximity, extra care and awareness is required.
☐	☐	36	Telecommunications	Address the risks associated with poor communications services to support the vital electricity supply network Infrastructure.
☐	☒	37	Vegetation Management	Landscaping that interferes with electricity infrastructure is a potential safety risk and may result in the interruption of supply.
Decision				Approve (with conditions)

Environmental Services Team

P 133 718 or (02) 9853 6666
E Property.Development@endeavourenergy.com.au

Level 40-42, 8 Parramatta Square, 10 Darcy Street
Parramatta NSW 2150.

Dharug/Wiradjuri/Dharawal/Gundungurra/Yuin Country

endeavourenergy.com.au |

Endeavour Energy | POWER together

Endeavour Energy respectfully acknowledges the Traditional Custodians on whose lands we live, work, and operate and their Elders past, present and emerging.

Reason(s) for Conditions or Objection (If applicable)

- The site is immediately adjacent to an easement for underground cables which currently has no 'Inservice' electricity infrastructure. No easement is considered redundant until released by Endeavour Energy and even without any 'Inservice' electricity distribution assets may be managed as if the assets are in place.

- All encroachments, activities and / or works (including subdivision and even if not part of the Development Application) whether temporary or permanent within or affecting an easement, restriction, right of access or protected works (other than those approved / certified by Endeavour Energy's Customer Network Solutions Branch as part of an enquiry / application for load or asset relocation project) need to be referred to Endeavour Energy's Easements Officers for assessment and possible approval if they meet the minimum safety requirements and controls. However please note that this does not constitute or imply the granting of approval by Endeavour Energy to any or all of the proposed encroachments and / or activities.

  For further information please refer to the attached copies of Endeavour Energy's:

  - General Restrictions for Underground Cables.
  - Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' which deals with activities / encroachments within easements.

- To ensure an adequate connection, the applicant will need to engage an Accredited Service Provider (ASP) of an appropriate level and class of accreditation to assess the electricity load and the proposed method of supply for the development.

- An extension or augmentation of the existing electricity distribution network may be required. Whilst there are distribution substations in the area which are likely to have some spare capacity, it is not unlimited and may not be sufficient to provide for the additional load from the proposed development.

  Other factors such as the size and rating / load on the conductors and voltage drop (which can affect the quality of supply particularly with long conductor runs) etc. need to be assessed. However the extent of any works required will not be determined until the final load assessment is completed.

- The low voltage service conductors and customer connection points must comply with the 'Service and Installation Rules of NSW'.

- Driveways should be designed to increase the separation to the any electricity infrastructure on the road verge as much as reasonably possible.

- The planting of large / deep rooted trees near electricity infrastructure is opposed by Endeavour Energy. Existing trees which are of low ecological significance in proximity of electricity infrastructure should be removed and if necessary replaced by an alternative smaller planting. The landscape designer will need to ensure any planting near electricity infrastructure achieves Endeavour Energy's vegetation management requirements.

Endeavour Energy's G/Net master facility model.

The advice provided regarding the extent of the electricity infrastructure on or near the site is based on a desk top review of Endeavour Energy's G/Net master facility model. This is a computer based geographic information system which holds the data on and is used to map the electricity network. The location, extent and type of any electricity infrastructure, boundaries etc. shown on the plan is indicative only. In addition it must be recognised that the electricity network is constantly extended, augmented and modified and there is a delay from the completion and commissioning of these works until their capture in the model. It only shows the Endeavour Energy electricity network and does not show electricity infrastructure belonging to other authorities or customers owned electrical equipment beyond the customer connection point / point of supply to the property.

Easement (or other form of property tenure).

Title searches will confirm the current owners of a property and shows any registered interests affecting the property such as an easement. Not all interests eg. short term leases and licences are registered on the title. Not all easements for electricity infrastructure will necessarily benefit Endeavour Energy eg. there may be interallotment / easements appurtenant to the land particularly for low voltage service conductors / customer connections. For further advice please refer to Endeavour Energy's:

- Land Interest Guidelines for Network Connection Works.
- Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights'.

Condition or Advice

With Endeavour Energy's Development Application and Planning Proposal Review process / system the intent of the 'Standard Conditions' being indicated as either a 'Condition' or 'Advice' essentially depends on the risk associated with the matter. If the matter is one that is likely or very likely to be an issue / needed to be addressed by the applicant and may require corrective action, then it is marked as a 'Condition'. If the matter is less likely and the consequences of the applicant not addressing it are lower or can be readily rectified, then it is marked as 'Advice'. If the matter is considered to be not applicable / relevant then it is not marked as either.

For example, the obtaining advice from the Before You Dig service in accordance with the requirements of the *Electricity Supply Act 1995* (NSW) and associated Regulations is a standard / regulatory requirement and will be generally indicated as 'Condition'. If the Site Plan from Endeavour Energy's G/Net Master Facility Model indicates there is no underground electricity infrastructure it will be indicated as 'Advice' as a precaution and in regard to any other underground utilities.

Not all of the matters may be directly or immediately relevant or significant to the Development Application or Planning Proposal. However, Endeavour Energy's preference is to alert proponents / applicants of the potential matters that may arise should development within closer proximity of the existing and/or required electricity infrastructure needed to facilitate the proposed development on or in the vicinity of the site occur. Even if a matter is not indicated a 'Condition' or 'Advice', applicants are encouraged to review all of the 'Standard Conditions' as some matters may not have been evident from the information provided with the Development Application and of which the applicant may have additional knowledge.

Decision

In the NSW Planning Portal for the 'Agency response', as Endeavour Energy is not a concurring authority under the provision of the *Environmental Planning and Assessment Act 1979* (NSW), it does not 'Approve' or 'Refuse' a Development Application in the Portal. It will 'Approve (with conditions)' (which may 'Object' in the submission and detail the matters requiring resolution), or if all the matters in the submission are marked are for 'Advice', the outcome of the assessment will also be 'Advice'.

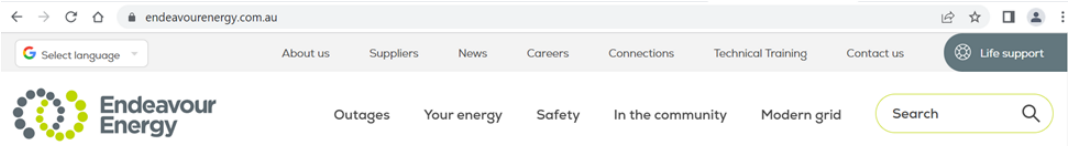
Objection

Endeavour Energy may object to a Development Application if the conditions may substantially impact the proposed development or regarded as a significant risk to the electricity distribution network. Although Council may be able to appropriately condition these matters, Endeavour Energy's recommendation is to address the matters prior to Council granting any consent. This can assist in avoiding the need to later seek modification of an approved Development Application.

Please note Endeavour Energy can only assess the Development Application based on the information provided by the applicant and Council. Due to time and resource constraints it is not possible to refer all development application notifications to the relevant internal stakeholders for review and advice or to request additional information from the applicant or Council. Applicants should be providing proper detailed plans of the electricity infrastructure / easements on or near the site and address the potential impacts of the proposed development thereon in the Statement of Environmental Effects. The provision of inadequate detail may result in Endeavour Energy objecting to the Development Application.

Further Advice

The 'Standard Conditions' include additional advice and contact details and further information is also available on Endeavour Energy's website at https://www.endeavourenergy.com.au/ .



To resolve any objection or to seek further advice the following are the main contacts and can be reached by calling Endeavour Energy via Head Office enquiries on business days from 9am - 4:30pm on telephone: 133 718 or (02) 9853 6666. For other matters the contact details are included in Endeavour Energy's standard conditions for Development Application and Planning Proposal Review. Whilst the Environmental Team are able to provide general advice, the resolution / approval of any matter/s rests with the relevant contact related to the matter/s.

Branch / Section	Matters	Email
Customer Network Solutions	Electricity supply or asset relocation who are responsible for managing the conditions of supply with the applicant and their Accredited Service Provider (ASP).	cicadmin@endeavourenergy.com.au
Easements Officers	Easement management or protected works / assets.	Easements@endeavourenergy.com.au
Property	Property tenure eg. the creation or release of easements.	network_property@endeavourenergy.com.au
Field Operations (to the relevant Field Service Centre).	Safety advice for building or working near electrical assets in public areas (including zone and transmission substations).	Construction.Works@endeavourenergy.com.au

Please note Endeavour Energy's above contacts do not have access to the NSW Planning Portal. To resolve any matters direct contact should be made with the responsible contact. This will avoid double handling and possible delays in responding to the applicant / Council.

Accredited Service Providers

The Accredited Service Provider (ASP) scheme accredits organisations to perform contestable work on the NSW electricity distribution network. Contestable works are works that are required for the electricity distribution network provider to supply the load in the power lines where a new or altered connection is being requested.

Endeavour Energy is urging applicants / customers to engage with an ASP prior to finalising plans to in order to assess and incorporate any required electricity infrastructure as well as addressing safety issues such as safety clearances. In so doing the consideration can also be given to its impact on the other aspects of the proposed development. This can assist in avoiding the making of amendments to the plan or possibly the need to later seek modification of an approved development application.

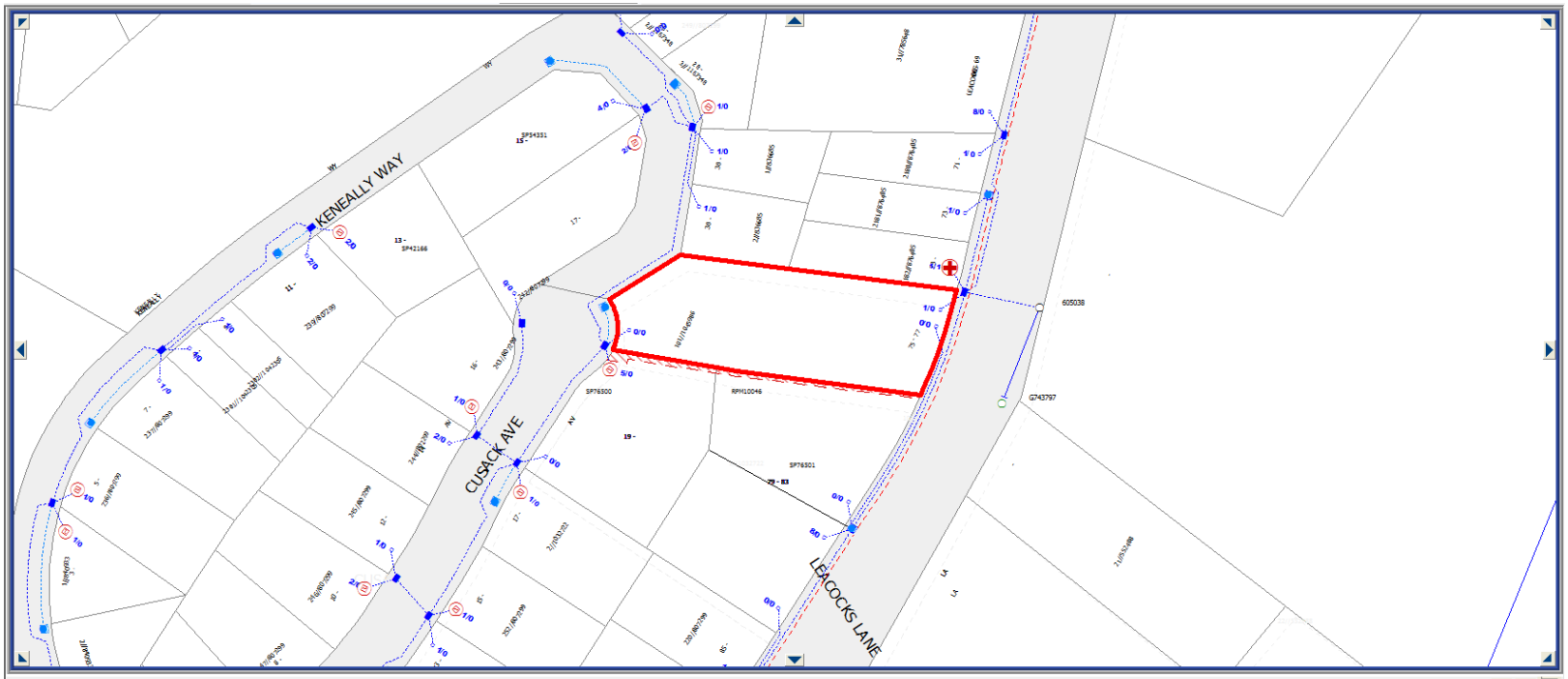
Details of the ASP Scheme which accredits organisations to perform contestable work on the NSW electricity distribution network are available via the following link to the Energy NSW website at https://www.energysaver.nsw.gov.au/get-energy-smart/dealing-energy-providers/installing-or-altering-your-electricity-service .

Duty of Care

All individuals have a duty of care they must observe when working in the vicinity of electricity infrastructure. Before you do anything:

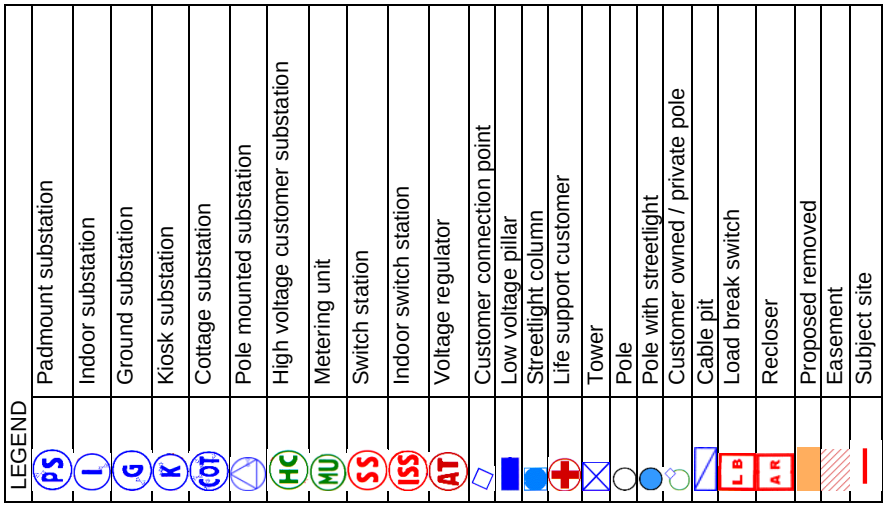
1) Contact Before You Dig and Look Up and Live to obtain the details of the electricity infrastructure on or near the site noting they are a guide only to what might be in the area and may not be entirely accurate.
2) Comply with the conditions and consider the advice provided above.
3) If needed contact Endeavour Energy on 133 718 or the contacts provided above for assistance.
4) **DO NOT** attempt any work near electricity infrastructure until all required approvals and safety measures are in place.
5) Proceed only if you have satisfied yourself it is safe.
6) Always remember, even the briefest contact with electricity at any voltage can have serious consequences to a person's health and safety and can be fatal.

Site Plan from Endeavour Energy's G/Net Master Facility Model

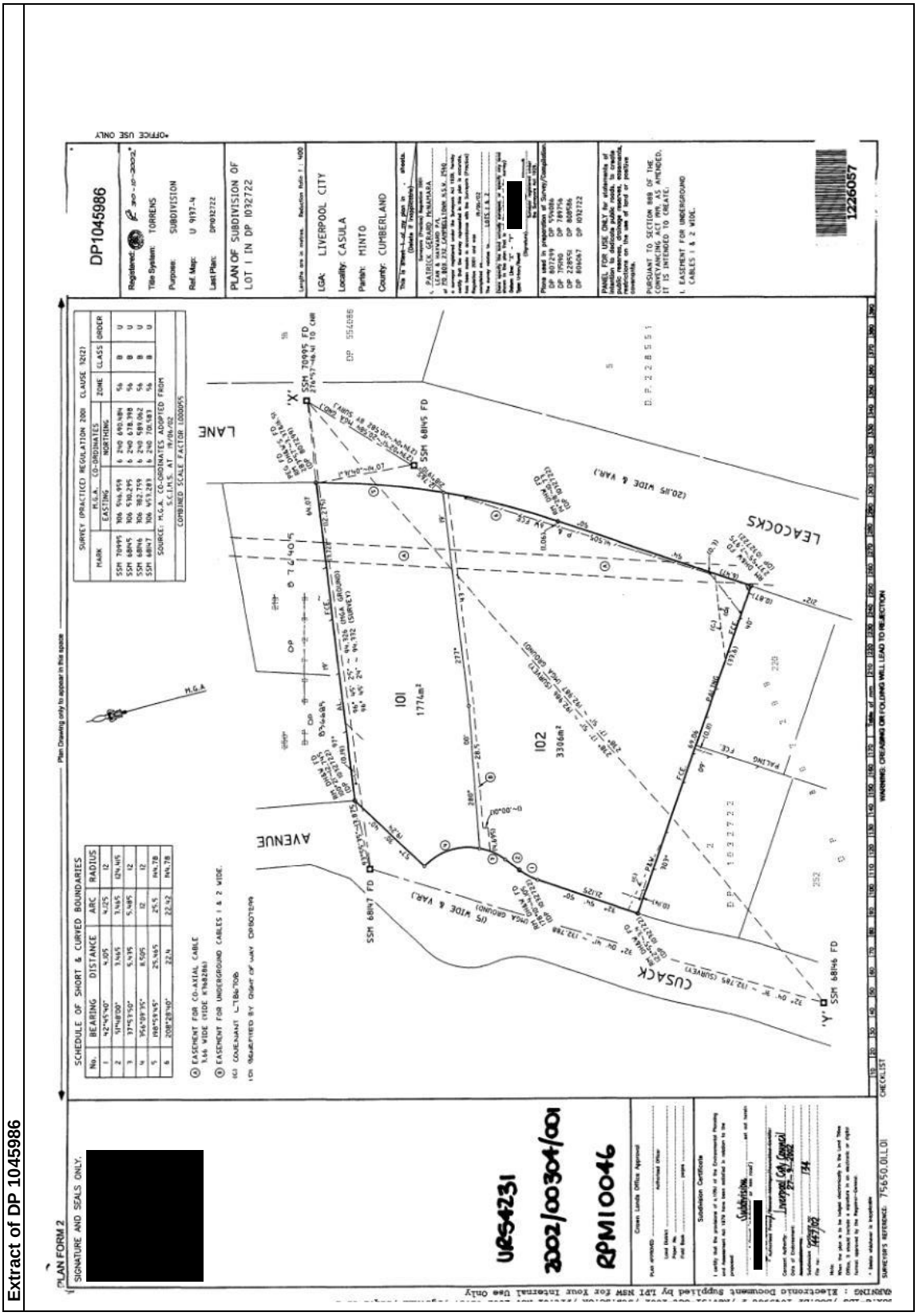


G3E_FID	Feature Name	Component Name	G3E_CID	G3E_ID	LOT	SECTION	DP
65970561	Crown Parcel	Crown Parcel Find	1	1774920	101		1045986

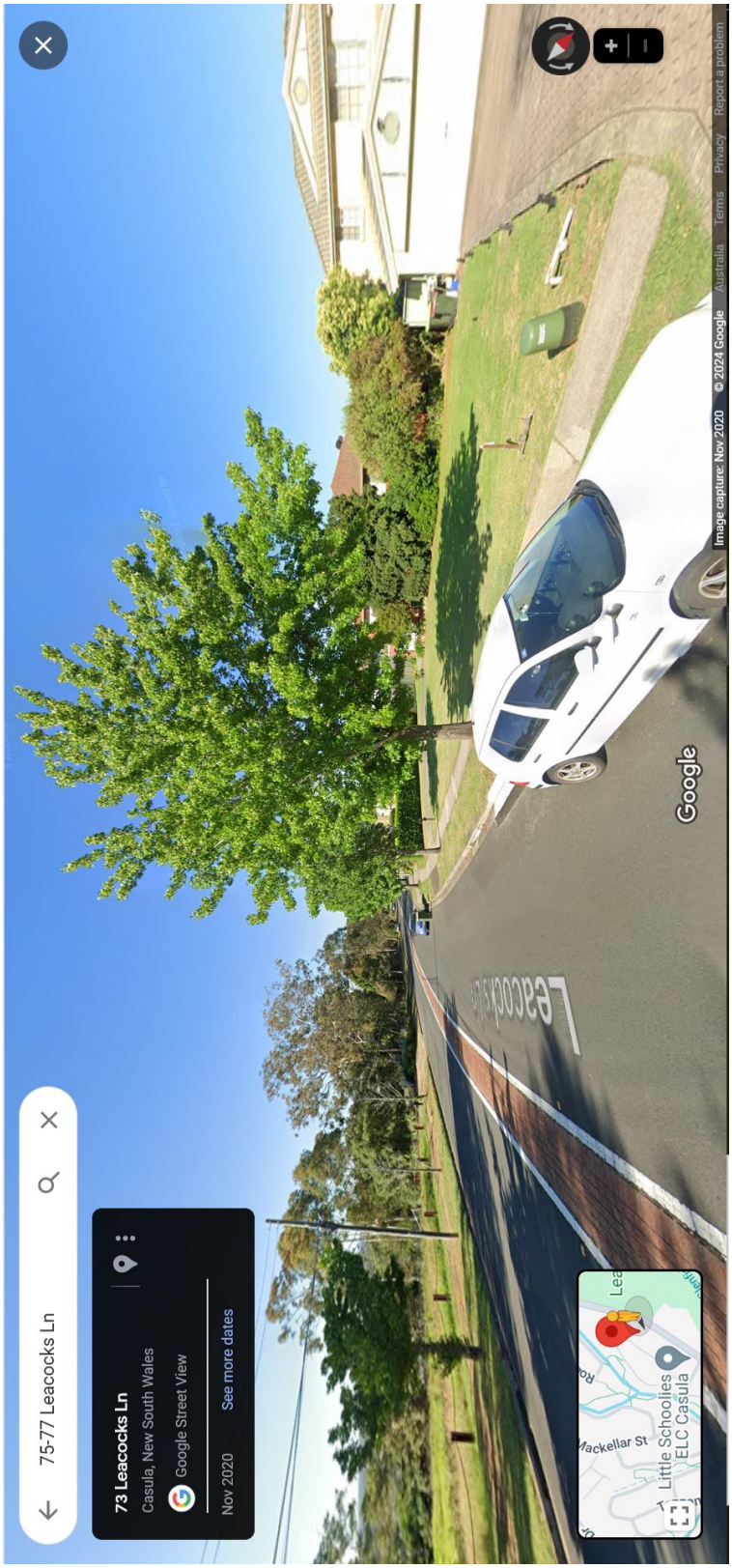
Please note the location, extent and type of any electricity infrastructure, boundaries etc. shown on the plan is indicative only. In addition it must be recognised that the electricity network is constantly extended, augmented and modified and there is a delay from the completion and commissioning of these works until their capture in the model. Easements benefitting Endeavour Energy are indicated by red hatching. Generally (depending on the scale and/or features selected), low voltage (normally not exceeding 1,000 volts) is indicated by blue lines and high voltage (normally exceeding 1,000 volts but for Endeavour Energy's network not exceeding 132,000 volts / 132 kV) by red lines (these lines can appear as solid or dashed and where there are multiple lines / cables only the higher voltage may be shown). This plan only shows the Endeavour Energy network and does not show electricity infrastructure belonging to other authorities or customers owned electrical equipment beyond the customer connection point / point of supply to the property. This plan does not constitute the provision of information on underground electricity power lines by network operators under Part 5E 'Protection of underground electricity power lines' of the *Electricity Supply Act 1995* (NSW).


LEGEND
PS
Padmount substation
I
Indoor substation
G
Ground substation
K
Kiosk substation
COT
Cottage substation
Pole mounted substation
HC
High voltage customer substation
MU
Metering unit
SS
Switch station
ISS
Indoor switch station
AT
Voltage regulator
Customer connection point
Low voltage pillar
Streetlight column
Life support customer
Tower
Pole
Pole with streetlight
Customer owned / private pole
Cable pit
LB
Load break switch
AR
Recloser
Proposed removed
Easement
Subject site

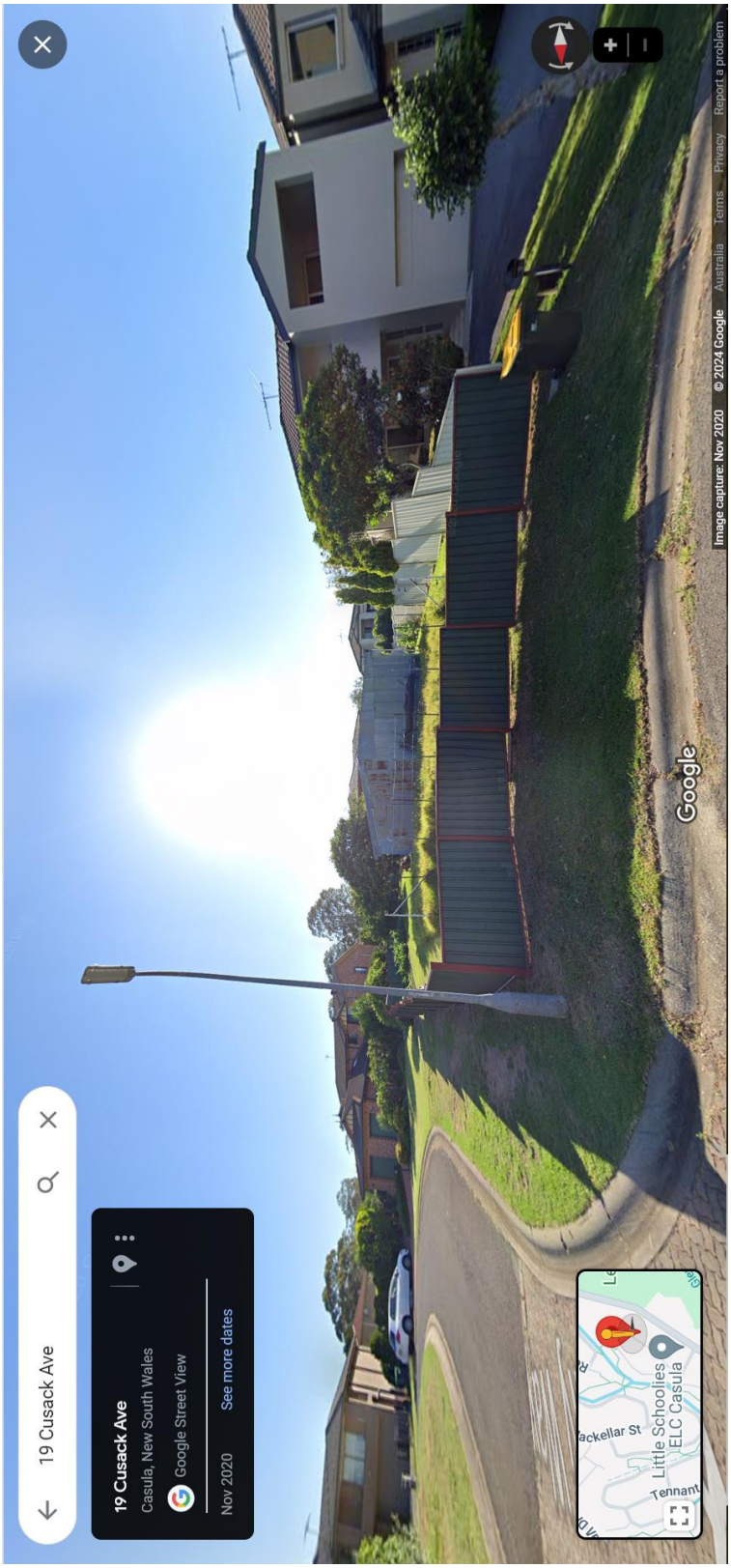
Extract of DP 1045986



Google Maps Street View



Google Maps Street View



RFS

NSW GOVERNMENT

Liverpool City Council
Locked Bag 7064
LIVERPOOL BC NSW 1871

Your reference: (CNR-65593) DA-581/2023
Our reference: DA20240320001132-Original-1

ATTENTION: Ben Paterson

Date: Monday 29 April 2024

Dear Sir/Madam,

Integrated Development Application
s100B – Subdivision – Torrens Title Subdivision
75 Leacocks Lane Casula NSW 2170, 101//DP1045986

I refer to your correspondence dated 27/03/2024 seeking general terms of approval for the above Integrated Development Application.

The New South Wales Rural Fire Service (NSW RFS) has considered the information submitted. General Terms of Approval, under Division 4.8 of the *Environmental Planning and Assessment Act 1979*, and a Bush Fire Safety Authority, under section 100B of the *Rural Fires Act 1997*, are now issued subject to the following conditions:

Asset Protection Zones
The intent of measure is to provide sufficient space and maintain reduced fuel loads to ensure radiant heat levels at the buildings are below critical limits and prevent direct flame contact.

1. At the commencement of building works or the issue of a subdivision certificate and in perpetuity, whichever comes first, the entire site must be maintained as an inner protection area in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*.
When establishing and maintaining an inner protection area, the following requirements apply:

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2 m above the ground;
- tree canopies should be separated by 2 to 5 m;
- preference should be given to smooth-barked and evergreen trees;
- large discontinuities or gaps in the shrubs layer should be provided to slow down or break the progress of fire towards buildings;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover;
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation;
- grass should be kept mown (as a guide, grass should be kept to no more than 100mm in height); and

Postal address
NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

Street address
NSW Rural Fire Service
4 Murray Rose Ave
SYDNEY OLYMPIC PARK NSW 2127

T (02) 8741 5555
F (02) 8741 5550
www.rfs.nsw.gov.au

- leaves and vegetation debris should be removed regularly.

2. Landscaping within the required asset protection zone must comply with Appendix 4 of *Planning for Bush Fire Protection 2019*. In this regard, the following principles are to be incorporated:

- A minimum 1 metre wide area (or to the property boundary where the setbacks are less than 1 metre), suitable for pedestrian traffic, must be provided around the immediate curtilage of the building;
- Planting is limited in the immediate vicinity of the building;
- Planting does not provide a continuous canopy to the building (i.e. trees or shrubs are isolated or located in small clusters);
- Landscape species are chosen to ensure tree canopy cover is less than 15% (IPA), and less than 30% (OPA) at maturity and trees do no touch or overhang buildings;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas:
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such as timber garden furniture away from the building; and
- Low flammability vegetation species are used.

Construction Standards
The intent of measure is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities.

3. Construction of the proposed dwellings must comply with section 3 and section 5 (BAL 12.5) Australian Standard AS3959-2018 *Construction of buildings in bushfire-prone areas* or the relevant requirements of the *NASH Standard - Steel Framed Construction in Bushfire Areas* (incorporating amendment A - 2015). New construction must also comply with the construction requirements in Section 7.5 of *Planning for Bush Fire Protection 2019*.

4. Fences and gates must comply with Section 7.6 of *Planning for Bush Fire Protection 2019*. New fences and gates are to be made of either hardwood or non-combustible material. Where a fence or gate is constructed within 6m of a dwelling or in areas of BAL-29 or greater, they must be made of non-combustible material only.

Water and Utility Services
The intent of measure is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

5. The provision of water, electricity and gas must comply with Table 5.3c of *Planning for Bush Fire Protection 2019*.

For any queries regarding this correspondence, please contact Surbhi Chhabra on 1300 NSW RFS.

Yours sincerely,

RFS

NSW GOVERNMENT

James Killen
Manager Planning & Environment Services
Built & Natural Environment

BUSH FIRE SAFETY AUTHORITY

Subdivision – Torrens Title Subdivision
75 Leacocks Lane Casula NSW 2170, 101//DP1045986
RFS Reference: DA20240320001132-Original-1
Your Reference: (CNR-65593) DA-581/2023

This Bush Fire Safety Authority is issued on behalf of the Commissioner of the NSW Rural Fire Service under s100b of the Rural Fires Act (1997) subject to the attached General Terms of Approval.

This authority confirms that, subject to the General Terms of Approval being met, the proposed development will meet the NSW Rural Fire Service requirements for Bush Fire Safety under *s100b of the Rural Fires Act 1997.*

James Killen
Manager Planning & Environment Services
Built & Natural Environment

Monday 29 April 2024

Item Number:	**2**
Application Number:	DA-347/2023
Proposed Development:	Demolition of existing structures and construction of a single storey 28 place centre-based childcare, car parking, fencing and associated site works
Property Address	No. 14 Satelberg Street, Holsworthy
Legal Description:	Lot 428 in Deposited Plan 234857
Applicant:	Mr Paolo Festa
Land Owner:	Peter Victor Bestawros and Magy Harby Bestawros
Cost of Works:	$605,000
Recommendation:	**Refusal**
Assessing Officer:	Azmal Hussain

1 EXECUTIVE SUMMARY

The subject development application (DA) seeks consent for the demolition of existing structures and construction of a single storey 28 place centre-based childcare, car parking, fencing and associated site works at No. 14 Satelberg Street, Holsworthy, which is legally described as Lot 428 in DP 234857.

The land is zoned R3 – Medium Density Residential, under Liverpool Local Environmental Plan (LLEP) 2008, and the proposal is permissible with consent.

Following an assessment of the proposal, the main issues raised related to the following:

1. A detailed site investigation to confirm the presence of contamination.
2. A shortfall of 1 off-street car park space.
3. An acid sulphate soil management response.
4. Stormwater design.
5. General pedestrian access provisions.
6. General internal design including sanitary facilities and visual surveillance.
7. Landscaping design.

The applicant has been issued requests to provide additional information to Council to resolve the inconsistencies and outstanding matters, however, Council remains unsatisfied with regard to the following matters:

1. The detailed site investigation, noting the shortfall in required test samples.

2. The shortfall of 1 off-street car park space.
3. The pedestrian access provisions proposed.
4. The general internal design including sanitary facilities and visual surveillance.
5. The landscaping design.

In accordance with Liverpool Community Engagement Strategy and Community Participation Plan 2022, the proposal was notified between 29 June 2023 and 17 July 2023. In response, twenty-two (22) submissions were received as a result of this process. The submissions raised concerns regarding traffic generation, car parking, a blind spot due to curve in the road, pedestrian safety, and noise. The matters raised in the submissions have not been adequately resolved by the proposal and therefore the development is not considered to be acceptable in this regard.

The application is referred to the Liverpool Local Planning Panel (LLPP) is accordance with the *Local Planning Panels Direction – Development Applications and Applications to Modify Development Consent, endorsed by the Minister for Planning and Public Spaces on 30 June 2020,* as the development falls in the category of:

> ***Contentious development***
> *Development that:*
> *(b) in any other case – is the subject of 10 of more unique submissions by way of objection.*

The application has been assessed pursuant to the provisions of the *Environmental Planning and Assessment Act 1979*. Based on the assessment of the application, it is recommended that the application be **refused**.

2. SITE DESCRIPTION AND LOCALITY

2.1 The Locality

The subject site and its surrounds are zoned R3 Medium Density Residential under LLEP 2008. The area is characterised by low density residential and is within an established urban area. The existing Satelberg Street streetscape character contains primarily older stock single storey and two storey dwelling houses, with newer low density type residential developments.

The direct adjoining properties of the development site are detailed in the following table.

South (side)	A single storey clad dwelling house with metal roof at No. 16 Satelberg street
North (side)	A single storey clad dwelling house with metal roof at No. 12 Satelberg street
East (rear)	A single storey brick dwelling house with tile roof at No. 12 Saddle Row.
West(front)	Single storey brick dwelling houses with tile roof at Nos. 13 and 15 Satelberg Street.

Figure 1: Locality surrounding the proposed development (Source: Geocortex)

2.2 The Site

The subject site is legally identified as Lot 428 in Deposited Plan 234857 and is commonly known as No. 14 Satelberg Street, Holsworthy. It is generally rectangular in shape with a concave street frontage and the front boundary has an arc length of 22.415m. The side boundaries are 33.085m to the south and 33.565m to the north. The rear boundary is 15.24m. The total site area is 636.7m^2.

Figure 2: Aerial view of the site (Source: Geocortec)

The subject site contains a single storey cladded dwelling with a tile roof, detached rear garage and shed, a large tree (15m high) at the north-east corner, and a small tree (4m) tree within the front setback area. The driveway is off Satelberg Street.

A site inspection was carried out on 18 April 2023. The photos below show the subject site and the surrounding context.

Figure 3: The existing dwelling on the site, No. 14 Satelberg Street

Figure 4: View of the site – Satelberg Street looking north

Figure 5: View of the site – Satelberg Street looking south

Figure 6: Streetscape of Satelburg Street – neighbouring dwellings opposite subject site

3. BACKGROUND/HISTORY

A pre-development application (PL-18/2019) meeting for the subject proposal was held on 8 May 2019, which raised the following matters:

- The proposed development involves the demolition of the existing dwelling and the construction of a double storey childcare centre for 38 children between the ages of 0-6, and car parking for 10 car spaces.
- The proposal was considered not suitable due to numerous factors including bulk and scale, play area to be located on ground level, commercial outlook design was out of character with development in the vicinity and privacy.
- Comments regarding general planning, parking and access, operational plan of management, community planning, environmental health, traffic, engineering, and stormwater were made.

A development application (DA-135/2023) for the subject site was rejected on 4 April 2023, raising the following outstanding matters:

- Amended statement of environmental effects (SEE) that refers to the correct State Environmental Planning Policy (SEPP) to which childcare centres are applicable to.
- Amended elevation plans, cross section plans, site plans and floor plans.
- Requirement for contamination report to be prepared and submitted by a suitably qualified person.

DA history of the subject development application: DA-347/2023

Date	Action
15 June 2023	Subject application lodged
29 June 2023	The application was notified until 17 July and 22 submissions were received.
13 July 2023	A 14-day request for further information (RFI) letter was issued to applicant, to address the following matters: - Requirements for a detailed site investigation and a hazardous material survey. - Compliance with Regulation 107 of the Educational and Care Services National Regulation regarding unencumbered indoor space. - Compliance with administrative space, provision of nappy change facilities, cot rooms, suitable sanitary facilities, storage spaces. - Landscaping and car parking compliance. - An acid sulphate soil management report. - A response to lodged submissions made.
18 August 2023	In addition to the above issued letter and following completion of internal referrals from internal engineering, waste management and environmental health sections, the following outstanding matters were raised: - Additional details on stormwater plan. - A catchment plan to be submitted. - Vehicle turning paths to be demonstrated. - Additional details on car park

	design including 1.5m wide footpath along the development frontage. - Further details on waste management during construction and the ongoing waste facility.
15 September 2023	Additional information was received.
29 November 2023	A third RFI was issued on 29 November 2023 due to in part following the completion of referrals from Council's urban design and traffic departments which raised the following outstanding matters: - A detailed site investigation to confirm the presence of any contamination. - A hazardous material survey to be submitted. - An amended ground floor plan to address internal design matters referred to in previous RFI letters. - A consistent plan of management report in line with the architectural plans relating to car parking. - Car parking deficiency based on submitted staff and child ratio details. - An acid sulphate soil report. - All land engineering deferral comments to be addressed and provided. - City design and public domain deferral comments to be addressed relating to public domain works, access footpaths, building form, car parking design, unencumbered spaces and landscaping. - Community planning deferral comments to be addressed including footpaths and access points. - Traffic deferral comments to be addressed including left-in and left-

	out requirements, swept path certification. - A detailed site investigation is required.
27 March 2024	The applicant had provided amended information along with a formal response to address the matters raised above. The application would be assessed based on the current level of information submitted with the subject application.

4. DETAILS OF THE PROPOSAL

The subject development application DA-347/2023 seeks approval for the demolition of existing structures and construction of a single storey 28 place centre-based childcare, car parking, fencing and associated site works.

Specifically, the proposed development consists of the following components:

- Demolition of the existing dwelling and ancillary structures.
- Construction of a single storey childcare centre catering to 28 children, including two x indoor play rooms and a consolidated outdoor play area with the following details:

	Area	Number of Children	Age Group	Number of Educators
Playroom 1	65m^2	20	2-3 year/3-5 years	3
Playroom 2	26.3m^2	8	0-2 years	2
Outdoor Play Area	196.10m^2	28	All	N/A

- Construction of an at-grade car parking area consisting of seven car spaces, with three allocated for children and four for staff. The car parking area is accessed by a new driveway from Satelberg Street.
- Landscaping and site works.

<u>Operational Details</u>

The centre would operate with the following hours:

- Monday to Friday: 7am to 6pm
- Saturday, Sunday, and Public Holidays: Closed

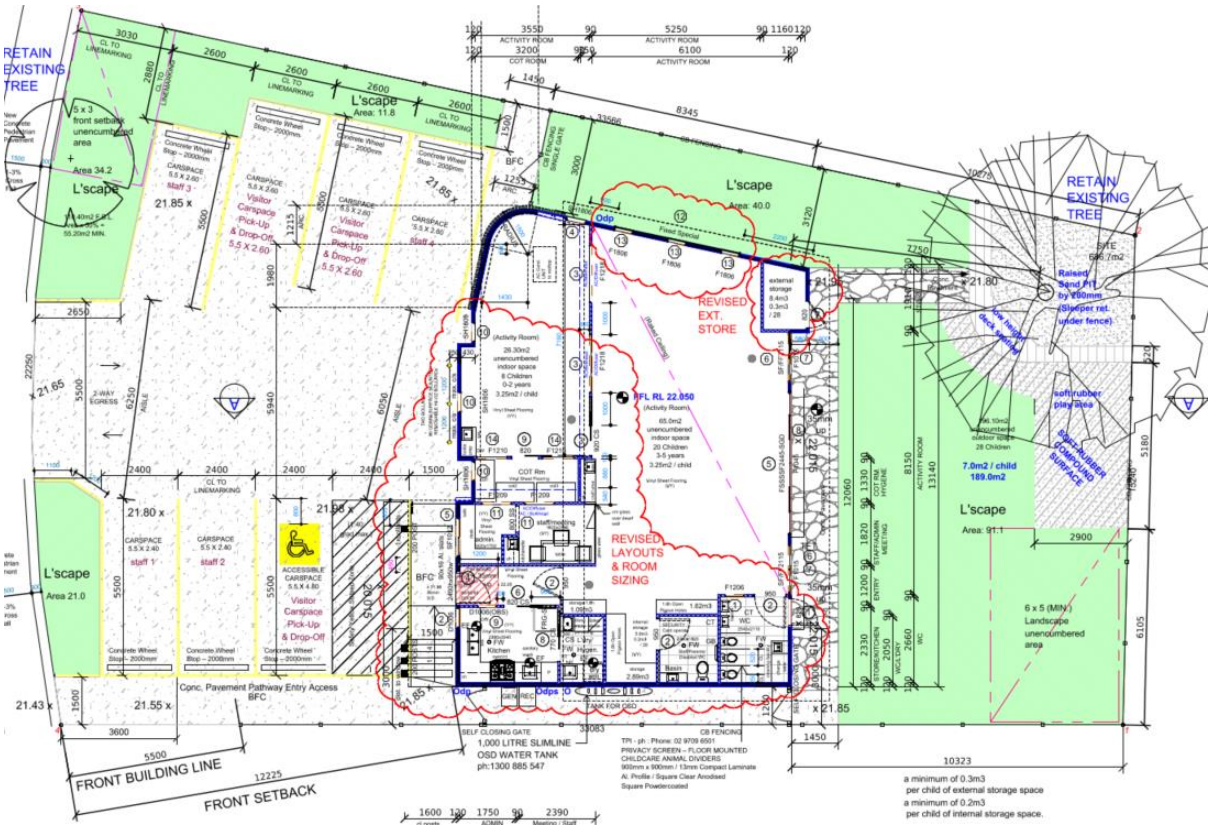


Figure 7: Ground Floor Plan (Source: submitted architectural plans)

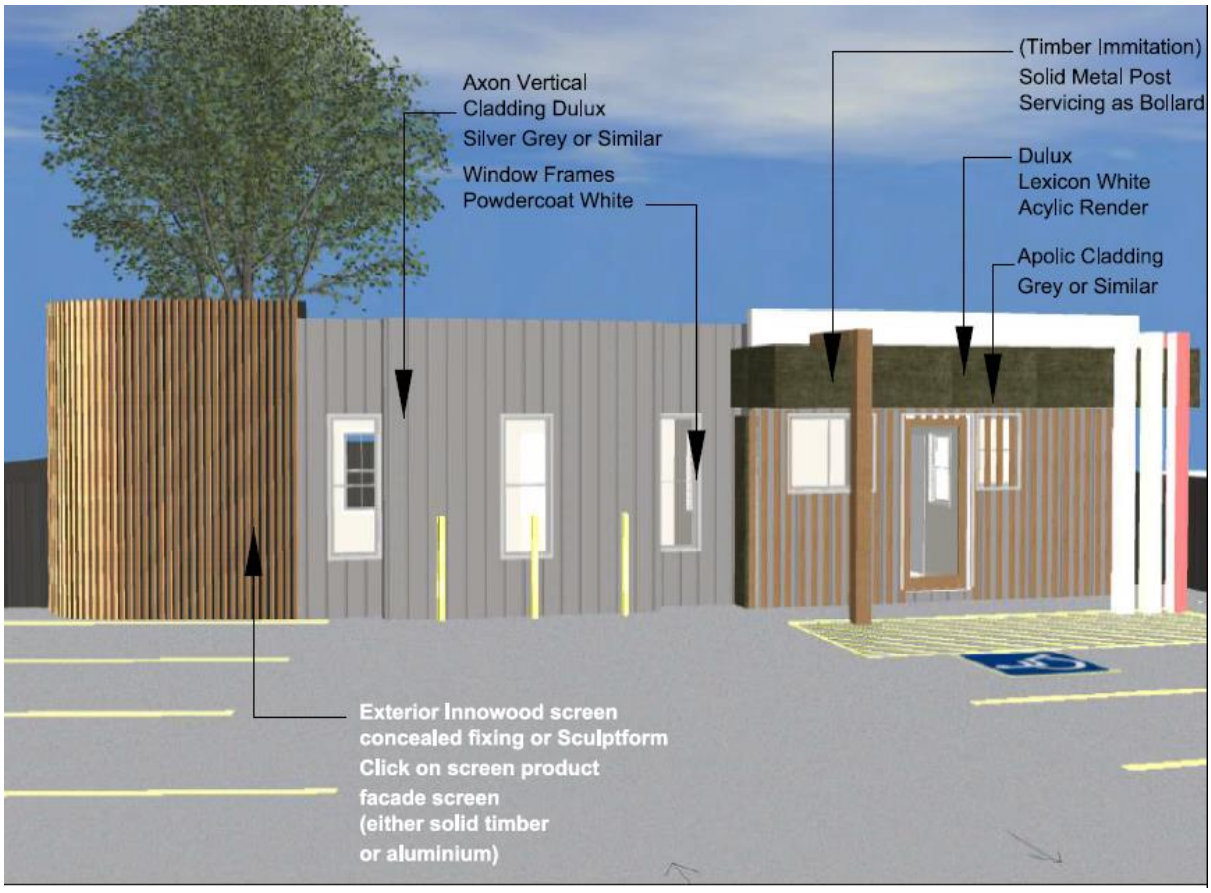


Figure 8: Colour schedule of front elevation (Source: submitted architectural plans)

5. STATUTORY CONSIDERATIONS

5.1 Relevant matters for consideration

The relevant planning instruments/policies applicable to the proposed development are as follows:

- State Environmental Planning Policy (Biodiversity and Conservation) 2021.
- State Environmental Planning Policy (Resilience and Hazards) 2021.
- State Environmental Planning Policy (Industry and Employment) 2021.
- State Environmental Planning Policy (Transport and Infrastructure) 2021.
- Liverpool Local Environmental Plan (LLEP) 2008.
- Liverpool Development Control Plan (LDCP) 2008.
  - Part 1: General Controls for All Development; and
  - Part 3.8: Non Residential Development in Residential Zones.

Other Plans and Policies

- Liverpool Community Participation Plan 2022.

Contributions Plans

- Liverpool Contributions Plan 2018 – Established Areas applies to all development pursuant to Section 7.11 of the EPA & Act.

6. ASSESSMENT

The development application has been assessed in accordance with the relevant matters of consideration prescribed by Section 4.15 Evaluation of the EP&A 1979 and the Environmental Planning and Assessment Regulation 2021, as follows:

6.1 Section 4.15(1)(a)(i) – Any Environmental Planning Instrument

(a) State Environmental Planning Policy (Resilience and Hazards) 2021

(i) Chapter 4 Remediation of Land

Pursuant to Clause 4.6 of SEPP (Resilience and Hazards) 2021, a consent authority is unable to grant development consent unless it has considered whether the land is contaminated and, if so, whether the consent authority is satisfied that the land is suitable in its contaminated state, or can be remediated to be made suitable for the purposes for which the development is proposed to be carried out.

Council must consider this and the likelihood of any contamination on-site and the possible impacts which may arise from any works associated with this proposal.

The objectives of Chapter 4 of the SEPP (Resilience and Hazards) 2021 are:

- *to provide for a state wide planning approach to the remediation of contaminated land.*
- *to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.*

Clause 4.6 - Contamination and remediation to be considered in determining development application	**Comment**
(1) A consent authority must not consent to the carrying out of any development on land unless:	

(a) it has considered whether the land is contaminated, and	**Does not comply.** Due to the sensitive nature of a childcare centre use, a detailed site investigation report prepared by Chiho Lee and reviewed by Gregory Brickle for EI Australia was submitted. However a review by Council's Environmental Health department had found that the report had not been prepared or reviewed by a suitable and experienced contaminated land consultant who is certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) Scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) Scheme. The department recommends that due to the insufficient number of samples taken, it is recommended that the document be peer reviewed by a suitably qualified and experienced contaminated land consultant, meaning someone who is certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) Scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) Scheme. The peer reviewer's comments and recommendations may need to be incorporated into revised reports supporting the application. A Hazardous Materials Survey was recommended to be undertaken prior to the commencement of any demolition works. Council's Environmental Health officer reviewed the contamination report and has confirmed that the proposal is unsatisfactory at this stage.

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and	**Does not comply.** Council is not satisfied with the assessments undertaken to confirm if the land is contaminated.
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	**Does not comply.** It is noted that Council is not satisfied with the assessments undertaken to confirm if the land is contaminated. Council is uncertain if the land requires remediation.

Based on the above assessment, the proposal does not satisfy the relevant objectives and provisions of Chapter 4 of the SEPP (Resilience and Hazards) 2021, and therefore, it is considered that the subject site is not suitable for the proposed development.

(b) State Environmental Planning Policy (Biodiversity and Conservation) 2021

(i) Chapter 2 Vegetation in non-rural Areas

The subject land is located within a non-rural area as specified under Clause 2.3. As such, the provision of Chapter 2 Vegetation in Non-Rural Areas of the SEPP (Biodiversity and Conservation) 2021 applies to the application. The aims of the chapter are to protect the biodiversity values of trees and other vegetation in non-rural areas of the State and preserve the amenity of such areas through the preservation of trees and other vegetation.

The development would not result in the removal of the prominent tree within the front setback area, and the large tree in the rear setback. The existing trees are proposed to be retained in addition to further landscaping works. Consequently, the development is satisfactory in relation to chapter 2.

(ii) Chapter 6 Water catchments

The subject land is located within the Georges River catchment area and as such, the provisions of Chapter 6 Water catchments of SEPP (Biodiversity and Conservation) 2021 apply to the application. The objectives and provisions of Chapter 6 generally aim to maintain and improve the water quality and river flows of the Georges River and its tributaries.

The application was referred to Council's land development engineering section which reviewed the stormwater management and drainage associated with the proposal. Following a deferral and request for additional information, they were supportive of the proposed development subject to conditions. Accordingly, the proposed development is considered to meet the objectives of the SEPP and is unlikely to have a negative impact on the environmental quality of the Georges River catchment.

(c) State Environmental Planning Policy (Industry and Employment) 2021

(i) Chapter 3 Advertising and Signage

Chapter 3 of SEPP (Industry and Employment) 2021 aims to ensure that signage is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of a high-quality design and finishes.

A business identification sign is proposed on the front elevation above eye-level. Any consent should be conditioned for additional directional signage to be installed adjacent to the driveway and pedestrian entry. No further information and relevant details had been provided in relation to the signage such as dimensions, materials, colours and illumination.

No further assessment is required under chapter 3.

(d) State Environmental Planning Policy (Transport and Infrastructure) 2021

(i) Chapter 3 Educational Establishments and Child Care Facilities

Chapter 3 of SEPP (Transport and Infrastructure) 2021 aims to facilitate the effective delivery of educational establishments and early education and care facilities. The proposed development is a childcare centre and subject to the provisions of the SEPP.

A compliance table of the relevant clauses of chapter 3 is provided below.

State Environmental Planning Policy (Transport and Infrastructure) 2021			
Part 3.3 Early education and care facilities – specific development controls			
Clause	**Requirements**	**Proposed**	**Comment**
3.22 Centre-based child care facility—concurrence of Regulatory Authority required for certain development	This clause applies to development for the purpose of a centre-based child care facility if: (a) the floor area of the building or place does not comply with regulation 107 (indoor unencumbered space requirements) of the *Education and Care Services National Regulations*, or (b) the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations	Regulations 107 and 108 of Educational and Care Services National Regulation specifies the following: • Indoor - 3.25m^2 per child • Outdoor - 7.0m^2 per child **<u>Required</u>** Indoor Playroom 1 - (8 x 3.25) 26m^2 Indoor Playroom 2 - (20 x 3.25) 65m^2 Outdoor - (28 x 7) 196m^2 **<u>Proposed</u>** Indoor Playroom 1 – 26.3m^2 Indoor Playroom 2 – 65m^2	**Complies**

		Outdoor – 196m^2	
3.23 Centre-based child care facility—matters for consideration by consent authorities	Before determining a development application for a centre-based child care facility, the consent authority must take into consideration any applicable provisions of the Child Care Planning Guideline, in relation to the proposed development	A compliance table against the provisions of the Child Care Planning Guidelines (dated October 2021) follows this table.	**Complies**
3.24 Centre-based child care facility in Zone IN1 or IN2—additional matters for consideration by consent authorities	To minimise land use conflicts with existing industrial development	The site is in the R3 Medium Density Residential zone and is not located in proximity to industrial development.	**N/A**
3.25 Centre-based child care facility—floor space ratio	Development consent must not be granted for the purposes of a centre-based child care facility in Zone R2 Low Density Residential if the floor space ratio for the building on the site of the facility exceeds 0.5:1. This section does not apply if another environmental planning instrument or a development control plan sets a maximum floor space ratio for the centre-based child care facility.	The site is in the R3 Medium Density Residential zone.	**N/A**
3.26 Centre-based child care facility—non-discretionary development standards	To identify development standards for particular matters relating to a centre-based child care facility that, if complied with, prevent the consent authority from requiring more onerous standards for those matters. – a) the development may be located at any distance from an existing or proposed early education and care facility b) indoor and outdoor space complies with regulation 107	 Noted Considered above under Clause 3.23.	**Complies**

	and 108 of the Education and Care Services National Regulations c) the development may be located on a site of any size and have any length of street frontage or any allotment depth, d) the development may be of any colour or colour scheme unless it is a State or local heritage item or in a heritage conservation area.	Noted The site is not listed as local heritage or state heritage.	
3.27 Centre-based child care facility—development control plans	A provision of a development control plan that specifies a requirement, standard or control does not apply in relation to a) Operational or management plans or arrangements (including hours of operation) b) Demonstrated need or demand for child care services c) Proximity of facility to other early education and care facilities d) Any matter in relation to development for the purpose of a centre-based child care facility contained in design principles set out in Part 2 of the *Child Care planning Guideline* or matter for consideration set out in Part 3 of the requirements set out in Part 4 of Guideline other than height, side and rear setback or car parking rates	Noted. The assessment was accompanied by an operational plan of management. The proposed hours of operation are Monday to Friday: 7am to 6pm. The proposed childcare centre is compliant with the height standards of the LLEP 2008 and is consistent with the side and rear setbacks as well as car parking rates of the LDCP 2008.	**Complies**

Determining a development application for development for the purpose of a centre-based childcare facility, the consent authority must take into consideration any applicable provisions of the Child Care Planning Guideline (CCPG), in relation to the proposed development.

Compliance with the provisions of the CCPG is discussed under Attachment 2 of this report however it is noted that the proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of:

i. Part 3.1 Site selection and location

ii. Part 3.2 Local character, streetscape and the public domain interface

iii. Part 3.3 Building orientation, envelope and design

iv. Part 3.4 Landscaping

v. Part 3.5 Visual and acoustic privacy

vi. Part 3.8 Traffic, parking and pedestrian circulation

vii. Part 4.2 Laundry and hygiene facilities

viii. Part 4.3 Toilet and hygiene facilities

ix. Part 4.6 Nappy change facilities

x. Part 4.13 Soil assessment

<u>Part 3.1 contains the following relevant objectives and control as follows:</u>

To ensure that appropriate zone considerations are assessed when selecting a site.

To ensure that the site selected for a proposed child care facility is suitable for the use.

To ensure that sites for child care facilities are appropriately located.

A childcare facility should be located to avoid risks to children, staff or visitors and adverse environmental conditions from:

- *proximity to:*
  - *heavy or hazardous industry, waste transfer depots or landfill sites*
  - *LPG tanks or service stations*
  - *water cooling and water warming systems*
  - *odour (and other air pollutant) generating uses and sources or sites which, due to prevailing land use zoning, may in future accommodate noise or odour generating uses*
  - *extractive industries, intensive agriculture, agricultural spraying activities*
- ***any other identified environmental hazard or risk relevant to the site and/or existing buildings within the site.***

The development does not satisfactorily address the shortfall of 1 on-site car parking space required, citing impacts of the proposal on residential amenity and road safety. Community objections highlight concerns with the current limited on-street car parking and road safety. Furthermore, Councils traffic engineer has commented:

As there is no designated drop-off and pick-up zone, parents and visitors will have to wait – where only 2 -3 visitor/parent parking will be available. It is likely that access vehicles will be queued along the driveway and along the narrow Satelberg Street – public road waiting to enter the car park.

The potential increase in on-street parking due to the non-compliance would adversely affect traffic and parking impacts on residential amenity and road safety, and thus the proposal is unsatisfactory in this regard.

Additionally, an unsatisfactory detailed site investigation has been submitted to Council. Although the report concludes that the site is suitable for the proposed redevelopment works, subject to additional recommendations, Council's Environmental Health section has not supported this assessment due to insufficient test samples being taken, and the limited accreditation of the author/reviewer.

<u>Part 3.2 contains the following relevant objectives and control as follows:</u>

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

The landscaping proposed is not compatible with the streetscape, citing a 53% shortfall in required front landscaping area. As such the proposal would not contribute to surrounding amenity of the immediate locality. The landscaping non-compliance is further discussed in the DCP assessment below.

<u>Part 3.3 contains the following relevant objectives and control as follows:</u>

To ensure that buildings are designed to create safe environments for all users.

The entry does not have sufficient degree of natural surveillance potentially available. The absence of direct access or windows within the admin and staff meeting rooms facing the lobby area compromises both security and functionality, as shown in Figure 9 below. As such, the building design does not create a safe environment for users.

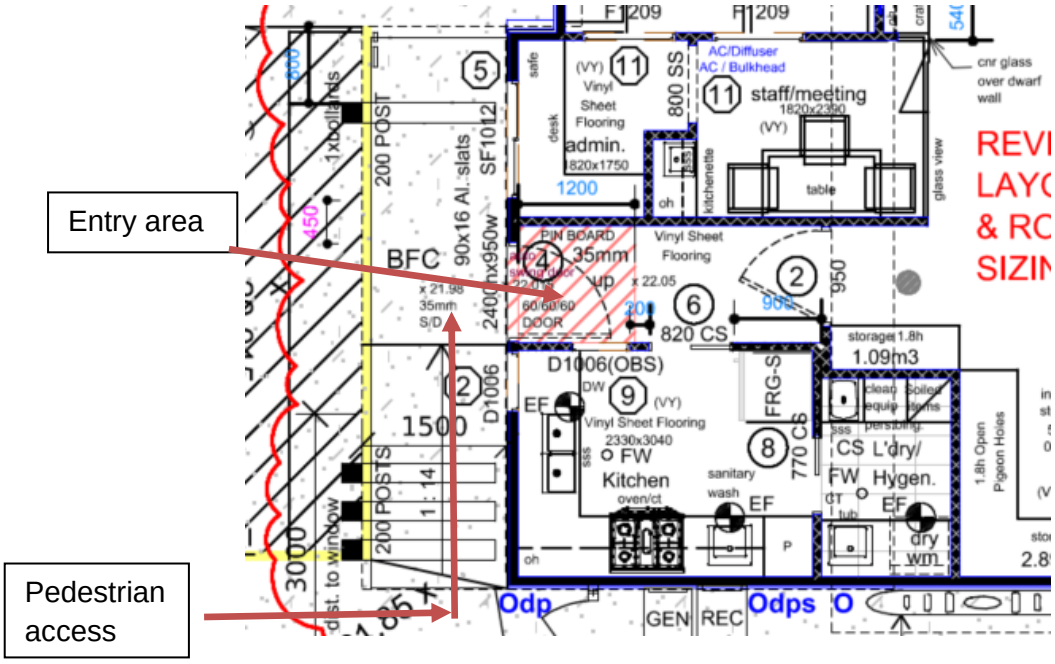


Figure 9: Entry area showing inadequate natural surveillance (source: submitted architectural plans)

<u>Part 3.4 contains the following relevant objectives and control as follows:</u>

To provide landscape design that contributes to the streetscape and amenity.

The extensive hardstand car park area located in the front setback area causes the non-compliance of the minimum landscape area required in the front setback. As such, the landscaping has not softened the visual impact.

<u>Part 3.5 contains the following relevant objectives and control as follows:</u>

To protect the privacy and security of children attending the facility.

The entry area to the centre does not have a sufficient degree of natural surveillance potentially available. The absence of direct access or windows within the admin and staff meeting rooms facing the lobby area is noted, which compromises both security and functionality.

<u>Part 3.8 contains the following relevant objectives and control as follows:</u>

To provide parking that satisfies the needs of users and demand generated by the centre.

To provide vehicle access from the street in a safe environment that does not disrupt traffic flows.

In addition to the on-site car parking noncompliance discussed above, the development proposes the side egress to the south boundary to be 1.2m width, and the external pathway

at the rear to be 1.45m. The development must ensure the provision of a continuous pedestrian pathway with a consistent width of at least 1.5 meters to enable two prams to pass each other. This will ensure a safe and connected environment is provided for pedestrians both on and around the site.

Part 4.2 contains the following relevant objectives and control as follows:

There must be laundry facilities or access to laundry facilities; or other arrangements for dealing with soiled clothing, nappies and linen, including hygienic facilities for storage prior to their disposal or laundering. The laundry and hygienic facilities must be located and maintained in a way that is not accessible by, and does not pose a risk to, children.

The cleaner's sink is located in the laundry adjacent to the kitchen where open food would be handled. The cleaners sink would be used for the disposal of liquid waste, and its location adjacent to/immediately accessible by food preparation area is unsatisfactory.

Part 4.3 contains the following relevant objectives and control as follows:

A service must ensure that adequate, developmentally and age-appropriate toilet, washing and drying facilities are provided for use by children being educated and cared for by the service; and the location and design of the toilet, washing and drying facilities enable safe use and convenient access by the children.

The proposed development provides a fixed change table adjacent to the 3-5year activity room, however there is no change facility adjoining the 0-2-year activity room. It is envisaged that 0-2 children would be carried through the 3-5year activity room by the educator. This is considered unsatisfactory as, it is important to consider the age and number of children who will require access to the bathroom facilities and whether there are sufficient toilets and hand basins to ensure minimal delay for children requiring their use.

Part 4.6 contains the following relevant objectives and control as follows:

Child care facilities must provide for children who wear nappies, including appropriate hygienic facilities for nappy changing and bathing. All nappy changing facilities should be designed and located in an area that prevents unsupervised access by children.

The nappy change room is located adjacent to the playroom for ages 3-5 years old and is in an area accommodated in the shared 3-5year bathroom. There is no nappy change area is not adjacent to the 0-2year old activity room and as such the location proposed is unsatisfactory.

Part 4.13 contains the following relevant objective and control as follows:

With every service application one of the following is required:

- *A soil assessment for the site of the proposed education and care service premises.*

- *If a soil assessment for the site of the proposed child care facility has previously been undertaken, a statement to that effect specifying when the soil assessment was undertaken.*
- *A statement made by the applicant that states, to the best of the applicant's knowledge, the site history does not indicate that the site is likely to be contaminated in a way that poses an unacceptable risk to the health of children.*

An unsatisfactory detailed site investigation has been submitted to Council. Although the report concludes that the site is suitable for the proposed redevelopment works, subject to additional recommendations, Council's Environmental Health section has not supported this assessment due to insufficient test samples being taken, and the limited accreditation of the author/reviewer.

(e) Liverpool Local Environmental Plan 2008

(i) Zoning

The subject site is zoned R3 Medium-Density Residential under LLEP 2008. An extract of the zoning map is provided in figure 9 below.

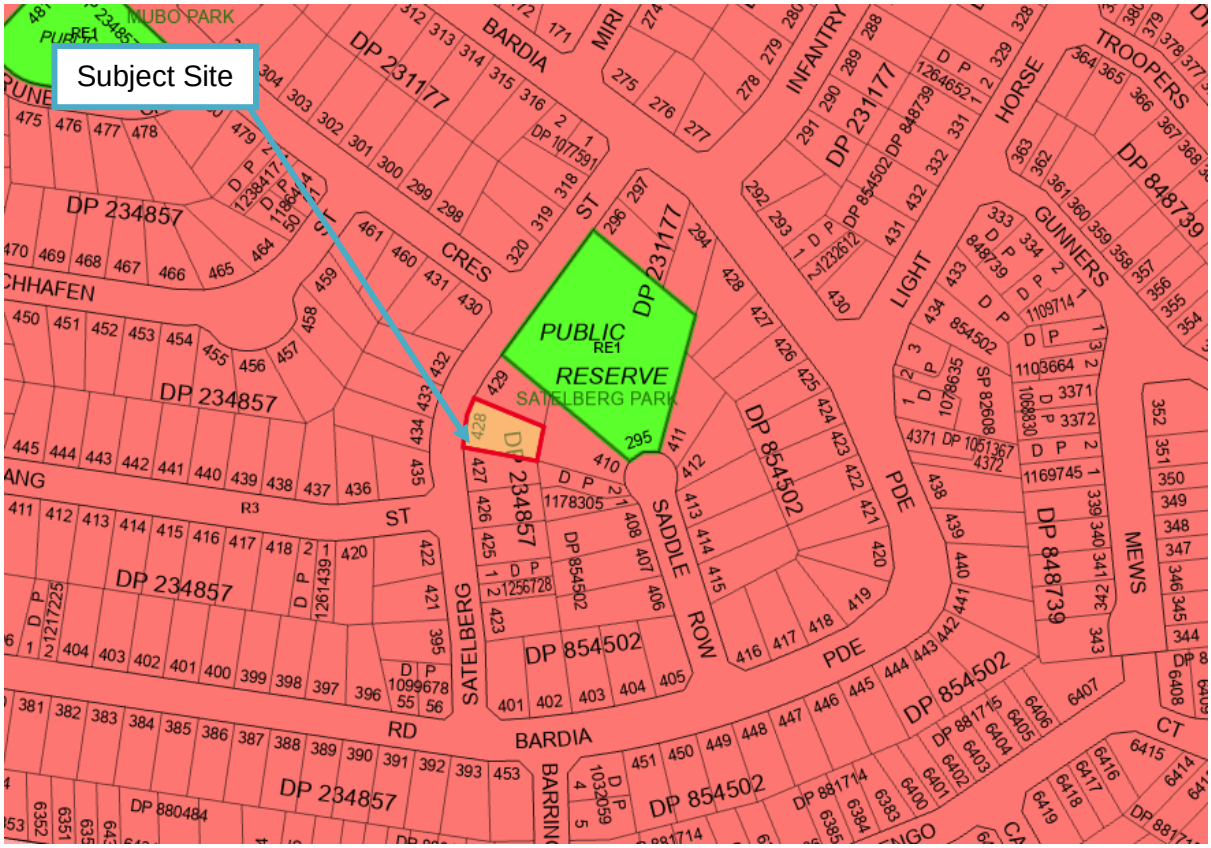


Figure 9: Zoning Map (Source: Geocortex)

(ii) Permissibility

The proposed development is defined as a 'centre-based child care facility", which is listed as permissible with consent in the R3 Medium Density Residential zone.

Centre-based childcare facility ("childcare centre") is defined under LLEP 2008 as follows:

"centre-based child care *facility means—*

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

(i) long day care,

(ii) occasional child care,

(iii) out-of-school-hours care (including vacation care),

(iv) preschool care, or

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

Note—

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

but does not include—

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

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

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

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

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

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

Note—

Centre-based child care facilities are a type of ***early education and care facility****—see the definition of that term in this Dictionary."*

(iii) Objectives of the zone

The objectives of the R3 Medium Density Residential zone are as follows:

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

- *To provide a variety of housing types within a medium density residential environment.*

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

- *To provide for a concentration of housing with access to services and facilities.*
- *To provide for a suitable visual transition between high density residential areas and lower density areas.*
- *To ensure that a high level of residential amenity is achieved and maintained.*

The proposal is consistent with the relevant zone objectives in that it provides for a compatible land use with a residential environment and the use is a service that would assist in meeting the day to day needs of residents in an area with access to public transport (bus stops 150m to the north) and other services (Wattle Grove Shopping Village and Saint Mark's College 900m to the west). The proposal does not restrict the potential for surrounding land to develop additional residential developments to meet the housing needs of the community. Further, the proposal would retain a high level of amenity for the adjoining properties and locality.

Consequently, the proposal is permissible with consent and consistent with the objectives of the zone.

(iv) Principal Development Standards

LLEP 2008 contains several principal development standards which are relevant to the proposal, as detailed below.

Development Provision	Requirement	Proposed	Comment
Part 4 Principal Development Standards			
2.7 Demolition	The demolition of a building or work may be carried out only with development consent	Demolition of the existing dwelling and associated outbuildings / structures is proposed.	**Complies** Demolition plans have been provided within the submitted architectural plans. Should the application be approved, conditions are recommended to ensure the proposed demolition is properly carried out.
4.3 Height of Buildings	Max Height = 8.5m	Max. 4.38m (Roof capping 26.130 – 21.75 NGL = 4.38m).	**Complies**
4.4 Floor Space Ratio (FSR)	Max FSR = 0.5:1	140m2 gross floor area (GFA) proposed. Site area = 636.70m2 0.22:1	**Complies**
5.10 Heritage Conservation	To protect and conserve existing	The site is not a heritage item, it is not near an item	**N/A**

	items/locations identified as containing significant heritage value	or within a heritage conservation area.	
7.31 Earthworks	Consent is required for earthworks	The proposal would result in minimal cut on the site to create a level area for the children.	**Complies**

As demonstrated in the above compliance table, the proposed development is consistent with the provisions of LLEP 2008.

6.2 Section 4.15(1)(a)(ii) - Any Draft Environmental Planning Instrument

There are no draft Environmental Planning Instruments which apply to the development.

6.3 Section 4.15(1)(a)(iii) - Any Development Control Plan

(a) Liverpool Development Control Plan (LDCP) 2008

The application has also been assessed against the relevant controls of LDCP 2008, particularly Part 1 General Controls for all Development and Part 3.8 Non-Residential Development in Residential Zones.

The development is found to achieve general compliance with the provisions of LDCP 2008 (as detailed in the tables contained under Attachment 3 addressing each relevant section) with exception of the following:

Contamination

The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of Section 10 – Contaminated Land Risk of the Liverpool Development Control Plan 2008 – Part 1 and Section 2.9 – Amenity and environmental impact - contaminants. The control requires that the previous use to be considered in assessing risk.

Further Part 3.8 Contaminants part of the DCP requires that all buildings whether to be built, extended, renovated or converted shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.

Council’s Environmental Health officer has reviewed the subject site history and confirmed that the submitted detailed site investigation report was unsatisfactory. The preliminary site investigation revealed low contamination risk potential however the detailed site investigation conducted included insufficient sampling and author accreditation details. The report was reviewed by Councils environmental health officer and was deemed to be unsatisfactory and that the site may be not suitable for the proposed sensitive land use.

Car parking and access

The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of Section 20 – Car parking and access of the Liverpool Development Control Plan 2008 – Part 1. The control requires the development to provide sufficient off-street car parking. The DCP requires 8 car parking spaces, however the development proposes 7, giving a shortfall of 1 car park space. With consideration of public submissions on this matter, the shortfall is unsatisfactory. Further discussion on this matter is located above in the SEPP (Transport and Infrastructure) 2021 section, the DCP assessment table located in attachment 3 and the community consultation section below.

Safety and security

The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of Section 29 – Safety and security of the Liverpool Development Control Plan 2008 – Part 1. The absence of direct access or windows within the admin and staff meeting rooms facing the lobby area compromises both security and functionality.

The proposed childcare centre has not fully satisfied Safer by Design and CPTED principles.

Site Location

The proposed development does not provide sufficient contamination information or details to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of Section 2.3 – Site location of the Liverpool Development Control Plan 2008 – Part 3.8. The control in part requires that childcare centres must be located and designed so as not to pose health or safety risk to children using the centre.

Landscaped Area

50% of the front setback

Part 3.8 of LDCP 2008 requires the following:

- *25% of the site area is to be landscaped area.*
- *A 5m x 6m area within the rear setback to be unencumbered deep soil.*
- ***50% of the front setback to be landscaped area.***
- *A 3m x 5m unencumbered deep soil area in the front setback area.*

The proposed childcare complies with all of the above relevant landscape controls except for the required 50% of front setback area to be landscaped due to the proposed at-grade car parking area. Numerically, the 50% front setback area requirement equates to 139m2, however the proposal provides 66m2, indicating a shortfall of 73.5m2. This shortfall is 53% below the required area. The proposed variation to the control is supported by the plant

screening provided to the front of the car park area, however this does not respect the local streetscape and local character viewed from the public interface. Although, the proposal has exceeded the total landscape area requirement by 38m2 and it is considered that the non-compliance within the front landscape area is not satisfactory.

For the reasons outlined above, the proposal is satisfactory as it provides for appropriate landscaping on the subject site.

Fencing

Part 3.8 of the DCP requires that the side (behind the building setback) and rear fencing shall be 1.8m in height. The side fencing is required to be 2.0m to the north, south and east by the acoustic assessment. The southern adjoining property has an awning adjacent to the proposed 2.0m high fence and would not cause significant adverse overshadowing. The height of the fence is acceptable in this instance. Other adjoining boundary properties would not be significantly adversely affected by the 2.0m high fence.

6.4 Section 4.15(1)(a)(iiia) - Planning Agreements

There are no planning agreements that apply to the development.

6.5 Section 4.15(1)(a)(iv) - The Regulations

The Environmental Planning and Assessment Regulation 2021 requires the consent authority to consider the provisions of the BCA and the safety standards for demolition under AS 2601 – 2001. Accordingly, appropriate conditions of consent would be imposed.

6.6 Section 4.15(1)(b) - The Likely Impacts of the Development

Natural and Built Environment

The development is unlikely to cause a detrimental impact on the natural environment in that the proposed development would not result in the removal of prominent trees. However, the landscape plan identifies non-compliance with the front setback and thus does not ensure that a positive balance between the built form and landscaping would be achieved.

The proposed building itself is consistent with the bulk and scale of the surrounding area and is suitable for the subject site. The visual appearance of the proposed built form is of a contemporary residential form which is atypical for the immediate streetscape. However, the small scale of the proposal contains design and landscaping flaws preventing it from integrating well into the streetscape. The proposal would thus have a detrimental effect on the built environment.

It is considered that the proposed development has been designed with sufficient regard to surrounding properties to ensure that any significant adverse amenity impact is minimised, particularly in terms of visual and acoustic privacy and overshadowing.

Social Impacts and Economic Impacts

The proposal would result in a positive economic impact in the locality through the redevelopment of the site to a childcare centre offering new employment opportunities. However, it is likely to create detrimental social impacts citing matters such as traffic and road safety.

6.7 Section 4.15(1)(c) - The Suitability of the Site for the Development

The proposal has not satisfactorily addressed relevant site contamination and parking requirements, and as such, Council is unable to confirm if the subject site is suitable for the proposed sensitive development.

6.8 Section 4.15(1)(d) - Any submissions made in accordance with the Act or the Regulations

(a) Internal Referrals

The following comments have been received from Council's internal departments:

DEPARTMENT	COMMENTS
Community Planning	No objections to the proposal
Development Engineering	Supported subject to conditions of consent.
Environmental Health	Objection to the proposal raising that unsatisfactory site sampling procedures had occurred in line with requirements and with author/reviewer reporting accreditation regarding the submitted detailed site investigation report. The review of the detailed site investigation is noted below after this table. Additionally, environmental health objects to construction details of the proposal, specifically the following: 1. The location of the designated food preparation sink. 2. A cleaner's sink for disposal of liquid waste (which is not to be located, in areas where open food is handled). 3. Details regarding whether the premises would require a grease trap in accordance with Sydney Water requirements. If required, details regarding the proposed capacity and location of the system shall be provided. 4. A designated hand washing facility fitted with a single spout capable of delivering a supply of warm

	running water via a hands-free mechanism, preparation/rinse sink and dishwasher to each bottle preparation area. This shall be in addition to any craft sinks. Insufficient sinks are demonstrated on the most recent plans for the bottle preparation area. 5. A designated hand washing facility fitted with a single spout capable of delivering a supply of warm running water via a hands-free mechanism provided within the immediate vicinity of each nappy changing area and a bench type baby bath within one metre from the nappy change bench. Insufficient provisions are provided at the only nappy change area which is located within the 3-5year old classroom area, with no proposed baby bath identified on the most recent plans. There are no nappy change facilities provided to or accessible from within the 0-2year old classroom. Adequate, developmentally, and age-appropriate toilet, washing and drying facilities must be provided. It is important to consider the age and number of children who would require access to the bathroom facilities and whether there are sufficient toilets and hand basins to ensure minimal delay for children requiring their use. Easy access from all indoor and outdoor play areas shall be provided. Also refer to the Building Code of Australia for requirements for new buildings in relation to the number and size of toilet pans and basins. There are no toilets provided on the plans for the 0-2year old classroom.
Traffic and Transport	Supported subject to conditions of consent.
Urban Design & Public Domain	Had deferred the development raising outstanding design matters including public domain works, internal window to lobby area, nappy change facilities to be adjacent to 0-2year activity room, evacuation procedures and further detail in landscape plan. Conditions of consent for any approval would include public domain works including footpaths, street tree provision and addressing minor internal arrangements.

Environmental Health review of the submitted detailed site investigation.

The application is supported with a document titled "Detailed Site Investigation 14 Satelberg Street, Holsworthy NSW" (Ref: E26316 Rev: 0) prepared by Chiho Lee and reviewed by Gregory Brickle for EI Australia Pty Ltd dated 22nd March 2024. It appears that the report has not been prepared or reviewed by a suitably qualified and experienced contaminated land consultant' who is certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) Scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) Scheme.

The site is identified as being 636.7m^2 in the report which is consistent with Councils records of 634.88m^2. A systematic sampling pattern was adopted, and the number of samples taken from the site was 8. This is significantly below the recommended minimum number of samples specified in the NSW EPA *Contaminated Land Guidelines Sampling Design Part 1 – application* of 15-16 samples for the site size. No samples have been taken near to or underneath any existing structures or hardstands.

Despite the insufficient number of samples and no samples being taken from near or under structures or hardstands, the report concludes that:

- No foreign materials, staining or odours were observed at the site or in the samples.
- Laboratory results were found to comply with the adopted criteria applicable to the sensitive land use setting (childcare centre).
- The health based and ecological risk from potential contaminants in the soil was deemed to be low and acceptable.

The report made the following recommendations in section 10:

- A hazardous materials survey be conducted by a suitably qualified consultant prior to any demolition works to establish/confirm the presence and location of any hazardous materials within the existing building fabric.
- Identified hazardous materials must be appropriately managed during future demolition works.
- An asbestos clearance certificate should be completed by a suitably qualified SafeWork NSW Licenced Asbestos Assessor.
- Following building and pavement demolition and removal, an inspection of the exposed surface should be performed by a suitably qualified environmental consultant.
- All soil materials that are designated for offsite disposal, including any virgin excavated natural material (VENM) must be pre-classified in accordance with the NSW EPA Waste classification Guidelines.
- Any material being imported to the site should be validated as suitable for the intended (residential/childcare) use in accordance with the NSW EPA guidelines. Imported filling/landscaping material must be certified as meeting the VENM classification *PRIOR* to importation.

Due to the insufficient number of samples taken, it is recommended that the document be peer reviewed by a suitably qualified and experienced contaminated land consultant, meaning someone who is certified under either the Environment Institute of Australia and

New Zealand's Certified Environmental Practitioner (Site Contamination) Scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) Scheme. The peer reviewer's comments and recommendations may need to be incorporated into revised reports supporting the application.

The report's cover or title page must confirm the reviewers certification under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) Scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) Scheme.

Therefore, Council is unable to recommend specific consultants or auditors. Based on the above discussion, it is recommended that the subject application be refused on contamination grounds in this instance.

(b) External Referrals

The following comments have been received from external authorities.

AUTHORITY	COMMENTS
APA	No objection to the development
Sydney Water	No objection with conditions

(c) Community Consultation

The proposal was notified in accordance with Liverpool Community Consultation Plan 2022 between 29 June 2023 and 17 July 2023. In response, twenty-two (22) submissions were received. The concerns raised are discussed below.

<u>Objection Issue #1 - Busy road due to close proximity to Holsworthy station</u>

Numerous objectors have raised concerns regarding the suitability of the site being close to Holsworthy train station in terms of traffic generation. Commuters regularly use Satelberg street to drop off and pick up public transport uses during peak hours of 7-9am and 4-6pm. This coincides with operating hours of the proposal, specifically the typical dropoff and pick up time for the childcare. The community expresses concern on increased traffic, the congestion caused by on-street car parking (two vehicles cannot transverse if vehicles are parked on either side).

Council comment: The hours of operation the development notes in the submitted plan of management is from 7am-6pm Monday to Friday. The centre is closed on the weekends and public holidays. Although the actual time of arrival and departure of children may vary within the operating hours, they may match with peak times of usage of the nearby train station, some guardians of children using the center may also be utilising the train station for work. The proposal does not the minimum off-street car parking as required by the DCP as discussed above.

It is noted that Council's Traffic and Transport section have reviewed the proposal in regard to traffic generation and impact. Based on the traffic generation rates in the Traffic for New South Wales (TfNSW) guide to traffic generating developments, the proposed development is expected to generate around 23 vehicular trips per hour (vtph) during the AM and 20 vehicular trips per hour (vtph) during the PM commuter peak period. The impact on the traffic network is minimal and the surrounding road network is expected to have the capacity to accommodate the additional traffic from the proposed development.

Objection Issue #2 – Parking

Numerous objectors have raised concerns about the generation of additional off-street carparking.

Council comment: The applicant has sought to justify non-compliance compliance with the off-street car parking requirements with the provision of a green travel plan utilising public transport.

It is noted that Council's Traffic and Transport section have reviewed the proposal in relation to car parking. The proposed parking is seven on-site parking spaces and the required parking rates is eight on-site parking spaces, indicating a shortfall of one on-site parking space. However, this is based on the relevant staff children ratio proposed in the plan of management which calculates the following:

Ratio proposed by the Plan of Management:
The proposed number of children for the childcare centre are:
* 0-2 years: 8 (eight) Children – requires 2 staff
* 2-3 years: 5 (five) Children – requires 1 staff
* 3-6 years: 15 (fifteen) Children – requires 2 staff

Total: 28 children requires 3 visitor parking plus 5 staff parking, with a total of eight parking spaces.

Hence a shortfall of one on-site parking.

However, within the 'development proposal' section of the submitted statement of environmental effects statement, an alternate staff to children ratio is proposed.

Ratio proposed by the Statement of Environmental Effects:
The proposed number of children for the childcare centre are:
*0-2 years: 8 (eight) Children requires 2 staff
*3-6 years: 20 (twenty) Children requires 2 staff

Total: 28 (twenty-eight) Children requires 3 visitor parking plus 4 staff parking, with a total of seven parking spaces.

As per the statement of environmental effect, the proposal is in compliance with the DCP in this arrangement.

The applicant responded to the higher car parking provision requirement scenario in the Plan of Management, by way of proposing an incentivised ‘green travel plan’ for staff and parents. The scope of this plan includes incentives for walking, using public transport, cycling, carpooling and staff professional development. The details of this proposal are shown on figure 10 below.

It is considered that reliance on a green travel plan is not sufficient grounds to justify a variation to the parking rates required for child care centers, especially given the concerns raised in the submissions. There is scope for the centre to be amended to comply with this requirement. Furthermore, it is considered that accepting a shortfall of one space in this case, would set an undesirable precedent for other centers of a similar style to the one proposed. Accordingly, Council does not support the proposal on this basis.

Management Approach: Edenbridge Green Travel Incentive Program

Mode of Travel	Edenbridge Incentive
Walking	StepChallenge - Monthly Green Raffle draw out. Each week staff with the highest step count receives a raffle in the monthly Green Raffle. Prizes include, yet not limited to: movie tickets, gift cards, fruit boxes, Flex days, restaurant vouchers. The more they walk, the more raffles they receive. The benefit of this incentive is two-fold, reduce traffic and transport burden, and necessity for the staff car park; yet also speaking to the Centre's commitment to healthy habits for all. Additionally, this incentive will have a live tracker displayed on our Foyer TV, allowing live step data to be updated, creating an atmosphere of collegial competition and excitement. This could also be extended to Parents, as we encourage them to walk to the centre with their children. This incentive may be extended to them, and a monthly draw will work to create excitement and garner a Centre community approach of all stakeholders walking Green.
Public Transport	Edenbridge's commitment to the Green Travel Plan and to the executive priority of a sustainable approach to their educative and organisational philosophy in addition to supplementing for the one deficiency in on site staff car park spot, will be reflected in a public transport staff rebate incentive. **Edenbridge will reimburse 50% of the weekly public transport costs, back to staff. This will be paid as an allowance and reimbursed with the fortnightly pay run.**
Cycle	Staff who decide to cycle to and from work will be gifted a lock up chain for their bike, for secure storage.
Carpooling	Edenbridge's commitment to the Green Travel Plan and to the executive priority of a sustainable approach to their educative and organisational philosophy in addition to supplementing for the one deficiency in on site staff car park spot, will be reflected in a carpooling staff incentive. Edenbridge will commit to pay a monthly petrol allowance to those staff who carpool together. Additionally, staff committed to carpooling will get priority rostering, to ensure those staff are rostered together for ease of the car pooling mode of travel. Additionally, every time staff utilise carpooling will receive a raffle in the monthly Green raffle Draw out.
Staff Professional Development/Learning	As part of our requirement to provide staff professional development, within the Staff Professional Learning Plan, sessions will be held on Environment Sustainability Awareness and Edenbridge's commitment to a Green Approach to all our practices. Making staff well informed on the benefits and need for a 'Green' approach to our mission, practices and educational approaches. This will work towards a centre focus of a 'Living Green Philosophy.' Which is founded in a purposed approach to green living. This encompasses travelling to and from work in a sustainable manner. Thus, incentivised through the above staff benefits.

Figure 10: Green travel incentive program (Source: Edenbridge green travel plan)

Objection Issue #3 - Curve on road fronting the subject site causing a blind spot
Numerous objectors raises concern regarding the access point to the proposal given that a road curve fronting the site presents a blind spot. The road is a narrow local road with max road speed of 40km/hr.

Council comment: Council traffic and transport section have assessed the proposal and have raised no objections subject to a left-in and left-out access condition. This traffic control aims to prevent incidents arising from the reduced sight-line constraint.

Objection Issue #4 - Pedestrian walkway for the elderly
Numerous objectors raise hazard concerns for elderly and local residents who frequently go on morning walks.

Council comment: The subject site is located one residential block south from a public reserve, attracting local pedestrian activity.

Should the application be approved, a condition of consent would be placed for the construction of footpaths to the public domain fronting the subject site.

Objection Issue #5 - Noise
Numerous objectors raise concerns regarding additional noise produced from the centre based child care.

Council comment: Construction noise would be controlled by conditions of consent that would be imposed on the development consent.

Operational noise has been addressed by the acoustic assessment submitted with the application which was reviewed by Council's Environmental Health section and the conclusions supported. The recommended operational measures included acoustic fencing which could be conditioned, should the application be approved.

Should any subsequent noise issues be raised, a complaint's handling system is built into the applicant's plan of management which should the application be approved, would form part of the conditions of consent.

6.9 Section 4.15(1)(e) - The Public Interest

The objections raised during community consultation that have not been addressed in a satisfactory manner and have been noted in the reasons for refusal.

Additionally, due to the insufficient information being submitted with the subject application regarding contamination, health concerns are raised with the discovery and appropriate removal of possible contaminated material from the subject site, and the proposal if approved would be contrary to the public interest in this instance.

7. DEVELOPMENT CONTRIBUTIONS

Section 7.11 development contributions are applicable to this proposed land use and would be imposed as a condition if the DA was to be approved.

8. CONCLUSION

The subject application has been assessed having regard to the provisions of Section 4.15 of the EP&A Act 1979, and environmental planning instruments, including applicable state environmental planning policies, Liverpool Local Environmental Plan 2008 and Liverpool Development Control Plan, and relevant codes and policies of Council.

It is noted that Council is not satisfied that the proposal would be suitable for the subject site raising concerns with relevant outstanding matters discussed above in detail above in this report (see Attachment 4 for the recommended reasons for refusal).

9. RECOMMENDATION

That development application DA – 347/2023 be refused.

