WLPP No.	Item No. 2
DA No.	DA-2020/290
Proposal	Residential - multi dwelling housing - demolition of existing dwelling, tree removals and construction of three (3) attached 3 storey dwellings over basement parking area.
Property	342-344 Lawrence Hargrave Drive, THIRROUL NSW 2515
Applicant	Illawarra Property Holdings Pty Ltd
Responsible Team	Development Assessment and Certification - City Wide Team (BM)

ASSESSMENT REPORT AND RECOMMENDATION

Executive Summary

Reason for consideration by Local Planning Panel - Determination

The proposal has been referred to the WLPP **for determination** pursuant to part 2(b) of Schedule 2 of the Local Planning Panels Direction as the application is the subject of 10 or more unique submissions by way of objection.

Proposal

The proposal is for demolition of existing dwelling, tree removals and construction of three (3) attached 3 storey dwellings over basement parking area.

Permissibility

The site is zoned R3 Medium Density Residential pursuant to Wollongong Local Environmental Plan (WLEP) 2009. The proposal is categorised as a multi dwelling development and is permissible in the zone with development consent.

Consultation

The proposal was exhibited in accordance with Wollongong Community Participation Plan 2019. Eleven (11) submissions were received during this period.
The submissions received are discussed at section 1.5 of the assessment report.

Internal

Details of the proposal were referred to Council's Development Engineering, Landscape, Environment, Geotech, Community Safety and Heritage divisions for assessment. Satisfactory referral advice, comments and/or recommended conditions were provided in each instance except for suggestions made by Heritage officer.

External

Details of the proposal were referred to Transport for NSW (TfNSW). TfNSW provided satisfactory comments subject to their recommended conditions.

Main Issues

The main issues are,

- Non-compliance to development standard and controls related to Floor Space Ratio and setbacks respectively.

Recommendation

It is recommended that DA-2020/290 be **approved** subject to conditions with Attachment 5**.**

1 APPLICATION OVERVIEW

1.1 PLANNING CONTROLS

The following planning controls apply to the development:

State Environmental Planning Policies:

- SEPP No. 55 – Remediation of Land
- SEPP (Building Sustainability Index: BASIX) 2004
- SEPP Infrastructure

Local Environmental Planning Policies:

- Wollongong Local Environmental Plan (WLEP) 2009

Development Control Plans:

- Wollongong Development Control Plan 2009

Other policies

- Wollongong City-Wide Development Contributions Plan 2019
- Wollongong Community Participation Plan 2019

1.2 DETAILED DESCRIPTION OF PROPOSAL

The proposal is for the construction of a multi dwelling development comprising 3 units as detailed below:

Site preparation

- Demolition of existing dwelling and structures
- Earthworks for the preparation of the building works and tree removal.

Works / Construction / building details

- Construction of three (3) x three (3) bedroom plus study, three(3) storey dwellings with individual basements, lifts, front upper level balconies
- Ground floor includes living and dining areas, 2 bedrooms and a study on Level 1, one bedroom on Level 2 for each of the units
- On-site parking for a total of six (6) cars within the basement in the form of double garages for Units 2 and 3, a single garage for Unit 1, and one (1) visitor parking space;
- Removal of selected trees, with the provision of associated supplementary replacement plantings/landscaping and stormwater drainage.

Landscaped areas are provided in the form of a deep soil zone at the rear northern part.

Access for vehicles is via a driveway along the south western corner.

Bin storage areas located within the basement garages.

Architectural Plans are provided at Attachment 1.

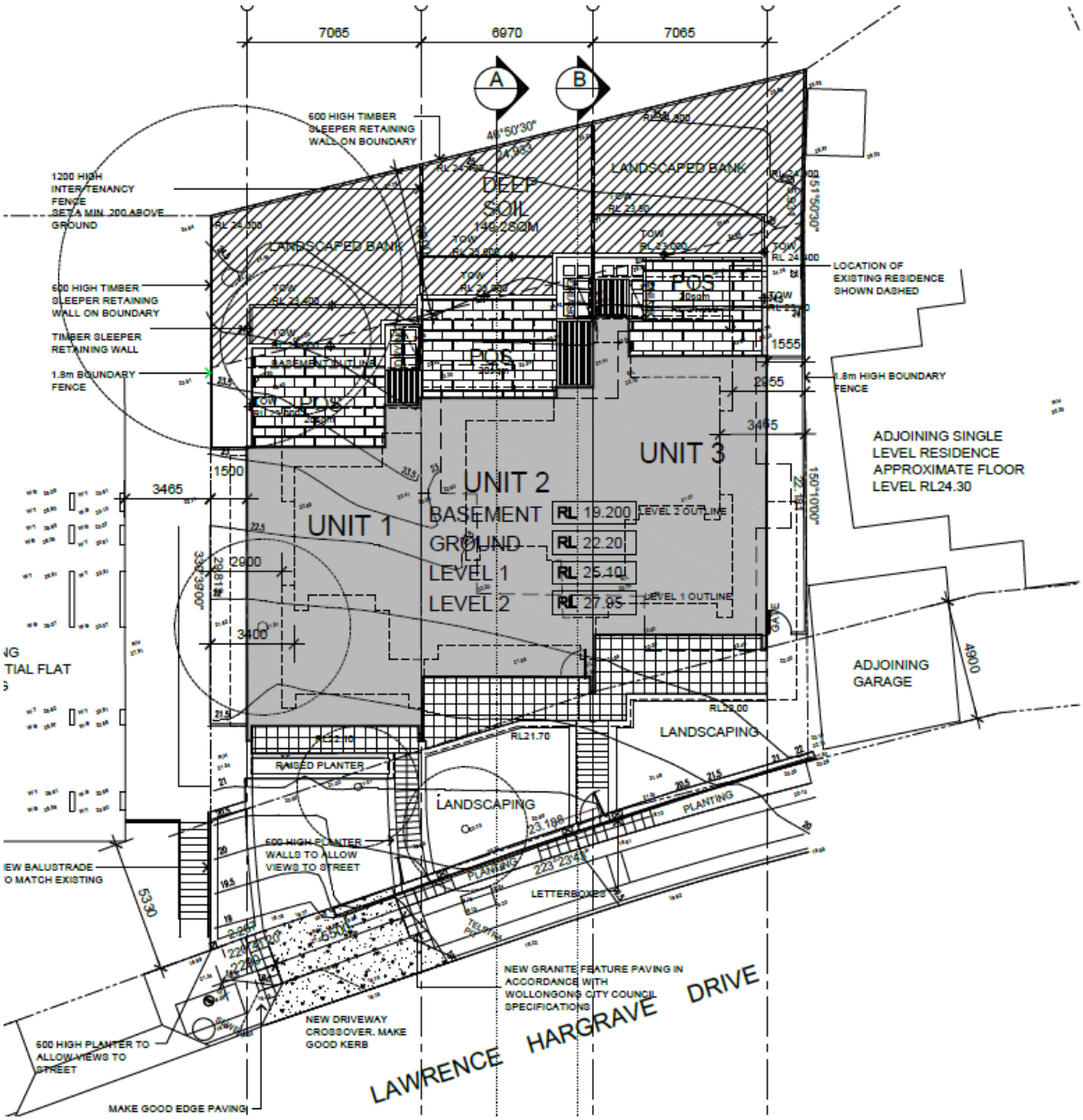


Figure 1: Site Plan

1.3 BACKGROUND

BA-1992/752, Additions & Alterations To Dwelling

TMO-2012/1470, Prune 1 tree

PL-2019/83, Proposed medium density residential development - 3 x 3 storey townhouses over basement parking

TMO-2019/821, Remove 1 tree

DE-2019/107, Proposed Townhouse Development with Basement Parking - Medium Density

TMO-2019/937, Remove 1 tree

DA-2020/290, Residential - multi dwelling housing - demolition of existing structures, tree removals and construction of three (3) townhouses over common access basement parking

A voluntary Design Review (DE-2019/107) process and a Pre-lodgement meeting (PL-2019/83) were held. A copy is provided at Attachment 4.

<u>Customer service actions</u>

There are no outstanding customer service requests of relevance to the development.

1.4 SITE DESCRIPTION

The site is located at 342-344 Lawrence Hargrave Drive, THIRROUL NSW 2515 and the title reference is Lot 2 DP 202822.

The site is an allotment with 23.18m street frontage and side boundaries of approximate depths 29.81m and 22.18m to the western and eastern sides. The site has moderate crossfall towards the southern corner. Eight(8) trees located on the site are to be removed as part of this development application.

Adjoining developments are a three storey residential flat building to the south-west and a single storey dwelling to the east. The locality is characterised by commercial and residential developments.

Heritage listed Thirroul Railway Station and War Memorial sites are located opposite and across the road from the site.

<u>Property constraints</u>

There are no constraints related to the property.

There are no restrictions on the Title.