ATTACHMENTS

1. Plans of the proposal
2. Childcare planning guideline
3. Liverpool DCP Table
4. Reasons for refusal
5. Statement of Environmental Effects
6. Detailed site investigation report
7. Applicant's response to community submissions - Confidential
8. Applicant's response to final request for additional information - Confidential

NCC and Australian Standards:

H1 Structure :

Site Provisions
(deemed to satisfy provision H1D2)

- Structure Provisions to be provided in accordance to section 2 of the housing provisions of the NCC or relavant provision of H1D3 to H1D2 of housing provisions of the NCC or any combination thereof

Site Preparation
(deemed to satisfy provision H1D3)

- Site preparation to be in accordance with the following
* part 3.2 of housing provisions of the NCC as site classed as A.S.M.H or E in accordance to part 4.2.2 of housing provisions of the NCC for earth works associated with a building structure.
*AS4678 for earth retaining
* part 3.4 of housing provisions of the NCC for termite risk management

Footings & Slabs
(deemed to satisfy provision H1D4)

- footings & slabs to be constructed in accordance with AS 2870, AS 3600 where it fall in with the requirements of section 4 of housing provisions of the NCC

Masonary
(deemed to satisfy provision H1D5)

(a) AS3700 or AS4773.1 & AS4773.2 part 5 of the housing provisions of the NCC provided:
(b) wind class N3 & less
(c) comply with H1D4 & part 5.6 using components of part 5.7 of the housing provisions
(d) soil class A.S.M in accordance to AS2870
(e) tied masonary as per H1D6
(f) not located within alpine areas
(g) no earthquake affected design requirements
- cavity brick unreinforced to be constructed in accordance with:
(a) AS3700 or AS4773.1 & AS4773.2
or part 3 of the housing provisions of the NCC provided:
(b) wind class N3 & less
(c) comply with H1D4 & part 5.6 using components of part 5.7 of the housing provisions
(d) soil class A.S.M in accordance to AS2870
(e) tied masonary as per H1D6
(f) not located within alpine areas
(g) no earthquake affected design requirements
- single leaf unreinforced masonary to be constructed in accordance with:
(a) AS3700 or AS4773.1 & AS4773.2 or
part 4 of the housing provisions of the NCC provided:
(b) wind class N3 & less
(c) comply with H1D4 & part 5.6 using components of part 5.7 of the housing provisions
(d) soil class A.S.M in accordance to As2870
(e) tied masonary as per H1D6
(f) not located within alpine areas
(g) no earthquake affected design requirements
- reinforced masonary to be constructed in accordance with AS3700 excl... piers or AS4773.1 & AS4773.2
- isolated masonary piers to be constructed in accordance with:
(a) part 8.5.1 of housing provisions of the NCC & section 7 in accordance to tables 10.3 & 4.1 (a)(i)(c) of AS 3700 or part 3 of the housing provisions of the NCC provided
(b) AS4773.1 & AS4773.2
(c) part 5 of the housing provisions of the NCC provided
* wind class N3 & less
*comply with H1D4
*comply with part 5.6.2(4) of the housing provisions of the NCC and have 6.2MPa for solid & core units & 15 MPa fpr hollow units.
*the roof & walls provide lateral bracing for the top of pier as per part 8.5.1 of housing provisions of the NCC & section 7 in accordance to tables 10.3 & 4.1 (a)(i)(c) of AS 3700 or part 3 of the housing provisions of the NCC provided:
(d) soil class A.S.M in accordance to AS2870
(e) not located within alpine areas
(f) no earthquake affected design requirements
- Masonary accessories to be constructed in accordance with:
(a) AS3700 or
(b) AS4773.1 & AS4773.2
(c) part 5.6 of housing provisions of the NCC provided
* wind class N3 & less
* not located within alpine areas
* no earthquake affected design requirements

Framing
(deemed to satisfy provision H1D6)

- Steel framing to be constructed in accordance with NASH standard residential & low rise steel framing Part 1 & 2 AS4100 & AS/NZS4600
- timber framing to be constructed in accordance with AS1684.2 AS1720.5 AS1684.4 & As1860.2 if within a cyclone area AS1684.3
- structural steel sections to be constructed in accordance with AS4100, AS/NZS 4600 & be associated with part 6.3.1 to 6.3.9 of housing provisions of the NCC (not restrictions apply to 6.3.1 to 6.3.1)
- Software in accordance with ABCB protocol for structural software & geometric limits, programs that contain similar tables to AS1684 & NASH standard residential 7 low rise steel framing Part 2 can apply.

Structure Roof & Wall Cladding
(deemed to satisfy provision H1D7)

- slates & shingles as selected to be in accordance with AS4597
- roof tiles as selected to be in accordance with AS2050 or AS2049 & be associated with part 7.3.1 to 7.3.6 of housing provisions of the NCC
- metal sheet roofing as selected to be in accordance with AS1562.1 & be associated with clause 7.2.1 to 7.2.8 of housing provisions of the NCC
- timber & composite wall cladding to be in accordance with AS5146.1 for autoclaved aerated wall cladding or part 7.5.1 to 7.5.8 of housing provisions of the NCc for wall cladding
- metal wall cladding to be in accordance with AS1562.1

Earthquake Areas
(deemed to satisfy provision H1D9)

- class 1 & 10 building to be in accordance with section 2 of the housing provisions of the NCC subject to seismic activity.

Flood Hazard
(deemed to satisfy provision H1D10)

- class 1 to be in accordance with housing provisions of the NCC

Attachment of Framed Decks and Balconies to External walls of Buildings using a Waling Plate
(deemed to satisfy provision H1D11)

- Attachment of framed decks and balconies to external walls of buildings using a waling plate to be in accordance with part 12.3 of housing provisions of the NCC.
(subject to conditions)

Piled Footings
(deemed to satisfy provision H1D12)

- piled footings to be in accordance with AS2159.

H2 Damp & Weather Proofing:

Drainage
(deemed to satisfy provision H2D2)

- drainage is to be in accordance with AS?NZS 3500.3 & part 3.3 of the housing provisions of the NCC for
* roofs in areas subject to 5 minute duration rainfall intensities of not more than 255mm per hour over an annual exceedance probability of 5% (as per table 7.4.3d of the ABCB Housing Provisions) where a drainage system is required and
* sub-soil areas where excessive soil moisture problems may occur
* land adjoining and under buildings.

Footings & Slabs
(deemed to satisfy provision H2D3)

- footings & slabs to be provided in accordance with H1D4 (1) or (b)

Masonary
(deemed to satisfy provision H2D4)

- masonary walls to be provided in accordance with either AS3700 , AS4773.1 & AS4773.2 or part 5.7.1 to 5.7.6 in accordance to H1D5

Subfloor Ventilation
(deemed to satisfy provision H2D5)

- foundations areas to be provided with access & subfloor ventilation to be in accordance with part 6.2.1 of housing provisions of the NCC

Weather Proofing Roof & Wall Cladding
(deemed to satisfy provision H2D5)

- gutters & downpipes to be in accordance with AD/NZS3500.3 & part 7.4.1 to 7.4.7 of housing provisions of the NCC

Glazing
(deemed to satisfy provision H2D7)

- glazing to be in accordance with H1D8(1) of the NCC

External Waterproofing
(deemed to satisfy provision H2D8)

- external waterproofing to be in accordance with AS4654.1 & AS465.42 which is also applied to roofing systems with H1D7(2) & (3) , terraces, balconies, suspended concrete slabs & spaced decking in conjunction to framing that are suitable for external use.

H3 Fire Safety:

Fire Hazard properties & non-combustible Building elements -(to be provided in accordance to H3D2)

- Flexible ductwork used for the transfer of products initiating from a heat source that contains a flame must comply with the fire hazard properties set out in AS4254.1.

Fire separation from External Walls
(deemed to satisfy provision H3D3)

- fire separation from external walls to be provided in accordance to part 9.2.1 to 9.2.10 of housing provisions of the NCC

Fire protection of separating walls & floors
(deemed to satisfy provision H3D4)

- fire separation from external walls to be provided in accordance to part 9.3.1 to 9.3.4 of housing provisions of the NCC

Fire separation of garage top dwellings
(deemed to satisfy provision H3D5)

-fire separation of garage-top-dwellings to be provided in accordance to part NSW 9.4.1 to NSW 9.4.3 of housing provisions of the NCC.

Smoke Alarms & evacuation Lighting
(deemed to satisfy provision H3D6)

- smoke alarms and evacuation lighting to be provided in accordance to part 9.5.1 to 9.5.5 of housing provisions of the NCC AS3786 & AS1670.1

H4 Health & Amenity:

Wet Areas Waterproofing
(deemed to satisfy provision H4D2)

- wet areas to be provided in accordance with part 10.2.1 to 10.2.32 of housing provisions of the NCC.

Materials & Installation of wet area components & systems
(deemed to satisfy provision H4D3)

- Materials and installation of wet area components and systems to be provided in accordance to part 10.2.1 to 10.2.6 of housing provisions of the NCC & comply with either AS3740 & part 10.2.12 of housing provisions of the NCC or part 10.2.7 to 10.2.32 of housing provisions of the NCC.

Room Heights
(deemed to satisfy provision H4D4)

- room heights to be provided in accordance to part 10.3.1 of the housing provisions of the NCC.

Facilities
(deemed to satisfy provision H4D5)

- facilities to be provided in accordance to part 10.4.1 to 10.4.2 of the housing provisions of the NCC.

Light
(deemed to satisfy provision H4D6)

- light to be provided in accordance to part 10.5.1 to 10.5.2 of the housing provisions of the NCC.

Ventilation
(deemed to satisfy provision H4D7)

- ventilation to be provided in accordance to part 10.6.1 to 10.6.3 of the housing provisions of the NCC.

Sound Insulation
(deemed to satisfy provision H4D8)

- sound insulation to be installed in accordance to part 10.7.1 to 10.7.8 of the housing provisions of the NCC.

Condensation Management
(deemed to satisfy provision H4D9)

- condensation management systems to be installed in accordance with 10.8.1 to 10.8.3 of housing provisions of the NCC.

H5 Safe Movement & Access:

Stairway & Ramps Construction
(deemed to satisfy provision H5D2)

- stairs & ramps to be in accordance to part 11.2 of housing provisions of the NCC.
- barriers & handrails to be in accordance to part 11.3 of housing provisions of the NCC.

Window Protection

- window protection to bedrooms & to other rooms other than bedrooms to be in accordance to housing provisions 11.3.7 to 11.3.8 of NCC.

Additional:

all aspects of construction to be complaint with relevant performance requirements of the NCC and Australian Standards including, but not limited to, the following:

garage and driveway profiles/grades to comply in accordance with associated standards AS2890

Termite Control Measures:

- redstop pipe penetration
- granite guard application to perimeter wall in accordance with AS3660.1 Clause 6.59 & 6.60

Vertical Articulation Joints

-vertical articulation joints to be as per 5.6.8 of ABCB housing provisions.

Stairs, Ramps & Balustrade note:

- stairs will be constructed in accordance with the requirements of Clause 11.2.2 to the housing provisions of the NCC.
- finishes of all stairs will meet the requirements of Clause 11.2.4 of the housing provision of the NCC.
-any landings will meet the requirements of Clause 11.2.5 to the housing provisions of the NCC.
- ramps will be constructed in accordance with the requirements of Clause 11.2.3 of the housing provisions of the NCC.
-thresholds will be constructed in accordance with the requirements of Clause 11.2.6 of the housing provisions of the NCC.
- stairs will be serviced by a handrail in accordance with the requirements of Clause 11.3.1 to 11.3.6 of the housing provisions of the NCC.
- the balustrades servicing the dwelling (both internal & external) of the housing provisions of the NCC.

Wet Area Flashing

-to be in accordance to AS3740 or housing provisions 10 of NCC.

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Project Title :
Centre Base Childcare at:
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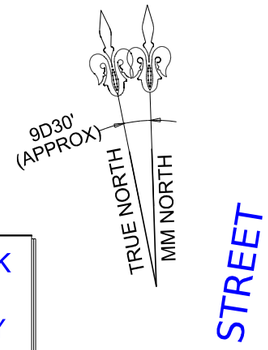
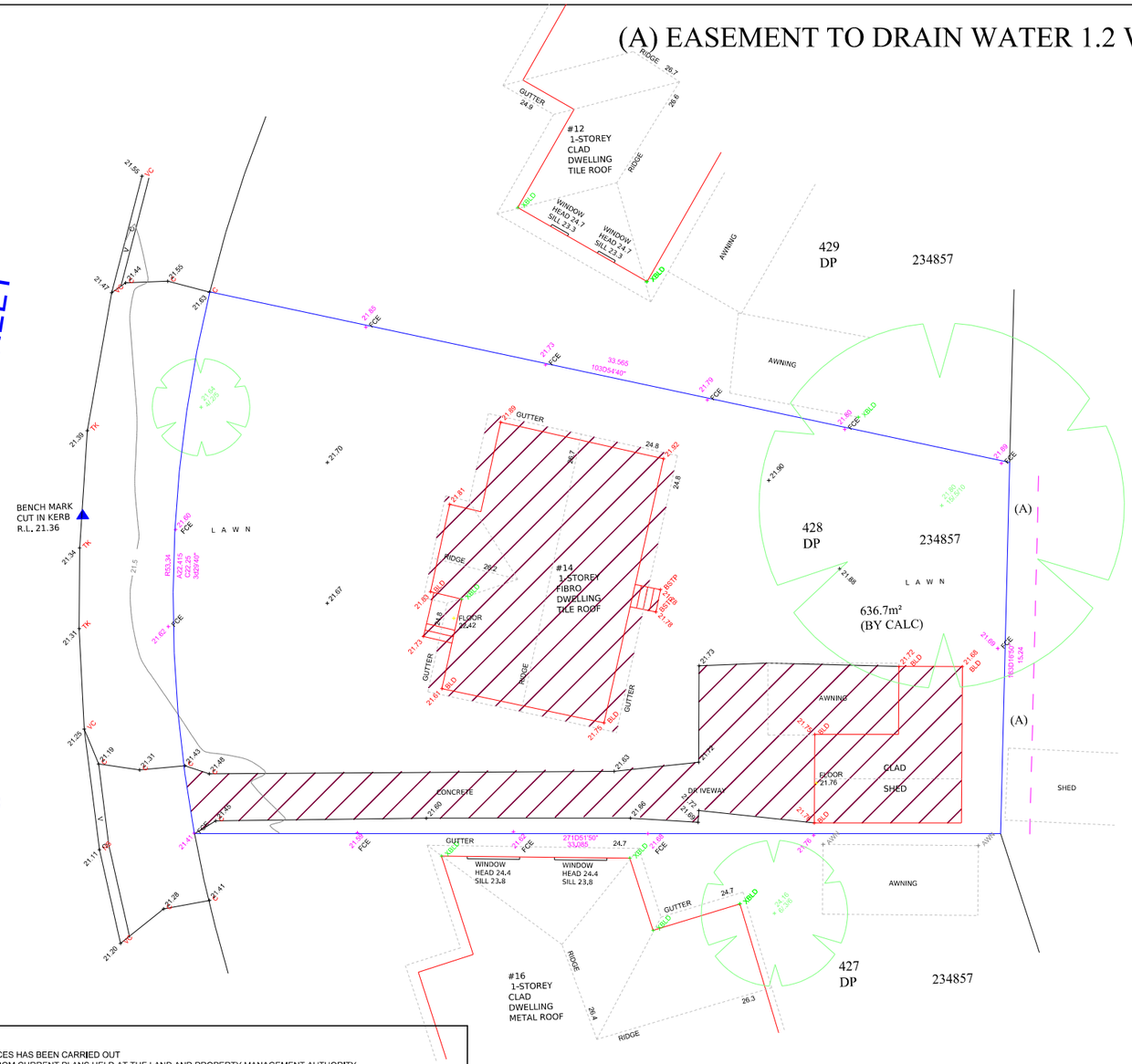
SPECIFICATION

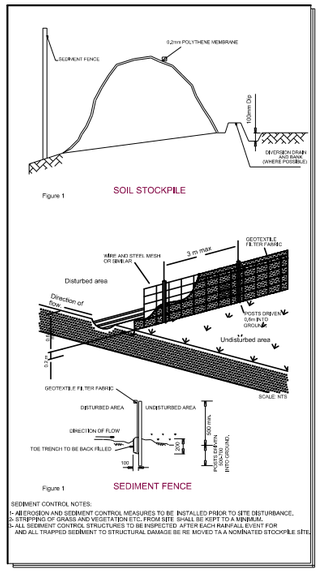
Scale:	Drawn By:	Drawing No.
NTS	dbb	00
Date:	Issue:	
13/03/22	DA-D	

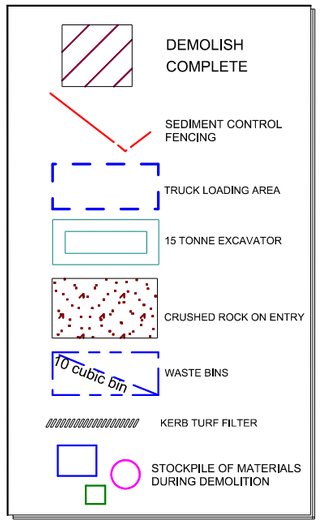
NOTE :
Demolition methodology and waste management associated with the demolition component of the development in accordance with Page | 2 clause 92 of the Environmental Planning and Assessment Regulation 2000 and the provisions of AS 2601.

The EPA Regulations 2000 requires the consent authority to consider the provisions of the Building Code of Australia. This matter can be addressed via a condition of consent should this application be approved.
Clause 92 of the EPA Regulations 2000 requires the consent authority to consider AS 2601 - 1991: The Demolition of Structures. This matter can be addressed via a condition of consent should this application be approved.









DEMOLTION WORK HOURS:
MONDAY - FRIDAY
7AM - 5PM

ESTIMATE TIME FOR DEMOLITION COMPLETION 1 WEEK

LEGEND

	BENCH MARK
	SETOUT MARKS
ELP	ELECTRIC LIGHT POST
GM	GAS METER
GV	GAS VALVE
HYD	HYDRANT
KIP	KERB INLET PIT
PP	POWER POLE
SIP	SEWER INSPECTION POINT
SMH	SEWER MANHOLE
SV	STOP VALVE
SS	STREET SIGN
	TELECOM PIT
TP	TELECOM PILLAR
H 24	DENOTES TREE: SPREAD/ TRUNK/HEIGHT
WM	WATER METER
TAP	WATER TAP
VC	VEHICLE CROSSING
PC	PEDESTRIAN CROSSING
	STORMWATER PIPE

NOTES

1. ALL RUN OFF AND SEDIMENT CONTROL STRUCTURES WILL BE MAINTAINED IN A FUNCTIONAL CONDITION
2. REVEGETATION WORKSHAY MULCHING MUST USE STRAW THAT IS GUARANTEED WEED FREE AND A "DRYLAND" SEED MIXTURE IN ALL APPLICATIONS
3. AREAS NOT USED FOR BUILDING SHOULD BE RETAINED WITH VEGETATION
4. REVEGETATION ON RETAIN CUT AND FILLS AS SOON AS POSSIBLE DURING CONSTRUCTION

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NOTES

HAVE NOT BEEN MARKED
NO SURVEY OF UNDERGROUND SERVICES HAS BEEN CARRIED OUT
BOUNDARIES HAVE BEEN COMPILED FROM CURRENT PLANS HELD AT THE LAND AND PROPERTY MANAGEMENT AUTHORITY
CONTOURS ARE INDICATIVE OF TOPOGRAPHY AND CANNOT BE USED TO INFER REDUCED LEVELS AT ANY POINT
THIS SURVEY IS FOR DESIGN PURPOSES ONLY AND IS NOT TO BE USED FOR ANY CONSTRUCTION
DATA MAY BE CAPTURED BY INDIRECT MEANS AND IS TO A STANDARD OF ACCURACY APPROPRIATE FOR THIS TYPE OF SURVEY
ALL FEATURES, LEVELS AND CONTOURS SHOWN ON ADJOINING LOTS ARE INDICATIVE ONLY
THIS SURVEY IS NOT TO BE USED TO DETERMINE THE LOCATION OF BOUNDARIES
ORIGIN OF LEVELS WAS OBTAINED FROM SSM 70983 R.L. 21.141 AHD

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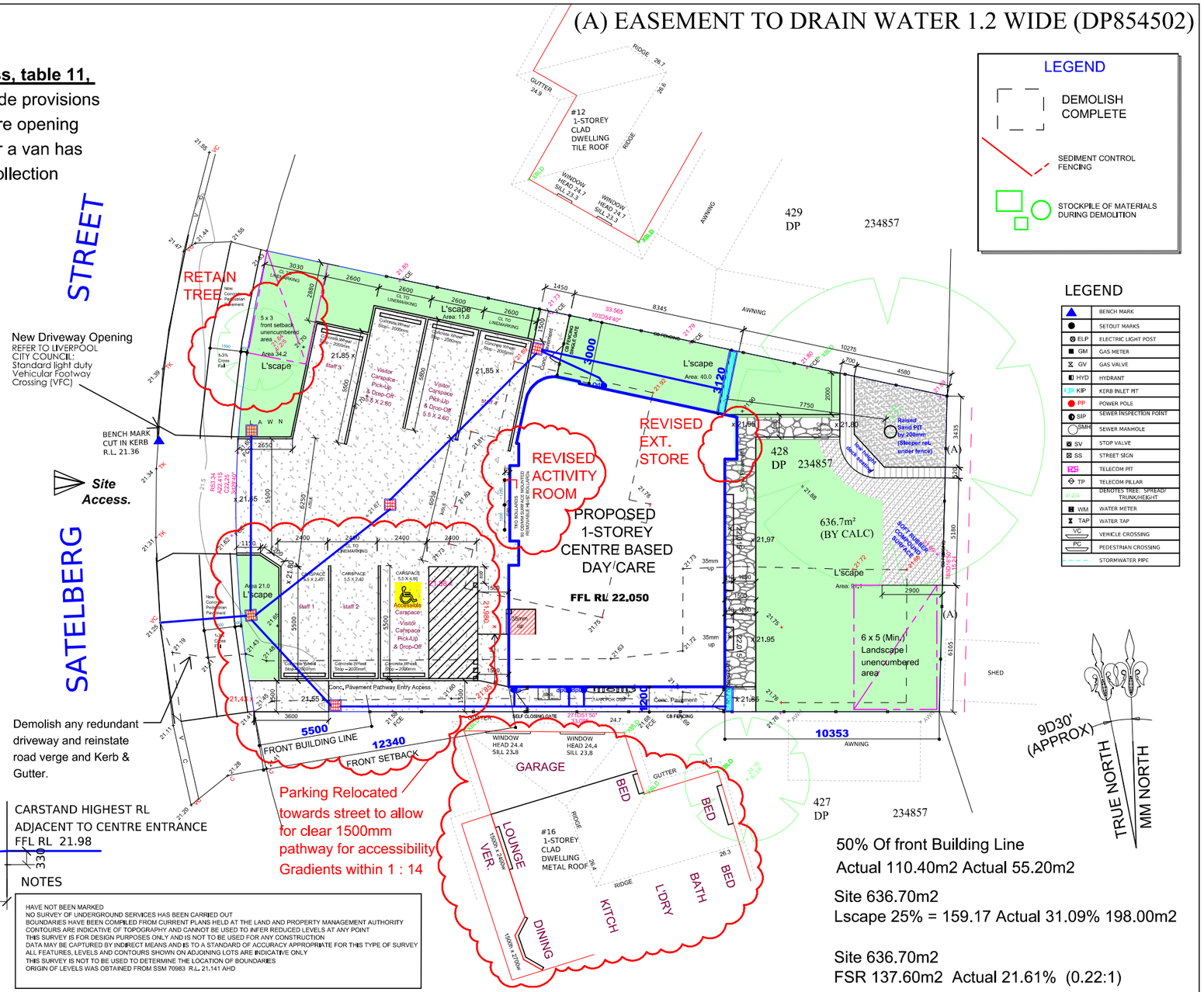
DEMOLITION & EXISTING SITE PLAN

Scale:	Drawn By:	Drawing No.
1:200	dbb	01
Date: 13/03/22	Issue: DA-D	

DELIVERIES

15. In reference to section 20 car parking and access, table 11,

off-street car parking provision requirements also include provisions for pick up and set down of children are leading to centre opening hours and centres closing hours. All service facilities for a van has instructions to deliver Deliveries, and goods or waste collection between 10:00am and 2:00pm.



LEGEND

▲	BENCH MARK
●	SETOUT MARKS
⊗ ELP	ELECTRIC LIGHT POST
■ GM	GAS METER
⧗ GV	GAS VALVE
HYD	HYDRANT
KIP	KERB INLET PIT
● PP	POWER POLE
SIP	SEWER INSPECTION POINT
SMH	SEWER MANHOLE
⊠ SV	STOP VALVE
⊠ SS	STREET SIGN
TP	TELECOM PIT
TP	TELECOM PILLAR
	DENOTES TREE: SPREAD/ TRUNK/HEIGHT
WM	WATER METER
TAP	WATER TAP
VC	VEHICLE CROSSING
PC	PEDESTRIAN CROSSING
	STORMWATER PIPE

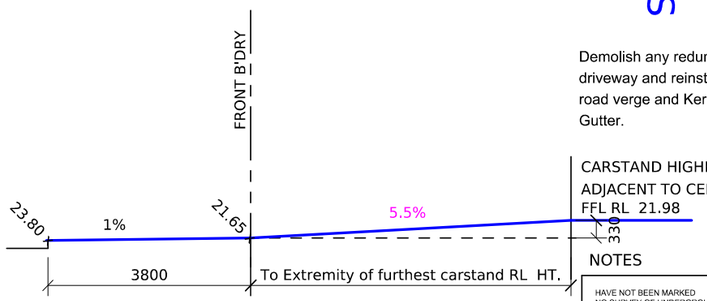
50% Of front Building Line
Actual 110.40m2 Actual 55.20m2

Site 636.70m2
Lscape 25% = 159.17 Actual 31.09% 198.00m2

Site 636.70m2
FSR 137.60m2 Actual 21.61% (0.22:1)

DRIVEWAY PATH & CROSSING

e) Footpath Width of the footpath shall be 1.5m with a cross fall (slope) between 1.0% - 3.0%. Council reserves the right to vary its specification(s) on a case-by-case scenario in specific or priority areas.
Refer to standard drawing:
R23 for further details.



NEW DRIVEWAY - PROFILE

NOTES

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PROPOSED SITE PLAN

Scale:	Drawn By:	Drawing No.
1:200	dbb	02
Date: 13/03/22	Issue: DA-D	

Health and amenity: -
- Wet areas - Part 3.8.1 of the NCC (Volume 2) and AS 3740 (2004) Waterproofing of wet areas in residential buildings
- Kitchen, sanitary and washing facilities - Parts 3.8.3.2 and 3.8.3.3 of NCC 2019 (Volume 2)
- Natural and artificial light - Parts 3.8.4 of NCC 2019 (Volume 2)
- Mechanical Ventilation to exterior **LAUNDRY, POWDER Rm, KITCHEN**, **BATHROOM and ENSUITE** Part 3.8.5 of NCC 2019 (Volume 2)

Floor Plan Legend	
	Proposed Ground/ Floor Level
CSD	Cavity Sliding Door
CT	Ceramic Tiling
DP	Downpipe
DR	Drain
FW	Floor Waste
SSS	Selected Stainless Steel Sink
LOH	Lift Of Hinges
DW	Selected Dishwasher
OH	Overhead storage
BFC	Broom Finish Concrete
TFT	Non Slip Terra-Cotta FloorTiles
VY	Selected Vinyl Flooring
SA	Smoke Alarms AS3786-2014
EF	Extractor Fan to Exterior

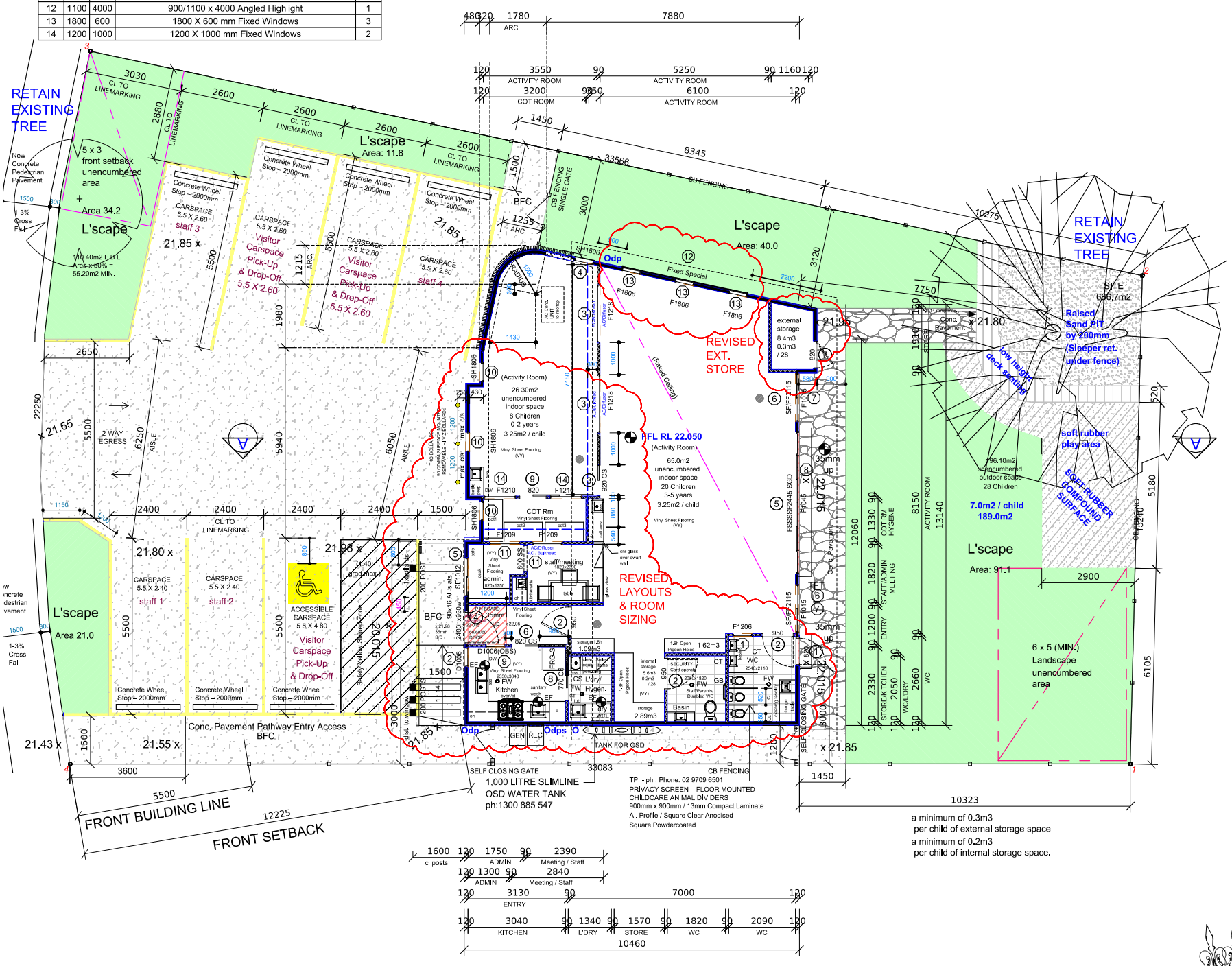
Window Schedule

Mark	Height	Width	Description	Count
1	1200	610	1200 X 610 mm Fixed Windows	1
2	1000	610	1000 X 610 mm Hung Windows	1
3	1200	1810	1200 X 1810 mm Fixed Windows	2
4	1800	610	1800 X 610 mm Hung Windows	1
5	1000	1210	1000 X 1210 mm Sliding Windows	1
6	2100	1510	2100 X 1510 mm Sliding Windows	2
7	1050	1510	1050 X 1510 mm Fixed Windows	2
8	1050	4446	1050 X 4446 mm Fixed Windows	1
9	1000	610	1000 X 610 mm Hung Windows (OBS.)	1
10	1800	610	1800 X 610 mm Hung Windows	3
11	1200	950	1200 X 950 mm Fixed Windows	2
12	1100	4000	900/1100 x 4000 Angled Highlight	1
13	1800	600	1800 X 600 mm Fixed Windows	3
14	1200	1000	1200 X 1000 mm Fixed Windows	2

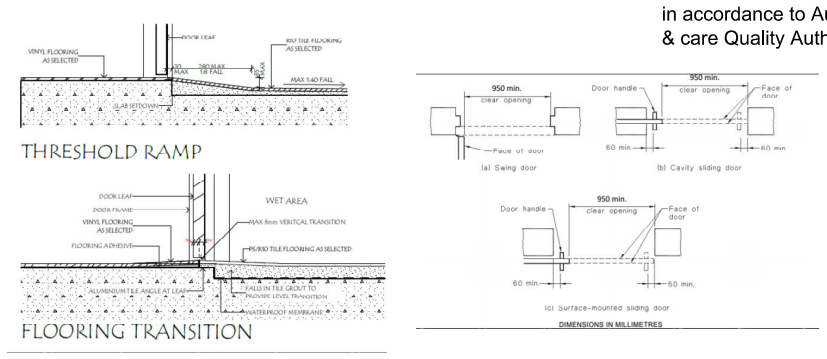
Door Schedule

Mark	Height	Width	Description	Count
1	2400		90 x 2040 x 820mm - Hinged - Rear Entrance Door	1
2	2040		90 x 2040 x 950mm - Int. Hinged Door	3
3	2040		90 x 2040 x 920mm Cavity Slider	1
4	2400		90 x 2400 x 950mm - Hinged - Entrance Door	1
5	2400		2400 mm X 4446 mm Sliding Glass Door	1
6	2040		90 x 2040 x 820mm Cavity Slider	1
7	2400		90 x 2400 x 820mm Rear Storage Door	1
8	2040		90 x 2040 x 770mm Cavity Slider	1
9	2040		90 x 2040 x 820mm Face of Wall Sliding Door	1

Site 636.70m2
FSR 137.60m2 Actual 21.61% (0.22:1)
50% Of front Building Line
Actual 110.40m2 Actual 55.20m2
Site 636.70m2
Lscape 25% = 159.17 Actual 31.09% 198.00m2



5 no. Early Childhood Teacher requirements in accordance to Australian Childrens Education & care Quality Authority



THRESHOLD & ENTRY DOOR

NOTE:
* ALL DOWNPIPES TO BE IN ACCORDANCE WITH HYDRAULIC ENGINEERS DETAILS
* ALL STEEL BEAMS & TIMBER BEAMS TO BE IN ACCORDANCE WITH ENGINEERS DETAILS.
* ALL ARTICULATION JOINTS TO BE IN ACCORDANCE WITH ENGINEERS DETAILS

0 1 2 3 4 5 8
1:100

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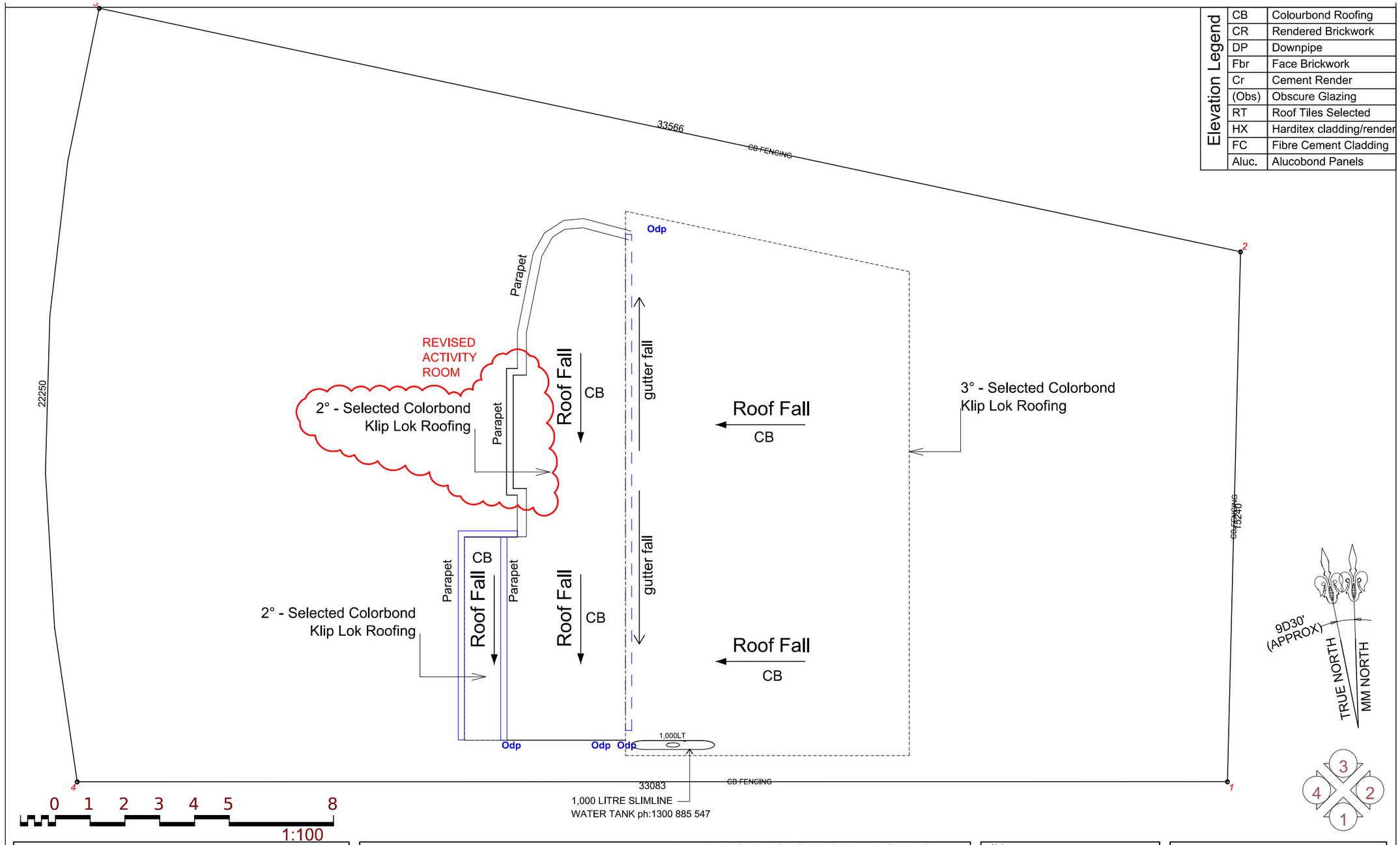
GROUND FLOOR PLAN

Scale:	Drawn By:	Drawing No.
1:100	dbb	03
Date: 13/03/22	Issue: DA-D	



Elevation Legend		
	CB	Colourbond Roofing
	CR	Rendered Brickwork
	DP	Downpipe
	Fbr	Face Brickwork
	Cr	Cement Render
	(Obs)	Obscure Glazing
	RT	Roof Tiles Selected
	HX	Harditex cladding/render
	FC	Fibre Cement Cladding
	Aluc.	Alucobond Panels

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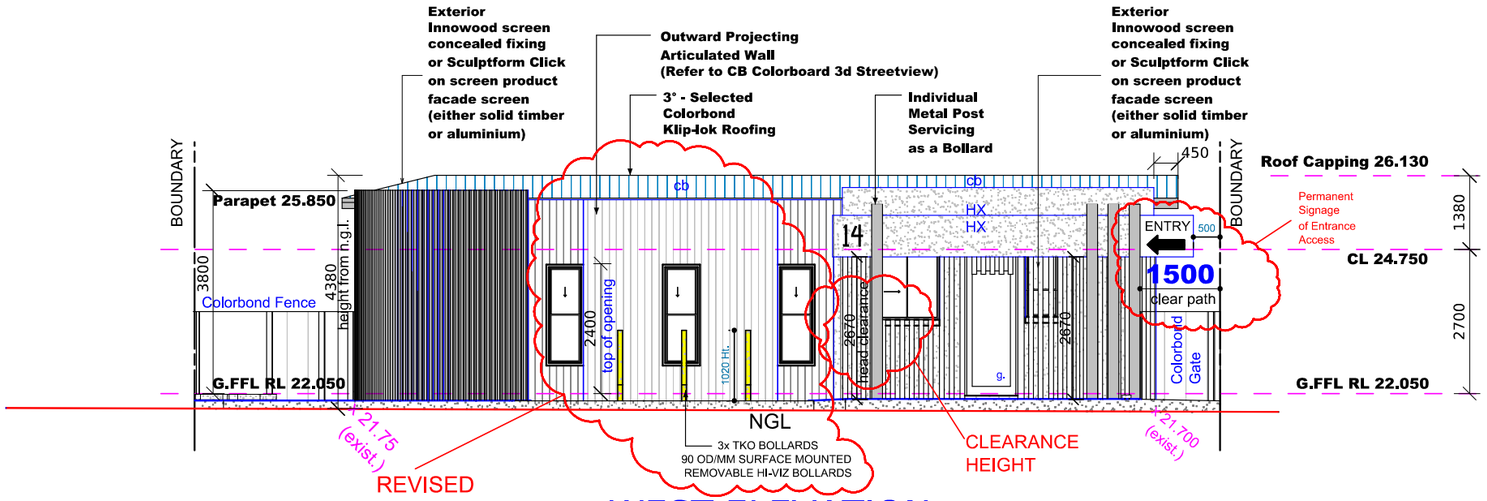
ROOF FLOOR PLAN

Scale:	Drawn By:	Drawing No.
1:100	dbb	04
Date: 13/03/22	Issue: DA-D	

Elevation Legend		
	CB	Colourbond Roofing
	HX	Harditex cladding/render
	(Obs)	Obscure Glazing
	Ax	Axon vertical cladding
	Apol.	Apolic Cladding



WEST ELEVATION

FRONT ELEVATION

(TO SATELBERG STREET)

0 1 2 3 4 5 8
1:100

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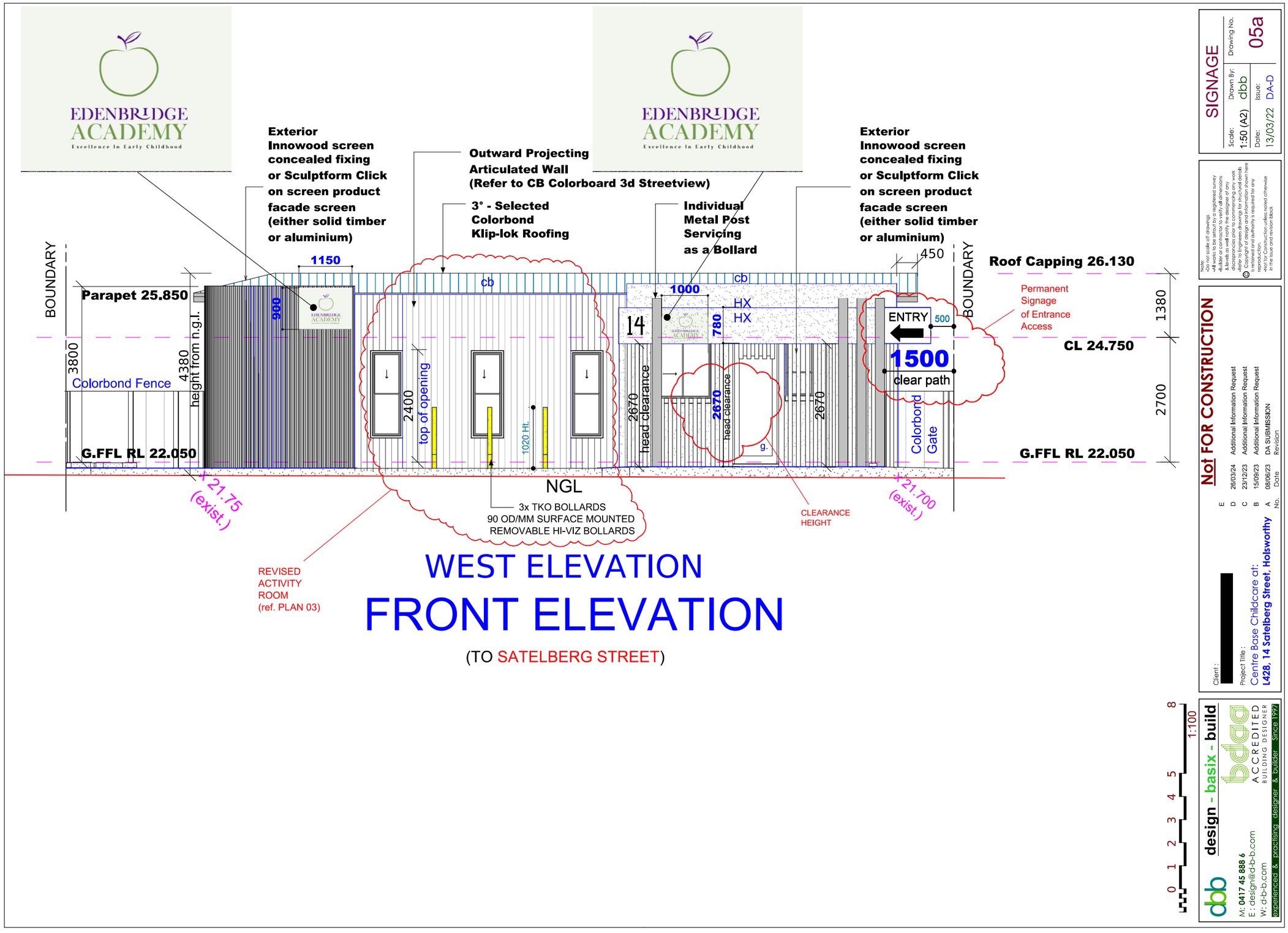
FRONT ELEVATION

Scale:	Drawn By:	Drawing No.
1:100	dbb	05
Date: 13/03/22	Issue: DA-D	


EDENBRIDGE ACADEMY
Excellence In Early Childhood
Exterior Innowood screen concealed fixing or Sculptform Click on screen product facade screen (either solid timber or aluminium)
Outward Projecting Articulated Wall (Refer to CB Colorboard 3d Streetview)
3° - Selected Colorbond Klip-lok Roofing
Individual Metal Post Servicing as a Bollard
Exterior Innowood screen concealed fixing or Sculptform Click on screen product facade screen (either solid timber or aluminium)
BOUNDARY
Parapet 25.850
3800
Colorbond Fence
4380
height from n.g.l.
G.FFL RL 22.050
1150
900
cb
2400
top of opening
1020 Ht.
1000
14
780
HX
HX
2670
head clearance
450
ENTRY
500
1500
clear path
Colorbond Gate
Roof Capping 26.130
Permanent Signage of Entrance Access
CL 24.750
1380
2700
G.FFL RL 22.050
NGL
x21.75 (exist.)
x21.700 (exist.)
3x TKO BOLLARDS
90 OD/MM SURFACE MOUNTED
REMOVABLE HI-VIZ BOLLARDS
CLEARANCE HEIGHT
REVISED ACTIVITY ROOM (ref. PLAN 03)
WEST ELEVATION
FRONT ELEVATION
(TO SATELBERG STREET)
SIGNAGE
Scale: 1:50 (A2)
Drawn By: dbb
Drawing No. 05a
Date: 13/03/22
Issue: DA-D
Not FOR CONSTRUCTION
E 26/03/24 Additional Information Request
D 23/12/23 Additional Information Request
C 15/09/23 Additional Information Request
B 08/06/23 DA SUBMISSION
A Date Revision
No.
Client :
Project Title :
Centre Base Childcare at:
L428, 14 Satelberg Street, Holsworthy
0 1 2 3 4 5 8
1:100
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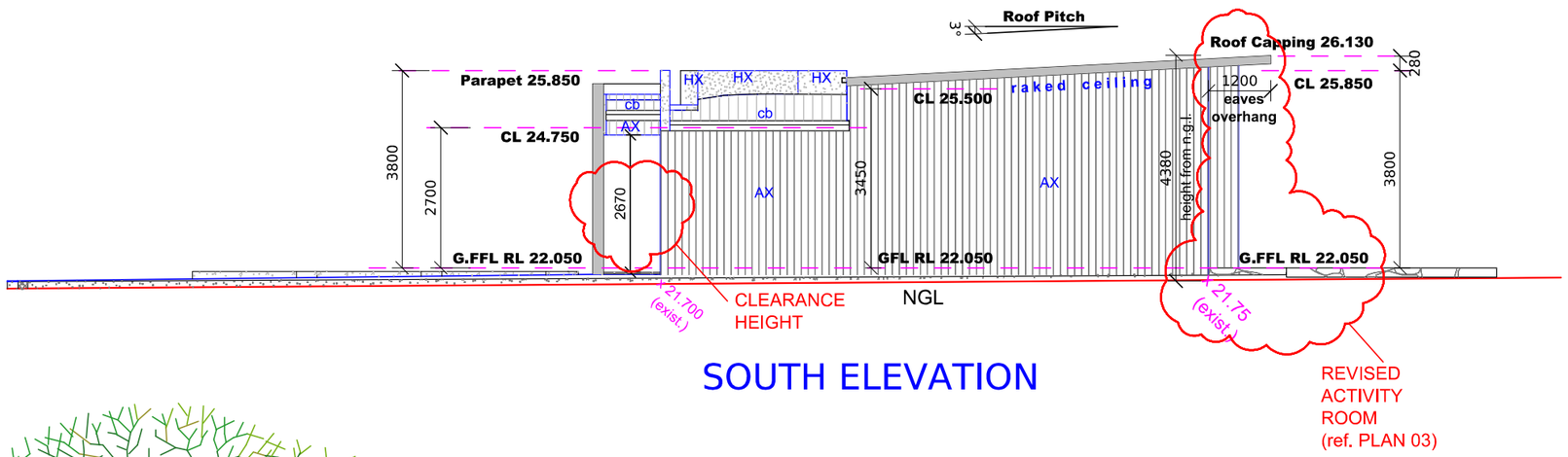
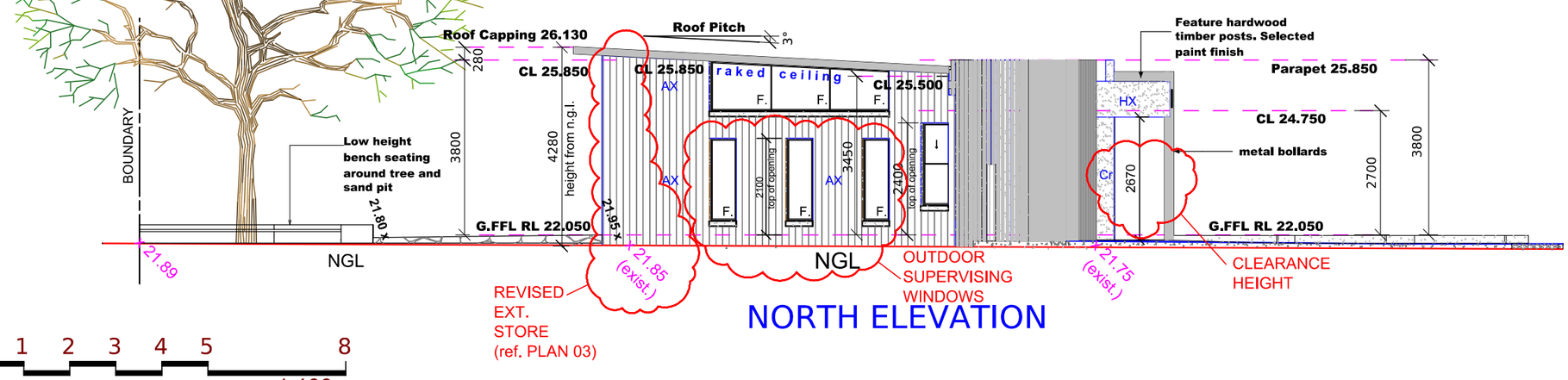


SOUTH ELEVATION



NORTH ELEVATION

0 1 2 3 4 5 8
1:100

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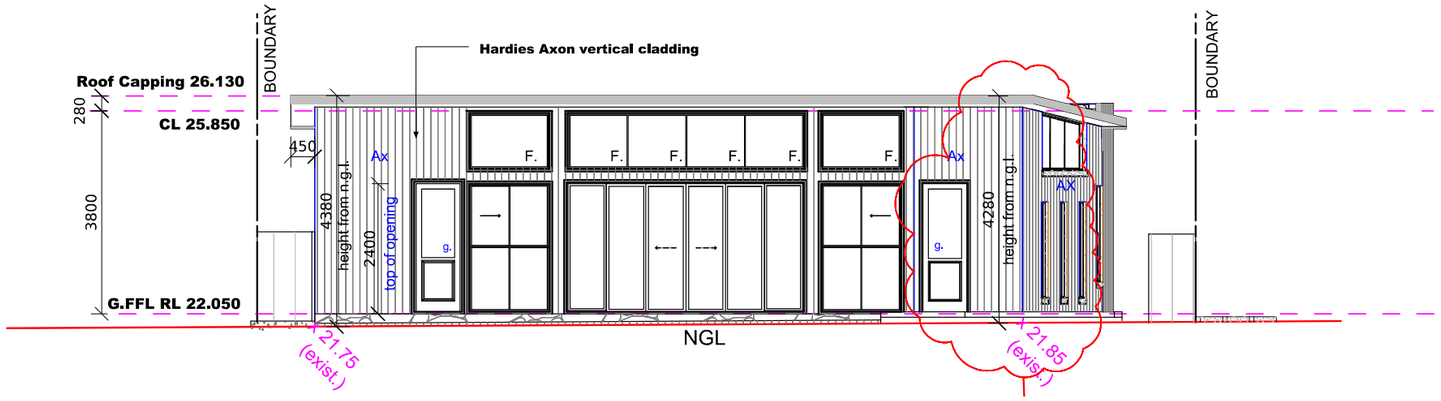
ELEVATIONS

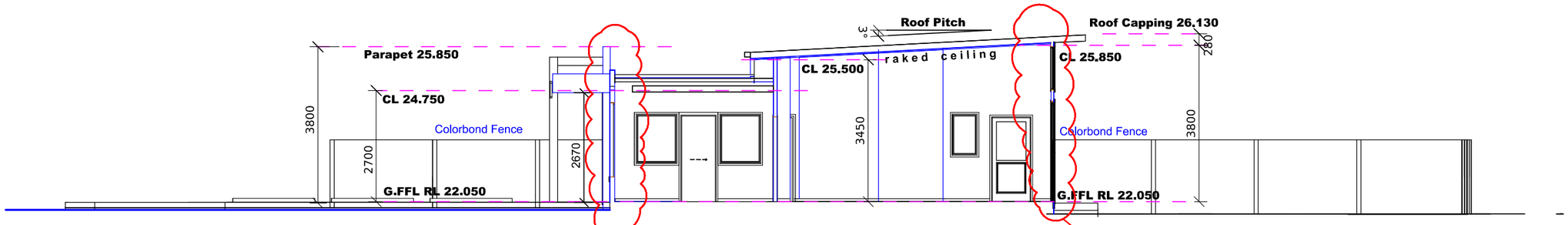
Scale:	Drawn By:	Drawing No.
1:100	dbb	06
Date: 13/03/22	Issue: DA-D	

Elevation Legend		
	CB	Colourbond Roofing
	CR	Rendered Brickwork
	Cr	Cement Render
	Ax	Axon vertical cladding
	Apol.	Apolic Cladding
	(Obs)	Obscure Glazing
	HX	Harditex cladding/render



EAST ELEVATION

Revised Extertior
Store &
Additional Supervising
WIndows to North
(ref. PLAN 03)



REVISED
EXT.
STORE
(ref. PLAN 03)

SECTION A - A

REVISED
ACTIVITY
ROOM
(ref. PLAN 03)

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Client : [redacted]

Project Title :
Centre Base Childcare at:
L428, 14 Satelberg Street, Holsworthy

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D	26/03/24	Additional Information Request
C	23/12/23	Additional Information Request
B	15/09/23	Additional Information Request
A	08/06/23	DA SUBMISSION

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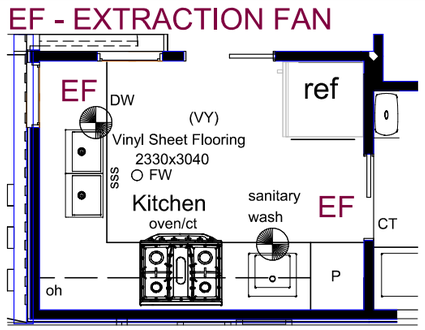
1:100	dbb	07
Date: 13/03/22	Issue: DA-D	



Kitchen Details

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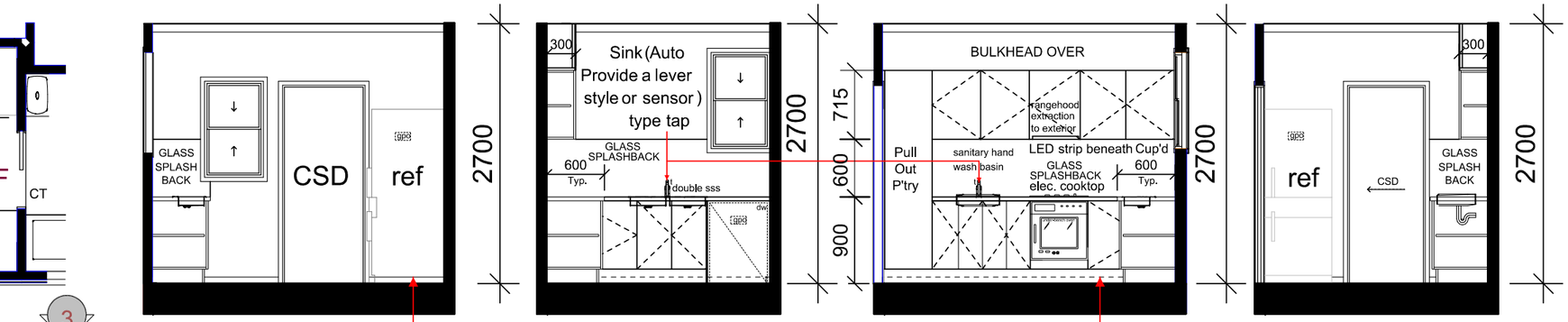
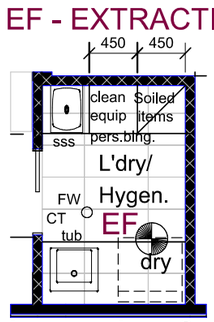


Elevation 1 Elevation 2 Elevation 3 Elevation 4

VINYL RESIN COVING VINYL RESIN COVING



Laundry & Hygene & Storage

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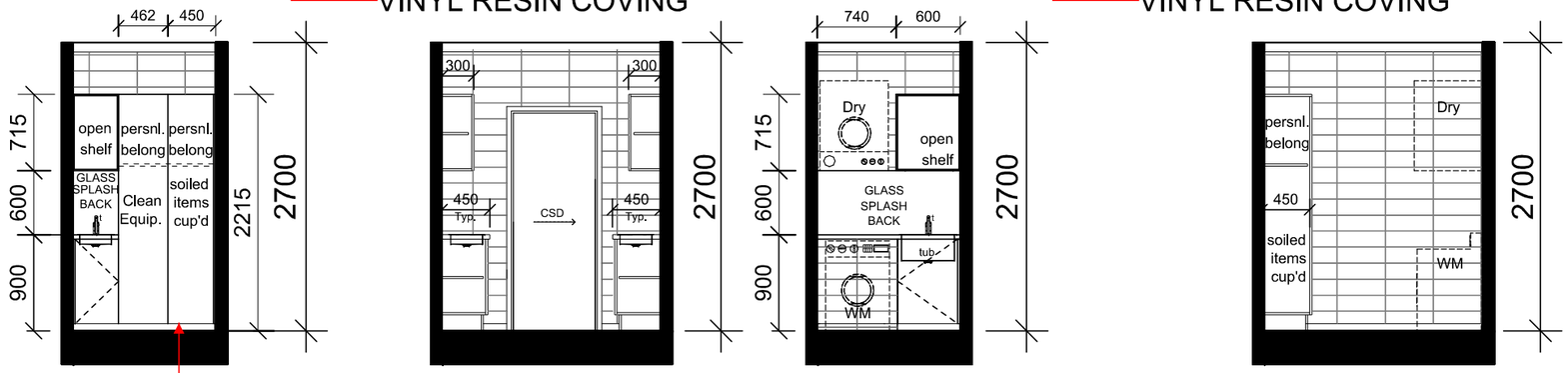

Elevation 1 Elevation 2 Elevation 3 Elevation 4

VINYL RESIN COVING

Floor Plan Legend		
		Proposed Ground/ Floor Level
	CSD	Cavity Sliding Door
	CT	Ceramic Tiling
	DP	Downpipe
	DR	Drain
	FW	Floor Waste
	SSS	Selected Stainless Steel Sink
	LOH	Lift Of Hinges
	DW	Selected Dishwasher
	OH	Overhead storage
	BFC	Broom Finish Concrete
	TFT	Non Slip Terra-Cotta FloorTiles
	VY	Selected Vinyl Flooring
	SA	Smoke Alarms AS3786-2014
	EF	Extractor Fan to Exterior

Note:
- GPOs servicing appliances to be mounted to rear of carcass concealed behind the appliance

Note:
- TaskLighting above workspacesof minimum level of 300lux must be acheived when tested at maximum intervals of 1500mm, directly over the surfaceof the benchtops

Note:
- All Cooktops to be electronic type

Note:
- Pantry to be full pull-out style

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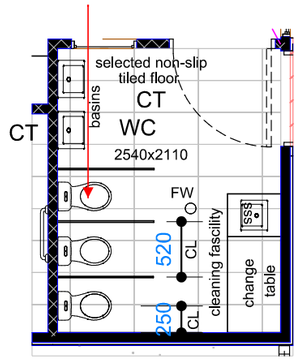
INTERNALS / CONSTRUCTION DETAILS

Scale:	Drawn By:	Drawing No.
1:50	dbb	08
Date: 13/03/22	Issue: DA-D	

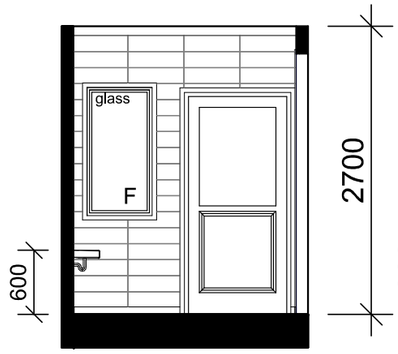
TPI - ph : Phone: 02 9709 6501
PRIVACY SCREEN - FLOOR MOUNTED
CHILDCARE ANIMAL DIVIDERS
900mm x 900mm / 13mm Compact Laminate
Al. Profile / Square Clear Anodised
Square Powdercoated

Selected Junior Toilets

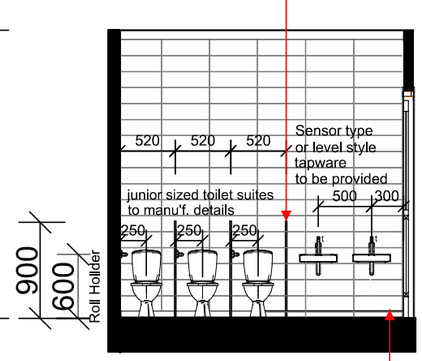


Junior Toilets

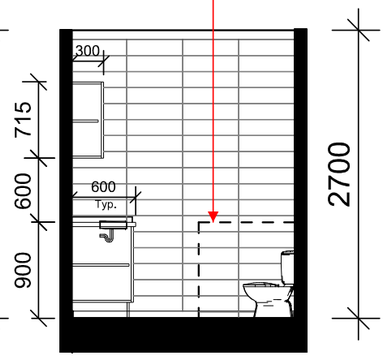
Scale: 1:50



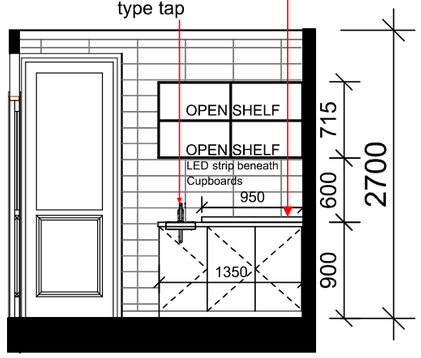
Elevation 1



Elevation 2

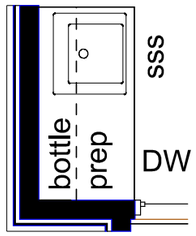


Elevation 3



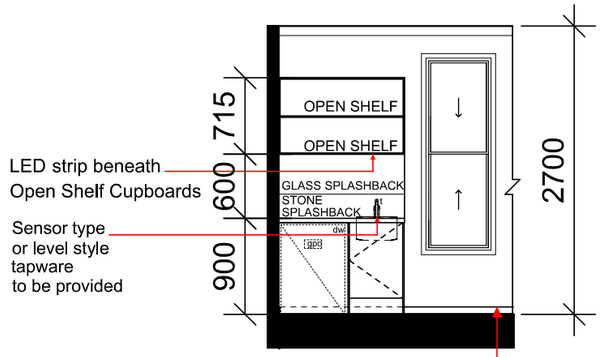
Elevation 4

TILED or VINYL RESIN COVING



Bottle Prep. Area for Activity & Cot Room

Scale: 1:50



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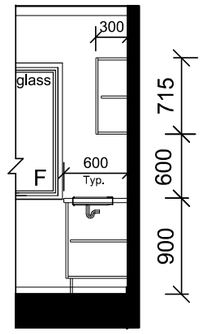

Elevation 3

TILED or VINYL RESIN COVING

Floor Plan Legend		
		Proposed Ground/ Floor Level
	CSD	Cavity Sliding Door
	CT	Ceramic Tiling
	DP	Downpipe
	DR	Drain
	FW	Floor Waste
	SSS	Selected Stainless Steel Sink
	LOH	Lift Of Hinges
	DW	Selected Dishwasher
	OH	Overhead storage
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	VY	Selected Vinyl Flooring
	SA	Smoke Alarms AS3786-2014
	EF	Extractor Fan to Exterior

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Scale:	Drawn By:	Drawing No.
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Date: 13/03/22	Issue: DA-D	

FITTING AND FIXTURES SCHEDULE - KITCHEN

PRODUCT SAMPLE IMAGE	PRODUCT MANUFACTURER/ SPECIFICATIONS	PRODUCT SAMPLE IMAGE	PRODUCT MANUFACTURER/ SPECIFICATIONS
	Fisher & Paykel CE604 CBX2 60 cm Ceramic Cooktop		Chef Pull-out Pantry - Adjustable Height - Internal Unit
	Technika HE65 FLSS-3 60 cm Side Opening Oven - 2X telescopic rails		
	DD 60 SCX9 Fisher and Paykel 7 Place Settings DishDrawer Single Dishwasher		
	Memo Sia Sensor Gooseneck Sink Mixer Tap Dual Function Left Hand Lever Matte Black (4 Star) -		

KITCHEN / LAUNDRY SPECIFICATIONS

1 - A KITCHEN SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM FIXTURES: A FIXED COOKTOP (WITH A RANGEHOOD), AN IN -BUILT OVEN , A SINK (WITH TAP) AND A DISHWASHER .

2 - AT LEAST 1550 MM CLEARANCE SHALL BE PROVIDED IN FRONT OF FIXED BENCHES AND APPLIANCES (BEING THE LEADING EDGE OF THE OUTERMOST BENCH AND NOT FROM THE FACE OF CUPBOARDS OR THE KICKPLATE AND EXCLUDING HANDLES).
- WHERE THE APPLIANCES ARE NOT INSTALLED THE RECESSED AREA PROVISION FOR AN APPLIANCE SHALL BE A MINIMUM OF 700 MM IN DEPTH.

3 - TASK LIGHTING SHALL BE PROVIDED ABOVE WORKSPACES , A MINIMUM LEVEL OF 300 LUX SHALL BE ACHIEVED WHEN TESTED AT MAXIMUM INTERVALS OF 1500 MM , DIRECTLY OVER THE SURFACE OF THE BENCHTOPS

4 - A WALL OVEN SHALL BE PROVIDED WITH FEATURES AS NOTED BELOW :
SIDE HINGED DOOR WITH LATCH SIDE OF DOOR
AT LEAST A PART OF THE OPERABLE PART OF OVEN DOOR HANDLE SHALL BE LOCATED BETWEEN 600 MM AND 1100MM ABOVE THE FFL. AT LEAST ONE SHELF ON TELESCOPIC RAILS WITHIN THE OVEN .

5 - TYPES OF APPROPRIATE MECHANISMS FOR OPERATION OF KITCHEN CABINETRY SHALL BE ONE OR MORE OF THE OPTIONS AS NOTED BELOW :
D PULL CUPBOARD HANDLES LOCATED TOWARDS THE TOP OF BELOW -BENCH CUPBOARDS ; D PULL CUPBOARD HANDLES LOCATED TOWARDS THE BOTTOM OF OVERHEAD CUPBOARDS ; OVERHANGING LIP OF MINIMUM 20 MM FOR OVERHEAD CUPBOARDS ; PUSH TO RELEASE MECHANISMS FOR BOTH OVERHEAD AND B ELOW -BENCH CUPBOARDS

6 - A COOKTOP SHALL BE PROVIDED WITH FEATURES AS NOTED BELOW :
EITHER ELECTRIC OR INDUCTION SHALL BE LOCATED AT LEAST 300 MM FROM ANY INTERNAL CORNER OR WALL , EXCLUDING THE SPLASHBACK .

7 - THE COOKTOP CONTROLS SHALL BE ON THE SIDE O F THE ACCESSIBLE BENCHTOP OR NEAR THE FRONT EDGE OF THE BENCHTOP .

8 - LEVER OR SENSOR TYPE TAPWARE SHALL BE PROVIDED TO SINK TO COMPLY WITH AS1428 .1 AND SHALL BE LOCATED SUCH THAT THE OPERABLE PARTS OF THE LEVER TAP AND WATER SOURCE IS NOT MORE THAN 300 MM FROM THE EDGE OF BENCHTOP .

9 - DRAWER STYLE DISHWASHER SHALL BE PROVIDED .

10 - A PANTRY SHALL BE PROVIDED

11 - SLIP RESISTANCE OF ALL KITCHEN FLOORING SHALL BE MINIMUM OF P3 OR R10.

12 - A LAUNDRY SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM FIXTURES: A SINK OR TUB (WITH TAPS).

13 - AT LEAST 1550 MM CLEARANCE SHALL BE PROVIDED IN FRONT OF FIXED BENCHES AND APPLIANCES (BEING THE LEADING EDGE OF THE OUTERMOST BENCH AND NOT FROM THE FACE OF CUPBOARDS OR THE KICKPLATE AND EXCLUDING HANDLES).

14 - BASINS, SINKS AND TUBS SHALL BE PROVIDED WITH SENSOR TYPE OR LEVER STYLE TAP. THE TAP SHALL BE LOCATED SUCH THAT THE OPERABLE PARTS OF THE LEVER TAP AND WATER SOURCE IS NOT MORE THAN 300 MM FROM THE EDGE OF BENCHTOP / LAUNDRY TUB TROUGH / BENCH .

15 - SLIP RESISTANCE OF ALL LAUNDRY FLOORING SHALL BE A MINIMUM OF P3 OR R10.

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Fixtures

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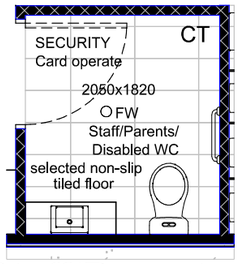
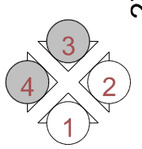
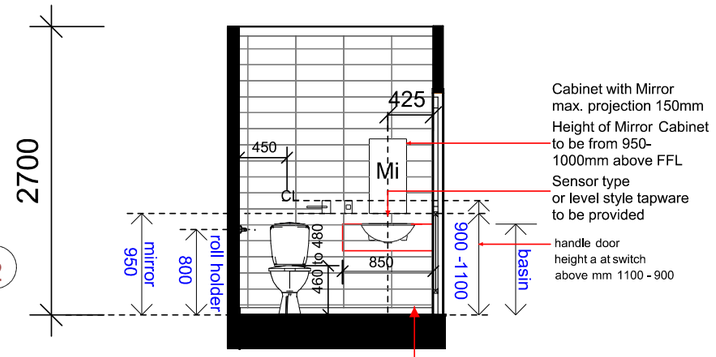


Staff/Parents Toilet Wet Area

Scale: 1:50





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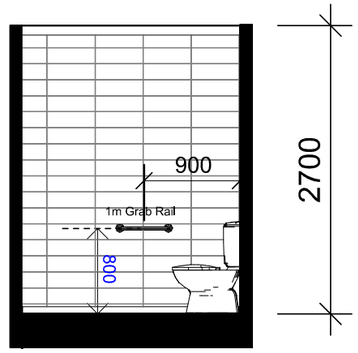

Elevation 4

TILED or VINYL RESIN COVING

Accesible Toilets

- The accessible toilet to be constructed as per requirements of AS1428,1-2009
- Setout of pan to be 800+/10mm from the rear wall and the c/l of pan is to be 450-460mm from side wall top of seat of WC pan is to be 460-480mm above FFL
- Seat to be full round, take 150kg weight and provide 30% luminance contrast to the background
- Flushing control to be proud of surface and located between 600-1100mm above FFL at back or side wall, clear of grabrail area
- Door to the accessible toilet requires AS1428,1 compliant door circulation spaces.

When door swings next to the washbasin a clear 300mm is required between the door swing and the washbasin

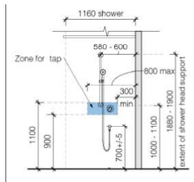

Figure 9 (c) Fixtures associated with shower

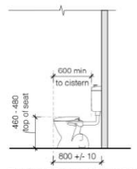

Figure 9 (d) Set out of Accessible WC pan

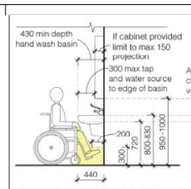

Figure 9 (a) Fixtures associated with hand wash basin - Side elevation

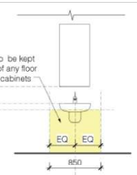

Figure 9 (b) Fixtures associated with hand wash basin - Front elevation

BATHROOM SPECIFICATIONS

7.1.2 - THE REQUIRED WC PAN, SHOWER AND HAND WASH BASIN REFERREDTO IN CLAUSE 7.1.1 SHALL BE PROVIDED WITHIN THE SAME BATHROOM .

7.1.5 - AT LEAST ONE WC PAN ON THE ENTRY LEVEL OR A LEVEL SERVICED BY A LIFT SHALL BE AS1428.1 COMPLIANT (AS PER REQUIREMENTS FOR UNISEX ACCESSIBLE TOILET AND NOT AS PER AMBULANT TOILET) AND WC PAN SHALL BE LOCATED WITH: C/L OF WC PAN AT 450 MM - 460 MM TO SIDE WALL, 800 +/ -10M M FRONT EDGE OF WC PAN FROM BACK WALL, MINIMUM 600 MM CLEAR OF CISTERN FROM FRONT EDGE OF WC PAN, MINIMUM CIRCULATION SPACE OF 1900 MM X 2300 MM AS REQUIRED BY AS1428.1. TOILET FLUSHING CONTROLS SHALL BE PROUD OF THE SURFACE REFERTO FIGURE 8(A) FOR PERMISSIB LE HAND WASH BASIN ENCROACHMENT ZONE.

7.1.7 - AT LEAST ONE SHOWER ON THE ENTRY LEVEL OR A LEVEL SERVICED BY A LIFT, SHALL BE PROVIDED IN A CORNER OF THE ROOM WITH THE FOLLOWING PROVISIONS:
THE SHOWER SIZE SHALL BE A MINIMUM OF 1160MM X 1100MM AND PROVIDED WITH ONE OF THE TWO CIRCULATION SPACES FOR SHOWER AS REQUIRED BY AS1428.1. REFERTO FIGURES 8(C) AND 8(D).
SHOWER CURTAIN RAIL SHALL BE PROVIDED AROUND THE 1160X1100MM SHOWER SPACE.
ONLY VERTICAL SUPPORT GRABRAIL SHALL BE PROVIDED TO THE SHOWER, WITH PROV ISION OF HEIGHT ADJUSTABLE SHOWER HEAD AND HOSE AS PER AS1428.1
LEVER STYLE SHOWER TAP SHALL BE PROVIDED AND LOCATED IN A ZONE BETWEEN 900 MM TO 1100MM ABOVE FFL AND BETWEEN 300 MM AND 800 MM FROM THE I NTERNAL CORNER.
SHOWER FLOOR GRADIENT SHALL BE AS REQUIR ED BY AS1428.1.

7.1.8 - AT LEAST ONE HAND WASH BASIN ON THE ENTRY LEVEL OR A LEVEL SERVICED BY A LIFT, SHALL BE AS1428.1 COMPLIANT AND SHALL BE PROVIDED WITH:
A MINIMUM BASIN DEPTH OF 430 MM
MINIMUM CIRCULATION SPACE AS REQUIRED BY AS1428.1
ENCROACHMENT FREE KNEE AND TOE CLEARANCE SPACE AS PER AS1428.1 UNDER THE BASIN FOR A MINIMUM WIDTH OF 850 MM, CENTRED ON THE BASIN.
SENSOR TYPE OR LEVER STYLE TAPWARE SHALL BE PROVIDED TO COMPLY WITH AS1428.1 AND LOCATED SUCH THAT THE OPERABLE PART OF LEVER TAP HANDLE AND
WATER SOURCE ARE WITHIN 300 MM FROM EDGE OF HAND WASH BASIN.

7.1.10 - SLIP RESISTANCE OF ALL FLOORS TO SANITARY FACILITIES SHALL BE MINIMUM OF P3 OR R10.

7.2.1 - EXCEPT FOR WALLS CONSTRUCTED OF MASONRY OR CONCRETE, THE INTERNAL SIDE OF THE FULL SANITARY ROOM WITH THE REQUIRED WC PAN, SHOWER, HAND WASH BASIN AND FIXED BATHTUB (IF PROVIDED) SHALL HAVE WALL REINFORCEMENT OF MINIMUM 12MM THICK SHEETING, FROM FFL AND EXTENDING TO A HEIGHT OF MINIMUM 2100MM FROM FFL

7.2.2 - THE WC PAN SHALL HAVE AN ADJACENT SIDE WALL (ON AT LEAST ONE SIDE OF THE WC PAN) WITH A 600 MM MINIMUM LENGTH OF WALL REINFORCEMENT, FORWARD OF THE WC PAN,
- IN DESIGNS WHERE THE NEARSIDE WALL ADJACENT TO THE WC PAN INCLUDES A DOORWAY (AND THE WALL IS NOT AVAILABLE ON THE OTHER SIDE OF THE WC P AN) THEN A 600 MM MINIMUM LENGTH REINFORCED WALL SHALL BE CLEAR OF THE DOOR FRAME.

13.1 - ALL INTERNAL FLOORING (INCLUDING WET AREAS) SHALL BE FIRM, EVEN AND FEATURE A LEVEL TRANSITION BETWEEN ABUTTING SURFACES OF A MAXIMUM VERTICAL TOLERANCE OF 3MM OR 5MM (PROVIDED THE LIP IS ROUNDED OR BEVELLED).

Note:
- Shower areas 'hobless shower'

Note:
- Floor Waste to be provided in shower and to be between 1 in 60 to 1 in 80

Note:
- Toilet Flushing controls shall be proud of the surface

Note:
- Floor Waste to be provided in WC and to be between 1 in 80 to 1 in 100

Note:
- Shower Curtain Rails to be provided to all showers

Note:
- Fixtures, Fittings and appliances are to comply with Clause 15 of AS1428.1-2009
- Accesible bathroom details 01 & 02 - Refer to Sheet No. CDC11

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INTERNAL DETAILS BATHROOM

Scale:	Drawn By:	Drawing No.
1:50	dbb	11
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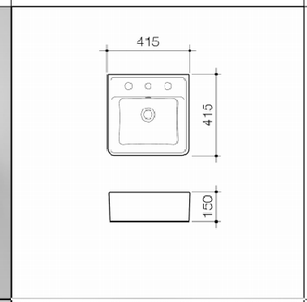
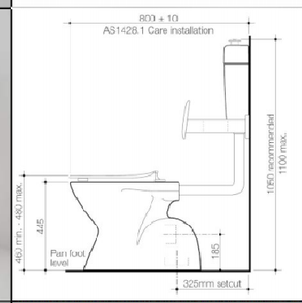
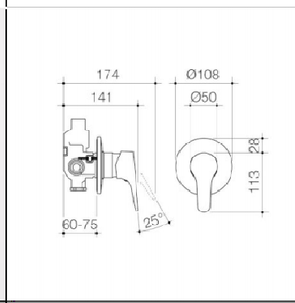
FITTING AND FIXTURES SCHEDULE - ACCESSIBLE BATHROOM

PRODUCT SAMPLE IMAGE	PRODUCT PLAN VIEW	PRODUCT MANUFACTURER/ SPECIFICATIONS	PRODUCT SAMPLE IMAGE	PRODUCT PLAN VIEW	PRODUCT MANUFACTURER/ SPECIFICATIONS
		CARBONIII Wall Basin 865753W - CARBONIII WB -Available in 1 or 3 tap holes -415x415mm, 3L Capacity to overflow -Overflow available only			POLARToilet Roll Holder (first choice) Quality StainlessSteel construction Polished mirror finish
		COSMO CARE V2 CONNECTOR SUITE WITH BACKREST Meets AS1428.1 Access and Mobility requirements when used in conjunction with backrest single flap seat and raised height buttons Cosmo Care Concealed Trap Pan S or P trap Cosmo Care II bottom inlet plastic cistern Includes Caravelle Care single flap seat in either white, sorrento blue or anthracite grey Includes Caroma stainlesssteel Backrest White raised height care buttons Includes extended mid level flush pipe WELS4 star rated, 4.5/ 3L (3.5L avg/ flush)			SKANDIC BATH / SHOWER MIXER -Chrome finish -European designed and manufactured -Skandicceramic disc cartridge ensures low maintenance and drip free performance -Red and blue indicators
		LOUGHLIN Furniture Bayview Mirror Cabinet 600mm 600mm (W) x 1000mm (H) x 150mm (D) Finished in polyurethane for extra protection in the bathroom. Features Blum soft-close hinges	BATHROOM SPECIFICATIONS 7.1.2 - THE REQUIRED WC PAN, SHOWER AND HAND WASH BASIN REFERRED TO IN CLAUSE 7.1.1 SHALL BE PROVIDED WITHIN THE SAME BATHROOM. 7.1.5 - AT LEASTONE WC PAN ON THE ENTRY LEVEL OR A LEVEL SERVICED BY A LIFT SHALL BE AS1428.1 COMPLIANT (AS PER REQUIREMENTS FOR UNBEX ACCESSIBLE TOILET AND NOT AS PER AMBULANT TOILET) AND WC PAN SHALL BE LOCATED WITH: O/L OF WC PAN AT 450MM - 460MM TO SIDE WALL, 800 +/ -10M M FRONT EDGE OF WC PAN FROM BACK WALL, MINIMUM 600MM CLEAR OF CISTERN FROM FRONT EDGE OF WC PAN, MINIMUM CIRCULATION SPACE OF 1500MM X 2300MM AS REQUIRED BY AS1428.1. TOILET FLUSHING CONTROLS SHALL BE PROUD OF THE SURFACE REFER TO FIGURE 8(A) FOR PERMISSIB LE HAND WASH BASIN ENCROACHMENT ZONE. 7.1.7 - AT LEASTONE SHOWER ON THE ENTRY LEVEL OR A LEVEL SERVICED BY A LIFT SHALL BE PROVIDED IN A CORNER OF THE ROOM WITH THE FOLLOWING PROVISIONS: THE SHOWER SIZE SHALL BE A MINIMUM OF 1160MM X 1100MM AND PROVIDED WITH ONE OF THE TWO CIRCULATION SPACES FOR SHOWER AS REQUIRED BY AS1428.1. REFER TO FIGURES 8(C) AND 8(D). SHOWER CURTAIN RAIL SHALL BE PROVIDED AROUND THE 1160X1100MM SHOWER SPACE ONLY VERTICAL SUPPORT GRABRAIL SHALL BE PROVIDED TO THE SHOWER, WITH PROV ISION OF HEIGHT ADJUSTABLE SHOWER HEAD AND HOSE AS PER AS1428.1 LEVER STYLE SHOWER TAP SHALL BE PROVIDED AND LOCATED IN A ZONE BETWEEN 900MM TO 1100MM ABOVE FFL AND BETWEEN 300MM AND 800MM FROM THE I NTERNAL CORNER. SHOWER FLOOR GRADIENT SHALL BE AS REQUIR ED BY AS1428.1. 7.1.8 - AT LEASTONE HAND WASH BASIN ON THE ENTRY LEVEL OR A LEVEL SERVICED BY A LIFT SHALL BE AS1428.1 COMPLIANT AND SHALL BE PROVIDED WITH: A MINIMUM BASIN DEPTH OF 430MM MINIMUM CIRCULATION SPACE AS REQUIRED BY AS1428.1 ENCROACHMENT FREE KNEE AND TOE CLEARANCE SPACE AS PER AS1428.1 UNDER THE BASIN FOR A MINIMUM WIDTH OF 850MM, CENTRED ON THE BASIN. SENSOR TYPE OR LEVER STYLE TAP WARE SHALL BE PROVIDED TO COMPLY WITH AS1428.1 AND LOCATED SUCH THAT THE OPERABLE PART OF LEVER TAP HANDLE AND WATER SOURCE ARE WITHIN 300MM FROM EDGE OF HAND WASH BASIN. 7.1.10 - SLIP RESISTANCE OF ALL FLOORS TO SANITARY FACILITIES SHALL BE MINIMUM OF P3 OR R10. 7.2.1 - EXCEPT FOR WALLS CONSTRUCTED OF MASONRY OR CONCRETE THE INTERNAL SIDE OF THE FULL SANITARY ROOM WITH THE REQUIRED WC PAN, SHOWER HAND WASH BASIN AND FIXED BATHTUB (IF PROVIDED) SHALL HAVE WALL REINFORCEMENT OF MINIMUM 12MM THICK SHEETING FROM FFL AND EXTENDING TO A HEIGHT OF MINIMUM 2100MM FROM FFL. 7.2.2 - THE WC PAN SHALL HAVE AN ADJACENT SIDE WALL (ON AT LEASTONE SIDE OF THE WC PAN) WITH A 600MM MINIMUM LENGTH OF WALL REINFORCEMENT FORWARD OF THE WC PAN. - IN DESIGNS WHERE THE NEAR SIDE WALL ADJACENT TO THE WC PAN INCLUDES A DOORWAY (AND THE WALL IS NOT AVAILABLE ON THE OTHER SIDE OF THE WC P AN) THEN A 600MM MINIMUM LENGTH REINFORCED WALL SHALL BE CLEAR OF THE DOOR FRAME. 7.3.1 - ALL INTERNAL FLOORING (INCLUDING WET AREAS) SHALL BE FIRM, EVEN AND FEATURE A LEVEL TRANSITION BETWEEN ABUTTING SURFACES OF A MAXIMUM VERTICAL TOLERANCE OF 3MM OR 5MM (PROVIDED THE LIP IS ROUNDED OR BEVELLED).		