Figure 2: Aerial photograph

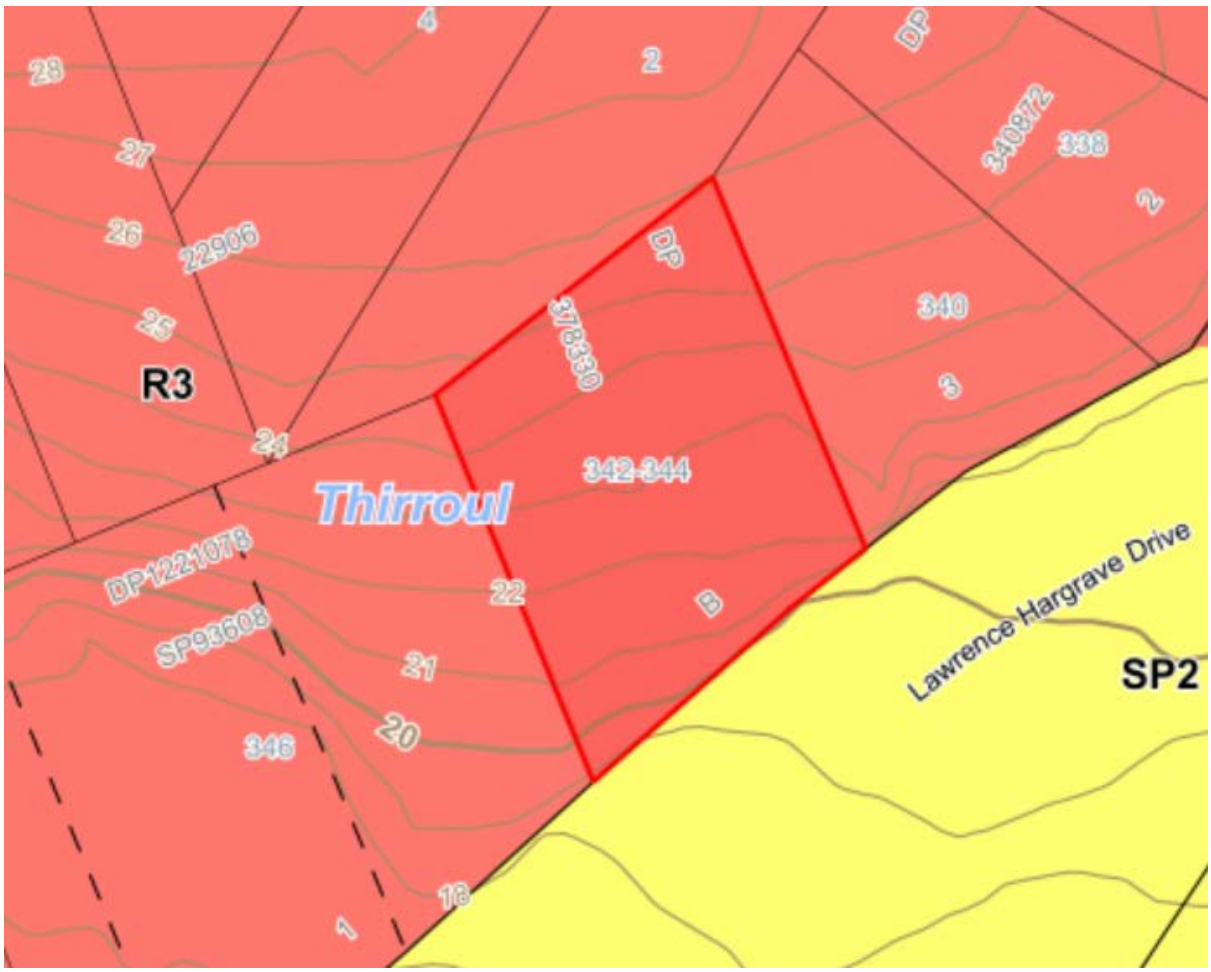


Figure 3: WLEP 2009 zoning map

1.5 SUBMISSIONS

The application was notified in accordance with Wollongong Community Participation Plan 2019. Eleven (11) submissions were received and the issues identified are discussed below.

Table 1: Submissions

Concern	Comment
1. Non-compliances in Floor Space Ratio, setbacks Does not comply with LEP, development in-appropriate for the zone	Applicant has submitted Cl.4.6 variation in this regard which is considered capable of support as detailed in Section 2.1.4 of this report. The development is assessed to satisfy the objectives for the development control in relation to the setbacks. They are not considered to cause adverse amenity impacts to the neighbours in terms of overlooking , overshadowing or view loss. Variation requests to Council's DCP controls are capable of support as detailed in Section 2.3.1 Multi dwelling housing development is permissible with consent in R3 Medium Density Residential zone and complies with the maximum height as required under WLEP 2009.

Concern	Comment
2. Additional Traffic generation	Council's Traffic Engineer and TfNSW has reviewed the proposal and indicated no objections. Parking and manoeuvring within the site is considered satisfactory. Comments provided did not raise significant safety concerns and were found satisfactory subject to conditions of consent.
3. Demolition of existing dwelling and stonewall	Council's Heritage officer has reviewed the proposal and the applicant's Heritage Assessment Report. No significant issues were raised on the heritage significance of the dwelling and the stonewall fronting the site nor their retention. It is suggested to document the condition of the building as per NSW Heritage Guidelines if the development application is to be approved. A condition is included for retention of parts of the stonewall not affected by the construction.
4. Impact on trees, Tree removal and environmental, insufficient landscaping	Council's Landscape and Environment officers have provided satisfactory comments on the proposal subject to conditions of consent. No significant issues were raised. Council's landscape officer has recommended conditions requiring 8 compensatory plantings to replace the trees being removed.
5. Impact on village character and not appropriate for the zone	The proposed multi-dwelling development is permissible in the R3 zone and as assessed satisfies the objectives of the zone, development standards and controls. It also complies with the DCP in relation to parking, manoeuvring and landscaping provisions required for such a proposal.
6. Excavation and soil conditions	Council's Geotechnical officer has provided satisfactory comments on the proposal subject to conditions of consent. No significant issues were raised.
7. View Loss	The proposal is assessed to have minimal view loss impacts to the neighbouring developments. The sites located behind are oriented perpendicular to the subject site facing Roxburgh street with their rear yards located uphill. Moreover the building is of two storey appearance when viewed from these yards. The roof ridge is not excessively high above the existing ground to obstruct any distant views across several properties to the south from the neighbouring northern sites. A view analysis submitted exhibits no escarpment view loss from the heritage sites across the road.

Concern	Comment
8. Overshadowing	The submitted shadow diagram demonstrates reasonable compliance with the solar access requirement under the DCP.

Table 2: Number of concerns raised in submissions

Concern	1	2	3	4	5	6	7	8
Frequency	11	*7*	*5*	*3*	*3*	*2*	*1*	*1*

1.6 CONSULTATION

1.6.1 INTERNAL CONSULTATION

Development Engineer

Council's Development Engineer has reviewed the proposal in terms of Traffic, Stormwater drainage and parking and provided a satisfactory referral subject to conditions.

Landscape Architect

Council's Landscape Officer has reviewed the proposal and provided a satisfactory referral subject to conditions.

Environment Officer

Council's environment officer provided satisfactory referral comments on conditions.

Geotechnical Officer

No concerns were raised subject to conditions.

Heritage Officer

Council's Heritage officer has reviewed the proposal and the applicant's Heritage Assessment Report. No significant issues were raised on the heritage significance of the dwelling and the stonewall fronting the site or their retention except concerns in relation to the impact on the streetscape setting of other heritage items in the vicinity, as well as potential impacts on significant view lines from these items to the Illawarra Escarpment.

Suggestions recommended reduced bulk/ scale would be preferable as relates to the nearby Heritage Items. It is also suggested for the documentation of the existing building condition through a photographic recording prepared in accordance with the NSW Heritage Branch Guidelines if approval is to be granted. A condition is included for retention of parts of the stonewall not affected by the construction.

A view analysis submitted exhibits no escarpment view loss from the heritage sites across the road.

Safe Community Action Team (SCAT) Officer

No concerns were raised subject to conditions.

1.6.2 EXTERNAL CONSULTATION

Transport for New South Wales (TfNSW)

Lawrence Hargrave Drive is considered a key State Road under the control of TfNSW. Initial referral advice received identified issues with regard to the driveway width and on site manoeuvring of vehicles to enter and exit in a forward direction including the garbage vehicles and location of visitor parking space.

During applicant's discussion on negotiations to resolve the identified issues TfNSW's advice was to give consideration to reduce overall parking supply and improve manoeuvring. This was based on the applicant's justification that dwellings are aimed at downsizers who want to live close to amenities and public transport and recognising the development is located within close proximity to good public transport.

The applicant submitted amended plans and additional information to resolve concerns.

TfNSW on 11 August provided conditional support of the proposal.

2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 – 4.15 EVALUATION

2.1 SECTION 4.15(1)(A)(1) ANY ENVIRONMENTAL PLANNING INSTRUMENT

2.1.1 STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

7 Contamination and remediation to be considered in determining development application

(1) A consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

(2) Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.

(3) The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.

(4) The land concerned is:

(a) land that is within an investigation area,

(b) land on which development for a purpose referred to in Table 1 to the contaminated land planning guidelines is being, or is known to have been, carried out,

(c) to the extent to which it is proposed to carry out development on it for residential, educational, recreational or child care purposes, or for the purposes of a hospital—land:
(i) in relation to which there is no knowledge (or incomplete knowledge) as to whether development for a purpose referred to in Table 1 to the contaminated land planning guidelines has been carried out, and

(ii) on which it would have been lawful to carry out such development during any period in respect of which there is no knowledge (or incomplete knowledge).

A desktop audit of previous land uses does not indicate any historic use that would contribute to the contamination of the site. Whilst there are earthworks proposed, the proposal does not comprise a change of use. Council's Environment Officer has reviewed the proposal and no concerns are raised in regard to contamination as relates to the intended use of the land. The requirements of clause 7 are considered as satisfied.

2.1.2 STATE ENVIRONMENTAL PLANNING POLICY (BUILDING SUSTAINABILITY INDEX: BASIX) 2004

The proposal is BASIX affected development to which this policy applies. In accordance with Schedule 1, Part 1, 2A of the Environmental Planning and Assessment Regulation 2000, a BASIX Certificate has been submitted in support of the application demonstrating that the proposed scheme achieves the BASIX targets.

The BASIX certificate was issued no earlier than 3 months before the date on which the development application was lodged.

2.1.3 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

101 Development with frontage to classified road

(1) The objectives of this clause are—

(a) to ensure that new development does not compromise the effective and ongoing operation and function of classified roads, and

(b) to prevent or reduce the potential impact of traffic noise and vehicle emission on development adjacent to classified roads.

(2) The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that—

(a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and

(b) the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development as a result of—

(i) the design of the vehicular access to the land, or

(ii) the emission of smoke or dust from the development, or

(iii) the nature, volume or frequency of vehicles using the classified road to gain access to the land, and

(c) the development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately located and designed, or includes measures, to ameliorate potential traffic noise or vehicle emissions within the site of the development arising from the adjacent classified road.

Council's Environmental officer has reviewed the proposal and provided following comments, "The proposed development does have frontage to a classified road and Clause 101 of State Environmental Planning Policy (Infrastructure) 2007 does apply. In considering the volume of traffic experienced past this location, the applicant has proposed measures that would ameliorate traffic noise for future occupants. These measures would also ameliorate noise from the nearby railway. Considering the proposed development is about 53 metres away from the rail track and based on the Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008), an acoustic assessment prepared by a member of the Australian Acoustical Society or the Association of Australasian Acoustical Consultants is not required for rail noise".