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INTERNAL DETAILS BATHROOM

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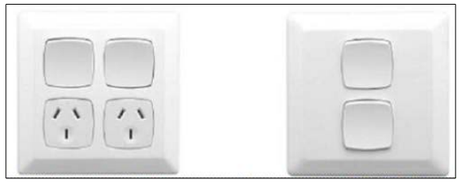
Date: 13/03/22	Issue: DA-D	

35MM Rocker action switch like the one below is to provided

Light Switches and Power Outlets

All Light switches & exposed GPO's to be CLIPSAL large format, min. 35mm x 35mm Rocker Action or approved equivalent. GPO's & Switches to be min. 500mm away from internal corners



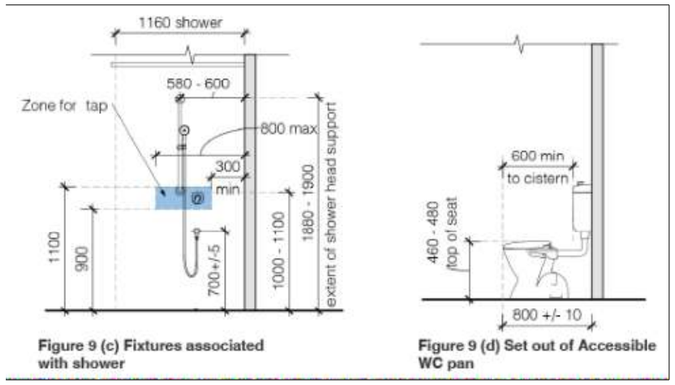
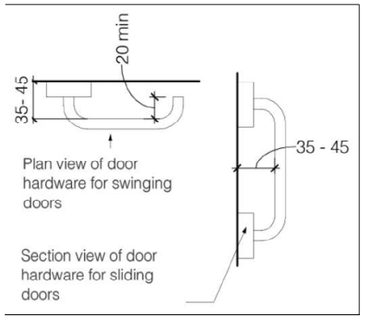


Figure 9 (c) Fixtures associated with shower

Figure 9 (d) Set out of Accessible WC pan



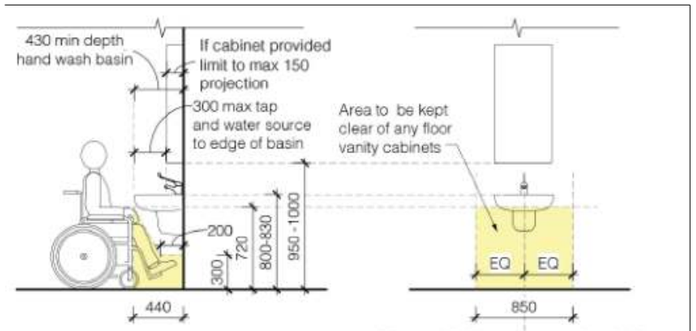


Figure 9 (a) Fixtures associated with hand wash basin - Side elevation

Figure 9 (b) Fixtures associated with hand wash basin - Front elevation

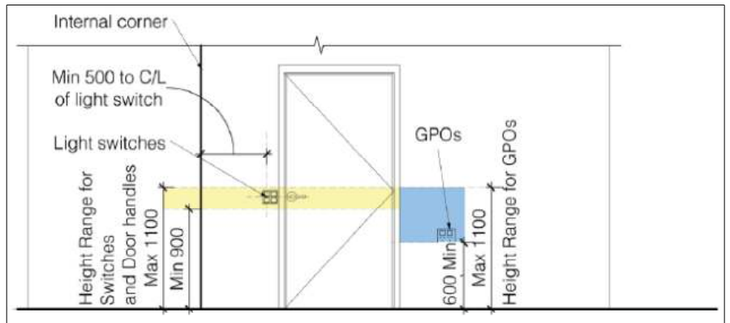
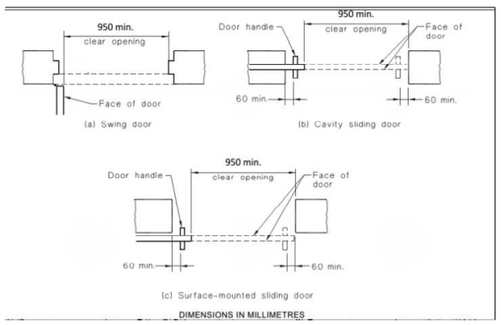


Figure 19 - Location of light switches, GPOs and door handles



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ACCESSIBLE BATHROOM
INTERNAL DETAILS & OTHER ITEMS

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Internal FinishesDetails

Kitchen		BRAND	COLOUR
	Bench Top	20mm bench top	to be advised
	Cupboard Door Fronts	Polytec	Porcelain
	Door Furniture	to be advised	timber & painted
	Kickboard	Polytec	Porcelain
	End Panelsto Cupboards	Polytec	Porcelain
	Internal Carcass	Polytec	Porcelain
	Splashback	IKEA	Aluminium Window
	Kitchen Sink	IKEA	Black
	Wall Oven	to be advised	to be advised
	Cooktop	to be advised	to be advised
	Rangehood	to be advised	to be advised
	Dishwasher	to be advised	to be advised
Floor Finishes			
	Activity Rooms, Cot Room & Admin Areas	Vinyl Flooring & Resin Coving	to be advised
Ceiling Finishes			
	Activity Rooms, Cot Room & Admin Areas	Plasterboard	to be advised
Wall Finishes			
	Activity Rooms, Cot Room & Admin Areas	Plasterboard	to be advised
Bathroom & L'dry			
Finishes		MPBOARD- 600X600 TILE	LIGHT GREY OR WHITE

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INTERNAL FINISHES SCHEDULE

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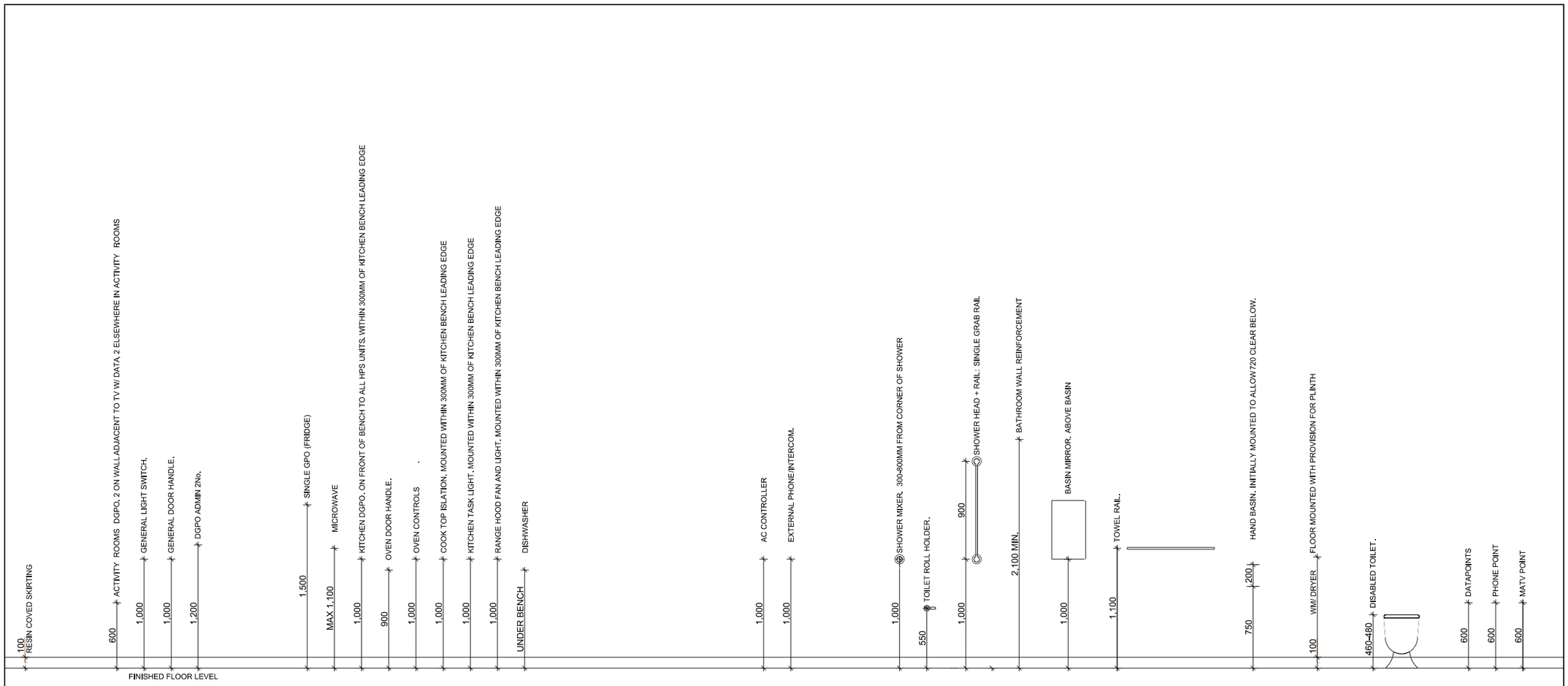

MOUNTING HEIGHT DIAGRAM
1:20

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Wall Mounting Diagram

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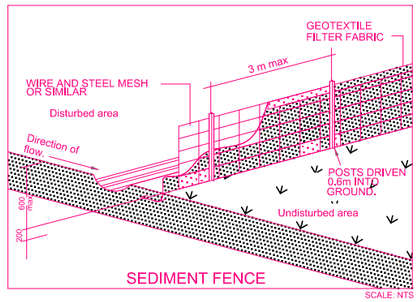
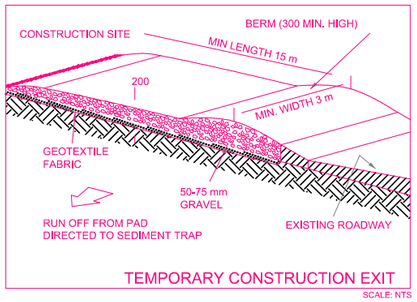
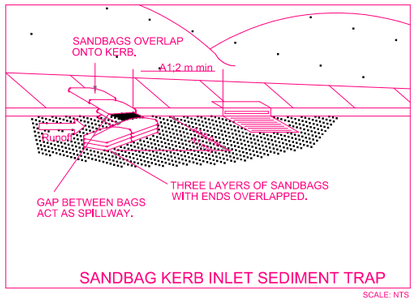


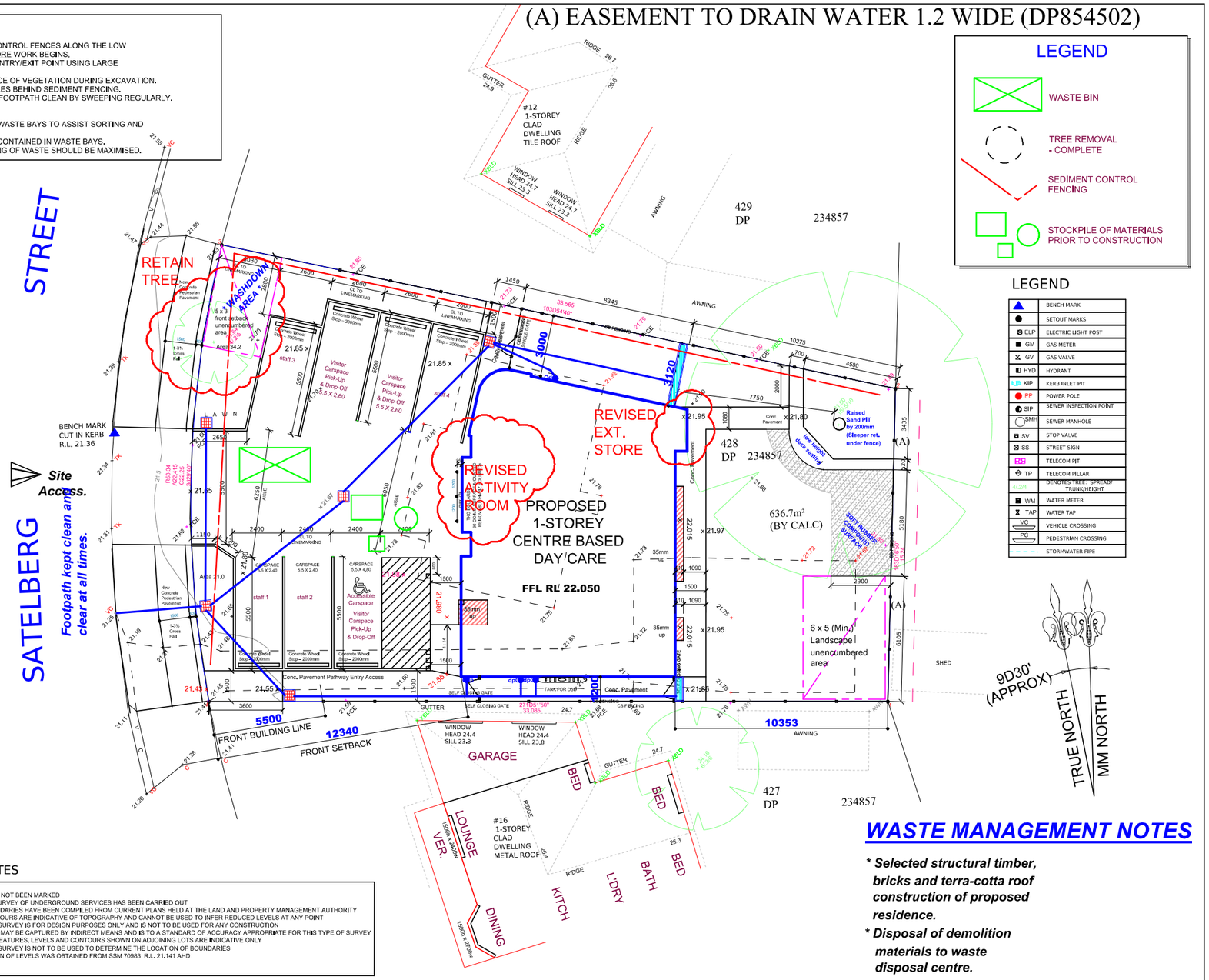




WARNING

SOIL & WATER:
* INSTALL SEDIMENT CONTROL FENCES ALONG THE LOW SIDE OF THE SITE BEFORE WORK BEGINS.
* STABILISE A SINGLE ENTRY/EXIT POINT USING LARGE AGGREGATE.
* MINIMISE DISTURBANCE OF VEGETATION DURING EXCAVATION.
* PLACE SOIL STOCKPILES BEHIND SEDIMENT FENCING.
* KEEP THE ROAD AND FOOTPATH CLEAN BY SWEEPING REGULARLY.

WASTE:
* CONSTRUCT TWO (2) WASTE BAYS TO ASSIST SORTING AND RECYCLING OF WASTE.
* ALL WASTE MUST BE CONTAINED IN WASTE BAYS.
* REUSE AND RECYCLING OF WASTE SHOULD BE MAXIMISED.



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EROSION CONTROL:
All disturbed areas shall be progressively stabilised and/or revegetated so that no areas remain exposed to potential erosion damage for a period of greater than 14 days.

NOTES

HAVE NOT BEEN MARKED
NO SURVEY OF UNDERGROUND SERVICES HAS BEEN CARRIED OUT
BOUNDARIES HAVE BEEN COMPILED FROM CURRENT PLANS HELD AT THE LAND AND PROPERTY MANAGEMENT AUTHORITY
CONTOURS ARE INDICATIVE OF TOPOGRAPHY AND CANNOT BE USED TO INFER REDUCED LEVELS AT ANY POINT
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ORIGIN OF LEVELS WAS OBTAINED FROM SSM 70983 R.L. 21.141 AHD

WASTE MANAGEMENT NOTES

* *Selected structural timber, bricks and terra-cotta roof construction of proposed residence.*
* *Disposal of demolition materials to waste disposal centre.*

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SOIL EROSION & WASTE MANAGMENT PLAN

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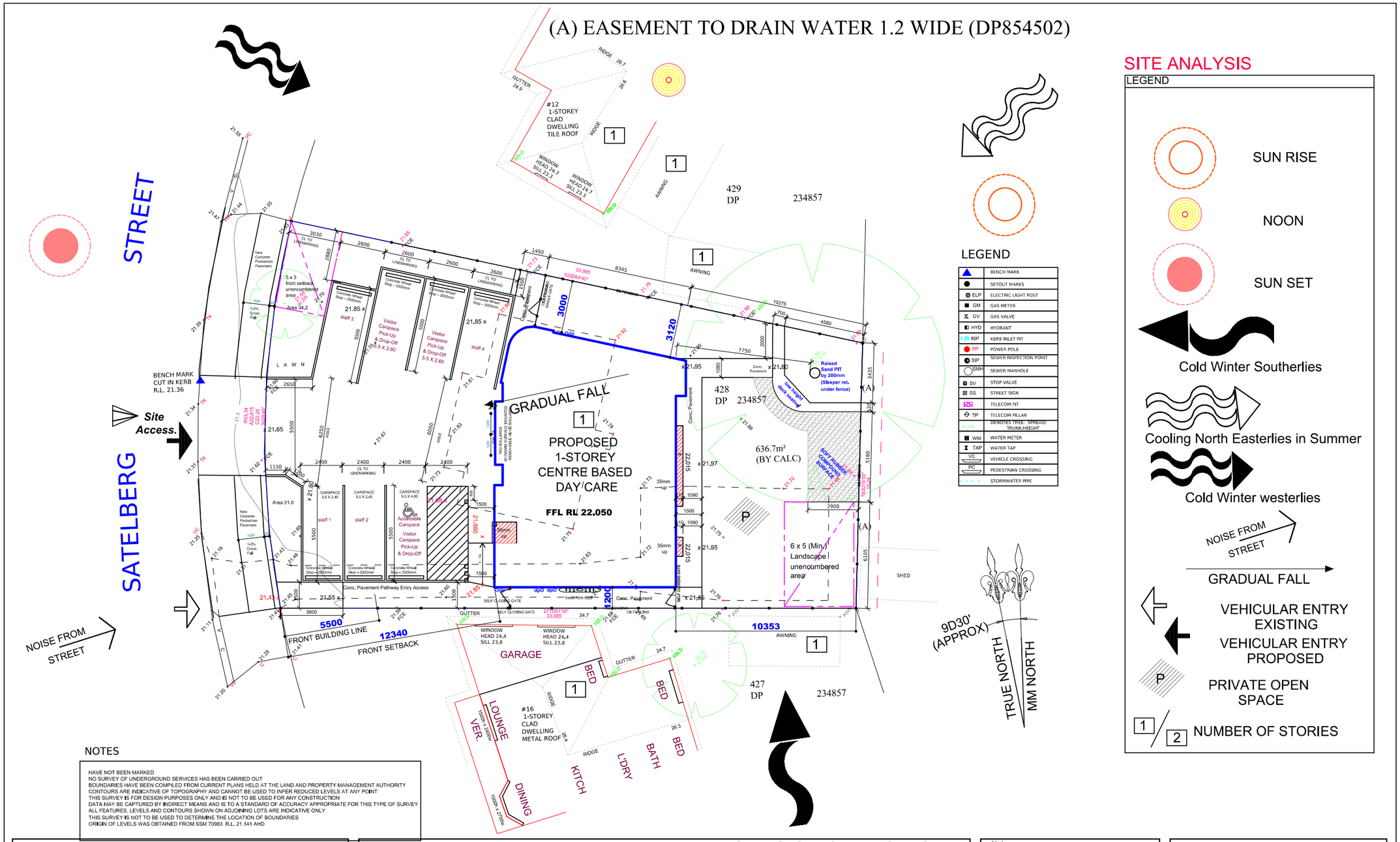

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SITE ANALYSIS

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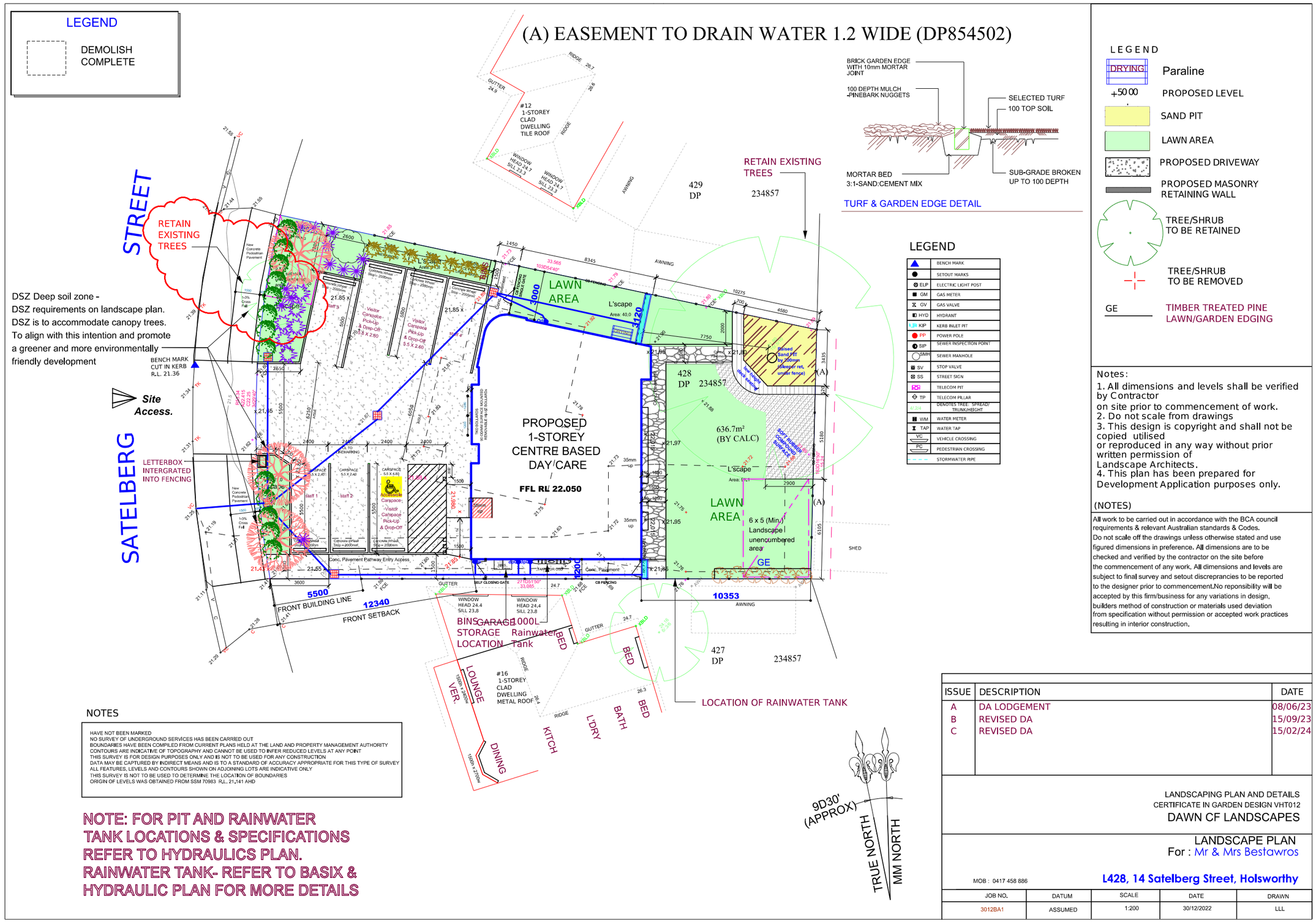
LEGEND
DEMOLISH COMPLETE
(A) EASEMENT TO DRAIN WATER 1.2 WIDE (DP854502)
SATELBERG STREET
RETAIN EXISTING TREES
DSZ Deep soil zone -
DSZ requirements on landscape plan.
DSZ is to accommodate canopy trees.
To align with this intention and promote
a greener and more environmentally
friendly development
BENCH MARK
CUT IN KERB
R.L. 21.36
Site Access.
LETTERBOX INTERGRATED INTO FENCING
LAWN AREA
L'scape
PROPOSED 1-STOREY CENTRE BASED DAY/CARE
FFL RL 22.050
636.7m² (BY CALC)
6 x 5 (Min.) Landscape unencumbered area
GE
SHED
FRONT BUILDING LINE
FRONT SETBACK
5500
12340
10353
BINS STORAGE LOCATION
GARAGE
1000L Rainwater Tank
LOCATION OF RAINWATER TANK
429 DP 234857
428 DP 234857
427 DP 234857
#12 1-STOREY CLAD DWELLING TILE ROOF
#16 1-STOREY CLAD DWELLING METAL ROOF
LOUNGE
DINING
KITCH
LDRY
BATH
BED
TRUE NORTH
MM NORTH
9D30' (APPROX)
BRICK GARDEN EDGE WITH 10mm MORTAR JOINT
100 DEPTH MULCH -PINEBARK NUGGETS
SELECTED TURF
100 TOP SOIL
MORTAR BED 3:1-SAND:CEMENT MIX
SUB-GRADE BROKEN UP TO 100 DEPTH
TURF & GARDEN EDGE DETAIL
LEGEND
BENCH MARK
SETOUT MARKS
ELECTRIC LIGHT POST
GAS METER
GAS VALVE
HYDRANT
KERB INLET PIT
POWER POLE
SEWER INSPECTION POINT
SEWER MANHOLE
STOP VALVE
STREET SIGN
TELECOM PIT
TELECOM PILLAR
WATER METER
WATER TAP
VEHICLE CROSSING
PEDESTRIAN CROSSING
STORMWATER PIPE
LEGEND
Paraline
PROPOSED LEVEL
SAND PIT
LAWN AREA
PROPOSED DRIVEWAY
PROPOSED MASONRY RETAINING WALL
TREE/SHRUB TO BE RETAINED
TREE/SHRUB TO BE REMOVED
GE TIMBER TREATED PINE LAWN/GARDEN EDGING
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2. Do not scale from drawings
3. This design is copyright and shall not be copied utilised or reproduced in any way without prior written permission of Landscape Architects.
4. This plan has been prepared for Development Application purposes only.
(NOTES)
All work to be carried out in accordance with the BCA council requirements & relevant Australian standards & Codes.
Do not scale off the drawings unless otherwise stated and use figured dimensions in preference. All dimensions are to be checked and verified by the contractor on the site before the commencement of any work. All dimensions and levels are subject to final survey and setout discrepancies to be reported to the designer prior to commencement.No reponsibility will be accepted by this firm/business for any variations in design, builders method of construction or materials used deviation from specification without permission or accepted work practices resulting in interior construction.
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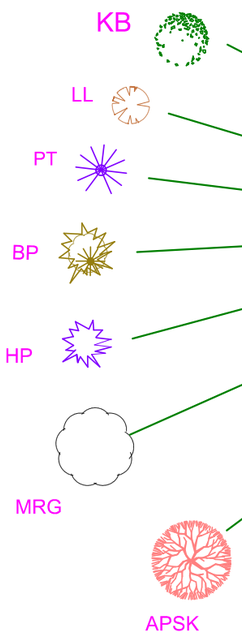
THIS SURVEY IS NOT TO BE USED TO DETERMINE THE LOCATION OF BOUNDARIES
ORIGIN OF LEVELS WAS OBTAINED FROM SSM 70983 R.L. 21.141 AHD
NOTE: FOR PIT AND RAINWATER TANK LOCATIONS & SPECIFICATIONS REFER TO HYDRAULICS PLAN.
RAINWATER TANK- REFER TO BASIX & HYDRAULIC PLAN FOR MORE DETAILS
ISSUE | DESCRIPTION | DATE
A | DA LODGEMENT | 08/06/23
B | REVISED DA | 15/09/23
C | REVISED DA | 15/02/24
LANDSCAPING PLAN AND DETAILS
CERTIFICATE IN GARDEN DESIGN VHT012
DAWN CF LANDSCAPES
LANDSCAPE PLAN
For : Mr & Mrs Bestawros
MOB : 0417 458 886
L428, 14 Satelberg Street, Holsworthy
JOB NO. | DATUM | SCALE | DATE | DRAWN
3012BA1 | ASSUMED | 1:200 | 30/12/2022 | LLL

MAINTENANCE :

Maintain all landscape areas to ensure plant health and occupant safety for a period of 12 months beginning from date of practical completion to the satisfaction of council.

Maintenance will include but not limited to the following activities, mowing, edging, pruning and top dressing of turf areas also all plants to be fed slow release fertilizer according to manufacturer's recommendations.

regular ongoing observation and maintenance is required.



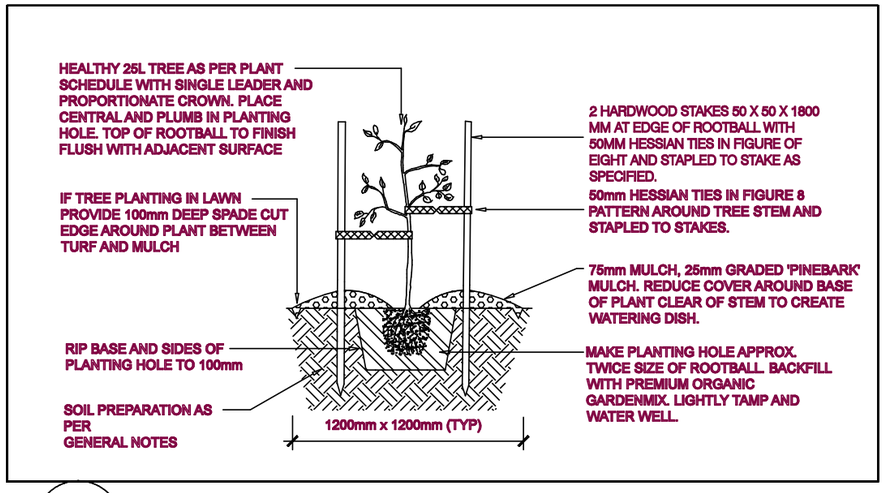
PLANT SCHEDULE

NUMBER	SYMBOL		BOTANIC NAME	COMMON NAME	WIDTH (m)	HEIGHT (m)	POT SIZE (mm)	COLOUR
13	GRG	HEDGE SHRUBS	Grevillea Robyn Gordon (FRONT)	Grevillea Robyn Gordon	1.1m	1.5m	200mm	RED/ GREEN
6	WL	SML SHRUBS	Westringia longifolia (Rear)	Westringia	1.0m	1.5m	200mm	White/ yellow
11	MH		Melaleuca hypericifolia	Hillock Bush	0.6	2.0	200mm	RED
7	GR		Grevillea rosmarinifolia	Rosemary Gevillea	1.2m	2.0m	200mm	RED
6	WF		Westringia fruticosa	Coast Rosemary	1.0m	1.5m	200mm	White
1	MN	LRGE SHRUBS	Melaleuca nesophyla	Melaleuca nesophyla	1.5	3.0	200mm	PINK
3	AB	TREES	Acacia baileyana (Front)	Cootamundra Wattle	4.0	5-8	75L	Green/ Yellow

GE - TIMBER TREATED PINE LAWN/GARDEN EDGING

TURF - SELECTED BUFFALO GRASS

LANDSCAPE DETAILS



1 TREE PLANTING ON GRADE

SCALE 1:20

LANDSCAPING NOTES AND SPECIFICATIONS

EXCAVATIONS

Any services drawn on the plan have been indicatively located. Further services may be present prior to any construction or excavation on site the relevant authorities should be contacted for possible location of of further underground services and detailed of all services.

GARDEN BED/PEBBLES GROUND COVER

The topsoil to all garden bed areas shall be 1 part site topsoil and two parts organic compost thoroughly mixed together prior to placing into position.

Where site topsoil is not suitable imported topsoil meeting the requirements of AS4419-1998 shall be used. Topsoil depth to all garden bed areas to be garden mix 300mm deep.

Mulch consisting of pine bark is to be spread over all planter beds to a depth of 100 mm. Reduce depth of mulch around base of plants to form "watering dish" to facilitate watering

GARDEN EDGING

AIL garden edging as denoted by GE on the plan is to be constructed using either insitu concrete or brick laid over 100mm layer mortar. extruded bricks shall not

PLANT MATERIAL

All plants to be healthy and well developed without being root bound and desease free.

PROPOSED TREES

All tree planting holes are to be excavated 200mm wider and at least 200mm deeper than the rootball size. All trees are to be double staked and secured with hessian ties in figure eight arrangement.

Apply 150mm layer of topsoil to all turfed areas laid over deep soil. Prior to laying turf, contractor to ensure all topsoiled areas are smoothly graded with no surface depressions or other irregularities, large stones or building debris.

turf used for this site shall be cultivated kikuyu. Unless specified otherwise, turf shall be laid flush with adjacemnt finished surface levels.

EXISTING TREES

Unless specified otherwise existing trees which are to be retained are to be protected for the duration of the construction period. Install a 1.5 m high temporary protective fence at a distance of 3.0 m around the base of the tree or group of trees.The protective fencing shall be constructed using parrawebbing The area to be protected is to be mulched with a 100mm layer of organic mulch such as pine bark or similar. Attach sign on fence to advice contractors. Do not store or otherwise place any harmful materials under or near such trees. Where it is absolutely necessary to cut tree roots firstly obtain Council appoval.
Do not carry out any tree work until all council approvals have been obtained in

In order to minimise root damage, any excavation work occuring near an existing tree is to be retained shall be carried out under the supervision of a qualified

Prior to the occupation of the dwellimgs all existing trees to be retained are dead or dying limbs, carried out (only with council approval) to ensure safety of future occupants.

PAVING

All pavement areas including driveways and pathways are to have a stenciled concrete finish. All pavement surfaces to comply with the requirements of AS/NZ 3661.1 1993 Slip resistence of pedestrian surfaces.

STANDARDS

All materials and standards of workmanship used on this project is to comply with the latest revision of the relevant Australian Standards.

DISCREPANCIES

Should there be any discrepancies on the drawings and or on site, landscape contractor to notify the superintendent for resolution prior to the commencement of the works. Where the situation is not readily resolved onsite, the superintendent is to notify the landscape planner immediately for correction.

IRRIGATION

Provide one housecock in the front and rear yard.
or the instalationof automatic/manual water system as owner choice

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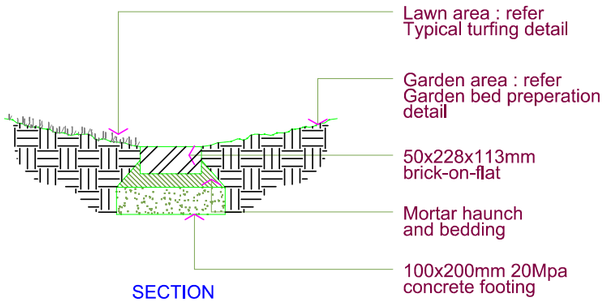
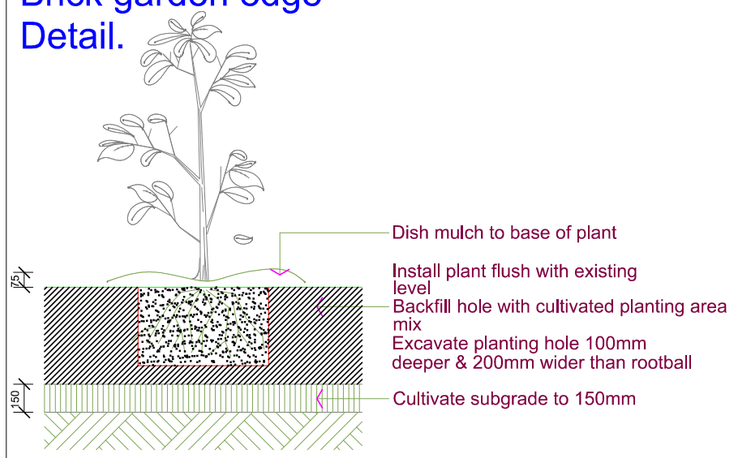
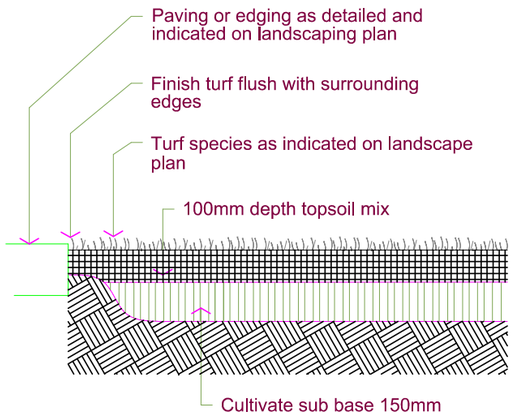


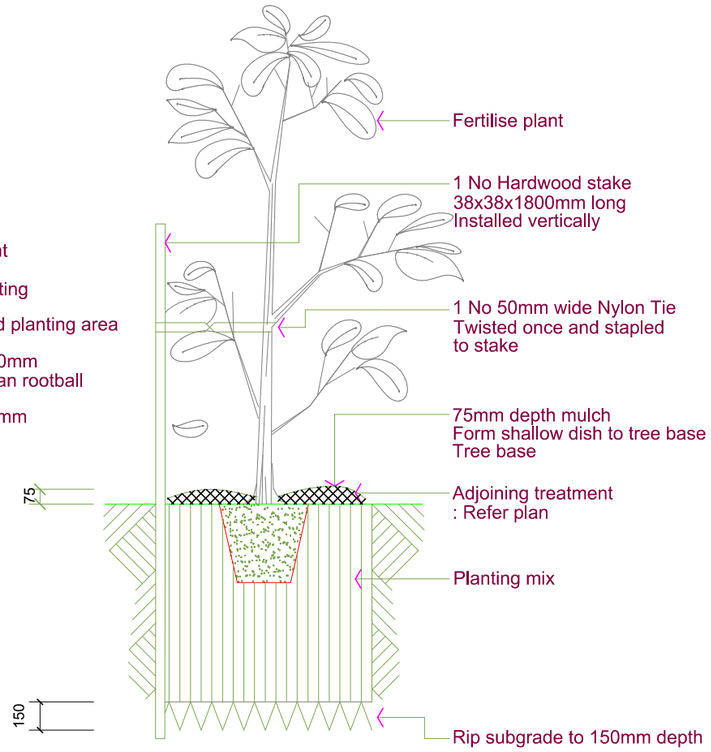
Brick garden edge Detail.



Planting in garden beds Detail. Not.To.Scale.



Ground preparation Grassed area: turf using imported topsoil Detail. Not.To.Scale.



15 - 35 litre Tree planting Detail. Not.To.Scale.

LEGEND

Turf
Excavate / grade all areas to be turfed to 120mm below required finished levels.
Do not excavate within 1500mm of the trunk of any existing tree to be retained.
Ensure that all surface water runoff is directed towards the inlet pits, kerbs etc.. and away from buildings. Ensure that no pooling or ponding will occur. Rip the subgrade to 150mm.
Install 100mm depth of imported topsoil. Just prior to spreading the turf, spread "Shirley's No.17 lawn fertilizer" over the topsoil at the recommended rate. Lay "Kikuyu" turf rolls closely butted. Fill any small gaps with topsoil. Water thoroughly.

DRYING — Paraline

Brick garden edging
Lay a single coarse of paving bricks in a mortar haunch (200mm wide and 100mm deep).
The edges are to be laid in even curves and straight line as shown on the plan.
Where tight curves are shown use half bricks to show a more even curve. The top of the edge is to finish flush with the adjacent turf and mulch levels.

1800mm high lapped and capped timber paling fence

Existing trees to be removed

Planting areas
Ensure that the mass planting areas have been excavated to 300 below finished levels. Rip to a further depth of 150mm. Supply and install 300mm soil mix.
Soil mix to comprise of one part approved compost to three parts topsoil.
Topsoil shall be either imported topsoil or stockpiled site topsoil (if suitable ie: No clay)
Install 75mm depth of selected mulch.

Note:
Maintenance:
All landscape works are to be maintained for a period of six months from the date of practical completion. This includes all watering, weeding, spraying and re-mulching necessary to achieve vigorous growth. Any defects which arise during this period are to be rectified immediately. Any plants or areas of turf which fail during this period are to be replaced at no additional cost.

Existing trees to be retained

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ATTACHMENT 2 – CHILD CARE PLANNING GUIDELINE (SEPTEMBER 2021)

The Guideline establishes the assessment framework to deliver consistent planning outcomes and design quality for centre-based child care facilities in NSW. Consent Authorities must consider Parts 2, 3 & 4 of the Guideline.

An assessment against Parts 2, 3 & 4 of the Guideline is provided in the tables below:

Child Care Planning Guideline 2021
Part 2 - Design quality principles
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. Well-designed child care facilities take advantage of its context by optimising nearby transport, public facilities and centres, respecting local heritage, and being responsive to the demographic, cultural and socio-economic makeup of the facility users and surrounding communities.
Comment: The proposal is located among a primarily low density residential precinct with the single storey development responding building being considered consistent with this scale of development. The area is well serviced by bus links and services. The location is populated by families so would service the local community. The proposed signage is considered to enhance the streetscape. In this regard it is considered that the proposal is in line with the context principles set out above. This is further evidenced by the compliance with the objectives and considerations of section 3 of the Child Care Planning Guidelines below.
Principle 2 – Built Form Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the surrounding area. Good design achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Good design also uses a variety of materials, colours and textures. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook. Contemporary facility design can be distinctive and unique to support innovative approaches to teaching and learning, while still achieving a visual appearance that is aesthetically pleasing, complements the surrounding areas, and contributes positively to the public realm.
Comment: It is considered that by its single storey proposal, that the bulk and scale of the built form is consistent with the envisaged single and double storey dwellings that are permitted in the surrounding vicinity. The building is considered to consist of the appropriate level of articulation and materiality to be compatible and contribute to the public domain. The building's interior is generally open plan in nature with many outlook opportunities to landscape areas of the site. In this respect it would assist in providing an environment suitable for innovative approaches to teaching and learning. In this regard it is considered that the design is consistent with the built form principles outlined above. This is further evidenced by the compliance with the objectives and considerations of Section 3 of the Child Care Planning Guidelines below.
Principle 3 - Adaptive learning spaces Good facility design delivers high quality learning spaces and achieves a high level of amenity for children and staff, resulting in buildings and associated infrastructure that are fit-for-purpose, enjoyable and easy to use. This is achieved through site layout, building design, and learning spaces fit-out. Good design achieves a mix of inclusive learning spaces to cater for all students and different

modes of learning. This includes appropriately designed physical spaces offering a variety of settings, technology and opportunities for interaction.
Comment: The development is oriented with windows to the learning spaces facing east, north and west which ensures a high-level natural light throughout the year which makes them more enjoyable spaces. The design provides a range of room sizes and layouts are open space rooms that can be readily reconfigured for different modes of learning and the provision of a variety of settings and technology and opportunity for interactions. In this regard it is considered that the design is consistent with the adaptive learning spaces principles outlined above. This is further evidenced by the compliance with the objectives and considerations of section 3 of the Child Care Planning Guidelines below.
Principle 4- Sustainability Sustainable design combines positive environmental, social and economic outcomes. This includes use of natural cross ventilation, sunlight and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and re-use of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation. Well-designed facilities are durable and embed resource efficiency into building and site design, resulting in less energy and water consumption, less generation of waste and air emissions and reduced operational costs.
Comment: The design includes windows to the perimeter of the building which would facilitate both natural ventilation and sunlight to reduce heating and ventilation costs. The landscaping provides appropriate quantities of deep soil zones. Additionally, the building would be constructed to BCA standards which would ensure that materials and mechanical technology would achieve appropriate resource efficiency. In this regard it is considered that the design is consistent with the sustainability principles outlined above. This is further evidenced by the compliance with the objectives and considerations of section 3 of the Child Care Planning Guidelines below.
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. Well-designed landscapes make outdoor spaces assets for learning. This includes designing for diversity in function and use, age-appropriateness and amenity. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, coordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.
Comment: Majority of the landscaping is within the playground area at the eastern side of the site which includes an existing 15m high tree and structures to permit all year use. Compliance with the principles of this section is further evidenced by the compliance with the objectives and considerations of section 3 of the Child Care Planning Guidelines below.
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. Well-designed child care facilities provide comfortable, diverse and attractive spaces to learn, play and socialise.
Comment: It is considered that the design achieves a high level of amenity by providing the appropriate levels of indoor and outdoor space for the 28-place childcare centre, providing a well-designed and located outdoor landscaped environment with a high level of access to sunlight and natural ventilation for the open plan indoor rooms. The acoustic report recommends a 2m high fence which may be

lapped/capped, metal or brick, which is typical in the locality and reduces visual and acoustic impacts to any adjoining dwellings. Being a single-storey development, the design is considered appropriately a high level of ease of access for all age groups and degrees of mobility. However, the internal design requires minor improvement to accommodate suitable nappy change locations, passive surveillance and sanitary features to improve amenity.

In this regard it is considered that the design is consistent with the amenity principles outlined above. This is further evidenced by the compliance with the objectives and considerations of section 3 of the Child Care Planning Guidelines below.

Principle 7 - Safety

Well-designed child care facilities optimise the use of the built and natural environment for learning and play, while utilising equipment, vegetation and landscaping that has a low health and safety risk and can be checked and maintained efficiently and appropriately. Good child care facility design balances safety and security with the need to create a welcoming and accessible environment. It provides for quality public and private spaces that are inviting, clearly defined and allow controlled access for members of the community. Well-designed child care facilities incorporate passive surveillance and Crime Prevention Through Environmental Design (CPTED).

Comment:

The design of the centre has only one point of regular access within the site which would provide a high level of security for the children attending the centre in a well-controlled manner. However, the entry of the centre is provided with insufficient passive surveillance. The proposed play equipment has not been provided. In this regard it is considered that the design is not consistent with the safety principles outlined above. This is further evidenced by the compliance with the objectives and considerations of section 3 of the Child Care Planning Guidelines below.

3.1 Site Selection and Location

Objective	Considerations	Comment
To ensure that appropriate zone considerations are assessed when selecting a site.	For proposed developments in or adjacent to a residential zone, consider: • the acoustic and privacy impacts of the proposed development on the residential properties	**Complies by condition.** An acoustic report has been submitted and acoustic treatments are recommended to mitigate potential noise emissions. The proposed development is unlikely to result in significant adverse impacts on the locality subject to these recommendations and is supported by Council's Environmental Health section.
	• the setbacks and siting of buildings within the residential context	**Complies** The setbacks and siting of the development are suitable and consistent with the existing residential character of the locality. This is discussed in greater detail under the LDCP 2008 in attachment 3.
	• visual amenity impacts (e.g. additional building bulk and overshadowing, local character)	**Complies** The centre contains appropriate an height,bulk and scale being single storey consistent with the prevailing character of the area. The level of overshadowing is minimal when compared to a two-storey dwelling that is permissible on the land. The building is considered satisfactory from a local character perspective.

	• traffic and parking impacts of the proposal on residential amenity	**Does not comply.** The development proposes a shortfall of 1 car parking space as per the LDCP 2008 discussed in attachment 3. Although the proposal has submitted a 'Green Travel' plan, a planning assessment incorporating the 22 community objections with parking as a significant concern, considers the shortfall in on-site car parking as unsatisfactory. It is noted that a traffic impact assessment has been submitted with the development application and reviewed by Council's traffic department who raised no objections to the proposal on traffic and parking grounds.
To ensure that the site selected for a proposed child care facility is suitable for the use.	When selecting a site, ensure that: • the location and surrounding uses are compatible with the proposed development or use	**Complies** The site is suitable for the centre-based childcare as it is compatible with the residential zoning and the future desired character of the area.
	• the site is environmentally safe including risks such as flooding, land slip, bushfires, coastal hazards	**Complies** The subject site is not affected by any environmental risks.
	• there are no potential environmental contaminants on the land, in the building or the general proximity, and whether hazardous materials remediation is needed	**Does not comply.** An unsatisfactory detailed site investigation has been submitted to Council. Although the report concludes that the site is suitable for the proposed redevelopment works, subject to additional recommendations, Council's Environmental Health section has not supported this assessment due to insufficient test samples being taken, and the limited accreditation of the author/reviewer.
	• the characteristics of the site are suitable for the scale and type of development proposed having regard to: - length of street frontage, lot configuration, dimensions and overall size - number of shared boundaries with residential properties	**Complies** The site is of a suitable size and dimension to accommodate the development. The number of shared boundaries with residential properties has been limited to three which is a typical residential site.
	• the development will not have adverse environmental impacts on the surrounding area, particularly in sensitive environmental or cultural areas	**Complies** Other than the contamination issue raised above in this report, the development is unlikely to cause any other significant adverse environmental impacts on the surrounding area as it is within an established residential area.

	• where the proposal is to occupy or retrofit an existing premises, the interior and exterior spaces are suitable for the proposed use	**N/A**
	• there are suitable drop off and pick up areas, and off and on street parking	**Does not comply** Seven car parking spaces are provided for staff and visitors and the car parking area is considered suitable for drop off and pick up purposes. The parking spaces have been reviewed by Councils Traffic engineers and supported.
	• the characteristics of the fronting road or roads (for example its operating speed, road classification, traffic volume, heavy vehicle volumes, presence of parking lanes) is appropriate and safe for the proposed use	**Does not comply** Satelberg Street is a low-speed residential street. Council's Traffic Engineer has reviewed the proposal and commented on the following to be addressed by way of satisfying conditions of consent: *1 - As there is no designated drop-off and pick-up zone, parents and visitors will have to wait – where only 2 -3 visitor/parent parking will be available. It is likely that access vehicles will be queued along the driveway and along the narrow Satelberg Street – public road waiting to enter the carpark.* *2- The right turning vehicles from Satelberg Street entering the development is likely to cause traffic congestions and obstruct NE bound through traffic movement.* *3 - Due to existence of a curve in front of the development and restricted sight-distance for safety reasons only Left-in and Left-out vehicular movements is permitted*. The traffic section supported the application by imposing special traffic related conditions for any consent such as: - Left-in and Left-out vehicular movements is permitted. - A plan of management shall be prepared addressing the Site Servicing Arrangements, particularly that service vans are to attend the site outside the peak drop-off/pick-up hours. - The plan of management shall also ensure parents use the on-site parking provisions when attending the site. A 3-

		strike policy for those noted as using on-street parking spaces will need to be in place and enforced. However, it is likely that the parents/visitors on-street parking restriction and enforcement on the public domain will not sustainable or be monitored/enforced by any roads authority. The conditions are considered inappropriate in this instance, and the applicant is required to provide further information to address this matter.
	• the site avoids direct access to roads with high traffic volumes, high operating speeds, or with high heavy vehicle volumes, especially where there are limited pedestrian crossing facilities	**Complies** The site is not located as a high traffic volume, speed, or high heavy vehicle road.
	• it is not located close to incompatible social activities and uses such as restricted premises, injecting rooms, drug clinics and the like, premises licensed for alcohol or gambling such as hotels, clubs, cellar door premises and sex services premises	**Complies** The site is not in close vicinity of restricted premises and the like.
To ensure that sites for child care facilities are appropriately located.	A child care facility should be located: • near compatible social uses such as schools and other educational establishments, parks and other public open space, community facilities, places of public worship	**Complies** The proposed centre is located close to several schools and open spaces.
	• near or within employment areas, town centres, business centres, shops	**Complies** The proposed development is from an acceptable distance (700m) from the Wattle Grove town centre.
	• with access to public transport including rail, buses, ferries	**Complies** The proposed childcare centre is located in proximity (150m) to the bus stop on Bardia Road.
	• In areas with pedestrian connectivity to the local community, businesses, shops, services and the like.	**Complies** Pedestrian connectivity is suitable.
To ensure that sites for child care facilities do not incur risks from environmental, health or safety hazards	A childcare facility should be located to avoid risks to children, staff or visitors and adverse environmental conditions from: • proximity to: - heavy or hazardous industry, waste transfer depots or landfill sites - LPG tanks or service stations	**Complies** Other than the contamination issue on the subject site as raised above in this report, it is noted that the site is not located in proximity to any other environmental, health or safety hazards.

	- water cooling and water warming systems - odour (and other air pollutant) generating uses and sources or sites which, due to prevailing land use zoning, may in future accommodate noise or odour generating uses - extractive industries, intensive agriculture, agricultural spraying activities • any other identified environmental hazard or risk relevant to the site and/or existing buildings within the site.	
3.2 Local character, streetscape and the public domain interface		
To ensure that the child care facility is compatible with the local character and surrounding streetscape.	The proposed development should: • contribute to the local area by being designed in character with the locality and existing streetscape	**Complies** The single-storey proposal contributes to the existing local character.
	• build on the valued characteristics of the neighbourhood and draw from the physical surrounds, history and culture of place	**Complies** The compliance with building setbacks and having a single storey bulk would be consistent with the existing built surrounds and complements the streetscape.
	• reflect the predominant form of surrounding land uses, particularly in low density residential areas	**Complies** The proposed childcare centre is designed to complement surrounding land uses.
	• recognise predominant streetscape qualities, such as building form, scale, materials and colours	**Complies** Refer to discussions elsewhere in this report.
	• include design and architectural treatments that respond to and integrate with the existing streetscape	**Complies** Refer to discussions elsewhere in this report.
	• use landscaping to positively contribute to the streetscape and neighbouring amenity	**Does not comply** The landscaping that is proposed is not compatible with the streetscape, citing a 53% shortfall in required front landscaping area. As such the proposal would not contribute to surrounding amenity of the immediate locality.
	• integrate car parking into the building and site landscaping design in residential areas.	**Complies** Car parking is provided onsite and is integrated with the development.
	• in R2 Low Density Residential zones, limit outdoor play space to the ground level to reduce impacts on amenity from acoustic fences/barriers onto adjoining residence, except when good design solutions can be achieved.	**Complies** The centre is single storey within a R3 Medium Density Residential zoned area.

To ensure clear delineation between the child care facility and public spaces.	Create a threshold with a clear transition between public and private realms, including: • fencing to ensure safety for children entering and leaving the facility	**Complies** The overall design includes landscaping, fencing and windows. There is a clear delineation between the childcare facility and the public domain.
	• windows facing from the facility towards the public domain to provide passive surveillance to the street as a safety measure and connection between the facility and the community	**Complies** Windows as well as the pedestrian and parking entries allow for passive surveillance toward the street.
	• Integrating existing and proposed landscaping with fencing.	**Complies** The landscape plan submitted illustrates the integration of landscape with fencing.
	On sites with multiple buildings and/or entries, pedestrian entries and spaces associated with the child care facility should be differentiated to improve legibility for visitors and children by changes in materials, plant species and colours.	**Complies by condition.** The pedestrian entry and driveway are located at the primary street frontage. Pedestrians arriving by foot along Satelberg Street may use the dedicated pathway along the southern boundary to against any potential mitigate pedestrian and vehicle conflicts. A condition of consent would be imposed to ensure directional signage is installed to direct pedestrians to the entrance.
	Where development adjoins public parks, open space or bushland, the facility should provide an appealing streetscape frontage by adopting some of the following design solutions: • Clearly defined street access, pedestrian paths and building entries.	**N/A** The proposed childcare does not adjoin parks, open spaces, or bushland.
	• Low fences and planting which delineate communal/ private open space from adjoining public open space	**N/A**
	• Minimal use of blank walls and high fences.	**N/A**
To ensure that front fences and retaining walls respond to and complement the context and character of the area and do no dominate the public domain.	Front fences and walls within the front setback should be constructed of visually permeable materials and treatments. Where the site is listed as a heritage item, adjacent to a heritage item or within a conservation area front fencing should be designed in accordance with local heritage provisions.	**Complies** Front fencing is not proposed. The site is not listed as a heritage item under Schedule 5 of LLEP 2008.
	High solid acoustic fencing may be used when shielding the facility from noise on classified roads. The walls should be setback from the property boundary with screen landscaping	**Complies** The subject site is not located adjacent to a classified road.

	of a similar height between the wall and the boundary.	A front fence treatment is not proposed and not required under the submitted acoustic report.
3.3 Building orientation, envelope and design		
To respond to the streetscape and site, while optimising solar access and opportunities for shade.	Orient a development on a site and design the building layout to: • ensure visual privacy and minimise potential noise and overlooking impacts on neighbours by: - facing doors and windows away from private open space, living rooms and bedrooms to adjoining residents. - placing play equipment away from common boundaries with residential properties - locating outdoor play areas away from residential uses and other sensitive uses	**Complies by condition.** The design of the centre ensures that visual privacy is maintained and would minimise any significant adverse noise and overlooking impacts on adjoining properties. The external play area is proposed at the rear and north boundary and is screened from surrounding residential dwellings and other sensitive uses. The submitted acoustic assessment has taken into consideration the noise impacts and contains recommendations, which can be conditioned.
	• optimise solar access to internal and external play areas	**Complies** The building is designed to provide for solar access to internal and external play areas.
	• avoid overshadowing of adjoining residential properties	**Complies** The proposed centre-based childcare facility is a single storey and has limited overshadowing onto adjoining properties.
	• minimise cut and fill	**Complies** The proposed level of cut and fill is considered acceptable and has been reviewed and supported by the land development engineers.
	• ensure buildings along the street frontage define the street by facing it	**Complies** The proposed building is designed so that it addresses the street frontage.
	• Ensure that where a child care facility is located above ground level, outdoor play areas are protected from wind and other climatic conditions.	**N/A**
To ensure that the scale of the child care facility is compatible with adjoining development and the impact on adjoining buildings is minimised.	The following matters may be considered to minimise the impacts of the proposal on local character: • building height should be consistent with other buildings in the locality	**Complies** The scale of a single storey childcare centre is compatible with surrounding single storey dwelling houses and is compatible with the future character of the area. The proposed maximum 4.38m building height of the proposed childcare centre is below the maximum height of 8.5m

		permitted under LLEP 2008 which applies to the site (roof capping 26.130 – 21.75 natural ground level (NGL) = 4.38m). The development is also considered to provide for appropriate building separation and setbacks compatible with other residential developments.
	• building height should respond to the scale and character of the street	**Complies** The building height does not exceed maximum height limits, contains an appropriate scale and is consistent with the character of the streetscape.
	• setbacks should allow for adequate privacy for neighbours and children at the proposed child care facility	**Complies** The proposal is adequately set back from surrounding residential dwellings.
	• setbacks should provide adequate access for building maintenance	**Complies** There is adequate access for building maintenance.
	• Setbacks to the street should be consistent with the existing character.	**Complies** Setbacks to boundaries are consistent with existing character.
	Where a Local Environmental Plan or Development Control Plan do not specify a floor space ratio for the R2 Low Density Residential zone, a floor space ratio of 0.5:1 is to apply to a child care facility in the R2 zone.	**N/A** The site is within a R3 zoned area.
To ensure that setbacks from the boundary of a child care facility are consistent with the predominant development within the immediate context.	Where there are no prevailing setback controls minimum setback to a classified road should be 10 metres. On other road frontages where there are existing buildings within 50 metres, the setback should be the average of the two closest buildings. Where there are no buildings within 50 metres, the same setback is required for the predominant adjoining land use.	**Complies** The predominant adjoining land use is low density residential. The proposal complies with the relevant setback controls under LDCP 2008 Part 3.8, Non-residential development in Residential zones, discussed elsewhere in this report.
	On land in a residential zone, side and rear boundary setbacks should observe the prevailing setbacks required for a dwelling house.	**Complies** This is discussed under the LDCP 2008 section of this report.
To ensure that buildings are designed to create safe environments for all users.	Entry to the facility should be limited to one secure point which is: • located to allow ease of access, particularly for pedestrians	**Complies** The entry into the centre is limited to one secure point accessed from the car park.
	• directly accessible from the street where possible	**Complies** There is direct access from the street to the entrance of the childcare centre.
	• directly visible from the street frontage	**Complies by condition.**

		The entry is visible from the Satelberg street frontage. To minimise the number of pedestrians entering the car park from Satelberg Street, directional signage would be conditioned to direct pedestrians to the Satelberg Street pedestrian entry path.
	• easily monitored through natural or camera surveillance	**Does not comply** The entry does not have sufficient degree of natural surveillance potentially available. The absence of direct access or windows within the admin and staff meeting rooms facing the lobby area is noted, which compromises both security and functionality.
	• not accessed through an outdoor play area.	**Complies** The entrance to the building would not be from an outdoor play area.
	• In a mixed-use development, clearly defined and separate from entrances to other uses in the building.	**N/A**
To ensure that the child care facilities are designed to be accessible by all potential users.	Accessible design can be achieved by: • providing accessibility to and within the building in accordance with all relevant legislation	**Complies** The proposal has been designed to provide for accessibility to and within the building in accordance with all relevant legislation.
	• linking all key areas of the site by level or ramped pathways that are accessible to prams and wheelchairs, including between all car parking areas and the main building entry	**Complies** All key areas of the site are at the same level, with ramps from the street entries.
	• Providing a continuous path of travel to and within the building, including access between the street entry and car parking and main building entrance. Platform lifts should be avoided where possible	**Complies** There is a continuous path of travel throughout the development.
	• Minimising ramping by ensuring building entries and ground floors are well located relative to the level of the footpath.	**Complies** The site is elevated from the roadway which is minimised through proposed cut.

3.4 Landscaping		
To provide landscape design that contributes to the streetscape and amenity.	Appropriate planting should be provided along the boundary integrated with fencing. Screen planting should not be included in calculations of unencumbered outdoor space. Use the existing landscape where feasible to provide a high quality landscaped area by: • reflecting and reinforcing the local context • incorporating natural features of the site, such as trees, rocky outcrops and vegetation communities into landscaping.	**Complies** Screen planting has been proposed along the northern side boundary within the front setback area. Screen planting is not proposed at the south side boundary in the front setback area due to pedestrian access. Tree planting at the rear yard is minimal utilising six 200mm pot sized plants, with a maturity height of 1.5m, which is below the fence height. This is not considered to be screen planting, however the existing large tree to be retained provides for sufficient landscape cover and tree canopy. There is extensive front streetscape landscape proposed to screen the car park area providing for consistency with the streetscape. Limited rear landscaping is proposed due to a large reliance on the existing 15m rear tree which has canopy spread that covers much of the rear landscape. The proposed landscape plan demonstrates that: • Various native species have been proposed within the landscaped area. • New trees would be planted. • The significant area of the front setback area is landscaped, where possible with a variety of plants.
	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	**Complies** The planting around the car park area has been enhanced the proposal . The existing front 4m high tree is retained and enhanced by additional landscaping at the front setback area to create an appropriate landscaped environment.
	• taking into account streetscape, local character and context when siting car parking areas within the front setback	**Does not comply** The extensive hardstand car park area located in the front setback area causes the non-compliance of the minimum landscape area required in the front setback. As such, the landscaping has not softened the visual impact.

	• using low level landscaping to soften and screen parking areas.	**Complies** A variety of low-level landscaping is proposed to screen the parking areas.
3.5 Visual and acoustic privacy		
To protect the privacy and security of children attending the facility.	Open balconies in mixed use developments should not overlook facilities nor overhang outdoor play spaces.	**N/A**
	Minimise direct overlooking of indoor rooms and outdoor play spaces from public areas through: • appropriate site and building layout	**Complies by Condition** The proposed fencing and building siting limit the visibility of the outdoor play areas from the public domain.
	• suitably locating pathways, windows and doors	**Does not comply** The entry does not have sufficient degree of natural surveillance potentially available. The absence of direct access or windows within the admin and staff meeting rooms facing the lobby area is noted, which compromises both security and functionality.
	• permanent screening and landscape design.	**Complies** There is sufficient screening between the indoor and outdoor play areas and public areas.
To minimise the impacts on privacy of adjoining properties.	Minimise direct overlooking of main internal living areas and private open spaces in adjoining developments through: • appropriate site and building layout	**Complies** There is sufficient fencing proposed between properties and the single storey childcare centre would have no direct overlooking concerns.
	• suitable location of pathways, windows and doors	As above.
	• landscape design and screening.	As above.
To minimise the impact of child care facilities on the acoustic privacy of neighbouring residential developments.	A new development, or development that includes alterations to more than 50 per cent of the existing floor area, and is located adjacent to residential accommodation should: • provide an acoustic fence along any boundary where the adjoining property contains a residential use. (An acoustic fence is one that is a solid, gap free fence).	**Complies** The proposed acoustic fencing is likely to minimise the acoustic impact of the childcare facility on adjoining residential developments. The development was supported by an acoustic assessment which has been reviewed by Councils environmental health section and raised no objections to the proposal, subject to conditions.
	• 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.	**Complies by condition.** Air conditioning (AC) units have not been identified on the plans however, the acoustic report has provided general recommendations for any mechanical plant to be enclosed by an acoustic barrier to achieve the applicable noise criteria.

		This would have been conditioned in any consent.
	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	**Complies** An acoustic assessment which identified the appropriate noise level was reviewed by Councils environmental health section and raised no objections to the proposal, subject to conditions.
	• determine an appropriate background noise level for outdoor play areas during times they are proposed to be in use	**Complies** An acoustic assessment which determined the appropriate noise level for the outdoor play areas was reviewed by Council's environmental health section and raised no objections to the proposal, subject to conditions.
	• determine the appropriate height of any acoustic fence to enable the noise criteria to be met.	**Complies** The submitted acoustic report provided recommendations for the height of an acoustic fence. The proposed fencing is 2.0m above the existing RL on all three adjoining boundary fences as shown in figure 9 below.
3.6 Noise and air pollution		
To ensure that outside noise levels on the facility are minimised to acceptable levels.	Adopt design solutions to minimise the impacts of noise, such as: • creating physical separation between buildings and the noise source	**Complies** The acoustic report was reviewed by Council's Environmental Health department which did not object to the proposal, subject to conditions of consent. The acoustic report addressed the penetration of outside sources of noise into the centre and its sleeping areas.
	• orienting the facility perpendicular to the noise source and where possible buffered by other uses	**Complies** As above.
	• using landscaping to reduce the perception of noise	**Complies** Landscaping within the outdoor areas is proposed which would contribute to outside noise reduction.
	• limiting the number and size of openings facing noise sources	**Complies** Openings are acceptable.
	• using double or acoustic glazing, acoustic louvres or enclosed balconies (wintergardens)	**Complies** Conditions would be imposed regarding the implementation of recommendations outlined within the acoustic report.
	• using materials with mass and/or sound insulation or absorption properties, such as solid balcony balustrades, external screens and soffits	As above.
	• locating cot rooms, sleeping areas and play areas away from external noise sources.	As above.

	An acoustic report should identify appropriate noise levels for sleeping areas and other non-play areas and examine impacts and noise attenuation measures where a child care facility is proposed in any of the following locations: • on industrial zoned land	**Complies** The proposed childcare centre is not located on industrial zoned land, within an ANEF contour, on a railway or mass transit corridor or on a major or busy road. The acoustic report has still addressed outside noise and provided recommendations to achieve the relevant noise criteria.
	• where the ANEF contour is between 20 and 25, consistent with AS 2021 – 2000	As above.
	• along a railway or mass transit corridor, as defined by State Environmental Planning Policy (Infrastructure) 2007	As above.
	• on a major or busy road other land that is impacted by substantial external noise	As above.
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.	Locate child care facilities on sites which avoid or minimise the potential impact of external sources of air pollution such as major roads and industrial development. A suitably qualified air quality professional should prepare an air quality assessment report to demonstrate that proposed child care facilities close to major roads or industrial developments can meet air quality standards in accordance with relevant legislation and guidelines. The air quality assessment report should evaluate design considerations to minimise air pollution such as: • creating an appropriate separation distance between the facility and the pollution source. The location of play areas, sleeping areas and outdoor areas should be as far as practicable from the major source of air pollution	**Complies** The area is compatible with surrounding land uses. There are no known activities within the vicinity that would trigger the need for an air quality assessment.
	• Using landscaping to act as a filter for air pollution generated by traffic and industry. Landscaping has the added benefit of improving aesthetics and minimising visual intrusion from an adjacent roadway	As above.
	• Incorporating ventilation design into the design of the facility.	As above.
3.7 Hours of operation		
To minimise the impact of the	Hours of operation within areas where the predominant land use is	**Complies**

child care facility on the amenity of neighbouring residential developments.	residential should be confined to the core hours of 7.00am to 7.00pm weekdays. The hours of operation of the proposed child care facility may be extended if it adjoins or is adjacent to non-residential land uses. Within mixed use or predominantly commercial areas, the hours of operation for each child care facility should be assessed with respect to its compatibility with adjoining and co-located land uses.	The proposed hours of operation are Monday to Friday: 7am to 6pm.
3.8 Traffic, parking and pedestrian circulation		
To provide parking that satisfies the needs of users and demand generated by the centre.	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.	**Does not comply** The provision of seven car spaces is not compliant with the requirements under LDCP 2008. 1 space per staff member and 1 space per 10 children. Proposed 5 teaching staff = 5 car parking Proposed 28 children = 3 car parking Required parking = 8. There is a shortfall of one space. Councils Traffic and Transport section has considered the provision for an incentivised program for staff using public transport. The proximity to public transport would facilitate this provision, however Council notes the numerous submissions addressing on-street parking and road safety. Please refer to attached 3 for the DCP assessment for further details. Council is not satisfied that parking satisfies the needs of users and demand generated by the centre.
	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	**Complies** This DA is accompanied by a Traffic Assessment Report, which has been reviewed by Councils Traffic section. Councils Traffic section has raised no objection to the proposed development, subject to conditions. Special traffic conditions are noted in the internal referral section below.

	• there will be no impacts on the safe operation of the surrounding road network.	
To provide vehicle access from the street in a safe environment that does not disrupt traffic flows.	Alternate vehicular access should be provided where child care facilities are on sites fronting: a classified road. • roads which carry freight traffic or transport dangerous goods or hazardous materials. The alternate access must have regard to: • the prevailing traffic conditions • pedestrian and vehicle safety including bicycle movements • the likely impact of the development on traffic.	**Complies** The subject site does not front a classified road. Councils Traffic Engineering section have confirmed that vehicular access to the site is suitable in the location proposed with traffic conditions of consent.
	Child care facilities proposed within cul-de-sacs or narrow lanes or roads should ensure that safe access can be provided to and from the site, and to and from the wider locality in times of emergency.	**Does not comply** Councils Traffic Engineering section have identified safety concerns for access to the site due the existing traffic conditions and the curve in the road. The traffic section have commented: *As there is no designated drop-off and pick-up zone, parents and visitors will have to wait – where only 2 -3 visitor/parent parking will be available. It is likely that access vehicles will be queued along the driveway and along the narrow Satelberg Street – public road waiting to enter the carpark.* As such, the proposal does not provide vehicle access from the street in a safe environment that does not disrupt traffic flows.
To provide a safe and connected environment for pedestrians both on and around the site.	The following design solutions may be incorporated into a development to help provide a safe pedestrian environment: • separate pedestrian access from the car park to the facility	**Complies** Pedestrian access is separate from the car park to the facility. Conditions of consent would ensure directional signage is installed to direct pedestrian entry and to avoid crossing the car park.
	• defined pedestrian crossings included within large car parking areas	**Complies** No specific line marking is proposed however, the car park is modest in size. Councils Community Planning officer has raised no concern regarding safety within the car park.
	• separate pedestrian and vehicle entries from the street for parents, children and visitors	**Complies** Separate pedestrian and vehicle entrances are proposed.

	• pedestrian paths that enable two prams to pass each other	**Does not comply** The side egress to the south boundary is proposed to be 1.2m in width. Additionally, the external pathway at the rear has been reduced from 1.5m to 1.45m. The development must ensure the provision of a continuous pedestrian pathway with a consistent width of at least 1.5 meters to enable two prams to pass each other. This will ensure a safe and connected environment is provided for pedestrians both on and around the site.
	• delivery, loading areas and turnaround areas located away from the main pedestrian access to the building and in clearly designated, separate facilities	**Complies** Deliveries would be undertaken from visitor car spaces during off-peak periods, separate from the main pedestrian entry point.
	• Minimise the number of locations where pedestrians and vehicles cross each other	**Complies** The car park area results in a pedestrian crossing being separate to where vehicles travel which is acceptable.
	• in commercial or industrial zones and mixed use developments, the path of travel from the car parking to the centre entrance physically separated from any truck circulation or parking areas	**N/A** The proposed childcare centre is not located on commercial or industrial zoned land.
	• vehicles can enter and leave the site in a forward direction.	**Complies** Vehicles can enter and leave the site in a forward direction.
	• clear sightlines are maintained for drivers to child pedestrians, particularly at crossing locations	**Complies** Councils Traffic Engineering section has raised no concerns regarding sightlines to pedestrians.
	Car parking design should: • include a child safe fence to separate car parking areas from the building entrance and play areas	**Complies** Bollards have been proposed in lieu of a fence to separate the pedestrian area around the perimeter of the entry and the driveway.
	• provide clearly marked accessible parking as close as possible to the primary entrance to the building in accordance with appropriate Australian Standards	**Complies** An accessible space is proposed which would be required to be marked in accordance with the relevant Australian Standards.
	• include wheelchair and pram accessible parking.	**Complies** The parking configuration is acceptable.

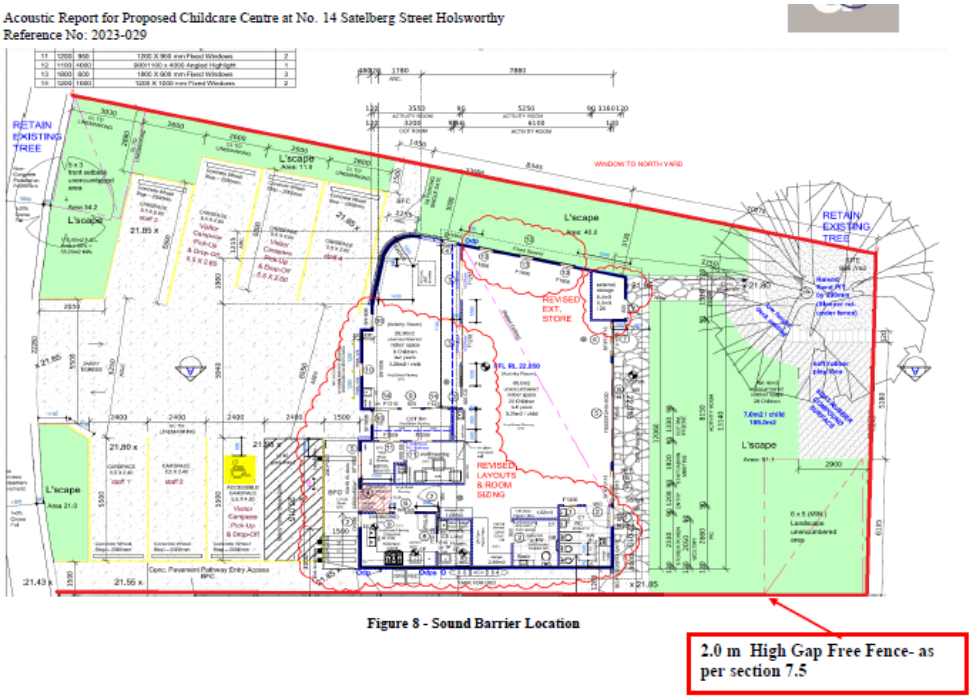
Part 4. Applying the National Regulations to development proposals		
Requirement	**Proposed**	**Comment**
4.1 Indoor Space Requirements Every child being educated and cared for within a facility must have	**<u>Required</u>** Indoor Playroom 1 - (8 x 3.25) - 26m^2	**Complies**

a minimum of 3.25m^2 of unencumbered indoor space.	Indoor Playroom 2 - (20 x 3.25) - 65m^2 **<u>Proposed</u>** Indoor Playroom 1 – 26m^2 Indoor Playroom 2 – 65m^2	
<u>Storage</u> A minimum of 0.3m^3 per child of external storage space	**External** Required: 28 x 0.3 = 8.4m^3 Proposed: 2.5m2 x 3.45m (ceiling height) = 8.625m3	**Complies**
A minimum of 0.2m^3 per child of internal storage space.	**Internal** Required: 28 x 0.2 = 5.6m^3 Proposed: 5.6m3 based off 1.8m height over 3 zones.	**Complies**
4.2 Laundry and Hygiene Facilities There must be laundry facilities or access to laundry facilities; or other arrangements for dealing with soiled clothing, nappies and linen, including hygienic facilities for storage prior to their disposal or laundering. The laundry and hygienic facilities must be located and maintained in a way that is not accessible by, and does not pose a risk to, children.	The development proposes on-site laundry facilities. The laundry is located off the kitchen, an area separate/away from the children's play areas. However, the cleaners sink is located in the laundry adjacent to the kitchen where open food is handled. The cleaners sink would be used for the disposal of liquid waste, and its location adjacent to food preparation is unsatisfactory.	**Does not comply**
4.3 Toilet and Hygiene Facilities A service must ensure that adequate, developmentally and age-appropriate toilet, washing and drying facilities are provided for use by children being educated and cared for by the service; and the location and design of the toilet, washing and drying facilities enable safe use and convenient access by the children.	The proposed development provides a fixed change table adjacent to the 3-5year activity room. There is no change facility adjoining the 0-2-year activity room. It is envisaged that 0-2 children would be carried through the 3-5year activity room by the educator. This is considered unsatisfactory as, it is important to consider the age and number of children who will require access to the bathroom facilities and whether there are sufficient toilets and hand basins to ensure minimal delay for children requiring their use.	**Does not comply**

	The same wash closet (WC) provides toilets for the 3-5year children. The space is accessible by children and adequately supervised by educators.	
4.4 Ventilation and Natural Light Services must be well ventilated, have adequate natural light, and be maintained at a temperature that ensures the safety and wellbeing of children.	The proposed childcare centre would have access to adequate natural light with ample windows particularly to the east and north, with longer eaves to east to assist in mitigating heat. Mechanical ventilation would assist in maintaining temperature control.	**Complies**
4.5 Administrative Space A service must provide adequate area or areas for the purposes of conducting the administrative functions of the service, consulting with parents of children and conducting private conversations.	The proposal includes an administrative room and staff/meeting room to comply with this control.	**Complies**
4.6 Nappy Change Facilities Child care facilities must provide for children who wear nappies, including appropriate hygienic facilities for nappy changing and bathing. All nappy changing facilities should be designed and located in an area that prevents unsupervised access by children.	Nappy change facilities have been provided for children who wear nappies, including hygienic facilities for nappy changing and bathing. However, the nappy change room is located adjacent to the playroom for ages 3-5 years old and is in an area accommodated in the shared 3-5year bathroom. There is no nappy change area is not adjacent to the 0-2year old activity room. The location proposed is unsatisfactory.	**Does not comply**
4.7 Premises Designed to Facilitate Supervision A centre-based service must ensure that the rooms and facilities within the premises (including toilets, nappy change facilities, indoor and outdoor activity rooms and play spaces) are designed to facilitate adequate supervision of children at all times, having regard to the need to maintain their rights and dignity.	The layout of the centre has a suitable level of supervision offered between rooms, the outdoor play area, the toilets and nappy change facilities.	**Complies**

4.8 Emergency and Evacuation Procedures Facility design and features should provide for the safe and managed evacuation of children and staff from the facility in the event of a fire or other emergency.	No evacuation plan was submitted with the application. A condition of consent would be imposed to require the preparation of an evacuation plan.	**To be conditioned**
4.9 Outdoor Space Requirements The proposed development includes at least 7.0 square metres of unencumbered outdoor space for each child.	Required Outdoor - (28 children x 7sqm) 196m^2 Proposed Outdoor – 196m^2	**Complies**
4.10 Natural Environment Creating a natural environment to meet this regulation includes the use of natural features such as trees, sand and natural vegetation within the outdoor space.	The proposed landscape plan indicates a high-quality mixture of natural environment elements for the outdoor play area.	**Complies**
4.11 Shade Providing the correct balance of sunlight and shade to play areas is important for the health and wellbeing of children and staff. Combining built and natural shade will often be the best option.	The existing large tree within the outdoor play area would provide shading during the heat of the day and still allow children to use the outdoor play area. A suitable balance of shaded and unshaded play areas is proposed.	**Complies**
4.12 Fencing Any outdoor space used by children must be enclosed by a fence or barrier that is of a height and design that children preschool age or under cannot go through, over or under it.	The proposed fencing is of a height and fully enclosed with no gaps.	**Complies**
4.13 Soil Assessment Subclause (d) of Regulation 25 requires an assessment of soil at a proposed site, and in some cases, sites already in use for such purposes as part of an application for service approval.	The detailed site investigation report was considered unsatisfactory by Councils Environmental Health officer.	**Does not comply**
123 Educator to child ratios—centre-based services / 271 Educator to child ratios – 36months or more but less than 6years The minimum number of educators required to educate and care for children at a centre-based service as follows;	The total number of educators proposed is five.	**Complies**

1) Children age between 0 to 24 months- 1 educator to 4 children;	8 children and 2 educators proposed equating with 1 to 4 children.	
2) Children age between 24 months to 36 months - 1 educator to 5 children;	5 children and 1 educators proposed equating with 1 to 5 children.	**Complies**
3) Children age between 36 months and over - 1 educator to 10 children; and	15 children and 2 educators proposed equating to less than 1 to 10 children.	**Complies**
4) Children over preschool age- 1 educator to 15 children.	No children over preschool age proposed.	**Complies**



Extract of Acoustic Barrier (Source: Acoustic report prepared by Australian Acoustical Society)

ATTACHMENT 3: LIVERPOOL DEVELOPMENT CONTROL PLAN 2008

Liverpool Development Control Plan 2008 (LDCP) Parts 1 and 4 apply to the development. Part 1 prescribes general controls for all development and Part 3.8 for non-residential development in residential zones. The relevant development controls are summarised in the following table:

Part 1 General Controls for all Development		
Control	**Requirement**	**Complies/Comment**
Section 2 – Tree Preservation	Consider the impact of development on existing vegetation	**Complies** The existing tree in the front setback area and large tree in the rear setback area are proposed to be retained.
Section 3 – Landscaping and Incorporation of existing trees	Incorporation of existing trees into development where appropriate	**Complies** Existing trees are to be retained.
Section 4 – Bushland and Fauna Habitat Preservation	Consider the impact of development on bushland and habitats	**N/A** No bushland or habitats are at threat by the proposed development.
Section 5 – Bushfire Risk	Land on or adjacent to bushfire-prone land to comply with RFS requirements	**N/A** The site is not mapped as bushfire-prone land.
Section 6 – Water Cycle Management	Consideration of stormwater and drainage	**Complies** The submitted stormwater plans were assessed by Council's Land Development Engineers and the proposal is supported subject to conditions.
Section 7 – Development Near a Watercourse	Consideration of impact on riparian corridors	**Complies** The development does not impact any nearby watercourses.
Section 8 – Erosion and Sediment Control	A Sediment Control Plan or Soil and Water Management Plan is required	**Complies by condition.** A sediment and erosion control plan was submitted with the application. Conditions would be applied in any consent to ensure sediment and erosion are controlled during construction.
Section 9 – Flooding Risk	Flood affection of a property to be considered	**N/A** The property is not affected by flood risk.
Section 10 – Contaminated Land Risk	Previous use to be considered in assessing risk	**Does not comply.** A preliminary site investigation revealed low contamination risk potential. A detailed site investigation was conducted, however it included insufficient sampling and author accreditation. The report was reviewed by Councils environmental health officer and was deemed unsatisfactory and that the site may be not suitable for the proposed sensitive land use.
Section 11 – Salinity Risk	Salinity Management response required for affected properties	**N/A** The development would not be subject to any salinity risk.

Section 12 – Acid Sulfate Soils Risk	Affected properties to consider the impact of development on soils	**Complies** The site is mapped as class 5 acid sulfate soils. This affectation is addressed in the detailed site investigation report, prepared by EI Australia which states that the 'acid sulfate soil presence 'low' and 'further assessment was deemed unwarranted.'
Section 13 - Weeds	Noxious weeds are to be removed as part of development where applicable	**N/A** No noxious weeds were identified as being present on the site.
Section 14 – Demolition of Existing Development	Must comply with AS 2601-2001	**Complies by condition.** Demolition of the existing building and structures is proposed. Conditions would be applied to the consent to ensure demolition is conducted in accordance with AS2601-2001.
Section 15 – Onsite Sewage Disposal	S68 Application required where connection to sewer not available	**N/A** The site is connected to sewer.
Section 16 & 17 – Aboriginal Archaeology	An Aboriginal Heritage Impact Assessment is required where items of aboriginal archaeology exist	**N/A** The site is not mapped as being affected by items of aboriginal archaeology or heritage.
Section 20 – Car Parking and Access	Child care centres (residential zone) 1 space per staff member 1 space per 10 children Service facilities for a van	**Does not comply** For a total of five educators, five staff spaces are required, however four spaces are proposed. For a total of 28 children, three visitor spaces are required and provided. Eight carparking spaces are required in total, however seven are proposed, the proposal does not comply with this control. Although is noted that the development proposes an incentivised 'green travel plan' which utilises the proximity of public transport services. Councils Traffic and Transport section have reviewed the application and raised no objections. However, upon planning review of the numerous community submissions regarding traffic concerns, the shortfall in 1 car parking space is not satisfactory. The Plan of management identifies all servicing to be undertaken outside of the peak drop-off/pick-up periods. Given the size of the centre, vans are the likely to be largest vehicle to service the site and can park within the visitor space during off-peak periods.

	Bicycles: 1 per 10 staff 2 per centre for visitors	**Does not comply** A total of 2.5 (rounded up to 3) bicycle spaces are required. The plans do not show any bicycle spaces. Three bicycle space can be conditioned for any consent.
Section 22 – Energy Efficiency	All Class 5 to 9 non-residential developments are to comply with the Building Code of Australia energy efficiency provisions.	**Complies by condition.** A condition would be imposed requiring the development to comply with the BCA, which would include energy efficiency provisions.
Section 25 – Waste Management	A Waste Management Plan shall be submitted for demolition, construction and ongoing waste management.	**Complies by condition.** A waste management plan has been submitted which outlines procedures for demolition, construction, and ongoing waste management. Conditions regarding the demolition phase would be included in any consent.
Section 27 – Social Impact Assessment	Social Impact Comment Childcare centres (more than 20 places)	**Complies** The statement of environmental effects, plan of management and response to additional information was reviewed by Council Community services officer, who raised no objections.
Section 29 – Safety and Security	Address 'Safer-by-Design' principles in the design of public and private domain, and in all developments including the NSW Police 'Safer by Design' Crime Prevention Though Environmental Design (CPTED) principles.	**Does not comply.** The absence of direct access or windows within the admin and staff meeting rooms facing the lobby area is noted, which compromises both security and functionality. The applicant must address this concern. The proposed childcare centre has not fully satisfied Safer by Design and CPTED principles.

Part 3.8 of LDCP 2008 provides for controls relevant to the application, specifically Section 2 – Childcare Centres. While many of these controls are overridden by SEPP (Transport and Infrastructure) 2021, Chapter 3 Educational Establishments and Child Care Facilities, some remain applicable to the development and are assessed within the table below.

LDCP 2008 Part 3.8 – Part 3.8 Non-Residential Development in Residential Zones: (Childcare Centres)		
Control	**Requirement**	**Comment**
2.1 Licence Requirements	Development consent from Council under the Environmental Planning and Assessment Act 1979. A licence to operate from the NSW Department of Community Services (DOCS) under the Children and Young Persons (Care and Protection) Act 1998 and the Children's Services Regulation 2004.	**Complies** Development consent is being sought.
2.2 Lot Sizes	The maximum number of children in any centre cannot exceed 45 for 0-5 year olds, however Council may consider a maximum number of 60 children per centre of which 30% must be aged between 0-2. The proposed child care centre must comply with open space requirements as set out in the Children Services Regulation 2004.	**N/A** Clause 3.27 of SEPP (Transport and Infrastructure) 2021 supersedes this provision by imposing a standard stating that restricting or regulating children numbers cannot be imposed. Notwithstanding this, the centre seeks a maximum of 28 children and would have complied regardless. **N/A** Complies with SEPP requirements in relation to indoor and outdoor space.
2.3 Site Planning – site location	Child Care Centres should be located: - In the general vicinity of primary schools, major employment areas and recreation areas. - Within the grounds of community facilities, educational facilities or churches. - Near services such as shops, medical facilities and public transport. - On streets with widths that permit adequate safe manoeuvrability of vehicles & lines of sight for pedestrians, cyclists and vehicles; and on approach streets within the road hierarchy such as on collector streets. - Where traffic control devices do not impede vehicular access to sites. - Where the children will not be adversely affected by lead contamination, offensive noise and air pollution. - Child Care Centres must be located	**Does not comply** The Child Care Planning Guide locational criteria overrides DCP controls. However, the site remains suitable regardless of the criteria in this section with exception to the raised contamination concerns raised within the main body of the assessment report.

	and designed so as not to pose health or safety risk to children using the centre. Child Care Centres shall not be permitted: - adjacent to industrial activities. - Within 300m of an existing Child Care Centre. - On classified roads. - Adjacent to railway lines. - On streets with a carriageway width of 6.5m or less. - On streets, which are cul-de-sacs. - On lots adjacent to a roundabout (including a proposed roundabout) - In areas where aircraft noise levels exceed 25 Australian Noise Exposure Forecast (ANEF).	
Site Planning	Site planning should be sensitive to site attributes such as streetscape character; natural landform; existing vegetation; views and land capability.	**Complies** The site planning has had sufficient regard in relation to streetscape character, natural levels, retention of vegetation and land capability. No views are relevant to the site.
	The site layout should enhance the streetscape through the use of landscaping and built form.	**Complies** The proposal provides for suitable landscaping and a suitable built form relationship with the streetscape.
	Site planning should enable buildings to address streets and public open spaces.	**Complies** The proposed childcare centre addresses the street.
	The site layout should ensure that the external play area is maximised and enjoys solar access.	**Complies** The proposed site layout provides for adequate solar access to the outdoor play area.
	The site layout should contribute to personal safety and to the protection of property by permitting casual surveillance of adequately lit outdoor spaces from windows and entries.	**Complies** The site layout affords for casual surveillance of the street and supervision within the operation.
	In areas exposed to significant levels of off-site noise, the site layout and building forms should assist in minimising noise entry.	**N/A** Not subjected to significant levels of off-site noise.
	The site layout should ensure that the front entrance to the Child Care Centre is easily located and accessible.	**Complies by condition.** Subject to a condition for directional signage on the Satelberg Street frontage to be installed. The layout and entry location is satisfactory.
	The layout must be designed around the site attributes such as slope;	**Complies**

	existing vegetation; land capability and/or solar access.	The site layout is appropriate being designed around the site attributes.
	The siting of windows of habitable rooms on the first floor shall minimise overlooking to the principal private open space of neighbouring properties.	**N/A** No first floor.
	Stormwater from the site must be able to be drained satisfactorily. Where the site falls away from the street, it may be necessary to obtain an easement over adjoining property to drain water satisfactorily to a Council stormwater system. Where stormwater drains directly to the street, there may also be a need to incorporate on-site detention of stormwater where street drainage is inadequate. Refer to Water cycle management in Part 1.	**Complies by conditions.** The proposal was referred to Council's Land Development Engineering department, which had reviewed the proposal and raised no objections to the proposal subject to conditions of consent.
2.4 Setbacks	<u>Front Setbacks</u> Front Setback: 5.5m Secondary Setback: 4.0m	**Complies** The centre achieves the minimum front setback requirements with a 12.340m setback to Satelberg Street. The subject site is not a corner lot, hence a secondary setback doe not apply.
	<u>Side Setbacks</u> Single storey buildings: 1.2m Second storey component of buildings: 1.2m Access doors from children's internal space: 4m	**Complies** The single-storey structure proposes side setbacks that are 1.2m to the south boundary and 3m to the north boundary.
	<u>Rear Setbacks</u> Single storey buildings: 4m Second storey component of buildings: 8m Access doors from children's internal space: 4m	**Complies** The rear setback is 10.3m and no first floor is proposed.
2.5 Landscaped Area	A minimum of 25% of the site area shall consist of Landscaped Area, this may include lawn, deep rooted trees, garden beds and mulched areas.	**Complies** Refer to comments within the main report . Site area: 636m2 Minimum landscaping required = 159m2

		Landscaping zones provided = 91m2 + 40m2 + 11m2 + 34m2 + 21m2. Total landscaping provided = 197m2(31% of the site).
	There must be an unencumbered area of 5 x 6m in the rear setback for the opportunity to accommodate the planting of deep rooted trees.	**Complies**
	A minimum of 50% of the front setback area shall be landscaped area.	**Does not comply** Refer to comments within the main report. Required: 274m2 x 50% = 137m2 Provided = 66m2 (48% of required area)
	There must be an unencumbered area of 3 x 5m in the front setback for the opportunity to accommodate deep rooted trees.	**Complies** Provided.
Open Space	A proposed Child Care Centre must comply with open space requirements as set out in the Children Services Regulation 2004. Outdoor open space is to be located behind the childcare centre i.e. away from roads/streets.	**Complies** The required 7m^2 per child has been achieved. The outdoor open space would be located behind the childcare centre and a crash-proof fence would be conditioned on any consent.
2.6 Building Form, Style and Streetscape	Where large glass areas cannot be avoided appropriate shade devices shall be incorporated into the design.	**Complies** Appropriate shade devices have been incorporated into the design.
	The roof design shall be compatible with surrounding properties with respect to height, pitch, building materials and colour.	**Acceptable on Merit** A contemporary skillion type roof form is adopted. Whilst this is not entirely compatible with the local character, it does complement the proposed built form itself and is of a low scale and low impact design. The roof form is acceptable on merit and would not be incompatible with the immediate locality.
	The building shall be designed so that it is in character with the surrounding residential area in terms of bulk, scale, size and height.	**Complies** The building has been designed so that it is in character with the surrounding residential area in terms of bulk, scale, size, and height.
	The front pedestrian entrance must be visible from the street.	**Complies** The front pedestrian entrance would be visible from the street.

	The front building facades shall be articulated. This articulation may include front porches, entries, wall indents, changes in finishes, balconies and/or verandahs.	**Complies** The front building facades would be well articulated with entries, and changes in materials and finishes.
	For two storey developments, the side walls shall be articulated if the wall has a continuous length of over 10m.	**N/A** The centre is single storey.
	Buildings that face two street frontages or a street and public space must address both frontages by the use of verandahs, balconies, windows or similar modulating elements.	**Complies** The centre does not face two street frontages.
Security	Entrances to buildings should be orientated towards the front of the site facing the street.	**Complies** The entrance to the centre is towards the front of the site and is visible from the street.
	Blank walls addressing the street frontage and other public places must be avoided.	**Complies** Blank walls addressing the street frontage have been avoided.
2.7 Landscaping and fencing	A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted. Trees adjacent to/or within the play area, are to provide shade and allow winter sun entry. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry. Landscaping species must be appropriate to prevent injury to children. No toxic, spiky or other hazardous plant species. The setback areas of development are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services.	**Complies by conditions.** A landscape plan has been submitted with the proposed development. The landscape plan is consistent with the controls and proposes a variety of species for trees, shrubs, and groundcovers, which overall enhance the landscaping on the site.

	Landscape planting should principally comprise of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access. The landscaping shall contain an appropriate mix of canopy trees, shrubs and groundcovers. Avoid medium height shrubs (0.6 – 1.8m) especially along paths and close to windows and doors. Tree and shrub planting along side and rear boundaries should assist in providing effective screening to adjoining properties. The height of screening plants to be provided is 2.5 to 3m at maturity. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. Landscaping on podium levels and planter boxes should be accessible from internal rooms as appropriate for gardener access.	
Fencing	Side (behind the building setback) and rear fencing shall be 1.8m in height.	**Acceptable on Merit** The side fencing is required to be 2.0m to the north, south and east by the acoustic assessment. The southern adjoining property has an awning adjacent to the proposed 2.0m high fence and would not cause significant adverse overshadowing. The height of the fence is acceptable in this instance. Other adjoining boundary properties would not be affected by the 2.0m high fence.
	Where a fence adjoins a park it shall be of a high-grade material consistent in quality with the building and the context of the park, and shall be designed to address the park.	**Not Applicable** Not adjoining a park.

	Fences shall be constructed of materials compatible with the proposed building.	**Complies** The proposed fencing is compatible with the proposed building and consistent with the residential area.
	Fencing shall be designed to minimise opportunities for graffiti.	**Complies by condition.** Fencing has been designed to minimise opportunities for graffiti. Conditions of consent would apply regarding removal of graffiti.
	Gates shall be the same height as the fence, self-closing and be secure and fitted with a childproof lock.	**Complies by condition.** Gates are to be secured with a childproof lock.
	Wall finishes must have low reflectivity. Front fences are to be light coloured and low in height or open form.	**Complies** The proposed fencing has low reflectivity and contains appropriate colours.
	Fences should not prevent surveillance by the building's occupants of the main open or communal areas within the property or the street frontage.	**Complies** Fencing allows for passive surveillance to occur.
	Where noise insulation is required, consider the installation of double-glazing or other noise attenuation measures at the front of the building rather than construction of a high solid form fence.	**Complies** Front fencing is not proposed.
	<u>Primary Frontage</u> Front fences shall have a maximum height of 1.2m, and constructed of masonry, timber and/or vegetation.	**N/A** Front fencing is not proposed.
	The front fence must be 30% transparent.	**N/A** Front fencing is not proposed.
	The front wall may exceed 1.2m (to a maximum of 1.8m) only if: - The fence is articulated by 1m and has landscaping in front of the fence, and - The fence does not impede safe sight lines from the street and from vehicles entering and exiting the site, and - Front fences are to be constructed of materials compatible with the proposed design of the dwelling.	**N/A** Front fencing is not proposed.