102 Impact of road noise or vibration on non-road development

This clause applies to development for any of the following purposes that is on land in or adjacent to the road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume of more than 20,000 vehicles (based on the traffic volume data published on the website of RMS) and that the consent authority considers is likely to be adversely affected by road noise or vibration.

Council's Environmental officer has assessed the proposal based on the data available on TfNSW and has conditioned for demonstrated compliance with the requests of Cl. 102 prior to Construction Certificate. An acoustic compliance report to be provided prior to the Occupation Certificate also forms part of the conditions.

TfNSW in their comments have requested the applicant demonstrate compliance to Council with respect to this clause within their recommended conditions. Their advice and conditions will be an attachment along with other conditions recommended for approval.

2.1.4 WOLLONGONG LOCAL ENVIRONMENTAL PLAN 2009

Clause 1.4 Definitions

Multi dwelling housing *means 3 or more dwellings (whether attached or detached) on one lot of land, each with access at ground level, but does not include a residential flat building.*

Part 2 Permitted or prohibited development

Clause 2.2 – zoning of land to which Plan applies

The zoning map identifies the land as being zoned R3 Medium Density Residential

Clause 2.3 – Zone objectives and land use table

The objectives of the 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.*

The proposal is considered to provide housing needs within the zone.

The land use table permits the following uses in the zone.

Attached dwellings; Backpackers' accommodation; Bed and breakfast accommodation; Boarding houses; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Exhibition homes; Exhibition villages; Group homes; Home-based child care; Hostels; Information and education facilities; ***Multi dwelling housing****; Neighbourhood shops; Oyster aquaculture; Places of public worship; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Residential flat buildings; Respite day care centres; Roads; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Signage; Tank-based aquaculture; Veterinary hospitals*

The proposal is categorised as a multi dwelling housing as described above and is permissible in the zone with development consent.

Clause 2.7 Demolition requires development consent

The application proposes demolition of existing building.

Part 4 Principal development standards

Clause 4.3 Height of buildings

The proposed building height of maximum 9.35m does not exceed the maximum of 13m permitted for the site.

Clause 4.4 Floor space ratio

Maximum FSR permitted for the zone:	0.75:1
Site area:	694.6 m²
Basement	55 m²
Ground Floor	229.4 m²
Level 1	194.2 m²
Level 2	91.8 m²
Total GFA	570.4 m²
FSR:	570.4 m²/694.6 m² = 0.82:1

**areas confirmed via software Trapeze.

The maximum floor space ratio for the zone is 0.75:1. The proposal exceeds the maximum permitted FSR having 0.82:1.

The proposed development results in 9.5 % variation to the development standard under LEP 2009. This can be regarded acceptable considering location of the site, improved functionality of the 3 bedroom units providing better amenities to the residents. It is not considered of significant bulk and scale to impact adversely on the neighbourhood in terms of traffic, parking, streetscape or amenity of the neighbouring developments.

A statement of Applicant's Exception to development standard request is provided at Attachment 2.

Clause 4.6 Exceptions to development standards

WLEP 2009 clause 4.6 proposed development departure assessment	
Development departure	Clause 4.4
Is the planning control in question a development standard	Yes
4.6 (3) Written request submitted by applicant contains a justification:	
that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and	Yes. The applicant has submitted a Clause 4.6 Statement with the following justification: The approach taken serves the objects of the Act of promoting the orderly and economic use of land, with a development that provides for

	housing close to all services and facilities in the immediate area.
that there are sufficient environmental planning grounds to justify contravening the development standard.	It is requested that Council give consideration to the following justifications: - The proposed development is consistent with the objectives of Zone R3 Medium Density in that multi dwelling housing is a permitted use, and therefore will complement the existing development composition on adjoining and nearby sites.; - It is considered that the requirement for strict compliance with the control would be counterproductive to achieving the aims to support residential accommodation in the LGA, particularly when the scale of development will not be perceptibly different to a strictly compliant proposal; and - The proposed scale of the development relates to the built form envisaged by the planning controls, specifically FSR and height, despite the relatively numerical departure from the FSR standard. -The proposed non-compliance will better achieve the aims of providing local services (housing) to meet the needs of the immediate population. The development can still attain the objectives of the Environmental Planning and Assessment Act 1979, the R3 Medium Density Residential Zone and the subject development standard. The development as proposed is found to be in keeping with the surrounding built environment.
4.6 (4) (a) Consent authority is satisfied that:	
the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and	The applicant's written request addresses the matters required to be demonstrated under subclause 3. The area of non- compliance has resulted from within the basement mostly non-habitable space surrounding the access to the parking and vehicles. The scale of development will not be perceptibly different to a strictly compliant proposal, with the non-compliance being essentially to the area below existing ground level. The departure to the floor space ratio is requested to improve the functionality of the units aimed at downsizers who want to live close to amenities and public transport.

	The Clause 4.6 Statement has provided reasonable justification that the development achieves the objectives of Clause 4.4, the objectives of the R3 zone and has sufficient planning grounds to justify the variation.
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	The objectives of Clause 4.4 Floor Space Ratio are: *(a) to provide an appropriate correlation between the size of a site and the extent of any development on that site,* *(b) to establish the maximum development density and intensity of land use, taking into account the availability of infrastructure to service that site and the vehicle and pedestrian traffic the development will generate,* *(c) to ensure buildings are compatible with the bulk and scale of the locality.* With regard to the above, it is considered that the proposed development will have minimal adverse impacts on the surrounding developments. The extent of the development, density and intensity, and bulk and scale are not to have adverse impacts to the existing infrastructure and vehicle and pedestrian traffic. The objectives of the R3 Medium Density Residential zone are: • *To provide for the housing needs of the community within a medium density residential environment.* • *To provide a variety of housing types within a medium density residential environment.* • *To enable other land uses that provide facilities or services to meet the day to day needs of residents* The development is consistent with the above objectives as outlined below: • The departure is the practical result of the unique nature of the site, elevated above street level with an upslope. The design aims to achieve maximum yield at the same time providing better amenities within the units. • The units will add to the housing need of the community being conveniently located within the town centre.

	Given that the development is consistent with the objectives of Clause 4.4 and the objectives of the zone, the proposed variation to the floor space ratio is considered to be in the public interest.
the concurrence of the Secretary has been obtained.	This departure request is within the 10% concurrence delegated to Council. However the application is reported to the Wollongong Local Planning Panel for determination.

Comment: The requested departure to the development standard as detailed above is considered capable of support.

Clause 5.10 Heritage Conservation

The site itself does not contain heritage items but is in proximity to other identified items of local heritage significance located opposite and across the road from the site like War Memorial and Thirroul Railway Station.

No significant concerns were raised however commentary raised some concerns of the existing dwelling of having some landmark values and possible view impacts from the heritage sites towards the escarpment. Suggestions recommended reduced bulk/ scale would be preferable as relates to the nearby Heritage Item. If given approval consent it is suggested to document the dwelling under NSW Heritage Guidelines.

A view analysis submitted exhibits no escarpment view loss from the heritage sites across the road

Part 7 Local provisions – general

Clause 7.1 Public utility infrastructure

The development site is already serviced by electricity, water and sewage services which can be augmented to service the development.

Clause 7.5 Acid Sulfate Soils

The subject lot has been mapped as containing Class 5 acid sulfate soils. The subject lot is located about 400 metres away from Class 4 acid sulfate soils land below 5 metres Australian Height Datum. The proposed excavation works would, however, not be expected to lower the watertable below 1 metre Australian Height Datum on the adjacent Class 4 land. No further consideration of acid sulfate soils is required.

Clause 7.6 Earthworks

The proposal comprises earthworks related to the construction of the buildings and related infrastructure and landscaping. Council's Geotechnical officer has raised no concerns upon referral.

Clause 7.14 Site Width

The site has a street frontage of 23.19m. The proposal complies with the required minimum site width of 18m.

2.2 SECTION 4.15(1)(A)(II) ANY PROPOSED INSTRUMENT

N/A

2.3 SECTION 4.15(1)(A)(III) ANY DEVELOPMENT CONTROL PLAN

2.3.1 WOLLONGONG DEVELOPMENT CONTROL PLAN 2009

CHAPTER A1 – INTRODUCTION

8 Variations to development controls in the DCP

Clause 5.3 Front Setback

The objectives specified under the clause are:
(a) To reinforce the existing character of the street by acknowledging building setbacks.
(b) To promote compatibility in front setbacks to provide for unity in the building line.

Controls being varied are:

- *A 6m setback requirements applies from the front property boundary to the front façade of the building.*
- *Balconies, front courtyard fences and other building extrusions may be set back up to 900mm closer than the required front or secondary setback.*

A variation request has been submitted by the applicant in this regard. See at Attachment 3.

Table 3 Proposed front setbacks

Required	**Provided Unit 1**	**Provided Unit 2**	**Provided Unit 3**
GF Closest projection/balcony/planter bed (min 5.1m) Closest corner to Façade (min 6m)	4.175 5.3	4.615 5.215	4.815 5.215
Level 1 Closest projection/balcony/planter bed (min 5.1m) Closest corner to Façade (min 6m)	5.23 >6	4.89 >6	4.815 >6
Level 2 Closest projection/balcony/planter bed (min 5.1m) Closest corner to Façade (min 6m)	>6 >6	>6 >6	>6 >6

The table above shows variation to the required front setback for the ground floor and Level 1 balcony extrusions.
The dwellings have been designed to respond to the topography and splayed frontage of the site. The proposed setbacks are not considered to deviate excessively when compared to other developments to the southern side of the site. The variation is not expected to adversely impact on the bulk of this development or to cause adverse impacts to the streetscape. It is considered the objectives for the development control is satisfied and hence the variation is capable of support.

Clause 5.4 Side Setbacks:

The control being varied is:

R3 Low Density Residential Zone 0.8 x ceiling height 1.0 x ceiling height

Table 4 Proposed side setbacks

Side setback (South-west side) 0.8x ceiling Height	Min required (varies upslope)	Provided
GF	2.76 – 1.44m	1.5
Level 1	4.92 – 3.32m	2.9 & 3.4
Level 3	7.2 - 6m	3.4

Side setback (North-East side) 0.8x ceiling Height	Min required (varies upslope)	Provided
GF	1.44 – 1.16m	1.55
Level 1	3.72 – 3.48m	2.965 & 3.4
Level 3	6.4 - 6m	3.465

The applicant has submitted a request for variation to the development control (see Attachment 3). In the request it is stated that, "it is Council's "vision" for this part of Thirroul for having a 'continuous urban streetscape form' and not requiring strict adherence to the 'neighbourhood character' controls. There is no adverse impacts to the neighbours in terms of privacy or overshadowing".

The dwellings are stepped in from side boundaries at each floor level to provide an articulated development. The variation has resulted in the attempt of achieving a better yield in the zone within Thirroul town centre.

The objectives of Clause 5.4 are:

(a) To provide adequate setbacks from boundaries and adjoining dwellings to retain privacy levels, views, sunlight and daylight access and to minimise overlooking.

(b) To provide appropriate separation between buildings to achieve the desired urban form.

(c) To optimise the use of land at the rear of the property and surveillance of the street at the front of the property.

(d) To minimise overshadowing of adjacent properties and private or shared open space.

The proposed variation is consistent with the above objectives as there will not be adverse impact to privacy, overshadowing or daylight access for the subject property or the adjoining properties.

The development steps in from side boundaries as the development rises. This provides appropriate separation from the adjoining developments on neighbouring properties. The side walls are blank facades featuring a single high-level window. The stepped side setbacks and gaps between Units on Level 2 are considered not to cause significant view impacts.

It is considered that the proposed development will not have an adverse impact due to the proposed variation as the relevant objectives under Chapter B1 controls will be met. There are no impacts associated with the encroachments into the side setbacks. The encroachments are considered minor and will have minimal impacts on privacy or solar access to the adjoining sites. For these reasons, the variation request is capable of support.

CHAPTER A2 – ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Development controls to improve the sustainability of development throughout Wollongong are integrated into the relevant chapters of this DCP.

Generally speaking, the proposal is considered to be consistent with the principles of Ecologically Sustainable Development.

CHAPTER B1 – RESIDENTIAL DEVELOPMENT

4.0 General Residential controls

Controls/objectives	*Comment*	*Compliance*
4.1 Maximum Number of Storeys		
• R2 max height of 9m or two storey • R3 max height of 13m or 3 storeys • Battle axe allotments - 1 storey • Ancillary structures – 1 storey • Built form that has a positive impact on the visual amenity of the area and addresses site constraints and overlooking of neighbouring properties • In R2 Low Density Residential zones, where development occurs within the 8m rear setback the development is limited to single storey	R3 zone – Units are of 3 storeys above existing ground level.	Yes
4.2 Front Setbacks		
• 1. Infill 6m min but less dependent on street character • Garages and carports 5.5m min • Greenfield sites 4m min • 2. Corner allotments • Infill setback 6m min • Secondary buildings setback 3m min except garages 5.5m min	See Cl.5.3 below	No
4.9 Fences		
• Fences must be constructed to allow natural flow of stormwater or runoff. • Fences within front and secondary building lines should be mainly	Non proposed as part of the proposal	n/a

constructed of transparent fence materials. • Any fence or related retaining wall within the front setback from the primary road frontage must be a max 1.2m in height		
4.11 Storage Facilities • Studio/1 bedroom- 6m3 storage volume to 3m2 storage area • 2 bedroom- 8m3 storage volume to 4m2 storage area • 3 bedroom- 10m3 storage volume to 5m2 storage area	Storage considered to be adequate.	
4.15 Development near the coastline	NA	
4.16 View sharing • To protect and enhance view sharing, significant view corridors • A range of view sharing measures to be considered for building design	The sites located behind are oriented perpendicular to the subject site facing Roxburgh street with their rear yards located uphill. Moreover the building is of two storey appearance when viewed from these yards. The roof ridge is not excessively high above the existing ground to obstruct any distant views across several properties to the east from the neighbouring northern sites. A view analysis submitted exhibits no escarpment view loss from the heritage sites across the road. No adverse view impacts anticipated from the proposed development.	
4.17. Retaining walls • To ensure well designed retaining walls that are structurally sound	retaining walls within the site proposed	Yes

5.0 Attached dwellings and multi -dwelling housing

Controls/objectives	*Comment*	*Compliance*
5.1 Minimum Site Width Requirement Minimum 18m	A minimum site width of 23.18m at the street front.	Yes

5.2 Number of Storeys		
R3 zone – max 3 storeys	The development proposes 3 storeys. No wall of basement visible above ground is more than 1m hence does not add to a storey.	Yes
5.3 Front Setbacks		
6m min required to façade 5.1m min to balconies/ building extrusions	Parts of the building on Ground floor and Level 1 do not comply Variations proposed are capable of support (see section A1 under 2.3.1 of this report)	No (variation supported)
5.4 Side and Rear Setbacks		
R3 medium density residential zone requires a minimum side/rear setback of 0.8 x ceiling height Where balconies or windows of living areas face the rear boundary at first floor level or above, a minimum 1.0m x ceiling height is required	Variations proposed are capable of support (see section A1 under 2.3.1 of this report)	No (variation supported)
5.5 Building Character and Form	The proposed development displays three storey dwellings which is considered to be consistent with the next door development to the south. The bulk and scale of the overall development on to the streetscape is assessed minimal in this case. Proposal is considered to fit sympathetically with the existing street character. The scale and form of the development exhibits conformity with the streetscape and locality.	Yes
5.6 Access / Driveway Requirements		
	The proposal is considered to meet the design requirements of driveways by providing only one access point to the site, locating the driveway in a position which does not adversely impact on any services within the road reserve, with sufficient landscaping and being of appropriate dimensions.	Yes
5.7 Car Parking Requirements		
	Refer chapter E3 below	
Car parking to be located behind front setback	Car parking proposed within the basement.	Yes

	Visitor car parking space provided. All units are over 110sqm requiring 2 spaces. Double garages provided for two of the units. Single garage provision for Unit 1 is supported by Council Traffic engineer based on the eligibility of the site to utilise the City Centre parking rates based on the proximity to the station.	
<u>5.8 Landscaping Requirements</u>		
Min. 30% of site area must be provided as landscaped area Min. 1.5m wide landscaping beds alongside & rear boundaries	Appears to achieve compliance Council's Landscape Architect has provided a satisfactory referral.	Yes
<u>5.9 Deep Soil Planting</u>	Sufficient DSZ is provided. Minor enchroachment of POS of Unit 3 to the deep soil zone is supported. Landscape officer has reviewed the proposal and has not raised major concerns.	Yes
<u>5.11 Private Open Space</u>		
Ground level POS with 4m x 5m minimum dimensions 70% of dwellings must receive minimum 3 hours direct sunlight to POS between 9am-3pm on June 21 Design private open spaces so that they act as direct extensions of the living areas of the dwellings they serve. Clearly define private open space through use of planting, fencing or landscaping features. Screen private open space where appropriate to ensure privacy.	POS is provided on ground floor off the living areas. Shadow diagrams have been lodged indicating reasonable compliance.	Yes
<u>5.12 Solar Access Requirements</u>		
Windows to living rooms of adjoining dwellings must receive 3	Submitted shadow diagrams indicate that the proposed units are situated at adequate distances from neighbouring dwellings so as	Yes

hours of sunlight between 9.00am and 3.00pm on 21 June. At least 50% of the private open areas of adjoining residential properties must receive at least 3 hours of sunlight between 9.00am and 3.00pm on June 21. The primary balcony of at least 70% of the dwellings within a multi dwelling housing development shall receive a minimum of three hours of direct sunlight between 9.00am and 3.00pm on June 21. Windows to north facing living rooms for each of the subject dwellings in the development must receive at least 3 hours of sunlight between 9.00am and 3.00pm on 21 June. At least 50% of the private open space area for each of the subject dwellings in the development must receive at least 3 hours of sunlight between 9.00am and 3.00pm on 21 June.	not to cause shadow impact on to the living rooms and POS.	

CHAPTER D1 – CHARACTER STATEMENTS

Thirroul

Future desired character for Thirroul is mainly for residential development will remain primarily low density in nature. Some restricted medium density within close vicinity to the Thirroul village centre and the railway station is envisaged. Any new housing must be sympathetic with the existing Thirroul village built form and streetscape, particularly in older areas with weatherboard housed, pitched roofs and wide eaves.
Any dwellings should be designed to minimise the scale and bulk of the development through well articulated building forms.

The proposal is considered to be consistent with the existing and desired future character for the locality. The proposal is not expected to have adverse impact on the streetscape character while providing additional dwellings to the locality.

CHAPTER E2: CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The design and layout of the development is expected to be consistent with this Chapter providing casual surveillance opportunities to the street and throughout the site minimising areas of entrapment and concealment in the building design and landscape elements.

CHAPTER E3: CAR PARKING, ACCESS, SERVICING/LOADING FACILITIES AND TRAFFIC MANAGEMENT

The car parking rates under Chapter E3 for multi dwelling housing are as follows:

1 car parking space per dwelling (<70m2) or 1.5 car parking spaces per dwelling (70-110m2) or 2 car parking spaces per dwelling (>110m2), plus 0.2 car parking spaces per dwelling for visitors, 1 bicycle

space per 3 dwellings (residents) and 1 bicycle space per 12 dwellings (visitors), 1 motorcycle space per 15 dwellings, Large Rigid Vehicle (Waste Contractor), >10 dwellings – side loading waste collection vehicle

The application has been assessed by Council's Development engineer. The proposal provides total six(6) parking spaces (double garages for two of the units and a single garage for Unit 1 and an unenclosed visitor parking space) all located within the basement.

Deficiency of one space for Unit 1 is supported as the site is eligible to utilise the City Centre parking rates (*1.25/dwelling plus 0.2/dwelling* requiring total 5 spaces) based on the proximity to the station. Adequate parking is provided on site for the development as per the requirement.

TfNSW also recommended reduction of on-site parking for the same reason to improve manoeuvrability of vehicles to be contained within the basement.

CHAPTER E6: LANDSCAPING

A landscape concept plan and an Arborist Report has been submitted as part of the application. The provisions of this chapter have been considered and found satisfactory by Council's Landscape Division.

CHAPTER E7: WASTE MANAGEMENT

Site Waste Minimisation and Management Plan provided. Standard conditions to apply. Street collection of garbage is proposed for future occupants.