	Secondary Frontage Side fences and walls must be a maximum of 1.8m in height, and constructed of masonry, timber and/or landscaped.	**N/A** The site is not a corner lot.
	For side walls or fences along the secondary frontage, a maximum height of 1.2m is required for the first 9m measured from the front boundary, the remaining fence/wall may then be stepped up to a maximum of 1.8m.	**N/A** The site is not a corner lot.
	The secondary setback is the longest length boundary.	**N/A** The site is not a corner lot.
	Side fencing facing a public street or parkland must not be constructed of sheet metal. However, metal sheet fencing is permitted on internal boundaries.	**N/A** The site is not a corner lot.
2.8 Car parking and access- site access	All vehicles shall enter and leave the site in a forward direction.	**Complies** All vehicles are to enter and leave the site in a forward direction.
	Dead end streets or cul-de-sacs present traffic movement and parking problems and are inappropriate locations for Child Care Centres or facilities.	**N/A** The subject site is not a dead-end street or cul-de-sac.
Location	To provide adequate vehicle access and on-site car parking facilities for residents and visitors.	**Does not comply.** The proposal incorporates adequate vehicle access. However, sufficient on-site car parking facilities for staff and parents are not provided.
	To minimise reliance on on-street parking.	**Complies** Parking is in accordance with LDCP 2008 parking rates and reliance on on-street parking is not proposed.
	To provide safe and easy access to and from the site for pedestrians and motorists.	**Complies** Separate pedestrian and motorist access is provided.
	To provide adequate turning areas for manoeuvring into and out of car parking spaces and/or garages.	**Complies** The proposal was referred to Council's Traffic department. Council's Traffic Engineer has reviewed the submitted plans and has no objections to the proposal, subject to conditions of consent.
	To minimise the impact of driveways and parking areas on existing landscaping, landform and streetscape.	**Complies** Only one driveway area is proposed for the site. Amendments have allowed for additional landscaping to

		minimise the visual impact of the car park area.
	To ensure pavement or driveway materials are sympathetic to the streetscape and surrounding landscape character.	**Complies** Appropriate driveway materials are used.
2.9 Amenity and environmental impact - Noise	Development for childcare centres shall not be permitted in areas where aircraft noise levels exceed 25 Australian Noise Exposure Forecast (ANEF).	**Complies** The childcare centre is not located in an area where aircraft noise levels exceed 25 ANEF.
Contaminants	All buildings whether to be built, extended, renovated or converted shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.	**Does not comply.** Councils Environmental Health officer has reviewed the subject site history and confirmed that the detailed site investigation report was unsatisfactory.
Site Operation	In residential zones the days/hours of operation shall be limited to 7.00 am - 7.00 pm: Monday – Saturday. No operation on Sundays or public holidays.	**Complies** The centre would operate Monday to Friday between the hours of 7:00am to 6:00pm.
	Child Care Centres or facilities shall be no closer than 50m to mobile phone towers or antennas or transmission line easements or other similar electromagnetic radiation sources.	**Complies** The proposed childcare centre would not be located closer than 50m to mobile phone towers, antennas, transmission line easements or other similar electromagnetic radiation sources.
Overshadowing	Adjoining properties must receive a minimum of three hours of sunlight between 9am and 3pm on 21 June to at least: - one living, rumpus room or the like and/or - 50% of the private open space.	**Complies** The proposal has a limited degree of overshadowing due to being single storey and the cut proposed. The level of solar access retained to adjoining properties is acceptable.
Privacy	Habitable room windows facing side boundaries are to be offset by at least 1m from any habitable room windows in an adjoining dwelling.	**Complies** The fencing disrupts views between properties.
	Habitable room windows on the first floor that face the side boundary are to avoid unreasonable overlooking by having a minimum sill height of 1.5m, except where they face a street or public open space.	**N/A** No first floor is proposed.
	Building siting, window location, balconies and fencing must consider the importance of the privacy of on-	**Complies** No visual privacy concerns are raised by the proposed building siting, window location and fencing.

	site and adjoining buildings and private open spaces.	
	Landscaping should be used where possible to increase visual privacy between dwellings and adjoining properties.	**Complies** Landscaping is incorporated which would assist in privacy.
Acoustic Privacy	Noise attenuation measures should be incorporated into building design to ensure acoustic privacy between on-site and adjoining buildings. Developments in areas adversely impacted upon by rail or traffic related noises must incorporate the appropriate noise and vibration mitigation measures into the design in terms of the site layout, building materials and design, orientation of the buildings and location of sleeping and recreation areas. The proposed buildings must comply with the Department of Environment and Climate Change criteria and the current relevant Australian Standards for noise and vibration and quality assurance.	**Complies** The proposal was referred to Council's Environmental Health department. Council's Environmental Health officer has reviewed the supplied acoustic report and has no objections to the proposal, subject to conditions of consent.
2.10 Site services - Waste Management	Waste disposal facilities shall be provided for development. These shall be located adjacent to the driveway entrance to the site. Any structure involving waste disposal facilities shall be located as follows: - Setback 1m from the front boundary to the street. - Landscaped between the structure and the front boundary and adjoining areas to minimise the impact on the streetscape. - Not be located adjacent to an adjoining residential property. Details of the design of waste disposal facilities are shown in Part 1 of the DCP.	**Complies** Waste disposal facilities have been provided for the development in a bin room adjacent to the car park area, incorporated into the building envelope.
Letterboxes and Numbering	Letterboxes shall be located along the front boundary and be clearly visible and accessible from the street.	**Complies by condition.**

	The street number of a site must be visible from the street and made of a reflective material to allow visitors and emergency vehicles to easily identify the site.	**Complies by condition**
Frontage works and damage to Council assets	Where a footpath, road shoulder or new or enlarged access driveway is required to be provided this shall be provided at no cost to Council. Council must be notified of any works that may threaten Council assets. Council must give approval for any works involving Council infrastructure. Where there are no existing street trees in front of the site and contributions have not been collected for street tree planting, it may be a condition of consent that street trees are provided in the footpath area immediately in front of the site.	**Complies by condition.** Protection of Council assets and rectification of damage would be conditioned.

ATTACHMENT 4: REASONS FOR REFUSAL

1. Insufficient information has been submitted to allow Council to carry out a full and proper assessment of the application pursuant to Sections 4.15(1)(a), 4.15(1)(b) & 4.15(1)(c) of the Environmental Planning and Assessment Act 1979.

2. The proposed development is inconsistent with the provisions of Chapter 4 Remediation of land under State Environmental Planning Policy (Resilience and Hazards) 2021 in that the detailed site investigation report fails to undertake the required number of site samples in accordance with the NSW EPA Contaminated Land Guidelines Sampling Design Part 1 – application. Additionally, the report has not be prepared or reviewed by a suitably qualified and experienced consultant who is certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) Scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) Scheme, pursuant to Sections 4.15(1)(a)(i), 4.15(1)(b) and 4.15(1)(c) of the Environmental Planning and Assessment Act 1979.

3. The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives of Part 2 – Design quality principles of the Child Care Planning Guidelines 2021.

4. The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of:

    i. Part 3.1 Site selection and location
    ii. Part 3.2 Local character, streetscape and the public domain interface
    iii. Part 3.3 Building orientation, envelope and design
    iv. Part 3.4 Landscaping
    v. Part 3.5 Visual and acoustic privacy
    vi. Part 3.8 Traffic, parking and pedestrian circulation
    vii. Part 4.2 Laundry and hygiene facilities
    viii. Part 4.3 Toilet and hygiene facilities
    ix. Part 4.6 Nappy change facilities
    x. Part 4.13 Soil assessment

    of the Child Care Planning Guidelines 2021.

5. The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of:
    i. Section 10 – Contaminated Land Risk
    ii. Section 20 – Car parking and access
    iii. Section 29 – Safety and security

of the Liverpool Development Control Plan 2008 – Part 1

6. The proposed development does not provide sufficient information to allow for the full and proper assessment on whether the proposal would be satisfactory with the objectives and controls of:
    i. Section 2.3 – Site Planning – site location
    ii. Section 2.5 – Landscaped area
    iii. Section 2.8 Car parking and access - location
    iv. Section 2.9 – Amenity and environmental impact – Contaminants

    of the Liverpool Development Control Plan 2008 – Part 3.8.

7. Insufficient information has been submitted to demonstrate that the subject site would be not create detrimental impact of the natural and built environment, pursuant to Section 4.15(c) of the Environmental Planning and Assessment Act 1979.

8. Insufficient information has been submitted to demonstrate that the subject site would be not create detrimental social impacts citing matters such as traffic and road safety, pursuant to Section 4.15(c) of the Environmental Planning and Assessment Act 1979.

9. Insufficient information has been submitted to demonstrate that the subject site would be suitable for the proposed development, pursuant to Section 4.15(c) of the Environmental Planning and Assessment Act 1979.

10. Due to the above reasons, approval of the application as submitted would be contrary to the public interest, pursuant to Section 4.15(1)(e) of the Environmental Planning and Assessment Act 1979.

ADVISORY NOTES

a) Section 8.2 of the EP&A Act provides that an applicant may request, within six (6) months of the date of the determination of the Development Application, that Council review its determination (this does not relate to designated development or Crown development).

    An application under Section 8.2 of the EP&A Act cannot be reviewed/determined after 6 months of the date of determination. Therefore, the submission of a Section 8.2 Application must allow sufficient time for Council to complete its review within the prescribed timeframe, including the statutory requirement for public notification.

a) Section 8.7 and 8.9 of the EP&A Act provides that an applicant who is dissatisfied with the determination of a Development Application, may appeal to the Land and Environment Court within six (6) months of the date of determination, or as otherwise prescribed by the EP&A Act.

If you have any further enquiries, please contact Azmal Hussain on the abovementioned contact details.

Yours faithfully

Greg Samardzic
Team Leader – Development Assessment
DEVELOPMENT ASSESSMENT

STATEMENT OF ENVIRONMENTAL EFFECTS Liverpool Council

demolition of existing structures and construction of a single twenty eight (28) place centre base childcare, car parking, fencing and associated site works at Lot 428, DP234857, 14 Satelberg Street Holsworthy

REV 3 Date: 28/03/2024

Prepared by:

Design-basix-build
[redacted]

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Document Management

Integrated Development (under S4.46 of the EP&A Act). Does the development require approvals under any of the following legislation?
Coal Mines Subsidence Compensation Act 2017 No
Fisheries Management Act 1994 No
Heritage Act 1977 No
Mining Act 1992 No
National Parks and Wildlife Act 1974 No
Petroleum (Onshore) Act 1991 No
Protection of the Environment Operations Act 1997 No
Roads Act 1993 No
Rural Fires Act 1997 No
Water Management Act 2000 No

Concurrence
SEPP (Industry and Employment) 2021 No
SEPP (Resilience and Hazards) 2021 No
SEPP (Transport and Infrastructure) 2021 Yes
SEPP (Planning Systems) 2021 No
SEPP (Precincts—Central River City) 2021 No
SEPP (Precincts—Eastern Harbour City) 2021 No
SEPP (Precincts—Regional) 2021 No
SEPP (Precincts—Western Parkland City) 2021 No
SEPP (Biodiversity and Conservation) 2021 No

1.0 EXECUTIVE SUMMARY

This report has been prepared to accompany a Development Application for a proposed 28 place, single-storey child care centre and associated car parking, landscaping and site works at proposed Lot 428, DP 234857, 14 Satelberg Street Holsworthy.

The proposed child care centre seeks to cater for a total of 28 children, being 8 x 0-2 year olds and 20 x 3-6 year olds, and 5 staff operating from 7:00am to 6.00pm, Monday to Friday. Suitable internal and external activity areas are proposed for each age group, along with associated facilities and amenities, in accordance with the Education and Care Services National Regulation. A total of 7 car spaces will be provided on-site. Signage will be provided under Exempt Development provisions.

The site is zoned R3 Medium Density Residential under Liverpool Local Environmental Plan 2008. The proposed development is a permissible use and meets the objectives of the R3 zone by providing suitable services for residents in a convenient location whilst minimizing any potential adverse impacts. The proposal complies with the requirements of SEPP (Educational Establishments and Child Care Facilities) 2017 and the Child Care Planning Guidelines and generally complies with the main essential criteria set out in the Liverpool DCP 2008.

The proposed development has been assessed against the matters for consideration listed in Section 4.15 of the Environmental Planning & Assessment Act 1979 and is considered to be satisfactory. The proposal is considered satisfactory with regard to relevant matters such as Urban Design, **Acoustic, Access, Traffic Impact**, Drainage, ESD, Site Contamination, Amenity, Social and Economic Impacts and the like, subject to the imposition of suitable conditions of any consent to satisfactorily control the development. In this regard, it is considered that the subject site is suitable for the proposed development and that the proposal, providing much needed child care services in the locality, is in the public interest.

2.0 INTRODUCTION

This report has been prepared to accompany a Development Application for a proposed 28 place, single-storey child care centre and associated car parking, landscaping and site works at proposed Lot 428, DP 234857, 14 Satelberg Street Holsworthy.

The proposed child care centre is permissible with consent in the R3 – Medium Density Residential zone under the Liverpool Local Environmental Plan 2008. The development is defined as a:

> ***centre-based child care facility*** *means—*
>
> *(a) a building or place used for the education and care of children that provides any one or more of the following—*
>
> *(i) long day care,*
>
> *(ii) occasional child care,*
>
> *(iii) out-of-school-hours care (including vacation care),*
>
> *(iv) preschool care, or*
>
> *(b) an approved family day care venue (within the meaning of the Children (Education and Care Services) National Law (NSW)),*
>
> ***Note.***
> *An approved family day care venue is a place, other than a residence, where an approved family day care service (within the meaning of the Children (Education and Care Services) National Law (NSW)) is provided.*
>
> *but does not include—*
>
> *(c) a building or place used for home-based child care or school-based child care, or*
>
> *(d) an office of a family day care service (within the meanings of the Children (Education and Care Services) National Law (NSW)), or*
>
> *(e) a babysitting, playgroup or child-minding service that is organised informally by the parents of the children concerned, or*
>
> *(f) a child-minding service that is provided in connection with a recreational or commercial facility (such as a gymnasium) to care for children while the children's parents are using the facility, or*
>
> *(g) a service that is concerned primarily with providing lessons or coaching in, or providing for participation in, a cultural, recreational, religious or sporting activity, or providing private tutoring, or*
>
> *(h) a child-minding service that is provided by or in a health services facility, but only if the service is established, registered or licensed as part of the institution operating in the facility.*

This statement will address the proposal in the context of the applicable planning legislation including:

- *State Environmental Planning Policy* (RESILIENCE & HAZARDS)
- *State Environmental Planning Policy* (Transport and Infrastructure) 2021
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities)*
- *2017 and Child Care Planning Guideline;*
- *Liverpool Local Environmental Plan 2008; and*
- *Liverpool Development Control Plan 2008.*

The proposal has also been designed in accordance with the requirements of the *Education and Care Services National Regulations 2012*.

This report is to be read in conjunction with the following associated documents and plans prepared as a part of this Development Application:

- *Architectural Subdivision Plan, Site Analysis, Floor Plans, Roof Plans, Sections and Elevations, Streetscape Elevation,* ***Emergency Evacuation Plan***
- *Landscape Concept Plan*
- *Survey Plan*
- *Waste Management Plan*
- *Stormwater Management Plan and Erosion and Sediment Control Plan*
- *Notification Plan*
- ***Traffic Report***
- ***Acoustic Report***
- ***Contamination Report***
- *owner's consent*

3.0 BACKGROUND

3.1 Discussions Duty Officer

Discussions were held with Council Duty Officer, In this regard, the subject proposal satisfactorily responds to the issues raised and the proposed siting and design of the proposal complies with Council's setback, fencing, cut and fill, parking, solar access, landscaping, tree and stormwater requirements.

A total of 7 car spaces are required in the form of 3 visitor spaces and 4 staff spaces and in this instance a total of 7 car spaces are provided. The service delivery bay will only be used outside of peak morning and afternoon child drop-off and pick-up times to ensure surplus parking availability.

A Traffic Management Plan will be implemented to encourage staff to use public bus services, car share, cycle or walk, and staff arrivals and departures will also be staggered to ensure that the staff-student ratio is maintained with all staff on site in the core period of 9am to 5pm outside of the main drop off and pick up times. Whilst Satelberg Street is a low traffic generation area and the proposal will be satisfactorily accommodated within the existing road network and no adverse parking or traffic issues will arise.

The proposal is accompanied with an **Acoustic Report** prepared by a suitably qualified consultant confirming that no adverse acoustic impacts arise. The proposed fencing is comprised of 1.8m colorbond fencing to the rear and side boundaries to ensure that fencing is generally consistent with standard boundary fencing in the residential context and no adverse visual bulk and overshadowing arise to neighbouring properties.

Detailed landscaping is proposed as shown on the Landscape Plan to soften the appearance of the proposal as viewed from the street.

The site is zoned R3 Medium Density Residential under Liverpool Local Environmental Plan 2008. The proposed development is a permissible use and meets the objectives of the R3 zone by providing suitable services for residents in a convenient location whilst minimizing any potential adverse impacts. The proposal complies with the requirements of SEPP (Educational Establishments and Child Care Facilities) 2017 and the Child Care Planning Guidelines and generally complies with the main essential criteria set out in the Liverpool DCP 2008.

4.0 SITE LOCATION

4.1 Context and Location

The subject site is located on the eastern side of the Satelberg Street opposite and in close proximity to Satelberg Park Reserve.

Existing child care centres are located within a 1km radius of the site. Refer to a Plan of Management page 4, local needs assessment for informed decision making by the business and providing best required services to the community

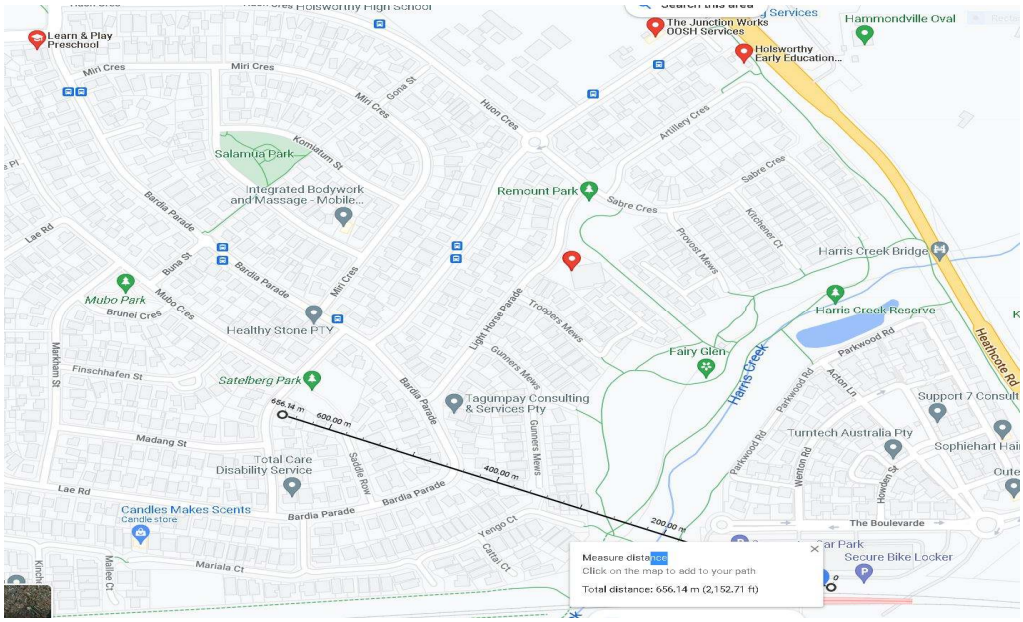


Figure 1: Site Context (Source Google Maps)

The area surrounding the site is predominantly characterised by a mix of residential uses with associated recreational, and educational areas. The existing built form in the locality comprises a mixture of established residences and newer double storey detached dwellings and additions to dwellings.

The subject site is well serviced by nearby bus and train public transport and enjoys vehicular access to the nearby surrounding regional road network of the Heathcote Road and M5.

The subject site is not in the vicinity of any hazardous industries, LP gas sites, mobile telephone base stations and towers, and is considered to be safe from any other environmental health hazards, such as high lead levels, hazardous industries or proximity to cooling tower drift in high rise building areas.

4.2 Site Details

The subject land, being Lot 428 in DP 234857, is irregular shaped and has a total area of 636.7sqm (as surveyed). Access is via Satelberg Street to the east, and residential properties to the north, south and east.

Figure 3: Aerial Photo (Source Google)

The proposed development site has a single storey aged home built 1940s approx.. with associated detached garage structure and few existing trees of which will be preserved.

The topography of the development site falls approximately a minor 50mm from east (rear) to west (front). The site is unaffected by heritage, land reservation acquisition, scenic landscape values, biodiversity, bushfire, flooding or riparian corridor constraints. Existing driveway access is available to Satelberg Street. Power, sewer and water are all available to the site.

5.0 DEVELOPMENT PROPOSAL

The proposal seeks development consent for the following:

- Demolition of existing structures and a proposed 28 place child care centre with 7 car spaces (including 1 accessible car space)
- Associated site works, shade structures, new fencing, retaining walls, drainage and landscaping works

The proposed child care centre seeks to cater for 8 x 0-2 year olds, and 20 x 3-6 year olds, and 5 staff operating from 7:00am to 6.00pm, Monday to Friday.

The overall height of the building is 4.16m to the ridge barge capping. The building maintains minimum side setbacks of 1.2m to the south and 3.0m to the north, a rear setback of 10.353m, and a front setback of 12.225m.

Unencumbered internal activity areas are proposed on the ground floor, along with associated nappy change, bottle preparation, sleeping facilities, age appropriate toilets, storage areas, kitchen and administration and laundry, staff room and storage, in accordance with the Education and Care Services National Regulation 2012. Separate outdoor play areas for each age group have been provided with suitable shading from maintained canopy tree and finished with soft fall and turf surfaces. A landscaped area generally 1m wide is proposed within the front, side and rear setbacks. Signage will be provided under Exempt Development provisions.

The building will be constructed of frame / light weight cladding, painted panels and acrylic render, glazing and and colourbond roof. Appropriate colour selections for the windows, gutters and fascias will be utilized to provide variation to the external appearance of the development, which will be further complemented by detailed landscaping and decorative walls and feature wall with vertical timber imitation banding. Details of the proposed external colours and finishes are provided as part of DA lodgement documents.

The proposed child care centre will provide a total of 7 car spaces, comprised of 4 staff spaces and 3 visitor spaces, including one accessible space with shared zone. The use of the delivery and loading

bay will be restricted to between 9am & 3pm, Monday to Friday, outside of peak pick-up and drop-off times to allow for an additional visitor parking space during peak periods.

To facilitate vehicular access, a 5.8m wide driveway for entry and exit is proposed off Satelberg Street.

Stormwater drainage is proposed via a pit and pipe system with direct connection to kerb. In order to achieve the design levels required, minor retaining walls (wholly within the property boundary) are proposed up to 0.3m high to retain cut in the front landscape buffers.

Suitable landscaping with replacement trees within the front setback will be provided to soften the appearance of the development.

In accordance with the recommended operational management measures within Section 8.1 of the submitted Acoustic Report, the proposal will include suitable noise management measures to satisfactorily control the development and this may form an operational condition of any approval.

6.0 PLANNING CONTROLS

6.1 STATE PLANNING FRAMEWORK

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

The above SEPP and associated Child Care Planning Guidelines aim to ensure a consistent approach to facilitating the provision of child care services across NSW and establishes Design Guidelines consistent with the requirements of the National Quality Framework.

The proposal is consistent with the requirements of the SEPP as follows:

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

(1) This clause applies to development for the purpose of a centre-based child care facility if:

(a) the floor area of the building or place does not comply with regulation 107 (indoor unencumbered space requirements) of the Education and Care Services National Regulations, or

(b) the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations.

Comment: Not Applicable – the proposed indoor and outdoor play areas comply with the unencumbered space requirements.

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

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

Comment: Complies – refer to discussion below and Appendix A for compliance under the National Regulations.

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

(1) The object of this clause is to identify development standards for particular matters relating to a centre-based child care facility that, if complied with, prevent the consent authority from requiring more onerous standards for those matters.

(2) The following are non-discretionary development standards for the purposes of section 4.15 (2) and (3) of the Act in relation to the carrying out of development for the purposes of a centre-based child care facility:

(a) location—the development may be located at any distance from an existing or proposed early education and care facility,

(b) indoor or outdoor space

(i) for development to which regulation 107 (indoor unencumbered space requirements) or 108 (outdoor unencumbered space requirements) of the Education and Care Services National Regulations applies—the unencumbered area of indoor space and the unencumbered area of outdoor space for the development complies with the requirements of those regulations, or
(ii) for development to which clause 28 (unencumbered indoor space and useable outdoor play space) of the Children (Education and Care Services) Supplementary Provisions Regulation 2012 applies—the development complies with the indoor space requirements or the useable outdoor play space requirements in that clause,
(c) site area and site dimensions—the development may be located on a site of any size and have any length of street frontage or any allotment depth,
(d) colour of building materials or shade structures—the development may be of any colour or colour scheme unless it is a State or local heritage item or in a heritage conservation area.
(3) To remove doubt, this clause does not prevent a consent authority from:
(a) refusing a development application in relation to a matter not specified in subclause (2), or
(b) granting development consent even though any standard specified in subclause (2) is not complied with.

Comment: Complies with indoor and outdoor unencumbered space requirements and the subject site is considered suitable for the proposed use given no adverse streetscape or amenity impacts arise.

<u>Clause 26 Centre-based child care facility—development control plans</u>

(1) A provision of a development control plan that specifies a requirement, standard or control in relation to any of the following matters (including by reference to ages, age ratios, groupings, numbers or the like, of children) does not apply to development for the purpose of a centre-based child care facility:
(a) operational or management plans or arrangements (including hours of operation),
(b) demonstrated need or demand for child care services,
(c) proximity of facility to other early education and care facilities,
(d) any matter relating to development for the purpose of a centre-based child care facility contained in:
(i) the design principles set out in Part 2 of the Child Care Planning Guideline, or
(ii) the matters for consideration set out in Part 3 or the regulatory requirements set out in Part 4 of that Guideline (other than those concerning building height, side and rear setbacks or car parking rates).
(2) This clause applies regardless of when the development control plan was made.

Comment: Complies – refer to discussion below and Appendix A for compliance under the National Regulations.

Child Care Planning Guideline

Section 1.4 of the Guidelines states:

The SEPP generally provides that Development Control Plans seeking to regulate development for a child care facility will not apply, except for controls relating to building height, rear and side setbacks and car parking rates. The following table helps different users understand how the Guideline fits with the SEPP, and how they should apply it.

Application of Child Care Planning Guideline

SEPP Provision	***Proponents***	***Consent authorities***	***Regulatory authority:*** *Concurrence / Service Approval*
Guideline as a consideration	Use the Guideline when preparing a development application to ensure once built, the development meets the physical requirements for the subsequent service approval application.	Consider Parts 2, 3 and 4 of the Guideline. Review the National Quality Framework Assessment Checklist.	Assess Concurrence request against relevant sections of Part 4 and the National Quality Framework Assessment Checklist.
Controls in Development Control Plans	The provisions of the Child Care Planning Guideline will generally take precedence over a DCP, other than building height, side and rear setbacks and car parking rates. Where there is no DCP, use all Parts of the Guideline to inform DA preparation.	The provisions of the Child Care Planning Guideline will generally take precedence over a DCP, other than building height, side and rear setbacks and car parking rates. Where there are no DCP provisions consider the development application against the matters in the Guideline.	N/A.
Concurrence	Complete and submit National Quality Framework Assessment Checklist. Prepare DA in accordance with Part 4 of the Guideline and Regulations 107 & 108 of the National Regulations.	Check National Quality Framework Assessment Checklist to assess need for concurrence. Refer to regulatory authority if insufficient unencumbered indoor or outdoor space provided.	Check National Quality Framework Assessment Checklist to review unencumbered space provisions – indoor and outdoor. Advise consent authority of determination regarding concurrence.

The proposal is consistent with the design quality principles as follows:

Principle 1 – Context

The proposal as discussed further below:

- achieves good design that responds and contributes to its context, including the key natural and built features of the local area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions; and
- is a well-designed child care facility that responds to and enhances the qualities and identity of the area including adjacent sites, streetscapes and neighbourhood; and takes advantage of its context by optimizing nearby transport, public facilities and centres, respecting local heritage, and being responsive to the demographic, cultural and socio-economic makeup of the facility users and surrounding communities.

Principle 2 - Built form

The proposal as discussed further below:

- achieves good design with a scale, bulk and height appropriate to the existing or desired future character of the surrounding area; an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements; and a variety of materials, colours and textures; and
- provides an appropriate built form that defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook; and
- is an example of contemporary facility design that is distinctive and unique to support innovative approaches to teaching and learning, while still achieving a visual appearance that is aesthetically pleasing, complements the surrounding areas, and contributes positively to the public realm.

Principle 3 - Adaptive learning spaces

The proposal as discussed further below:

- achieves good facility design through site layout, building design, and learning spaces fit-out that delivers high quality learning spaces and achieves a high level of amenity for children and staff, resulting in buildings and associated infrastructure that are fit-for-purpose, enjoyable and easy to use; and
- achieves a mix of inclusive learning spaces to cater for all students and different modes of learning with appropriately designed physical spaces offering a variety of settings, technology and opportunities for interaction.

Principle 4- Sustainability

The proposal as discussed further below:

- provides sustainable design with positive environmental, social and economic outcomes via natural cross ventilation, sunlight and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs; as well as suitable recycling and re-use of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation; and

- is a well-designed facility that is durable and embeds resource efficiency into building and site design, resulting in less energy and water consumption, less generation of waste and air emissions and reduced operational costs.

Principle 5 – Landscape

The proposal as discussed further below:

- achieves well-integrated landscape and buildings, resulting in an attractive development with good amenity; and contributing to the landscape character of the streetscape and neighbourhood; and
- provides well-designed landscapes that make outdoor spaces assets for learning with diversity in function and use, age-appropriateness and amenity; and
- enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.

Principle 6 – Amenity

The proposal as discussed further below:

- positively influences internal and external amenity for children, staff and neighbours; and contributes to positive learning environments and the well-being of students and staff; and
- achieves good amenity through 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; and
- facilities provide comfortable, diverse and attractive spaces to learn, play and socialise.

Principle 7 – Safety

The proposal as discussed further below:

- optimises the use of the built and natural environment for learning and play, while utilising equipment, vegetation and landscaping that has a low health and safety risk and can be checked and maintained efficiently and appropriately;
- balances safety and security with the need to create a welcoming and accessible environment; and
- provides for quality public and private spaces that are inviting, clearly defined and allow controlled access for members of the community, which incorporate passive surveillance and Crime Prevention Through Environmental Design (CPTED).

The proposal is considered satisfactory with respect to the matters for consideration under Section 3 the Child Care Planning Guideline, (which take precedence over the provisions of a DCP with the exception of building height, side and rear setbacks and car parking rates), as follows:

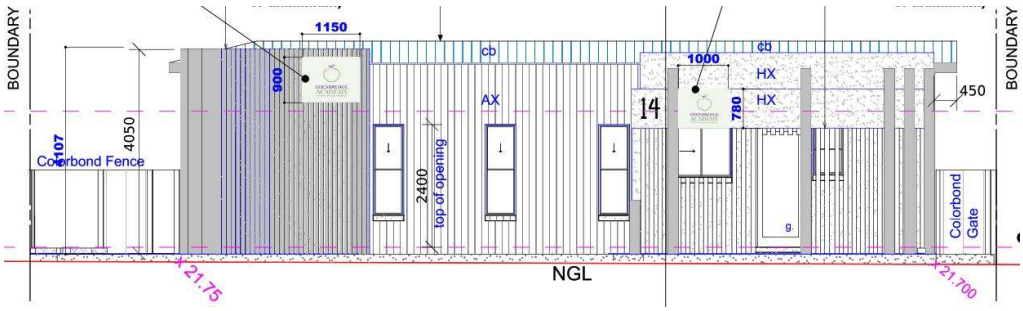
<u>Matters for consideration</u>

3.1 Site selection and location

Council's DCP provisions relating to the suitability of the site for the purpose of child care centres do not apply. The site is suitably zoned R3 medium density residential and environmentally safe from potential risks and hazards with suitable access available from Dotterel Street. The proposal complies with the building height and setback requirements under the Liverpool DCP, and is supported by individual Acoustic and Traffic Reports prepared by suitably qualified consultants confirming that the proposal will not result in any adverse acoustic or traffic impacts. Accordingly, the site is considered suitable for the proposal.

3.2 Local character, streetscape and the public domain interface

The proposal has been designed to be compatible with the local character and surrounding streetscape. In this regard, the bulk, form, and massing of the proposal is consistent with the requirements of Liverpool DCP and provides a high degree of contextual fit within the streetscape as shown in the extract below. Proposed low height mature growth of 1m soft landscaping hedge facing the street will be suitably applied as viewed from the street whilst maintaining opportunities for passive surveillance.



3.3 Building orientation, envelope, building design and accessibility

The proposal has been designed to comply with the local building height and setback controls whilst minimizing any potential adverse overshadowing or amenity impacts. The proposal is considered to achieve compatibility with the desired future built form character of the locality and this section of Satelberg Street, noting that a single storey dwelling housing is permitted in the R3 zone with normally applicable 4.5m front setbacks, 0.9m side setbacks and rear setbacks of 4m. The siting and design of the building is considered to be a reasonable design response that is not excessive or overbearing in the immediate context and necessary to accommodate safe and convenient access and car parking provision. The design of the proposal provides for a safe environment accessible by all potential users and suitable outdoor play areas with acceptable solar access and shading that responds to the natural environment.

3.4 Landscaping

The proposal provides a landscape design that contributes to the streetscape and amenity through a landscaped front setback. The proposal involves the preservation of existing trees, generally of moderate retention value and/or exotic garden species, to be replaced with suitable replacement tree planting to front.

3.5 Visual and acoustic privacy

The proposal has been designed to ensure no adverse visual or acoustic privacy impacts to adjoining properties through the provision of suitable fencing preventing visual overlooking and acoustic amenity impacts from the indoor and outdoor play areas.

3.6 Noise and air pollution

The proposal is accompanied by an Acoustic Report which provides suitable noise mitigation measures to ensure that outside noise levels are minimised to acceptable levels during operation. Potential impacts from external road noise will also be suitably mitigated as a part of the proposal. The proposal is not adversely affected by potential air pollution.

3.7 Hours of operation

Standard hours of operation from 7am to 6pm Monday to Friday are proposed with staff 'shoulder times' of 7:00am to 6:00pm compatible with the residential nature of the locality.

3.8 Traffic, parking and pedestrian circulation

The proposal complies with Council's car parking requirement of 7 car spaces and is accompanied by a Traffic Report which confirms that the proposal has been designed to satisfactorily and safely accommodate the anticipated car parking demands of the use and that no adverse traffic impacts will arise as a result of the proposal.

6.1.2 matters for consideration/Contaminated Land (Resilience & Hazards) 2021

Has the appropriate level of investigation been carried out in respect of contamination matters for Council to be satisfied that the site is suitable to accommodate the proposed development or can be made suitable to accommodate the proposed development? YES.

DSI report has been conducted and submitted
A Detailed Site Investigation report has been carried out by EIAUSTRALIA

6.2 LOCAL PLANNING FRAMEWORK

6.2.1 Liverpool Local Environmental Plan 2008

The subject site is zoned R3 Medium Density Residential pursuant to Liverpool Local Environmental Plan 2008 as shown in Figure 4 below. The proposed development, being a child care centre, is permissible with consent in this zone.

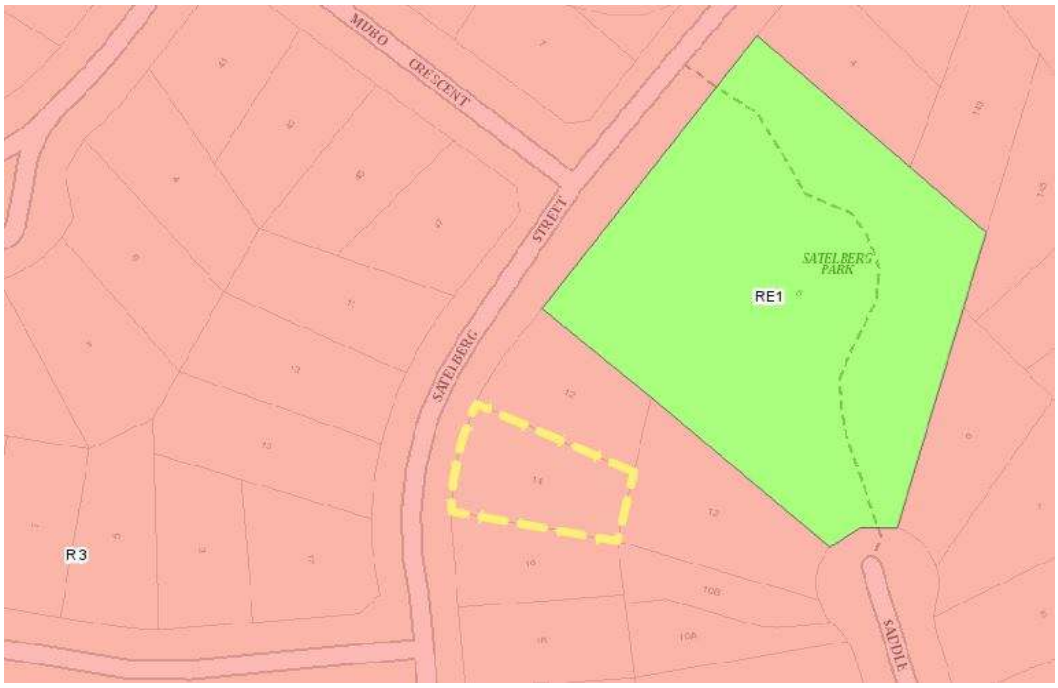


Figure 4: Zoning under Liverpool Local Environmental Plan 2008

The objectives of the zone are as follows:

1 Objectives of zone

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide a suitable low scale residential character commensurate with a low dwelling density.*
- *To ensure that a high level of residential amenity is achieved and maintained.*

The proposed child care centre will provide essential child care services to meet the day to day needs of residents while minimizing any adverse impacts on the residential area.

The following clauses are applicable to the proposal:

- Clause 4.3 Height of Buildings
- Clause 4.4 Floor Space Ratio

The Height of Building Map provides that a building is not to exceed a maximum height of 8.5m. The Floor Space Ratio Map provides a maximum FSR of 0.5:1.

In this instance, the development provides a maximum height of less than 8.5m (Actual 4.16m) and FSR of less than 0.5:1 (Actual 0.22 : 1) and as such, the proposal complies well with these standards.

6.2.2 Liverpool Development Control Plan 2008

The Liverpool Development Control Plan 2008 was prepared and exhibited in accordance with the *Environmental Planning and Assessment Act 1979*. It is a detailed document providing controls and design recommendations for all land as defined pursuant to the DCP. The DCP covers performance and design guidelines and controls related to environmental performance, social performance, amenity issues and design elements.

The proposal complies with Council's requirements for building height and setbacks (with the exception of the side setbacks of the existing building to be maintained), access and car parking, stormwater management, servicing and waste management.

However, as noted previously, Council's DCP controls for child care centres are not applicable in relation to the proposed child care centre in accordance with Clause 26 of the SEPP, which states:

26 Centre-based child care facility—development control plans

(1) A provision of a development control plan that specifies a requirement, standard or control in relation to any of the following matters (including by reference to ages, age ratios, groupings, numbers or the like, of children) does not apply to development for the purpose of a centre-based child care facility:

(a) operational or management plans or arrangements (including hours of operation),

(b) demonstrated need or demand for child care services,

(c) proximity of facility to other early education and care facilities,

(d) any matter relating to development for the purpose of a centre-based child care facility contained in:

(i) the design principles set out in Part 2 of the Child Care Planning Guideline, or

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

(2) This clause applies regardless of when the development control plan was made.

In addition, it is noted that the consent authority is required to take a flexible approach in the application of DCP provisions, and allow reasonable alternative solutions that achieve the object of those standards given the circumstances of the case pursuant to section 4.15(3A) of the Environmental Planning and Assessment Act 1979. The findings of that assessment are tabulated in Table 1 below.

Table 1: Compliance Table: Liverpool Development Control Plan 2008

Development Standard	DCP	PROPOSAL	COMPLIANCE
Building Height	2 storeys	1 storey	YES
Building Setbacks: **Front** **Side** **Rear**	 5.5m 1.2m 4m	 12.225 1.2 & 3.0 10.353	 YES YES YES
Carparking: **1 per 10 places; 1 per employee**	68/4 + 8/4 = 21	7	YES

6.3 Section 4.15 Environmental Planning and Assessment Act 1979

This section undertakes an assessment of the proposal in the context of the heads of consideration set out in Section 4.15(1) of the Environmental Planning and Assessment Act as follows:

HEADS OF CONSIDERATION	RESPONSE
(a) the provisions of – *(i) any environmental planning instrument, and* *(ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and* *(iii) any development control plan, and* *(iv) any matters prescribed by the regulations, that apply to the land to which the development application relates,*	The proposal's compliance and consistency with the provisions of the SEPP, Child Care Planning Guideline, Liverpool Local Environmental Plan 2008 and DCP have been addressed in detail at Sections 5.1 and 5.2 of this Statement. In general terms the child care centre development is permissible within the R3 zone and is consistent with the aims and objectives of the SEPP, LLEP and HDCP.
(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	The likely impact of the proposal have been addressed in detail at Section 6.1.2 and Section 7 of this Statement. The proposal is considered satisfactory with regard to relevant matters such as Built Form, Access, Amenity, Privacy, Traffic Impact, Stormwater Drainage, ESD and the like, subject to the imposition of suitable conditions of consent to satisfactorily control the development.
(c) the suitability of the site for the development	The site being an irregular allotment recently registered to be used for residential purposes has frontage to Satelberg Street with moderate through traffic flows. This promotes the site as a relatively safe site for a child care centre. The proposed development is designed with respect to the grade and fall of the site and intended residential uses, while the proposed vegetation details are noted on the Landscape Plan accompanying this application.
(d) any submissions made in accordance with this Act or the regulations,	This matter would relate to Council's public exhibition of the development.
(e) the public interest.	The proposed development provides essential child care services to the community that is in keeping with the desired character of the area, and as such in considered to be in the public interest.

7.0 KEY CONSIDERATIONS

7.1 Design & Planning Principles

The proposed development has been designed to reflect current trends and to accommodate a building form which will be compatible with the Council's vision for the locality. The design has particular regard to:

- the scale and form of development on nearby and adjoining lands;
- the existing and future form of development along Satelberg Street;
- the appearance and scale of the buildings when viewed from Satelberg Street;
- the high accessibility of the site and likely minimal amenity impacts. The

outcome of these considerations is, it is contended, a development which:

- will be of a high quality appearance and finish;
- compliments the existing and likely scale of development on adjoining land; and
- has minimal impact on the amenity of the locality due to its positioning and orientation.

7.2 Traffic and Pedestrian Access/Circulation

The proposed development is for a 28 place child care centre and the traffic generation is considered to be acceptable in this residential location with a local distributor road and adequate sight distances in a low speed residential environment, as set out in the traffic report. The subject land is located off Satelberg Street, which is a local street with low traffic through-flows in the existing road network. It is thus considered that the development as proposed is an acceptable form of development within this precinct and generates vehicular movements capable of being catered for by the existing road system in this locality.

The proposed development has been designed in order to promote easy accessibility within the development as well as by the general public. Sufficient car parking has been provided to cater for the expected traffic generation of the development.

7.3 Streetscape Appearance

The existing streetscape of this locality comprises one and two storey detached and semi-detached dwellings along Satelberg Street and in the suburb generally. Nearby streets are characterized by new one and two storey residential buildings.

The finished elevations for the proposed building will be generally compatible with mixed material finishes, timber, colorbond and cladding of existing and new built form in this locality. The proposed child care centre will be compatible with scale of built form in this locality. The final

design has resulted in a development which will be of a high quality finish and has interesting articulation and material finish variations and variety in its openings.

This will be further complemented by providing suitable landscaping, as a landscape buffer to soften the appearance of the development. Therefore, the proposal will maintain a consistent relationship with the anticipated scale and character of the streetscape.

7.4 Solar Access & Shading

The height and setback of the proposed development ensures that adequate solar access is maintained and no adverse overshadowing impacts will arise given a minimum of 3 hours solar access is maintained to internal living areas and 50% of minimum private open space to adjoining properties between 9am and 4pm at midwinter as shown on the shadow diagrams accompanying this application. In accordance with the requirements of the Education and Care Services National Regulations 2012, appropriate shading has been provided to at least 30% of the outdoor play area throughout the year.

7.5 Privacy & Amenity

The design of the development has had regard to the orientation and design of adjoining buildings in determining the final built form with the intent of minimizing any potential adverse impacts for existing neighbours where possible. In this regard, acoustic mitigation measures in accordance with the recommendations of the Acoustic Report will be provided in order to mitigate any potential acoustic amenity impacts on adjoining residential properties. Details will be provided prior to the issue of any construction certificate.

7.6 Waste Management

The proposed waste collection system for the development shall be controlled by operators of the child care centre and will be undertaken in accordance with the submitted Waste Management Plan. It is proposed that garbage storage will be provided in a bin enclosure, as illustrated in the development plans, and this will be easily serviced and accessible for users.

All builders waste during the construction phase will be removed from the site at regular intervals and disposed of at an approved waste dump in accordance with the waste management plan attached to this development application. The site will be kept clean and tidy at all times.

7.7 Stormwater Drainage

A stormwater drainage scheme has been prepared and submitted as part of the development plans for this proposal. The Stormwater Plan attached to the development application provides for the collection of any runoff from the roofs, comprising eaves gutters designed to a 20 year ARI standard. The surface runoffs are collected in an onsite detention system via pits and pipes and transferred to a downstream interallotment drainage easement.

7.8 General Services

7.8.1 Sewer and Water

Reticulated water and sewer is available to the site, with necessary adjustments and servicing of the proposed development to be in accordance with Sydney Water requirements.

7.8.2 Electricity Supply

Electricity is available to the site and will be connected to the building additions in accordance with the Authority requirements.

7.9 Cut and Fill

In order to achieve the design levels required, no cut and fill is required or proposed as the site has a minor grade / fall towards Satelberg Street.

SEPP (Transport and Infrastructure) 2021

The child care facility has been designed to comply with key planning requirements under Part 3.3 of the State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021, Liverpool Local Environmental Plan 2008, Liverpool Development Control Plan 2008, Child Care Planning Guidelines and Children's (Education and Care Services) Supplementary Care Provisions 2012.

The SEPP (Transport and Infrastructure) 2021 instead of SEPP (Educational Establishments and Childcare Facilities) 2017. Please refer to Chapter 3 Educational establishments and child care facilities Part 3.3 Early education and care facilities—specific development controls.
SEPP (Infrastructure) 2007 /

Interim Rail Corridor Map
– Subject Property is does not have this affectation.

CBD Rail Link or CBD Metro (Zone B - Tunnel) (TfNSW)
– Subject Property is does not have this affectation.

CBD Metro (Zone A - Above Ground) (TfNSW)
– Subject Property is does not have this affectation.

CBD Metro Station Extent (TfNSW)
– Subject Property is does not have this affectation.

Subject Land
– Subject Property is does not have this affectation.

Land Application
Sydney Trains Corridor Protection Zone (Non-EPI)
– Subject Property is does not have this affectation.

Sydney Train Level Crossings (Non-EPI)
– Subject Property is does not have this affectation.

Sydney Trains Infrastructure Protection Zone (Non-EPI)
– Subject Property is does not have this affectation.

SEPP (Major Infrastructure Corridors) 2020
– Subject Property is does not have this affectation.

Development other than road facilities on public roads
– Subject Property is does not have this affectation.

Highway service centres in road corridors
– Subject Property is does not have this affectation.

Development on proposed classified road
– Subject Property is does not have this affectation.

act of road noise or vibration on non road development
– Subject Property is does not have this affectation.

Excavation in or immediately adjacent to corridors
– Subject Property is does not have this affectation.

Traffic generating Development
(1) This section applies to development specified in Column 1 of the Table to Schedule 3 that involves—
(a) new premises of the relevant size or capacity or
(b) an enlargement or extension of existing premises, being an alteration or addition of the relevant size or capacity.
The development application is accompanied by a **Traffic Impact Assessment prepared by Fernway Engineering** Traffic Engineers, which states:
"The proposed development does NOT qualify as a traffic generating development with relevant size and/or capacity under as proposal is not adjacent to corridors of the SEPP (Transport and Infrastructure) 2021

8.0 CONCLUSION

The proposed development has been assessed against the matters for consideration listed in Section 4.15 of the Environmental Planning & Assessment Act 1979 and are considered to be satisfactory. In this regard it is considered that the subject site is considered suitable for the proposed development and that the proposal, providing much needed child care services, is in the public interest.

The proposal is consistent with the objectives of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017, Liverpool Local Environmental Plan 2008 and is permissible in the R3 zone with development consent. The proposal also complies with the main essential criteria set out in the Liverpool Development Control Plan 2008, and is considered satisfactory with regard to relevant matters such as Urban Design, Access, Traffic Impact, Stormwater Drainage, ESD, Site Contamination, Amenity, Overshadowing, Social and Economic Impacts and the like subject to the imposition of suitable conditions of consent to satisfactorily control the development

9.0 APPENDIX A – Child Care Regulations

Education and Care Services National Regulation 2012 **Part 4.3 Physical environment**		
Clause	**Requirement**	**Comment**
103 Premises, furniture and equipment to be safe, clean and in good repair	(1) The approved provider of an education and care service must ensure that the education and care service premises and all equipment and furniture used in providing the education and care service are safe, clean and in good repair.	All equipment to be installed in accordance with relevant Australian Standards and properly maintained.
104 Fencing	(1) The approved provider of an education and care service must ensure that any outdoor space used by children at the education and care service premises is enclosed by a fence or barrier that is of a height and design that children preschool age or under cannot go through, over or under it.	Suitable fencing with child proof locking mechanism shown on plan
105 Furniture, materials and equipment	The approved provider of an education and care service must ensure that each child being educated and cared for by the education and care service has access to sufficient furniture, materials and developmentally appropriate equipment suitable for the education and care of that child.	Sufficient furniture, equipment and materials have been provided.
106 Laundry and hygiene facilities	(1) The approved provider of an education and care service must ensure that the service has— (a) laundry facilities or access to laundry facilities; or (b) other arrangements for dealing with soiled clothing, nappies and linen, including hygienic facilities for storage prior to their disposal or laundering—that are adequate and appropriate for the needs of the service. (2) The approved provider of the service must ensure that laundry and hygienic facilities are located and maintained in a way that does not pose a risk to children.	Laundry provided onsite.
107 Space requirements—indoor space	3.25sqm unencumbered space per child (exc. Passageways, door swings, toilets, hygiene facilities, nappy change or bottle prep rooms, cot storage, storage, staff or admin rooms, kitchen)	28*3.25 = 91sqm required >91.08sqm provided

108 Space requirements—outdoor space	7sqm unencumbered space per child (exc. Passageways, thoroughfares, storage areas, carparking, landscaping, any other space not suitable for children)	28*7 = 196sqm required >196.8sqm provided
109 Toilet and hygiene facilities	(a) adequate, developmentally and age-appropriate toilet, washing and drying facilities are provided for use by children being educated and cared for by the service; and (b) the location and design of the toilet, washing and drying facilities enable safe use and convenient access by the children.	Provided on plans.
110 Ventilation and natural light	The approved provider of an education and care service must ensure that the indoor spaces used by children at the education and care service premises— (a) are well ventilated; and (b) have adequate natural light; and (c) are maintained at a temperature that ensures the safety and wellbeing of children.	Provided.
111 Administrative space	The approved provider of a centre-based service must ensure that an adequate area or areas are available at the education and care service premises for the purposes of— (a) conducting the administrative functions of the service; and (b) consulting with parents of children; and (c) conducting private conversations.	Provided.
112 Nappy change facilities	(1) This regulation applies if a centre-based service educates and cares for children who wear nappies. (2) The approved provider of the service must ensure that adequate and appropriate hygienic facilities are provided for nappy changing. (3) Without limiting subregulation (2), the approved provider of the service must ensure that the following are provided— (a) if any of the children are under 3 years of age, at least 1 properly constructed nappy changing bench; and (b) hand cleansing facilities for adults in the immediate vicinity of the nappy change area. Penalty: $1000. (4) The approved provider of the service must ensure that nappy change facilities are designed, located and maintained in a way that prevents unsupervised access by children.	Provided.

113 Outdoor space—natural environment	The approved provider of a centre-based service must ensure that the outdoor spaces provided at the education and care service premises allow children to explore and experience the natural environment.	Sandpits and detailed landscaping have been provided.
114 Outdoor space—shade	The approved provider of a centre-based service must ensure that outdoor spaces provided at the education and care service premises include adequate shaded areas to protect children from overexposure to ultraviolet radiation from the sun.	A minimum of 30% shade has been provided within the outdoor play area throughout the year..
115 Premises designed to facilitate supervision	The approved provider of a centre-based service must ensure that the education and care service premises (including toilets and nappy change facilities) are designed and maintained in a way that facilitates supervision of children at all times that they are being educated and cared for by the service, having regard to the need to maintain the rights and dignity of the children.	Layout facilitates supervision at all times.
97 & 168 Emergency and evacuation procedures	Procedures for emergency and evacuation as per Regulations 97 and 168	Emergency and Evacuation Plan to be displayed in a prominent position near each exit.

Note : Refer to page 4 of Social Impact Comment Initial Assessment Form for explanation of approach of neighbor and result of Landlocking

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Contamination | Remediation | Geotechnical

M.H BESTAWROS & P.V BESTAWROS

Detailed Site Investigation

14 Satelberg Street, Holsworthy NSW

E26316.E02_Rev0
22 March 2024

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EXECUTIVE SUMMARY

EI Australia (EI) was engaged by M.H Bestawros & P.V Bestawros ('the client') to conduct a Detailed Site Investigation (DSI) of 14 Satelberg Street, Holsworthy NSW ('the site').

The site is located approximately 31.2 km south-west of the Sydney central business district, within the local government area of Liverpool City Council. It covers an area of approximately 636.7 m^2 and comprises a cadastral allotment identified as Lot 428 in Deposited Plan (DP) 234857. At the time of this investigation, the site was occupied by a single storey residential building within the central portion of the land, a weatherboard garage and a metal awning within the south-east corner of the land.

Based on the findings of a preliminary site investigation (PSI) of the site, completed by NEO Consulting in May 2023 (NEO Reference N6542_Rev0), there was potential for contamination to exist on the land. In accordance with *State Environmental Planning Policy (Resilience and Hazards) 2021*, further investigation was warranted, in order to determine the site suitability for redevelopment.

The purpose of this DSI was to determine the contamination status of the land, in support of the corresponding development application to Liverpool City Council. The aim was to appraise the environmental (potential contamination) and determine the contamination status of the land. It also enables the developer to meet obligations under the *Contaminated Land Management Act 1997* and *State Environmental Planning Policy (Resilience and Hazards) 2021*, in particular the requirements for the assessment and management of contaminated soil.

Objectives

The objectives of this investigation were to:

- Provide a qualitative assessment of the environmental condition of the site, by appraising the potential for contamination on the basis of field observations, historical land uses and other documentary evidence;
- Assess the nature and degree of any soil contamination, by means of intrusive sampling and laboratory analysis for the relevant contaminants of potential concern; and
- Make recommendations for the appropriate management of any impacted soils, should site contamination be confirmed.

Findings

The key findings of this DSI were as follows:

- The site has been used for agricultural purposes at least prior to 1943 and used for residential purposes since at least 1975. The current residential dwelling is the original building on site.
- The surrounding area was comprised agricultural land and vegetated landscapes since 1943 (at least). Residential properties were increased in the surrounding areas since at least 1965 to 1998, and remained unchanged to date.
- Surface gradient of the site is flat. The central portion of the site was occupied by a single storey fibrocement residential dwelling. The south-eastern portion of the site was occupied by a weatherboard garage and a metal awning. The western and north-eastern portion of the site were unsealed and occupied by mature trees, grass and minimal other vegetation.

- The existing building structures on site appeared to be in poor to fair condition, with deterioration in the form of paint flaking and cracking on concrete observed during the inspection.
- External wall cladding and eaves of the dwelling may be asbestos-containing materials.
- There was no evidence of underground petroleum storage system (UPSS), underground storage tanks (UST) or above-ground storage tanks on site.
- No foreign materials, staining or odours wore observed of the ground surface or in samples of sub-surface soil. The sub-surface of the site was generalised as a layer of silty sand filling (0.0-0.5m thickness) and a layer of sand filling (0.5-1.15m thickness), overlying natural (residual) sandy clay.
- The potential for ASS to be present on the site was very low.
- Laboratory analytical results for the representative fill and natural soil samples were all found to comply with the adopted criteria applicable to the generic NEPC (2013) sensitive land use settings (including childcare centres).
- The conceptual site model was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential on-site and off-site receptors. The health-based and ecological risk from potential contaminants in soil was deemed low and acceptable.

Conclusion

Based on the findings of this DSI, and with consideration of EI's *Statement of Limitations* (**Section 11**), EI concludes that the site is suitable for the proposed development. Recommendations for the construction phase of the development are provided in **Section 10**.

1. INTRODUCTION

1.1. Background and Purpose

EI Australia (EI) was engaged by M.H Bestawros & P.V Bestawros ('the client') to conduct a Detailed Site Investigation (DSI) of 14 Satelberg Street, Holsworthy NSW (herein referred to as 'the site').

The site is located approximately 31.2 km south-west of the Sydney central business district (CBD), within the local government area (LGA) of Liverpool City Council (**Figure 1**, **Appendix A**). It covers an area of approximately 636.7 m^2 (**Appendix C**) and comprises a cadastral allotment identified as Lot 428 in Deposited Plan (DP) 234857. At the time of this investigation, the site was occupied by a single storey residential building within the central portion of the land, a weatherboard garage and a metal awning within the south-east corner of the land.

The purpose of this DSI was to determine the contamination status of the land, in support of the corresponding development application (DA) to Liverpool City Council. The aim was to appraise the environmental (potential contamination) status of the land. It also enables the developer to meet obligations under the *Contaminated Land Management Act 1997* and *State Environmental Planning Policy (Resilience and Hazards) 2021*, in particular the requirements for the assessment and management of contaminated soil. It follows from a previous preliminary investigation:

- NEO (2023) "*Preliminary Site Investigation, 14 Satelberg Street, Holsworthy, NSW 2173*". (NEO Consulting Reference No. N6542_Rev0, dated 15 May 2023).

1.2. Proposed Development

Based on the supplied plans (**Appendix C**), the proposed development will involve the demolition of existing structures (dwelling & garage) onsite, and construction of a childcare centre consisting of 7 bay carpark, single storey childcare centre (approximately 159 m^2), and landscaped outdoor play area (approximately 91.5 m^2). The development will occur as "slab on ground", and no basements are proposed.

1.3. Project Objectives

The objectives of this investigation were to:

- Provide a qualitative assessment of the environmental condition of the site, by appraising the potential for contamination on the basis of field observations, historical land uses and other documentary evidence;
- Assess the nature and degree of any potential contamination, by means of intrusive sampling and laboratory analysis for the relevant contaminants of potential concern (COPCs); and
- Make recommendations for the appropriate management of any impacted soils, should site contamination be confirmed.

1.4. Scope of Works

To achieve the above objectives, the following scope of works was completed:

Desktop Study

- A review of the previous investigation report (NEO, 2023);

Fieldwork and Laboratory Analysis

- Prepare a work health safety plan;
- Review of existing underground services on-site, utilising Dial-Before-You-Dig plans and electro-magnetic equipment operated by a licensed locator;
- A detailed site walkover inspection;
- Construction of test boreholes at 8 locations distributed in a generally systematic pattern across accessible areas of the site (BH1 to BH8);
- Multiple level sampling of fill and natural soils at each of the boreholes;
- In-field screening of soil headspace samples for volatile organic compounds (VOCs), using a photo-ionisation detector (PID); and
- Laboratory analysis of selected soil samples for the COPCs, as determined from the site history, the conceptual site model (CSM) and field observations.

Data Analysis and Reporting

This report documents the desk study findings, the CSM, data quality objectives, sampling methodologies and laboratory analytical results. It also provides a record of observations made during the site walkover inspections, test borehole logs and a discussion of the results in regards to potential risks to human health and the environment. It concludes with a statement concerning the site's suitability for the proposed development.

1.5. Regulatory Framework

The following regulatory framework and guidelines were considered during this DSI:

- *Contaminated Land Management Act 1997* (the CLM Act 1997);
- *Protection of the Environment Operations Act 1997* (the POEO Act 1997);
- *Environmental Planning and Assessment Act 1979* (the EP&A Act 1979);
- *State Environmental Planning Policy (Resilience and Hazards) 2021;*
- *Liverpool Local Environmental Plan 2008* (LEP 2008);
- NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme*;
- NSW EPA (2020) *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines*;
- NSW EPA (2022a) *Sampling Design Part 1 - Application*; and
- NEPC (2013) *Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater* and *Schedule B(2) Guideline on Site Characterisation,* in the *National Environmental Protection (Assessment of Site Contamination) Amendment Measure 1999.*

2. SITE DESCRIPTION

2.1. Property Identification, Location and Physical Setting

The site identification details and associated information are presented in **Table 2-1**. The site locality and assessment area are illustrated in **Figures 1** and **2**, **Appendix A**.

Table 2-1 Site Identification Details

Attribute	Description
Street Address	14 Satelberg Street, Holsworthy NSW
Location and Description	Approximately 31.2 km south-west of the Sydney central business district (CBD). Bound by: ▪ North – Residential property, followed by Satelberg Park; ▪ South – Residential properties; ▪ East – Residential properties, followed by Saddle Row; ▪ West – Satelberg St, followed by residential properties.
Geographical Coordinates	North-west corner of site (GDA2020-MGA56): Easting: 310599.833 Northing: 6240303.529 (Ref: http://maps.six.nsw.gov.au)
Site Area	636.7 m^2 (**Appendix C**)
Lot and DP	Lot 428 in /DP234857
State Survey Marks	Six state survey marks are situated in less than 150 m of the site: ▪ SS70983, on Satelberg Street (approximately 13m west); ▪ SS70982, on the intersection of Bardia Parade and Infantry Parade (approximately 130 m northeast); ▪ SS88513, on the intersection of Bardia Parade and Light Horse Parade (approximately 146 m northeast); ▪ SS88515, on the intersection of Bardia Parade and Saddle Row (approximately 141 m southeast); ▪ SS88516, on Bardia Parade (approximately 126 m south); ▪ SS70984 N, on Bardia Parade (approximately 133 m south); (Ref. http://maps.six.nsw.gov.au)
LGA	Liverpool City Council
Parish	Holsworthy
County	Cumberland
Current Zoning	R3 - Medium Density Residential (Liverpool Local Environmental Plan 2008)

2.2. Local Land Use

The site is situated within an area of predominantly residential use, as described in **Table 2-2**. The sensitive receptors within 500 m of the site are also identified**.**

Table 2-2 Local Sensitive Receptors

Direction	Land Use Description	Sensitive Receptor (and distance from site)
North	Residential property Satelberg Park	Residents (immediately adjacent) Satelberg Park (approx. 15 m north)
South	Residential properties Total Care Disability Service	Residents (immediately adjacent) Disability service workers and users (approx. 120 m south)
East	Residential properties Holsworthy Preschool Harris Creek	Residents (immediately adjacent) Holsworthy Preschool students and teachers (approx. 360 m northeast) Harris Creek (approx. 390 m southeast)
West	Residential properties	Residents (approx. 17m west)

2.3. Regional Setting

The topography, (hydro) geology and soil landscape information is summarised in **Table 2-3**.

Table 2-3 Regional Setting Information

Attribute	Description
Topography	The topography surrounding the site gently slopes towards Harris Creek approx. 390 m south-east of the site.
Site Drainage	Likely to be consistent with the local topography, stormwater and surface run-off are assumed to be collected by pit and pipe drainage flowing into the municipal stormwater systems towards Harris Creek (approx. 390m south-east of the site). Additionally, large portions of the site consist of accessible soils, which allow for direct infiltration into the sub-soil.
Regional Geology	The Department of Mineral Resources *Penrith 1:100,000 Geological Series Sheet 9030* (DMR, 1991) indicates the site is underlain by Ashfield Shale (Rwa) of Wianamatta Group. This formation is regionally characterised by dark grey to black claystone-siltstone and fine sandstone-siltstone laminate.
Soil Landscape	The Office of Environment and Heritage *Soil Landscapes of the Penrith 1:100,000 Sheet* (Bannerman and Hazelton, 2011) indicates that the site is generally located within the Blacktown (*bt*) soil landscape, which is characterised by gently undulating rises on Wianamatta Group shales. Local relief of this soil landscape is typically up to 30 m, with slopes of usually less than 5%. Soils of this soil landscape is generally consisting of shallow to moderately deep (< 100cm) Red and Brown Podzolic Soils on crests, upper slopes, and well-drained areas; deep (150-300 cm) Yellow Podzolic Soils and Soloths on lower slopes and in areas of poor drainage.
Acid Sulfate Soil (ASS) Risk	The site is situated within an area of low probability of ASS occurrence and mapped as Class 5 on the *Liverpool Local Environmental Plan 2008 - Acid Sulfate Soil Map*. Areas classified as Class 5 are located within 500 metres of adjacent class 1,2 ,3 or 4 land. The nearest likely occurrence of ASS is identified near the Harris Creek (approx. 390 m southeast) with low (L2) probability of ASS occurrence 1-3 m below ground surface. Nevertheless, dewatering is unlikely to be required for construction of the proposed development. Based on the above, the risk of ASS presence on the site is considered to be low and further ASS assessments were deemed unwarranted.
Nearest Surface Water Feature	The Harris Creek (approx. 390 m south-east of the site).
Groundwater Bore	A search for groundwater bores registered with WaterNSW was conducted on 13 March

Attribute	Description				
Records and Groundwater Flow Direction	2024. GW107018 was located approx. 780m north-east of the site and had the following material:				
	From (m)	To (m)	Thickness (m)	Drillers Description	Geological Material
	0.0	3.0	3.0	Clay brown	Clay
	3.0	8.0	5.0	Shale	Shale
	8.0	180.5	172.5	Sandstone	Sandstone
	Standing Water Level (SWL) of the bore was 5.5 metres below ground level (mBGL) and no salinity information was available for the registered bore. Based on the regional topography, groundwater is expected to flow south-east towards Harris Creek (approx. 390 m southeast).				

2.4. Site Walkover Inspection

Observations were recorded during a walkover of the site on 23 February 2024. These observations are summarised below and selected photographs taken during the inspection are presented in **Appendix D**.

- The site is located in an area of predominantly residential use (**Photograph 1 and Photograph 2**) and surface gradient was flat. The site is divided into different areas as follows:
  - The central portion of the site was occupied by a single storey residential dwelling. The building was clad externally with fibrocement sheeting (potential ACM). The roof was constructed from concrete tiles (potential ACM) ;
  - The south-eastern portion of the site was occupied by a weatherboard garage and a metal awning;
  - The western and north-eastern portions of the site were unsealed and occupied by mature trees, grass and minimal other vegetation; and
- Concrete paved areas were observed along the entrance of the site to the front of the residential dwelling (which were used for driveway and car parking) and extend to the front of the garage. Foot path around the residential dwelling was concrete paved. The garage and shed were situated on concrete slab. The surface pavements were in poor to fair condition. Corrosion, staining and cracks were observed at the stairs next to the front door of the dwelling (**Photograph 3**).
- The dwelling, garage and metal shed were in generally poor condition (**Photograph 5 and 6**)
- Possible presence of asbestos-containing materials (ACM) was suspected at the single-storey dwelling, including fibre cement sheeting cladding roof and eaves (**Photograph 5**).
- Peeling paint (potential lead-based paint) was observed on window frames and parts of the façade of the welling **(Photograph 4).** It was also observed on the fence around the boundary of the site **(Photograph 7).**
- Overgrown vegetation was observed in the north and south areas immediately adjacent to the residential dwelling. The vegetation around the site did not appear to be distressed, indicating that phytotoxicity is not an issue for local soils (**Photograph 8**).
- There were no surface water bodies observed on site.

- There were no evidence that an underground petroleum storage system (UPSS), underground storage tanks (USTs) or above-ground storage tanks (ASTs) were present on site.
- There was no visual evidence of chemical handling and storage in areas.
- No olfactory indicator of contamination (i.e. suspicious odour) was detected during the inspection.
- There was no NSW Fire and Rescue Station (or Training College) in the vicinity (<100 m) of the site.

3. SITE HISTORY AND SEARCHES

3.1. Previous Investigation

A previous preliminary site investigation (PSI) had been completed for the site by NEO Consulting, which was documented under the following report:

- NEO (2023) "*Preliminary Site Investigation, 14 Satelberg Street, Holsworthy, NSW 2173*". (NEO Consulting Reference No. N6542_Rev0, dated 15 May 2023).

A summary of the key findings of this PSI is provided in **Table 3-1**.

Table 3-1 Summary of the Previous Investigation

Project Task	Findings
Preliminary Site Investigation - NEO (2023)	
Objectives	The objectives of the PSI were to: ▪ Provide a preliminary assessment of potential contaminating activities which may have impacted the site, ▪ Determine if the site is suitable for the proposed development.
Scope of Works	The scope of the investigation included: ▪ A site inspection to identify potential sources of contamination on site; ▪ Review of historical investigations relating to the site (if any); ▪ Review of local Council records and planning certificates; ▪ Review of NSW EPA Contaminated Land Records, POEO Register and PFAS Investigation Program map; ▪ Review of local geological and hydrogeological information, including an evaluation of the NSW Groundwater registered groundwater bore database; ▪ Review of Acid Sulphate Soil data maps; ▪ Development of a Conceptual Site Model (CSM) to identify the connections between potential sources of contamination and exposure pathways, human and/or ecological receptors; and ▪ Recommendations for additional investigations (if any), based on the identified data gaps and findings of this report.
History, Description and CSM	A review of available historical aerial images indicates that the site was used for agricultural purposes at least prior to 1943. The site has been used for residential purposes since at least 1975. The surrounding area was comprised agricultural land and vegetated landscapes since at least 1943. Residential properties increased in the surrounding areas since at least 1965 to 1998, and remained unchanged to date. Considering the age of development within the site (1960-70s) presence of uncontrolled fill from unknown source is likely. The presence of Asbestos and Lead based paint within onsite structures is likely. The site is located approximately 700m north-west of Holsworthy Barracks. Investigations have found PFAS both on and off site at the Holsworthy Barracks. Note: The site is up-gradient of Holsworthy Barracks and impacted from PFAS is unlikely. The site contained a single storey fibrocement residential building structure within the central portion. The site contained a weatherboard garage and a metal awning within the rear. Front and rear of the site was unsealed and had grass groundcover with mature trees and minimal other vegetation. The site gradient was flat. Peeling paint was observed on window frames and parts of the façade of the dwelling. There were no indications of underground storage of petroleum products were identified. Sensitive receptors within 500 m radius of the site include residential properties, Satelberg Park (approx. 15 m north) and Harris Creek (approx. 390 m southeast).

Project Task	Findings
	The CSM was developed to provide an indication of potential risks associated with contamination source and contamination migration pathways, receptors and exposure mechanisms. The possible sources of contamination included: ▪ Contaminated soil from importation of uncontrolled fill across the site; ▪ Historical agricultural activities; ▪ Onsite car parking; ▪ PFAS contamination from the historical use of fire-fighting foams at the Holsworthy Barracks; and ▪ ACM, lead-based paint and other trace metals in onsite residential dwellings and sheds.
Conclusion	NEO concluded that it was considered likely that the site can be made suitable for the intended use, however further Detailed Site Investigation will be required to confirm.
Recommendations	NEO provided the following recommendations in relation to the proposed development: ▪ A Detailed Site Investigation (DSI), with soil sampling and analysis for the identified CoPC. ▪ Should the findings of the DSI confirm the presence of contamination, subject to the degree and extent of impact(s), it may be necessary to develop a remedial works strategy to mitigate any associated risks and make the site suitable for the proposed land use. ▪ All structures onsite should have a Hazardous Materials Survey (HMS) conducted by a qualified occupational hygienist and/or environmental consultant for the site prior to any demolition or renovation works in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements; If ACM is confirmed by the HMS, then the following will be required: o An Asbestos Removal Management Plan (ARMP); o The removal works will require a Class B licensed removal contractor; o Reporting on transport and management of asbestos waste in accordance with EPA Part 7 of the Protection of the Environment Waste Regulation 2017; and o A clearance inspection and clearance certificate will be required post demolition by a licensed asbestos assessor under clauses 473 & 474 of NSW Work Health and Safety Regulations 2017. ▪ The demolition of structures and excavation activity on site be undertaken in accordance with relevant Australian Standards, SafeWork NSW codes of practice and any other applicable requirements; ▪ If any CoPCs are detected in the post demolition sampling, then validation of the underlying natural soils may also be required; ▪ Any soils requiring excavation, onsite reuse and/or removal must be classified in accordance with "Waste Classification Guidelines Part 1: Classifying Waste" NSW EPA (2014); and ▪ A site specific 'Unexpected Finds Protocol' is to be made available for reference for all occupants and/or site workers in the event unanticipated contamination is discovered.

3.2. NSW EPA Online Records

Searches of public registers maintained by the EPA for statutory notices and licensing agreements issued under the *Contaminated Land Management Act 1997* (CLM Act 1997) and *Protection of the Environment Operations Act 1997* (POEO Act 1997) were conducted by EI for this DSI.

Record of Notices Under Section 58 of CLM Act 1997

An on-line search of the contaminated land public record was conducted on 13 March 2024. The contaminated land public record is a searchable database of:

- Orders made under Part 3 of the CLM Act 1997;
- Notices available to the public under Section 58 of the CLM Act;
- Approved voluntary management proposals under the CLM Act 1997 that have not been fully carried out and where the approval of the NSW EPA has not been revoked;
- Site audit statements provided to the NSW EPA under Section 53B of the CLM Act 1997 that relate to significantly contaminated land;
- Where practicable, copies of anything formerly required to be part of the public record; and
- Actions taken by the NSW EPA under Section 35 or 36 of the *Environmentally Hazardous Chemicals Act 1985* (EHC Act 1985).

The search found that neither the site nor the surrounding lands within 250 m radius were subject to any regulatory notices relevant to the above legislations.

List of NSW Contaminated Sites Notified to EPA

A search through the *List of NSW Contaminated Sites Notified to the EPA* under Section 60 of the CLM Act 1997 was conducted on 13 March 2024. This list is maintained by the EPA and includes properties on which contamination has been identified, but not deemed to be impacted significantly enough to warrant regulation.

The search found that neither the site nor the surrounding lands within 250m radius were subject to any regulatory notices relevant to the above legislations.

3.3. POEO Public Register

A search of the *Protection of the Environment Operations Act 1997* public register was conducted on 13 March 2024. This public register contains records related to environmental protection licences, applications, notices, audits, pollution studies and reduction programs.

This search did not identify any record for the site. A search of neighbouring properties within close proximity (<250 m) were not identified on the register.

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4. CONCEPTUAL SITE MODEL

In accordance with NEPC (2013) *Schedule B2 - Guideline on Site Characterisation* and to aid in the assessment of data collection for the site, EI developed a conceptual site model (CSM) assessing plausible pollutant linkages between potential contamination sources, migration pathways and receptors. The CSM provides a framework for the review of the reliability and useability of the data collected and to identify data gaps in the existing site characterisation.

4.1. Summary of Site History

The site had been used for agricultural purposes at least prior to 1943. The site has been used for residential purposes since at least 1975. The existing building is an original structure.

The surrounding area comprised agricultural land and vegetated landscapes since at least 1943. Residential properties were increased in the surrounded areas since at least 1965 to 1998, and remained unchanged to date.

Considering the age of development within the site (1960-70s) presence of uncontrolled fill from unknown source is likely. Moreover, considering the age of construction the presence of asbestos and lead based paint within onsite structures is likely.

Additionally, the site is located approximately 700 m north-west of Holsworthy Barracks. Investigations have found PFAS both on and off the Holsworthy Barracks.

4.2. Potential Contamination Sources

Potential contamination sources on the site included:

- Historical agricultural activities;
- Application of pesticides around building (footing) perimeters;
- Imported and uncontrolled fill material of unknown origin and quality, used to grade and level the site;
- Weathering of exposed building fabrics containing hazardous substances, including potential ACM, lead-based paints and metallic surfaces;
- Potential low-level leakage from vehicles in the parking areas;
- PFAS contamination from the historical use of fire-fighting foams at the Holsworthy Barracks (off-site source) Note: The site is upgradient of the barracks and impact from PFAS is unlikely (See **Table 4-1**).;and
- Off-site migration from neighbouring and off-site migration of groundwater and/or surficial waterway impacts from up gradient and cross gradient sources such as the services station, junkyards, farmlands and pasture.

4.3. Emerging Contaminants

Per- and Poly- Fluoroalkyl Substances (PFAS)

NSW EPA (2017) requires that PFAS are considered when investigating land contamination. The probability of PFAS occurrence, which was based on considerations outlined in the *PFAS National Environmental Management Plan* (HEPA, 2020), is reviewed in **Table 4-1**. In this instance, the potential for PFAS to be present on-site was deemed low and thus PFAS sampling / analysis of soil and water was unwarranted.

Table 4-1 PFAS Decision Tree

Preliminary Screening	Probability of Occurrence[1]	Justification
Has an activity listed in HEPA (2020) [2] as being associated with PFAS contamination occurred on-site? If so, list activity:	L	Site history does not indicate related activities occurred on-site.
Has an activity listed in HEPA (2020) [2] as being associated with PFAS contamination occurred up-gradient or adjacent to the site? If so, list activity:	L	The Holsworthy Barracks is located 700m to the south-east and downgradient of the site. Impact from PFAS unlikely.
Did fire training involving the use of suppressants occur on-site between 1970 and 2010?	L	Site history does not indicate related activities occurred on-site.
Did fire training occur up-gradient or adjacent to the site between 1970 and 2010? [3]	L	Fire training occurred at the Holsworthy Barracks (downgradient) 700m to the south-east of the site. Impact from PFAS unlikely.
Have "fuel" fires ever occurred on-site between 1970 and 2010? (e.g. ignition of fuel (solvent, petrol, diesel, kero) tanks?)	L	Site history does not indicate storage of petroleum products.
Have PFAS been used in manufacturing or stored on-site? [4]	L	Site history does not indicate PFAS related manufacturing or stored on-site.
Could PFAS have been imported to the site in fill materials from a site with an activity listed in HEPA (2020)?	L	Site history does not indicate PFAS related fill materials imported on-site.
Could PFAS-contaminated groundwater or run-off have migrated on to the site?	L	Off-site (up-gradient or adjacent to the site) history does not indicate related activities occurred on-site. Based on regional topography, any surface PFAS discharge migrating from the Holsworthy Barracks would be transported to the Harris Creek (downgradient to the site). Impact from PFAS unlikely.
Is the site or adjacent sites listed in the NSW EPA PFAS Investigation Program? [5]	L	Neither the site nor the adjacent sites are listed in the NSW EPA PFAS Investigation Program. The closest concerning site, the Holsworthy Barracks is located downgradient and 700m south-east of the site.
If the probability is medium or high in any of the rows, does the site analytical suite need to be optimised to include preliminary sampling and testing for PFAS in soil (including ASLP testing) and waters?	No	The potential for PFAS to be present on-site was deemed low and thus PFAS sampling / analysis of soil and water was unwarranted.

Note 1 Probability: L – low (all necessary documentation has been reviewed and there is no recorded instance or compelling rationale); M – moderate (all necessary documentation has been reviewed and there is potential evidence of a recorded instance with compelling rationale); H – high (all necessary documentation has been reviewed and there is evidence of a recorded instance with compelling rationale).
Note 2 Activities listed in Appendix B of HEPA (2020).
Note 3 Runoff from up-gradient PFAS use may impact surface water, soil, sediment and groundwater.
Note 4 PFAS is used wide range of industrial processes and consumer products, including in the manufacture of non-stick cookware, specialised garments and textiles, Scotchguard™ and similar products (used to protect fabric, furniture, leather and carpets from oils and stains), metal plating and in some types of fire-fighting foam. (https://www.nicnas.gov.au/chemical-information/factsheets/chemical-name/perfluorinated-chemicals-pfas)
Note 5 Refer to https://www.epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program.

4.4. Emerging Chemicals

The NSW EPA uses Chemical Control Orders (CCOs) as a primary legislative tool under the *Environmentally Hazardous Chemicals Act 1985*, to control chemicals of concern and limit their potential impact on the environment. Considerations for chemicals controlled by CCOs, and other potential emerging chemicals, are outlined in **Table 4-2**. In this instance, the potential for an emerging chemical of concern to be present on-site was deemed low, with the exceptions of PCBs and pesticides in imported fill and near surface soil.

Table 4-2 Emerging or Controlled Chemicals

Chemicals of Concern (CCO or emerging)	Decision
Were aluminium smelter wastes used or stored on site (CCO, 1986)?	No
Do dioxin contaminated wastes (CCO, 1986) have the potential to impact the site? [1]	No
Were organotin products (CCO, 1989) used or stored on site? [2]	No
Were polychlorinated biphenyls (PCBs) used or PCB wastes (CCO, 1997) stored on-site? [3]	PCBs potentially present in imported fill.
Were scheduled chemical or wastes (CCO, 2004) used or stored? [4]	Possibility for pesticides applied to footings for termite control and/or present in imported fill. Impact, if present, is typically localised.
Are other emerging chemicals suspected? [5]	No
If Yes to any questions, has site sampling suite been optimised to include sampling for these chemicals of concern?	Yes

Note 1 From burning of certain chemicals, smelting or chemical manufacturing or fire on or near the site.
Note 2 From anti-fouling paints used or+ removed at boat and ship yards and marinas.
Note 3 From older transformer oils and electrical capacitors
Note 4 Twenty-four mostly organochlorine pesticides and industrial by-products
Note 5 Other chemicals considered as emerging (e.g. 1,4 dioxane; associated with some CVOC).

4.5. Contaminants of Potential Concern

The COPCs at the site were considered to be as follows:

Soil including fill (if present)

- Priority Metals (PM) - arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc;
- Total Recoverable Hydrocarbons (TRHs);
- The monocyclic aromatic hydrocarbons benzene, toluene, ethylbenzene, xylenes (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Organochlorine and Organophosphorus Pesticides (OCPs / OPPs);
- Polychlorinated Biphenyls (PCB);
- Asbestos;

Groundwater

None – unless significant impact unidentified in soil

Soil Vapour

None – unless significant impact identified in soil or groundwater

4.6. Qualitative Risk Assessment

An assessment of the potential contamination risks for the site is outlined in **Table 4-3**.

Table 4-3 Assessment of Potential Contamination Risk

Potential Source	Impacted Medium	COPC	Risk of Contamination
Historical on-site agricultural activities; and Application of pesticides	Soil Near surface soil (building footing areas)	PM (arsenic and copper), OCP and OPP	**Low** Previous farming and pasturing activities may pose concern; however, should impacts be present, they are likely to be localised beneath or surrounding the structures, and likely to be shallow.
Imported and uncontrolled fill material of unknown origin and quality	Soil	PM, TRH, BTEX, PAH, OCP, OPP, PCB, Asbestos	**Moderate** Based on the age of the residential development onsite (1960-1970s), presence of uncontrolled shallow filling is expected on the site
Hazardous building materials (in the residential dwelling, weatherboard garage and metal shed)	Building fabrics Near surface soil	PM (lead in particular), Asbestos	**Low to Moderate** Potential hazardous products identified on the external surface of existing structures (e.g. ACM roof and lead-based paints); however, no debris identified on the ground surface.
Potential leakage from vehicles parking on site	Near surface soil	PM, TRH, BTEX, and PAH	**Low** Contamination, if present, likely to be localised and restricted to surface or shallow soils.
Migration from off-site sources	Soil Groundwater	PM, TRH, BTEX, PAH.	**Low** No indication of any other (grossly) contaminating activities on adjacent properties. Surrounding areas are largely residential. Impact from (Holsworthy Barracks is unlikely.

4.7. Identified Receptors

The following potential receptors of site contamination were identified:

- Current and future site users / occupiers;
- On-site demolition / construction workers (during future redevelopment);
- Future intrusive workers;
- Users of the adjacent land during future demolition / construction works;
- The general public within the immediate vicinity of the site;
- Holsworthy Preschool students and teachers (approx. 360 m northeast);
- Ecological receptors in areas of exposed soil/landscaping nearby the site;
- Groundwater and surface water bodies nearby the site;
- Satelberg Park (approx. 15 m north); and

- Harris Creek (approx. 390 m southeast)

Given the qualitative risk assessment summarised in **Section 4.6**, the risks to these receptors were considered to be low to moderate. Refer to **Table 4-4** for an overview of the CSM.

4.8. Data Gaps

Review of desk-top information, site history, site setting and proposed use has determined that contamination status of soil at the site is unknown. Source-pathway-receptor (SPR) linkages remain for the proposed development (**Table 4-4**).

Soil investigation and characterisation is required.

Table 4-4 Conceptual Site Model

Potential Source	Impacted Medium	COPCs	Transport Mechanism	Exposure Pathway	Potential Receptor	Complete Source-Pathway-Receptor (SPR) linkage?
Historical on-site activities Application of pesticides Importation of uncontrolled fill across the site Hazardous building materials (ACM, lead based paint and other trace metals in onsite residential dwellings and sheds)	Soil	PM, TRH, BTEX, PAH, OCP, OPP, PCB, asbestos and PFAS.	Disturbance of surface and subsurface soils during site redevelopment, future site maintenance and future use of the site post redevelopment Atmospheric dispersion from soil to outdoor and indoor air spaces	Ingestion Dermal contact Inhalation of particulates Inhalation of vapours	Current and future site users Demolition / construction workers Adjacent site users Future intrusive workers	**Yes**. Future users of site following redevelopment Site workers during demolition / construction are assumed to use personal protective equipment (PPE), as per SafeWork NSW regulations.
		TRH, BTEX and PAH	Volatilisation of contamination from soil and diffusion to indoor air spaces.	Inhalation of vapours		
		PM, TRH, BTEX, PAH, OCP, OPP and PCB	Roots absorption of bioavailable compounds from impacted soils	Biota uptake	Ecological receptors in areas of exposed soil/landscaping	**Yes** Potential uptake from soil.
Potential leakage from vehicles parked onsite Off-site migration (PFAS contamination from the historical use of fire-fighting foams at the Holsworthy Barracks)	Groundwater	PM, TRH, BTEX, PAH, PFAS, VOCs and CVOCs	Volatilisation of contamination from groundwater to indoor or outdoor air spaces (onsite and offsite)	Inhalation of vapours	Current and future site users Demolition / construction workers Adjacent site users Future intrusive workers	No. Development is slab on ground. No pathway of groundwater contact. No pathway of contact with impact from Horthy Barracks.
			Migration of impacted groundwater and surface water run-off.	Ingestion Dermal contact		
			Leaching and migration of contaminants through groundwater infiltration	Biota uptake	Harris Creek (approx. 390 m southeast)	**No**. Harris Creek is downgradient and 390 m away from the site.

5. METHODOLOGY

5.1. Sampling, Analytical and Quality Plan

The sampling, analytical and quality plan (SAQP) ensures that the data collected during environmental works are representative and provided a robust basis for assessment decisions. The SAQP for this investigation included the following:

- Data quality objectives (DQOs), including a summary of the objectives of this investigation;
- Investigation methodology, including the media to be sampled, details of analytes and parameters to be monitored and a description of the rationale for intended sampling points;
- Sampling procedures (including sample handling, preservation and storage);
- Field screening methods;
- Laboratory analysis methods; and
- Analytical quality assurance / quality control (QA/QC).

5.2. Data Quality Objectives

In accordance with the NEPC (2013) *Schedule B2 Guideline on Site Characterisation*, the USEPA (2006) *Data Quality Assessment* and NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme*, DQOs were developed by the EI investigation team, following the NEPM- / NSW EPA- endorsed, seven step process (**Table 5-1**). In doing so, the appropriate levels of data quantity and quality needed for the specific requirements of the project were established.

Table 5-1 Summary of Project Data Quality Objectives

DQO Step	Details
1. State the Problem Summarise the contamination problem that will require new environmental data, and identify the resources available to resolve the problem; develop a conceptual site model.	Site is currently occupied by a single residential dwelling and associated garage and shed. Proposed redevelopment, includes demolition of the existing structures, followed by the construction of a childcare centre consisting of 7 bay carpark, single storey childcare centre and landscaped outdoor play areas (**Section 1.2**). The proposed development is equivalent to a generic NEPC (2013) sensitive land use setting of residential with garden/accessible soil, also includes childcare centres, preschools and primary schools. Based on the preliminary site investigation (NEO, 2023) and CSM (**Section 4**) soil characterisation by detailed site investigation was required, in support of the development application to Liverpool City Council and enable the developer to meet its obligations under *State Environmental Planning Policy 2021* and the *Contaminated Land Management Act 1997*.
2. Identify the Goal of the Study (Identify the decisions) Identify the decisions that need to be made on the contamination problem and the new environmental data required to make them.	Based on the objectives outlined in **Section 1.2**,the decisions for this DSI concerned the following questions: ▪ Has the nature, extent and source of any soil impacts onsite been defined? ▪ What impact do the local (hydro) geological conditions have on the fate and transport of any contaminants that may be present? ▪ Does the level of impact coupled with the fate and transport of potential contaminants represent an unacceptable risk to identified human and/or environmental receptors on- or off- site? ▪ Does the collected data provide sufficient information to allow the selection and design of an appropriate remedial strategy, if necessary? ▪ If the data does not provide sufficient information, what data gaps require closure to enable the suitability of the site to be determined, or selection and design of an appropriate remedial strategy?
3. Identify Information Inputs (Identify inputs to decision) Identify the information needed to support any decision and specify which inputs require new environmental measurements.	Inputs to the decision making process included: ▪ The proposed development plans and land use; ▪ Findings of the NEO (2023) PSI; ▪ National and NSW EPA guidelines endorsed under the *NSW Contaminated Land Management Act 1997*; ▪ Observations obtained from an intrusive investigation in locations and to depths deemed appropriate for assessment purposes; and ▪ Laboratory analysis of selected samples for the COPCs. At the end of the DSI, a decision had to be made regarding whether the environmental conditions were suitable for the proposed redevelopment, or if additional assessment / remedial works were required to make the site suitable.
4. Define the Boundaries of the Study Specify the spatial and temporal aspects of the environmental media that the data must represent to support decision.	**Lateral** – The investigation was conducted within the cadastral boundaries of the site. **Vertical** – From the ground surface, down to the deepest depth of borehole drilling (1.35 metres below ground level (mBGL)) which was equivalent to the upper layer of natural soil horizon. **Temporal** – Results were valid on the day of data / sample collection and remain valid as long as no changes occur on site or contamination (if present) does not migrate on site or on to the site from off-site sources.