CHAPTER E11: HERITAGE CONSERVATION

The site itself does not contain heritage items but is in proximity to other identified items of local heritage significance located opposite and across the road from the site like War Memorial and Thirroul Railway Station.

The proposal was reviewed by Council's Heritage Officer. No significant concerns were raised however commentary raised some concerns of the existing dwelling of having some landmark values and possible view impacts from the heritage sites towards the escarpment. Suggestions recommended reduced bulk/ scale would be preferable as relates to the nearby Heritage Item. It is suggested to document the dwelling under NSW Heritage Guidelines if the determination is made for approval.

The applicant has hereafter submitted a photomontage ruling out the impact on other heritage items and escarpment view loss due to the proposed development.

CHAPTER E12: GEOTECHNICAL ASSESSMENT OF SLOPE INSTABILTY

Council's Geotechnical Officer has reviewed the proposal. No concerns were raised.

CHAPTER E14 STORMWATER MANAGEMENT

The application has been reviewed by Council's Engineer in relation to the stormwater drainage and did not raise any concerns providing a satisfactory referral subject to conditions.

CHAPTER E17 PRESERVATION AND MANAGEMENT OF TREES AND VEGETATION

Proposal involves removal of 8 trees located within the site. Council's Landscape and Environmental officers have provided conditionally satisfactory comments and conditions including compensatory plantings.

CHAPTER E18 THREATENED SPECIES OF WOLLONGONG DCP 2009

Council's Environmental officer has assessed the proposal. The impact of proposed tree removal is considered to be unlikely to significantly affect threatened species or ecological communities, or their habitats. Conditions about tree removal and fauna protection are included with the consent in this regard.

CHAPTER E19 EARTHWORKS

Proposal involves excavations related to constructions, infrastructure and other landscaping works. Council's Geotechnical Officer has reviewed the proposal. No concerns were raised.

CHAPTER E21 DEMOLITION AND ASBESTOS MANAGEMENT

Demolition of existing dwelling house located on the property forms part of this application and a demolition plan has been prepared.

Council's Environmental officer has provided conditionally satisfactory comments and conditions

CHAPTER E22 SOIL EROSION

It is considered that the proposed development satisfies the objectives of this Chapter. Appropriate conditions are included in this regard.

2.3.2 WOLLONGONG CITY- WIDE DEVELOPMENT CONTRIBUTIONS PLAN - 2019

The estimated cost of works is >$100,000, $1,463,000.00 and a levy of 1% is applicable under this plan as the threshold value is $100,000

2.4 SECTION 4.15(1)(A)(IIIA) ANY PLANNING AGREEMENT THAT HAS BEEN ENTERED INTO UNDER SECTION 7.4, OR ANY DRAFT PLANNING AGREEMENT THAT A DEVELOPER HAS OFFERED TO ENTER INTO UNDER SECTION 7.4

There are no planning agreements entered into or any draft agreement offered to enter into under S7.4 which affect the development.

2.5 SECTION 4.15(1)(B) THE LIKELY IMPACTS OF DEVELOPMENT

Context and Setting:

The proposal has been assessed with regard to the amenity impacts from the development, the zoning, permissible height and FSR for the land, and existing and future character of the area, and is considered to be compatible with the local area. The development is not considered to adversely impact on the existing character of the locality.

Access, Transport and Traffic:

Adequate car parking has been provided on site. There are no significant traffic impacts expected to be associated with the development.

Public Domain:

There is no likely impact on public domain.

Utilities:

The proposal is not envisaged to place an unreasonable demand on utilities supply.

Heritage:

No direct impact to the nearby heritage items is expected from the proposal.

Other land resources:

The proposal is considered to contribute to orderly development of the site and is not envisaged to impact upon any valuable land resources.

Water:

The site is presently serviced by Sydney Water, which can be readily extended to meet the requirements of the proposed development.

The proposal is not envisaged to have unreasonable water consumption.

Soils:

There are no anticipated impacts on the soils. Erosion and sediment measures are to be conditioned.

Air and Microclimate:

The proposal is not expected to have negative impact on air or microclimate.

Flora and Fauna:

The proposal is not expected to have negative impact on the flora and fauna. However conditions included in this regard.

Waste:

A condition will be attached to any consent granted that an appropriate receptacle be in place for any waste generated during the construction.

Energy:

The proposal is not envisaged to have unreasonable energy consumption.

Noise and vibration:

A condition will be attached to any consent granted that nuisance be minimised during any construction, demolition, or works.

Natural hazards:

There are no natural hazards affecting the site that would prevent the proposal.

Technological hazards:

There are no technological hazards affecting the site that would prevent the proposal.

Safety, Security and Crime Prevention:

This application does not result in greater opportunities for criminal or antisocial behaviour.

Social Impact:

There is not expected to be social impact associated with the proposed development.

Economic Impact:

The proposal is not expected to create negative economic impact.

Site Design and Internal Design:

Irrespective of the departure from the required floor space ratio as per the LEP and variations to the DCP controls in relation to the front and side setbacks, the proposal is considered to be satisfactorily designed. The proposal has also been reviewed by Council's Design Review Panel.

Construction:

Conditions of consent are recommended in relation to construction impacts such as hours of work, erosion and sedimentation controls, works in the road reserve, excavation, demolition and use of any crane, hoist, plant or scaffolding. A condition will be attached to any consent granted that all works are to be in compliance with the Building Code of Australia.

Cumulative Impacts:

The proposal is not expected to have negative cumulative impacts.

2.6 SECTION 4.15(1)(C) THE SUITABILITY OF THE SITE FOR DEVELOPMENT

Does the proposal fit in the locality?

The proposal is considered appropriate with regard to the site and is not expected to have negative impacts on the amenity of the locality or adjoining developments.

Are the site attributes conducive to development?

There are no site constraints that would prevent the proposal.

2.7 SECTION 4.15(1)(D) ANY SUBMISSIONS MADE IN ACCORDANCE WITH THIS ACT OR THE REGULATIONS

Details of the proposal were publicly exhibited in accordance with Wollongong Community Participation Plan 2019. Eleven (11) submissions were received during the notification period. Detailed discussion on submissions received is provided at section 1.5.

2.8 SECTION 4.15(1)(E) THE PUBLIC INTEREST

The application is not expected to have unreasonable impacts on the environment or the amenity of the locality. It is considered appropriate with consideration to the zoning and the character of the area and is therefore considered to be in the public interest.

3 CONCLUSION

This application has been assessed as satisfactory having regard to the Heads of Consideration under Section S4.15(1) of the Environmental Planning and Assessment Act 1979, the provisions of Wollongong Local Environmental Plan 2009 and all relevant Council DCPs, Codes and Policies.

Pursuant to clause 2.3 of WLEP 2009, Multi dwellings are permissible in the R3 Medium Density Residential zone with development consent. The proposal is not considered to be inconsistent with the zone objectives. The departure request to the development standard regarding Floor Space Ratio and variation requests to the development controls for front and side setbacks are capable of support for reasons outlined in this report.

All relevant internal and external referrals are conditionally satisfactory. Some of the issues raised in submissions are either resolved through design or by way of conditions. Any remaining issues are not considered to be sufficient to refuse the application.

It is considered that the proposed development is not inconsistent with the existing and desired future character of the locality and is unlikely to result in adverse impacts on the amenity of the surrounding area.

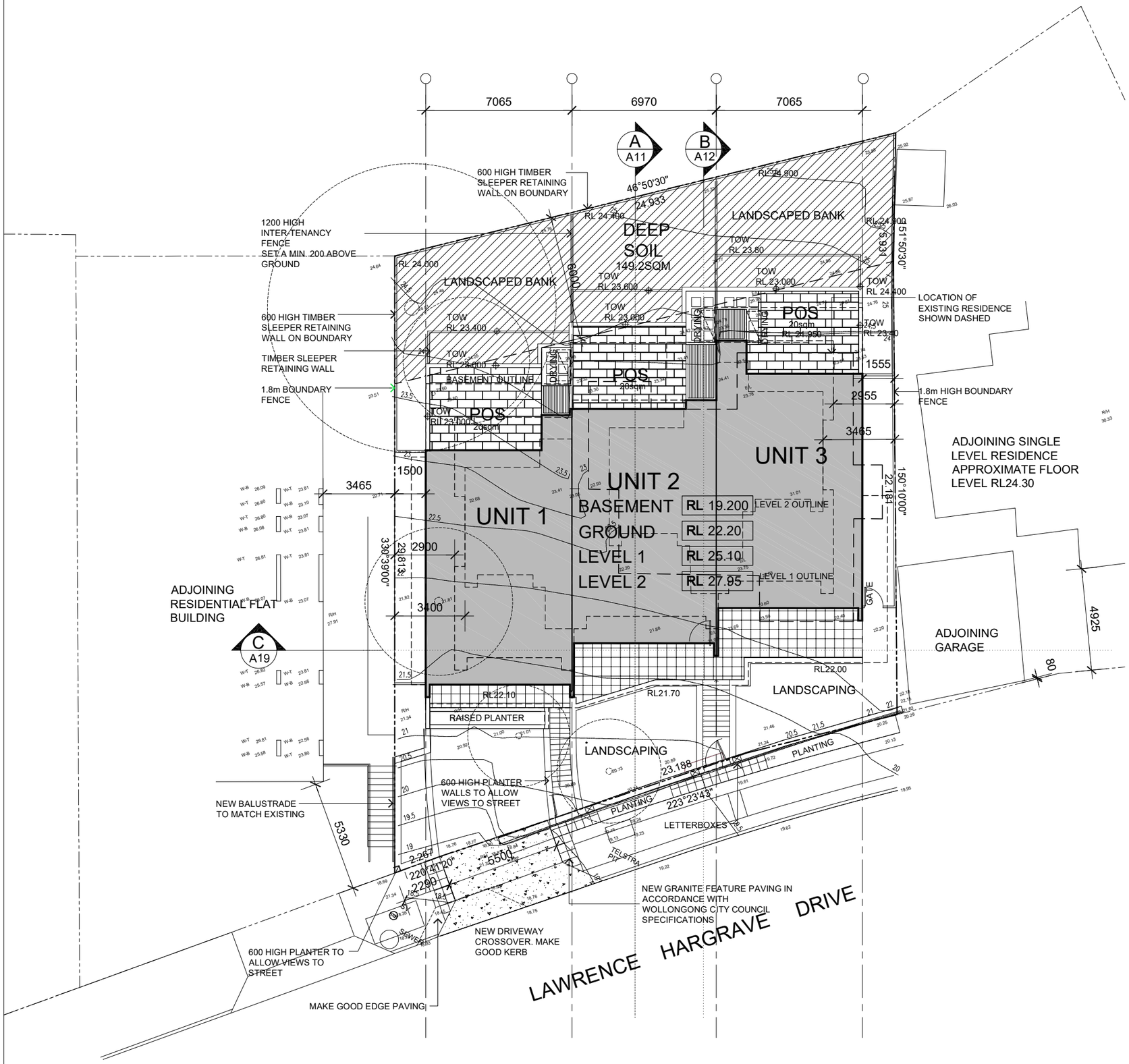
4 RECOMMENDATION

It is recommended that DA-2020/290 be **approved** and subject to conditions contained in Attachment 5.