DQO Step	Details
5. Develop the Analytic Approach (Develop a decision rule) To define the parameter of interest, specify the action level, and integrate previous DQO outputs into a single statement that describes a logical basis for choosing from alternative actions.	The decision rules for the investigation were: ▪ Where individual concentrations of contaminants and/or the 95% Upper Confidence Limit (UCL) of the average concentration for a contaminant of concern exceeds the NEPC (2013) criteria for the land use scenario (as defined in **Section 5.5**) then an unacceptable risk to the end site user may exist; or ▪ Where individual concentrations of contaminants and the 95% UCL for a contaminant of concern does not exceed the NEPC (2013) criteria for the land use scenario (as defined in **Section 5.5**) then no unacceptable risk to the end site user is identified and the site is suitable for the proposed use. All data must meet the prescribed DQOs or Data Quality Indicators (DQIs) to be acceptable for use.
6. Specify Performance or Acceptance Criteria (Specify limits on decision errors) Specify the decision-maker's acceptable limits on decision errors, which are used to establish performance goals for limiting uncertainties in the data.	Specific limits for this project were in accordance with National and NSW EPA guidance, and appropriate indicators of data quality and standard procedures for field sampling and handling. Laboratory test results were accepted if: ▪ All contracted laboratories were accredited by NATA for the analyses undertaken; ▪ All laboratory analytical data were within pre-determined assessment criteria, in accordance with laboratory QA/QC policies and DQOs; ▪ QA/QC results demonstrated acceptable reliability and representativeness of the data set; and ▪ Laboratory limits of reporting (LOR) were below the adopted assessment criteria for the tested COPC. The principal decision rule for the investigation was: ▪ If the concentrations of chemicals in the soil exceeded the adopted assessment criteria, then determine the need to further investigate the extent of impact(s) on-site. ▪ Decision criteria for QC measures are defined by the DQIs outlined in **Table 5-2**.
7. Develop the Detailed Plan for Obtaining Data (Optimise the design for obtaining data) Identify the most resource-effective sampling and analysis design for general data that are expected to satisfy the DQOs.	In order to achieve the most resource-effective sampling and analysis design and generate data that satisfied the DQOs: ▪ Fill and natural soil sampling was conducted at 8 borehole locations (BH1 to BH8) distributed systematically, in accordance with the minimum number points recommended under the NSW EPA (2022a) *Sampling Design Part 1 – Application*; ▪ In-field screening of soil headspace samples for VOC contamination was carried out with a portable PID; ▪ Selected, discrete fill / natural soil and samples were analysed for the COPCs; and ▪ Review of the results, to determine if further sampling was warranted (that being where soil concentrations were found to exceed the adopted criteria of **Table 5-3** ,). During the DSI, written instructions were issued to guide field personnel in the required fieldwork activities. All field works were performed in accordance with NSW EPA guidelines and EI standard operating procedures (SOPs).

5.3. Data Quality Indicators

To ensure that the investigation data were of an acceptable quality, they were assessed against the quality indicators outlined in **Table 5-2**. Assessment of data quality is presented in **Section 6** and **Appendix I**.

Table 5-2 Data Quality Indicators

QA/QC Component	Data Quality Indicator(s)
Precision A quantitative measure of the variability (or reproducibility) of data	Data precision was assessed by reviewing the performance of blind field duplicate sample sets, through calculation of relative percentage differences (RPD). Precision was deemed acceptable if RPDs were found dominantly to be less than 30%. RPDs that exceeded this range were considered acceptable where: ▪ Results were less than 10 times the LOR; ▪ Results were less than 20 times the LOR and the RPD was less than 50%; or ▪ Heterogeneous materials or volatile compounds were encountered.
Accuracy A quantitative measure of the closeness of reported data to the "true" value	Data accuracy was assessed through the analysis of: ▪ Split field duplicate sample sets; ▪ Field / method blanks, analysed for the analytes targeted in the primary samples; ▪ Matrix spike sample sets; and ▪ Laboratory control samples.
Representativeness The confidence (expressed qualitatively) that data are representative of each medium present onsite	To ensure the data produced by the laboratory were representative of conditions encountered in the field, the following measures were taken: ▪ Blank samples run in parallel with field samples, to confirm there were no unacceptable instances of laboratory artefacts; ▪ Review of RPDs for field and laboratory duplicates to provide an indication that the samples were generally homogeneous, with no unacceptable instances of significant sample matrix heterogeneities; and ▪ The appropriateness of collection methodologies, handling, storage and preservation techniques was assessed to ensure/confirm there was minimal opportunity for sample interference or degradation (i.e. volatile loss during transport due to incorrect preservation / transport methods).
Completeness A measure of the amount of useable data from a data collection activity	Analytical data sets were considered complete upon confirmation that: ▪ SOPs for sampling protocols were adhered to; and ▪ All chain of custody (COC) documentation was properly completed. It could then be determined whether the generated data were sufficient for the purposes of the land use assessment.
Comparability The confidence that data are equivalent for each sampling event	Given that several data sets from separate sampling episodes were required, issues of comparability were reduced through adherence to SOPs and regulator-endorsed or published guidelines and standards on each data gathering activity. In addition the data were collected by experienced samplers and NATA-accredited laboratory methodologies were employed.

Where non-compliance of a DQI occurs, further investigation of data is required to determine if the non-compliance is significant and sufficiently outside of tolerance limits and should be rejected. If a data point requires rejection, secondary evidence or other information may be used or required to demonstrate data acceptability.

5.4. Sampling Rationale

With reference to the CSM described in **Section 4** and DQOs, the soil sampling and analytical plans were developed in accordance with the following rationale:

- Multiple level (fill and natural) soil sampling at 8 boreholes, located across accessible parts of the site, identified as BH1 to BH8, in order to characterise *in situ* soil;

- In-field screening of soil headspace samples for VOCs, using a portable PID; and
- Laboratory analysis of representative soil samples for the COPCs.

5.5. Assessment Criteria

The assessment criteria adopted for this DSI were selected from available published guidelines that are endorsed by national or state regulatory authorities, with due consideration of the exposure scenario that is expected for the site, the likely exposure pathways, and the identified potential receptors. The adopted assessment criteria are outlined in **Table 5-3**.

For the purposes of this DSI, the adopted soil assessment criteria are referred to as the *Soil Investigation Levels* (SILs).

Table 5-3 Adopted Investigation Levels for Soil

Medium	Guidelines	Rationale
Soil	NEPC (2013) HILs, HSLs, EILs, ESLs and Management Limits	**Soil Health-based Investigation Levels (HILs)** NEPC (2013) *HIL-A* thresholds for residential with garden/accessible soil, also includes childcare centres, preschools and primary schools. **Soil Health-based Screening Levels (HSLs)** NEPC (2013) *HSL-A&B* thresholds for vapour intrusion in low to high density residential settings (to assess potential human health impacts from residual vapours resulting from petroleum, BTEX and naphthalene) or any sensitive land uses (including childcare centres). **Asbestos *HSL-A*:** ▪ No visible asbestos on the soil surface in all areas of the site; ▪ Asbestos not present in soil (at laboratory LOR) **Ecological Investigation / Screening Levels (EILs / ESLs)** NEPC (2013) EILs/ESLs for urban residential and public open space settings were adopted, to assess the potential impact to proposed landscaping areas, where plants could be exposed to soils. The adopted ESL criteria were based on coarse grained criteria, as a conservative approach. **Management Limits for Petroleum Hydrocarbons** Where the HSLs and ESLs for petroleum hydrocarbons were exceeded, sample results were also assessed against the NEPC (2013) *Management Limits* for the F1-F4 TRH fractions, to assess propensity for phase-separated hydrocarbons (PSH), fire and explosive hazards and adverse effects on buried infrastructure.

5.6. Soil Sampling Methodology

The soil sampling works conducted at the site are described in **Table 5-4**. Sampling locations are illustrated in **Figure 2**, **Appendix A**.

Table 5-4 Summary of Soil Sampling Methodology

Activity/Item	Details
Fieldwork	Conducted on 23 February 2023, comprising 8 borehole locations in accessible parts of the site. Prior to drilling, locations were surveyed by a contracted services locator, with assistance from *Dial-Before-You-Dig* plans.
Drilling Method	The bores were drilled using a hand auger. The maximum drilling depth was 1.35 mBGL. Borehole logs are presented in **Appendix E**.
Soil Logging	Drilled / examined soils were logged in the field in accordance with Australian Standard AS1726-2017. Soil was evaluated on a qualitative basis for visual and olfactory signs of

Activity/Item	Details
	contamination. Soil descriptions are included in the borehole logs (**Appendix E**).
Soil Sampling	Soil samples were collected by dry grab method from the auger flights/ auger (the sampler wearing dedicated nitrile gloves) and placed into laboratory-supplied, acid-washed, solvent-rinsed glass jars and zip-lock, plastic bags (the latter for in-field VOC/PID screening and asbestos samples). Blind and split field duplicates were prepared by collecting a bulk amount of soil and dividing (post mixing) into three separate glass jars.
Soil Vapour Screening	Screening for VOC in soil headspace samples was conducted using a pre-calibrated PID with a 10.6mV ionisation lamp. The calibration certificate for the PID is presented in **Appendix F**.
Decontamination	Nitrile sampling gloves were replaced between each sampling location. The hand auger was cleaned of all residual soil between each borehole location by washing with a mixture of Alconox and potable water (1/20) until free of all residual materials, then rinsed with water.
Management of Soil Cuttings	Soil cuttings were used to backfill the completed boreholes.
Sample Preservation and Transport	Sealed sample containers were stored in an insulated chilled chest (with frozen ice packs), whilst on-site and in transit to the contracted laboratories. Chilled sample chests were transported to the primary laboratory (SGS Australia Pty Ltd (SGS)) using chain-of-custody (COC) procedures. Signed COC certificates and sample receipt advice (SRA) were provided by SGS for confirmation purposes (**Appendix G**). Split (inter-laboratory) soil field duplicates were submitted to Envirolab Services Pty Ltd (Envirolab; the secondary laboratory) under strict COC conditions. Signed COC certificates and Sample Receipt Advice (SRA) were provided by Envirolab for confirmation purposes (**Appendix G**).
Laboratory Analysis and Quality Control	Soil samples were analysed by SGS and Envirolab for the COPCs. All samples were analysed within the required holding period, as documented in the corresponding laboratory reports (**Appendix H**). In addition to the split (inter-laboratory) field duplicates (analysed by Envirolab), QC testing comprised one blind (intra-laboratory) field duplicate, an equipment rinsate blank, a laboratory-prepared trip spike soil sample and a laboratory-prepared trip blank soil sample, all analysed by SGS.

6. DATA QUALITY ASSESSMENT

The assessment of data quality is defined as the scientific and statistical evaluation of environmental results to determine if they meet the objectives of the project (USEPA, 2006). For this DSI, data quality assessment involved an evaluation of the compliance of the field (sampling) and laboratory procedures with established protocols, as well as the accuracy and precision of the associated results from the quality control measures. The findings are summarised in **Table 6-1** and discussed in detail in **Appendix I**.

In summary, the overall quality of the analytical data from this DSI was considered to be of an acceptable standard for interpretive use and preparation of an updated CSM.

Table 6-1 Quality Assurance Process

Stage	Control	Conformance [Yes, Part, No]	Report Section(s)
Preliminaries	DQOs and DQIs established	Yes	See **Sections 5.2** and **5.3**
Field Work	Suitable documentation of fieldwork observations including borehole logs and field notes.	Yes	See **Appendices E** and **F**
Sampling Plan	Use of relevant and appropriate sampling plan (density, type, and location)	Yes	See **Section 5.4**
	All media sampled and duplicates collected	Yes	See **Appendices E**, **G**, **H**
	Use of approved and appropriate sampling methods	Yes	See **Sections 5.6** and **5.7**
	Selection of soil samples according to field PID readings (where VOCs are present)	Yes	N/A
	Preservation and storage of samples upon collection and during transport to laboratory	Yes	See **Sections 5.6** and **5.7**
	Appropriate field rinsate and trip blanks taken	Yes	See **Appendix G**
	Completed field and analytical laboratory sample COC procedures and documentation	Yes	See **Appendix G**
Laboratory	Sample holding times within acceptable limits	Yes	See **Appendices H, I, J**
	Use of appropriate analytical procedures and NATA-accredited laboratories	Yes	See **Appendices H, I, J**
	LOR low enough to meet adopted criteria	Yes	See **Appendices H, I, J**
	Laboratory blanks	Yes	See **Appendices H, I, J**
	Laboratory duplicates	Part	See **Appendices H, I, J**
	Matrix spikes	Yes	See **Appendices H, I, J**
	Surrogates	Part	See **Appendices H, I, J**
	Analytical results for replicated samples, including field and laboratory duplicates, expressed as RPD	Part	See **Appendices H, I, J**
	Checking for the occurrence of apparently unusual or anomalous results (e.g. laboratory results that appear to be inconsistent with field observations or measurements)	Yes	See **Appendices B, E, F**
Reporting	Report reviewed by senior staff to assess project meets NSW EPA guidelines and objectives	Yes	See **Document Control**

7. RESULTS

7.1. Soil

7.1.1. Sub-Surface Conditions

Based on the borehole logs (and excluding any inaccessible area), the sub-surface of the site was generalised as a layer of silty sand filling (0.0-0.5m thickness) and a layer of sand filling (0.5-1.15m thickness), overlying natural (residual) sandy clay. The potential for ASS to be present on the site was deemed very low.

More details encountered during the soil investigation by EI are provided in **Table 7-1** and borehole logs are presented in **Appendix E**.

Table 7-1 Generalised Sub-Surface Profile

Layer	Description	Minimum - Maximum Depth (m BGL)
Fill	Silty SAND; fine grained, pale brown to dark grey, with rootlets, with sub-angular to angular gravels.	0.0-0.5
Fill	SAND; fine grained, pale brown to dark brown, with rootlets, with sub-angular to angular gravels.	0.5-1.15
Residual Soil	Sandy CLAY; medium plasticity, fine grained, orange, with rootlets.	1.15+

Note 1 Depth of residual soil start.

7.1.2. Field Observations and PID Results

Soil samples were collected from the test bores at various depths ranging between 0.1-1.3 mBGL. All examined soils were evaluated on a qualitative basis for odour and visual signs of contamination (e.g. hydrocarbon odours, oil staining, petrochemical filming, asbestos fragments, ash, and charcoal) and the following observations were noted:

- No suspicious odour was noted in any of the examined soils.
- No soil staining was observed in any of the examined soils.
- No fragments of potential ACM were observed in any of the examined soils.
- No ash and slag was observed in any of the examined soils.
- VOC concentrations in soil headspace samples were screened in-field using a portable PID. All VOC readings were low (<1 parts per million (ppm)).
- No evidence of actual or potential ASSs was encountered in any of the examined soils.
- Groundwater not encountered in any of the boreholes.

7.1.3. Laboratory Analytical Results

A summary of the laboratory analytical results for the tested (representative) soil samples is presented in **Table 7-2**. More detailed tabulation is presented in **Table B1**, **Appendix B**. All results were found to comply with the adopted criteria applicable to the most conservative low to high density residential settings, with garden/accessible soil, also includes childcare centres, preschools and primary schools.

Table 7-2 Summary of Soil Analytical Results

Number of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Samples Exceeding SILs
Priority Metals (total)				
11	Arsenic	<1	6	None
11	Cadmium	<0.3	<0.3	None
11	Chromium	1.6	20	None
11	Copper	1.6	10	None
11	Lead	2	61	None
11	Mercury	<0.05	0.06	None
11	Nickel	1	5.2	None
11	Zinc	2.5	30	None
PAHs				
11	Naphthalene	<0.1	<0.1	None
11	Benzo(α)pyrene	<0.1	<0.1	None
11	Carcinogenic PAHs	<0.3	<0.3	None
11	Total PAHs	<0.8	<0.8	None
BTEX				
11	Benzene	<0.1	<0.1	None
11	Toluene	<0.1	<0.1	None
11	Ethyl benzene	<0.1	<0.1	None
11	Total Xylenes	<0.3	<0.3	None
TRHs				
11	F1 – TRHs	<25	<25	None
11	F2 – TRHs	<25	<25	None
11	F3 – TRHs	<90	<90	None
11	F4 – TRHs	<120	<120	None
Pesticides				
8	Total OCPs	<1	<1	None
8	Total OPPs	<1.7	<1.7	None
PCB				
8	Total PCBs	<1	<1	None
Asbestos				

Number of Primary Samples	Analyte	Minimum Concentration (mg/kg)	Maximum Concentration (mg/kg)	Samples Exceeding SILs
8	Asbestos	Not detected	Not Detected	None

8. SITE CHARACTERISATION

8.1. Soil Impacts

No foreign materials or hazardous building materials such as fall out (paint flakes, fragments of fibre-cement sheeting) from structures were observed on the ground surface.

No foreign materials, unusual odour or staining were observed in soil samples recoverd during intrusive investigation.

Laboratory analytical results for the representative fill and natural soil samples were found to comply with the adopted SILs applicable to the most conservative land use settings (includes childcare centres) (**Table 5-3**, **Table B1 Appendix B**).

There was no exceedance of adopted health based criteria.

There was no exceedance of adopted ecological criteria.

8.2. Review of Conceptual Site Model

The CSM discussed in **Section 4** was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential on-site and off-site receptors.

Data gaps identified in **Section 4.9** have been addressed. Soil at the site is not a source of contamination.

9. CONCLUSION

The property identified as 14 Satelberg Street, Holsworthy NSW was the subject of a detailed site investigation, conducted in order to assess the nature and degree of on-site contamination. The key findings of this DSI were as follows:

- The site has been used for agricultural purposes at least prior to 1943 and used for residential purposes since at least 1975. The current residential dwelling is the original building on site.
- The surrounding area was comprised agricultural land and vegetated landscapes since 1943 (at least). Residential properties were increased in the surrounding areas since at least 1965 to 1998, and remained unchanged to date.
- Surface gradient of the site is flat. The central portion of the site was occupied by a single storey fibrocement residential dwelling. The south-eastern portion of the site was occupied by a weatherboard garage and a metal awning. The western and north-eastern portion of the site were unsealed and occupied by mature trees, grass and minimal other vegetation.
- The existing building structures on site appeared to be in poor to fair condition, with deterioration in the form of paint flaking and cracking on concrete observed during the inspection.
- External wall cladding and eaves of the dwelling may be asbestos-containing materials.
- There was no evidence of underground petroleum storage system (UPSS), underground storage tanks (UST) or above-ground storage tanks on site.
- No foreign materials, staining or odours wore observed of the ground surface or in samples of sub-surface soil.
- The sub-surface of the site was generalised as a layer of silty sand filling (0.0-0.5m thickness) and a layer of sand filling (0.5-1.15m thickness), overlying natural (residual) sandy clay.
- The potential for ASS to be present on the site was very low.
- Laboratory analytical results for the representative fill and natural soil samples were all found to comply with the adopted criteria applicable to the generic NEPC (2013) sensitive land use settings (including childcare centres).
- The conceptual site model was considered to appropriately identify contamination sources, migration mechanisms and exposure pathways, as well as potential on-site and off-site receptors. The health-based and ecological risk from potential contaminants in soil was deemed low and acceptable.

Based on the findings of this DSI, and with consideration of EI's *Statement of Limitations* (**Section 11**), EI concludes that the site is suitable for the proposed development. Recommendations for the construction phase of the development are provided in **Section 10.**

10. RECOMMENDATIONS

EI provides the following recommendations in relation to the construction phase proposed redevelopment:

- Before commencement of any demolition works, a Hazardous Materials Survey (HMS) should be completed by a suitably qualified consultant, to confirm the presence / location of any hazardous materials within the existing building fabrics.
  - All identified hazardous materials must be appropriately managed during future demolition works, to maintain worker health and safety and prevent the spread of hazardous substances onto the site surface.
  - An asbestos clearance inspection and certificate should be completed by a suitably qualified professional (SafeWork NSW Licensed Asbestos Assessor) following the removal of all ACM.
  - Where clearance inspection indicates hazardous materials remain on the site, further removal and re-clearance inspection, must be undertaken.
- Following building / pavement demolition and removal of associated wastes, an inspection of the exposed surface should be performed by a suitably qualified environmental consultant. This inspection may coincide with the asbestos clearance program.
- All soil materials that are designated for off-site disposal, including any *virgin excavated natural material* (VENM), must be pre-classified in accordance the NSW EPA (2014) *Waste Classification Guidelines*.
- Any material being imported to the site should be validated as suitable for the intended (residential) use, in accordance with NSW EPA guidelines. In particular, imported filling / landscaping material must be certified as meeting the VENM classification, prior to importation.

11. STATEMENT OF LIMITATIONS

This report has been prepared for the exclusive use of M.H Bestawros & P.V Bestawros, whom is the only intended beneficiary of EI's work. The scope of the investigation carried out for the purpose of this report was limited to that agreed with M.H Bestawros & P.V Bestawros.

No other party should rely on this document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

The findings presented in this report are the result of discrete and specific sampling methodologies used in accordance with best industry practices and standards. Due to the site-specific nature of soil sampling from point locations, it is considered likely that all variations in subsurface conditions across a site cannot be fully defined, no matter how comprehensive the field program.

While normal assessments of data reliability have been made, EI assumes no responsibility or liability for errors in any data obtained from regulatory agencies (e.g. Council, NSW EPA), statements from sources outside of EI, or developments resulting from situations outside the scope of works of this project.

Despite all reasonable care and diligence, the ground conditions encountered and concentrations of contaminants measured may not be representative of conditions between the locations sampled and investigated. In addition, site characteristics may change at any time in response to variations in natural conditions, chemical reactions and other events (e.g. groundwater movement and or spillages of contaminating substances). These changes may occur subsequent to EI's investigation.

EI's assessment is necessarily based upon the results of the site investigation and the restricted program of surface and subsurface sampling, screening and chemical testing which was set out in the project proposal. Neither EI, nor any other reputable consultant, can provide unqualified warranties nor does EI assume any liability for site conditions not observed or accessible during the time of the investigations.

This report was prepared for M.H Bestawros & P.V Bestawros and no responsibility is accepted for use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

This report and associated documents remain the property of EI subject to payment of all fees due for this assessment. The report shall not be reproduced except in full and with prior written permission by EI.

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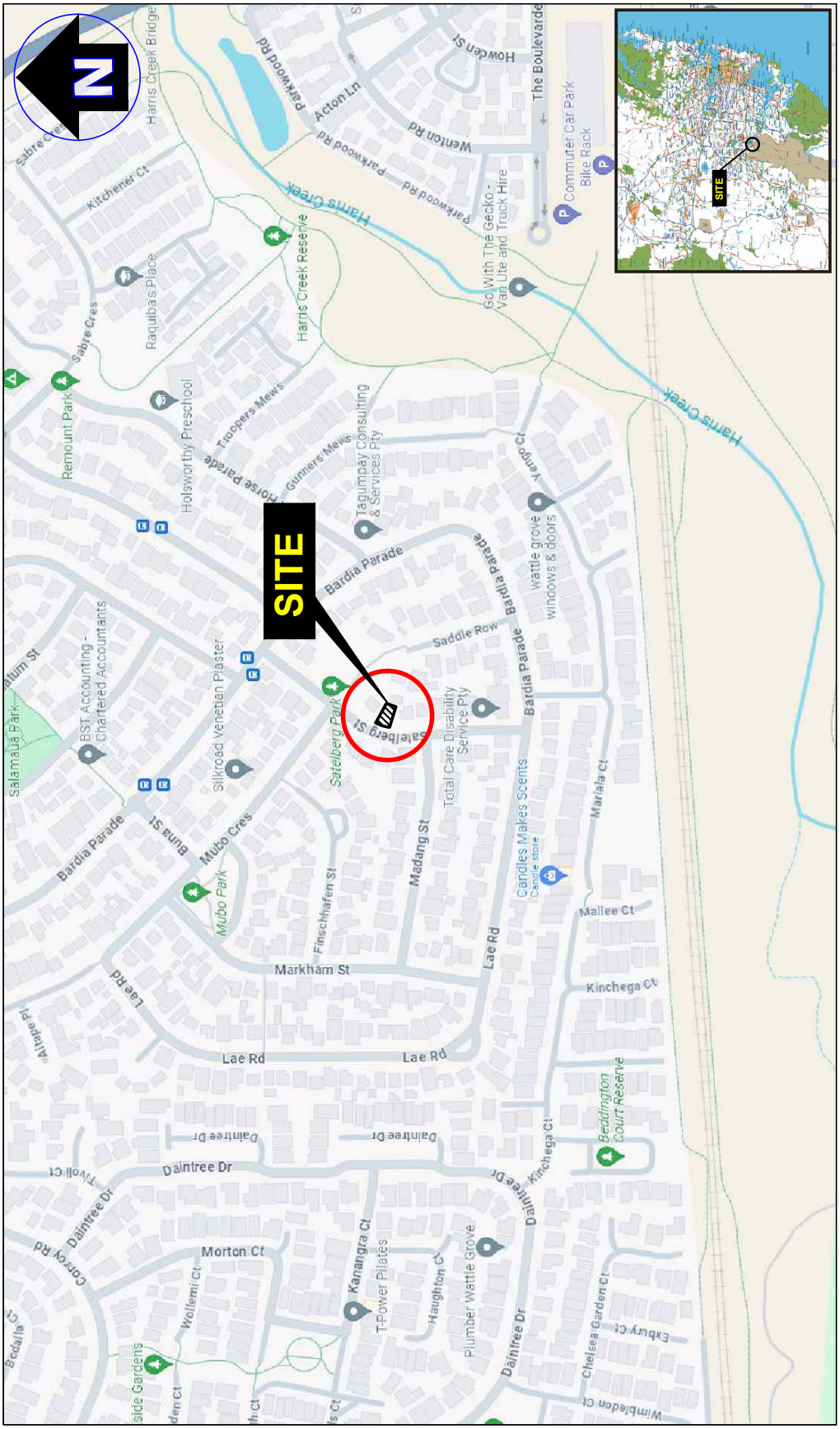
ABBREVIATIONS

ACM	Asbestos-Containing Materials
AS	Australian Standard
ASS	Acid Sulfate Soils
ANZG	Australian and New Zealand and Australian State and Territory Governments
B(a)P	Benzo(a)Pyrene (a polycyclic aromatic hydrocarbon compound)
BEL	Bulk Excavation Level
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CBD	Central Business District
CCO	Chemical Control Order
CLM	Contaminated Land Management
CSM	Conceptual Site Model
COC	Chain of Custody
COPC	Contaminants of Potential Concern
DP	Deposited Plan
DSI	Detailed Site Investigation
DQI	Data Quality Indicators
DQO	Data Quality Objectives
EI	EI Australia Pty Ltd
EIL	Ecological Investigation Level
Envirolab	Envirolab Services Pty Ltd
NSW EPA	Environment Protection Authority (of New South Wales)
ESL	Ecological Screening Level
GME	Groundwater Monitoring Event
HDPE	High Density Polyethylene
F1	C_6-C_{10} TRH less sum of BTEX concentrations
F2	>C_{10}-C_{16} TRH less naphthalene
F3	>C_{16}-C_{34} TRH
F4	>C_{34}-C_{40} TRH
FFL	Finished Floor Level
HIL	Health-based Investigation Level
HM	Heavy Metal
HMS	Hazardous Materials Survey
HSL	Health-based Screening Level
km	Kilometres
LGA	Local Government Area
LOR	Limit of Reporting (of corresponding laboratory analytical method)
m	Metres
mBGL	meters Below Ground Level
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
µg/L	Micrograms per Litre
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW	New South Wales
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage, NSW
OPP	Organophosphorus Pesticides
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons

PCB	Polychlorinated Biphenyls
PFAS	Per- or Poly- Fluoroalkyl Substances
pH	Potential (a measure of the acidity or basicity of an aqueous solution)
PID	Photo-Ionisation Detector
ppm	Parts per Million
PQL	Practical Quantitation Limit (limit of detection for a given laboratory method)
PSH	Phase-Separated Hydrocarbons
QA/QC	Quality Assurance / Quality Control
RL	Reduced Level
RPD	Relative Percentage Differences
SAQP	Sampling, Analytical and Quality Plan
SEPP	State Environmental Planning Policy
SGS	SGS Australia Pty Ltd
SIL	Soil Investigation Level
SOP	Standard Operating Procedures
SRA	Sample Receipt Advice (document confirming laboratory receipt of samples)
SWL	Standing Water Level
TB	Trip Blank
TEQ	Toxicity Equivalent Quotient
TPH	Total Petroleum Hydrocarbons (superseded term equivalent to TRH)
TRH	Total Recoverable Hydrocarbons (non-specific analysis of organic compounds)
UCL	Upper Confidence Limit (of the arithmetic mean)
UPSS	Underground Petroleum Storage System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compounds (specific organic compounds which are volatile)

Appendix A – Figures

1. Site Locality Plan
2. Sampling Location Plan



M.H Bestawros & P.V Bestawros
Detailed Site Investigation
14 Satelberg Street, Holsworthy, NSW
Site Locality Plan

Figure: 1

Project: E26316.E02

Drawn:	C.L.
Approved:	--
Date:	22-02-24
Scale:	Not To Scale

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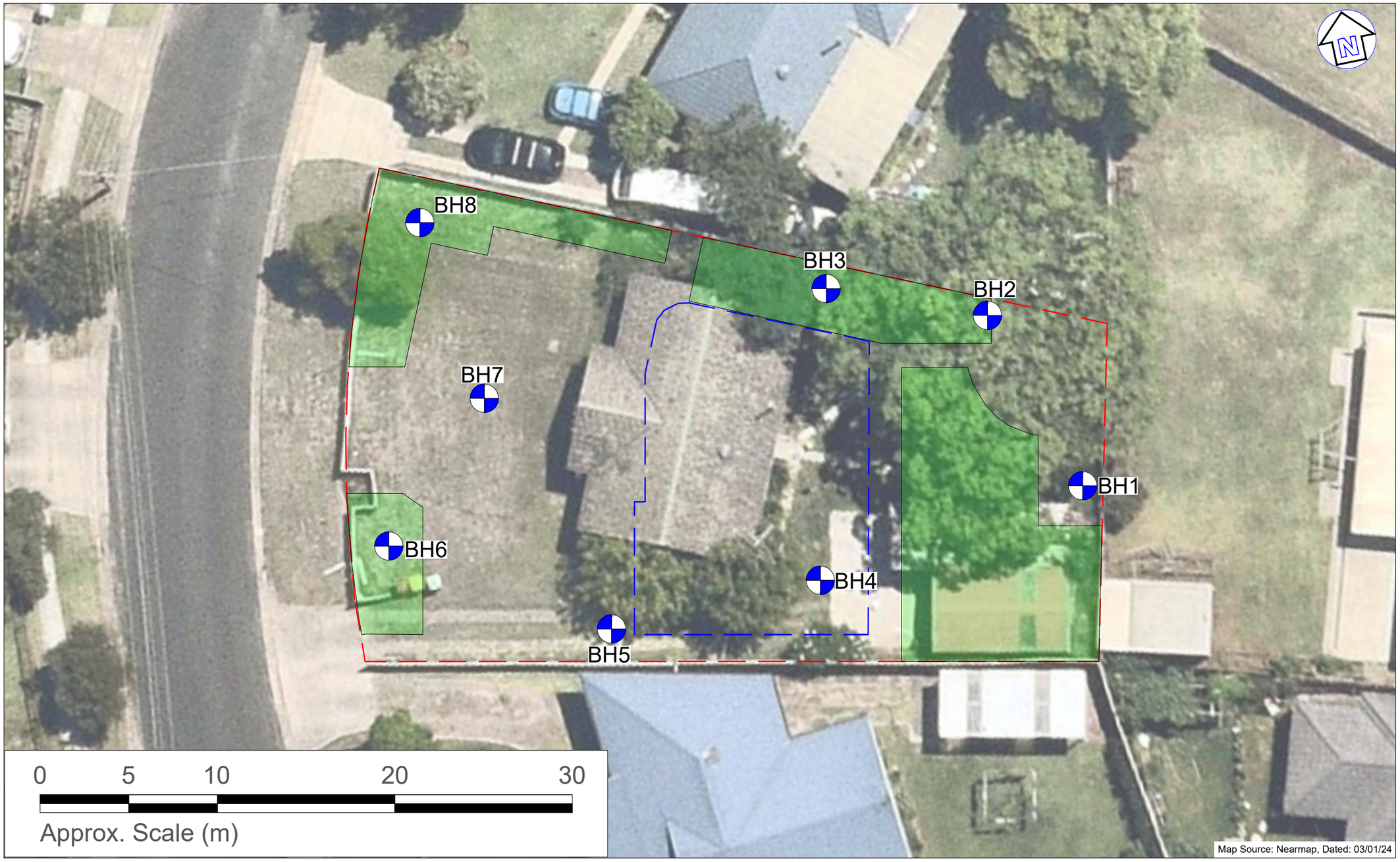

LEGEND (Note: All locations are approximate)

- Site boundary
- Proposed childcare centre footprint
- Proposed landscape area
- Borehole location (EI, 2024)

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Approved:	--
Date:	26-02-24

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14 Satelberg Street, Holsworthy, NSW

Site Sampling Plan

Figure: 2

Project: E26316.E02

Appendix B – Tables

1. Summary of Soil Analytical Results

E26316 - Holsworthy

Table B1 – Summary of Soil Investigation Results

Sample ID	Sampling Date	Priority Metals								PAHs				BTEX				TRHs				Pesticides		PCBs	Asbestos
		As	Cd	Cr#	Cu	Pb	Hg	Ni	Zn	Carcinogenic PAHs (as B(a)P TEQ)	Benzo(a)pyrene	Total PAHs	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	F1	F2	F3	F4	OCPs	OPPs		Presence / Absence
Fill																									
BH1_0.6-0.8	23/02/2024	1	<0.3	2.2	2.6	7	<0.05	1.8	15	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH2_0.1-0.3		<1	<0.3	2.2	2.5	5	<0.05	1.8	11	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH3_0.1-0.3		2	<0.3	6.9	4.3	12	<0.05	1.6	19	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH4_0.1-0.3		<1	<0.3	2.1	2.6	5	<0.05	2.1	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH5_0.15-0.35		1	<0.3	3.4	9	61	<0.05	4.1	30	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH6_0.05-0.2		<1	<0.3	1.6	2.1	9	<0.05	1	7.3	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH7_0.05-0.21		<1	<0.3	2	1.8	3	<0.05	3.6	5.3	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
BH8_0.62-0.82		<1	<0.3	1.9	1.6	2	<0.05	5.2	2.5	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	<1	<1.7	<1	Absent
Natural																									
BH1_1.1-1.3	23/02/2024	2	<0.3	6.5	3.2	5	<0.05	2.2	9.3	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA
BH5_0.95-1.15		6	<0.3	20	10	14	0.06	2.6	13	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA
BH7_0.82-0.98		4	<0.3	14	6.1	9	0.05	2.1	10	<0.3	<0.1	<0.8	<0.1	<0.1	<0.1	<0.1	<0.3	<25	<25	<90	<120	NA	NA	NA	NA
Statistical Analysis																									
Maximum concentration		6	<PQL	20	10	61	0.06	5.2	30	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	Absent
NEPM (2013) Criteria																									
HIL A - *Residential with garden / accessible soil*		100	20	100 Cr(VI)	6,000	300	40	400	7,400	3		300										240		1	
HSL A & B - Low to high density residential Soil texture classification – SAND [1]		Source depths (0 m to <1 m. BGL)											3	0.5	160	55	40	45	110						Presence / Absence
		Source depths (1 m to <2 m. BGL)											NL	0.5	220	NL	60	70	240						
		Source depths (2 m to <4 m. BGL)											NL	0.5	310	NL	95	110	440						
		Source depths (4 m + BGL)											NL	0.5	540	NL	170	200	NL						
EILs / ESLs - *Urban residential and public open space* [1 2]		100		190	60	1,100		30	70		0.7		170	50	85	70	45	180	120	300	2,800	180			
Management Limits – *Residential, parkland and public open space* [1]																		700	1,000	2,500	10,000				

Notes:

	Highlighted values exceed HIL / HSL
	Highlighted values exceed EIL / ESL
	Concentration exceeds highlighted criteria

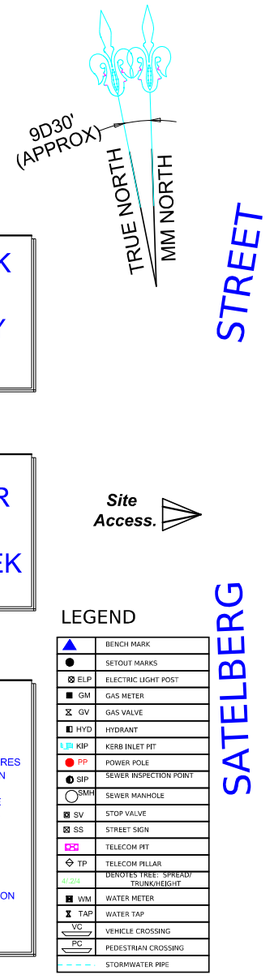
Results are recorded in mg/kg

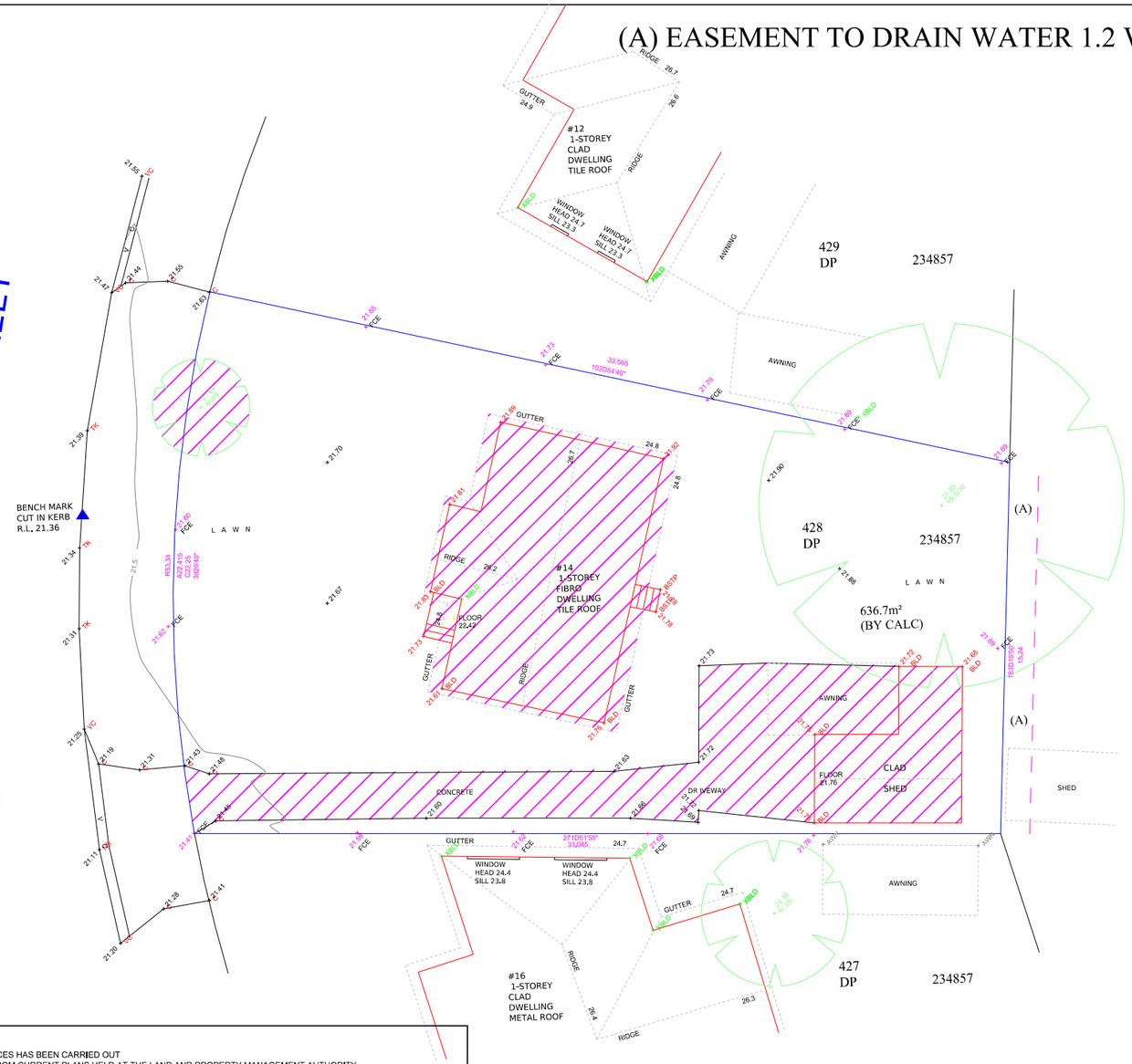
ASC NEPM	NEPC (2013) National Environmental Protection (Assessment of Site Contamination) Measure 1999 - Amendment 2013
HIL A	NEPC 1999 Amendment 2013 'HIL A' - Health Based Investigation Levels for Residential sites with garden / accessible soil, also includes children's day care centres, preschools and primary schools.
HSL A & B	NEPC 1999 Amendment 2013 'HSL A & B' Health Based Screening Levels applicable for vapour intrusion values applicable for low-high density residential settings.
EIL	Ecological Investigation Level for urban residential and public open space land use.
ESL	Ecology Screening Level for urban residential and public open space land use.
NA	Not Analysed
NL	Not Limiting' If the derived soil vapour limit exceeds the soil concentration at which the pore water phase cannot dissolve any more of the individual chemical
1	Coarse grained soil assessment criteria values were applied as a conservative approach.
2	EIL and ESL criteria is derived for the site using ASC NEPM Schedule B1, Tables 1B(1), 1B(2), 1B(3), 1B(4), 1B(5) and 1B(6)
F1	To obtain F1 subtract the sum of BTEX concentrations from the C6-C10 fraction.
F2	To obtain F2 subtract naphthalene from the >C10-C16 fraction.
F3	(>C16-C34)
F4	(>C34-C40)

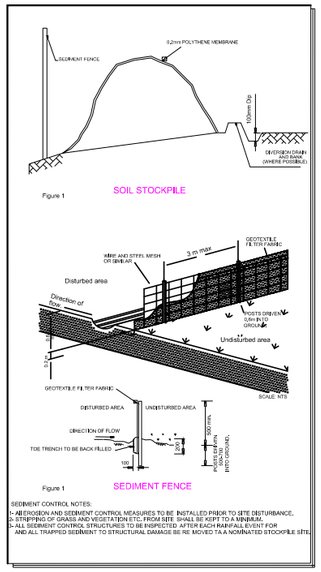
Appendix C – Proposed Development

NOTE :
Demolition methodology and waste management associated with the demolition component of the development in accordance with Page | 2 clause 92 of the Environmental Planning and Assessment Regulation 2000 and the provisions of AS 2601.

The EPA Regulations 2000 requires the consent authority to consider the provisions of the Building Code of Australia. This matter can be addressed via a condition of consent should this application be approved.
Clause 92 of the EPA Regulations 2000 requires the consent authority to consider AS 2601 - 1991: The Demolition of Structures. This matter can be addressed via a condition of consent should this application be approved.







DEMOLTION WORK HOURS:
MONDAY - FRIDAY
7AM - 5PM

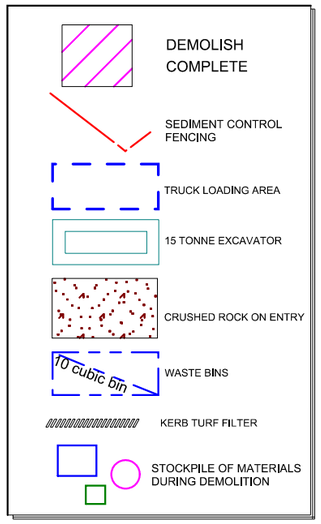
ESTIMATE TIME FOR DEMOLITION COMPLETION 1 WEEK

LEGEND

	BENCH MARK
	SETOUT MARKS
ELP	ELECTRIC LIGHT POST
GM	GAS METER
GV	GAS VALVE
HYD	HYDRANT
KIP	KERB INLET PIT
PP	POWER POLE
SIP	SEWER INSPECTION POINT
SMH	SEWER MANHOLE
SV	STOP VALVE
SS	STREET SIGN
	TELECOM PIT
TP	TELECOM PILLAR
H 24.0	DENOTES TREE: SPREAD/ TRUNK/HEIGHT
WM	WATER METER
TAP	WATER TAP
VC	VEHICLE CROSSING
PC	PEDESTRIAN CROSSING
	STORMWATER PIPE

NOTES

1. ALL RUN OFF AND SEDIMENT CONTROL STRUCTURES WILL BE MAINTAINED IN A FUNCTIONAL CONDITION
2. REVEGETATION WORKSHAY MULCHING MUST USE STRAW THAT IS GUARANTEED WEED FREE AND A "DRYLAND" SEED MIXTURE IN ALL APPLICATIONS
3. AREAS NOT USED FOR BUILDING SHOULD BE RETAINED WITH VEGETATION
4. REVEGETATION ON RETAIN CUT AND FILLS AS SOON AS POSSIBLE DURING CONSTRUCTION



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NOTES

HAVE NOT BEEN MARKED
NO SURVEY OF UNDERGROUND SERVICES HAS BEEN CARRIED OUT
BOUNDARIES HAVE BEEN COMPILED FROM CURRENT PLANS HELD AT THE LAND AND PROPERTY MANAGEMENT AUTHORITY
CONTOURS ARE INDICATIVE OF TOPOGRAPHY AND CANNOT BE USED TO INFER REDUCED LEVELS AT ANY POINT
THIS SURVEY IS FOR DESIGN PURPOSES ONLY AND IS NOT TO BE USED FOR ANY CONSTRUCTION
DATA MAY BE CAPTURED BY INDIRECT MEANS AND IS TO A STANDARD OF ACCURACY APPROPRIATE FOR THIS TYPE OF SURVEY
ALL FEATURES, LEVELS AND CONTOURS SHOWN ON ADJOINING LOTS ARE INDICATIVE ONLY
THIS SURVEY IS NOT TO BE USED TO DETERMINE THE LOCATION OF BOUNDARIES
ORIGIN OF LEVELS WAS OBTAINED FROM SSM 70983 R.L. 21.141 AHD

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E		
D		
C		
B		
A	30/12/22	DA SUBMISSION

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DEMOLITION & EXISTING SITE PLAN

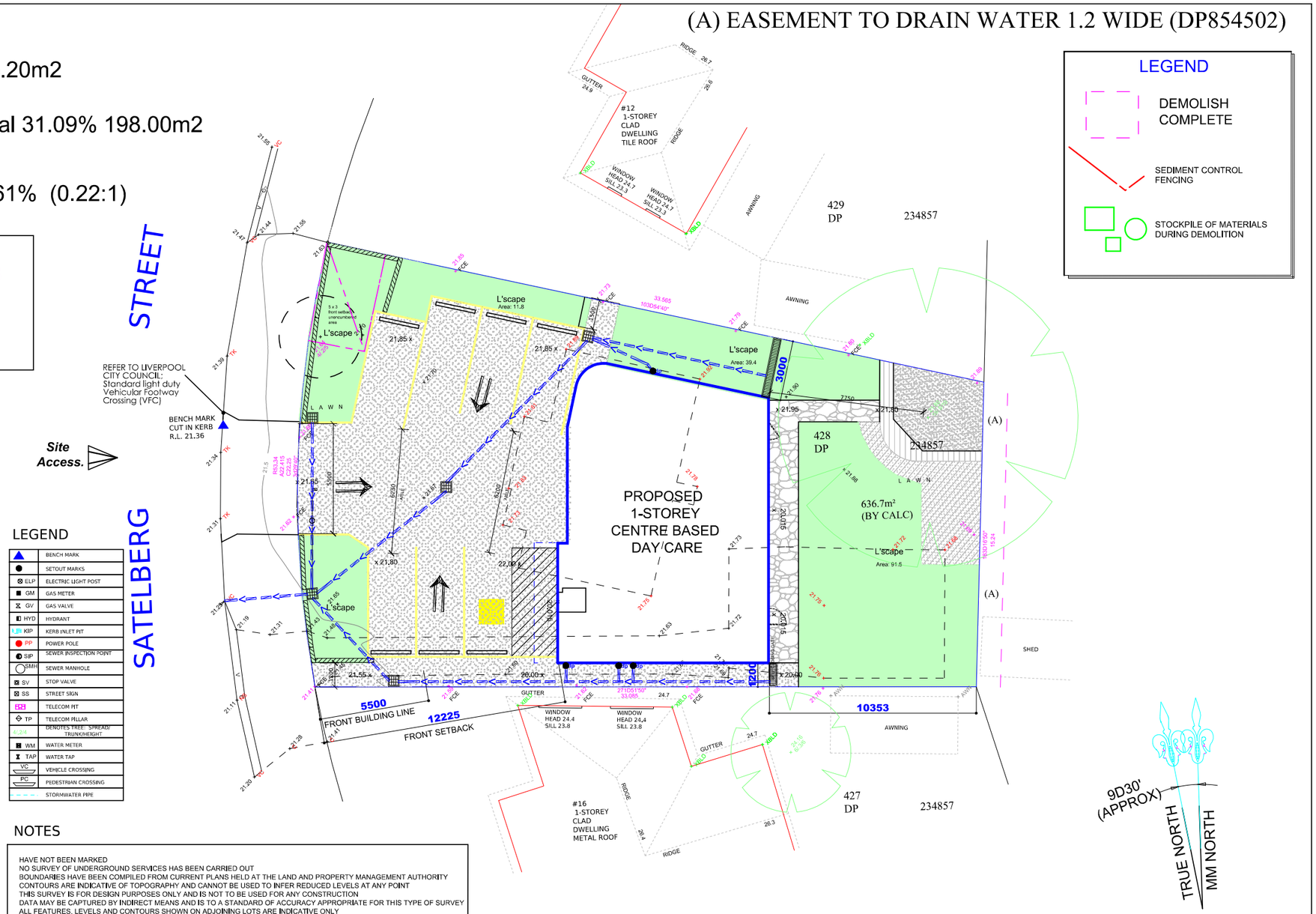
Scale:	Drawn By:	Drawing No.
1:200	dbb	01
Date: 13/03/22	Issue: DA-A	

50% Of front Building Line

Actual 110.40m2 Actual 55.20m2
Site 636.70m2
Lscape 25% = 159.17 Actual 31.09% 198.00m2

Site 636.70m2
FSR 137.60m2 Actual 21.61% (0.22:1)

REFER TO SHEET 03
FOR CARPARK
DIMENSIONS



LEGEND

BM	BENCH MARK
SO	SETOUT MARKS
ELP	ELECTRIC LIGHT POST
GM	GAS METER
GV	GAS VALVE
HYD	HYDRANT
KIP	KERB INLET PIT
PP	POWER POLE
SIP	SEWER INSPECTION POINT
SMH	SEWER MANHOLE
SV	STOP VALVE
SS	STREET SIGN
TP	TELECOM PIT
TP	TELECOM PILLAR
6/2/4	DENOTES TREE: SPREAD/ TRUNK/HEIGHT
WM	WATER METER
TAP	WATER TAP
VC	VEHICLE CROSSING
PC	PEDESTRIAN CROSSING
	STORMWATER PIPE

NOTES

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PROPOSED SITE PLAN

Scale:	Drawn By:	Drawing No.
1:200	dbb	02
Date: 13/03/22	Issue: DA-A	

Health and amenity: -
- Wet areas - Part 3.8.1 of the NCC (Volume 2) and AS 3740 (2004) Waterproofing of wet areas in residential buildings
- Kitchen, sanitary and washing facilities - Parts 3.8.3.2 and 3.8.3.3 of NCC 2019 (Volume 2)
- Natural and artificial light - Parts 3.8.4 of NCC 2019 (Volume 2)
- Mechanical Ventilation to exterior **LAUNDRY, POWDER Rm, KITCHEN**, **BATHROOM and ENSUITE** Part 3.8.5 of NCC 2019 (Volume 2)

Floor Plan Legend	
	Proposed Ground/ Floor Level
CSD	Cavity Sliding Door
CT	Ceramic Tiling
DP	Downpipe
DR	Drain
FW	Floor Waste
GA	Gas Point
LOH	Lift Of Hinges
RT	Selected Roof Tiles
SF	Selected Flooring
STC	Steel Troweled Concrete
TFT	Terra-Cotta FloorTiles
PTF	Polished Timber Flooring
SA	Smoke Alarms AS3786-2014

Window Schedule

Mark	Height	Width	Description	Count
1	1200	610	1200 X 610 mm Fixed Windows	1
2	1000	610	1000 X 610 mm Hung Windows	1
3	1200	1810	1200 X 1810 mm Fixed Windows	2
4	1800	610	1800 X 610 mm Hung Windows	1
5	1000	1210	1000 X 1210 mm Sliding Windows	1
6	2100	1510	2100 X 1510 mm Sliding Windows	2
7	1050	1510	1050 X 1510 mm Fixed Windows	2
8	1050	4446	1050 X 4446 mm Fixed Windows	1
9	1000	610	1000 X 610 mm Hung Windows (OBS.)	1
10	1800	610	1800 X 610 mm Hung Windows	3
11	1200	1000	1200 X 1000 mm Fixed Windows	2
12	1100	4000	900/1100 x 4000 Angled Highlight	1
13	1200	1210	1200 X 1210 mm Fixed Windows	1

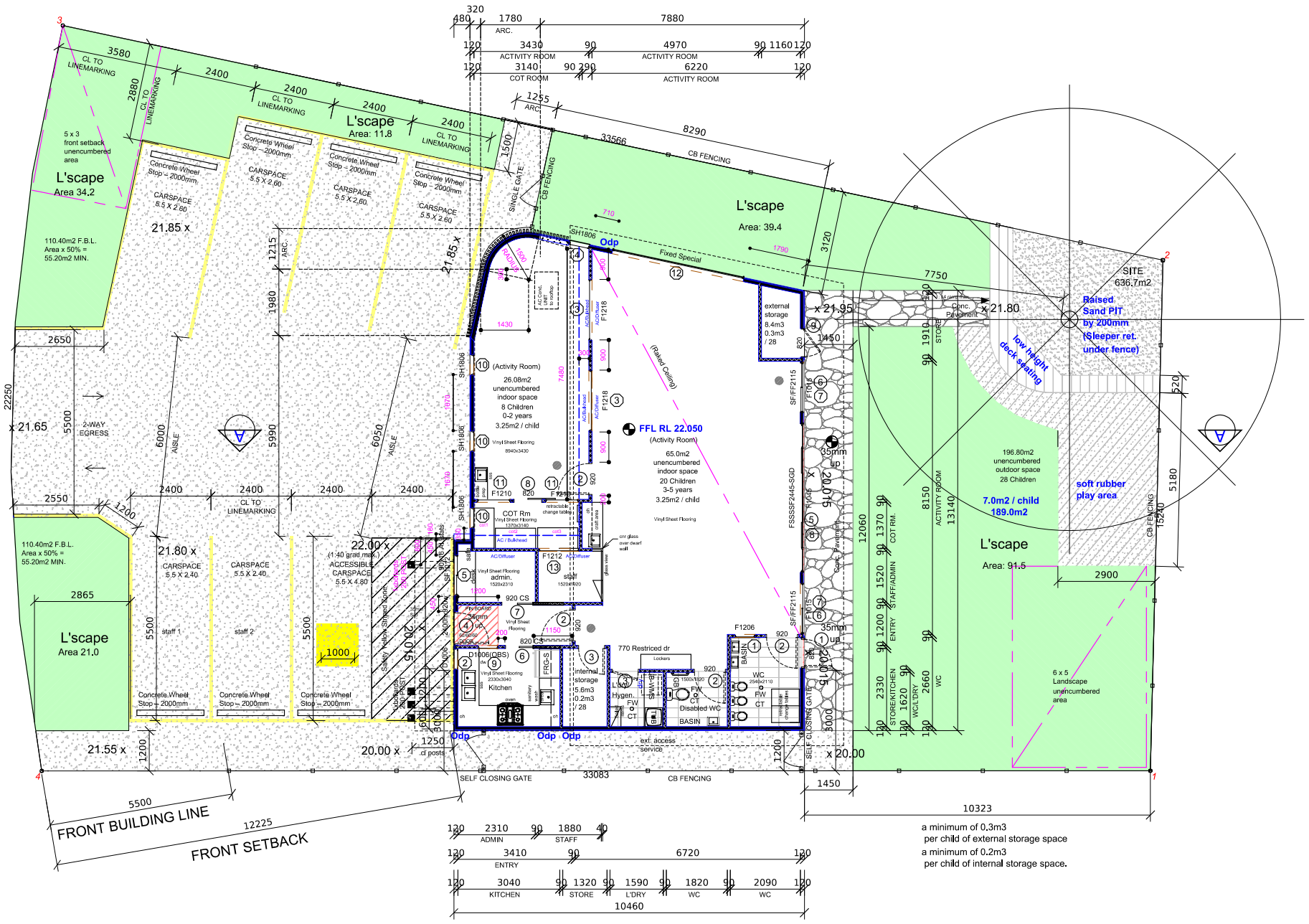
Door Schedule

Mark	Height	Width	Description	Count
1	2400		90 x 2040 x 820mm - Hinged - Rear Entrance Door	1
2	2040		90 x 2040 x 920mm - Int. Hinged Door	4
3	2040		90 x 2040 x 770mm - Int. Hinged Door	2
4	2400		90 x 2400 x 920mm - Hinged - Entrance Door	1
5	2400		2400 mm X 4446 mm Sliding Glass Door	1
6	2040		90 x 2040 x 820mm Cavity Slider	1
7	2040		90 x 2040 x 920mm Cavity Slider	1
8	2040		90 x 2040 x 820mm Face of Wall Sliding Door	1
9	2400		90 x 2400 x 820mm Rear Storage Door	1

Site 636.70m2
FSR 137.60m2 Actual 21.61% (0.22:1)

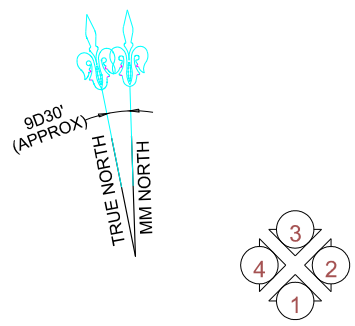
50% Of front Building Line
Actual 110.40m2 Actual 55.20m2

Site 636.70m2
Lscape 25% = 159.17 Actual 31.09% 198.00m2



a minimum of 0.3m3 per child of external storage space
a minimum of 0.2m3 per child of internal storage space.

5 no. Early Childhood Teacher requirements in accordance to Australian Childrens Education & care Quality Authority



NOTE:
* ALL DOWNPIPES TO BE IN ACCORDANCE WITH HYDRAULIC ENGINEERS DETAILS
* ALL STEEL BEAMS & TIMBER BEAMS TO BE IN ACCORDANCE WITH ENGINEERS DETAILS.
* ALL ARTICULATION JOINTS TO BE IN ACCORDANCE WITH ENGINEERS DETAILS

0 1 2 3 4 5 8
1:100

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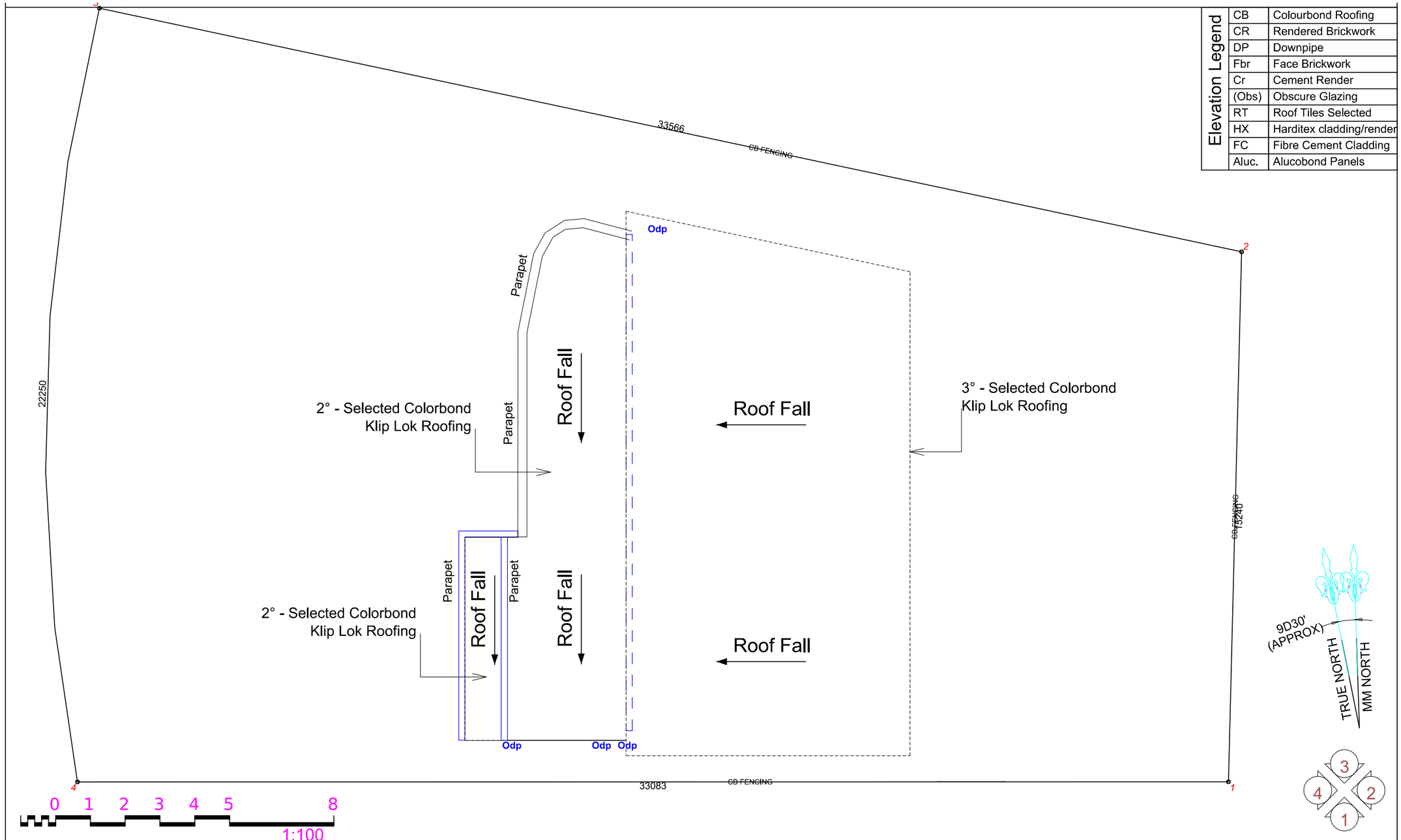
GROUND FLOOR PLAN

Scale:	Drawn By:	Drawing No.
1:100	dbb	03
Date: 13/03/22	Issue: DA-A	



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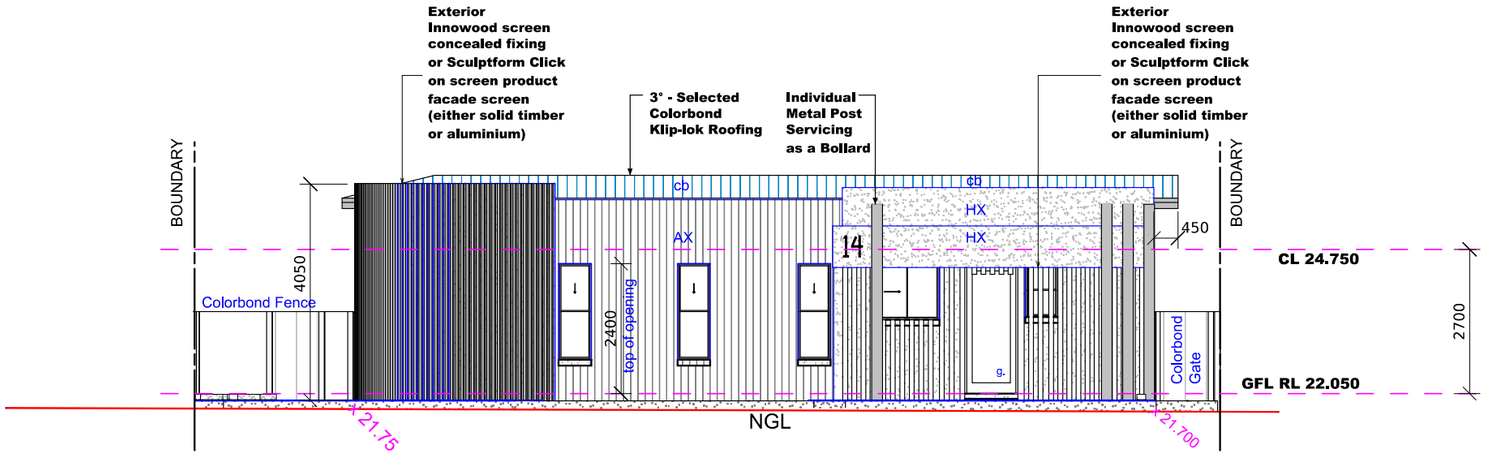
ROOF FLOOR PLAN

Scale:	Drawn By:	Drawing No.
1:100	dbb	04
Date: 13/03/22	Issue: DA-A	

Elevation Legend		
	CB	Colourbond Roofing
	HX	Harditex cladding/render
	(Obs)	Obscure Glazing
	Ax	Axon vertical cladding
	Apol.	Apolic Cladding



WEST ELEVATION

FRONT ELEVATION

(TO SATELBERG STREET)

0 1 2 3 4 5 8
1:100

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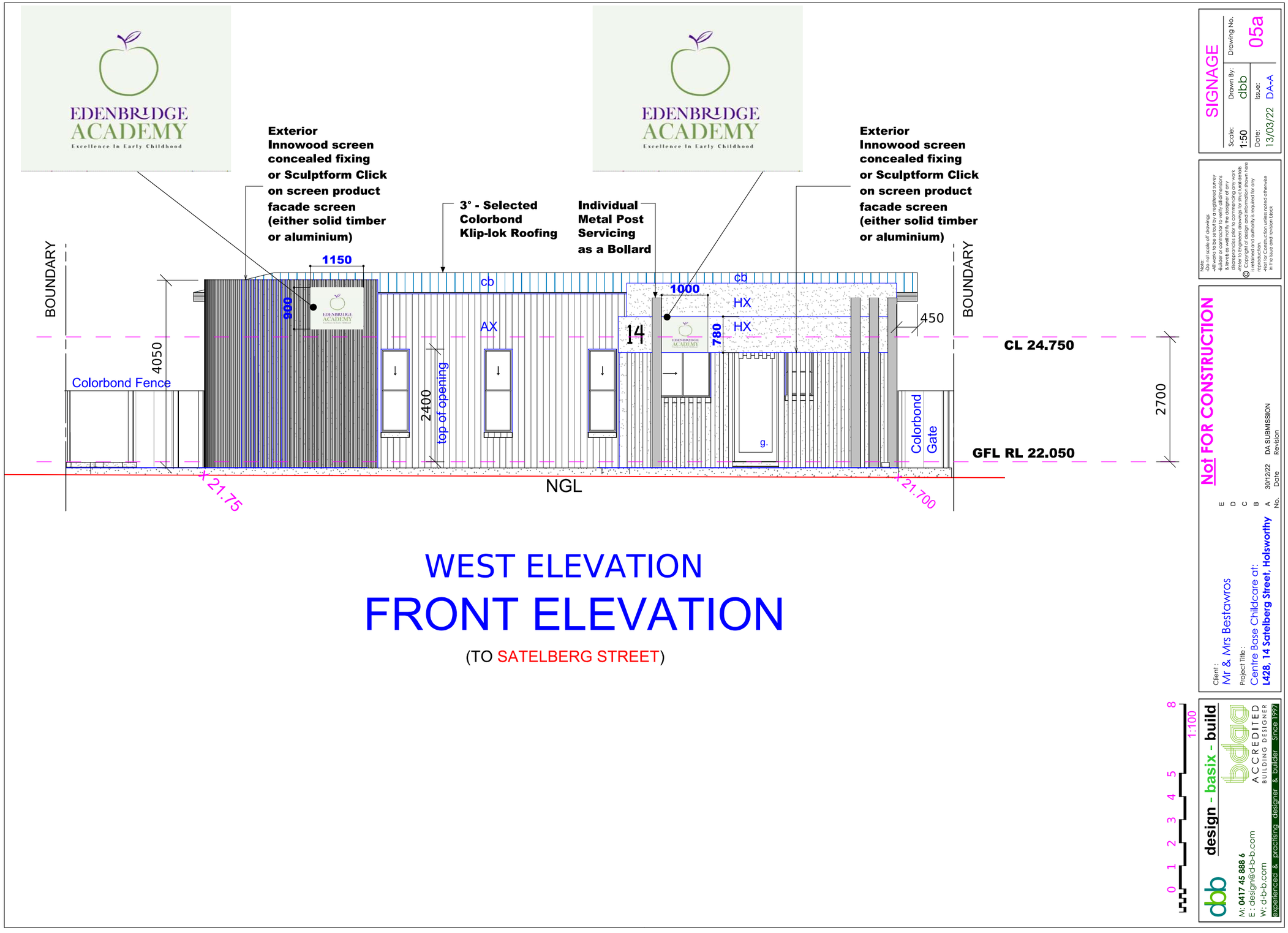
FRONT ELEVATION

Scale:	Drawn By:	Drawing No.
1:100	dbb	05
Date: 13/03/22	Issue: DA-A	


EDENBRIDGE ACADEMY
Excellence In Early Childhood
Exterior Innowood screen concealed fixing or Sculptform Click on screen product facade screen (either solid timber or aluminium)
3° - Selected Colorbond Klip-lok Roofing
Individual Metal Post Servicing as a Bollard
1150
900
1000
780
450
cb
AX
HX
14
BOUNDARY
4050
Colorbond Fence
2400
top of opening
Colorbond Gate
CL 24.750
GFL RL 22.050
2700
NGL
X21.75
X21.700
WEST ELEVATION
FRONT ELEVATION
(TO SATELBERG STREET)
SIGNAGE
Scale: 1:50
Drawn By: dbb
Drawing No. 05a
Date: 13/03/22
Issue: DA-A
Not FOR CONSTRUCTION
DA SUBMISSION
Revision
Date
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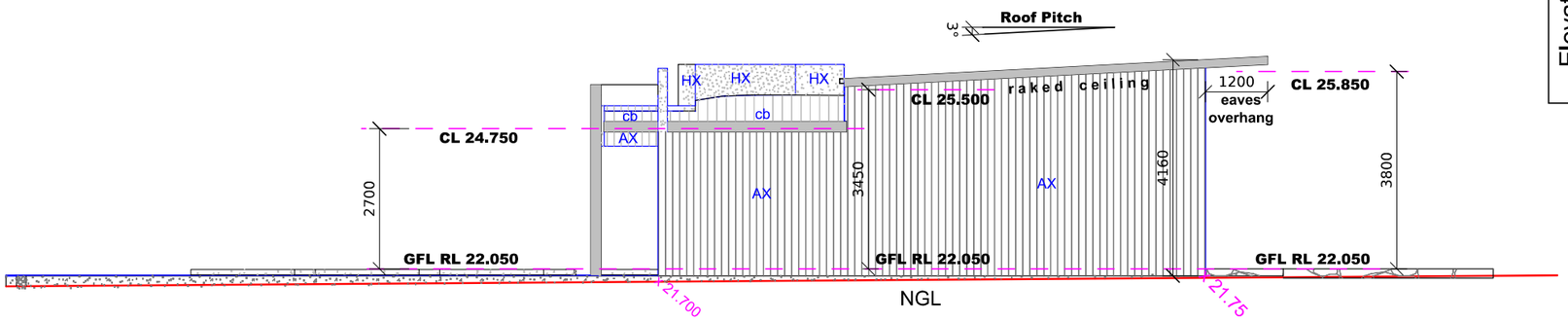
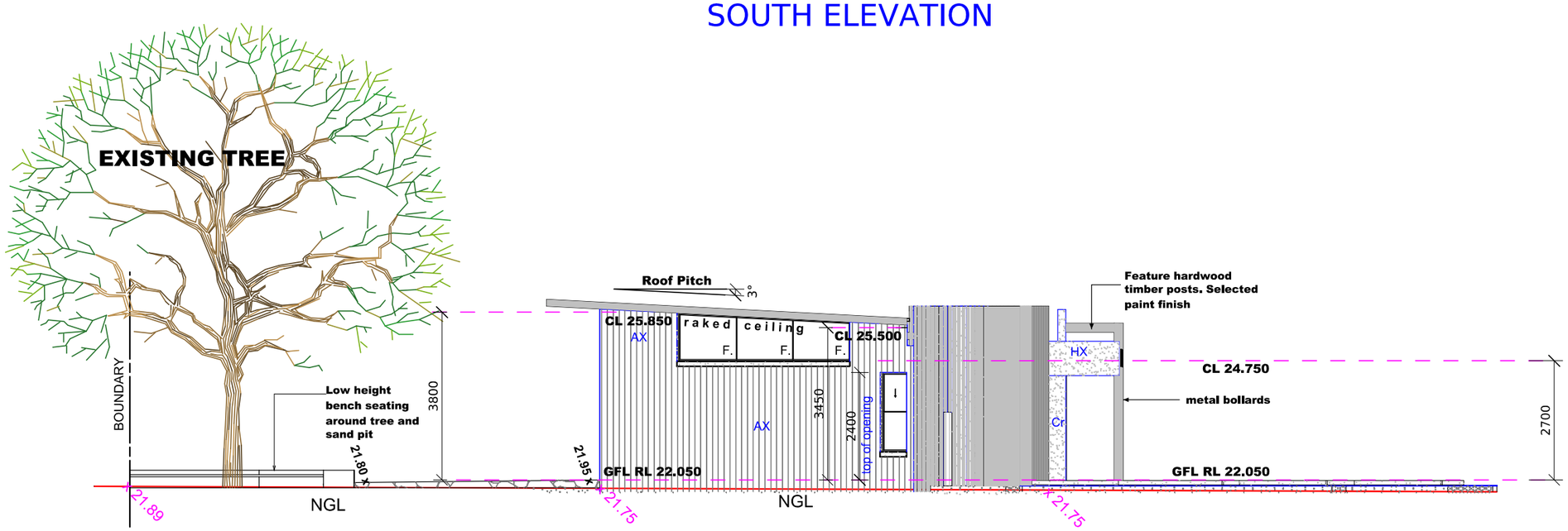
Elevation Legend		
	CB	Colourbond Roofing
	CR	Rendered Brickwork
	Cr	Cement Render
	Ax	Axon vertical cladding
	Apol.	Apolic Cladding
	(Obs)	Obscure Glazing
	HX	Harditex cladding/render



SOUTH ELEVATION



NORTH ELEVATION

0 1 2 3 4 5 8
1:100

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ELEVATIONS

Scale:	Drawn By:	Drawing No.
1:100	dbb	06
Date:	Issue:	
13/03/22	DA-A	

Elevation Legend		
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	CR	Rendered Brickwork
	Cr	Cement Render
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	Apol.	Apolic Cladding
	(Obs)	Obscure Glazing
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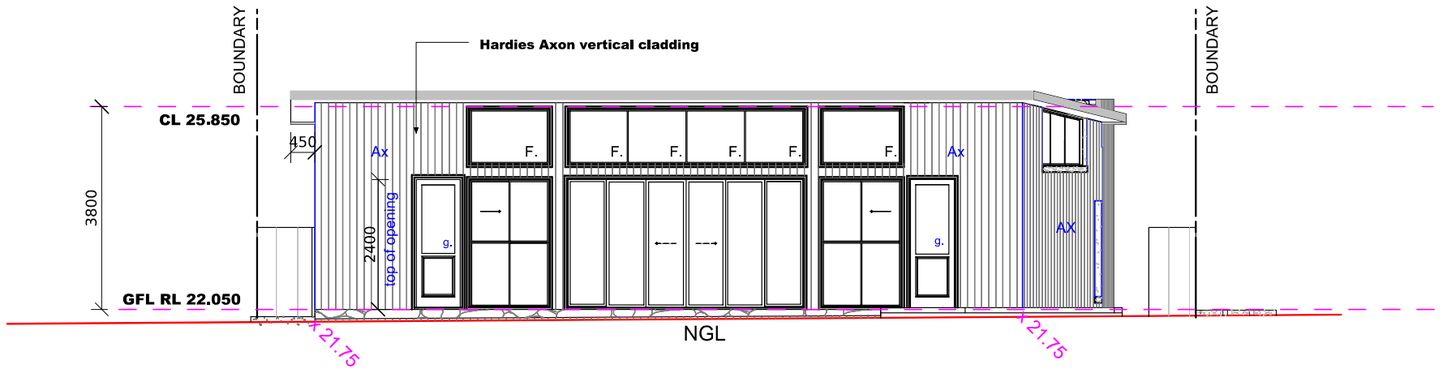
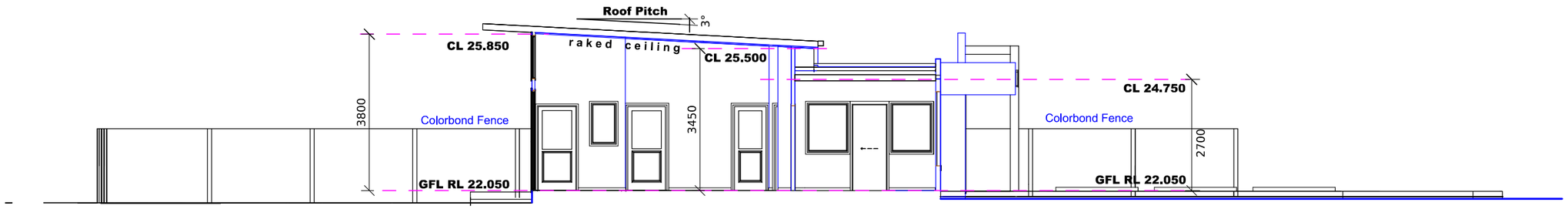


EAST ELEVATION



SECTION A - A

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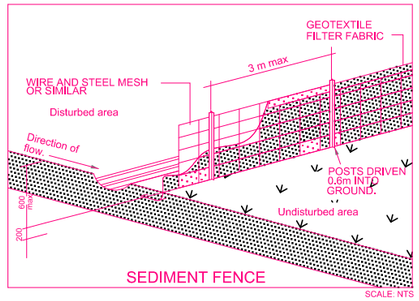
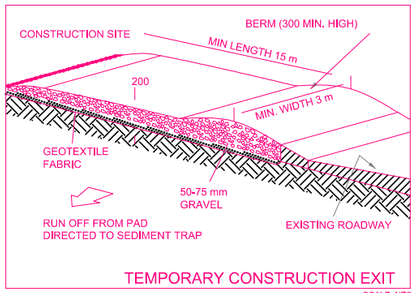
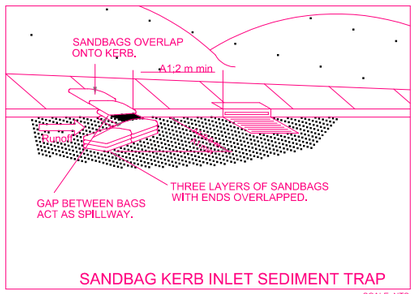
REAR ELEVATION / SECTION

Scale:	Drawn By:	Drawing No.
1:100	dbb	07
Date:	Issue:	
13/03/22	DA-A	



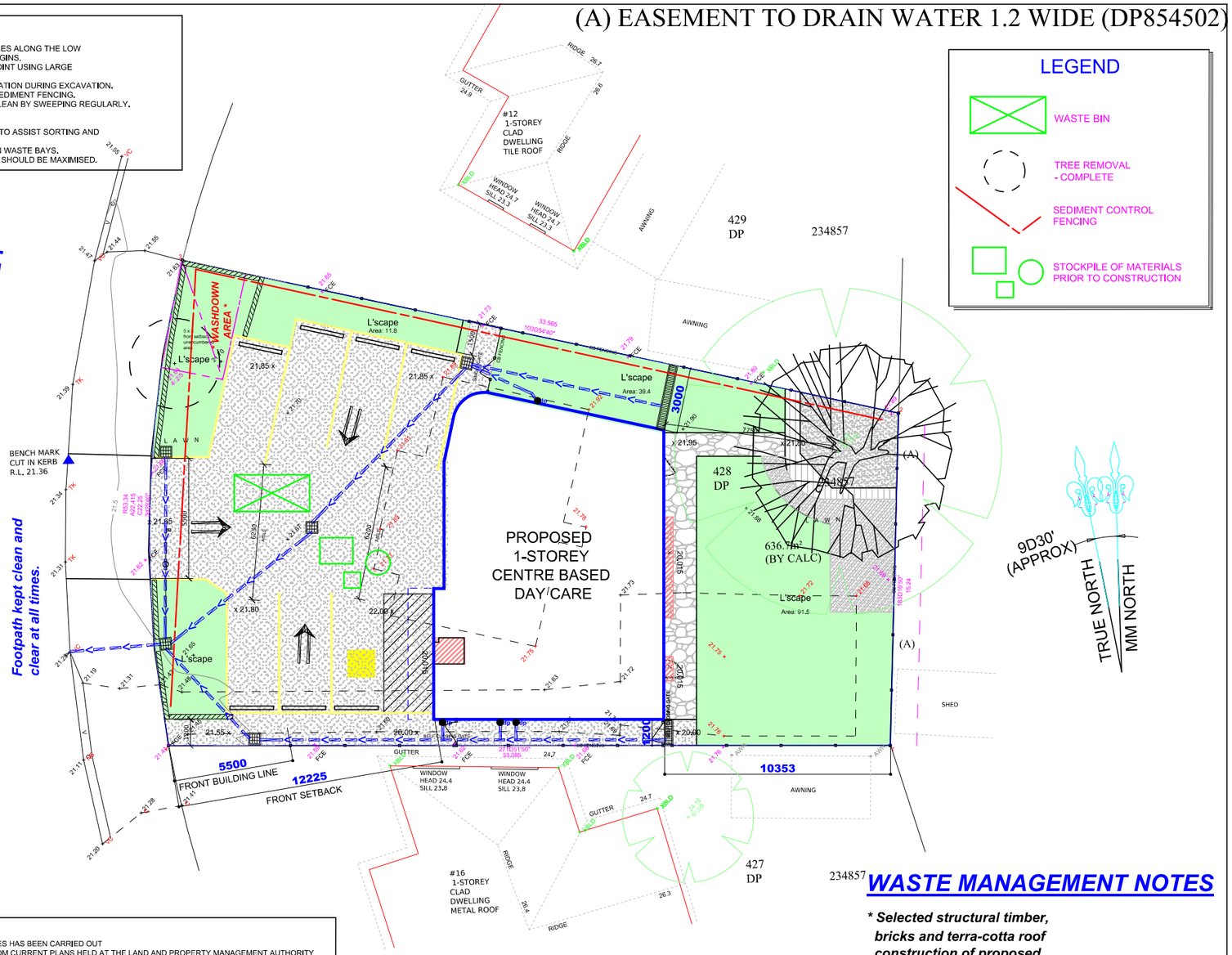




WARNING

SOIL & WATER:
* INSTALL SEDIMENT CONTROL FENCES ALONG THE LOW SIDE OF THE SITE BEFORE WORK BEGINS.
* STABILISE A SINGLE ENTRY/EXIT POINT USING LARGE AGGREGATE.
* MINIMISE DISTURBANCE OF VEGETATION DURING EXCAVATION.
* PLACE SOIL STOCKPILES BEHIND SEDIMENT FENCING.
* KEEP THE ROAD AND FOOTPATH CLEAN BY SWEEPING REGULARLY.

WASTE:
* CONSTRUCT TWO (2) WASTE BAYS TO ASSIST SORTING AND RECYCLING OF WASTE.
* ALL WASTE MUST BE CONTAINED IN WASTE BAYS.
* REUSE AND RECYCLING OF WASTE SHOULD BE MAXIMISED.



LEGEND

	BENCH MARK
	SETOUT MARKS
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GM	GAS METER
GV	GAS VALVE
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KIP	KERB INLET PIT
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TP	TELECOM PILLAR
	DENOTES TREE: SPREAD/ TRUNK/HEIGHT
WM	WATER METER
TAP	WATER TAP
VC	VEHICLE CROSSING
PC	PEDESTRIAN CROSSING
	STORMWATER PIPE

LEGEND

- WASTE BIN
- TREE REMOVAL - COMPLETE
- SEDIMENT CONTROL FENCING
- STOCKPILE OF MATERIALS PRIOR TO CONSTRUCTION

WARNING

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* REUSE AND RECYCLING OF WASTE SHOULD BE MAXIMISED.

EROSION CONTROL:
All disturbed areas shall be progressively stabilised and/or revegetated so that no areas remain exposed to potential erosion damage for a period of greater than 14 days.