5 ATTACHMENTS

1 Architectural Plans, GFA calculation plan, Site Survey, Stormwater Drainage Plans, Shadow Diagram, Concept Landscape Plan, Arborist Report, Photomontages of escarpment views from the sites of Heritage items

2. Statement of Exception to development standard - Applicant
3. Statements of Variation to development controls - Applicant
4. DRP: notes, site plan and Pre-lodgement notes
5. Conditions



DEVELOPMENT DATA

SITE AREA	694.6sqm
PERMISSABLE FSR (WOLLONGONG LEP 2009)	0.75:1
PERMISSABLE BUILDING AREA	520.95sqm
BASEMENT FLOOR AREA	55 sqm
PROPOSED GROUND FLOOR AREA	229.4 sqm
PROPOSED LEVEL 1 PLAN	194.8 sqm
PROPOSED LEVEL 2 PLAN	90.5sqm
TOTAL PROPOSED GROSS FLOOR AREA	570.4 sqm
PROPOSED FSR (excludes garage and storage areas)	0.82:1
PROPOSED LANDSCAPED AREA	226.4 sqm (32.5%)
PROPOSED DEEP SOIL AREA	149.2sqm (21.4%)
PROPOSED ON SITE CARPARKING	6 spaces

Date	Issue	Revision
24.03.20	A	Issued for development Approval
28.05.20	B	Revised DA Issue
30.06.20	C	Revised DA Issue- draft for discussion
20.08.20	D	Revised DA Issue
20.08.20	E	Revised front gates
20.10.20	F	Dimensions added

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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name:	Job No.	Dwg.No
SITE PLAN	DML 18/011	A-01

FOR:	Scale	Date	Rev.
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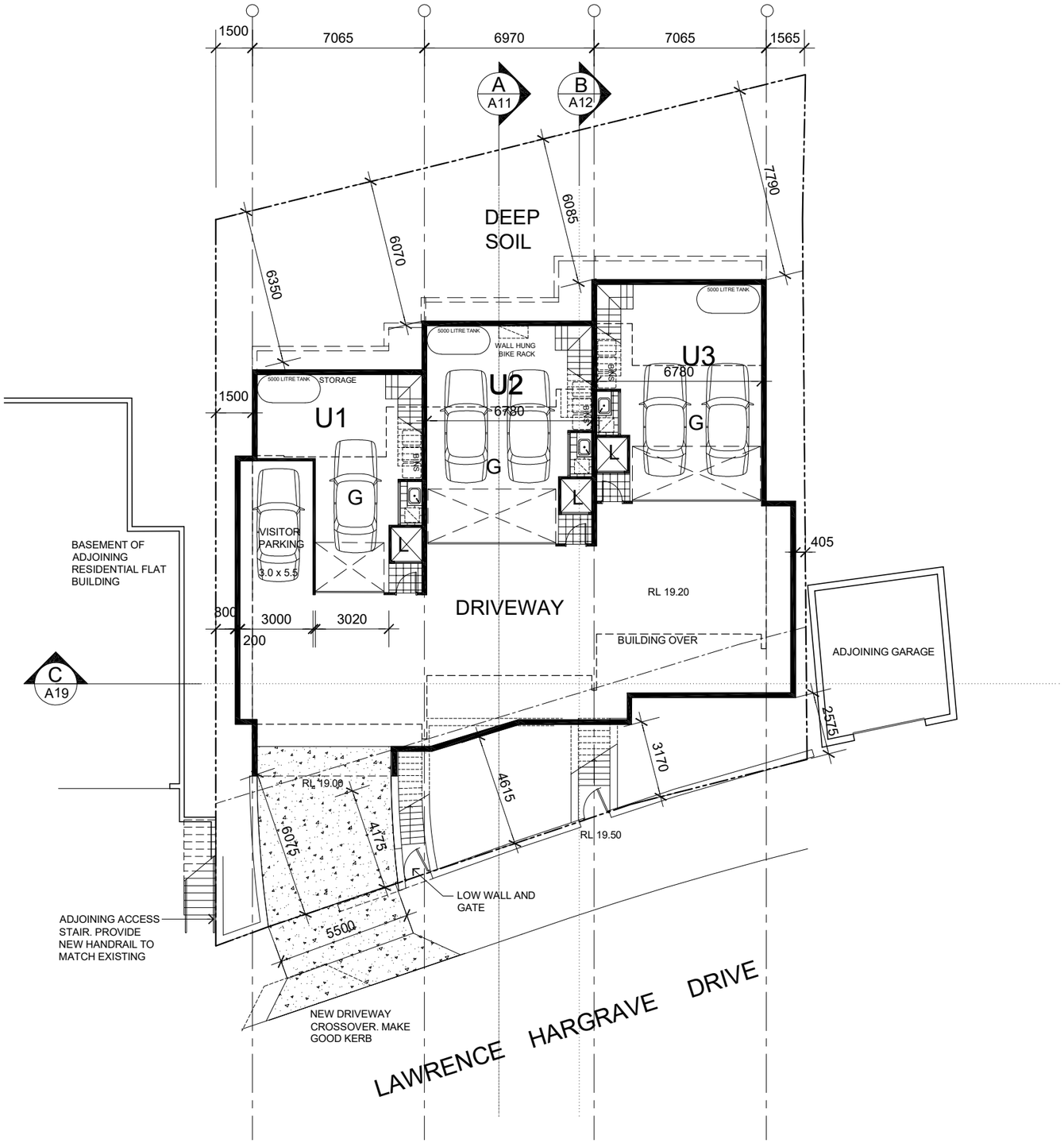

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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
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Drawing Name: BASEMENT PLAN

Job No. DML 18/011

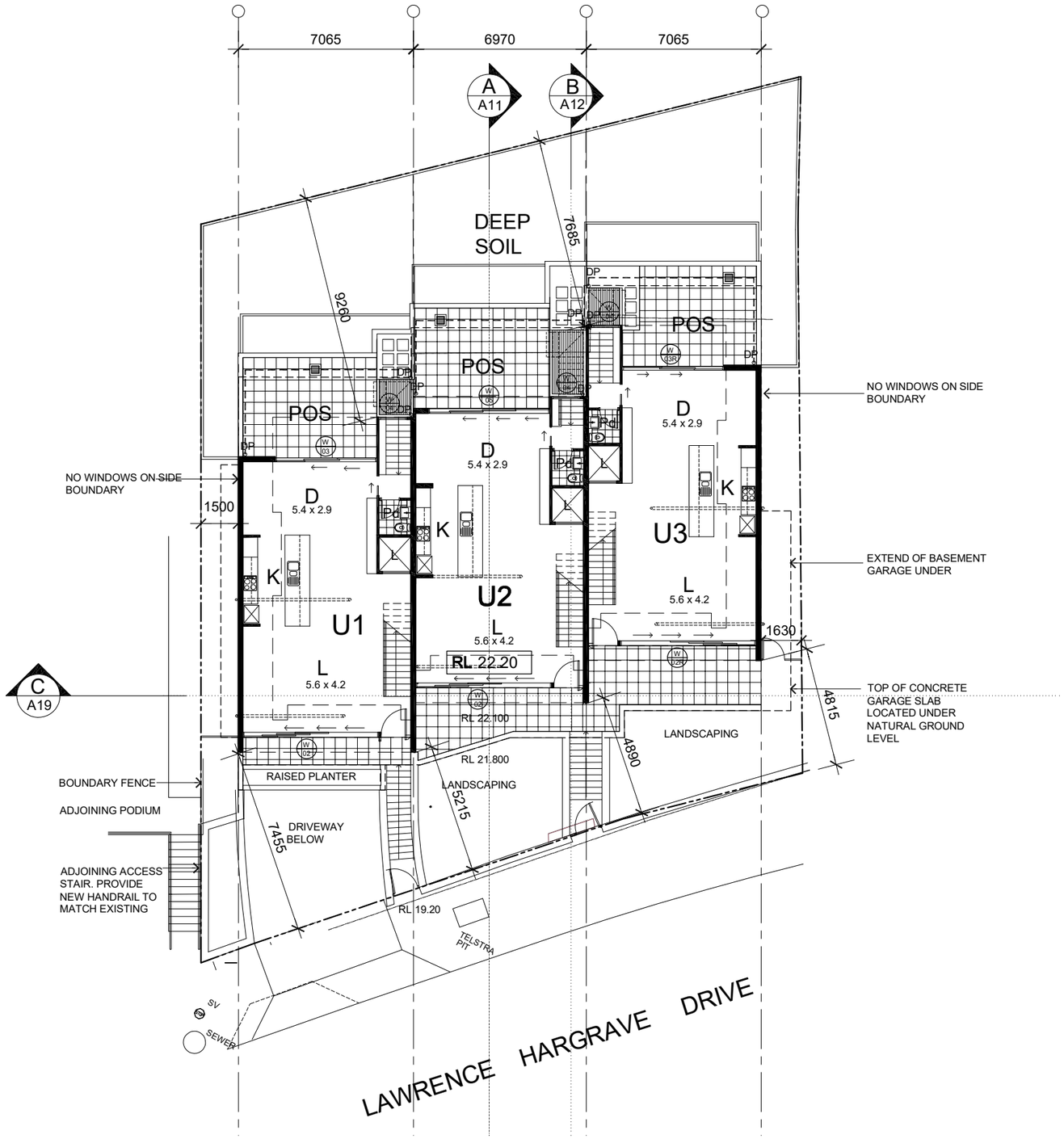
Dwg.No A-02

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:200 (A3)