NOTES

HAVE NOT BEEN MARKED
NO SURVEY OF UNDERGROUND SERVICES HAS BEEN CARRIED OUT
BOUNDARIES HAVE BEEN COMPILED FROM CURRENT PLANS HELD AT THE LAND AND PROPERTY MANAGEMENT AUTHORITY
CONTOURS ARE INDICATIVE OF TOPOGRAPHY AND CANNOT BE USED TO INFER REDUCED LEVELS AT ANY POINT
THIS SURVEY IS FOR DESIGN PURPOSES ONLY AND IS NOT TO BE USED FOR ANY CONSTRUCTION
DATA MAY BE CAPTURED BY INDIRECT MEANS AND IS TO A STANDARD OF ACCURACY APPROPRIATE FOR THIS TYPE OF SURVEY
ALL FEATURES, LEVELS AND CONTOURS SHOWN ON ADJOINING LOTS ARE INDICATIVE ONLY
THIS SURVEY IS NOT TO BE USED TO DETERMINE THE LOCATION OF BOUNDARIES
ORIGIN OF LEVELS WAS OBTAINED FROM SSM 70983 R.L. 21.141 AHD

WASTE MANAGEMENT NOTES

**** Selected structural timber, bricks and terra-cotta roof construction of proposed residence.***

**** Disposal of demolition materials to waste disposal centre.***

dbb **design - basix - build**

M: **0417 45 888 6**
E : design@d-b-b.com
W: d-b-b.com

bdaa ACCREDITED BUILDING DESIGNER

experienced & practising designer & builder Since 1997

Client :
Mr & Mrs Bestawros

Project Title :
Centre Base Childcare at:
L428, 14 Satelberg Street, Holsworthy

Not FOR CONSTRUCTION

No.	Date	Revision
E		
D		
C		
B		
A	30/12/22	DA SUBMISSION

Note:
-Do not scale off drawings
-All works to be setout by a registered survey
-Builder or contractor to verify all dimensions & levels as well notify the designer of any discrepancies prior to commencing any work
-Refer to Engineers drawings for structural details

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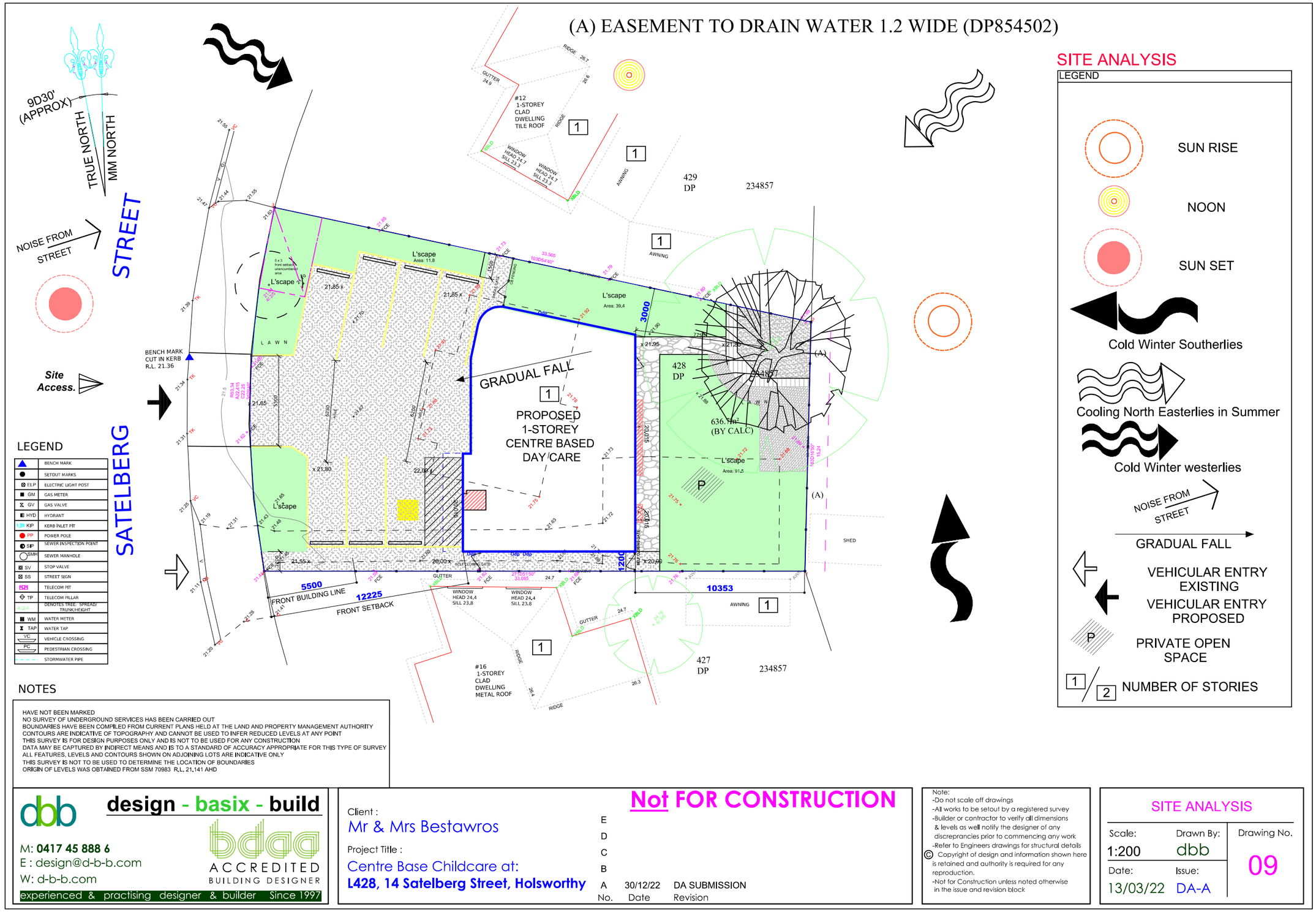
-Not for Construction unless noted otherwise in the issue and revision block

SOIL EROSION & WASTE MANAGMENT PLAN

Scale:	Drawn By:	Drawing No.
1:200	dbb	08
Date: 13/03/22	Issue: DA-A	


(A) EASEMENT TO DRAIN WATER 1.2 WIDE (DP854502)
9D30' (APPROX)
TRUE NORTH
MM NORTH
NOISE FROM STREET
STREET
Site Access.
SATELBERG
BENCH MARK CUT IN KERB R.L. 21.36
GRADUAL FALL
PROPOSED 1-STOREY CENTRE BASED DAY CARE
L'scape
L A W N
FRONT BUILDING LINE
FRONT SETBACK
5500
12225
10353
3000
1200
#12 1-STOREY CLAD DWELLING TILE ROOF
#16 1-STOREY CLAD DWELLING METAL ROOF
429 DP 234857
428 DP 234857
427 DP 234857
636.1m² (BY CALC)
AWNING
GUTTER
RIDGE
WINDOW HEAD 24,4 SILL 23,8
SHED
SITE ANALYSIS
LEGEND
SUN RISE
NOON
SUN SET
Cold Winter Southerlies
Cooling North Easterlies in Summer
Cold Winter westerlies
NOISE FROM STREET
GRADUAL FALL
VEHICULAR ENTRY EXISTING
VEHICULAR ENTRY PROPOSED
PRIVATE OPEN SPACE
NUMBER OF STORIES
LEGEND
BENCH MARK
SETOUT MARKS
ELECTRIC LIGHT POST
GAS METER
GAS VALVE
HYDRANT
KERB INLET PIT
POWER POLE
SEWER INSPECTION POINT
SEWER MANHOLE
STOP VALVE
STREET SIGN
TELECOM PIT
TELECOM PILLAR
DENOTES TREE: SPREAD/ TRUNK/HEIGHT
WATER METER
WATER TAP
VEHICLE CROSSING
PEDESTRIAN CROSSING
STORMWATER PIPE
NOTES
HAVE NOT BEEN MARKED
NO SURVEY OF UNDERGROUND SERVICES HAS BEEN CARRIED OUT
BOUNDARIES HAVE BEEN COMPILED FROM CURRENT PLANS HELD AT THE LAND AND PROPERTY MANAGEMENT AUTHORITY
CONTOURS ARE INDICATIVE OF TOPOGRAPHY AND CANNOT BE USED TO INFER REDUCED LEVELS AT ANY POINT
THIS SURVEY IS FOR DESIGN PURPOSES ONLY AND IS NOT TO BE USED FOR ANY CONSTRUCTION
DATA MAY BE CAPTURED BY INDIRECT MEANS AND IS TO A STANDARD OF ACCURACY APPROPRIATE FOR THIS TYPE OF SURVEY
ALL FEATURES, LEVELS AND CONTOURS SHOWN ON ADJOINING LOTS ARE INDICATIVE ONLY
THIS SURVEY IS NOT TO BE USED TO DETERMINE THE LOCATION OF BOUNDARIES
ORIGIN OF LEVELS WAS OBTAINED FROM SSM 70983 R.L. 21.141 AHD
dbb
design - basix - build
M: 0417 45 888 6
E : design@d-b-b.com
W: d-b-b.com
bdaa ACCREDITED BUILDING DESIGNER
experienced & practising designer & builder Since 1997
Client :
Mr & Mrs Bestawros
Project Title :
Centre Base Childcare at:
L428, 14 Satelberg Street, Holsworthy
Not FOR CONSTRUCTION
E
D
C
B
A 30/12/22 DA SUBMISSION
No. Date Revision
Note:
-Do not scale off drawings
-All works to be setout by a registered survey
-Builder or contractor to verify all dimensions & levels as well notify the designer of any discrepancies prior to commencing any work
-Refer to Engineers drawings for structural details
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-Not for Construction unless noted otherwise in the issue and revision block
SITE ANALYSIS
Scale: 1:200
Drawn By: dbb
Drawing No. 09
Date: 13/03/22
Issue: DA-A

dbb design - basix - build
M: 0417 45 888 6
E : design@d-b-b.com
W: d-b-b.com
bdaa ACCREDITED BUILDING DESIGNER
experienced & practising designer & builder Since 1997

Client :
Mr & Mrs Bestawros

Project Title :
Centre Base Childcare at:
L428, 14 Satelberg Street, Holsworthy

Not FOR CONSTRUCTION

No.	Date	Revision
E		
D		
C		
B		
A	30/12/22	DA SUBMISSION

Note:
-Do not scale off drawings
-All works to be setout by a registered survey
-Builder or contractor to verify all dimensions & levels as well notify the designer of any discrepancies prior to commencing any work
-Refer to Engineers drawings for structural details

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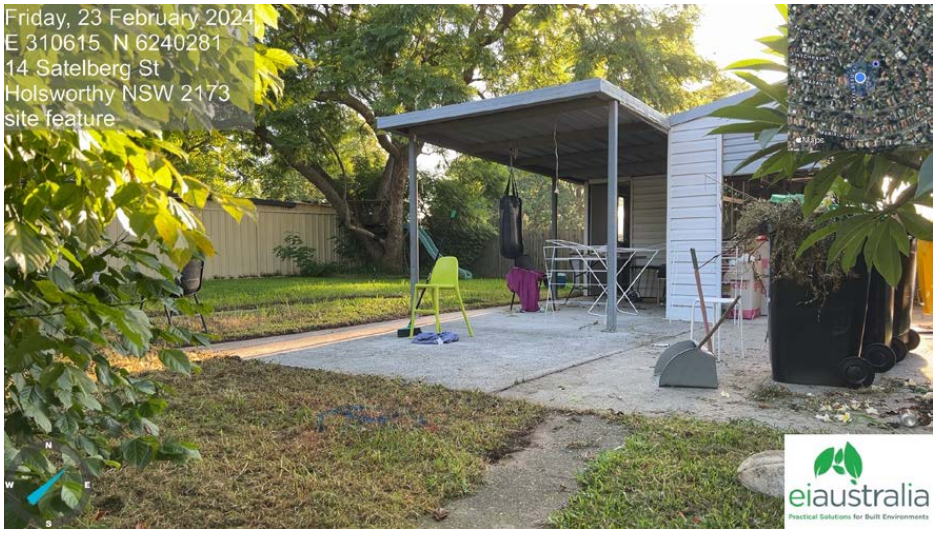
COLORBOARD

Scale:	Drawn By:	Drawing No.
NTS	dbb	CB
Date: 13/03/22	Issue: DA-A	

Appendix D – Site Photographs

Photograph 1: Front yard of the site, facing east.



Photograph 2: Back yard of the site, facing northeast.

Photograph 3: Crack on concrete stairs.

Photograph 4: Peeling paints at window frames (potential lead-based paint).

Photograph 5: The single storey residential dwelling with external fibre cement cladding (potential ACM) and concrete tile roof (potential ACM).

Photograph 6: Garage and metal shed.

Photograph 7: Fence around the boundary of the site.

Photograph 8: Vegetation presented on site.

Appendix E – Borehole Logs

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BOREHOLE LOG

BH ID: BH1

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH1_0.10-0.30 PID = 0.1 PPM		0.00			FILL: Silty SAND: fine grained, pale brown to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH1_0.60-0.80 QD1 and QT1 PID = 0.0 PPM		0.50			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH1_1.10-1.30 PID = 0.0 PPM		1.00			Sandy CLAY: low to medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
							Terminated at 1.35m. Target Depth Reached.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

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BOREHOLE LOG

BH ID: BH2

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH2_0.10-0.30 PID = 0.1 PPM		0.00			FILL: Silty SAND: fine grained, pale brown to dark grey, with rootlets, sub-angular to angular gravels, No odour			FILL
		BH2_0.70-0.90 PID = 0.0 PPM		0.50			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour	D - M		
				1.15			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour Terminated at 1.20m. Refusal on tree roots.	D		RESIDUAL SOIL

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

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BOREHOLE LOG

BH ID: BH3

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH3_0.10-0.30 PID = 0.1 PPM		0.00			FILL: Silty SAND: fine grained, pale grey to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH3_0.60-0.80 PID = 0.0 PPM		0.50			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH3_1.01-1.20 PID = 0.0 PPM		1.00			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
							Terminated at 1.25m. Target Depth Reached.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

eiaustralia

BOREHOLE LOG

BH ID: BH4

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH4_0.10-0.30 PID = 0.3 PPM		0.00			FILL: Silty SAND: fine grained, pale grey to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH4_0.70-0.90 PID = 0.1 PPM		0.50			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH4_1.05-1.25 PID = 0.0 PPM		1.00			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
							Terminated at 1.30m. Target Depth Reached.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

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BOREHOLE LOG

BH ID: BH5

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH5_0.15-0.35 PID = 0.7 PPM		0.00			FILL: Silty SAND: fine grained, pale grey to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH5_0.65-0.85 PID = 0.2 PPM		0.50			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH5_0.95-1.15 PID = 0.0 PPM		0.90 1			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
							Terminated at 1.20m. Target Depth Reached.			
				2						
				3						
				4						
				5						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

eiaustralia

BOREHOLE LOG

BH ID: BH6

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH6_0.05-0.20 PID = 0.1 PPM		0.00			FILL: Silty SAND: fine grained, pale grey to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH6_0.50-0.72 PID = 0.1 PPM		0.40			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH6_0.88-1.07 PID = 0.0 PPM		0.80 1			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
							Terminated at 1.10m. Target Depth Reached.			

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

eiaustralia

BOREHOLE LOG

BH ID: BH7

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH7_0.05-0.21 PID = 0.1 PPM		0.00			FILL: Silty SAND: fine grained, pale grey to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH7_0.55-0.73 PID = 0.1 PPM		0.40			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH7_0.82-0.98 PID = 0.0 PPM		0.80			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
				1			Terminated at 1.05m. Target Depth Reached.			
				2						
				3						
				4						
				5						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

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BOREHOLE LOG

BH ID: BH8

Location	14 Satelberg Street, Holsworthy, NSW	**Started**	23 February 2024		
Client	M.H Bestawros & P.V Bestawros	**Completed**	23 February 2024		
Job No.	E26316	**Logged By**	CL	**Date**	23 February 2024
Sheets	1 of 1	**Review By**	SR	**Date**	14 March 2024

Drilling Contractor	-	**Surface RL**	-	**Latitude**	-
Plant	Hand Auger	**Inclination**	90°	**Longitude**	-

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
HA	GWNE	BH8_0.08-0.24 PID = 0.1 PPM		0.00			FILL: Silty SAND: fine grained, pale grey to dark grey, with rootlets, sub-angular to angular gravels, No odour	D - M		FILL
		BH8_0.62-0.82 PID = 0.1 PPM		0.50			FILL: SAND: fine grained, pale brown to dark brown, with rootlets, sub-angular to angular gravels, No odour			
		BH8_1.01-1.19 PID = 0.0 PPM		0.90 1			Sandy CLAY: medium plasticity, fine grained, orange, with rootlets, No odour	D		RESIDUAL SOIL
							Terminated at 1.25m. Target Depth Reached.			
				2						
				3						
				4						
				5						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

Appendix F – Calibration Form and Field Data Sheets

EI Australia
Suite 6.01, 55 Miller Street
PYRMONT, NSW, 2009

ABN 33 102 449 507
E service@eiaustralia.com.au
W www.eiaustralia.com.au
T 02 9516 0722

CALIBRATION CERTIFICATE
FOR PHOTO IONISATION DETECTOR

Instrument: Mini RAE 3000

Serial Number: 592-906667 - EI PID02 ☐ OR 592-901345 - EI PID03 ☐ OR _____ EI PID___ ☐

Instrument Conditions: _____

Calibration gas species: Isobutylene.

Calibration gas concentration: __100_____ppm

Gas bottle number: _____ _____

This PID has been calibrated to Isobutylene gas with the span concentration displayed as

___ppm at __ppm span setting (allowable range +/-10ppm from span setting).

The PID is initially zero calibrated in fresh air.

Remaining gas in bottle: ____psi (if reading is <250 psi, notify Equipment Manager to arrange new gas bottle order)

The above detector was calibrated in accordance with manufacturer's specifications.

Signed: _____

Date: _____

Time: _____

Appendix G – Chain of Custody and Sample Receipt Documentation

345031

Sheet 1 of 1

Site: 14 Satelberg St. Holsworthy

Project No: E26316

Laboratory: Envirolab Services, 12 Ashley Street, CHATSWOOD NSW 2067, P: 02 9910 6200

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM [a] /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM [a] /TRH/BTEX/PAHs	HM [a] /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification	Excavated Natural Material (ENM) Suite	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	HOLD		TCLP HM [b] / PAH
QT1		J	23/02/2024	AM/PM	X						X																

Comments:
HM [a]: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
HM [b]: Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel
Dewatering Suite: pH & EC, TDS / TSS, Hardness, Total Cyanide, Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn), TPH (F1, F2, F3, F4), BTEX, PAH

LABORATORY TURNAROUND
- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other____

Container Type:
J = solvent washed, acid rinsed, Teflon sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Teflon Septum
ZLB = Zip-Lock Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [X]

Sampler's Name (EI)		Received by (Envirolab)
Print	Chiho Lee	Print
Signature	[redacted]	Signature
Date	23/02/2024	Date

Sampler's Comments:
CC: Sergio Raposeira

eiaustralia
Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC June 2021 FORM v 5 - Envirolab

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Sheet _3_ of _3_

Site: 14 Satelberg St, Holsworthy

Project No: E26316

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample Matrix

Analysis

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^ /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^ /TRH/BTEX/PAHs	HM ^ /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM^ /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	HOLD		TCLP HM[B] / PAH
QR1	13	S/P/VC	23/02/2024	AM/PM		X					X																				
QRB1		S/P/VC	23/02/2024	AM/PM		X																							X		
TS1	14	VC	23/02/2024	AM/PM	X							X																			
TB1	15	VC	23/02/2024	AM/PM	X							X																			
St 1 QT1																															

Comments

HM[B]
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM[B]
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 360531
Date Received: 27/2/24
Time Received: 1500-1545
Received By: ST
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

LABORATORY TURNAROUND
- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other____

Container Type:
J = solvent washed, acid rinsed, Teflon sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Teflon Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [X]

Sampler's Name (EI): Print: Chiho Lee
Signature: [redacted]
Date: 23/02/2024

Received by (SGS): Print: G F
Signature: [redacted]
Date: 28/02/24 1:30

Sampler's Comments:
CC: Sergio Raposeira
SE 261218

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

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Suite 6.01, 55 Miller Street,
PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC June 2021 FORM v.5 - SGS

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details	
Client	EI Australia
Attention	Sergio Raposeira

Sample Login Details	
Your reference	E26316 14 Satelberg St, Holsworthy
Envirolab Reference	345031
Date Sample Received	27/02/2024
Date Instructions Received	27/02/2024
Date Results Expected to be Reported	05/03/2024

Sample Condition	
Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	3
Cooling Method	Ice
Sampling Date Provided	YES

Comments
Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
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www.envirolab.com.au

Sample ID	vTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	Acid Extractable metalsin soil
QT1	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info
Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.
Requests for longer term sample storage must be received in writing.
Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.
TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

E-MAILED
26/2/24 @ 1:36 pm

Sheet _1_ of _3_

Site: 14 Satelberg St, Holsworthy

Project No: E26316

Laboratory: SGS Australia
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM A /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM A /TRH/BTEX/PAHs	HM A /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM A /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	HOLD		TCLP HM B / PAH
BH1_0.1-0.3		J,ZLB	23/02/2024	AM/PM	X																								X		
BH1_0.6-0.8	1.	J,ZLB	23/02/2024	AM/PM					X																						
BH1_1.1-1.3	2	J	23/02/2024	AM/PM					X	X																					
BH2_0.1-0.3	3.	J,ZLB	23/02/2024	AM/PM					X																						
BH2_0.7-0.9		J,ZLB	23/02/2024	AM/PM																									X		
BH3_0.1-0.3	4	J,ZLB	23/02/2024	AM/PM					X																						
BH3_0.6-0.8		J,ZLB	23/02/2024	AM/PM																									X		
BH3_1.01-1.2		J	23/02/2024	AM/PM																									X		
BH4_0.1-0.3	5	J,ZLB	23/02/2024	AM/PM					X																						
BH4_0.7-0.9		J,ZLB	23/02/2024	AM/PM																									X		
BH4_1.05-1.25		J	23/02/2024	AM/PM																									X		
BH5_0.15-0.35	6	J,ZLB,P	23/02/2024	AM/PM					X																						

SGS EHS Sydney COC
SE261218

Comments:
HM A: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
HM B: Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel
Dewatering Suite: pH & EC, TDS / TDU, Hardness, Total Cyanide, Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn), TRH (F1, F2, F3, F4), BTEX, PAH, Total Phenol

LABORATORY TURNAROUND
- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other____

Container Type:
J = solvent washed, acid rinsed, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Name (EI): Print Chiho Lee
Signature [redacted]
Date 23/02/2024

Received by (SGS): Print [redacted]
Signature [redacted]
Date 23/2/24 1:30

Report with EI Waste Classification Table [X]

Sampler's Comments: CC: Sergio Raposeira

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PYRMONT NSW 2009
Ph: 9516 0722
lab@eiaustralia.com.au

COC June 2021 FORM v 5 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Sheet _2_ of _2_

Site: 14 Satelberg St, Holsworthy

Project No: E26316

Laboratory: **SGS Australia**
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^ /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^ /TRH/BTEX/PAHs	HM ^ /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM ^ /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	HOLD		TCLP HM B / PAH
BH5_0.65-0.85		J,ZLB,P	23/02/2024	AM/PM	X																								X		
BH5_0.95-1.15	7	J,ZLB,P	23/02/2024	AM/PM					X	X																					
BH6_0.05-0.2	8	J,ZLB	23/02/2024	AM/PM					X																						
BH6_0.5-0.72		J,ZLB	23/02/2024	AM/PM																									X		
BH6_0.88-1.07		J	23/02/2024	AM/PM																									X		
BH7_0.05-0.21	9	J,ZLB	23/02/2024	AM/PM					X																						
BH7_0.55-0.73		J,ZLB	23/02/2024	AM/PM																									X		
BH7_0.82-0.98	10	J	23/02/2024	AM/PM					X	X																					
BH8_0.08-0.24		J,ZLB	23/02/2024	AM/PM																									X		
BH8_0.62-0.82	11	J,ZLB	23/02/2024	AM/PM					X																						
BH8_1.01-1.19		J	23/02/2024	AM/PM																									X		
QD1	12	J	23/02/2024	AM/PM							X																				

Comments

HM A
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [x] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other_____

Container Type:
J = solvent washed, acid rinsed, Tefton sealed glass jar
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VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Report with EI Waste Classification Table [x]

Sampler's Name (EI): Print Chiho Lee
Signature
Date 23/02/2024

Received by (SGS): Print
Sig [redacted]
Date 23/2/24 1:30

Sampler's Comments:
CC: Sergio Raposeira

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Suite 6.01, 55 Miller Street,
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Ph: 9516 0722
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COC June 2021 FORM v.5 - SGS

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Sheet _3_ of _3_

Site: 14 Satelberg St, Holsworthy

Project No: E26316

Laboratory: **SGS Australia**
Unit 16, 33 Maddox Street,
ALEXANDRIA NSW 2015
P: 02 8594 0400 F: 02 8594 0499

Sample ID	Laboratory ID	Container Type	Sampling Date	Sampling Time	SOIL	WATER	0.45 µm field filtered	OTHER	HM ^ /TRH/BTEX/PAHs OCP/OP/PCB/Asbestos	HM ^ /TRH/BTEX/PAHs	HM ^ /TRH/BTEX	BTEX	VOCs	Asbestos	Asbestos Quantification (500ml)	Asbestos 10L field screening	Excavated Natural Material (ENM) Suite	ENM Suite - Stockpile discrete (TRH/BTEX/PAHs)	ENM Suite - Stockpile composite (HM ^ /pH / EC / Foreign Materials)	Dewatering Suite	pH / pH peroxide	sPOCAS	Chromium Reducible Sulfur (CrS)	PFAS	pH / CEC (cation exchange)	pH / EC (electrical conductivity)	Sulphate / Chloride	Lead	HOLD		TCLP HM B / PAH
QR1	13	S/P/VC	23/02/2024	AM/PM		X					X																				
QRB1		S/P/VC	23/02/2024	AM/PM		X																							X		
TS1	14	VC	23/02/2024	AM/PM	X							X																			
TB1	15	VC	23/02/2024	AM/PM	X							X																			

Comments

HM ^
Arsenic
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Zinc

HM B
Arsenic
Cadmium
Chromium
Lead
Mercury
Nickel

Dewatering Suite
pH & EC
TDS / TDU
Hardness
Total Cyanide
Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
TRH (F1, F2, F3, F4)
BTEX
PAH
Total Phenol

LABORATORY TURNAROUND

- [X] Standard
- [ ] 24 Hours
- [ ] 48 Hours
- [ ] 72 Hours
- [ ] Other____

Container Type:
J = solvent washed, acid rinsed, Tefton sealed glass jar
S = solvent washed, acid rinsed glass bottle
P = natural HDPE plastic bottle
VC = glass vial, Tefton Septum
ZLB = Zip-Lock Bag BB = Bulk Bag

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Ph: 9516 0722
lab@eiaustralia.com.au

COC June 2021 FORM v.5 - SGS

Investigator: I attest that these samples were collected in accordance with standard EI field sampling procedures.

Sampler's Name (EI): Print Chiho Lee
Signature [redacted]
Date 23/02/2024

Received by (SGS): Print G. F.
Date 26/2/24 1:30

IMPORTANT:
Please e-mail laboratory results to: lab@eiaustralia.com.au

Report with EI Waste Classification Table ☒

Sampler's Comments:
CC: Sergio Raposeira
SE 261218

SAMPLE RECEIPT ADVICE

SE261218

CLIENT DETAILS

Contact	Chiho Lee
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	chiho.lee@eiaustralia.com.au
Project	**E26316 14 Satelberg St, Holsworthy**
Order Number	**E26316**
Samples	15

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Fri 23/2/2024
Report Due	Mon 4/3/2024
SGS Reference	**SE261218**

SUBMISSION DETAILS

This is to confirm that 15 samples were received on Friday 23/2/2024. Results are expected to be ready by COB Monday 4/3/2024. Please quote SGS reference SE261218 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	14 Soil, 1 Water	Type of documentation received	COC
Date documentation received	26/2/2024@1:36PM	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	20.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

12 samples have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.

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SAMPLE RECEIPT ADVICE

SE261218

CLIENT DETAILS

Client EI AUSTRALIA

Project E26316 14 Satelberg St, Holsworthy

SUMMARY OF ANALYSIS

No.	Sample ID	OC Pesticides in Soil	OP Pesticides in Soil	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	PCBs in Soil	Total Recoverable Elements in Soil/Waste	TRH (Total Recoverable Hydrocarbons) in Soil	VOC's in Soil	Volatile Petroleum Hydrocarbons in Soil
001	BH1_0.6-0.8	30	14	26	11	7	10	11	7
002	BH1_1.1-1.3	-	-	26	-	7	10	11	7
003	BH2_0.1-0.3	30	14	26	11	7	10	11	7
004	BH3_0.1-0.3	30	14	26	11	7	10	11	7
005	BH4_0.1-0.3	30	14	26	11	7	10	11	7
006	BH5_0.15-0.35	30	14	26	11	7	10	11	7
007	BH5_0.95-1.15	-	-	26	-	7	10	11	7
008	BH6_0.05-0.2	30	14	26	11	7	10	11	7
009	BH7_0.05-0.21	30	14	26	11	7	10	11	7
010	BH7_0.82-0.98	-	-	26	-	7	10	11	7
011	BH8_0.62-0.82	30	14	26	11	7	10	11	7
012	QD1	-	-	-	-	7	10	11	7
014	TS1	-	-	-	-	-	-	11	-
015	TB1	-	-	-	-	-	-	11	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE261218

CLIENT DETAILS

Client EI AUSTRALIA

Project E26316 14 Satelberg St, Holsworthy

SUMMARY OF ANALYSIS

No.	Sample ID	Fibre Identification in soil	Mercury in Soil	Moisture Content
001	BH1_0.6-0.8	3	1	1
002	BH1_1.1-1.3	-	1	1
003	BH2_0.1-0.3	3	1	1
004	BH3_0.1-0.3	3	1	1
005	BH4_0.1-0.3	3	1	1
006	BH5_0.15-0.35	3	1	1
007	BH5_0.95-1.15	-	1	1
008	BH6_0.05-0.2	3	1	1
009	BH7_0.05-0.21	3	1	1
010	BH7_0.82-0.98	-	1	1
011	BH8_0.62-0.82	3	1	1
012	QD1	-	1	1
015	TB1	-	-	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE261218

CLIENT DETAILS

Client EI AUSTRALIA

Project E26316 14 Satelberg St, Holsworthy

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (dissolved) in Water	Trace Metals (Dissolved) in Water by ICPMS	TRH (Total Recoverable Hydrocarbons) in Water	VOCs in Water	Volatile Petroleum Hydrocarbons in Water
013	QR1	1	7	9	11	7

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

Appendix H – Laboratory Analytical Reports

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
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customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 345031

Client Details

Client	EI Australia
Attention	Sergio Raposeira
Address	Suite 6.01, 55 Miller Street, Pyrmont, NSW, 2009

Sample Details

Your Reference	**E26316 14 Satelberg St, Holsworthy**
Number of Samples	1 Soil
Date samples received	27/02/2024
Date completed instructions received	27/02/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	05/03/2024
Date of Issue	04/03/2024

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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Hannah Nguyen, Metals Supervisor
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

Client Reference: E26316 14 Satelberg St, Holsworthy

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		345031-1
Your Reference	UNITS	QT1
Date Sampled		23/02/2024
Type of sample		Soil
Date extracted	-	28/02/2024
Date analysed	-	29/02/2024
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	95

Client Reference: E26316 14 Satelberg St, Holsworthy

svTRH (C10-C40) in Soil		
Our Reference		345031-1
Your Reference	UNITS	QT1
Date Sampled		23/02/2024
Type of sample		Soil
Date extracted	-	28/02/2024
Date analysed	-	29/02/2024
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	<100
TRH C_{29} - C_{36}	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
TRH >C_{10}-C_{16}	mg/kg	<50
TRH >C_{10}-C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16}-C_{34}	mg/kg	<100
TRH >C_{34}-C_{40}	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	78

Client Reference: E26316 14 Satelberg St, Holsworthy

Acid Extractable metals in soil		
Our Reference		345031-1
Your Reference	UNITS	QT1
Date Sampled		23/02/2024
Type of sample		Soil
Date prepared	-	28/02/2024
Date analysed	-	29/02/2024
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	3
Copper	mg/kg	4
Lead	mg/kg	10
Mercury	mg/kg	<0.1
Nickel	mg/kg	2
Zinc	mg/kg	33

Client Reference: E26316 14 Satelberg St, Holsworthy

Moisture		
Our Reference		345031-1
Your Reference	UNITS	QT1
Date Sampled		23/02/2024
Type of sample		Soil
Date prepared	-	28/02/2024
Date analysed	-	29/02/2024
Moisture	%	6.8

Client Reference: E26316 14 Satelberg St, Holsworthy

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

Client Reference: E26316 14 Satelberg St, Holsworthy

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			28/02/2024	[NT]	[NT]	[NT]	[NT]	28/02/2024	[NT]
Date analysed	-			29/02/2024	[NT]	[NT]	[NT]	[NT]	29/02/2024	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	79	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	79	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	72	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	79	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	79	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	78	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	101	[NT]

Client Reference: E26316 14 Satelberg St, Holsworthy

QUALITY CONTROL: svTRH (C10-C40) in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date extracted	-			28/02/2024	[NT]	[NT]	[NT]	[NT]	28/02/2024	[NT]
Date analysed	-			29/02/2024	[NT]	[NT]	[NT]	[NT]	29/02/2024	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	86	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	81	[NT]	[NT]	[NT]	[NT]	90	[NT]

Client Reference: E26316 14 Satelberg St, Holsworthy

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-11	[NT]
Date prepared	-			28/02/2024	[NT]	[NT]	[NT]	[NT]	28/02/2024	[NT]
Date analysed	-			29/02/2024	[NT]	[NT]	[NT]	[NT]	29/02/2024	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	111	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]

Client Reference: E26316 14 Satelberg St, Holsworthy

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Client Reference: E26316 14 Satelberg St, Holsworthy

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Chiho Lee
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
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Email	chiho.lee@eiaustralia.com.au
Project	**E26316 14 Satelberg St, Holsworthy**
Order Number	**E26316**
Samples	15

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE261218 R0**
Date Received	23/2/2024
Date Reported	4/3/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures due to large volume. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

[redacted]

Akheeqar BENIAMEEN	**Dong LIANG**	**Kamrul AHSAN**	**Ly Kim HA**
Chemist	Metals/Inorganics Team Leader	Senior Chemist	Organic Section Head

[redacted]

Ravee SIVASUBRAMANIAM	**Shane MCDERMOTT**
Hygiene Team Leader	Inorganic/Metals Chemist

ANALYTICAL RESULTS

SE261218 R0

VOC's in Soil [AN433] Tested: 28/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011	QD1 SOIL - 23/2/2024 SE261218.012	TS1 SOIL - 23/2/2024 SE261218.014	TB1 SOIL - 23/2/2024 SE261218.015
Benzene	mg/kg	0.1	<0.1	<0.1	[81%]	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	[89%]	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	[94%]	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	[95%]	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	[96%]	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	-	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	-	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	<0.1

ANALYTICAL RESULTS

SE261218 R0

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 28/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011	QD1 SOIL - 23/2/2024 SE261218.012
TRH C6-C9	mg/kg	20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25

ANALYTICAL RESULTS

SE261218 R0

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 27/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	**46**	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011	QD1 SOIL - 23/2/2024 SE261218.012
TRH C10-C14	mg/kg	20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45
TRH C29-C36	mg/kg	45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210

ANALYTICAL RESULTS

SE261218 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 27/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8	<0.8	<0.8	<0.8	<0.8

SGS

ANALYTICAL RESULTS

SE261218 R0

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 27/2/2024 (continued)

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

ANALYTICAL RESULTS

SE261218 R0

OC Pesticides in Soil [AN420] Tested: 27/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

SGS

ANALYTICAL RESULTS

SE261218 R0

OC Pesticides in Soil [AN420] Tested: 27/2/2024 (continued)

PARAMETER	UOM	LOR	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1

ANALYTICAL RESULTS

SE261218 R0

OP Pesticides in Soil [AN420] Tested: 27/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7

SGS

ANALYTICAL RESULTS

SE261218 R0

PCBs in Soil [AN420] Tested: 27/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1	<1

PARAMETER	UOM	LOR	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1

SGS

ANALYTICAL RESULTS

SE261218 R0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 28/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
Arsenic, As	mg/kg	1	1	2	<1	2	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	2.2	6.5	2.2	6.9	2.1
Copper, Cu	mg/kg	0.5	2.6	3.2	2.5	4.3	2.6
Lead, Pb	mg/kg	1	7	5	5	12	5
Nickel, Ni	mg/kg	0.5	1.8	2.2	1.8	1.6	2.1
Zinc, Zn	mg/kg	2	15	9.3	11	19	13

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
Arsenic, As	mg/kg	1	1	6	<1	<1	4
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.4	20	1.6	2.0	14
Copper, Cu	mg/kg	0.5	9.0	10	2.1	1.8	6.1
Lead, Pb	mg/kg	1	61	14	9	3	9
Nickel, Ni	mg/kg	0.5	4.1	2.6	1.0	3.6	2.1
Zinc, Zn	mg/kg	2	30	13	7.3	5.3	10

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011	QD1 SOIL - 23/2/2024 SE261218.012
Arsenic, As	mg/kg	1	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	1.9	2.3
Copper, Cu	mg/kg	0.5	1.6	2.6
Lead, Pb	mg/kg	1	2	7
Nickel, Ni	mg/kg	0.5	5.2	1.4
Zinc, Zn	mg/kg	2	2.5	13

SGS

ANALYTICAL RESULTS

SE261218 R0

Mercury in Soil [AN312] Tested: 28/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
Mercury	mg/kg	0.05	<0.05	**0.06**	<0.05	<0.05	**0.05**

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011	QD1 SOIL - 23/2/2024 SE261218.012
Mercury	mg/kg	0.05	<0.05	<0.05

ANALYTICAL RESULTS

SE261218 R0

Moisture Content [AN002] Tested: 28/2/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH1_1.1-1.3 SOIL - 23/2/2024 SE261218.002	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005
% Moisture	%w/w	1	7.1	10.2	5.7	8.3	8.4

PARAMETER	UOM	LOR	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006	BH5_0.95-1.15 SOIL - 23/2/2024 SE261218.007	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH7_0.82-0.98 SOIL - 23/2/2024 SE261218.010
% Moisture	%w/w	1	15.4	22.8	9.4	7.5	20.0

PARAMETER	UOM	LOR	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011	QD1 SOIL - 23/2/2024 SE261218.012	TB1 SOIL - 23/2/2024 SE261218.015
% Moisture	%w/w	1	6.9	6.7	<1.0

ANALYTICAL RESULTS

SE261218 R0

Fibre Identification in soil [AS4964/AN602] Tested: 1/3/2024

PARAMETER	UOM	LOR	BH1_0.6-0.8 SOIL - 23/2/2024 SE261218.001	BH2_0.1-0.3 SOIL - 23/2/2024 SE261218.003	BH3_0.1-0.3 SOIL - 23/2/2024 SE261218.004	BH4_0.1-0.3 SOIL - 23/2/2024 SE261218.005	BH5_0.15-0.35 SOIL - 23/2/2024 SE261218.006
Date Analysed*	No unit	-	04/03/2024 00:00	04/03/2024 00:00	04/03/2024 00:00	04/03/2024 00:00	04/03/2024 00:00
Asbestos Detected	No unit	-	No	No	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

PARAMETER	UOM	LOR	BH6_0.05-0.2 SOIL - 23/2/2024 SE261218.008	BH7_0.05-0.21 SOIL - 23/2/2024 SE261218.009	BH8_0.62-0.82 SOIL - 23/2/2024 SE261218.011
Date Analysed*	No unit	-	04/03/2024 00:00	04/03/2024 00:00	04/03/2024 00:00
Asbestos Detected	No unit	-	No	No	No
Estimated Fibres*	%w/w	0.01	<0.01	<0.01	<0.01

SGS

ANALYTICAL RESULTS

SE261218 R0

VOCs in Water [AN433] Tested: 1/3/2024

PARAMETER	UOM	LOR	QR1 WATER - 23/2/2024 SE261218.013
Benzene	µg/L	0.5	<0.5
Toluene	µg/L	0.5	<0.5
Ethylbenzene	µg/L	0.5	<0.5
m/p-xylene	µg/L	1	<1
o-xylene	µg/L	0.5	<0.5
Total Xylenes	µg/L	1.5	<1.5
Total BTEX	µg/L	3	<3
Naphthalene (VOC)*	µg/L	0.5	<0.5

SGS

ANALYTICAL RESULTS

SE261218 R0

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 1/3/2024

PARAMETER	UOM	LOR	QR1 WATER - 23/2/2024 SE261218.013
TRH C6-C9	µg/L	40	<40
Benzene (F0)	µg/L	0.5	<0.5
TRH C6-C10	µg/L	50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50

ANALYTICAL RESULTS

SE261218 R0

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 29/2/2024

PARAMETER	UOM	LOR	QR1 WATER - 23/2/2024 SE261218.013
TRH C10-C14	µg/L	50	<50
TRH C15-C28	µg/L	200	<200
TRH C29-C36	µg/L	200	<200
TRH C37-C40	µg/L	200	<200
TRH >C10-C16	µg/L	60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60
TRH >C16-C34 (F3)	µg/L	500	<500
TRH >C34-C40 (F4)	µg/L	500	<500
TRH C10-C40	µg/L	320	<320

SGS

ANALYTICAL RESULTS

SE261218 R0

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 28/2/2024

PARAMETER	UOM	LOR	QR1 WATER - 23/2/2024 SE261218.013
Arsenic	µg/L	1	<1
Cadmium	µg/L	0.1	<0.1
Chromium	µg/L	1	<1
Copper	µg/L	1	<1
Lead	µg/L	1	<1
Nickel	µg/L	1	<1
Zinc	µg/L	5	<5

ANALYTICAL RESULTS

SE261218 R0

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 28/2/2024

PARAMETER	UOM	LOR	QR1 WATER - 23/2/2024 SE261218.013
Mercury	mg/L	0.0001	<0.0001

METHOD SUMMARY

SE261218 R0

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents .
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting.
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.

METHOD SUMMARY

SE261218 R0

AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
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Project	**E26316 14 Satelberg St, Holsworthy**	SGS Reference	**SE261218 R0**
Order Number	**E26316**	Date Received	23 Feb 2024
Samples	8	Date Reported	04 Mar 2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

No respirable fibres detected in all soil samples using trace analysis technique.
A portion of the sample supplied has been sub-sampled for asbestos analysis in soil according to SGS In-house procedures due to large volume. We therefore cannot guarantee that the sub-sample is representative of the entire sample supplied. SGS Industries and Environment recommends supplying approximately 50-100g of sample in a separate container.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin

SIGNATORIES

[redacted]

Ravee SIVASUBRAMANIAM
Hygiene Team Leader

ANALYTICAL REPORT

SE261218 R0

RESULTS

Fibre Identification in soil — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Date Analysed	Fibre Identification	Est.%w/w*
SE261218.001	BH1_0.6-0.8	Soil	137g Sand, Rocks	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE261218.003	BH2_0.1-0.3	Soil	156g Sand, Rocks	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE261218.004	BH3_0.1-0.3	Soil	183g Sand, Rocks	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE261218.005	BH4_0.1-0.3	Soil	142g Sand, Rocks	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE261218.006	BH5_0.15-0.35	Soil	121g Sand, Soil, Rocks	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE261218.008	BH6_0.05-0.2	Soil	119g Sand	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg Organic Fibres Detected	<0.01
SE261218.009	BH7_0.05-0.21	Soil	127g Sand	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg	<0.01
SE261218.011	BH8_0.62-0.82	Soil	153g Sand	23 Feb 2024	04 Mar 2024	No Asbestos Found at RL of 0.1g/kg	<0.01

METHOD SUMMARY

SE261218 R0

METHOD	METHODOLOGY SUMMARY
AN602/AS4964	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602/AS4964	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf) The fibres detected may or may not be asbestos fibres.
AN602/AS4964	AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:"Depending upon sample condition and fibre type, the detection/reporting limit (RL) of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."
AN602/AS4964	The sample can be reported "no asbestos found at the reporting limit (RL) of 0.1 g/kg" (<0.01%w/w) where AN602 section 4.5 of this method has been followed, and if- (a) no trace asbestos fibres have been detected (i.e. no 'respirable' fibres): (b) the estimated weight of non-respirable asbestos fibre bundles and/or the estimated weight of asbestos in asbestos-containing materials are found to be less than 0.1g/kg: and (c) these non-respirable asbestos fibre bundles and/or the asbestos containing materials are only visible under stereo-microscope viewing conditions.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.
			***	-	Indicates that both * and ** apply.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Appendix I – QA/QC Assessment

I1.1 Quality Assurance / Quality Control Program

Quality assurance comprises an assessment of the reliability of the field procedures and laboratory results against standard industry practices and the SAQP. A summary of the project QA/QC measures incorporated into this DSI is presented in **Table I-1**.

Table I-1 Project QC Measures

Task	Description	Project
Field QA/QC		
General	Work was to be undertaken following standard field procedures which are based on industry accepted standard practice.	Soil samples were collected directly from the auger flights. Soil samples were placed in 250 gram glass jars and plastic bags, which were filled to minimise headspace, and sealed using Teflon-coated lids.
	All fieldwork was supervised by a suitably qualified and experienced scientist or engineer.	Yes
Soil Screening with PID	The PID was serviced and calibrated as per manufacturer requirements. PID calibrated at the beginning of each day of fieldwork.	Yes
Equipment Decontamination	Sampling equipment to be decontaminated after the collection of each soil sample by washing with phosphate-free detergent and potable water, followed by a final distilled water rinse. One rinsate blank would be collected and analysed for the primary contaminants. All results should be non-detect.	Yes One rinsate sample was collected during the soil investigation on 23 February 2024. All results were reported as below the detection limits.
Transport	Samples stored in a chilled cooler box and transported to the laboratories. To ensure the integrity of the samples from collection to receipt by the analytical laboratory, samples were sent by courier to the laboratories under 'chain of custody' describing sample preservation and transport duration.	Yes
Trip Blanks	Trip blank samples were to be prepared and analysed by the primary laboratory for BTEX. Analytical results to be below the laboratory LOR, indicating satisfactory sample transport and handling conditions were achieved.	One trip blank samples prepared by the primary laboratory were analysed for BTEX during soil testing. All results were reported below the laboratory LOR, indicating that ideal sample transport and handling conditions were achieved (i.e. no cross-contamination of volatiles during sample transport and subsequent handling).

Task	Description	Project
Trip Spikes	Trip spike samples were to be prepared and analysed by the primary laboratory for BTEX. Analytical results to be within 80-120% recovery, indicating satisfactory sample transport and handling conditions were achieved.	One trip spike sample prepared by the primary laboratory were analysed for BTEX during soil testing. All results were within the recovery acceptance levels, indicating that satisfactory sample transport and handling conditions were achieved (i.e. no loss of volatiles during sample transport and subsequent handling).
Duplicates	Field duplicate samples were to be analysed as follows (as per NEPM): ▪ intra-laboratory duplicates at a rate of 1 in 20 primary samples; and ▪ inter-laboratory duplicates at a rate of 1 in 20 primary samples. Field and laboratory acceptable limits between 30-50% RPD as stated by AS4482.1–2005. RPDs that exceed this range may be considered acceptable where: ▪ Results are less than 10 times the limits of reporting (LOR); ▪ Results are less than 20 times the LOR and the RPD is less than 50%; or ▪ Heterogeneous materials or volatile compounds are encountered. Non-compliance is to be documented in the report and the sample re-analysed or a higher level conservatively adopted.	The required sampling density of 1 per 20 duplicated primary samples was achieved and sufficient for the investigation. Laboratory duplicates prepared and analysed. Minor non-conformance, with negligible effects on data use for interpretative purposes. Field QC samples and calculated RPD values are presented in **Table I-5**. Copies of laboratory reports are included in **Appendix H**.
Laboratory QA/QC		
Laboratory Analysis	The laboratories selected are NATA accredited for the analytes selected and perform their own internal QA/QC programs.	Yes SGS - primary laboratory Envirolab - secondary laboratory Laboratory QA/QC analyses are included in **Appendix J.**
	Appropriate detection limits were used for the analyses to be undertaken.	Practical Quantitation Limits for all tested parameters during the DSI are presented in laboratory analytical reports in **Appendix H.**
Holding Times	Holding times are the maximum permissible elapsed time in days from the collection of the sample to its extraction and/or analysis. All extraction and analyses should be completed within standard guidelines.	All samples were analysed within the holding times.
Method Blanks	A method blank contains the reagents used to prepare the sample for final analysis. The purpose of this procedure is to identify contamination in the reagent materials and assess potential bias in the sample analysis due to contaminated reagents. The QC criterion aims to find no detectable contamination in the reagents. Each analysis procedure should be subject to a method blank analysis. The results of each should indicate that contaminants were not detected.	Yes

Task	Description	Project
Laboratory Duplicates	Laboratory duplicates are field samples that are split in the laboratory and subsequently analysed a number of times in the same batch. These sub-samples are selected by the laboratory to assess the accuracy and precision of the analytical method. The selected laboratories should undertake QA/QC procedures such as calibration standards, laboratory control samples, surrogates, reference materials, sample duplicates and matrix spikes. Intra-laboratory duplicates should be performed at a frequency of 1 per 10 samples.	Assessment of laboratory duplicates has been undertaken by the laboratory. All data quality objectives were met with the exception of PAH, VOCs in water and Volatile Petroleum Hydrocarbons in water in SE261218 have minor non-conformance, with negligible effects on data use for interpretative purposes.
Laboratory Control Standard	A laboratory control standard is a standard reference material used in preparing primary standards. The concentration should be equivalent to a mid-range standard to confirm the primary calibration. Laboratory control samples should be performed on a frequency of 1 per 20 samples or at least one per analytical run.	Assessment of laboratory control standard has been undertaken by the laboratory. All laboratory control standards were within acceptable ranges.
Matrix Spikes	Matric spikes are field samples to which a predetermined stock solution of known concentration has been added. The samples are then analysed for recovery of the known addition. Recoveries should be within the stated laboratory control limits of 70 to 130% and duplicates should have RPDs of less than 50%.	Assessment of matrix spikes has been undertaken by the laboratory. Matrix spikes recovery outside acceptable range for heavy metals (zinc) in **Table I-5** due to sample heterogeneity. Minor non-conformity.
Surrogate Spikes	Surrogate spikes provide a means of checking, for every analysis that no gross errors have occurred at any stage of the procedure leading to significant analyte loss. Recoveries should be within the stated laboratory control limits of 70 to 130%.	Assessment of surrogate spikes has been undertaken by the laboratory. All data quality objectives were met with the exception of PAH in SE261218 has minor non-conformance, with negligible effects on data use for interpretative purposes.
Conclusion	The QA/QC indicators should either all comply with the required standards or showed no variations that would have no significant effect on the quality of the data.	Assessment of the investigation QA/QC is presented in the following sections.

I1.2 Calculation of Relative Percentage Difference (RPD)

The RPD values were calculated using the following equation:

$$RPD = \frac{|C_O - C_R|}{[(C_O + C_R)/2]} \times 100$$

Where:

C_O = Concentration obtained for the primary sample; and

C_R = Concentration obtained for the blind replicate or split duplicate sample.

I2.1 Field QA/QC

Field QC Samples

The field (intra- / inter- laboratory) duplicate samples collected during the investigation are summarised in **Table I-2**. Inter-laboratory duplicate was analysed by the secondary laboratory, Envirolab.

Table I-2 Field QC Sampling Program

Matrix	Primary QA Sample	Duplicate (Primary Lab)	Triplicate (Secondary Lab)	Total Duplicates
Soil	BH1_0.6-0.8	QD1	QT1	2

I2.2 Field QC Summary

Review of the field data quality indicators is presented in **Table I-3** below.

Table I-3 Field Data Quality Indicators

QA Component	Data Quality Indicator(s)	Conformance
Accuracy – a quantitative measure of the closeness of reported data to the "true" value	SOPs appropriate and complied with	Yes
	Results for inter-laboratory (split field) duplicates acceptable	Yes
Precision – A quantitative measure of the variability (or reproducibility) of data	SOPs appropriate and complied with	Yes
	Results for intra-laboratory (blind field) duplicates acceptable	Yes
Completeness – A measure of the amount of useable data from a data collection activity	Each critical location sampled	Yes
	Samples collected at targeted locations and depth	Yes
	SAQP appropriate and complied with	Yes
	Experienced sampler	Yes
	Field documentation correct	Yes
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Same sampling method used on each occasion/location	Yes
	Experienced sampler	Yes
	Same type of samples collected (filtered, size, fractions)	Yes
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	Appropriate media sampled according to SAQP	Yes
	Each media identified in SAQP sampled	Yes
	Appropriate sample collection methodologies, handling, storage and preservation techniques used	Yes

I2.3 Conclusion for the Field QA/QC

All field work, including equipment decontamination and sample preservation and transport, was conducted in accordance with the SAQP, which were devised with reference to industry-

approved guidelines. Appropriate QC measures were integrated into each sampling event and the DQIs were met.

All samples, including field QC samples, were transported to the primary and secondary laboratories under refrigerated conditions, using strict COC procedures. Relevant documents (COC forms) were presented with the samples at the times of delivery. All supporting documents (COCs and SRAs) were completed in full and signed, where appropriate. EI considered the field QA/QC program carried out during the DSI to be appropriate.

I2.4 Laboratory QA/QC

Laboratory Accreditation

Primary and intra-laboratory duplicate samples were analysed by SGS (located in Alexandria NSW), with inter-laboratory duplicate samples analysed by Envirolab (located in Chatswood NSW). All laboratories are accredited by NATA for the analyses undertaken.

Laboratory QC Summary

Review of the laboratory data quality indicators is presented in **Table I-4** below.

Table I-4 Laboratory Data Quality Indicators

QA/QC Measure	Data Quality Indicator(s)	Conformance
Accuracy – A quantitative measure of the closeness of reported data to the “true” value	Analysis of method blanks	Yes
	Analysis of matrix spikes	Yes
	Analysis of surrogate spikes	Yes
	Analysis of laboratory control samples	Yes
Precision – A quantitative measure of the variability (or reproducibility) of data	Analysis of laboratory duplicates	Yes
Completeness – A measure of the amount of useable data from a data collection activity	All critical samples analysed according to SAQP	Yes
	All analytes analysed according to SAQP	Yes
	Appropriate methods and PQLs	Yes
	Sample documentation complete	Yes
	Sample holding times complied with	Yes
Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event	Same analytical methods used (including clean-up)	Yes
	Same PQLs	Yes
	Same laboratories (NATA-accredited)	Yes
	Same units	Yes
Representativeness – The confidence (expressed qualitatively) that data are representative of each medium present onsite	All key samples analysed according to SAQP	Yes
	Analysis of laboratory-prepared trip spikes and blanks	Yes

I2.5 Conclusion for the Laboratory QA/QC

All contracted laboratories (SGS and Envirolab) were accredited by NATA for the analyses undertaken. All analytical procedures used were industry recognised and endorsed standard methods. Appropriate QC measures were integrated into each testing batch and the DQIs were met, or if not, the variability was suitably justified.

All final reports were submitted in full and included all requested analyses, as per the signed COC forms. EI considered the laboratory QA/QC programs carried out during the DSI to be appropriate.

I2.6 Summary of Project QA/QC

The sampling (including sample preservation, transport and decontamination procedures) and laboratory methods followed during this investigation were consistent with EI protocols. The project DQOs specified in **Section 5.2**, **Table 5-1** were considered to have been achieved. The adopted QA/QC program ensured that the data collated during the DSI were accurate, precise and representative of the site condition. It was therefore considered that the data were sufficiently precise and accurate and that the results could be used for DSI interpretative purposes.

Table I-5 Summary of Results for the Field QA/QC samples

Sample identification	Sampled Date	Description	TRH				BTEX				Heavy Metals							
			F1*	F2**	F3 (>C_{16} - C_{34})	F4 (>C_{34} - C_{40})	Benzene	Toluene	Ethylbenzene	Xylene (total)	Arsenic	Cadmium	Chromium (Total)	Copper	Lead	Mercury	Nickel	Zinc
Intra-laboratory Duplicate																		
BH1_0.6-0.8	23/2/2024	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	1	<0.3	2.2	3	7	<0.05	1.8	15
QD1		Duplicate of BH1_0.6-0.8	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	<1	<0.3	2.3	2.6	7	<0.05	1.4	13
RPD (%)			***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***4.4***	***0.0***	***0.0***	***0.0***	***25.0***	***14.3***
Inter-laboratory Duplicate																		
BH1_0.6-0.8	23/2/2024	Fill	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.3	1	<0.3	2.2	3	7	<0.05	1.8	15
QT1		Duplicate of BH1_0.6-0.8	<25	<50	<100	<100	<0.2	<0.5	<1	<1	<4	<0.4	3	4	10	<0.1	2	33
RPD (%)			***0.0***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***	**200.0**	***NA***	***30.8***	***42.4***	***35.3***	***NA***	***10.5***	**75.0**
Other																		
TB1	23/02/2024	Trip blank	-	-	-	-	<0.1	<0.1	<0.1	<0.3	-	-	-	-	-	-	-	-
TS1		Trip spike	-	-	-	-	[81%]	[89%]	[94%]	***NA***	-	-	-	-	-	-	-	-
QR1 (µg/L)		Rinsate	<50	<60	<500	<500	<0.5	<0.5	<0.5	<1.5	<1	<0.1	<1	<1	<1	<0.1	<1	<5

Indicates values where a single result is found to be less than detection, with the duplicate sample found to be over the detection limit.
RPD exceeds 30-50% range referenced from AS4482.1 (2005)

NOTE:
All soil results are reported in mg/kg . All water results are reported in µg/L.
NA Not Available
* - to obtain F1 subtract the sum of BTEX concentrations from the C_6-C_{10} fraction
** - to obtain F2 subtract naphthalene from the > C_{10}-C_{16} fraction

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Appendix J – Laboratory QA/QC and DQOs

STATEMENT OF QA/QC PERFORMANCE

SE261218 R0

CLIENT DETAILS

Contact	Chiho Lee
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	chiho.lee@eiaustralia.com.au
Project	**E26316 14 Satelberg St, Holsworthy**
Order Number	**E26316**
Samples	15

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE261218 R0**
Date Received	23 Feb 2024
Date Reported	04 Mar 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	2 items
Duplicate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	5 items
	VOCs in Water	1 item
	Volatile Petroleum Hydrocarbons in Water	2 items

SAMPLE SUMMARY

Sample counts by matrix	14 Soil, 1 Water	Type of documentation received	COC
Date documentation received	26/2/2024@1:36PM	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	20.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE261218 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Fibre Identification in soil

Method: ME-(AU)-[ENV]AS4964/AN602

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305612	23 Feb 2024	23 Feb 2024	22 Feb 2025	01 Mar 2024	22 Feb 2025	04 Mar 2024

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE261218.013	LB305269	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	28 Feb 2024

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH1_1.1-1.3	SE261218.002	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH5_0.95-1.15	SE261218.007	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH7_0.82-0.98	SE261218.010	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024
QD1	SE261218.012	LB305304	23 Feb 2024	23 Feb 2024	22 Mar 2024	28 Feb 2024	22 Mar 2024	01 Mar 2024

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH1_1.1-1.3	SE261218.002	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH2_0.1-0.3	SE261218.003	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH3_0.1-0.3	SE261218.004	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH4_0.1-0.3	SE261218.005	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH5_0.15-0.35	SE261218.006	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH5_0.95-1.15	SE261218.007	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH6_0.05-0.2	SE261218.008	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH7_0.05-0.21	SE261218.009	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH7_0.82-0.98	SE261218.010	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
BH8_0.62-0.82	SE261218.011	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
QD1	SE261218.012	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024
TB1	SE261218.015	LB305305	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	04 Mar 2024	29 Feb 2024

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH1_1.1-1.3	SE261218.002	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH5_0.95-1.15	SE261218.007	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH7_0.82-0.98	SE261218.010	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
QD1	SE261218.012	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref

SGS

HOLDING TIME SUMMARY

SE261218 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

OP Pesticides in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH1_1.1-1.3	SE261218.002	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH3_0.1-0.3	SE261218.004	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH4_0.1-0.3	SE261218.005	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH5_0.15-0.35	SE261218.006	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH5_0.95-1.15	SE261218.007	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH7_0.05-0.21	SE261218.009	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH7_0.82-0.98	SE261218.010	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
QD1	SE261218.012	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH1_1.1-1.3	SE261218.002	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH2_0.1-0.3	SE261218.003	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH3_0.1-0.3	SE261218.004	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH4_0.1-0.3	SE261218.005	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH5_0.15-0.35	SE261218.006	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH5_0.95-1.15	SE261218.007	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH6_0.05-0.2	SE261218.008	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH7_0.05-0.21	SE261218.009	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH7_0.82-0.98	SE261218.010	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH8_0.62-0.82	SE261218.011	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
QD1	SE261218.012	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024

PCBs in Soil — Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH1_1.1-1.3	SE261218.002	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH5_0.95-1.15	SE261218.007	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH7_0.82-0.98	SE261218.010	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024
QD1	SE261218.012	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	01 Mar 2024

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH1_1.1-1.3	SE261218.002	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH5_0.95-1.15	SE261218.007	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH7_0.82-0.98	SE261218.010	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024
QD1	SE261218.012	LB305303	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	01 Mar 2024

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE261218.013	LB305260	23 Feb 2024	23 Feb 2024	21 Aug 2024	28 Feb 2024	21 Aug 2024	29 Feb 2024

HOLDING TIME SUMMARY

SE261218 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH1_1.1-1.3	SE261218.002	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH2_0.1-0.3	SE261218.003	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH3_0.1-0.3	SE261218.004	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH4_0.1-0.3	SE261218.005	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH5_0.15-0.35	SE261218.006	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH5_0.95-1.15	SE261218.007	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH6_0.05-0.2	SE261218.008	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH7_0.05-0.21	SE261218.009	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH7_0.82-0.98	SE261218.010	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
BH8_0.62-0.82	SE261218.011	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024
QD1	SE261218.012	LB305253	23 Feb 2024	23 Feb 2024	08 Mar 2024	27 Feb 2024	07 Apr 2024	29 Feb 2024

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE261218.013	LB305408	23 Feb 2024	23 Feb 2024	01 Mar 2024	29 Feb 2024	09 Apr 2024	04 Mar 2024

VOC's in Soil — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH1_1.1-1.3	SE261218.002	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH5_0.95-1.15	SE261218.007	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH7_0.82-0.98	SE261218.010	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
QD1	SE261218.012	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
TS1	SE261218.014	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
TB1	SE261218.015	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024

VOCs in Water — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE261218.013	LB305534	23 Feb 2024	23 Feb 2024	08 Mar 2024	01 Mar 2024	08 Mar 2024	04 Mar 2024

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1_0.6-0.8	SE261218.001	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH1_1.1-1.3	SE261218.002	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH2_0.1-0.3	SE261218.003	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH3_0.1-0.3	SE261218.004	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH4_0.1-0.3	SE261218.005	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH5_0.15-0.35	SE261218.006	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH5_0.95-1.15	SE261218.007	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH6_0.05-0.2	SE261218.008	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH7_0.05-0.21	SE261218.009	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH7_0.82-0.98	SE261218.010	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
BH8_0.62-0.82	SE261218.011	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
QD1	SE261218.012	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
TS1	SE261218.014	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024
TB1	SE261218.015	LB305302	23 Feb 2024	23 Feb 2024	08 Mar 2024	28 Feb 2024	08 Mar 2024	01 Mar 2024

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
QR1	SE261218.013	LB305534	23 Feb 2024	23 Feb 2024	08 Mar 2024	01 Mar 2024	08 Mar 2024	04 Mar 2024

SURROGATES

SE261218 R0

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	102
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	100
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	104
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	104
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	104
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	103
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	105
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	102

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	88
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	91
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	86
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	83
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	83
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	83
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	82
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	88
d14-p-terphenyl (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	99
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	99
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	96
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	101
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	104
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	99
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	103
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	98

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1_0.6-0.8	SE261218.001	%	70 - 130%	88
	BH1_1.1-1.3	SE261218.002	%	70 - 130%	76
	BH2_0.1-0.3	SE261218.003	%	70 - 130%	91
	BH3_0.1-0.3	SE261218.004	%	70 - 130%	86
	BH4_0.1-0.3	SE261218.005	%	70 - 130%	83
	BH5_0.15-0.35	SE261218.006	%	70 - 130%	83
	BH5_0.95-1.15	SE261218.007	%	70 - 130%	43 ①
	BH6_0.05-0.2	SE261218.008	%	70 - 130%	83
	BH7_0.05-0.21	SE261218.009	%	70 - 130%	82
	BH7_0.82-0.98	SE261218.010	%	70 - 130%	63 ①
	BH8_0.62-0.82	SE261218.011	%	70 - 130%	88
d14-p-terphenyl (Surrogate)	BH1_0.6-0.8	SE261218.001	%	70 - 130%	99
	BH1_1.1-1.3	SE261218.002	%	70 - 130%	96
	BH2_0.1-0.3	SE261218.003	%	70 - 130%	99
	BH3_0.1-0.3	SE261218.004	%	70 - 130%	96
	BH4_0.1-0.3	SE261218.005	%	70 - 130%	101
	BH5_0.15-0.35	SE261218.006	%	70 - 130%	104
	BH5_0.95-1.15	SE261218.007	%	70 - 130%	100
	BH6_0.05-0.2	SE261218.008	%	70 - 130%	99
	BH7_0.05-0.21	SE261218.009	%	70 - 130%	103
	BH7_0.82-0.98	SE261218.010	%	70 - 130%	102
	BH8_0.62-0.82	SE261218.011	%	70 - 130%	98
d5-nitrobenzene (Surrogate)	BH1_0.6-0.8	SE261218.001	%	70 - 130%	95
	BH1_1.1-1.3	SE261218.002	%	70 - 130%	76
	BH2_0.1-0.3	SE261218.003	%	70 - 130%	79
	BH3_0.1-0.3	SE261218.004	%	70 - 130%	83
	BH4_0.1-0.3	SE261218.005	%	70 - 130%	76
	BH5_0.15-0.35	SE261218.006	%	70 - 130%	87
	BH5_0.95-1.15	SE261218.007	%	70 - 130%	87
	BH6_0.05-0.2	SE261218.008	%	70 - 130%	77
	BH7_0.05-0.21	SE261218.009	%	70 - 130%	81
	BH7_0.82-0.98	SE261218.010	%	70 - 130%	87

SURROGATES

SE261218 R0

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d5-nitrobenzene (Surrogate)	BH8_0.62-0.82	SE261218.011	%	70 - 130%	84

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	101
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	99
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	103
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	103
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	103
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	102
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	104
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	101

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	92
	BH1_1.1-1.3	SE261218.002	%	60 - 130%	101
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	104
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	108
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	99
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	101
	BH5_0.95-1.15	SE261218.007	%	60 - 130%	99
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	94
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	101
	BH7_0.82-0.98	SE261218.010	%	60 - 130%	97
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	107
	QD1	SE261218.012	%	60 - 130%	107
	TS1	SE261218.014	%	60 - 130%	90
	TB1	SE261218.015	%	60 - 130%	94
d4-1,2-dichloroethane (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	97
	BH1_1.1-1.3	SE261218.002	%	60 - 130%	82
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	81
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	88
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	78
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	83
	BH5_0.95-1.15	SE261218.007	%	60 - 130%	78
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	79
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	85
	BH7_0.82-0.98	SE261218.010	%	60 - 130%	78
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	86
	QD1	SE261218.012	%	60 - 130%	90
	TS1	SE261218.014	%	60 - 130%	85
	TB1	SE261218.015	%	60 - 130%	78
d8-toluene (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	104
	BH1_1.1-1.3	SE261218.002	%	60 - 130%	81
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	83
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	89
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	79
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	83
	BH5_0.95-1.15	SE261218.007	%	60 - 130%	78
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	80
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	85
	BH7_0.82-0.98	SE261218.010	%	60 - 130%	79
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	84
	QD1	SE261218.012	%	60 - 130%	89
	TS1	SE261218.014	%	60 - 130%	93
	TB1	SE261218.015	%	60 - 130%	79

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE261218.013	%	40 - 130%	92
d4-1,2-dichloroethane (Surrogate)	QR1	SE261218.013	%	40 - 130%	123

SURROGATES

SE261218 R0

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOCs in Water (continued) — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	QR1	SE261218.013	%	40 - 130%	95

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	92
	BH1_1.1-1.3	SE261218.002	%	60 - 130%	101
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	104
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	108
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	99
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	101
	BH5_0.95-1.15	SE261218.007	%	60 - 130%	99
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	94
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	101
	BH7_0.82-0.98	SE261218.010	%	60 - 130%	97
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	107
	QD1	SE261218.012	%	60 - 130%	107
d4-1,2-dichloroethane (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	97
	BH1_1.1-1.3	SE261218.002	%	60 - 130%	82
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	81
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	88
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	78
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	83
	BH5_0.95-1.15	SE261218.007	%	60 - 130%	78
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	79
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	85
	BH7_0.82-0.98	SE261218.010	%	60 - 130%	78
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	86
	QD1	SE261218.012	%	60 - 130%	90
d8-toluene (Surrogate)	BH1_0.6-0.8	SE261218.001	%	60 - 130%	104
	BH1_1.1-1.3	SE261218.002	%	60 - 130%	81
	BH2_0.1-0.3	SE261218.003	%	60 - 130%	83
	BH3_0.1-0.3	SE261218.004	%	60 - 130%	89
	BH4_0.1-0.3	SE261218.005	%	60 - 130%	79
	BH5_0.15-0.35	SE261218.006	%	60 - 130%	83
	BH5_0.95-1.15	SE261218.007	%	60 - 130%	78
	BH6_0.05-0.2	SE261218.008	%	60 - 130%	80
	BH7_0.05-0.21	SE261218.009	%	60 - 130%	85
	BH7_0.82-0.98	SE261218.010	%	60 - 130%	79
	BH8_0.62-0.82	SE261218.011	%	60 - 130%	84
	QD1	SE261218.012	%	60 - 130%	89

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	QR1	SE261218.013	%	40 - 130%	92
d4-1,2-dichloroethane (Surrogate)	QR1	SE261218.013	%	60 - 130%	123
d8-toluene (Surrogate)	QR1	SE261218.013	%	40 - 130%	95

METHOD BLANKS

SE261218 R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury (dissolved) in Water — Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB305269.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil — Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB305304.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB305253.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.2
		Endrin	mg/kg	0.2	<0.2
		Beta Endosulfan	mg/kg	0.2	<0.2
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	99

OP Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB305253.001		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	107

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB305253.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1

METHOD BLANKS

SE261218 R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB305253.001		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	88
		2-fluorobiphenyl (Surrogate)	%	-	100
		d14-p-terphenyl (Surrogate)	%	-	107

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB305253.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	TCMX (Surrogate)	%	-	98

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result
LB305303.001	Arsenic, As	mg/kg	1	<1
	Cadmium, Cd	mg/kg	0.3	<0.3
	Chromium, Cr	mg/kg	0.5	<0.5
	Copper, Cu	mg/kg	0.5	<0.5
	Nickel, Ni	mg/kg	0.5	<0.5
	Lead, Pb	mg/kg	1	<1
	Zinc, Zn	mg/kg	2	<2.0

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result
LB305260.001	Arsenic	µg/L	1	<1
	Cadmium	µg/L	0.1	<0.1
	Chromium	µg/L	1	<1
	Copper	µg/L	1	<1
	Lead	µg/L	1	<1
	Nickel	µg/L	1	<1
	Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB305253.001	TRH C10-C14	mg/kg	20	<20
	TRH C15-C28	mg/kg	45	<45
	TRH C29-C36	mg/kg	45	<45
	TRH C37-C40	mg/kg	100	<100
	TRH C10-C36 Total	mg/kg	110	<110

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB305408.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number	Parameter	Units	LOR

METHOD BLANKS

SE261218 R0

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB305302.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	83
		d8-toluene (Surrogate)	%	-	87
		Bromofluorobenzene (Surrogate)	%	-	111
	Totals	Total BTEX*	mg/kg	0.6	<0.6

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB305534.001	Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	0.5	<0.5
		Toluene	µg/L	0.5	<0.5
		Ethylbenzene	µg/L	0.5	<0.5
		m/p-xylene	µg/L	1	<1
		o-xylene	µg/L	0.5	<0.5
	Polycyclic VOCs	Naphthalene (VOC)*	µg/L	0.5	<0.5
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86
		d8-toluene (Surrogate)	%	-	97
		Bromofluorobenzene (Surrogate)	%	-	98

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB305302.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	83

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB305534.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	86
		d8-toluene (Surrogate)	%	-	97
		Bromofluorobenzene (Surrogate)	%	-	98

DUPLICATES

SE261218 R0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261213.001	LB305269.010	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305304.014	Mercury	mg/kg	0.05	0.05	<0.05	143	7
SE261329.008	LB305304.023	Mercury	mg/kg	0.05	<0.05	<0.05	200	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305305.011	% Moisture	%w/w	1	20.0	18.9	35	6
SE261329.010	LB305305.022	% Moisture	%w/w	1	<1	<1	200	0

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261329.005	LB305253.025		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.2	102	31
			Endrin	mg/kg	0.2	<0.2	<0.2	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	0

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261329.005	LB305253.025	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0

SGS

DUPLICATES

SE261218 R0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261329.005	LB305253.025		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305253.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	10
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.3	0.4	30	18
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	6
SE261329.005	LB305253.025		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	0.3	102	86
			Anthracene	mg/kg	0.1	<0.1	0.1	168	32
			Fluoranthene	mg/kg	0.1	<0.1	0.6	61	146 ②
			Pyrene	mg/kg	0.1	<0.1	0.6	63	142 ②
			Benzo(a)anthracene	mg/kg	0.1	<0.1	0.3	96	96 ②
			Chrysene	mg/kg	0.1	<0.1	0.3	89	105 ②
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	0.3	102	90
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	0.1	177	25
			Benzo(a)pyrene	mg/kg	0.1	<0.1	0.3	101	90
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	0.1	165	32
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	0.1	182	17
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	0.4	124	55
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	0.4	87	67
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	0.5	97	40
			Total PAH (18)	mg/kg	0.8	<0.8	3.1	36	188 ②
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.4	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	8

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR

DUPLICATES

SE261218 R0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261329.005	LB305253.026		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305303.014	Arsenic, As	mg/kg	1	4	5	53	40
		Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
		Chromium, Cr	mg/kg	0.5	14	19	33	27
		Copper, Cu	mg/kg	0.5	6.1	6.7	38	9
		Nickel, Ni	mg/kg	0.5	2.1	2.0	54	4
		Lead, Pb	mg/kg	1	9	10	41	6
		Zinc, Zn	mg/kg	2	10	12	48	13

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261329.009	LB305260.013	Arsenic	µg/L	1	<1	<1	200	0
		Cadmium	µg/L	0.1	<0.1	<0.1	200	0
		Chromium	µg/L	1	<1	<1	200	0
		Copper	µg/L	1	<1	<1	200	0
		Lead	µg/L	1	<1	<1	200	0
		Nickel	µg/L	1	<1	<1	200	0
		Zinc	µg/L	5	<5	<5	200	0

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305253.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE261329.005	LB305253.025		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261194.001	LB305408.028		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	510	390	75	27
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	530	400	99	26
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0

DUPLICATES

SE261218 R0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TRH (Total Recoverable Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261194.001	LB305408.028	TRH F Bands	TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	144	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0
SE261286.001	LB305408.029		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305302.015	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.8	8.2	50	5
			d8-toluene (Surrogate)	mg/kg	-	7.9	8.2	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10.3	50	6
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE261329.008	LB305302.034	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	7.9	50	10
			d8-toluene (Surrogate)	mg/kg	-	8.9	8.2	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.9	10.4	50	4
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261217.002	LB305534.027	Monocyclic Aromatic	Benzene	µg/L	0.5	0.1056033097	0.0906692093	200	0
			Toluene	µg/L	0.5	0.0494542005	0.0412876710	200	0
			Ethylbenzene	µg/L	0.5	0.0475245319	0.0314808459	200	0
			m/p-xylene	µg/L	1	0.0739020816	0.0414440993	200	0
			o-xylene	µg/L	0.5	0.0813763376	0.0466549019	200	0
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	0.4012549514	0.2707385017	179	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.0875682028	8.2463602115	30	38 †
			d8-toluene (Surrogate)	µg/L	-	9.6189380218	8.0569542499	30	18
			Bromofluorobenzene (Surrogate)	µg/L	-	10.0137026228	8.0426253182	30	22
		Totals	Total BTEX	µg/L	3	0	0	200	0

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261218.010	LB305302.015		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.8	8.2	50	5
			d8-toluene (Surrogate)	mg/kg	-	7.9	8.2	50	4
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.7	10.3	50	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE261329.008	LB305302.034		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0

DUPLICATES

SE261218 R0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Volatile Petroleum Hydrocarbons in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261329.008	LB305302.034	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.8	7.9	50	10
			d8-toluene (Surrogate)	mg/kg	-	8.9	8.2	50	9
			Bromofluorobenzene (Surrogate)	mg/kg	-	10.9	10.4	50	4
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE261194.001	LB305534.026		TRH C6-C10	µg/L	50	0	7.8172492997	200	0
			TRH C6-C9	µg/L	40	0	6.1120668275	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.6848966192	7.4953942131	30	51 †
			d8-toluene (Surrogate)	µg/L	-	9.3795135226	7.6601316953	30	20
			Bromofluorobenzene (Surrogate)	µg/L	-	9.4427370760	7.7871603662	30	19
		VPH F Bands	Benzene (F0)	µg/L	0.5	0	0.0766227173	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	0	7.8172492997	200	0
SE261217.002	LB305534.027		TRH C6-C10	µg/L	50	0.8345433211	7.0222815023	200	0
			TRH C6-C9	µg/L	40	0	5.2315203302	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.0875682020	8.2463602115	30	38 †
			d8-toluene (Surrogate)	µg/L	-	9.6189380218	8.0569542499	30	18
			Bromofluorobenzene (Surrogate)	µg/L	-	10.0137026228	8.0426253182	30	22
		VPH F Bands	Benzene (F0)	µg/L	0.5	0.1056033097	0.0906692093	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	0.8345433211	7.0222815023	200	0

LABORATORY CONTROL SAMPLES

SE261218 R0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil — Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305304.002	Mercury	mg/kg	0.05	0.23	0.2	80 - 120	113

OC Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305253.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	90
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	89
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	92
		Dieldrin	mg/kg	0.2	<0.2	0.2	60 - 140	86
		Endrin	mg/kg	0.2	<0.2	0.2	60 - 140	82
		p,p'-DDT	mg/kg	0.1	0.1	0.2	60 - 140	61
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	40 - 130	99

OP Pesticides in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305253.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.7	2	60 - 140	87
		Diazinon (Dimpylate)	mg/kg	0.5	1.8	2	60 - 140	92
		Dichlorvos	mg/kg	0.5	1.4	2	60 - 140	69
		Ethion	mg/kg	0.2	1.6	2	60 - 140	82
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104

PAH (Polynuclear Aromatic Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305253.002		Naphthalene	mg/kg	0.1	4.0	4	60 - 140	101
		Acenaphthylene	mg/kg	0.1	3.9	4	60 - 140	99
		Acenaphthene	mg/kg	0.1	4.2	4	60 - 140	104
		Phenanthrene	mg/kg	0.1	3.9	4	60 - 140	98
		Anthracene	mg/kg	0.1	4.3	4	60 - 140	108
		Fluoranthene	mg/kg	0.1	4.1	4	60 - 140	102
		Pyrene	mg/kg	0.1	4.3	4	60 - 140	106
		Benzo(a)pyrene	mg/kg	0.1	4.2	4	60 - 140	104
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	98
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	104

PCBs in Soil — Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305253.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	103

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305303.002	Arsenic, As	mg/kg	1	320	318.22	80 - 120	99
	Cadmium, Cd	mg/kg	0.3	4.9	4.81	70 - 130	101
	Chromium, Cr	mg/kg	0.5	42	38.31	80 - 120	108
	Copper, Cu	mg/kg	0.5	300	290	80 - 120	103
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	101
	Lead, Pb	mg/kg	1	93	89.9	80 - 120	103
	Zinc, Zn	mg/kg	2	250	273	80 - 120	93

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305260.002	Arsenic	µg/L	1	20	20	80 - 120	100
	Cadmium	µg/L	0.1	21	20	80 - 120	103
	Chromium	µg/L	1	21	20	80 - 120	105
	Copper	µg/L	1	21	20	80 - 120	104
	Lead	µg/L	1	21	20	80 - 120	103
	Nickel	µg/L	1	21	20	80 - 120	105
	Zinc	µg/L	5	21	20	80 - 120	106

LABORATORY CONTROL SAMPLES

SE261218 R0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305253.002		TRH C10-C14	mg/kg	20	38	40	60 - 140	95
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	98
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	99
	TRH F Bands	TRH >C10-C16	mg/kg	25	40	40	60 - 140	101
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	97
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	96

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305408.002		TRH C10-C14	µg/L	50	1200	1200	60 - 140	98
		TRH C15-C28	µg/L	200	1300	1200	60 - 140	111
		TRH C29-C36	µg/L	200	1400	1200	60 - 140	114
	TRH F Bands	TRH >C10-C16	µg/L	60	1300	1200	60 - 140	111
		TRH >C16-C34 (F3)	µg/L	500	1200	1200	60 - 140	103
		TRH >C34-C40 (F4)	µg/L	500	760	600	60 - 140	127

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305302.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.9	5	60 - 140	77
		Toluene	mg/kg	0.1	4.6	5	60 - 140	92
		Ethylbenzene	mg/kg	0.1	4.4	5	60 - 140	89
		m/p-xylene	mg/kg	0.2	9.2	10	60 - 140	92
		o-xylene	mg/kg	0.1	4.7	5	60 - 140	94
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	10	70 - 130	79
		d8-toluene (Surrogate)	mg/kg	-	9.6	10	70 - 130	96
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93

VOCs in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305534.002	Monocyclic Aromatic	Benzene	µg/L	0.5	51	45.45	60 - 140	113
		Toluene	µg/L	0.5	57	45.45	60 - 140	125
		Ethylbenzene	µg/L	0.5	50	45.45	60 - 140	109
		m/p-xylene	µg/L	1	100	90.9	60 - 140	114
		o-xylene	µg/L	0.5	52	45.45	60 - 140	113
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	7.5	10	60 - 140	75
		d8-toluene (Surrogate)	µg/L	-	10.8	10	70 - 130	108
		Bromofluorobenzene (Surrogate)	µg/L	-	10.1	10	70 - 130	101

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305302.002		TRH C6-C10	mg/kg	25	66	92.5	60 - 140	72
		TRH C6-C9	mg/kg	20	59	80	60 - 140	74
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	10	70 - 130	79
		Bromofluorobenzene (Surrogate)	mg/kg	-	9.3	10	70 - 130	93
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	40	62.5	60 - 140	64

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB305534.002		TRH C6-C10	µg/L	50	840	946.63	60 - 140	89
		TRH C6-C9	µg/L	40	720	818.71	60 - 140	88
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	7.5	10	60 - 140	75
		d8-toluene (Surrogate)	µg/L	-	10.8	10	70 - 130	108
		Bromofluorobenzene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	530	639.67	60 - 140	83

MATRIX SPIKES

SE261218 R0

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261039.001	LB305269.004	Mercury	mg/L	0.0001	0.0021	0.008	0.008	105

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305304.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	106

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305253.004		Alpha BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	-	-
			Beta BHC	mg/kg	0.1	<0.1	<0.1	-	-
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	-	-
			Delta BHC	mg/kg	0.1	0.2	<0.1	0.2	92
			Heptachlor	mg/kg	0.1	0.2	<0.1	0.2	93
			Aldrin	mg/kg	0.1	0.2	<0.1	0.2	94
			Isodrin	mg/kg	0.1	<0.1	<0.1	-	-
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	-	-
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	-	-
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	-	-
			Dieldrin	mg/kg	0.2	<0.2	<0.2	0.2	90
			Endrin	mg/kg	0.2	<0.2	<0.2	0.2	85
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	-	-
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	-	-
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	-	-
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	-	-
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	-	-
			p,p'-DDT	mg/kg	0.1	0.1	<0.1	0.2	65
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	-	-
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	-	-
			Mirex	mg/kg	0.1	<0.1	<0.1	-	-
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	-	-
			Total CLP OC Pesticides	mg/kg	1	1	<1	-	-
			Total OC VIC EPA	mg/kg	1	1	<1	-	-
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.16	0.15	-	107

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305253.004		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	<0.2	2	88
			Diazinon (Dimpylate)	mg/kg	0.5	1.8	<0.5	2	92
			Dichlorvos	mg/kg	0.5	1.4	<0.5	2	68
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.8	<0.2	2	88
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	6.7	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	95
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	102

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number	Parameter	Units	LOR

MATRIX SPIKES

SE261218 R0

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305253.004		Naphthalene	mg/kg	0.1	3.9	<0.1	4	97
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.0	<0.1	4	99
			Acenaphthene	mg/kg	0.1	4.2	<0.1	4	105
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	3.8	<0.1	4	95
			Anthracene	mg/kg	0.1	4.1	<0.1	4	103
			Fluoranthene	mg/kg	0.1	3.9	<0.1	4	98
			Pyrene	mg/kg	0.1	4.2	<0.1	4	105
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Chrysene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.2	<0.1	4	105
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.2	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.3	<0.2	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.3	<0.3	-	-
			Total PAH (18)	mg/kg	0.8	32	<0.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	92
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.4	-	95
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	102

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305253.004		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1260	mg/kg	0.2	0.4	<0.2	0.4	105
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	-	-
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	-	-
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	-	-
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	-	106

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305303.004	Arsenic, As	mg/kg	1	53	1	50	103
		Cadmium, Cd	mg/kg	0.3	46	<0.3	50	92
		Chromium, Cr	mg/kg	0.5	56	2.2	50	107
		Copper, Cu	mg/kg	0.5	57	2.6	50	108
		Nickel, Ni	mg/kg	0.5	55	1.8	50	106
		Lead, Pb	mg/kg	1	61	7	50	109
		Zinc, Zn	mg/kg	2	70	15	50	110

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.013	LB305260.004	Arsenic	µg/L	1	19	<1	20	97
		Cadmium	µg/L	0.1	20	<0.1	20	101
		Chromium	µg/L	1	22	<1	20	106
		Copper	µg/L	1	21	<1	20	102
		Lead	µg/L	1	21	<1	20	103
		Nickel	µg/L	1	21	<1	20	104
		Zinc	µg/L	5	22	<5	20	86

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number	Parameter	Units	LOR

MATRIX SPIKES

SE261218 R0

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

TRH (Total Recoverable Hydrocarbons) in Soil (continued) — Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305253.004		TRH C10-C14	mg/kg	20	41	<20	40	97
			TRH C15-C28	mg/kg	45	<45	<45	40	95
			TRH C29-C36	mg/kg	45	58	<45	40	102
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	<110	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F	TRH >C10-C16	mg/kg	25	43	<25	40	101
		Bands	TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	43	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	40	88
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305302.004	Monocyclic	Benzene	mg/kg	0.1	3.9	<0.1	5	79
		Aromatic	Toluene	mg/kg	0.1	4.8	<0.1	5	96
			Ethylbenzene	mg/kg	0.1	4.7	<0.1	5	93
			m/p-xylene	mg/kg	0.2	9.8	<0.2	10	98
			o-xylene	mg/kg	0.1	5.1	<0.1	5	101
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.4	9.7	10	74
			d8-toluene (Surrogate)	mg/kg	-	8.6	10.4	10	86
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	9.2	10	90
		Totals	Total BTEX*	mg/kg	0.6	28	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	15	<0.3	-	-

VOCs in Water — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE261219.001	LB305534.028	Monocyclic	Benzene	µg/L	0.5	0	45.45	103
		Aromatic	Toluene	µg/L	0.5	0.03517174890	45.45	106
			Ethylbenzene	µg/L	0.5	0.03477652055	45.45	101
			m/p-xylene	µg/L	1	0.14101383756	90.9	100
			o-xylene	µg/L	0.5	0.09404826708	45.45	101
		Polycyclic	Naphthalene (VOC)*	µg/L	0.5	0.06457531251	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.65679009813	-	80
			d8-toluene (Surrogate)	µg/L	-	9.23109764143	-	83
			Bromofluorobenzene (Surrogate)	µg/L	-	9.69458992237	-	89
		Totals	Total BTEX	µg/L	3	0	-	-

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE261218.001	LB305302.005		TRH C6-C10	mg/kg	25	72	<25	92.5	78
			TRH C6-C9	mg/kg	20	64	<20	80	80
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.4	9.7	10	74
			d8-toluene (Surrogate)	mg/kg	-	8.6	10.4	10	86
			Bromofluorobenzene (Surrogate)	mg/kg	-	9.0	9.2	-	90
		VPH F	Benzene (F0)	mg/kg	0.1	4.3	<0.1	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	41	<25	62.5	65

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE261219.001	LB305534.028		TRH C6-C10	µg/L	50	1.78915345711	946.63	104
			TRH C6-C9	µg/L	40	0	818.71	104
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.65679009813	-	80
			d8-toluene (Surrogate)	µg/L	-	9.23109764143	-	83
			Bromofluorobenzene (Surrogate)	µg/L	-	9.69458992237	-	89
		VPH F	Benzene (F0)	µg/L	0.5	0	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	1.78915345711	639.67	111

MATRIX SPIKE DUPLICATES

SE261218 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

QC Sample	Sample Number	Parameter	Units	LOR

FOOTNOTES

SE261218 R0

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/ Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

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Item Number:	**3**
Application Number:	DA-224/2023
Proposed Development:	Fit-out and operation of Level 6 within the approved mixed use civic building for the purpose of a childcare centre for 90 children.
Property Address	No. 52 Scott Street Liverpool NSW 2170 (Lot 22 DP 441010) No. 48 Scott Street Liverpool NSW 2170 (Lot 12 DP 657056) No. 64 Scott Street Liverpool NSW 2170 (Lot 1 DP 514817) No. 40-46 Scott Street Liverpool NSW 2170 (Lot 100 DP 877435) No. 306-310 Macquarie Street Liverpool NSW 2170 (Lot 201 DP 1224084)
Legal Description:	As above
Applicant:	Built Development Group Pty Ltd
Land Owner:	Liverpool City Council
Cost of Works:	$5,091,251
Recommendation:	Approved subject to conditions of consent
Assessing Officer:	Nelson Mu – Fineline Planning

1 EXECUTIVE SUMMARY

Council has received a development application for the fit-out and operation of Level 6 within the approved mixed use civic building for the purpose of a child care centre to cater for 90 children. The Liverpool Civic Centre mixed-use building has been completed, including the library, and is now in operation and open to the public.

The proposed childcare facility will accommodate 90 children, as follows:

- 34 children – 3-5 yrs
- 20 children – 2-3 yrs
- 20 children – 1-2 yrs
- 16 children – 0-1 yrs

The centre will operate from 7.00am to 6.00pm Monday to Friday and will employ 17 staff.

The site is zoned MU1 Mixed-use pursuant to Liverpool Local Environmental Plan 2008 and the proposed development is permissible with consent.

The development application was advertised/notified for a period of 14 days from 19 June 2023 to 4 July 2023 in accordance with Community Participation Plan 2022. No submissions were received during the public consultation period objecting/supporting the proposal.

The childcare centre use is already approved for Level 6 of the Liverpool Civic Place mixed-use development that included a 14-storey mixed-use building consisting of public administration, childcare and commercial offices. A condition of consent of the development consent required a separate consent to be obtained for the fit-out and use of the childcare. This application has been lodged in response to the condition of consent of DA-836/2020 issued on 5 July 2021.

The key non-compliance associated with the proposal relates to:

1. The provision of unencumbered outdoor children play space in that simulated outdoor children play space is provided instead.

As a result of the simulated outdoor children play area being proposed, the application was required to be referred to the Department of Education for concurrence in accordance with SEPP (Transport and Infrastructure) 2021 and Regulation 108 of the Education Regulations. The Department of Education has provided its concurrence to the proposed simulated outdoor children play area. Accordingly, development consent may be granted to the development in respect to the proposed simulated outdoor environment.

The additional information submitted with the Applicant has also satisfactorily resolved other issues of concern with the proposal and it is considered that an acceptable proposal is now proposed for the site that is considered worthy of support.

The application is referred to the Liverpool Local Planning Panel (LLPP) in accordance with the Local Planning Panels Direction – Development Applications and Applications to Modify Development Consent, endorsed by the Minister for Planning and Public Spaces on 30 June 2020, as the development falls in the category of:

Conflict of interest

Development for which the applicant or land-owner is:
(a) the Council

The application has been assessed pursuant to the provisions of the Environmental Planning and Assessment (EP&A) Act 1979. Based on the assessment of the application, it is recommended that the application be **approved,** subject to the imposition of conditions.

2. SITE DESCRIPTION AND LOCALITY

2.1 The locality

The subject site is situated on the western periphery of the Liverpool Town Centre and is surrounded by high density mixed-use buildings of varying heights and architectural character.

The adjoining properties to the development site are detailed in the following table.

North (front)	Scott Street and the properties on the opposite side of Scott Street consist of 1, 2, 3 & 4-storey commercial buildings continuously built to the street edge.
South (rear)	Terminus Street and the properties on the opposite side of Terminus Street consist of 1 to 4-storey buildings.
East (side)	2-storey commercial buildings.
West (side)	9-storey mixed-use building and the 2-storey Memorial School of Arts building.

Figure 1: Locality Surrounding the Proposed Development with the subject site highlighted (Source: Six Maps) - Locality Map

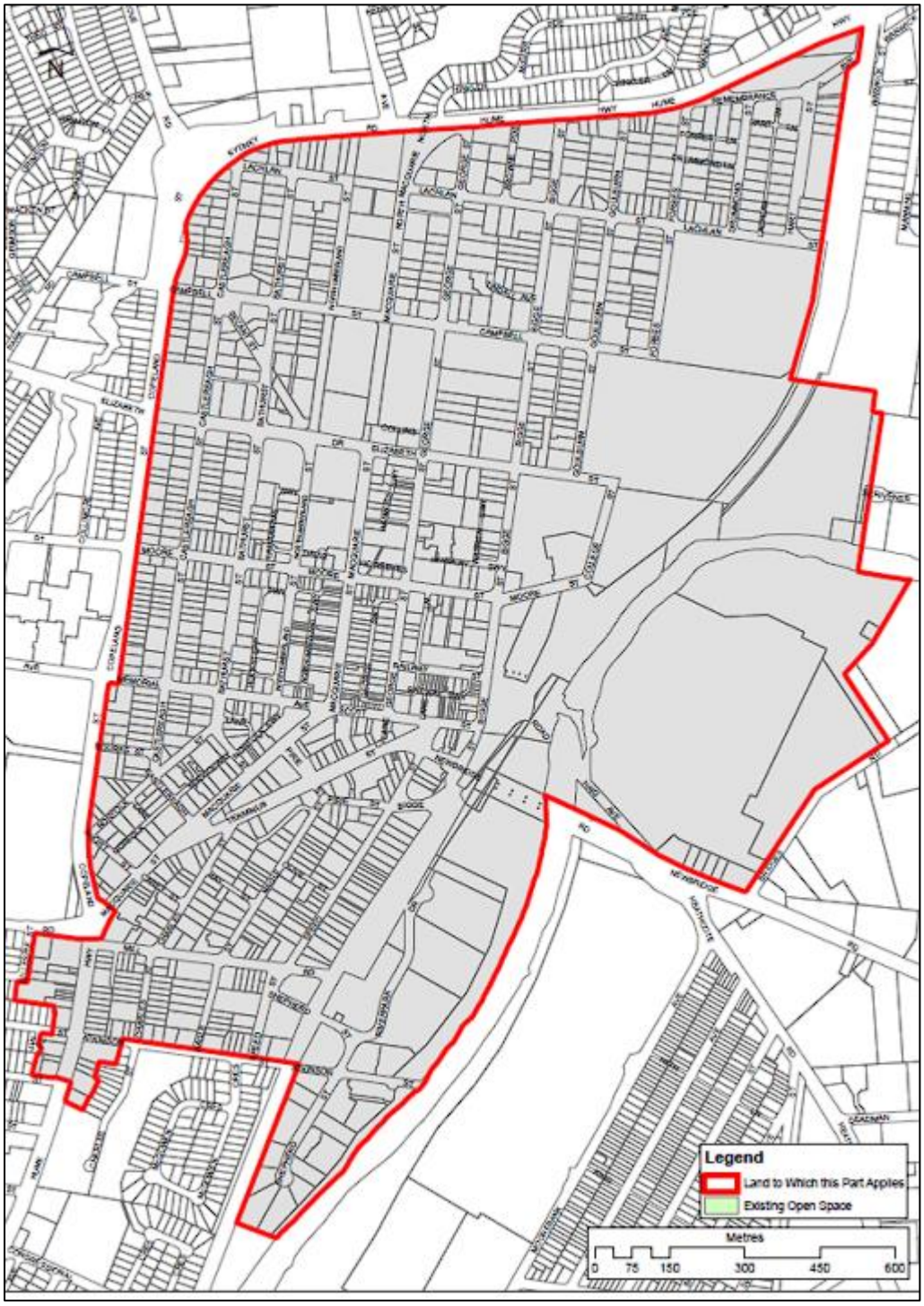


Figure 2: Locality Map and an outline of the Liverpool Town Centre (Source: Liverpool DCP 2008)

2.2 The site

- The development site is identified 48-64 Scott Street, Liverpool and is legally described as Lot 22 DP441010. It is irregular in shape, with a frontage to Macquarie Street and Scott Street and rear boundary to Terminus Street. The Liverpool Civic Centre mixed-use building has been completed and the building is now open to the public including the Council's new administration building and public library. The Civic Centre building consists of a 14-storey mixed-use building containing public administration, childcare centre and commercial uses and a 6-storey library building.