Date 05.12.19

Rev. E



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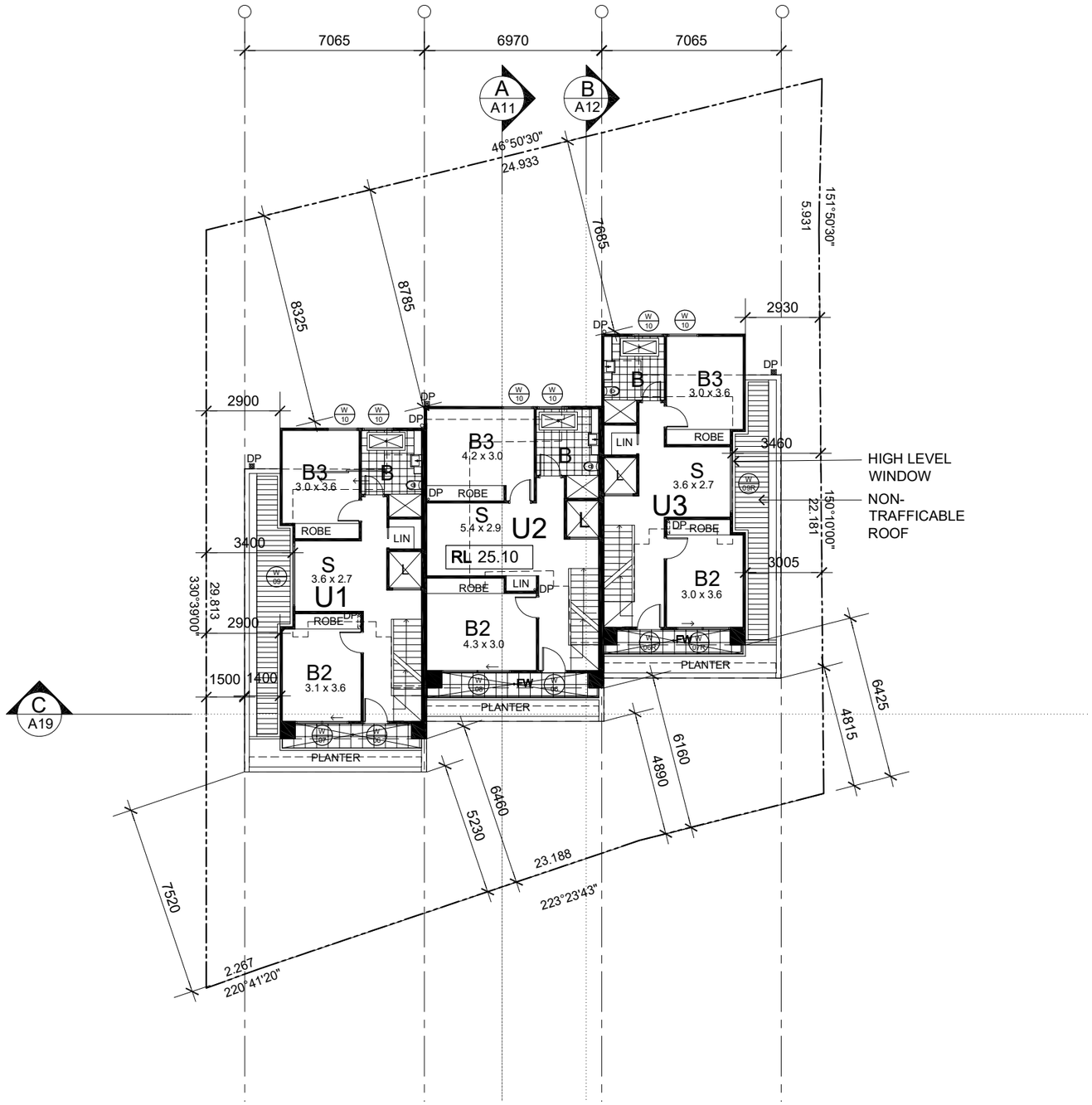
PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name:	Job No.	Dwg.No
GROUND FLOOR PLAN	DML 18/011	A-03

FOR:	Scale	Date	Rev.
ILLAWARRA PROPERTY HOLDINGS PTY LTD	1:200 (A3)	05.12.19	E



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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: LEVEL 1 FLOOR PLAN

Job No. DML 18/011

Dwg.No A-04

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

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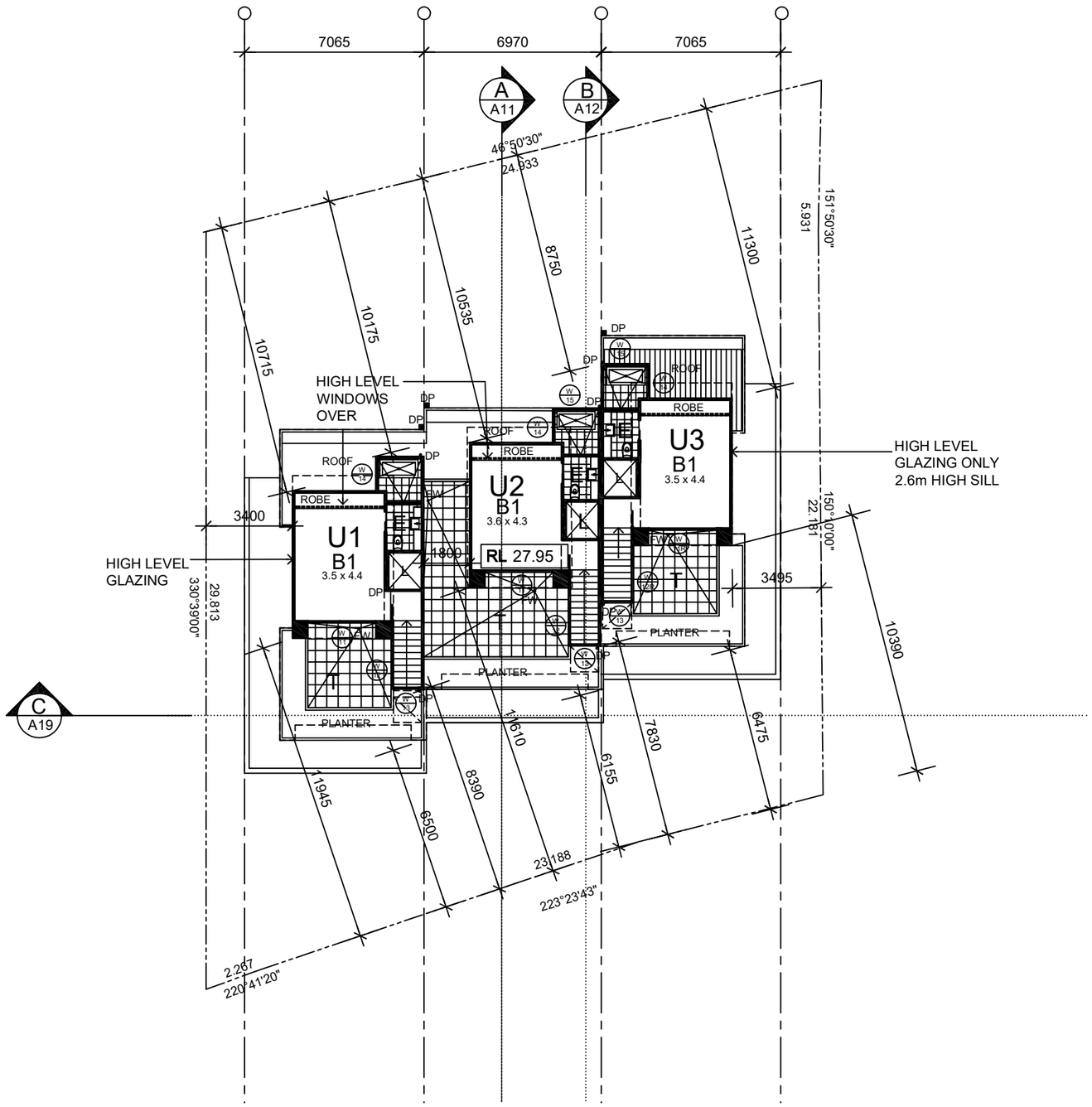
Date 05.12.19

Rev. E



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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
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Drawing Name:	Job No.	Dwg.No
LEVEL 2 FLOOR PLAN	DML 18/011	A-05

FOR:	Scale	Date	Rev.
ILLAWARRA PROPERTY HOLDINGS PTY LTD	1:200 (A3)	05.12.19	E

Date	Issue	Revision
20.10.20	A	Issued for development approval

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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: SECTION C

Job No. DML 18/011

Dwg.No A-19

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:100 (A3)

Date 05.12.19

Rev. A

Date	Issue	Revision
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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
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Drawing Name:	Job No.	Dwg.No
SOUTH EAST ELEVATION	DML 18/011	A-07