- The site is zoned MU1 Mixed-Use under the Liverpool Local Environmental Plan 2008.

Figure 3: View of the Liverpool Civic Centre building as seen from Scott Street consisting of a 6-storey library at the front and a 14-storey mixed-use Civic Centre building at the rear. The childcare centre is proposed on Level 6 of the mixed-use building (Source: Fineline Planning & Design).

Figure 4: View of the Liverpool Civic Centre building as seem from the intersection of Scott Street and Macquarie Street with a prominent library in the foreground (Source: Fineline Planning & Design).

3. BACKGROUND/HISTORY

DA No.	Proposal
DA-836/2020 Approved 5/7/21	Detailed DA for Phase A of the Liverpool Civic Place mixed-use development, including: • Construction and use of a 14-storey mixed use building comprising public administration, childcare and commercial office uses. • Construction and use of a 6-storey information and education facility (public library) building. • Construction of a 5-level basement that will accommodate car parking. • Landscaping and public domain works. The approval was subject to conditions including the following: ***Separate Application for Use*** *138. This consent does not approve the fit out and use of the childcare centre. A separate consent is to be obtained for the fit out and use of the childcare centre.* ***Car Parking/Loading*** *145. Off street car parking spaces must be provided in accordance with the following;* *(a) 156 public car spaces inclusive of 3 disabled car spaces.* *(b) 188 private spaces inclusive of 4 disabled car spaces.* *(c) 3 service bays within the basement for use as follows:*

	i. 1 service bay for a medium rigid vehicle (MRV). *ii. 1 service bay for a courier van.* *iii. 1 service bay for a Council refuse vehicle.* *(d) 8 public motorcycle spaces and 10 private motorcycle spaces.* *(e) 111 secure bicycle parking spaces and 30 visitor bicycle parking spaces, including secure lockers and shower facilities.* **The stamped approved plans allocated 10 drop off & pick-up parking spaces for the childcare centre (6 at Basement 01 and 4 at Lower Ground Plan)**
DA-836/2020/A Approved – 25/10/21	The modification related to: • Deletion of Basement Level 5 and modification of the layout of Basement Levels 3 and 4. • Reduction in off-street parking from 344 to 271 car parking spaces. • Utilisation of the courier space on the ground floor by library courier vehicles and a community bus. • Amendment of Conditions 1 and 145 of Development Consent DA836/2020.
DA-836/2020/B Approved – 25/10/21	The modification sought to amend, insert, and delete conditions of Development Consent DA-836/2020 to allow staged construction certificates, that being: • Insert Condition 1A within Development Consent DA-836/2020. • Amend Conditions 2, 3, 4, 5 and 6 of Development Consent DA-836/2020. • Delete Condition 15 of Development Consent DA-836/2020.
DA-836/2020/C Approved – 21/12/21	The Section 4.55(1A) Modification DA-836/2020/C sought to: Change the implementation timing of the affected conditions to align with the issue of the corresponding construction certificate. The application seeks to incorporate each component of condition 2, relating to plan amendments, into the table within condition 1A. The proposal also seeks to relocate condition 28 within the table, from the list of conditions to be satisfied prior to the first construction certificate, to the list of conditions to be satisfied prior to the second construction certificate. Whilst the affected conditions include both conditions 2 and 28, only condition 2 requires modifications to its wording. As approved, condition 28 refers to "…any relevant Construction Certificate." (as opposed to condition 2, which specifies that it must be satisfied prior to the issue of the first construction certificate); unlike consent condition 2, wording relating to the timing/construction certificate within condition 28 therefore does not require any changes. For reference, the five construction certificates for the development and the construction stages to which they relate as follows: • Construction certificate 1: Foundations, in-ground services, and structures for basement levels.

	• Construction certificate 2: Structures for the lower ground to roof levels (both buildings (i.e. the civic centre building and library)). • Construction certificate 3: Building services and fit-outs. • Construction certificate 4: Façade installation. • Construction certificate 5: External works (including landscaping and signage).
DA-836/2020/D Approved – 14/7/22	Modification Application DA-836/2020/D seeks consent for: Minor changes to the internal and external arrangements of the building.
DA-836/2020/E Approved – 21/12/22	Modification Application DA-836/2020/E seeks consent for: • Creation of three wintergardens on the north, northeast and southwest sides of the building, including changes to the building facades to provide fixed ventilation slots and internal skins including sliding doors, • Installation of new louvres, and modifications to the sizes of louvres on the sides of the building, • Changes to the tint colour of external windows on the southern and south-western sides of the building, • A new kitchen on the upper ground floor, • Configuration changes to core services on the western side of Level 6.
DA-224/2023	The subject DA was lodged with Council on 16 April 2023.
10 August 2023	The subject DA was deferred for the following reasons: **1. Site Plan** Submission of drawn to scale site plan showing the proposal in relation to the subject site. **2. Floor Plans** The submission of fully dimensioned drawings showing that the proposed indoor and outdoor unencumbered areas comply with the regulations. **3. Allocated Car Parking Spaces** Architectural drawings showing the allocated car parking spaces for the proposal should be submitted. **4. Inadequate outdoor unencumbered outdoor space** The proposal does not demonstrate that it provides sufficient outdoor unencumbered space, and the concurrence of the Regulatory Authority has not been obtained, in accordance with section 3.22 of the Transport and Infrastructure SEPP and regulation 108 of the Education Regulation. **5. Solar access** Submission of detailed drawings demonstrating that the proposed arrangements of the childcare centre facility optimises solar access to internal and external play areas as required by Part 3.3 C11 of the Child Care Planning Guideline. **6. Waste Management Plan** The submission of a Waste Management Plan addressing waste disposal and re-use for demolition, construction and on-going waste management for the proposal.

7. Environmental Health

a. **Acoustic Assessment**

The applicant is to confirm that the acoustic report submitted has been prepared or reviewed and certified by a suitably qualified and experienced consultant.

b. **Noise Management Plan**

The Noise Management Plan must identify and implement strategies to minimise noise from the proposed development and incorporate: approaches for promoting noise awareness by patrons and staff; training procedures; a complaint lodgement procedure to ensure that members of the public and local residents are able to report noise issues; an ongoing review process and a plan for responding to noise complaints. The Noise Management Plan shall clearly specify the responsibilities of site personnel in managing noise and include a detailed list of steps taken to manage potential noise impacts. *The Noise Management Plan by a suitably qualified consultant may be incorporated into the Plan of Management for the child care centre which should also be provided with the application.*

c. **Air Quality Assessment – development affected**

Council's records indicate that the proposed development may be impacted by poor air quality and odour as a result of surrounding land uses that generate air pollution. As outdoor children's play areas are indicated on the plans to open onto Terminus Street and Scott Street, a suitably qualified and experienced air quality consultant is to undertake an assessment to identify the impacts that air pollution may have on the development.

d. **Construction Details – Child Care Facility**

To ensure compliance with the relevant standards and requirements, the following details are to be submitted for approval. Detailed floor and section plans to scale for all kitchens, bottle preparation areas, nappy change areas, bathrooms and laundries demonstrating the proposed floor layout as well as compliance with:

- AS4674-2004 – Design, construction and fit-out of food premises
- Food Standards Code (Australia)
- Building Code of Australia
- Education and Care Services National Regulation 2011

e. **Mechanical Ventilation System**

Detailed plans and specifications of the mechanical ventilation

	system servicing the food preparation and dining areas of the premises shall be prepared by an appropriately qualified person. The plans shall certify compliance with *AS/NZS 1668-'The Use Of Ventilation and Air-Conditioning In Buildings'.* f. **<u>Waste Storage</u>** The garbage/waste storage area shall be clearly identified on the site plan and be located within the proposed building. The designated garbage/waste storage area shall comply with the following requirements: a) The room shall be fully enclosed and provided with a concrete floor, and with concrete or cement rendered walls coved to the floor; b) The room shall have a floor waste which is to consist of a removable basket within a fixed basket arrestor and is to comply with Sydney Water requirements; and c) The door to the room must be tight-fitting, self-closing and fitted with mechanical ventilation. **8. Community Planning** Council's Community Planning Section has requested that the following matters be addressed: **a. <u>Social Impact Assessment</u>** Liverpool DCP Part 1 Section 27 refers, *applications for development of, or major changes to: childcare centre (more than 20 places) need to submit a Social Impact Assessment (SIA)*. There is no SIA with this application. The required SIA should identify local needs and potential impacts of the proposed development. The SIA should be prepared by a suitably qualified person. Details of the SIA requirements are available in Council's SIA Policy & Guidelines (Updated March 2023)[i]. **b. <u>Plan of Management</u>** The application briefly discusses the operational management plan though it is not detailed. It did not include some key operational matters such as the daily routine of the kids. The SEE refers, '*It is noted that an operator is yet to be appointed for the childcare center, therefore it is requested that a condition be included in the development consent that enables a more detailed Operational Plan of management to be prepared by the operator prior to the issue of the Occupation Certificate'*. It is recommended that the PoM be drafted flexible enough for kids' outdoor or indoor involvement and adjusting routines

	accordingly. c. <u>Amenity & Access</u> The SEE refers to '*The childcare center will employ a minimum of 17 educational staff*'. The proposed floor plan shows there is a staff room. But there is no separate bathroom. Provision of an accessible staff amenity with unisex toilet and washing facility is recommended**.** d. <u>Outdoor play area</u> The proposed outdoor play area may be affected by the hot summer and other climatic conditions. We recommend providing adequate screening and other required arrangements. The activity areas should be level free. If there is any level planned, a step ramp needs to be provided. For example, from wooden deck to grass area. e. <u>Needs Assessment</u> Council's internal research on Early Childhood Services refers, *in 2019, there was a surplus of 2,207 approved places in long day care and preschool services across the LGA. Though there were some areas with shortages, i.e., areas with the largest shortages recording deficits of 200 approved places or more included: Liverpool (248). Proposed development has the potential to maximize public interest by providing quality childcare at an accessible location.* The study also indicates *there was a shortage of approximately 805 OSHC (out of school hours care) places across the LGA. The most poorly serviced area was Liverpool (61 children to 1 approved place) followed by Casula (31 children per 1 approved place)* (pg 11). There are few schools in proximity to the subject site, which indicates a potential demand for OSHC services. We recommend exploring the demand and scope of including a certain proportion of OSHC services. The provision of vacation (school holidays) care could also be considered. This may meet the local needs and the Council staff members as well.
6 September 2023	Extension of time granted until 6 October 2023 to allow the applicant to submit the requested information.
23 October 2023	Additional information received from the applicant.
13 February 2024	Further RFI issued to the applicant advising that the Department of Education refused concurrence to the proposal. As such, Council is unable to progress the application any further. The applicant was also informed of outstanding issues pertaining Environmental Health and

	Community Planning.
27 February 2024	Following receipt of the correspondence from the Department of Education, the Applicant collaborated with the Department of Education as to its particular requirements. As a result, the Applicant provided further information to Council including a response to the RFI letter, revised architectural drawings, updated Plan of Management, letter confirming compliance with waste management, itemised response to design matters and Social Impact Comments. The additional information was forwarded to the Department of Education for concurrence/comments and referred internally for comments.
9 April 2024	The Department of Education provided its concurrence to the application, having regard to the additional information submitted by the applicant.Council's Environmental Health and Community Planning were also satisfied with the additional provided by the Applicant.

4. DETAILS OF THE PROPOSAL

The development application proposes the fit out and operation of Level 6 within the mixed-use Liverpool Civic Centre Building for the purpose of a childcare centre accommodating 90 children. DA-836/2020, which was approved on 5 July 2021, enabled a detailed DA for Phase A of the Liverpool Civic Place mixed-use development, including the construction and use of a 14 storey mixed use building comprising public administration, childcare and commercial office uses; construction and use of a six storey information and education facility (public library) building; construction of a five-level basement that will accommodate car parking; and landscaping and public domain works.

Condition 138 of the consent requires a separate consent to be obtained for the fit out and use of the childcare centre.

This application has been lodged in response to condition 138 of the consent for the fit-out and use of the childcare centre. The proposed childcare centre facility will accommodate 90 children, as follows:

- 34 children – 3-5 yrs
- 20 children – 2-3 yrs
- 20 children – 1-2 yrs
- 16 children – 0-1 yrs

The centre will operate from 7.00am to 6.00pm Monday to Friday and will employ 17 staff.

It will provide the required indoor unencumbered spaces and outdoor unencumbered spaces as simulated outdoor space within level 6 of the building.

A total of 4 drop-off and pick-up car parking spaces are provided at the Lower Ground Level and 6 drop-off and pick-up car parking spaces are provided with Basement Level 1 parking spaces for the exclusive use of the proposed childcare centre facility in accordance with the

original approval for the childcare centre, which complies with the requirements of Clause 7.3 of the Liverpool LEP 2008.

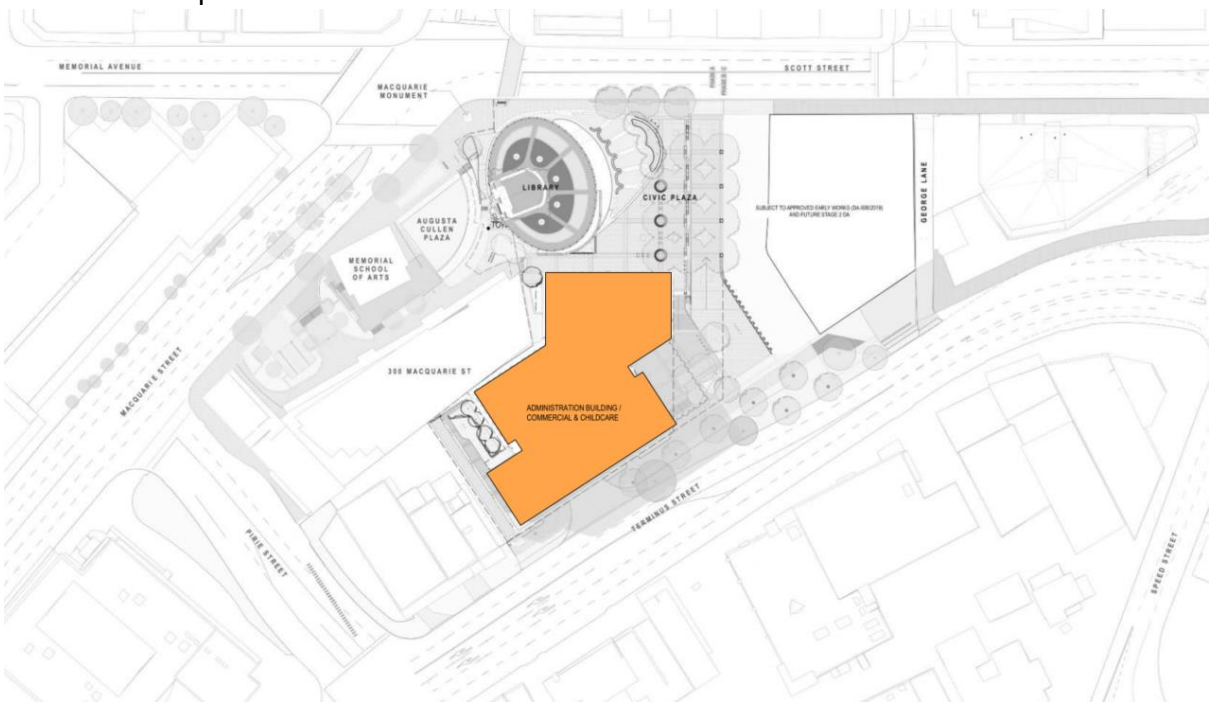


Figure 5 : Level 6 Site plan (source: submitted architectural plans)

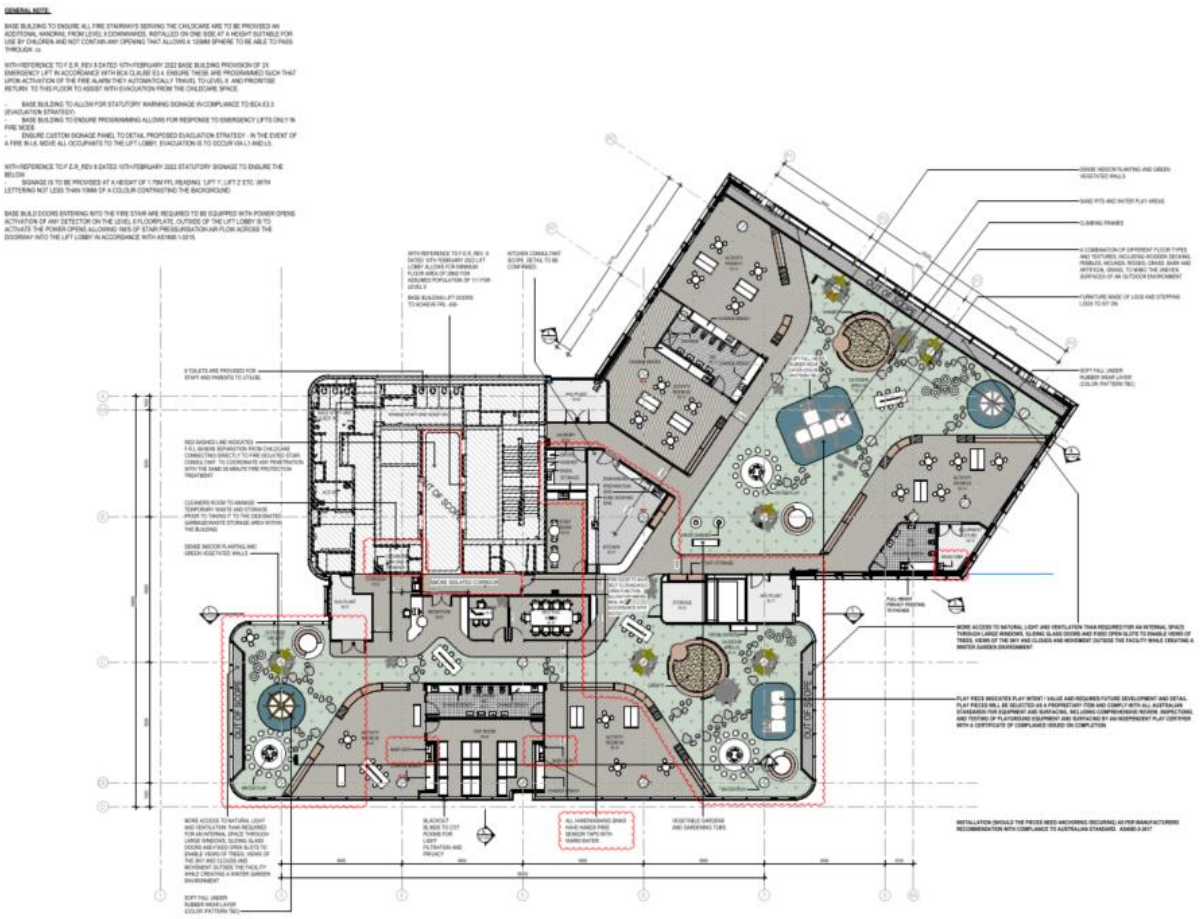


Figure 6: Level 6 – General arrangement plan (source: submitted architectural plans)

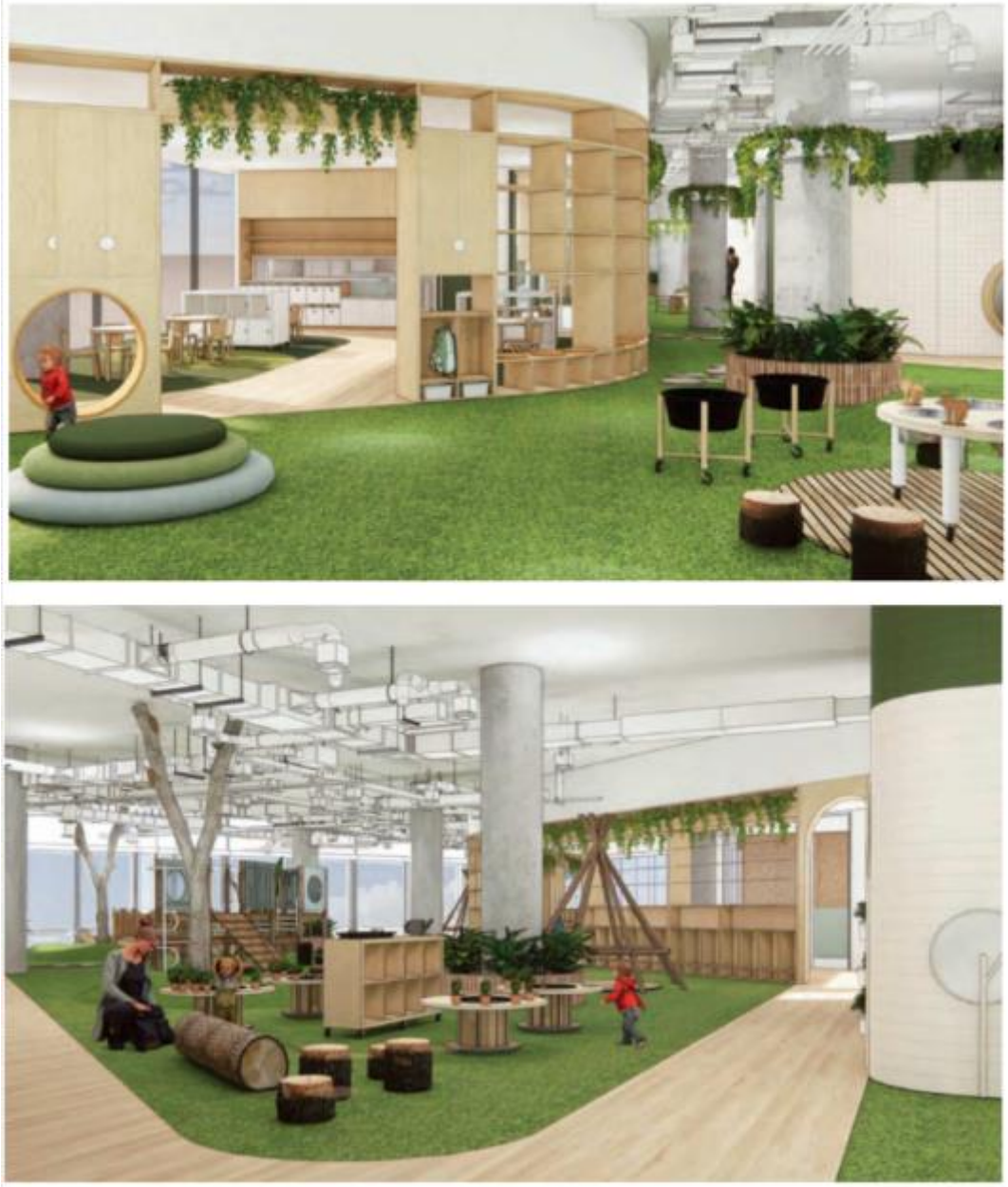


Figure 7: Level 6 – Renders (source: submitted architectural plans)

5. STATUTORY CONSIDERATIONS

5.1 Relevant matters for consideration

The relevant planning instruments/policies applicable to the proposed development are as follows:

- Education and Care National Regulations
- State Environmental Planning Policy (Resilience and Hazards) 2021

- State Environmental Planning Policy (Biodiversity and Conservation) 2021
- State Environmental Planning Policy (Transport and Infrastructure) 2021
- Liverpool Local Environmental Plan 2008
- Child Care Planning Guidelines (September 2021)
- Liverpool Development Control Plan 2008

Other Plans and Policies

- N/A

Contributions Plans

- Liverpool Contribution Plan 2018 does not apply to the proposal pursuant to Section 7.12 of the EPA & Act, as the proposed is for the fit-out and use of an existing building. The contributions have been confirmed by Council's contribution officer.

6. ASSESSMENT

The development application has been assessed in accordance with the relevant matters of consideration prescribed by Section 4.15 Evaluation of the EP&A 1979 and the Environmental Planning and Assessment Regulation 2000, as follows:

6.1 Section 4.15(1)(a)(i) – Any Environmental Planning Instrument

(a) State Environmental Planning Policy (Transport and Infrastructure) 2021

Chapter 3 Educational establishments and child care facilities

Whilst now forming part of the Transport and Infrastructure SEPP, the aim of the Educational establishments and child care facilities SEPP introduced in 2017 was to make it easier for child-care providers, schools, TAFEs and universities to build new facilities and improve existing ones by streamlining the planning process to save time and money and deliver greater consistency across NSW.

Compliance with the relevant provisions of Chapter 3 is outlined in Table 1 below.

Educational establishments and child care facilities			
Clause	**Required**	**Provided**	**Complies**
Part 3.3 Early education and care facilities—specific development controls			
3.22 Centre-based child care facility—concurrence of Regulatory Authority required for certain development	(1) This section applies to development for the purpose of a centre-based child care facility if— (a) the floor area of the building or place	The proposal complies with Regulation 107.	Yes

	does not comply with regulation 107 (indoor unencumbered space requirements) of the *Education and Care Services National Regulations*, or (b) the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations.	The proposal does not comply with the requirements of unencumbered outdoor space, as this space will be fully enclosed. In this regard, Concurrence from the Regulatory Authority is required, which has been obtained.	Yes
3.23 Centre-based child care facility—matters for consideration by consent authorities	Before determining a development application for development for the purpose of a centre-based child care facility, the consent authority must take into consideration any applicable provisions of the *Child Care Planning Guideline*, in relation to the proposed development.	Compliance with the relevant requirements of the *Child Care Planning Guideline* is provided at Attachment 2 to this report.	Yes
3.26 Centre-based child care facility—non-discretionary development standards	(1) The object of this section is to identify development standards for particular matters relating to a centre-based child care facility that, if complied with, prevent the consent authority from requiring more onerous standards for those matters. (2) The following are non-discretionary development standards for the purposes of section 4.15(2) and (3) of the Act in relation to the carrying out of development for the purposes of a centre-	Noted	

	based child care facility—		
	(a) **location**—the development may be located at any distance from an existing or proposed early education and care facility,	Already addressed by DA-836/2020	Yes
	(b) **indoor or outdoor space** (i) for development to which regulation 107 (indoor unencumbered space requirements) or 108 (outdoor unencumbered space requirements) of the *Education and Care Services National Regulations* applies—the unencumbered area of indoor space and the unencumbered area of outdoor space for the development complies with the requirements of those regulations, or (ii) for development to which clause 28 (unencumbered indoor space and useable outdoor play space) of the *Children (Education and Care Services) Supplementary Provisions Regulation 2012* applies—the development complies with the indoor space requirements or the useable outdoor play space requirements in that clause,	As noted above, the proposed simulated unencumbered outdoor children play area has received concurrence from the Department of Education.	Yes
	(c) **site area and site dimensions**—the development may be located on a site of any	Already addressed by DA-836/2020	Yes

	size and have any length of street frontage or any allotment depth,		
	(d) **colour of building materials or shade structures**—the development may be of any colour or colour scheme unless it is a State or local heritage item or in a heritage conservation area.	Already addressed by DA-836/2020 for the base building approval.	Yes
	(3) To remove doubt, this section does not prevent a consent authority from— (a) refusing a development application in relation to a matter not specified in subsection (2), or (b) granting development consent even though any standard specified in subsection (2) is not complied with.	Noted	

(b) State Environmental Planning Policy (Resilience and Hazards) 2021

Pursuant to Clause 4.6 of SEPP (Resilience and Hazards) 2021, a consent authority is unable to grant development consent unless it has considered whether the land is contaminated and, if so, whether the consent authority is satisfied that the land is suitable in its contaminated state, or can be remediated to be made suitable for the purposes for which the development is proposed to be carried out.

Clause 4.6 - Contamination and remediation to be considered in determining development application	**Comment**
(1) A consent authority must not consent to the carrying out of any development on land unless:	
(a) it has considered whether the land is contaminated, and	Land contamination issue was resolved as part of the assessment of the parent application.

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and	The land is suitable for the proposed works.
(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	The land does not require remediation.

Based on the above assessment, the proposal is considered to satisfy the relevant objectives and provisions of SEPP, and therefore, it is considered that the subject site is suitable for the proposed development.

(c) State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 6: Water Catchments

The subject land is located within the Georges River catchment and as such State Environmental Planning Policy (Biodiversity and Conservation) 2021 is applicable, in particular Part 6.2 – Development in regulated catchments. Part 6.2 of the SEPP generally aims to protect the environment of water catchments by ensuring that impacts of future land uses are considered in a state, regional, and local context.

When determining a development application, consideration shall be given to the matters listed in Division 2 and 3 of Part 6.2. Accordingly, a table summarising the matters for consideration in determining development applications, and compliance with such is provided below.

Division 2 Controls on development generally	***Comment***
6.6 Water Quality and Quantity	*Water quality and quantity device were provided as part of the parent approval relating to DA-836/2020, as per Part 6.5 of the LDCP 2008.*
6.7 Aquatic ecology	*As noted above, a standard water quality treatment device would had been incorporated into the design of the base building, which would reduce water pollution and improve the quality of water entering the waterway and catchment.*
6.8 Flooding	*The site is not located within a flood prone area and will have no impact on flood behaviour within the catchment.*

6.9 Recreation and public access	*Not applicable*
6.10 Total catchment management	*It is considered unlikely that the proposal will have any adverse impact upon the catchment.*

It is considered that the proposed development is not in conflict with the objectives of Chapter 6 of the SEPP which seeks to promote the protection of the Georges River Catchment. It is considered that appropriate conditions relating to erosion and sediment control and storm water runoff mitigation had been imposed as part of the parent approval of the base building.

(d) Liverpool Local Environmental Plan 2008

(i) Zoning

The subject site is zoned MU1 Mixed-use pursuant to the LLEP 2008. An extract of the zoning map is provided in Figure 6 below.

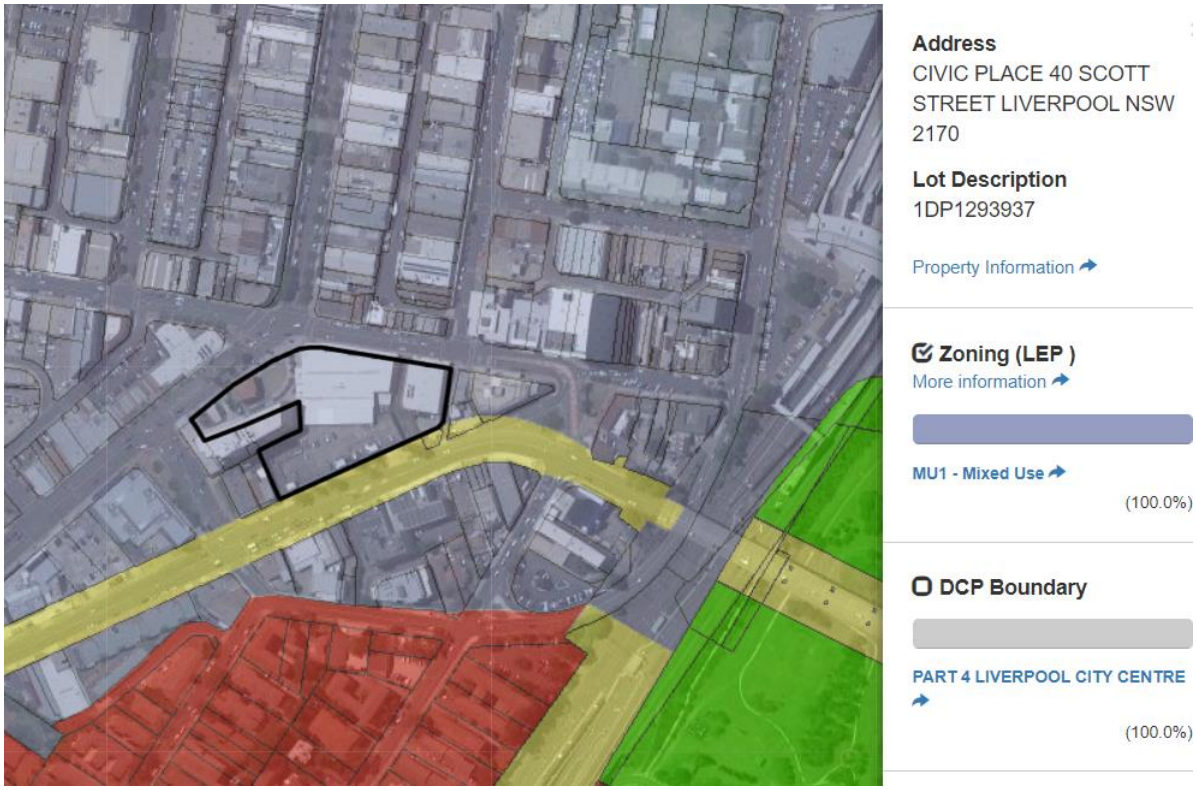


Figure 6: Zoning Map (source: eplanningliverpool)

(ii) Permissibility

The proposed development is best defined by the standard instrument as centre-based child care facilities, which is identified as permitted land use with consent within the MU1 Zone under Liverpool Local Environment Plan 2008.

centre-based child care facility is defined by the Liverpool LEP as follows:

> ***centre-based child care facility*** means—
> (a) a building or place used for the education and care of children that provides any one or more of the following—
> (i) long day care,
> (ii) occasional child care,
> (iii) out-of-school-hours care (including vacation care),
> (iv) preschool care, or
> (b) an approved family day care venue (within the meaning of the *Children (Education and Care Services) National Law (NSW)*),

(iii) Objectives of the zone

The objectives of the MU1 zone are as follows:

- *To encourage a diversity of business, retail, office and light industrial land uses that generate employment opportunities.*
- *To ensure that new development provides diverse and active street frontages to attract pedestrian traffic and to contribute to vibrant, diverse and functional streets and public spaces.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*
- *To encourage business, retail, community and other non-residential land uses on the ground floor of buildings.*
- *To allow for residential and other accommodation in Liverpool city centre, while maintaining active retail, business or other non-residential uses at street level.*

The proposal is consistent with the objectives of the zone in that the development will contribute to the diversity of business land uses that generate employment opportunities and minimises conflict between land uses within this zone and land use within adjoining zones.

(iv) Principal Development Standards

LLEP 2008 contains principal development standards which are relevant to the proposal, as detailed below.

Development Provision	Requirement	Proposed	Comment
4.3 Height of Buildings	Max permitted building height – 28m	The proposal is only for the fit and use of Level 6 of the approved mixed-use building (Liverpool	Complies

		Civic Building).	
4.4 Floor Space Ratio	Max permitted FSR is 3:1.	The proposal is only for the fit and use of Level 6 of the approved mixed-use building (Liverpool Civic Building).	Complies
5.10 Heritage conservation	(5) **Heritage assessment** The consent authority may, before granting consent to any development: (a) on land on which a heritage item is located, or (b) on land that is within a heritage conservation area, or (c) on land that is within the vicinity of land referred to in paragraph (a) or (b), require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.	The site is located in proximity to a heritage item listed within Schedule 5 as Item 89 – 'Plan of Town of Liverpool (early town centre street layout– Hoddle 1827)'. It is considered that the proposal is unlikely to have any impact on the existing street layout of the Liverpool Town Centre.	Complies
7.4 Building separation in Liverpool city centre	(2) Development consent must not be granted to development for the purposes of a building on land in Liverpool city centre unless the separation distance from neighbouring buildings and between separate towers, or other separate raised parts, of the same building is at least— (a) 9 metres for parts of buildings between 12 metres and 25 metres above ground level (finished) on land in Zone R4 High Density Residential,	Already resolved by DA-836/2020.	Complies

	and (b) 12 metres for parts of buildings between 25 metres and 35 metres above ground level (finished) on land in Zone R4 High Density Residential, and		

As demonstrated in the above compliance table, the proposed development is consistent with the provisions of LLEP 2008.

6.2 Section 4.15(1)(a)(ii) - Any Draft Environmental Planning Instrument

There are no draft Environmental Planning Instruments which apply to the development.

6.3 Section 4.15(1)(a)(iii) - Any Development Control Plan

(a) Liverpool Development Control Plan (LDCP) 2008

The application has also been assessed against the relevant controls of the LDCP 2008, particularly *Part 1 General Controls for all Development and Part 4 Liverpool City Centre.*

The development is found to achieve compliance with the provisions of the LDCP 2008, as detailed within the table in Attachment 4 of the report.

6.4 Section 4.15(1)(a)(iiia) - Planning Agreements

There are no Planning Agreements which apply to the development.

6.5 Section 4.15(1)(a)(iv) - The Regulations

The Environmental Planning and Assessment Regulation 2000 requires the consent authority to consider the provisions of the BCA and the Safety standards for demolition (AS 2601 – 2001). Accordingly, appropriate conditions of consent will be imposed.

6.6 Section 4.15(1)(b) - The Likely Impacts of the Development

Natural and Built Environment

The proposed development is unlikely to create a detrimental impact on the natural environment surrounding the subject site, subject to the imposition of appropriate conditions of consent.

The proposed development is unlikely to create any adverse impacts on the surrounding built environment. The proposed development is of an appropriate scale and is unlikely to

create any detrimental impacts on the adjoining properties or the locality. The proposal will facilitate the provision of childcare centre within the Liverpool City Centre.

It is considered that the proposed development has been designed with sufficient regard to surrounding properties to ensure that any adverse amenity impact is minimised, particularly in terms of visual and acoustic privacy and overshadowing.

Social Impacts and Economic Impacts

The proposal would result in a positive economic impact in the locality through the capital investment value of the development and is unlikely to generate any identifiable detrimental social impacts, being consistent with the desired development type in the locality.

6.7 Section 4.15(1)(c) - The Suitability of the Site for the Development

The proposal generally complies with the relevant planning controls and the site is suitable for the proposed development.

6.8 Section 4.15(1)(d) - Any submissions made in accordance with the Act or the Regulations

(a) Internal Referrals

The following comments have been received from Council's Internal Departments:

DEPARTMENT	COMMENTS
Building Officer	Approval subject to conditions of consent.
Development Engineer	Approval subject to conditions of consent.
Landscape Officer	Approval subject to conditions of consent.
Traffic Engineer	Approval subject to conditions of consent.
Waste Management	Approval subject to conditions of consent.
Environmental Health	Approval subject to conditions of consent.
Community Planning	Approval subject to conditions of consent.

(b) External Referrals

The application was externally referred to the Department of Education (Regulatory Authority) for concurrence in accordance with Section 3.22 of the Transport and Infrastructure SEPP and Regulation 108 of the Education Regulation on the basis that the proposal did not provide outdoor unencumbered space.

Section 3.22 of Transport and Infrastructure, relevantly reads:

> ***3.22 Centre-based child care facility—concurrence of Regulatory Authority required for certain development***
>
> > *(1) This section applies to development for the purpose of a centre-based child care facility if—*
> >
> > > *(b) the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations.*
> >
> > *(2) The consent authority must not grant development consent to development to which this section applies except with the concurrence of the Regulatory Authority.*

Regulation 108 of the Education Regulation provides that there must be at least 7m² of unencumbered outdoor space for each child being educated and cared for by an education and care service.

The Development Application provides the minimum required 7m² of outdoor space per child totalling 630m². However, the area does not constitute 'outdoor space' as it will be fully enclosed and is inside the building. Play space that is fully enclosed does not meet the definition of unencumbered outdoor space. Given that the proposed outdoor children play space is a 'simulated outdoor environment' (as per Part 4.9 of the CCP Guideline) and the application does not comply with Regulation 108, the SEPP requires that the concurrence of the Department of Education be obtained before development consent may be granted for the development.

Notice of Concurrence

The Department of Education initially refused concurrence to the proposal. However, following a review of additional information from the applicant has now provided its concurrence to the application, as follows:

On the 31 January 2024, a decision was made by the Department to refuse the concurrence application. The reason for the refusal was that the outdoor space located in the southern section had minimal elements that mimic a natural environment. Further, there was insufficient evidence of the outdoor space having access to sufficient natural light, particularly the southern outdoor area.

As per the Department of Planning and Environment's Child Care Planning Guideline, simulated outdoor environments should have more access to natural light and ventilation than required for an internal space. Simulated outdoor spaces should also have all the features, experiences and qualities of an outdoor space.

On the 6 March 2024, additional information was lodged by you on the NSW Planning Portal in response to the Department's refusal decision.

Following a review of the additional information, this concurrence request is now approved.

Reasons for decision

The development application seeks to rely on the use of a simulated outdoor play area to meet the outdoor space requirements of the Education and Care Services National Regulations.

The applicant has indicated they intend to care for up to 90 children. Every child being educated and cared for within a facility must have a minimum of 3.25sqm of unencumbered indoor space and a minimum of 7.0sqm of unencumbered outdoor space. The architectural plans provided on 6 March 2024 and concurrence checklist provided on 16 January 2024 indicate that the total indoor area available would be 337.2 sqm unencumbered space and total outdoor area as 640.5 sqm, which is sufficient for the proposed number of children.

The outdoor spaces on the updated architectural plans received on 6 March 2024 show that all proposed outdoor areas are simulated outdoor spaces.

The updated landscape plans provided on 6 March 2024 indicates that additional features have been added to the southern outdoor spaces features, experiences and qualities of an outdoor space. Based on a review of all outdoor spaces, there is now sufficient natural features provided in all outdoor areas. Examples include dense indoor planting, sand pits, a tyre obstacle course, grow gardens and furniture made of logs.

A review of the additional information received on the 6 March 2024 determined that there is sufficient natural lighting for all simulated outdoor spaces. This is achieved with the use of skylights, artificial skylights, winter gardens, sliding doors and full height, glazed windows.

The updated RFI letter received on the 2 April 2024 also demonstrated that natural ventilation and natural cross ventilation in the simulated outdoor spaces is achieved through the fixed open louvres located on the north, east and west facades.

Given the above, the development application does meet the requirements for simulated outdoor space and, as such this concurrence application is now approved.

On this basis the required concurrence from the Department of Education has now been obtained, development consent may be granted for the proposed childcare centre for the site.

(c) Community Consultation

The development application was advertised/notified for a period of 14 days from 19 June 2023 to 4 July 2023 in accordance with Community Participation Plan 2022. No submissions were received during the public consultation period objecting/supporting the proposal.

6.9 Section 4.15(1)(e) - The Public Interest

The proposed development is in the public interest.

7. DEVELOPMENT CONTRIBUTIONS

Section 7.12 Development Contributions is not applicable to the proposed development in accordance with Liverpool Contributions Plan 2018. The contributions have been confirmed by Council's contribution officer.

8. CONCLUSION

The application has been assessed having regard to the provisions of Section 4.15 of the EP&A Act 1979, and the Environmental Planning Instruments, including the applicable State Environmental Planning Policies, Liverpool LEP 2008, LDCP 2008, and the relevant codes and policies of Council.

Based on the assessment of the application, it is recommended that the application be approved subject to the imposition of conditions.

9. RECOMMENDATION

That Development Application DA No 224/2023 be **approved** subject to conditions of consent.

ATTACHMENTS

1. Plans of the proposal
2. Childcare planning guideline
3. Liverpool DCP compliance table
4. Recommended conditions of consent
5. Department of Education Concurrence

200842_LIVERPOOL CITY COUNCIL_CHILDCARE DA ISSUE

ISSUE: 26.02.2024

AREA SCHEDULE

UNENCUMBERED OUTDOOR SPACE - SIMULATED

OUTDOOR SPACE - REQUIRED	630.0 M²	7.0 SQM PER CHILD REQUIRED
OUTDOOR SPACE - PROPOSED	632.0 M²	7.0 SQM PER CHILD ACHIEVED

UNENCUMBERED INDOOR SPACE

INDOOR SPACE - REQUIRED	292.0 M²	3.25 SQM PER CHILD REQUIRED
INDOOR SPACE - PROPOSED	338.5 M²	3.75 SQM PER CHILD ACHIEVED

ACTIVITY ROOMS

ROOM NUMBER	AGE GROUP	AREA M²	KIDS	STAFF	RATIO
01	3-5	64	17	2	1:10
02	3-5	62	17	2	1:10
03	2-3	77	20	4	1:10
04	1-2	76	20	5	1:4
05	0-1	59.5	16	4	1:4
		338.5	90	17	

STORAGE CAPACITY

INDOOR LEARNING ENVIRONMENT STORAGE:
REQUIRED: 18 M²

MOBILE UNITS: 11.5 M²
INTERIOR OF FIXED PIGEON HOLES: 19.5 M²

ACHIEVED: 31 M²

INDOOR STORAGE - REQUIRED 0.20 M² PER CHILD
INDOOR STORAGE - PROPOSED 0.34 M² PER CHILD

OUTDOOR LEARNING ENVIRONMENT STORAGE:
REQUIRED: 27 M²

CLOSED CABINETRY: 13 M²
EXTERIOR OF FIXED PIGEON HOLES: 19.5 M²

ACHIEVED: 32.5 M²

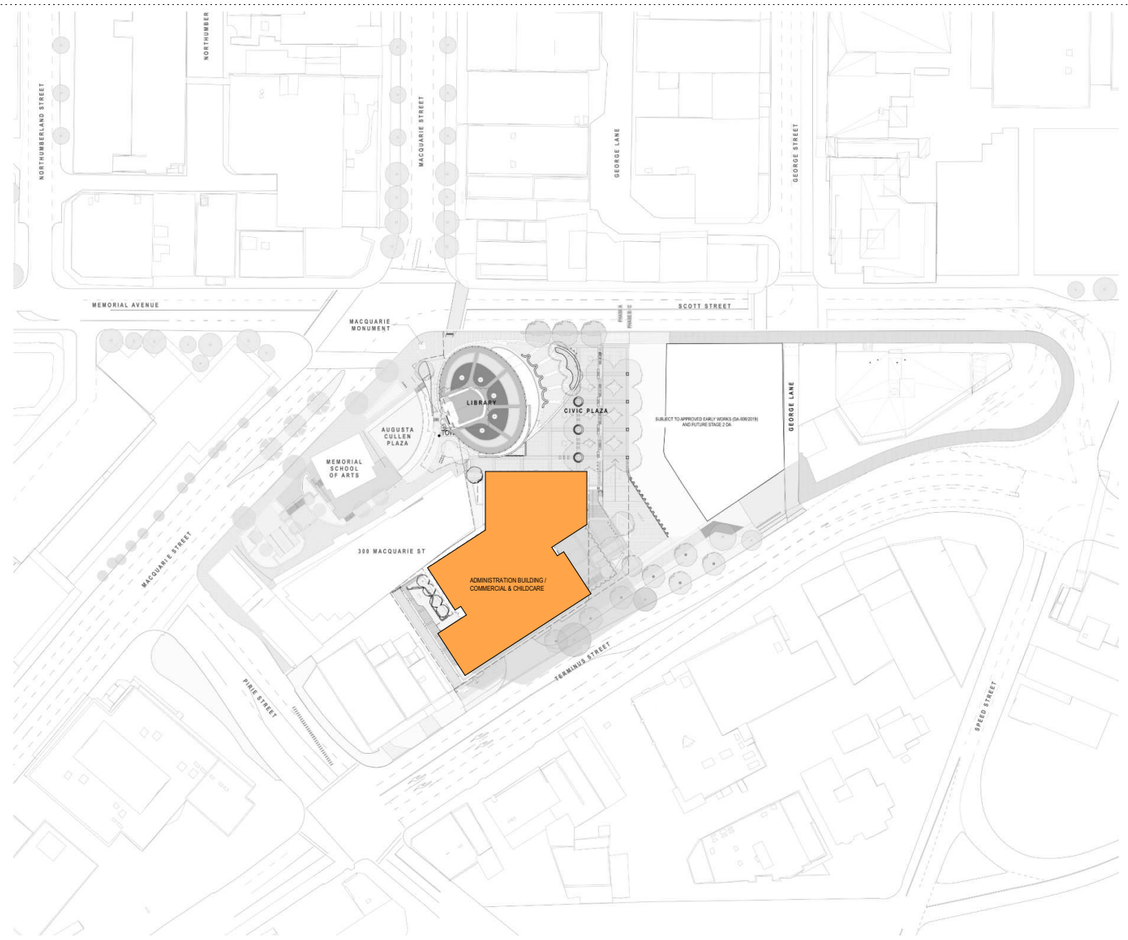
OUTDOOR STORAGE -REQUIRED 0.30 M² PER CHILD
OUTDOOR STORAGE - PROPOSED 0.36 M² PER CHILD

EQUIPMENT STORAGE:

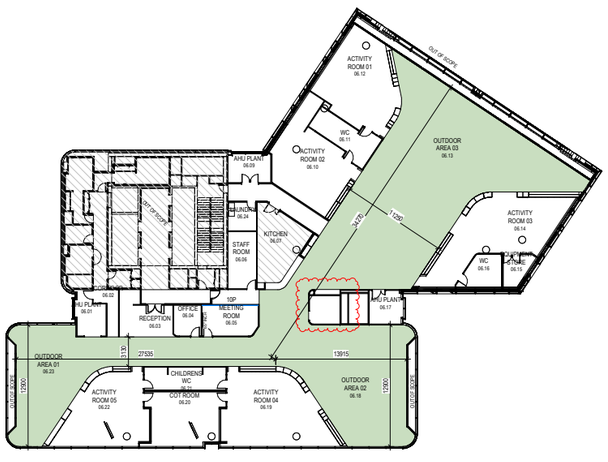
EQUIPMENT STORAGE ROOM: 21 M²
GENERAL STORAGE ROOM: 20 M²
STAFF STORAGE LOCKERS: 2 M²

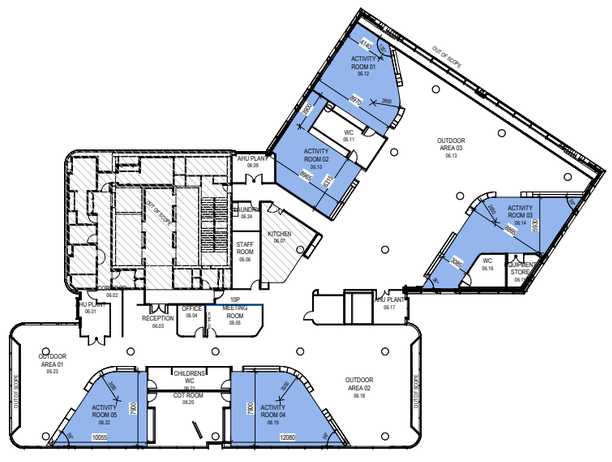
_DRAWING LIST - GROUPGSA

Sheet Number	Sheet Name	Current Revision Date	Current Revision	Package
0000 COVER / TITLE / LOCATION				
INT-0001	LEVEL 6 - SITE PLAN	26.02.2024	E	DA SET
0100 CHILDCARE 3D VISUALS				
INT-0101	LEVEL 6 - RENDERS	26.02.2024	E	DA SET
2000 GENERAL ARRANGEMENT PLANS				
INT-2006	LEVEL 6 - GENERAL ARRANGEMENT PLAN	26.02.2024	K	DA SET
2050 PLANTING ARRANGEMENT PLANS				
INT-2056	LEVEL 6 - PLANTING PLAN	26.02.2024	E	DA SET
2200 REFLECTED CEILING PLANS				
INT-2206	LEVEL 6 - REFLECTED CEILING PLAN	26.02.2024	I	DA SET
4000 BUILDING SECTIONS				
INT-4000	LEVEL 6 - BUILDING SECTIONS	26.02.2024	D	DA SET
Grand total: 6				



3 LEVEL 6 SITE PLAN
1 : 500





UNENCUMBERED OUTDOOR SPACE - SIMULATED

OUTDOOR SPACE - REQUIRED	630.0 M²	7.0 SQM PER CHILD REQUIRED
OUTDOOR SPACE - PROPOSED	632.0 M²	7.0 SQM PER CHILD ACHIEVED

UNENCUMBERED INDOOR SPACE - SIMULATED

INDOOR STORAGE - REQUIRED	292.0 M²	3.25 SQM PER CHILD REQUIRED
INDOOR STORAGE - PROPOSED	337.2 M²	3.75 SQM PER CHILD ACHIEVED

*Amendments

Issue	Description	Date
A	ISSUED FOR DA	31.03.2023
B	ISSUED FOR DA	13.04.2023
C	ISSUED FOR DA	13.04.2023
D	ISSUED FOR DA	13.10.2023
E	ISSUED FOR DA	26.02.2024

FOR CONSTRUCTION

Consultant
Built
Project manager / Developer

Consultant
LCI Consultants
Electrical & Mechanical Engineer

Consultant
Consultant Company
Hydraulic & Fire Engineer

Consultant
Consultant Company
Structural Engineer

Consultant
Stantec
ESD Consultant

Consultant
WT Partnership
Quantity Surveyor

Client
Liverpool City Council

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Level 7, 80 William St East Sydney NSW
Australia 2011
www.groupgsa.com

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architecture interior design urban design landscape
nom architect Lisa-Maree Carrigan 7588

Project Title
LIVERPOOL CITY COUNCIL

Drawing Title
LEVEL 6 - SITE PLAN

Scale	As indicated @A0
Drawing Created (date)	30/03/2023
Drawing Created (by)	Group GSA
Plotted and checked by	SW
Verified	JM
Approved	JM

Project No	Drawing No	Issue
200842	INT-0001	E

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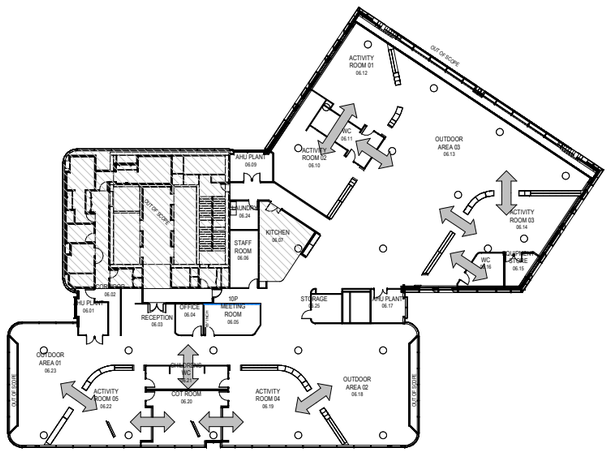
26/02/2024 5:43:17 PM

200842_LIVERPOOL CITY COUNCIL_CHILDCARE DA ISSUE
ADDITIONAL RENDERS TO ILLUSTRATE THE ABILITY TO PROVIDE SUPERVISION

SIMULATED OUTDOOR ENVIRONMENT PLAY PIECES

- MORE ACCESS TO NATURAL LIGHT AND VENTILATION THAN REQUIRED FOR AN INTERNAL SPACE THROUGH LARGE WINDOWS, SLIDING GLASS DOORS AND FIXED OPEN SLOTS TO ENABLE VIEWS OF TREES, VIEWS OF THE SKY AND CLOUDS AND MOVEMENT OUTSIDE THE FACILITY WHILE CREATING A WINTER GARDEN ENVIRONMENT
- SKYLIGHTS TO GIVE A SENSE OF THE EXTERNAL CLIMATE
- A COMBINATION OF DIFFERENT FLOOR TYPES AND TEXTURES, INCLUDING WOODEN DECKING, PEBBLES, MOUNDS, RIDGES, GRASS, BARK AND ARTIFICIAL GRASS, TO MIMIC THE UNEVEN SURFACES OF AN OUTDOOR ENVIRONMENT
- SAND PITS AND WATER PLAY AREAS
- DENSE INDOOR PLANTING AND GREEN VEGETATED WALLS
- CLIMBING FRAMES, WALKING AND/OR BIKE TRACKS
- VEGETABLE GARDENS AND GARDENING TUBS.
- ARTIFICAL SKYLIGHTS TO SOUTHERN OUTDOOR/INDOOR PLAY AREAS EMULATING CIRCADIAN RYTHM OF THE SUN.

PLEASE NOTE: PLAY PIECE INDICATES PLAY INTENT / VALUE AND REQUIRES FUTURE DEVELOPMENT AND DETAIL. PLAY PIECES WILL BE SELECTED AS A PROPRIETARY ITEM AND COMPLY WITH ALL AUSTRALIAN STANDARDS FOR EQUIPMENT AND SURFACING, INCLUDING COMPREHENSIVE REVIEW, INSPECTIONS, AND TESTING OF PLAYGROUND EQUIPMENT AND SURFACING BY AN INDEPENDENT PLAY CERTIFIER WITH A CERTIFICATE OF COMPLIANCE ISSUED ON COMPLETION.



ARROWS REPRESENT THE UNETOROPTED LINE OF SIGHTS

Amendments

Issue	Description	Date
A	ISSUED FOR DA	31.03.2023
B	ISSUED FOR DA	13.04.2023
C	ISSUED FOR DA	13.04.2023
D	ISSUED FOR DA	13.10.2023
E	ISSUED FOR DA	26.02.2024

FOR CONSTRUCTION

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Project manager / Developer

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LCI Consultants
Electrical & Mechanical Engineer

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nsw architect Lisa-Maree Carrigan 7598

Project Title
LIVERPOOL CITY COUNCIL

Drawing Title
LEVEL 6 - RENDERS

Scale	1 : 200 @A0
Drawing Created (date)	08/17/18
Drawing Created (by)	Group GSA
Plotted and checked by	SW
Verified	JM
Approved	JM

Project No	Drawing No	Issue
200842	INT-0101	E

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GENERAL NOTE:

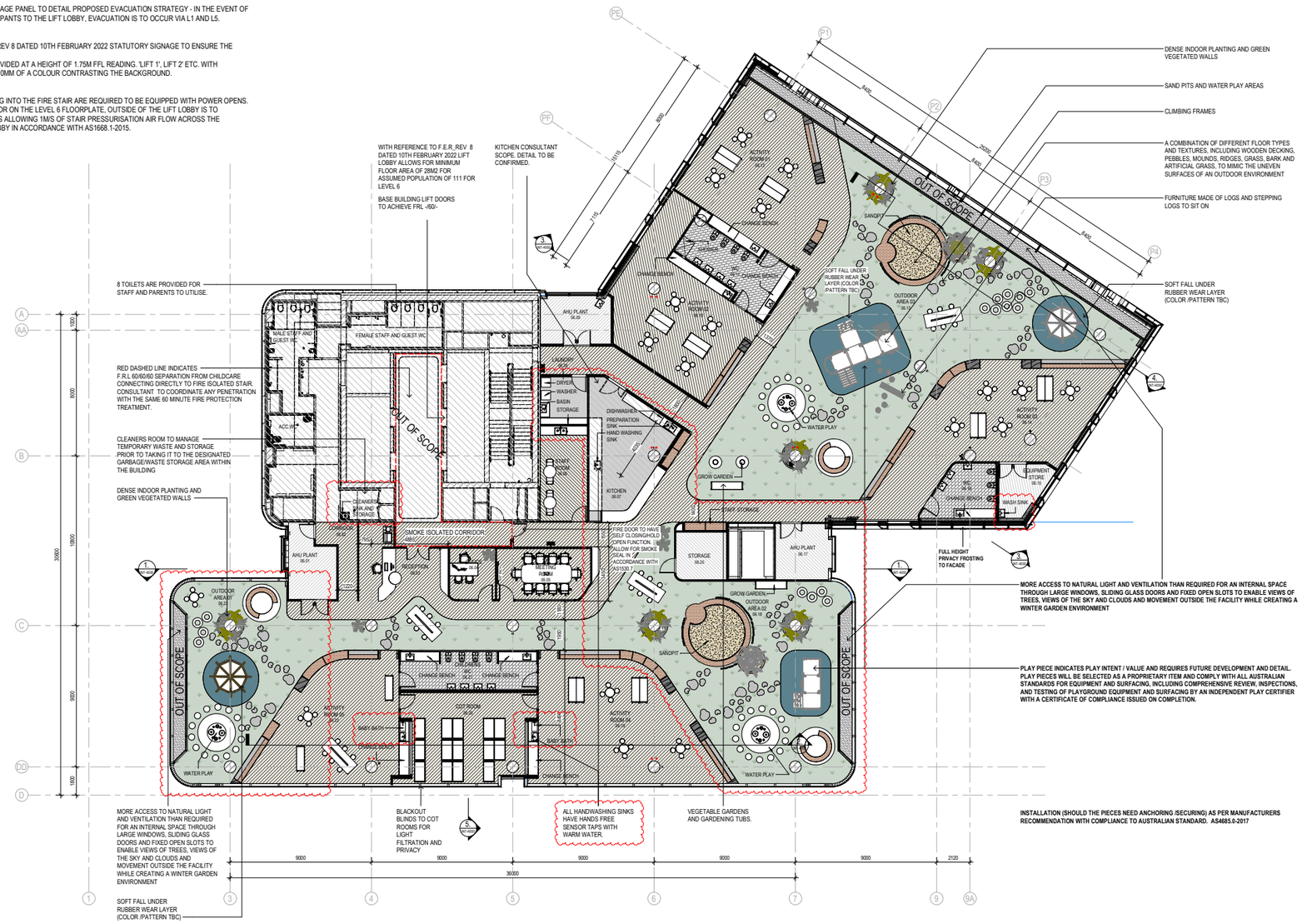
BASE BUILDING TO ENSURE ALL FIRE STAIRWAYS SERVING THE CHILDCARE ARE TO BE PROVIDED AN ADDITIONAL HANDRAIL FROM LEVEL 6 DOWNWARDS, INSTALLED ON ONE SIDE AT A HEIGHT SUITABLE FOR USE BY CHILDREN AND NOT CONTAIN ANY OPENING THAT ALLOWS A 125MM SPHERE TO BE ABLE TO PASS THROUGH. cc

WITH REFERENCE TO F.E.R_REV 8 DATED 10TH FEBRUARY 2022 BASE BUILDING PROVISION OF 2X EMERGENCY LIFT IN ACCORDANCE WITH BCA CLAUSE E3.4. ENSURE THESE ARE PROGRAMMED SUCH THAT UPON ACTIVATION OF THE FIRE ALARM THEY AUTOMATICALLY TRAVEL TO LEVEL 6 AND PRIORITISE RETURN TO THIS FLOOR TO ASSIST WITH EVACUATION FROM THE CHILDCARE SPACE.

- BASE BUILDING TO ALLOW FOR STATUTORY WARNING SIGNAGE IN COMPLIANCE TO BCA E3.3 (EVACUATION STRATEGY)
- BASE BUILDING TO ENSURE PROGRAMMING ALLOWS FOR RESPONSE TO EMERGENCY LIFTS ONLY IN FIRE MODE
- ENSURE CUSTOM SIGNAGE PANEL TO DETAIL PROPOSED EVACUATION STRATEGY - IN THE EVENT OF A FIRE IN L6, MOVE ALL OCCUPANTS TO THE LIFT LOBBY, EVACUATION IS TO OCCUR VIA L1 AND L5.

WITH REFERENCE TO F.E.R_REV 8 DATED 10TH FEBRUARY 2022 STATUTORY SIGNAGE TO ENSURE THE BELOW.
- SIGNAGE IS TO BE PROVIDED AT A HEIGHT OF 1.75M FFL READING. 'LIFT 1', LIFT 2' ETC. WITH LETTERING NOT LESS THAN 10MM OF A COLOUR CONTRASTING THE BACKGROUND.

BASE BUILD DOORS ENTERING INTO THE FIRE STAIR ARE REQUIRED TO BE EQUIPPED WITH POWER OPENS. ACTIVATION OF ANY DETECTOR ON THE LEVEL 6 FLOORPLATE, OUTSIDE OF THE LIFT LOBBY IS TO ACTIVATE THE POWER OPENS ALLOWING 1M/S OF STAIR PRESSURISATION AIR FLOW ACROSS THE DOORWAY INTO THE LIFT LOBBY IN ACCORDANCE WITH AS1668.1-2015.



GENERAL NOTES

- LEGEND:
  - INDICATES AREA NOT IN SCOPE OF WORKS.
  - INDICATES NEW PARTITION
  - INDICATES NEW GLAZED PARTITION
  - INDICATES EXISTING PARTITION

NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL INTERIORS DRAWINGS, SCHEDULES AND SPECIFICATIONS, IN ADDITION TO RELEVANT CONSULTANTS DOCUMENTS.
- ALL WORKS TO COMPLY WITH THE NCC AND AUSTRALIAN STANDARDS.
- ALL MATERIALS ARE TO BE SUPPLIED, STORED AND USED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.
- ANY DISCREPANCES ON INTERIOR DESIGN DRAWINGS OR IRREGULARITIES BETWEEN INFORMATION SHOWN ON INTERIORS DOCUMENTS AND OTHER CONSULTANTS DOCUMENTS TO BE REFERRED TO INTERIOR DESIGNER FOR CLARIFICATION PRIOR TO WORK PROCEEDING.
- THE WORKS ARE TO BE PROTECTED AS NECESSARY AND PROGRESSIVELY CLEARED OF ALL RUBBISH, PACKAGING, MATERIALS AND EQUIPMENT.
- CONTRACTOR TO ENSURE SPACE IS PROFESSIONALLY CLEANED INCLUDING INTERNAL AREAS PRIOR TO HANDOVER
- ALL SUB-CONTRACTORS/SUPPLIERS/MANUFACTURERS/CONSULTANTS TO ENSURE ALL DIMENSIONS ARE CHECKED ON SITE PRIOR TO MANUFACTURE AND INSTALLATION OF ALL ITEMS. PLEASE BRING ANY DISCREPANCIES TO THE ATTENTION OF THE LEAD DESIGNER.
- ALL EXISTING STRUCTURES AND PREVIOUSLY INSTALLED WORK(S) WHETHER UNDER THIS CONTRACT OR OTHERWISE ARE TO BE CHECKED ON SITE FOR ACCURACY IN ADVANCE OF THE CONTRACTOR PROCEEDING.
- ANY DIFFERENCES OR DISCREPENCIES ARE TO BE RAISED WITH THE LEAD DESIGNER FOR INSTRUCTION WITHOUT ANY DELAY TO THE WORKS.
- ANY INTERFACES BETWEEN NEW WORK BEING INSTALLED UNDER THIS CONTRACT AND WORKS PREVIOUSLY INSTALLED ARE TO BE CHECKED BY THE CONTRACTOR TO ENSURE THAT THEY ARE COMPATIBLE, ADEQUATE AND ACHIEVABLE AND REPORT ANY CONCERNS TO THE LEAD DESIGNER.
- PROVIDE DESIGN TEAM OPPORTUNITY TO INSPECT SITE WITHOUT ANY DELAY TO THE WORKS.
- ALL PRODUCTS ARE TO BE SUBMITTED TO THE DESIGN TEAM VIA SAMPLES AND TECHNICAL SUBMISSIONS AND SHALL BE APPROVED IN WRITING PRIOR TO THEIR USE.
- TO ALLOW FOR PAINT FINISH TO ALL EXISTING WALLS NOTED "NOT IN SCOPE"
- FIT OUT TO BE CLEARED OF ALL RUBBISH, PACKAGING, MATERALS AND BUILDERS EQUIPMENT THEN CLEANED PRIOR TO HANDOVER.
- CHECK ALL SETTING OUT ON SITE
- DO NOT SCALE THIS DRAWING
- ALL DIMENSIONS SHOWN ARE IN MILLIMETERS

- SANDPIT (500 MM DEPTH)
- SOFT FALL UNDER TIMBER LOOK VINYL
- SOFT FALL UNDER SYNTHETIC TURF
- SOFT FALL UNDER RUBBER WEAR LAYER (COLOR /PATTERN TBC)
- ORGANIC STONE PAVERS

AREA SCHEDULE

UNENCUMBERED OUTDOOR SPACE - SIMULATED

OUTDOOR SPACE - REQUIRED	630.0 M²
OUTDOOR SPACE - PROPOSED	632.0 M²

7.0 SQM PER CHILD REQUIRED
7.0 SQM PER CHILD ACHIEVED

UNENCUMBERED INDOOR SPACE

INDOOR SPACE - REQUIRED	292.0 M²
INDOOR SPACE - PROPOSED	338.5 M²

3.25 SQM PER CHILD REQUIRED
3.75 SQM PER CHILD ACHIEVED

ACTIVITY ROOMS

ROOM NUMBER	AGE GROUP	AREA M²	KIDS	STAFF	RATIO
01	3-5	64	17	2	1:10
02	3-5	62	17	2	1:10
03	2-3	77	20	4	1:10
04	1-2	76	20	5	1:4
05	0-1	59.5	16	4	1:4
		338.5	90	17	

STORAGE CAPACITY

INDOOR LEARNING ENVIRONMENT STORAGE:
REQUIRED: 18 M³

MOBILE UNITS: 11.5 M³
INTERIOR OF FIXED PIGEON HOLES: 19.5 M³

ACHIEVED: 31 M³

INDOOR STORAGE - REQUIRED 0.20 M³ PER CHILD
INDOOR STORAGE - PROPOSED 0.34 M³ PER CHILD

OUTDOOR LEARNING ENVIRONMENT STORAGE:
REQUIRED: 27 M³

CLOSED CABINETRY: 13 M³
EXTERIOR OF FIXED PIGEON HOLES: 19.5 M³

ACHIEVED: 32.5 M³

OUTDOOR STORAGE -REQUIRED 0.30 M³ PER CHILD
OUTDOOR STORAGE - PROPOSED 0.36 M³ PER CHILD

EQUIPMENT STORAGE:

EQUIPMENT STORAGE ROOM: 21 M²
GENERAL STORAGE ROOM: 20 M²
STAFF STORAGE LOCKERS: 2 M²

*Amendments

Issue	Description	Date
A	PRELIM FLOOR PLANS	30.07.2021
B	BB MODIFICATIONS	08.10.2021
C	FOR COMPLIANCE APPROVAL	22.12.2022
D	FOR COORDINATION	02.02.2023
E	FOR COORDINATION	23.02.2023
F	FOR COORDINATION	03.03.2023
G	ISSUED FOR DA	31.03.2023
H	ISSUED FOR DA	13.04.2023
I	ISSUED FOR DA	13.04.2023
J	ISSUED FOR DA	13.10.2023
K	ISSUED FOR DA	26.02.2024

FOR CONSTRUCTION

*Consultant
Built
*Project manager / Developer

*Consultant
LCI Consultants
Electrical & Mechanical Engineer

*Consultant Company
Hydraulic & Fire Engineer

*Consultant Company
Structural Engineer

*Consultant
Stantec
ESD Consultant

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*Client
Liverpool City Council

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Level 7, 80 William St East Sydney NSW Australia 2011
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*architecture interior design urban design landscape
nsw architect Lisa-Marie Carrigan 7598

*Project Title
LIVERPOOL CITY COUNCIL

*Drawing Title
LEVEL 6 - GENERAL ARRANGEMENT PLAN

*Scale	As indicated @A0
*Drawing Created (date)	30/03/2023
*Drawing Created (by)	Group GSA
*Plotted and checked by	SW
*Verified	JM
*Approved	JM

*Project No	Drawing No	Issue
200842	INT-2006	K

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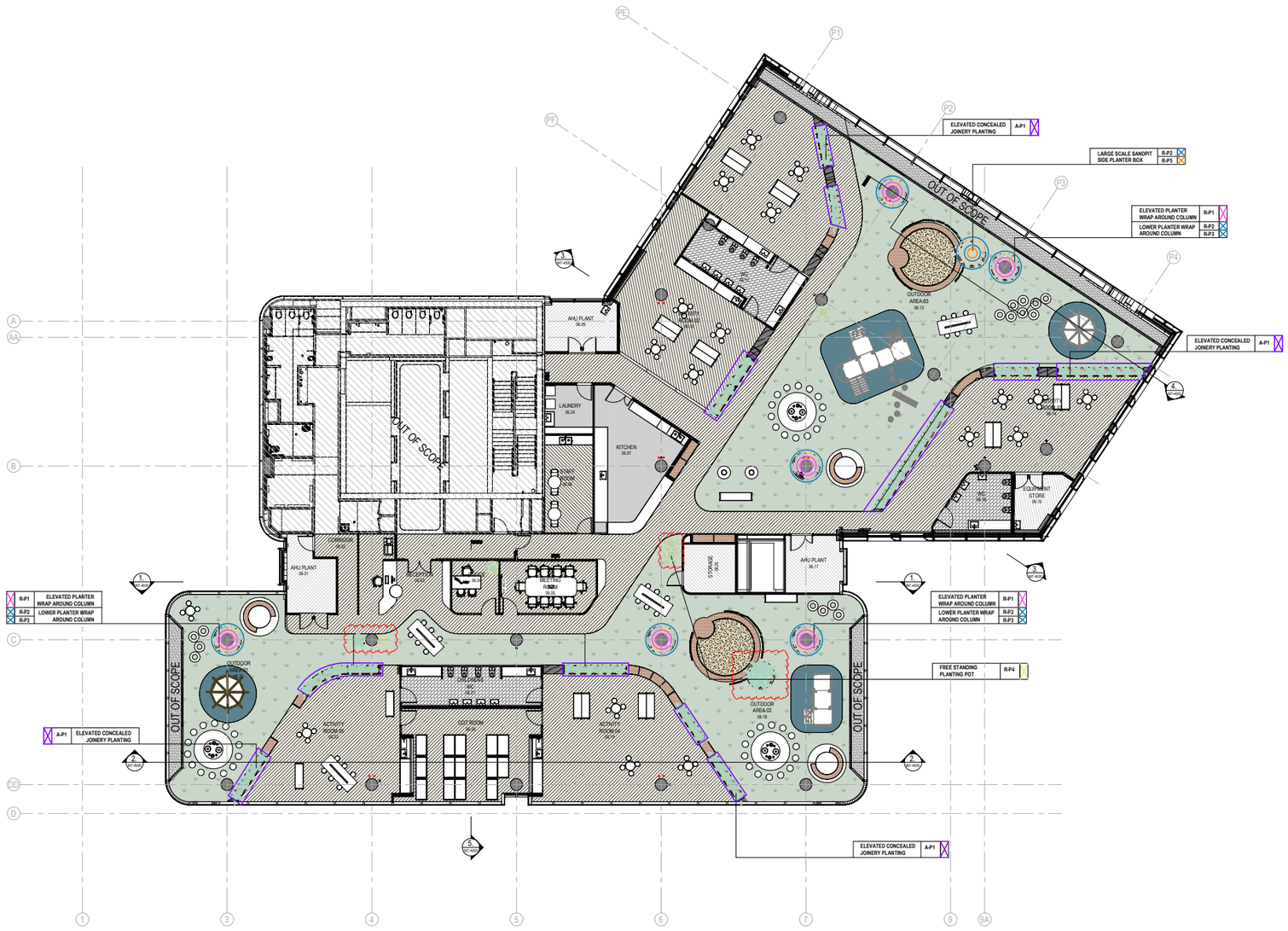

1 LEVEL 6 - PLANTING PLAN
1 : 100

NOTES:

1. ALL REAL PLANTING AREAS TO BE MULCHED, TYPICALLY 75MM DEPTH, ORGANIC MULCH TO CONFORM TO AS 4454-2012 COMPOST, SOIL CONDITIONERS AND MULCHES.
2. SPECIFIED PLANTING IS NON-TOXIC TO CHILDREN. IF UNAVAILABLE SUBSTITUTIONS MUST BE CHECKED FOR TOXICITY & SUSTAINABILITY.

SANDPIT (500 MM DEPTH)

SOFT FALL UNDER SYNTHETIC TURF

SOFT FALL UNDER RUBBER WEAR LAYER (COLOR /PATTERN TBC)

ARTIFICIAL PLANTS SELECTION

A-P1 FAUX PHILO DROP HANGING

REAL PLANTS SELECTION

R-P1 HANGING FERN
Nephrolepis exaltata

R-P2 COSTA FARMS ARECA PALM
Dypsis lutescens

R-P3 FICUS BURGUNDY
Ficus elastica

R-P4 CAST IRON PLANT
Aspidistra elatior

R-P5 CALATHEA WHITE FUSION
Maranta Lietzei

Amendments

Issue	Description	Date
A	ISSUED FOR DA	31.03.2023
B	ISSUED FOR DA	13.04.2023
C	ISSUED FOR DA	13.04.2023
D	ISSUED FOR DA	13.10.2023
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architecture interior design urban design landscape
nsw architect Lisa-Marie Carrigan 7568

Project Title
LIVERPOOL CITY COUNCIL

Drawing Title
LEVEL 6 - PLANTING PLAN

Scale	As indicated @A0
Drawing Created (date)	30/03/2023
Drawing Created (by)	Author
Plotted and checked by	Designer
Verified	Checker
Approved	Approver

Project No	Drawing No	Issue
200842	INT-2056	E

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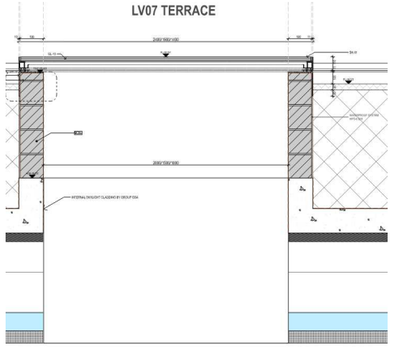
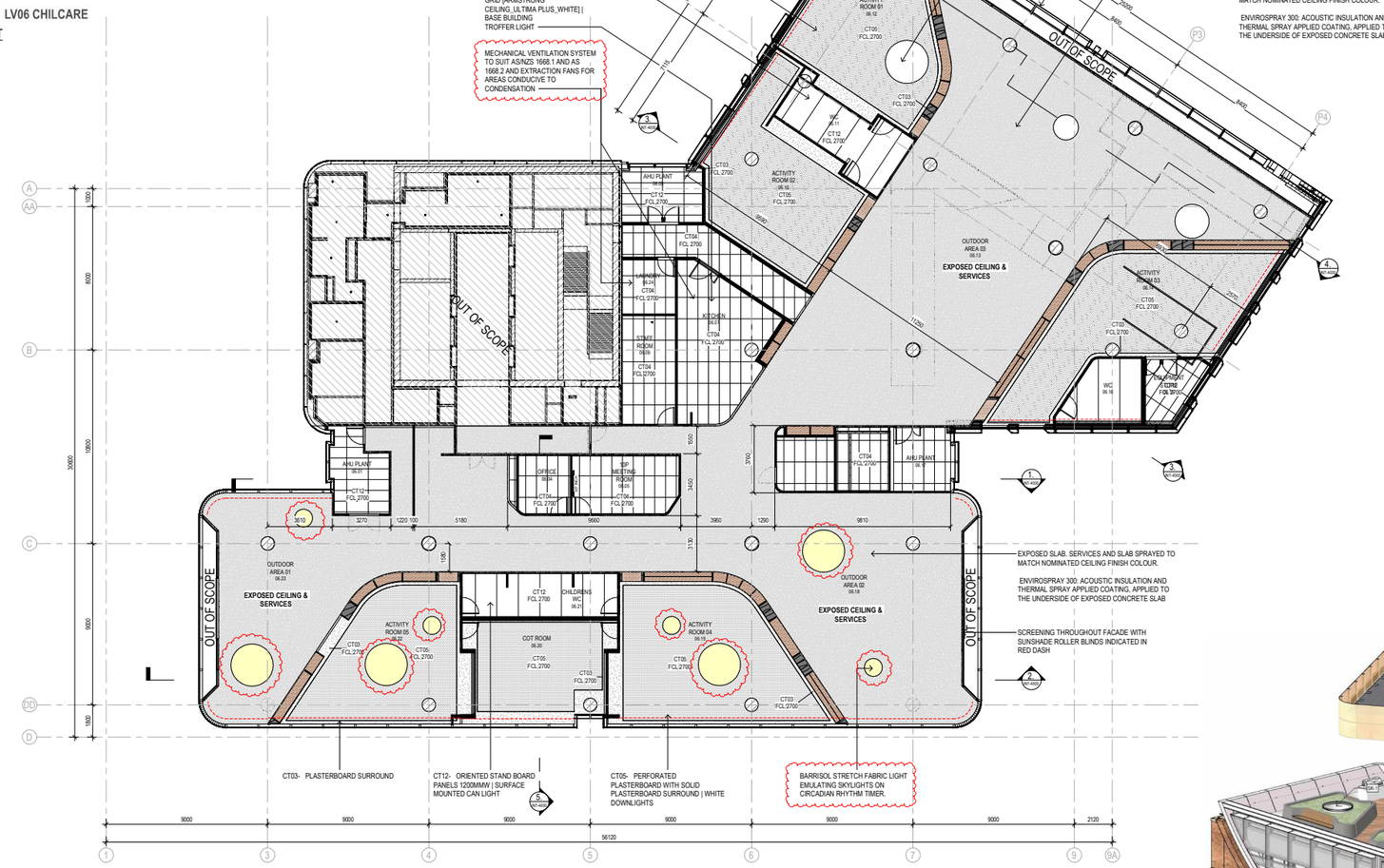
26.02.2024 5:44:07 PM

LV07 TERRACE

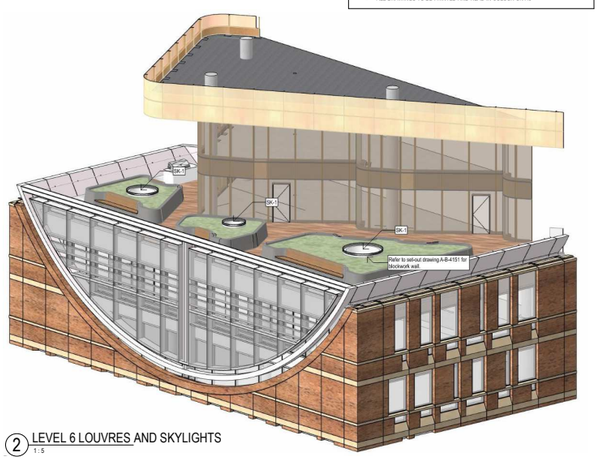


LV06 CHILCARE

3 LEVEL 6 SKYLIGHT
1 : 5



1 LEVEL 6 - RCP
1 : 100



2 LEVEL 6 LOUVRES AND SKYLIGHTS
1 : 5

GENERAL NOTES

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- ALL PRODUCTS ARE TO BE SUBMITTED TO THE DESIGN TEAM VIA SAMPLES AND TECHNICAL SUBMISSIONS AND SHALL BE APPROVED IN WRITING PRIOR TO THEIR USE.
- TO ALLOW FOR PAINT FINISH TO ALL EXISTING WALLS NOTED "NOT IN SCOPE"
- FIT OUT TO BE CLEARED OF ALL RUBBISH, PACKAGING, MATERIALS AND BUILDERS EQUIPMENT THEN CLEANED PRIOR TO HANDOVER.
- CHECK ALL SETTING OUT ON SITE
- DO NOT SCALE THIS DRAWING
- ALL DIMENSIONS SHOWN ARE IN MILLIMETERS

REFLECTED CEILING NOTES

- CT00 / FCL00 — CEILING FINISH TAG - DENOTES CEILING TYPE (CT00) AND HEIGHT AFFL (FCL00). REFER TO FINISHES SCHEDULE.
- ARTIFICIAL SKYLIGHT

NOTES:

- REFER ALSO TO GENERAL NOTES
- FINAL FINISHED CEILING LEVELS TO BE COORDINATED AND CONFIRMED WITH SERVICES CONSULTANTS. ALLOW FOR CEILING HEIGHT ADJUSTMENTS TO SUIT BASE BUILDING FER.
- ALL PLASTERBOARD SURFACES TO BE IN SELECTED PAINT FINISH.
- SAMPLES OF ALL CEILING FINISHES / TREATMENT TO BE SUBMITTED TO DESIGNER FOR APPROVAL PRIOR TO ORDER/MANUFACTURE.
- SETOUT OF ALL CEILING SERVICES AND FEATURE ELEMENTS TO BE REVIEWED ON SITE DURING CONSTRUCTION. ANY DISCREPANCIES IN SETOUT TO BE REFERRED TO THE LEAD DESIGNER PRIOR TO INSTALLATION.
- SAMPLES OF ALL FINISHES, FIXTURES AND FITTINGS TO BE SUPPLIED TO THE LEAD DESIGNER FOR APPROVAL PRIOR TO FABRICATION/INSTALLATION.
- REFER TO CEILING DETAILS (I-4400) FOR TYPICAL CEILING SERVICES SETOUT DETAILS.
- ACCESS PANELS ARE INCLUDED IN THE CONTRACTORS DESIGN AND ARE TO BE INCORPORATED INTO THE CEILING AREAS WHERE IT IS NOT ACCESSIBLE. THE DETAILS, SIZE AND LOCATION ARE TO BE AGREED BY THE LEAD DESIGNER BEFORE ORDERING AND INSTALLATION. FINISHES ARE TO MATCH WITH THE CEILING IN WHICH THEY OCCUR.
- ALL SERVICES ARE TO BE COORDINATED TOGETHER SO AS TO MEET THE AESTHETIC AND PERFORMANCE REQUIREMENTS. REPORT ANY CLASHES TO THE LEAD DESIGNER BEFORE PROGRESSING WITH THE WORKS. LIGHTS, GRILLES, SURFACE MOUNTED SERVICES OR OUTLETS ARE TO BE MOVED AS AGREED WHERE CLASHES OCCUR.
- ALL CEILING AND SUPPORT WORK ARE TO BE SUPPLIED, STORED AND USED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.ADJUST SERVICES AS NECESSARY.
- JUNCTIONS OF FINISHES TO PROVIDE A LEVEL SURFACE AND ADJUST SUPPORT WORK TO SUIT.
- ADJUST CEILING SUPPORT WORK TO SUIT NEW OR RELOCATED SERVICES LAYOUT.
- PROVIDE SUITABLE SUPPORT AND ACOUSTIC AT EACH SERVICE PENETRATION THROUGH THE CEILING.
- ALL APERTURES THROUGH THE CEILING FINISHES ARE TO BE CAREFULLY FORMED SO AS TO NOT SHOW ANY SIGNS OF DAMAGE AND CLOSELY CUT AROUND THE SERVICE PENETRATION AND SEALED AS REASONABLY REQUIRED BY THE LEAD DESIGNER.
- TO BE READ IN CONJUNCTION WITH SERVICES CONSULTANTS DOCUMENTATION
- ALL SETTING OUT TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION COMMENCING
- MAIN CONTRACTOR TO ENSURE CEILINGS ARE APPROPRIATELY RE-BRACED WHERE EXTENT IS MODIFIED FROM BASE BUILD CEILING.
- MAIN CONTRACTOR TO ENSURE CEILINGS ARE APPROPRIATELY RE-BRACED ANYWHERE IN-CEILING WORKS ARE COMPLETED BY MAIN FIT OUT CONTRACTOR.
- ALL DIMENSIONS SHOWN ARE IN MILLIMETRES
- ALL DRAWINGS TO BE PRINTED AND READ IN COLOUR ON A0

Amendments

Issue	Description	Date
A	PRELIM FLOOR PLANS	30.07.2021
B	FOR COORDINATION	02.02.2023
C	FOR COORDINATION	23.02.2023
D	FOR COORDINATION	03.03.2023
E	ISSUED FOR DA	31.03.2023
F	ISSUED FOR DA	13.04.2023
G	ISSUED FOR DA	13.04.2023
H	ISSUED FOR DA	13.10.2023
I	ISSUED FOR DA	26.02.2024

FOR CONSTRUCTION

Consultant
Built
Project manager / Developer

Consultant
LCI Consultants
Electrical & Mechanical Engineer

Consultant
Consultant Company
Hydraulic & Fire Engineer

Consultant
Consultant Company
Structural Engineer

Consultant
Stantec
ESD Consultant

Consultant
WT Partnership
Quantity Surveyor

Client
Liverpool City Council

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architecture interior design urban design landscape
nsw architect Lisa-Maree Carrigan 7598

Project Title
LIVERPOOL CITY COUNCIL

Drawing Title
LEVEL 6 - REFLECTED CEILING PLAN

Scale	As indicated @A0
Drawing Created (date)	30/03/2023
Drawing Created (by)	Group GSA
Plotted and checked by	SW
Verified	JM
Approved	JM

Project No	Drawing No	Issue
200842	INT-2206	I

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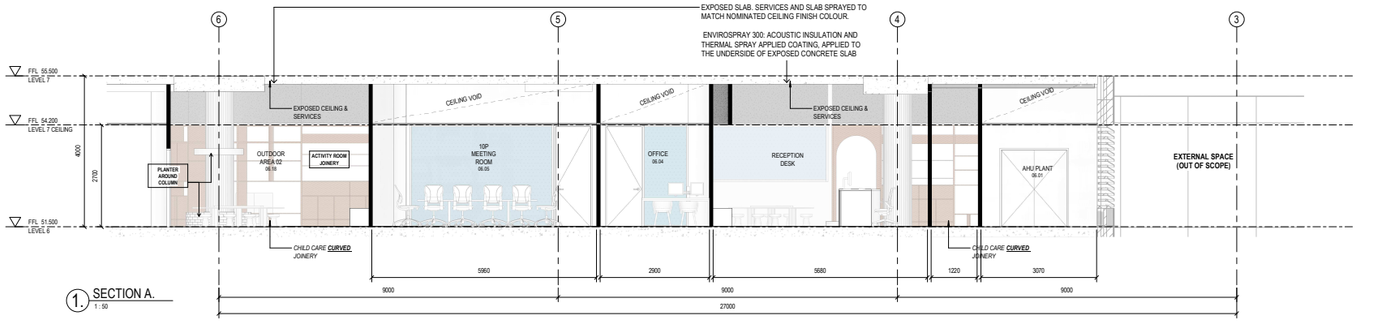
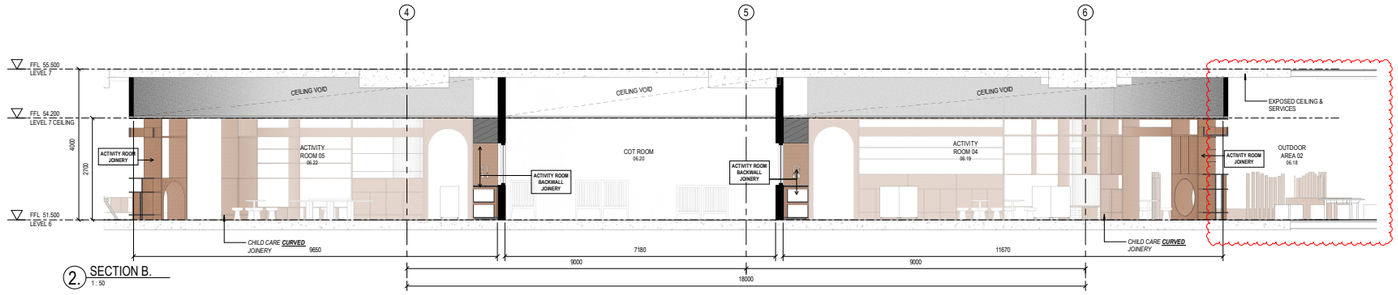
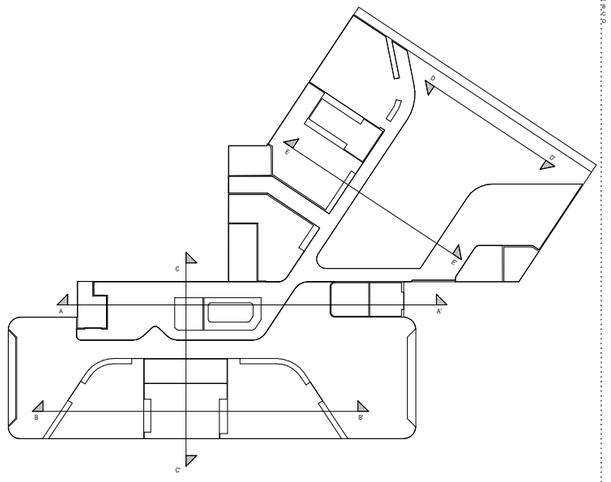
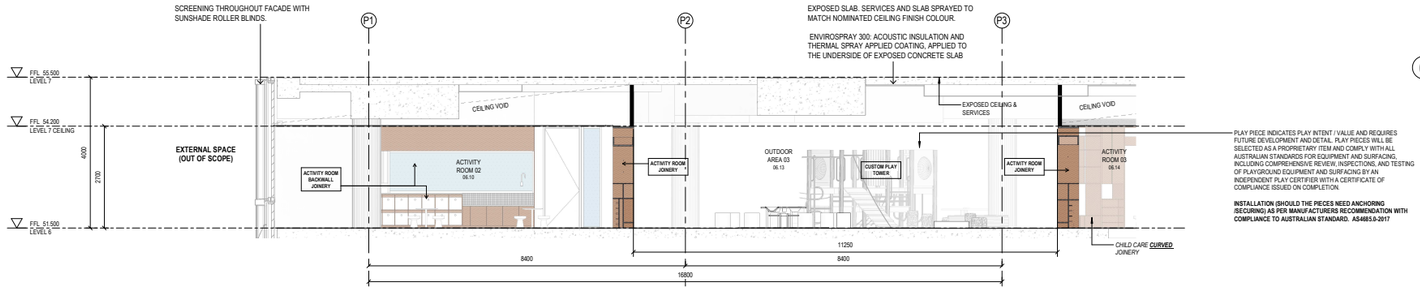


1. SECTION A.
1 : 50



2. SECTION B.
1 : 50

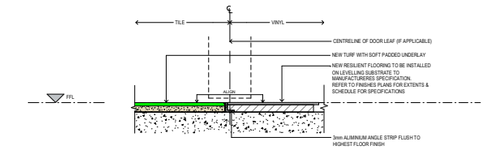




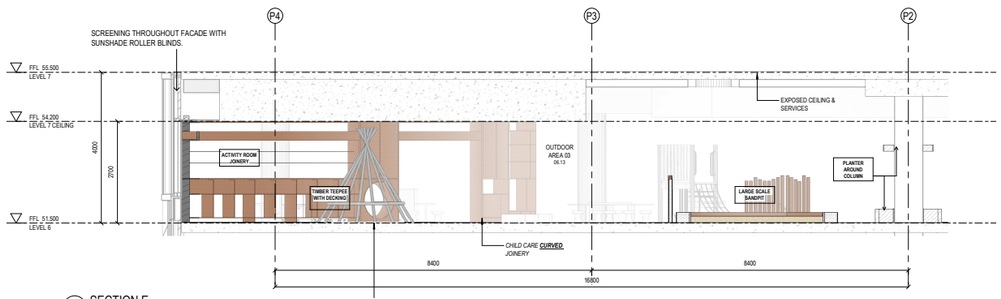
PLAY PIECE INDICATES PLAY INTENT / VALUE AND REQUIRES FUTURE DEVELOPMENT AND DETAIL. PLAY PIECES WILL BE SELECTED AS A PROPRIETARY ITEM AND COMPLY WITH ALL AUSTRALIAN STANDARDS FOR EQUIPMENT AND SURFACING, INCLUDING COMPREHENSIVE REVIEW, INSPECTIONS, AND TESTING OF PLAYGROUND EQUIPMENT AND SURFACING BY AN INDEPENDENT PLAY CERTIFIER WITH A CERTIFICATE OF COMPLIANCE ISSUED ON COMPLETION.

INSTALLATION (SHOULD THE PIECES NEED ANCHORING /SECURING) AS PER MANUFACTURERS RECOMMENDATION WITH COMPLIANCE TO AUSTRALIAN STANDARD. AS4685.0-2017

3. SECTION D
1 : 50



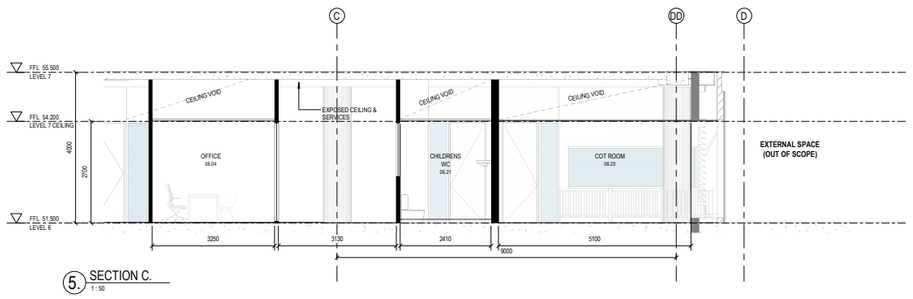
6. DETAIL - TURF TO VINYL
1 : 2



PLAY PIECE INDICATES PLAY INTENT / VALUE AND REQUIRES FUTURE DEVELOPMENT AND DETAIL. PLAY PIECES WILL BE SELECTED AS A PROPRIETARY ITEM AND COMPLY WITH ALL AUSTRALIAN STANDARDS FOR EQUIPMENT AND SURFACING, INCLUDING COMPREHENSIVE REVIEW, INSPECTIONS, AND TESTING OF PLAYGROUND EQUIPMENT AND SURFACING BY AN INDEPENDENT PLAY CERTIFIER WITH A CERTIFICATE OF COMPLIANCE ISSUED ON COMPLETION.

INSTALLATION (SHOULD THE PIECES NEED ANCHORING /SECURING) AS PER MANUFACTURERS RECOMMENDATION WITH COMPLIANCE TO AUSTRALIAN STANDARD. AS4685.0-2017

4. SECTION E
1 : 50



5. SECTION C.
1 : 50

Amendments

Issue	Description	Date
A	ISSUED FOR DA	31.03.2023
B	PRELIMINARY	23.06.2023
C	ISSUED FOR DA	13.10.2023
D	ISSUED FOR DA	26.02.2024

FOR CONSTRUCTION

Consultant
Built
Project manager / Developer

Consultant
LCI Consultants
Electrical & Mechanical Engineer

Consultant
Consultant Company
Hydraulic & Fire Engineer

Consultant
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architecture interior design urban design landscape
nom architect Lisa/Marie Carrigan 7598

Project Title
LIVERPOOL CITY COUNCIL

Drawing Title
LEVEL 6 - BUILDING SECTIONS

Scale	As indicated @A0
Drawing Created (date)	30/03/2023
Drawing Created (by)	PG
Plotted and checked by	LT
Verified	JM
Approved	JM

Project No	Drawing No	Issue
200842	INT-4000	D

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ATTACHMENT 2 – CHILD CARE PLANNING GUIDELINE (SEPTEMBER 2021)

The Guideline establishes the assessment framework to deliver consistent planning outcomes and design quality for centre-based child care facilities in NSW. Consent Authorities must consider Parts 2, 3 & 4 of the Guideline.

An assessment against Parts 2, 3 & 4 of the Guideline is provided in the tables below:

Part 2 – Design quality principles
The design quality principles establish the broad design context guide of all new proposals for child care facilities, regardless of whether they are stand alone, part of a mixed-use development, modifications or retrofits of existing buildings or seeking to occupy premises without incurring new building works. Good design is integral to creating sustainable and liveable communities. There is growing appreciation of the significant role that good design can play in education with increasing evidence that learning outcomes are closely related to the quality of learning environments. Factors such as air quality, ventilation, natural lighting, thermal comfort and acoustic performance have been shown to have a profound impact on learning, engagement, social interactions and competencies. They also contribute to wellbeing through creating a sense of belonging, self-esteem and confidence.
Comment: The 7 design quality principles are considered in detail within the Part 3 assessment below, entitled *Matters for consideration.* The proposed development is considered to have been designed having regard to the 7 design quality principles and is considered satisfactory.

Part 3 – Matters for consideration		
The *Matters for consideration* give guidance to applicants on how to design a high-quality proposal that takes account of its surroundings and any potential environmental impacts the development may cause and to be mindful of potential impacts that may arise from existing uses and conditions within a locality. The matters support the design principles and must be considered by the consent authority when assessing a DA for a child care facility. Child care facilities can be developed in a broad range of locations and need to be flexible in how they respond to the requirements and challenges this brings.		
Criteria	Provided	Compliance
3.1 Site selection and location		
C1 For proposed developments in commercial and industrial zones, consider: - potential impacts on the health, safety and wellbeing of children, staff and visitors with regard to local environmental or amenity issues such as air or noise pollution and local traffic conditions - the potential impact of the facility on the viability of existing commercial or industrial uses.	All potential impacts have been considered and addressed under the assessment of the subject application. Acoustic report submitted. Council's Environmental Health Section is satisfied with the submitted acoustic report. Traffic report submitted. Council's Traffic Engineering section is satisfied with the submitted traffic report.	Yes

C2
When selecting a site, ensure that:
- the location and surrounding uses are compatible with the proposed development or use
- the site is environmentally safe including risks such as flooding, land slip, bushfires, coastal hazards
- there are no potential environmental contaminants on the land, in the building or the general proximity, and whether hazardous materials remediation is needed
- the characteristics of the site are suitable for the scale and type of development proposed having regard to:
  o length of street frontage, lot configuration, dimensions and overall size
  o number of shared boundaries with residential properties
- the development will not have adverse environmental impacts on the surrounding area, particularly in sensitive environmental or cultural areas
- where the proposal is to occupy or retrofit an existing premises, the interior and exterior spaces are suitable for the proposed use. Where the proposal relates to any heritage item, the development should retain its historic character and conserve significant fabric, setting or layout of the item.
- there are suitable drop off and pick up areas, and off and on street parking
- the characteristics of the fronting road or roads (for example its operating speed, road classification, traffic volume, heavy vehicle volumes, presence of parking lanes) is appropriate and safe for the proposed use
- the site avoids direct access to roads with high traffic volumes, high operating speeds, or with high heavy vehicle volumes, especially where there are limited pedestrian crossing facilities
	A child care is already approved for the site under the parent application - DA-836/2020.
	
	Yes
	
	Contamination issue already addressed by DA-836/2020.
	
	Suitable
	
	Complies.
	
	Suitable
	
	Suitable drop-off and pick-up areas provided in the basement for the child care centre.
	
	Suitable.
	
	The site is located within the Liverpool Town Centre and the child care is already approved under DA-836/2020.	

- it is not located closely to incompatible social activities and uses such as restricted premises, injecting rooms, drug clinics and the like, premises licensed for alcohol or gambling such as hotels, clubs, cellar door premises and sex services premises.	There are no known land uses of this nature in close proximity to the site.	
C3 A child care facility should be located: - near compatible social uses such as schools and other educational establishments, parks and other public open space, community facilities, places of public worship - near or within employment areas, town centres, business centres, shops - with access to public transport including rail, buses, ferries - in areas with pedestrian connectivity to the local community, businesses, shops, services and the like.	The site is suitable for a child care centre, it is located within the Liverpool CBD and is in close proximity to schools.	

C4
A child care facility should be located to avoid environmental conditions arising from:
- proximity to:
  o heavy or hazardous industry, waste transfer depots or landfill sites
  o Liquefied Petroleum Gas (LPG) tanks or service stations
  o water cooling and water warming systems
  o odour (and other air pollutant) generating uses and sources or sites which, due to prevailing land use zoning, may in future accommodate noise or odour generating uses or extractive industries, intensive agriculture, agricultural spraying activities
- any other identified environmental hazard or risk relevant to the site and/ or existing buildings within the site.
	No such premises in proximity of the child care centre.	

3.2 Local character, streetscape and the public domain interface		
C5 The proposed development should:	The approved Liverpool Civic building is	Yes

- contribute to the local area by being designed in such a way to respond to the character of the locality and existing streetscape - build on the valued characteristics of the neighbourhood and draw from the physical surrounds, history and culture of place - reflect the predominant form of surrounding land uses, particularly in low density residential areas - recognise and respond to predominant streetscape qualities, such as building form, scale, materials and colours - include design and architectural treatments that respond to and integrate with the existing streetscape and local character - use landscaping to positively contribute to the streetscape and neighbouring amenity - integrate car parking into the building and site landscaping design in residential areas. C6 Create a threshold with a clear transition between public and private realms, including: - fencing to ensure safety for children entering and leaving the facility - windows facing from the facility towards the public domain to provide passive surveillance to the street as a safety measure and a connection between the facility and the community - integrating existing and proposed landscaping with fencing.	considered to be compatible with the surrounding commercial buildings and will enhance the streetscape. Suitable public domain treatment of the site has been approved. Basement parking proposed. The centre will provide adequate security gates and access so that children are supervised at all times.	
3.3 Building orientation, envelope and design		

C11
Orient a development on a site and design the building layout to:
- ensure visual privacy and minimise potential noise and overlooking impacts on neighbours by
  o facing doors and windows away from private open space, living rooms and bedrooms in adjoining residential properties
  o placing play equipment away from common boundaries with residential properties
	Already resolved by DA-836/2020.	Yes

○ locating outdoor play areas away from residential dwellings and other sensitive uses - optimise solar access to internal and external play areas - avoid overshadowing of adjoining residential properties - minimise cut and fill - ensure buildings along the street frontage define the street by facing it - ensure where a child care facility is located above ground level, outdoor play areas are protected from wind and other climatic conditions.		
C12 The following matters may be considered to minimise the impacts of the proposal on local character: - building height should be consistent with other buildings in the locality - building height should respond to the scale and character of the street - setbacks should allow for adequate privacy for neighbours and children at the proposed child care facility - setbacks should provide adequate access for building maintenance - setbacks to the street should be consistent with the existing character.	Already resolved by DA-836/2020. Already resolved by DA-836/2020.	Yes
C13 Where there are no prevailing setback controls minimum setback to a classified road should be 10 metres. On other road frontages where there are existing buildings within 50 metres, the setback should be the average of the two closest buildings. Where there are no buildings within 50 metres, the same setback is required for the predominant adjoining land use	Already resolved by DA-836/2020.	
C15 Entry to the facility should be limited to one secure point which is:		

- located to allow ease of access, particularly for pedestrians - directly accessible from the street where possible - directly visible from the street frontage - easily monitored through natural or camera surveillance - not accessed through an outdoor play area. - in a mixed-use development, clearly defined and separate from entrances to other uses in the building. C16 Accessible design can be achieved by: - providing accessibility to and within the building in accordance with all relevant legislation - linking all key areas of the site by level or ramped pathways that are accessible to prams and wheelchairs, including between all car parking areas and the main building entry - providing a continuous path of travel to and within the building, including access between the street entry and car parking and main building entrance. Platform lifts should be avoided where possible - minimising ramping by ensuring building entries and ground floors are well located relative to the level of the footpath.	Already resolved by DA-836/2020. Already resolved by DA-836/2020.	
3.4 Landscaping		
C17 Appropriate planting should be provided along the boundary integrated with fencing. Screen planting should not be included in calculations of unencumbered outdoor space. Use the existing landscape where feasible to provide a high quality landscaped area by: - reflecting and reinforcing the local context - incorporating natural features of the site, such as trees, rocky outcrops and vegetation communities into landscaping.	Already resolved by DA-836/2020.	Yes

3.5 Visual and acoustic privacy		
C20 Minimise direct overlooking of indoor rooms and outdoor play spaces from public areas through: - appropriate site and building layout - suitably locating pathways, windows and doors - permanent screening and landscape design.	Direct overlooking into the indoor and outdoor spaces is restricted, as the child care is located on Level 6 of the approved Civic Building.	Yes
C21 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.	The privacy of adjoining properties is maintained.	Yes
C22 A new development, or development that includes alterations to more than 50 per cent of the existing floor area, and is located adjacent to residential accommodation should: - provide an acoustic fence along any boundary where the adjoining property contains a residential use. An acoustic fence is one that is a solid, gap free fence - 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.	Site is located in the Liverpool CBD. Future mechanical plant and equipment to be checked to ensure noise levels are met – condition accordingly.	
C23 A suitably qualified acoustic professional should prepare an acoustic report which will cover the following matters: - identify an appropriate noise level for a child care facility located in residential and other zones - determine an appropriate background noise level for outdoor play areas during times they are proposed to be in use - determine the appropriate height of any acoustic fence to enable the noise criteria to be met	Acoustic report provided.	
3.6 Noise and air pollution		

C24 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 use - 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.	The design adopts a number of measures to minimise noise intrusion.	Yes
C25 An acoustic report should identify appropriate noise levels for sleeping areas and other non-play areas and examine impacts and noise attenuation measures where a child care facility is proposed in any of the following locations: - on industrial zoned land - where the ANEF contour is between 20 and 25 - along a railway or mass transit corridor, as defined by State Environmental Planning Policy (Infrastructure) 2007 - on a major or busy road - other land that is impacted by substantial external noise.	The site is located adjacent to Terminus Street (classified Road), which has the potential to cause both noise pollution. Acoustic report submitted. Council's Environmental Health Section is satisfied with the submitted acoustic report.	Yes
C26 Locate child care facilities on sites which avoid or minimise the potential impact of external sources of air pollution such as major roads and industrial development.	Council's Environmental Health Section is satisfied with the proposal.	Yes
C27 A suitably qualified air quality professional should prepare an air	The site is located adjacent to the Terminus Street (Classified Road), which	

quality assessment report to demonstrate that proposed child care facilities close to major roads or industrial developments can meet air quality standards in accordance with relevant legislation and guidelines. The air quality assessment report should evaluate design considerations to minimise air pollution such as: - creating an appropriate separation distance between the facility and the pollution source. The location of play areas, sleeping areas and outdoor areas should be as far as practicable from the major source of air pollution - using landscaping to act as a filter for air pollution generated by traffic and industry. Landscaping has the added benefit of improving aesthetics and minimising visual intrusion from an adjacent roadway - incorporating ventilation design into the design of the facility.	has the potential to cause air pollution.	
3.7 Hours of operation		
C28 Hours of operation within areas where the predominant land use is residential should be confined to the core hours of 7.00am to 7.00pm weekdays. The hours of operation of the proposed child care facility may be extended if it adjoins or is adjacent to non-residential land uses.	Site does not adjoin residentially zoned land.	Yes
C29 Within mixed use areas or predominantly commercial areas, the hours of operation for each child care facility should be assessed with respect to its compatibility with adjoining and co-located land uses.	The core operating hours for the centre proposed are contained to between 7.00am and 6.00pm, which has been assessed by the acoustic consultant as satisfactory.	Yes
3.8 Traffic, parking and pedestrian circulation		
C30 Off street car parking should be provided at the rates for child care	Complies.	Yes

facilities specified in a Development Control Plan that applies to the land. C32 A Traffic and Parking Study should be prepared to support the proposal to quantify potential impacts on the surrounding land uses to optimise the safety and convenience of the parking area(s) 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.	Traffic report submitted.	
C35 The following design solutions may be incorporated into a development to help provide a safe pedestrian environment: - separate pedestrian access from the car park to the facility - defined pedestrian crossings and defined/separate paths included within large car parking areas - separate pedestrian and vehicle entries from the street for parents, children and visitors - pedestrian paths that enable two prams to pass each other - delivery, loading and vehicle turnaround areas located away from the main pedestrian access to the building and in clearly designated, separate facilities - minimise the number of locations where pedestrians and vehicles cross each other - in commercial or industrial zones and mixed use developments, the path of travel from the car parking to the centre entrance physically separated from any truck circulation or parking areas - vehicles can enter and leave the site in a forward direction - clear sightlines are maintained for drivers to child pedestrians, particularly at crossing locations.	Pedestrian access is separate from vehicular access. There is a defined pedestrian access way in the basement car park for the drop-off and pick-up area for the child care centre. Separate access is provided. The width of the pedestrian paths is considered appropriate. Delivery space / turnaround provided. Considered satisfactory Provided. Vehicular access and manoeuvrability already addressed by DA-836/2020.	Yes
C37		

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.	N/A, as basement parking proposed. Provided Accessible parking provided	Yes

Part 4 – Applying the National Regulations to development proposals			
Criteria	**Required**	**Provided**	**Compliance**
4.1 Indoor space requirements			
(Regulation 107) Min. 3.25sqm of unencumbered indoor space per child Storage: - Min. 0.3m³ per child of external storage - Min. 0.2m³ per child of internal storage	90 x 3.25sqm = 292.5m² 90 x 0.3m³ = 27m³ 90 x 0.2m³ = 18m³	Fully dimensions floor plans demonstrating compliance provided.	Yes
4.2 Laundry and hygiene facilities			
(Regulation 106)	On-site laundry facilities should contain: • a washer or washers capable of dealing with the heavy requirements of the centre • a dryer • laundry sinks • adequate storage for soiled items prior to cleaning.	Laundry facility provided within the centre.	Yes
4.3 Toilet and hygiene facilities			
(Regulation 109)	Toilet and hygiene facilities should be designed to maintain the amenity and dignity of the occupants. Design considerations could include: • junior toilet pans, low level sinks and hand drying facilities for children • a sink and handwashing facilities in all bathrooms for adults	Achievable Provided Provided	Yes Yes Yes

	• direct access from both activity rooms and outdoor play areas • windows into bathrooms and cubicles without doors to allow supervision by staff • external windows in locations that prevent observation from neighbouring properties or from side boundaries.	Supervision is achievable No observation from neighbouring sites.	Yes Yes
4.4 Ventilation and natural light			
(Regulation 110)	Services must be well ventilated, have adequate natural light, and be maintained at a temperature that ensures the safety and wellbeing of children. Child care facilities must comply with the light and ventilation and minimum ceiling height requirements of the *National Construction Code*. Ceiling height requirements may be affected by the capacity of the facility. Designers should aim to minimise the need for artificial lighting during the day, especially in circumstances where room depth exceeds ceiling height by 2.5 times. It is recommended that ceiling heights be proportional to the room size, which can be achieved using raked ceilings and exposed trusses, creating a sense of space and visual interest.	All rooms achieve satisfactory access to daylight and ventilation. Condition accordingly The depth of all rooms from a primary light source is <2.5 times height.	Yes To condition Yes
4.5 Administrative space			
(Regulation 111)	A service must provide adequate area or areas for the purposes of conducting the administrative functions of the service, consulting with parents of children and conducting private conversations.	Provided	Yes

4.6 Nappy change facilities			
(Regulation 112)	Child care facilities must provide for children who wear nappies, including appropriate hygienic facilities for nappy changing and bathing. All nappy changing facilities should be designed and located in an area that prevents unsupervised access by children. Child care facilities must also comply with the requirements for nappy changing and bathing facilities that are contained in the *National Construction Code*.	Provided Condition accordingly for compliance with the BCA.	Yes To Condition
4.7 Premises designed to facilitate supervision			
(Regulation 115)	A centre-based service must ensure that the rooms and facilities within the premises (including toilets, nappy change facilities, indoor and outdoor activity rooms and play spaces) are designed to facilitate supervision of children at all times, having regard to the need to maintain their rights and dignity. Child care facilities must also comply with any requirements regarding the ability to facilitate supervision that are contained in the *National Construction Code*.	Adequate supervision is achievable. Condition accordingly for compliance with the BCA.	Yes To Condition
4.8 Emergency and evacuation procedures			
(Regulation 97 & 168)	Regulation 168 sets out the list of procedures that a care service must have, including procedures for emergency and evacuation. Regulation 97 sets out the detail for what those procedures must cover including: • instructions for what must be done in the event of an emergency	Emergency and evacuation procedures provided with the accompanying Plan of Management.	Yes

	• an emergency and evacuation floor plan, a copy of which is displayed in a prominent position near each exit • a risk assessment to identify potential emergencies that are relevant to the service.		
4.9 Outdoor space requirements			
(Regulation 108)	Min. 7sqm of unencumbered outdoor space per child. 90x 7sqm = 630qm	Fully dimensioned drawings showing the proposed unencumbered area provided. The outdoor space on is fully enclosed, and thus would constitute a 'simulated outdoor environment'. Concurrence obtained from the Department of Education for the simulated outdoor children play area.	Yes
4.10 Natural environment			
(Regulation 113)	The approved provider of a centre-based service must ensure that the outdoor spaces allow children to explore and experience the natural environment.	The proposed simulated outdoor play area allows children to explore and experience simulated environment.	Yes
4.11 Shade			
(Regulation 114)	Controlled exposure to daylight for limited periods is essential as sunlight provides vitamin D which promotes healthy muscles, bones and overall wellbeing. Outdoor play areas should be provided with controlled solar access throughout the year. Outdoor play areas should: • have a minimum of 2 hours of solar access between 8.00am and 4.00pm during winter months, for at least 30% (or 2.1m²) of the 7.0m2	Covered / enclosed outdoor spaces are orientated to north, east and west and would achieve minimum solar access requirements, whilst	Yes

	of outdoor space per child required. • adequate shade for outdoor play areas is to be provided in the form of natural shade such as trees or built shade structures giving protection from ultraviolet radiation to at least 30 per cent of the outdoor play area • have evenly distributed shade structures over different activity spaces.	also providing for shaded areas.	

ATTACHMENT 4: LIVERPOOL DEVELOPMENT CONTROL PLAN 2008

Liverpool Development Control Plan 2008 (LDCP) Parts 1 and 4 apply to the development. Part 1 prescribes general controls for all development and Part 4 prescribes specific controls for development within the Liverpool City Centre. The relevant development controls are summarised in the following table:

Liverpool Development Control Plan 2008			
Clause	**Required**	**Provided**	**Complies**
Part 1 General Controls for all Development			
2. Tree Preservation			
	Consideration shall be given to the potential impact of development on existing vegetation.	No vegetation on site.	N/A
3. Landscaping and Incorporation of Existing Trees			
	Incorporate existing trees where appropriate.	No vegetation on site.	N/A
4. Bushland and Habitat Preservation			
	Consideration shall be given to the potential impact of the development on surrounding bushland and animal habitat.	The development site is not identified as containing any native flora or fauna, nor is there any potential for threatened ecological communities.	N/A
5. Bushfire Risk			
	Any development on or adjacent to bushfire prone land to comply with RFS requirements.	The site is not identified as bushfire prone land.	N/A
6. Water Cycle Management			
	Consideration shall be given to the impacts associated with stormwater.	This aspect has been addressed by DA-836/2020 for the base building.	Yes
7. Development Near a Watercourse			
	If any works are proposed near a water course, the Water Management Act 2000 may apply, and you may be required to seek controlled activity approval from the NSW Office of Water.	The development site is not within close proximity to a water course.	N/A
8. Erosion and Sediment Control			
	Erosion and sediment control plan to be submitted.	Erosion and sediment control plan already addressed by DA-836/2020.	Yes

9. Flooding Risk			
	Consideration shall be given to the potential of flood affectation on the development, and the potential for the development to affect flood behaviour and impact to surrounding properties.	Already addressed by DA-836/2020.	Yes
10. Contaminated Land Risk			
	The potential for site contamination shall be considered having regard to previous land uses and the requirements of SEPP.	Already addressed by DA-836/2020.	Yes
11. Salinity Risk			
	Salinity Management response required for affected properties.	Already addressed by DA-836/2020.	Yes
12. Acid Sulfate Soils Risk			
	This section applies to any development that is located in an area identified as having an acid sulfate soil potential within the Liverpool LEP 2008.	Already addressed by DA-836/2020.	N/A
14. Demolition of Existing Developments			
Demolition	All demolition work must comply with the Australian Standard AS2601 - 1991, The Demolition of Structures A Waste Management Plan (WMP) is to be submitted with the Development Application. The WMP must include realistic estimates of the volume or area of all types of waste material to be generated from the demolition and excavation activities. Details of how each of those materials will be re-used, recycled or disposed of is to be provided, including the locations to which the materials will be taken.	No demolition works proposed.	Yes
17. Heritage and Archaeological Sites			
	This section applies to development affecting a	Already addressed by DA-836/2020.	Yes

	heritage item, land in a heritage conservation area or an archaeological site as identified in the Liverpool Local Environmental Plan 2008, as well as land in the vicinity of a heritage item.		
20. Car Parking and Access			
Off-Street - Car Parking Provision other than Liverpool City Centre	Off street car parking provision and service and loading provision shall be provided in accordance with Table 11. <u>Child Care Centres</u> Business zone <u>Car parking Spaces</u> - 1 space per 35sqm of LFA <u>Service and Loading</u> - Service facilities for a van	Total car parking for the use and the whole building already addressed by DA-836/2020 for the base building which is within the Liverpool City Centre. The child care use will also be able to utilise the remaining 72 public car parking spaces that are accessed from Terminus Street. Council's Traffic Section has no objection to the proposal but requires allocation of car parking spaces for the child care centre. The approved child care centre is allocated with 4 drop-off/pick-up parking spaces on Lower Ground level and 6 drop-off/pick-up parking spaces on Basement 1 of the building. No changes are proposed to the parking allocation for the child care centre. Conditions of consent will be included in any stipulation a minimum of 10 car parking spaces be exclusively allocated to the proposed child care centre facility.	Yes
20.4 Car Parking Design			
		Already addressed by DA-836/2020.	Yes
20.7 Driveway Crossings			
		Already addressed by DA-836/2020.	Yes

23. Reflectivity			
	New buildings and facades must not result in glare that causes discomfort or threatens safety of pedestrians or drivers.	Already addressed by DA-836/2020.	Yes
25. Waste Disposal & re-use Facilities			
Non-residential development	1. Development applications for all non-residential development must be accompanied by a waste management plan that addresses: − best practice recycling and reuse of construction and demolition materials, − use of sustainable building materi als that can be reused or recycled at the end of their life, − handling methods and location of waste storage areas, such that handling and storage has no negative impact on the streetscape, building prese ntation or amenity of occupants and pedestrians, and − procedures for the on-going sustainable management of green and putrescible waste, garbage, glass, containers and paper, including estimated volumes, required bin capacity and on-site storage requirements. 2. The waste management plan is to be prepared by a specialist waste consultant and is subject to approval by Council	Waste management plan submitted.	Yes
Waste Management Plan	A Waste Management Plan (WMP) shall be submitted with a Development Application for any relevant activities	WMP submitted addressing waste reuse and disposal for demolition, construction and on-going waste.	Yes

	generating waste. The WMP is provided in three sections: Liverpool Development Control Plan 2008 Waste Disposal and Re-use Facilities Part 1 115 - Demolition; - Construction; and - On-going waste management.		
27. Social Impact Assessment			
	Child care centres with 20 or more children required to undertake a Social Impact Comment, as per the proforma provided in Council's Social Impact Policy 2022.	Council's Community Planning Section is satisfied with the submitted SIA.	Yes
29. Safety and Security			
	Address 'Safer-by-Design' principles in the design of public and private domain, and in all developments including the NSW Police 'Safer by Design' Crime Prevention Though Environmental Design (CPTED) principles	Already addressed by DA-836/2020. Not required for the proposal.	Yes
30. Additional Uses			
30.4 Child Care Centres			
Building Appearance	1. The building shall be designed so: − That it is in character with the surrounding residential area in terms of bulk, scale, size and height; and − That it employs passive solar and energy saving techniques where possible. 2. The front pedestrian entrance must be visible from the street. 3. Buildings that face two street frontages or a street and public space must address both frontages by the use of verandas, balconies, windows or	Already addressed by DA-836/2020 for the base building.	Yes

	similar modulating elements.		
Landscaping	1. A landscape plan must be submitted to Council with the development application. Refer to Part 1 of the DCP. 2. Areas of grass are to be limited to play areas. Other landscaped areas are to be planted. 3. Trees adjacent to/or within the play area, are to provide shade and allow winter sun entry. Trees adjacent to private open space areas and living rooms should provide summer shade and allow winter sun entry. 4. Landscaping species must be appropriate to prevent injury to children. No toxic, spiky or other hazardous plant species. 5. If there are setback areas these are to be utilised for canopy tree planting. The landscape design for all development must include canopy trees that will achieve a minimum 8m height at maturity within front and rear setback areas. Any tree with a mature height over 8m should be planted a minimum distance of 3m from the building or utility services. 6. Landscape planting should principally comprise of native species to maintain the character of Liverpool and provide an integrated streetscape appearance. Council will consider the use of deciduous trees in small private open space areas such as courtyards for control of local microclimate and to improve solar access.	Already addressed by DA-836/2020 for the base building.	Yes

	7. Tree and shrub planting alongside and rear boundaries should assist in providing effective screening to adjoining properties. The minimum height of screening to be provided is 2.5m to 3m at maturity. 8. Landscaping on any podium level or planter box shall be appropriately designed and irrigated. See ADG Planting on Structures.		
Car Parking and Access			
	Access for the disabled including those with prams is to be provided from the car parking area to the building.	Complies.	Yes
Amenity and Environmental Impact			
	1. Child Care Centres shall be designed and operated so that noise generated by the centre does not impact significantly upon adjoining properties. 2. Child Care Centres shall not be constructed on sites that are contaminated. 3. All buildings, whether to be built, extended, renovated or converted to a Child Care Centre shall not contain any material or substance that will cause lead or asbestos or other contamination or poisoning.	Acoustic report submitted, which is considered satisfactory by Council's Environmental Health Section.	Yes
Part 4 Liverpool City Centre			
4.2 Controls for Building Form			
4.2.1 Building form			
Controls	Develop new buildings in Liverpool city centre using the following building typologies for precincts as identified in Figure 4-2.	Already addressed by DA-836/2020. Proposal is for fit out and use of an approved mixed-use Civic building for a child care centre.	N/A
4.2.7 Street Alignments and Street Setbacks			
Controls	1. Buildings are to comply with the front setbacks as set out in Figures 4-12.	Already addressed by DA-836/2020.	N/A

4.2.8 Side and rear boundary setbacks			
	1. All residential and commercial buildings must comply with the separation distances in SEPP 65 and the ADG unless otherwise agreed with Council in an approved concept development application.	Already addressed by DA-836/2020.	Yes
4.2.9 Minimum Floor to Ceiling Heights			
	The minimum floor to ceiling heights are: 1. Above ground level: a) Commercial office 3.3m. b) Capable of adaptation to commercial uses 3.3m. c) Active public uses, such as retail and restaurants 3.6m. 2. Car Parks: Sufficient to cater to the needs of all vehicles that will access the car park and, if aboveground, adaptable to another use, as above.	Already addressed by DA-836/2020	Yes
4.2.11 Deep Soil Zones and Site Cover			
	1. The maximum permitted site coverage for development is specified in Table 4-2. Commercial Core - 100%	Already addressed by DA-836/2020	NA
4.2.13 Landscape Design			
Private Open Space	1. Submit a landscape plan prepared by a registered landscape architect that demonstrates consistency with the above objectives and section 4V, water management and conservation, of the ADG.	Already addressed by DA-836/2020	NA
4.3.3. Active Street Frontage			
	1. Locate active street frontages on the ground level of all commercial or mixed use buildings, including adjacent through-site links.	Already addressed by DA-836/2020	Yes

4.3.4 Street Address			
	1. Provide a clear street address and direct pedestrian access off the primary street frontage in mixed use and residential developments. 2. Provide multiple entrances to large developments on all street frontages. 3. Provide direct 'front door' and/or garden access to the street in ground floor residential units.	Provided	Yes
4.3.5 Street and Building Interface			
	1. Design the area between the building and the public footpath so that it: a) provides visibility to and from the street (if non-residential use); b) provides privacy if residential uses are on the ground floor; c) introduces paving and/or landscaping between the street and the building; and/or d) screens any above ground car parking. 2. Use front fences that: a) do not present a solid edge to the public domain greater than 1.2 m above the footpath / public domain level; and b) are not constructed of sheet metal or opaque glass.	Already addressed by DA-836/2020	Yes
4.3.8 Building Design and Public Domain Interface			
	1. Design new buildings that adjoin existing buildings, particularly heritage buildings and those of architectural merit so that they consider: a) the street 'wall' alignment and building envelope;	Resolved by DA-836/2020 for the base building	Yes

	b) the ‘depth’ within the façade; c) facade proportions; and d) the response to the corners at street intersections. 2. Provide balconies and terraces appropriately orientated where buildings face public spaces. 3. Articulate façades to address the street, proportion the building, provide ‘depth’ in the street wall when viewed obliquely along the street and add visual interest. 4. Use high quality robust finishes and avoid finishes with high maintenance costs, and those susceptible to degradation due to a corrosive environment. Large expanses of rented concrete finish is discouraged. 5. Select lighter-coloured materials for external finishes including roofs and avoid the use of darker-coloured materials (e.g. black, charcoal) to reduce the urban heat island effect. 6. Maximise glazing in the facades for retail uses. 7. For residential components of buildings, do not use highly reflective finishes and curtain wall glazing above ground floor level. 8. Construct only minor projections up to 600mm from building walls into the public space. These must not add to the GFA and must provide a benefit, such as: a) expressed cornice lines that assist in enhancing the definition of the street; or		

	b) projections such as entry canopies that add visual interest and amenity. 9. Do not locate communication towers such as mobile phone towers, but excluding satellite dishes, on residential buildings or mixed use buildings with a residential component. 10. Incorporate roof top structures, such as air conditioning and lift motor rooms, into the architectural design of the building. 11. Screen air conditioning units on balconies. 12. No clothes drying facilities to be allowed on balconies.		
4.4 Traffic and Access			
4.4.1 Vehicular Access and Manoeuvring Areas			
Fencing	1. Vehicular access shall be restricted to the secondary street (other than along a High Pedestrian Priority Area) where possible. 2. Design of vehicle entry points must be of high quality and relate to the architecture of the building, including being constructed of high quality materials and finishes. 3. All weather access: a) Locate and design porte cochere (for hotels only) to address urban design, streetscape, heritage and pedestrian amenity considerations. b) Design porte cochere to be internal to the building, where practical, with one combined vehicle entry and exit point, or one entry and one exit point on two different	No changes to the approved vehicular entry points.	Yes

	frontages of the development. c) In exceptional circumstances for buildings with one street frontage only, an indented porte cochere with separate entry and exit points across the footpath may be permitted, as long as it is constructed entirely at the footpath level and provides an active frontage at its perimeter.		
4.5.2 Noise			
	1. Design development on sites adjacent to road and rail noise sources identified in Figure 4-16, in a manner that shields any residential development from the noise source through the location and orientation of built form on the site, supported by an appropriate acoustic report as required by the State Environmental Planning Policy (Infrastructure) 2007.	Council's Environmental Health is satisfied with the submitted acoustic report.	Yes

ATTACHMENT 5 – RECOMMENDED CONDITIONS OF CONSENT

A. THE DEVELOPMENT

Approved Plans

1. Development the subject of this determination notice must be carried out strictly in accordance with the following plans/reports marked as follows, except where modified by the undermentioned conditions.

Plan Name	Project & Drawing No.	Date	Issue	Prepared by
Level 6 - Site Plan	200842 INT-0001	26/02/2024	E	Group GSA
Level 6 - Renders	200842 INT-0101	26/02/2024	E	Group GSA
Level 6 – General Arrangement Plan	200842 INT-2006	26/02/2024	K	Group GSA
Level 6 – Planting Plan	200842 INT-2056	26/02/2024	E	Group GSA
Level 6 – Reflected Ceiling Plan	200842 INT-2206	26/02/2024	I	Group GSA
Level 6 – Building Sections	200842 INT-4000	26/02/2024	D	Group GSA
GA Floor Plans Basement 01	BLCP DA20B1	02/06/2021	02	FJMT
GA Floor Plans Lower Ground Plan – Scott Street	BLCP DA20LG	02/06/2021	02	FJMT

Report Name	Date	Reference	Prepared by
Liverpool Civic Place – Childcare Noise Impact Assessment	12 April 2023	P00052	E-LAB Consulting
Access Report	19 April 2023		MGAC
Air Quality Impact Assessment	23 October 2023	23101650	Todoroski Air Science
BCA Assessment Report	11 April 2023	2023/0509 R1.1	Steve Watson & Partners
Evacuation Management Plan	6 April 2023	P00052; Revision 1	E-LAB Consulting
Fire Engineering Report	6 April 2023	P00052; Revision 9	E-LAB Consulting

Operational Plan of Management	Undated	No reference	No author
Social Impact Assessment	26 February 2024	2200178	Ethos Urban

Department of Education Concurrence

2. The concurrence of the Department of Education dated 9 April 2024 shall be complied with at all times (a copy of which is included as Appendix 1).

Works at no cost to Council

3. All roadworks, drainage works and dedications, required to affect the consented development shall be undertaken at no cost to Liverpool City Council.

B. PRIOR TO ISSUE OF A CONSTRUCTION CERTIFICATE

The following conditions are to be complied with or addressed prior to the issue of a Construction Certificate by the Principal Certifying Authority.

Site Development Work

4. Site development work in the form of excavation, underpinning or shoring works must not take place, until such time as a CC has been issued.

5. All aspects of construction shall comply with the applicable Performance Requirements of the National Construction Code. Compliance with the Performance Requirements can only be achieved by:
   (a) Complying with the Deemed to Satisfy Provisions; or
   (b) Formulating an Alternative Solution, which complies with the Performance Requirements or is shown to be at least equivalent to the Deemed to Satisfy Provision, or a combination of (a) and (b).

Notification

6. The certifying authority must advise Council, in writing of:

   (a) The name and contractor licence number of the licensee who has contracted to do or intends to do the work, or
   (b) The name and permit of the owner-builder who intends to do the work.
   If these arrangements are changed, or if a contact is entered into for the work to be done by a different licensee, Council must be immediately informed.

Provision of Services

7. An application to obtain a Section 73 Compliance Certificate under the Sydney Water Act 1994, must be lodged with Sydney Water. To facilitate this, an application must be made through an authorised Water Servicing Coordinator. Please refer to the “building

and developing" section of Sydney Water's web site at www.sydneywater.com.au, or telephone 13 20 92.

Following receipt of the application, a 'Notice of Requirements' will detail water and sewer extensions to be built and charges to be paid. Please make early contact with the Coordinator, since building of water/sewer extensions can be time consuming and may impact on other services and building, driveway or landscape design. A copy of the 'Notice of Requirements' must be submitted to the PCA.

Fire Safety Measures

8. A schedule specifying all of the essential fire safety services, both existing and proposed, which are required for the building, shall be attached to the CC and submitted to Council, in compliance with the provisions of the Environmental Planning & Assessment Regulation 2021.

   The schedule must distinguish between the measures that are currently implemented (existing) in the building premises; and
   a) the measures that are to be proposed to be implemented in the building premises, and
   b) the minimum standard of performance for each measure.

Preparation of construction and fit out plans for food and drink premises

9. Before the issue of a construction certificate, detailed plans of all food and beverage preparation, serving and storage areas (including for perishable stock, waste, chemicals and personal belongings) must be prepared by a suitably qualified person. The detailed plans must be prepared in accordance with the following editions in force on the date of determination and provided to Council's Environmental Health Department for review and approval:

   i. Food Standards Code (Australia) and Food Safety Standard 3.2.3 – Food Premises and Equipment
   ii. Food Act 2003 and Food Regulation 2015
   iii. Australian Standard 4674: 2004: Design, Construction and Fit-out of Food Premises
   iv. Plumbing Code of Australia and Australian Standard/New Zealand Standard AS/NZS 3500 series on Plumbing and Drainage
   v. Sydney Water commercial trade wastewater requirements for food premises
   vi. Education and Care Services National Regulation 2011

Preparation of mechanical ventilation plans

10. Before the issue of a construction certificate, detailed plans of the mechanical exhaust ventilation system must be prepared by a suitably qualified person.

    The detailed plans must be in accordance with the following and submitted to the certifier:

    i. Australian Standard 1668: The use of ventilation and air-conditioning in buildings; and
    ii. Ensure all generate heated air, smoke, fumes, steam or grease vapours do not:

a. cause a nuisance to persons within or nearby to the premises, or
b. cause air pollution as defined under the NSW Protection of the Environment Operations Act 1997

Recommendations of Acoustic Report

11. Before the issue of a construction certificate, the certifier must be satisfied that the recommendations provided in the approved acoustic report are implemented and incorporated into the design and construction of the development, and shown on plans accompanying the construction certificate application.

The construction methodology and plans accompanying the construction certificate application must be assessed and certified in writing by a suitably qualified acoustic consultant to verify conformance with the requirements of the aforementioned acoustic report. The written certification from the suitably qualified acoustic consultant must be submitted to and approved by the certifier before issue of the construction certificate.

Note: The 'suitably qualified acoustic consultant' must be a member of the Australian Acoustical Society or employed by an Association of Australasian Acoustical Consultants (AAAC) member firm.

Child Care Centre – Construction

12. Before the issue of a construction certificate, the certifier must be satisfied the relevant construction certificate plans demonstrate that the fit-out and construction of the premises complies with the following requirements:

- Building Code of Australia
- AS4674-2004 – Design, construction and fit-out of food premises
- Australia New Zealand Food Standards Code
- Australian Standard 1668 (Part 1 & 2) and
- Education and Care Services National Regulation 2011.

Mechanical Plant and Equipment

13. Before the issue of a construction certificate, the certifier must be satisfied that mechanical plant and equipment were selected in consultation with a suitably qualified acoustic consultant in accordance with the recommendations of the approved acoustic report.

Note: The 'suitably qualified acoustic consultant' must be a member of the Australian Acoustical Society or employed by an Association of Australasian Acoustical Consultants (AAAC) member firm.

Waste Management Plan requirements

14. Before the issue of a construction certificate, a waste management plan for the development must be prepared and provided to the principal certifier. The plan must be prepared in accordance with:

i. The Environment Protection Authority's Waste Classification Guidelines as in force from time to time, and
ii. A Development Control Plan that provides for waste management that applies to the land on which the work or the clearing of vegetation is carried out, and

The plans shall include the following information at minimum;

i. The contact details of the person removing waste,
ii. An estimate of the type and quantity of waste,
iii. Whether waste is expected to be reused, recycled or sent to landfill,
iv. The address of the disposal location for waste.

A copy of the waste management plan must be kept on-site at all times while work approved under the development consent is being carried out.

Waste Storage

15. Prior to the issuing of a construction certificate, the principal certifier shall be satisfied that the designated garbage/waste storage area shall complies with the following requirements:

a) The room shall be fully enclosed and provided with a concrete floor, and with concrete or cement rendered walls coved to the floor;
b) The room shall have a floor waste which is to consist of a removable basket within a fixed basket arrestor and is to comply with Sydney Water requirements; and
c) The door to the room must be tight-fitting, self-closing and fitted with mechanical ventilation.

Construction Environmental Management Plan (CEMP)

16. Prior to issue of a construction certificate, a Construction Environmental Management Plan (CEMP) for the development must be provided to the Principal Certifying Authority for approval. The environmental site management measures must remain in place and be maintained throughout the period of the development. The CEMP must address all environmental aspects of the development's construction phases, and include (where relevant), but not be limited to, the following:

a) Asbestos Management Plan;
b) Project Contact Information;
c) Site Security Details;
d) Timing and Sequencing Information;
e) Site Soil and Water Management Plan;
f) Dust Control Plan;
g) Air Monitoring;
h) Odour Control Plan;
i) Health and Safety Plan;
j) Waste Management Plan;
k) Incident management Contingency; and
l) Unexpected Finds Protocol.

The CEMP must be kept on site for the duration of the works and must be made available to Council Officers upon request.

Waste Storage Area - Construction

17. All waste management facilities shall comply with the Liverpool Development Control Plan 2008. Prior to the issue of a Construction Certificate, detailed floor and section plans shall be submitted to and approved by the Principal Certifying Authority for the waste storage area/s. The plans shall identify the location of the waste storage area/s and incorporate the following requirements:
    a) Sufficient space for access by staff, storage and easy manoeuvring of bins;
    b) The area is to be fully enclosed and include a solid roof and concrete or cement rendered walls coved to the floor;
    c) A concrete floor graded to an approved sewer connection comprising a sump and galvanised fine grade drain cover sufficient to prevent coarse pollutants from entering the sewer;
    d) Adequate ventilation to the external air by natural or mechanical means;
    e) The door to the room must be tight fitting and self-closing;
    f) A hose cock adjacent to the garbage storage area to facilitate cleaning of bins and the storage area. If the hose cock is located inside the waste storage area, it shall not protrude into the space indicated for the placement of bins;
    g) Sufficient lighting to permit usage at night; and
    h) Should garbage chutes be integrated into the design of the building, operational instructions shall be located prominently next to the chute.

Any modifications to the construction of the waste storage area require Council's prior written Approval.

Road Works

18. Works within the public road reserve shall not commence until the design drawings including the associated signs and line marking scheme have been approved by Council's Traffic Management Section.

C. PRIOR TO WORKS COMMENCING

The following conditions are to be complied with or addressed prior to works commencing on the subject site/s:
Notification

19. Written notice of intention shall be given to the owner of the adjoining allotments of land, outlining the particulars of the proposed work, which involves:
    a) Any excavation, below the base of the footings of a building on an adjoining allotment of land, and
    b) The notice shall be given seven (7) days prior to the commencement of work.
    c) Where necessary, underpin the adjoining premises to prevent any such damage.

Site Facilities

20. Adequate refuse disposal methods and builder's storage facilities shall be installed on the site. Builders' wastes, materials or sheds are not to be placed on any property other than that which this approval relates to.

Sydney Water

21. Development plans must be processed and approved by Sydney Water.

"DIAL BEFORE YOU DIG"

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

Waste Classification and Disposal of Contaminated Soil and Material

23. All soils and material(s), liquid and solid, to be removed from the site must be analysed and classified by an appropriately qualified and certified consultant, in accordance with the Protection of the Environment (Waste) Regulation 2014 and related guidelines, in particular the NSW EPA Waste Classification Guidelines, prior to off-site disposal.

    All Waste material(s) must be disposed of at an appropriately licensed waste facility for the specific waste. Receipts for the disposal of the waste must be submitted to the Principal Certifying Authority with 30 days of the waste being disposed.

    All waste must be transported by a contractor licenced to transport the specific waste, and in vehicles capable of carting the waste without spillage, and meeting relevant requirements and standards. All loads must be covered prior to vehicles leaving the site.

Construction Traffic Management Plan (CTMP)

24. A construction traffic management plan (CTMP) prepared by a suitably qualified person is to be submitted to and endorsed by Council's Transport Management Section. The CTMP is to be submitted using Assessment of Construction Traffic Management Plan application form. The application is available on Council website and can be lodged online. Comments on the CTMP will be provided and the updated CTMP are to be implemented during construction.

    A copy of the endorsed CTMP and traffic control plans are to be available on the works site for inspection by authorised Council officers.

    Construction shall not commence until the assessed construction traffic management plan has been endorsed. The endorsed CTMP is to be implemented during construction.

Traffic Control Plan

25. Prior to commencement of works, a Traffic Control Plan including details for pedestrian management, shall be prepared in accordance with *AS1742.3 "Traffic Control Devices*

for Works on Roads" and the Roads and Traffic Authority's publication "T*raffic Control at Worksites*" and certified by an appropriately accredited Roads and Traffic Authority Traffic Controller.

Traffic control measures shall be implemented during the construction phase of the development in accordance with the certified plan. A copy of the plan shall be available on site at all times.

Note: A copy of the Traffic Control Plan shall accompany the Notice of Commencement to Liverpool City Council.

Work Zone

26. A Works Zone application is required if on-street parking is affected with commuter parking and there is insufficient off-street parking space.

A Works Zone Application Form is available on Council website and can be lodged online by attaching all required documents indicated on the application form.

Where a work zone is required, an application must be submitted to and approved by Council's Transport Management Section. The application is to indicate the exact location required and the applicable fee is to be included. If parking restrictions are in place, an application to have the restrictions temporarily altered will need to be submitted to and approved by Council's Liverpool Local Traffic Committee.

D. DURING CONSTRUCTION

The following conditions are to be complied with or addressed during construction:

Building Work

27. The building works must be inspected by the Principal Certifying Authority, in accordance with Sections 6.5 (3) of the Environmental Planning & Assessment Act 1979 and Clause 162A of the Environmental Planning & Assessment Regulation 2021, to monitor compliance with the relevant standards of construction, Council's development consent and the construction certificate.

Toilet Facilities

28. Toilet facilities must be available or provided at the work site and must be maintained until the works are completed at a ratio of one toilet plus one additional toilet for every 20 persons employed at the site. Each toilet must:

a) be a standard flushing toilet connected to a public sewer, or
b) have an on-site effluent disposal system approved under the *Local Government Act 1993*, or
be a temporary chemical closet approved under the *Local Government Act 1993*.

Hours of Construction Work and Deliveries

29. Construction work/civil work/demolition work, including the delivery of materials, is only permitted on the site between the hours of 7:00am to 6:00pm Monday to Friday and 8:00am to 1:00pm Saturday. Site work is not to be carried out outside of these times or on public holidays except where there is an emergency, or for urgent work directed by a police officer or a public authority.

Waste Management Plan

30. The Waste Management Plan submitted to and approved by Council must be adhered to at all times throughout all stages of the development. Supporting documentation (receipts/dockets) of waste/recycling/disposal methods carried out, is to be kept and must be produced upon the request of Council or any other authorised officer. Note: Any non-compliance with this requirement will result in penalties being issued.

Air Quality

31. Dust screens shall be erected and maintained in good repair around the perimeter of the subject land during land clearing, demolition, and construction works.

    Where operations involve excavation, filling or grading of land, or removal of vegetation, including ground cover, dust is to be suppressed by regular watering until such time as the soil is stabilised to prevent airborne dust transport. Where wind velocity exceeds five knots the Principal Certifying Authority may direct that such work is not to proceed.

    All vehicles involved in the delivery, demolition or construction process departing from the property shall have their loads fully covered before entering the public roadway.

Air Quality – Vehicle Movement

32. All vehicles involved in the delivery, demolition or construction process departing from the property shall have their loads fully covered before entering the public roadway.

Water Quality

33. All topsoil, sand, aggregate, spoil or any other material shall be stored clear of any drainage line, easement, water body, stormwater drain, footpath, kerb or road surface and there shall be measures in place in accordance with the approved erosion and sediment control plan.

General Site Works - Sediment

34. The development, including construction, shall not result in any increase in sediment deposition into any water body, wetland, bushland or environmentally significant land.

Removal of dangerous and/or hazardous waste

35. All dangerous and/or hazardous material shall be removed by a suitably qualified and experienced contractor licensed by SafeWork NSW. The removal of such material shall be carried out in accordance with the requirements of SafeWork NSW and the material

shall be transported and disposed of in accordance with NSW Environment Protection Authority requirements.

Waste management

36. While site work is being carried out:

    i. all waste management must be undertaken in accordance with the waste management plan, and
    ii. upon disposal of waste, records of the disposal must be compiled and provided to the principal certifier, detailing the following:
        a) The contact details of the person(s) who removed the waste
        b) The waste carrier vehicle registration
        c) The date and time of waste collection
        d) A description of the waste (type of waste and estimated quantity) and whether the waste is to be reused, recycled or go to landfill
        e) The address of the disposal location(s) where the waste was taken
        f) The corresponding tip docket/receipt from the site(s) to which the waste is transferred, noting date and time of delivery, description (type and quantity) of waste.

    If waste has been removed from the site under an EPA Resource Recovery Order or Exemption, records in relation to that Order or Exemption must be maintained and provided to the principal certifier and council.

Air Conditioning

37. The plant associated with any air conditioning system shall not cause any offensive noise as defined under the Protection of the Environment Operations Act 1997.

Water Quality

38. During construction the consent holder is to ensure all topsoil, sand, aggregate, spoil or any other material that can be moved by water is stored clear of any drainage line, easement, water body, stormwater drain, footpath, kerb or road surface.

Pollution Control - Site Operations

39. During construction, building operations including but not limited to brick cutting, mixing mortar and the washing of tools, paint brushes, form-work, concrete trucks and the like must not be performed on the public footway or any other locations which may lead to the discharge of materials into Council’s stormwater drainage system.

Pollution Control - Truck Movements

40. The loading and unloading of all vehicles associated with the development must be undertaken within the property boundary of the premises subject to this consent.

    Measures must be implemented to prevent tracking of sediment by vehicles onto roads.

    Vehicle loads must be covered when entering and exiting the site with material.

Noise and Vibration requirements

41. While site work is being carried out, noise generated from the site must not exceed an LAeq (15 min) of 5dB>(A) above background noise, when measured at a lot boundary of the site.

Contamination

42. The development, including all civil works and demolition, must comply with the requirements of the *Contaminated Land Management Act, 1997*, *State Environmental Planning Policy (Resilience and Hazards) 2021*, and *Managing Land Contamination – Planning Guidelines* (Planning NSW/EPA 1998).

Pollution Control – Site Operations

43. Building operations such as brick cutting, mixing mortar and the washing of tools, paint brushes, form-work, concrete trucks and the like shall not be performed on the public footway or any other locations which may lead to water pollution.

Ventilation

44. To ensure that adequate provision is made for ventilation of the building, the design, construction, installation and commissioning of the mechanical ventilation systems(s) shall be carried out in accordance with Australian Standard 1668 Parts 1 & 2.

    The mechanical exhaust discharge point shall be designed and installed by an appropriately qualified person, and shall be positioned to comply with Section 3.7 of Australian Standard 1668 Part 2 – 1991.

Food Premises – Construction

45. The construction, fitout and finishes of the kitchen and any bottle preparation areas within the premises shall comply with the Australian Standards 4674-2004, *Food Act 2003* and Regulations thereunder. Construction is to include, but not be limited to the following:

    a) All walls (including partition walls) within the kitchen, food preparation, storage and display areas shall be of solid construction (eg., bricks, cement or other approved material). These walls are to be finished with glazed tiles, stainless steel or other approved material adhered directly to the wall to a height of 2 metres above floor level;

    b) Walls within the kitchen, food preparation, storage and display areas which are not of solid construction (eg. stud walls) shall be finished in tiles or other approved material from the floor level to the underside of the ceiling;

    c) The floors within the kitchen, food preparation, storage and display areas shall be constructed of a suitable material which is non-slip, durable, resistant to corrosion, non-toxic, non-absorbent and impervious to moisture. The floor is to be graded and drain to an appropriate floor waste fitted with a basket arrestor;

d) If the floor in the food preparation and storage areas is constructed of tiles, the joints between the tiles shall be of a material that is non-absorbent and impervious to moisture;

e) The intersection of walls with floors and exposed plinths in the kitchen, food preparation, storage and display areas are to be coved to a minimum radius of 25mm;

f) All plinths are to be constructed of a material which is of solid construction and impervious to moisture. The plinths shall be:
   (i) at least 75mm high;
   (ii) finished level to a smooth even surface;
   (iii) recessed under fittings to provide a toe space of not more than 50mm;
   (iv) rounded at exposed edges; and
   (v) coved at the intersection of the floor and wall to a minimum radius of 25mm.

g) The ceiling is to be constructed of a material that is rigid, smooth faced and impervious to moisture. The ceiling over the food preparation, storage and display areas shall be painted with a washable paint of a light colour. The surface finish is to be free of open joints, cracks, crevices or openings (drop ceiling panel is not permitted). The intersections of walls and the ceiling are to be tight jointed, sealed and dust-proof;

h) The drop-in panel ceiling in the food preparation and storage areas shall be replaced with an approved rigid, smooth faced and impervious material which is free of open joints, cracks, crevices or openings. The ceiling is to be painted with a light coloured washable paint;

i) All service pipes and electrical conduits shall be either:
   (i) concealed in floors, walls, ceiling or concrete plinths, or
   (ii) fixed with brackets so as to provide at least:
      - 25mm clearance between the wall and the pipe/conduit; &
      - 100mm between the floor and the pipe/conduit
      - pipes so installed are not to run underneath fittings.

j) All architraves, skirting boards, picture rails and the like are not permitted within the kitchen, food preparation and storage areas;

k) All openings in the walls, floors and ceilings through which service pipes and electrical conduits pass through are to be designed and constructed so as to prevent the access of vermin;

l) The internal and external surfaces, including exposed edges to all benches, counters and shelving in the food preparation, storage, display and serving areas are to be finished with a rigid, smooth faced and non-absorbent material (eg laminate, stainless steel or other approved material) that is capable of being easily cleaned;

m) All shelving shall be located at least 25mm off the wall or alternatively, the intersection of the shelf and the wall is to be completely sealed. NOTE: The lowest shelf shall be a minimum of at least 150mm above the floor level;

n) The hot water service unit shall be positioned a minimum of 75mm clear of the adjacent wall surface and mounted a minimum of 150mm above the floor level on a stand of non-corrosive metal construction;

o) A free standing, hands free hand wash basin shall be provided in a convenient position within the food preparation and serving areas. The hand wash basin shall be provided with hot and cold water supplied through a single outlet and fitted with an approved mixing device to enable hands to be washed under hot running water at a temperature of at least 40ºC;

p) Cavities, false bottoms and similar hollow spaces capable of providing access and harbourage of vermin are not permitted to be formed in the construction of the premises or in the installation of fixtures, fittings and equipment;

q) A double bowl sink or two-compartment tub shall be provided with hot and cold water supplied through a single spout in the kitchen/food preparation area. Double bowl sink or tubs shall be supplied with water of at least: - 45ºC in one bowl for washing purposes; and - 77ºC in the other bowl for rinsing purposes, together with a thermometer accurate to 1ºC.

r) Discharge of commercial trade wastewater is to be approved by Sydney Water. Before selecting or installing trade wastewater pre-treatment devices at a retail food business, refer to Plumbing for retail food businesses produced by Sydney Water.

s) A cleaners sink shall be provided. The sink is NOT to be within an area where open food is handled.

t) The grease trap is NOT to be located within an area where food is being handled.

Directional Signage

46. Directional signage indicating the location of customer parking, “in” and “out”, crossings and directional arrows are to be provided in accordance with the Council approved stamped plans.

Construction Noise and Vibration

47. Noise and vibration associated with excavation, demolition and construction activities shall comply with the management levels detailed within the ‘Interim Construction Noise Guideline’ published by the Department of Environment and Climate Change NSW (DECC 2009/265) dated July 2009 and acceptable vibration values prescribed within the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).

All feasible and reasonable noise and vibration mitigation measures shall be implemented and any activities which may exceed the construction noise management levels and vibration criteria shall be identified and managed in accordance with the approved site specific Construction Noise, Vibration Assessment and Management Plan.

E. PRIOR TO ISSUE OF OCCUPATION CERTIFICATE

The following conditions are to be complied with or addressed prior to issue of either an Interim or Final Occupation Certificate by the Principal Certifier (PC):

Occupation Certificate

48. The premises must not be occupied until an OC is issued by the PC. Copies of all documents relied upon for the issue of the occupation certificate must be attached to the OC and registered with Council.

Recommendations of Acoustic Report

49. Upon completion of works and before the issue of any occupation certificate, written certification prepared by a suitably qualified acoustic consultant must be submitted to and approved by the certifier. The written certification prepared by the suitably qualified acoustic consultant must confirm that the development complies with all requirements and recommendations detailed within the approved Acoustic Report titled “Liverpool Civic Place – Childcare Noise Impact Assessment” (Ref: p00052 Rev: 002) Prepared by Kanin Mungkarndee and reviewed by Brandon Notaras for E-Lab Consulting dated 12th April 2023. The acoustic consultant must confirm that the development or use is capable of operating in accordance with the design criteria.

    Note: The ‘suitably qualified acoustic consultant’ must be a member of the Australian Acoustical Society or employed by an Association of Australasian Acoustical Consultants (AAAC) member firm.

Mechanical Ventilation Certification

50. Upon completion of works and before the issue of any occupation certificate, a Mechanical Ventilation Certificate of Completion and Performance prepared by a professional engineer or other suitably qualified person must be submitted to certifier for their review and approval. The certification must be accompanied by details of the tests carried out in relation to ventilation and acoustics and confirm that the systems comply with the approved plans, specifications, Building Code of Australia and Australian Standard AS 1668 Parts 1 and 2.

Waste Storage Construction

51. The designated garbage/waste storage area shall comply with the following requirements:

    a) The room shall be fully enclosed and provided with a concrete floor, and with concrete or cement rendered walls coved to the floor;
    b) The room shall have a floor waste which is to consist of a removable basket within a fixed basket arrestor and is to comply with Sydney Water requirements; and

c) The door to the room must be tight-fitting, self-closing and fitted with mechanical ventilation.

Certificates

52. Details of critical stage inspections carried out by the principal certifying authority together with any other certification relied upon must be provided to Council with the occupation certificate.

Certificates

53. The Principal Certifying Authority (Building) shall ensure that all compliance certificates required by this development consent are referenced to the condition consent number. The Compliance Certificate is to state that the works as constructed comply fully with the required condition of consent being acted on by the certifier.

Certificates

54. A single and complete Fire Safety Certificate, certifying the installation and operation of all of the fire safety measures within the building must be submitted to Council with the Occupation Certificate.

Section 73 Sydney Water Certificate

55. A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained for submission to the PCA prior to issue of Occupation certificate.

Sydney Water

56. Prior to the issue of an Occupation Certificate, the PCA must be satisfied that the development is connected to and serviced by the Sydney Water reticulated sewer system.

Rectification of Damage

57. Prior to the issue of an Occupation Certificate, any damage to Council infrastructure not identified in the dilapidation report, as a result of the development shall be rectified at no cost to Liverpool City Council.

Any rectification works within Macquarie Street, Scott Street and Terminus Street will require a Roads Act application. The application is to be submitted and approved by Liverpool City Council prior to such works commencing.

Dilapidation Report

58. Any rectification works required by Council regarding the condition of Council infrastructure shall be undertaken, at full cost to the developer.

Notification of Food Premises

59. The food business is required to notify Council of the food business details. The PCA is to ensure a Liverpool City Council approved registration form is completed and submitted to the Council with any relevant fee.

Food Premises – Commencement of trade

60. Trading shall not commence until an Occupation Certificate has been issued by the PCA.

Mechanical Ventilation Certification

61. Upon completion of works and prior to the issue of an Interim or Final Occupation Certificate, a Mechanical Ventilation Certificate of Completion and Performance prepared by a professional engineer or other suitably qualified person shall be submitted to the Principal Certifying Authority (PCA) for their review and approval. The certification shall be accompanied by details of the tests carried out in relation to ventilation and acoustics and confirm that the systems comply with the approved plans, specifications, Building Code of Australia and Australian Standard AS 1668 Parts 1 and 2.

F. CONDITIONS RELATING TO USE

Food Premises- Construction

62. The construction, fit-out and finishes of the premises must comply with the Food Act 2003, Australia New Zealand Food Standards Code and Australian Standard AS 4674-2004 Design, construction and fit-out of food premises. The food premises' construction must include, but not be limited to the following:

i. All walls (including partition walls) within the kitchen, food preparation, storage and display areas must be of solid construction (eg., bricks, cement or other approved material). These walls are to be finished with glazed tiles, stainless steel or other approved material adhered directly to the wall to a height of 2 metres above floor level;

ii. Walls within the kitchen, food preparation, storage and display areas which are not of solid construction (e.g. stud walls) must be finished in tiles or other approved material from the floor level to the underside of the ceiling;

iii. The floors within the kitchen, food preparation, storage and display areas must be constructed of a suitable material which is non-slip, durable, resistant to corrosion, non-toxic, non-absorbent and impervious to moisture. The floor is to be graded and drain to an appropriate floor waste fitted with a basket arrestor;

iv. If the floor in the food preparation and storage areas is constructed of tiles, the joints between the tiles must be of a material that is non-absorbent and impervious to moisture;

v. The intersection of walls with floors and exposed plinths in the kitchen, food preparation, storage and display areas are to be coved to a minimum radius of 25mm;

vi. All plinths are to be constructed of a material which is of solid construction and impervious to moisture. The plinths must be:
(i) at least 75mm high;
(ii) finished level to a smooth even surface;
(iii) recessed under fittings to provide a toe space of not more than 50mm;
(iv) rounded at exposed edges; and
(v) coved at the intersection of the floor and wall to a minimum radius of 25mm.

vii. The ceiling is to be constructed of a material that is rigid, smooth faced and impervious to moisture. The ceiling over the food preparation, storage and display areas must be painted with a washable paint of a light colour. The surface finish is to be free of open joints, cracks, crevices or openings (drop ceiling panel is not permitted). The intersections of walls and the ceiling are to be tight jointed, sealed and dust-proof;

viii. The drop-in panel ceiling in the food preparation and storage areas must be replaced with an approved rigid, smooth faced and impervious material which is free of open joints, cracks, crevices or openings. The ceiling is to be painted with a light coloured washable paint;

ix. All service pipes and electrical conduits must be either:
a) concealed in floors, walls, ceiling or concrete plinths, or
b) fixed with brackets so as to provide at least:

1. 25mm clearance between the wall and the pipe/conduit; &
2. 100mm between the floor and the pipe/conduit
3. pipes so installed are not to run underneath fittings.

x. All architraves, skirting boards, picture rails and the like are not permitted within the kitchen, food preparation and storage areas;

xi. All openings in the walls, floors and ceilings through which service pipes and electrical conduits pass through are to be designed and constructed so as to prevent the access of vermin;

xii. The internal and external surfaces, including exposed edges to all benches, counters and shelving in the food preparation, storage, display and serving areas are to be finished with a rigid, smooth faced and non-absorbent material (e.g. laminate, stainless steel or other approved material) that is capable of being easily cleaned;

xiii. All shelving must be located at least 25mm off the wall or alternatively, the intersection of the shelf and the wall is to be completely sealed. NOTE: The lowest shelf must be a minimum of at least 150mm above the floor level;

xiv. The hot water service unit must be positioned a minimum of 75mm clear of the adjacent wall surface and mounted a minimum of 150mm above the floor level on a stand of non-corrosive metal construction;

xv. A free standing, hands free hand wash basin must be provided in a convenient position within the food preparation and serving areas. The hand wash basin must be provided with hot and cold water supplied through a single outlet and fitted with an approved mixing device to enable hands to be washed under hot running water at a temperature of at least 40ºC;

xvi. Cavities, false bottoms and similar hollow spaces capable of providing access and harbourage of vermin are not permitted to be formed in the construction of the premises or in the installation of fixtures, fittings and equipment;

xvii. A double bowl sink or two-compartment tub must be provided with hot and cold water supplied through a single spout in the kitchen/food preparation area. Double bowl sink or tubs must be supplied with water of at least: 45°C in one bowl for washing purposes; and 77°C in the other bowl for rinsing purposes, together with a thermometer accurate to 1°C.

xviii. A designated food preparation sink provided with hot and cold water supplied through a single spout in the kitchen/food preparation area.

xix. A cleaners sink must be provided. The sink is NOT to be within an area where open food is handled.

xx. Discharge of commercial trade wastewater is to be approved by Sydney Water. Before selecting or installing trade wastewater pre-treatment devices at a retail food business, refer to Plumbing for retail food businesses produced by Sydney Water.

xxi. The grease trap is NOT to be located within an area where food is being handled.

Responsibility of Environmental Health

63. No bottle preparation is permitted to occur at any of the proposed change benches, bathrooms or wash sinks within equipment store rooms. Bottles shall be prepared, cleaned and sanitised as required in the main kitchen only.

Unreasonable Noise and Vibration

64. The use of the premises and/or machinery equipment installed must not give rise to offensive noise so as to interfere with the amenity of the neighbouring properties.

Should an offensive noise complaint be received and verified by Liverpool City Council, an acoustic assessment must be undertaken by a suitably qualified acoustic consultant and an acoustic report must be submitted to Liverpool City Council for review. Any noise attenuation recommendations approved by Liverpool City Council must be implemented.

Note: The ‘suitably qualified acoustic consultant’ must be a member of the Australian Acoustical Society or employed by an Association of Australasian Acoustical Consultants (AAAC) member firm.

Location of mechanical ventilation

65. During occupation and ongoing use of the building, all mechanical ventilation system(s) or other plant and equipment that generates noise must be located on the site (including in a soundproofed area where necessary) to ensure the noise generated does not exceed 5dBa above the ambient background noise at the boundary adjacent to any habitable room of adjoining residential premises.

Waste Collection and Management

66. Waste and recyclable material must be managed in a satisfactory manner, covered at all times and not give rise to offensive odour or encourage pest activity. All solid and liquid waste must be removed regularly from the site by a registered waste contractor. Waste must not be permitted to accumulate near the waste storage bins.

Hours of Operation

67. The hours of operation of the child care centre are limited to:

    7am – 6pm Monday - Friday

    The child care centre must not operate on Saturdays, Sundays or Public Holidays.

Delivery hours and vehicles

68. Delivery and service vehicles generated by the development are limited to:

    8am – 4pm Monday - Friday

Childcare Centres

69. Approval is granted for a maximum of 90 children to be on the premises at one time, in accordance with the following groupings:

    i. (36 children) 0 – 2 years;
    ii. (20 children) 2 – 3 years; and
    iii. (34 children) 3 years and over.

Childcare Centres

70. A maximum number of 22 permanent staff members are permitted to work at the childcare centre at any given time.

Noise Complaints register

71. The operator must keep a legible record of all complaints received in an up-to date Complaints Register. The Complaints Register must record, but not necessarily be limited to:

    i. the date and time, where relevant, of the complaint;
    ii. the means by which the complaint was made (telephone, mail or email);
    iii. any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
    iv. the nature of the complaint;
    v. any action(s) taken by the Applicant in relation to the complaint, including any follow-up contact with the complainant; and if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.
    vi. allocate an individual “complaint number” to each complaint received.

The Complaints Register must be made available for inspection when requested by Liverpool City Council.

The industry must be operated in accordance with the approved Noise Management Plan and Complaints Handling Procedure at all times.

Lighting

72. Illumination of the site must be arranged in accordance with the requirements and specifications of AS 4282:2019 - Control of obtrusive effects of outdoor lighting so as not to impact upon the amenity of the occupants of adjoining and nearby premises.

Noise - Silent Building Intruder Alarm System

73. Any building intruder alarm installed at the site must be a “silent back to base” type.

Noise – General

74. Noise associated with the use of the premises, including mechanical plant and equipment, must not give rise to any one or more of the following:

    i. The use of the premises including the cumulative operation of any mechanical plant, equipment or other amplified sound equipment must not give rise to the emission of ‘offensive noise’ as defined by the Protection of the Environment Operations Act 1997.
    ii. The operation of any mechanical plant, equipment, public address system or other amplified sound equipment installed on the premises must not cause:
        a) The emission of noise as measured over a 15 minute period (LAeq (15 minute)) that exceeds the LA90 (15 minute) background noise level by more than 5 dB(A) when measured at the most affected residential boundary. Modifying factor corrections must be applied for tonal, impulsive, low frequency or intermittent noise in accordance with the NSW Environment Protection Authority’s ‘Noise Policy for Industry’ (2017);
        b) An internal noise level in any adjoining occupancy that exceeds the recommended design sound levels specified in Australian/New Zealand Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors;
        c) ‘offensive noise’ as defined by the Protection of the Environment Operations Act 1997; and
        d) Transmission of vibration to any place of different occupancy greater than specified in AS 2670.

Noise Management Plan

75. The approved Noise Management Plan must be complied with at all times.

Acoustic Report

76. An acoustic report prepared by a suitably qualified acoustic consultant must be submitted to Liverpool City Council for its assessment and approval within three (3)

months of occupation/completion of the development. The report must include but not be limited to the following information:

i. Noise measurements taken during a time of peak occupation at the most affected noise sensitive locations as indicated in the approved acoustic report titled (Report Title), report reference (Project Number/Job Number, Revision) prepared by (Author) dated (date);
ii. Verification that noise levels at the most affected receivers comply with all relevant assessment criteria detailed in the abovementioned report;
iii. All complaints received from local residents in relation to the operation of the premises/development; and
iv. Where noise measurements required under point a) above indicate that the relevant assessment criteria are exceeded, recommendations must be provided in relation to how noise emissions can be satisfactorily reduced to comply with the assessment criteria.

Following written approval from Liverpool City Council, recommendations provided above must be implemented fully.

Note: The ‘suitably qualified acoustic consultant’ must be a member of the Australian Acoustical Society or employed by an Association of Australasian Acoustical Consultants (AAAC) member firm.

Managing Noise

77. During ongoing use of the premises, the premises must be operated in accordance with the acoustic report approved under this consent.

Environment

78. The use of the premises must not give rise to the emission into the surrounding environment of gases, vapours, dusts or other impurities that are a nuisance, injurious or prejudicial to health.

Smoke-free Environment

79. The requirements of the Smoke-free Environment Act 2000 and Smoke-free Environment Regulation 2016 must be complied with at all times.

Food Premises - Use of Charcoal

80. The use of charcoal for the purposes of heating, cooking or smoking food on the premises is strictly prohibited.

Child Care Centre – Music

81. The doors and any openable windows of the childcare centre must be closed at all times when used for noise generating activities including but not limited to singing, musical instruments and amplified sound equipment. Such activities are not to occur in any outside play areas.

Educational Establishments – Supervision

82. Children must be supervised at all times and during and outdoor play activities to minimise noise impacts.

Food Business Notification Requirements - business

83. All retail food businesses must notify Liverpool City Council of their food activity details. The food business notification must be completed in the approved form and comprise all information specified in the Food Safety Standards. The completed registration form/s must be submitted to Council prior to the commencement of the business.

Food Safety Supervisor – Food Business

84. A Food Safety Supervisor must be appointed to the food premises. A copy of the Food Safety Supervisor certificate must be kept onsite and presented to Council's Authorised Officer upon request. Further information can be obtained in the "Guideline to Food Safety Supervisor Requirements" published by the NSW Food Authority.

Linen and mattresses

85. The provision and management of linen must comply with the following:

i. The premises operator must ensure provision of clean linen for the use of each child;
ii. All mattresses must be fitted with washable waterproof mattress protectors.
iii. Evidence of a commercial contract to launder linen must be provided to Council upon request. Alternatively, a commercial washing machine capable of washing at a temperature of not less than 70 degrees Celsius must be installed on the premises and provided with hot water at all times.
iv. Should linen be laundered onsite, an appropriate clothes dryer is to be made available for the drying of linen and towels.

Appliances and Cool Rooms

86. Appliances used to store potentially hazardous food must have a capacity to keep foods hotter than 60 degrees Celsius, refrigerated foods below 5 degrees Celsius and frozen foods below 18 degrees Celsius and are to be provided with a digital thermometer accurate to 1 degree Celsius that can be easily observed from outside the appliance.

Air Handling discharge

87. Any liquid discharge from the air handling system resulting from the operation, maintenance and/or cleaning operations are to be disposed of into the sewer system. Discharge into the stormwater disposal system is not permitted.

Hygiene

88. Public areas, toilets and bathrooms shall be maintained in a clean and hygienic condition free from a build up of waste at all times.

Goods in Building

89. All materials and goods associated with the use shall be contained within the building at all times.

Noise - Silent Alarm System

90. Any alarm installed on the site is to be “silent back to base” type.

Use of building intruder alarm/s

91. Any building intruder alarm/s associated with the development shall only be permitted to operate in accordance with Clause 42 of the Protection of the Environment Operations (Noise Control) Regulation 2017.

Noise – Music and other activities

92. The use of the premises including music and other activities shall not give rise to any one or more of the following:

    a) Transmission of vibration to any place of different occupancy greater than specified in AS 2670;
    b) An indoor sound pressure level in any place of different occupancy (and/ or public place) greater than 3dB(A) above the L90 background level or greater than 5db(A) at the boundary of any affected property in any octave band from 31.5Hz to 8,000 Hz centre frequencies inclusive between the hours of 7.00am to midnight daily and 0dB(A) above the L90 background between 12 midnight and 7.00 a.m. the following morning. However, when the L90 background levels in frequencies below 63 Hz are equal to or below the threshold of hearing, as specified by the equal loudness contours for octave bands of noise, this subclause does not apply to any such frequencies;
    c) During the period of 12 midnight to 7.00a.m. the use shall be inaudible in any habitable room of any residential premises; and
    d) The emission of an "offensive noise" as defined under the POEO Act.

    The method of measurement of vibration in (a) and sound levels in (b), (c) and (d) shall be carried out in accordance with AS 2973 for vibration measurements, AS 1055 for outdoor sound level measurements, and AS 2107 for indoor sound level measurements.

Educational Establishment – Music

93. The doors and windows of the childcare centre shall be closed at all times when used for noise generating activities including but not limited to singing, musical instruments and amplified sound equipment.

Noise – General

94. The use of the premises including the cumulative operation of any mechanical plant, equipment, public address system or other amplified sound equipment shall not give rise to the emission of 'offensive noise' as defined by the Protection of the Environment Operations Act 1997.

95. The operation of any mechanical plant, equipment, public address system or other amplified sound equipment installed on the premises shall not cause:

    i. The emission of noise as measured over a 15 minute period (LAeq (15 minute)) that exceeds the LA90 (15 minute) background noise level by more than 5 dB(A) when measured at the most affected residential boundary. Modifying factor corrections must be applied for tonal, impulsive, low frequency or intermittent noise in accordance with the NSW Environment Protection Authority's 'Noise Policy for Industry' (2017);

    ii. An internal noise level in any adjoining occupancy that exceeds the recommended design sound levels specified in Australian/New Zealand Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors;

    iii. 'offensive noise' as defined by the Protection of the Environment Operations Act 1997; and

    iv. Transmission of vibration to any place of different occupancy greater than specified in AS 2670.

Car Park Signage

96. Prominent notices shall be installed at the entry and exit to the car park informing people to enter and leave the car park quietly.

Supervision

97. Children shall be supervised at all times during arrival, departure and outdoor play activities to minimise noise impacts at the Centre.

Lighting

98. Illumination of the site is to be arranged in accordance with the requirements and specifications of Australian Standard 4282:1997 so as not to impact upon the amenity of the occupants of adjoining and nearby premises.

Car Parking

99. A total of 10 off-street car parking spaces must be provided on site for the exclusive use of the childcare centre.

Car Parking Management

100. All parking areas shown on the approved plans must be used solely for this purpose.

Loading Areas

101. All loading and unloading must take place from the designated loading dock/bay. This area is to be clearly marked/signposted for use by delivery vehicles only.

102. The applicant be advised to consider accommodating delivery vehicles on site by arranging deliveries to occur outside of the peak drop-off and pick-up period for the childcare by including this in its Operational Management Plan. This will enable service vans to use vacant visitors parking spaces.

127. Waste and recyclable material generated from the operations of the premises shall be managed in a satisfactory manner that does not give rise to offensive odour or encourage pest activity. All waste material shall be regularly removed from the premises. Waste shall not be permitted to accumulate near the waste storage bins.

Linen

103. The provision and management of any linen must comply with the following:

a) The premises operator must provide clean linen for the use of each child;
b) All linen, including toweling and other bed coverings which come into contact with children must be changed immediately after each use.
c) All mattresses must be fitted with washable waterproof mattress protectors.
d) Separate receptacles with fitting lids must be provided for the storage of used and clean linen to prevent contamination; and
e) Evidence of a commercial contract to launder linen must be provided to Council upon request. Alternatively, a commercial washing machine capable of washing at a temperature of not less than 70 degrees Celsius must be installed on the premises and provided with hot water at all times. Should linen be laundered onsite, a suitable clothes dryer is required to be located onsite to dry all linen appropriately.
f) An appropriate clothes dryer is to be made available for the drying of towels.

Smoke-free Environment Act and Smoke-free Environment Regulation

104. The Applicant and Occupier of the premises are to comply with the requirements of the *Smoke-free Environment Act 2000* and *Smoke-free Environment Regulation 2016*.

G. ADVISORY

a) Section 4.53 of the EP&A Act provides that unless otherwise stated by a condition of this consent, this consent will lapse if development is not physically commenced within five years of the date of this notice.

b) Section 8.2 of the EP&A Act provides that an applicant may request, within six (6) months of the date of the determination of the Development Application, that Council review its determination (this does not relate to designated development or Crown development).

An application under Section 8.2 of the EP&A Act cannot be reviewed/determined after 6 months of the date of determination. Therefore, the submission of a Section 8.2 Application must allow sufficient time for Council to complete its review within

the prescribed timeframe, including the statutory requirement for public notification.

c) Section 8.7 of the EP&A Act provides that an applicant who is dissatisfied with the determination of a Development Application, may appeal to the Land and Environment Court within six (6) months of the date of determination, or as otherwise prescribed by the EP&A Act.

d) Section 8.8 of the EP&A Act provides that an objector who is dissatisfied with the determination of the consent authority to grant consent to a Development Application for Designated Development (including any State significant development that would be designed development but for Section 4.10(2) of the EP&A Act), may, within 28 days after the date on which the application is taken to have been determined, appeal to the Land and Environment Court, against the determination.

e) The Commonwealth Disability Discrimination Act 1992 may apply to this proposal. Approval of this application does not imply or infer compliance with this Act. Applicants and owners are required to satisfy themselves as to compliance and make their own enquiries to the Human Rights and Equal Opportunity Commission. Attention is also drawn to the provisions of Australian Standard 1428 – Design for Access and Mobility.

f) The requirements of all authorities including the Environmental Protection Authority and the Work Cover Authority shall be met in regard to the operation of the building.

g) “DIAL BEFORE YOU DIG”

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

h) TELECOMMUNICATIONS ACT 1997 (COMMONWEALTH)

Telstra (and its authorised contractors) are the only companies that are permitted to conduct works on Telstra’s network and assets. Any person interfering with a facility or installation owned by Telstra is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution. Furthermore, damage to Telstra’s infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may affect or impact on Telstra’s assets in any way, you are required to contact: Telstra’s Network Integrity Team on Phone Number 1800 810 443.

i) The Liverpool City Council Local Government area soils and ground water may be subject to varying levels of Salinity. Whilst Council may require applicants to obtain Salinity reports relating to some developments, no assessment has been

made by Council. Soil and ground water salinity levels can change over time due to varying factors. It is recommended that all applicants make their own independent inquiries as to appropriate protection against the current and future potential affect of Salinity to ensure the ongoing structural integrity of any work undertaken. Liverpool City Council will not accept any liability for damage occurring to any construction of any type affected by soil and or ground water Salinity.

j) Care shall be taken by the applicant and the applicant's agents to prevent any damage to adjoining properties. The applicant or applicant's agents may be liable to pay compensation to any adjoining owner if, due to construction works, damage is caused to such an adjoining property.

k) Letter boxes must be provided in accordance with the requirements of Australia Post. In this regard, the developer is required to obtain approval from Australia Post for letter box positioning and dimensions.

l) The cost of any necessary adjustments to utility mains and services shall be borne by the applicant.

NSW GOVERNMENT | Education

Planning Ref: DA224/2023
Our Ref: CORP23/91400

Azmal Hussain
Liverpool City Council
hussaina@liverpool.nsw.gov.au

Dear Azmal

Notice of approval of concurrence

Section 22(5) of the *State Environment Planning Policy (Educational Establishments and Childcare Facilities) 2017 ('the SEPP').*

On 10 August 2023, the NSW Department of Education (the "Department") received your referral for the development application described below:

Application Number: DA-224/2023
Property: 52 Scott Street, Liverpool NSW 2170

Reason for Referral

The development application for the purpose of a centre-based child care facility was referred to the department under section 22 of the SEPP which states:

(1) This clause applies to development for the purpose of a centre-based child care facility if:

(a) the outdoor space requirements for the building or place do not comply with clause 108 (outdoor unencumbered space requirements) of the Education and Care Services National Regulations.

Decision

On the 31 January 2024, a decision was made by the Department to refuse the concurrence application. The reason for the refusal was that the outdoor space located in the southern section had minimal elements that mimic a natural environment. Further, there was insufficient evidence of the outdoor space having access to sufficient natural light, particularly the southern outdoor area.

EARLY CHILDHOOD EDUCATION
Locked Bag 5107 Parramatta NSW 2124
T 1800 619 113 F 02 8633 1810 E ececd@det.nsw.edu.au www.dec.nsw.gov.au

As per the Department of Planning and Environment's Child Care Planning Guideline, simulated outdoor environments should have more access to natural light and ventilation than required for an internal space. Simulated outdoor spaces should also have all the features, experiences and qualities of an outdoor space.

On the 6 March 2024, additional information was lodged by you on the NSW Planning Portal in response to the Department's refusal decision.

Following a review of the additional information, this concurrence request is now approved.

Reasons for decision

The development application seeks to rely on the use of a simulated outdoor play area to meet the outdoor space requirements of the Education and Care Services National Regulations.

The applicant has indicated they intend to care for up to 90 children. Every child being educated and cared for within a facility must have a minimum of 3.25sqm of unencumbered indoor space and a minimum of 7.0sqm of unencumbered outdoor space. The architectural plans provided on 6 March 2024 and concurrence checklist provided on 16 January 2024 indicate that the total indoor area available would be 337.2 sqm unencumbered space and total outdoor area as 640.5 sqm, which is sufficient for the proposed number of children.

The outdoor spaces on the updated architectural plans received on 6 March 2024 show that all proposed outdoor areas are simulated outdoor spaces.

The updated landscape plans provided on 6 March 2024 indicates that additional features have been added to the southern outdoor spaces features, experiences and qualities of an outdoor space. Based on a review of all outdoor spaces, there is now sufficient natural features provided in all outdoor areas. Examples include dense indoor planting, sand pits, a tyre obstacle course, grow gardens and furniture made of logs.

A review of the additional information received on the 6 March 2024 determined that there is sufficient natural lighting for all simulated outdoor spaces. This is achieved with the use of skylights, artificial skylights, winter gardens, sliding doors and full height, glazed windows.

The updated RFI letter received on the 2 April 2024 also demonstrated that natural ventilation and natural cross ventilation in the simulated outdoor spaces is achieved through the fixed open louvres located on the north, east and west facades.

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Given the above, the development application does meet the requirements for simulated outdoor space and, as such this concurrence application is now approved.

Application for service approval

A service approval and the number of children approved will be determined on the final fit out and completion of the space.

Once the service is complete, any service approval application submitted to the department should be accompanied by the appropriate waiver application, at which time the Department will consider the application in line with the requirements of the *Children (Education and Care Services) National Law* (the "National Law") and the *Education and Care Services National Regulations* (the "Regulations").

A person may not operate an education and care service, as defined by the National Law or the *Children (Education and Care Services) Supplementary Provisions Act 2011*, unless they hold a service approval.

Contact

Should you have any questions about this letter please contact Alexis Johnson, R/Risk and Assessment Coordinator on 1800 619 113 or concurrence.ece@det.nsw.edu.au.

Yours sincerely

Tracey Sell
Manager Approvals, school sites
Early Childhood Education
Delegate of the Secretary, Department of Education
9 April 2024

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