FOR:	Scale	Date	Rev.
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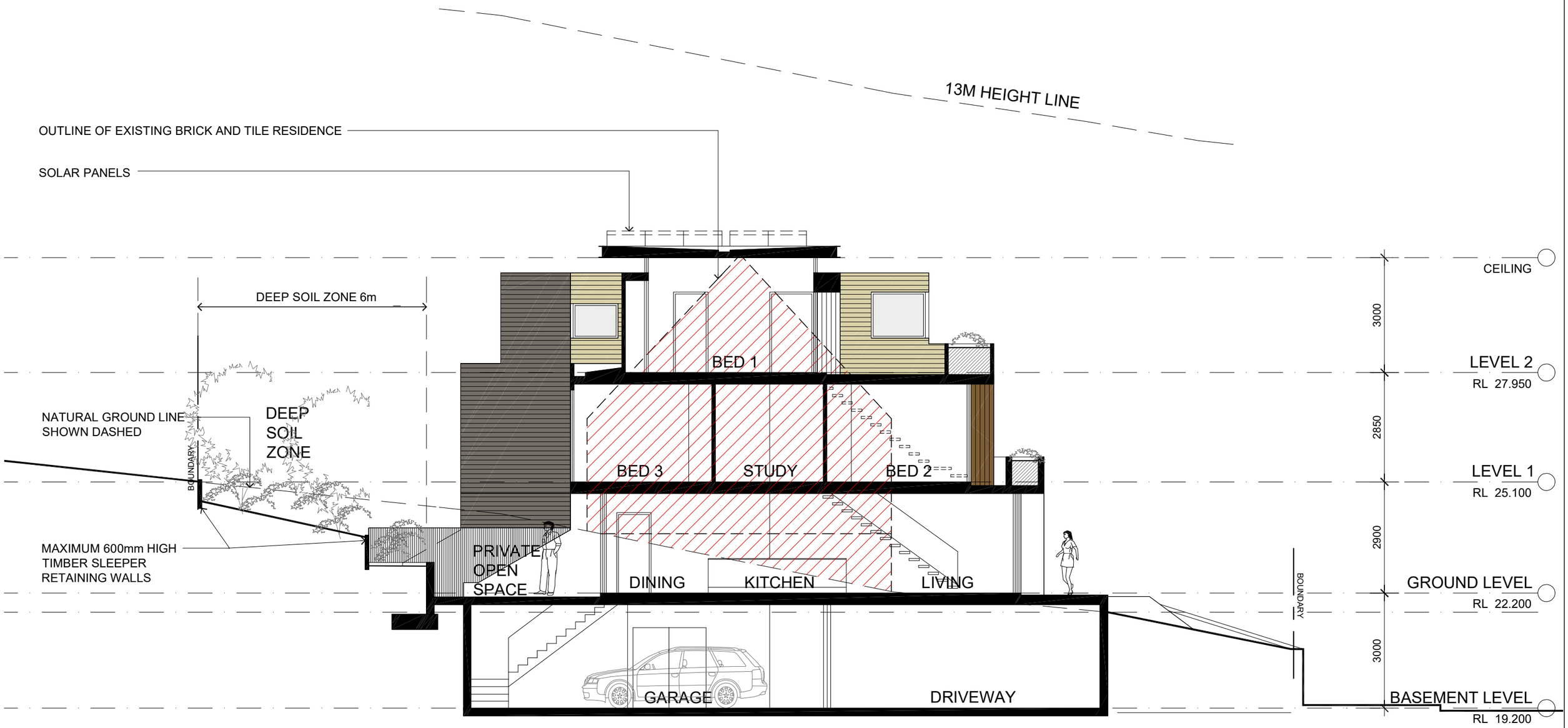

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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
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Drawing Name: SECTION A

Job No. DML 18/011

Dwg.No A-11

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

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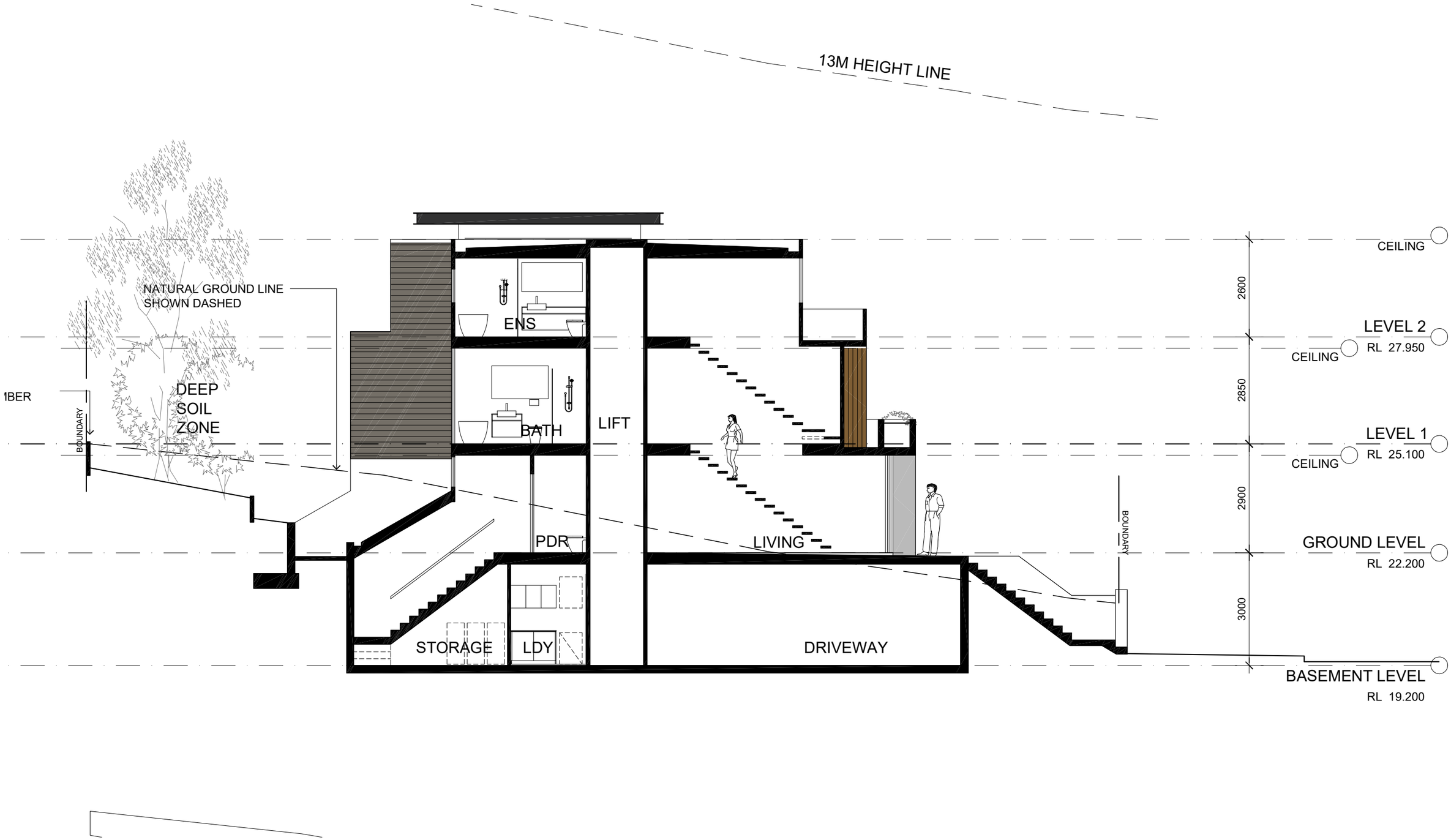
Date 05.12.19

Rev. D



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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: SECTION B

Job No. DML 18/011

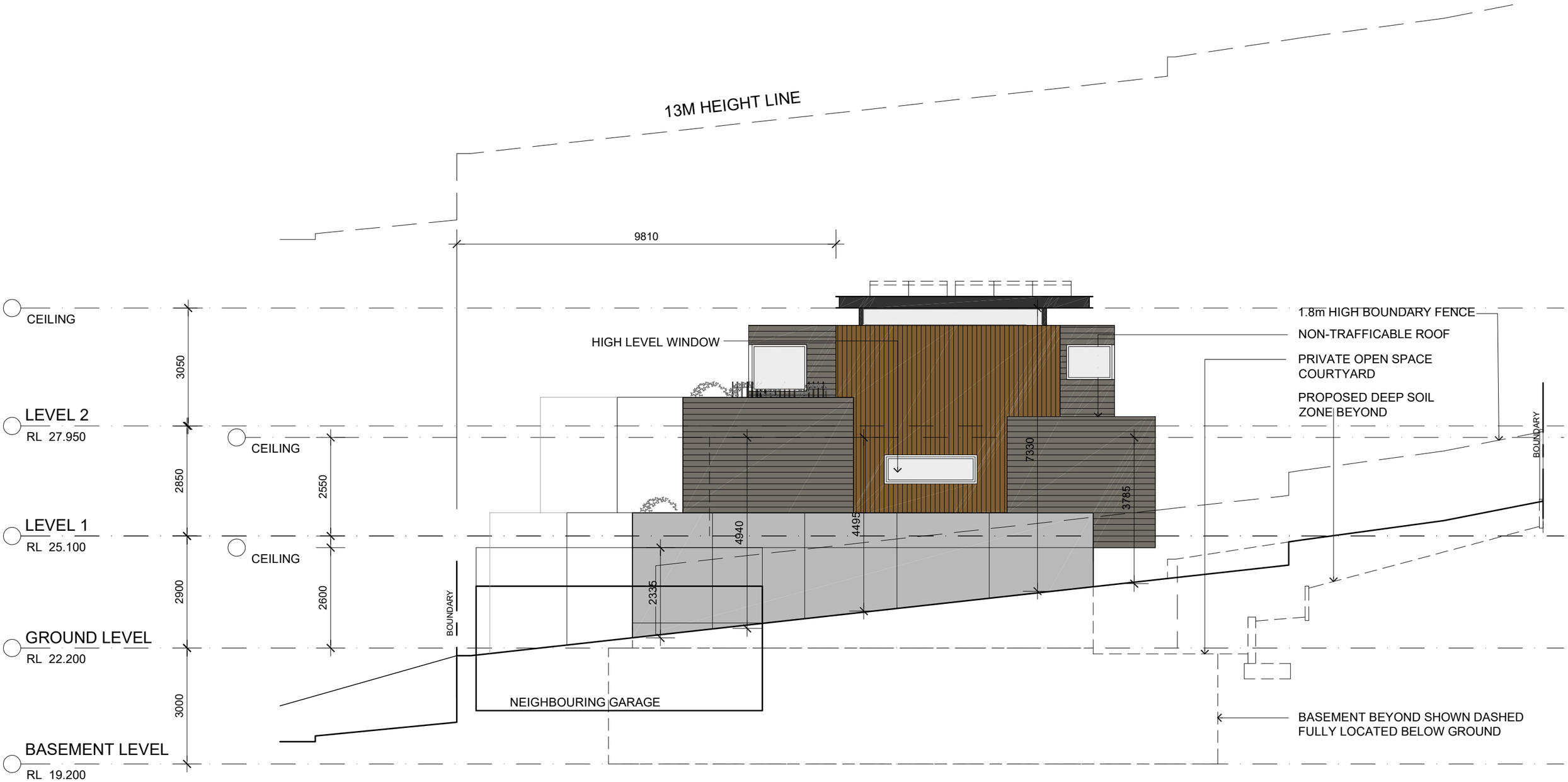
Dwg.No A-12

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:100 (A3)

Date 05.12.19

Rev. D



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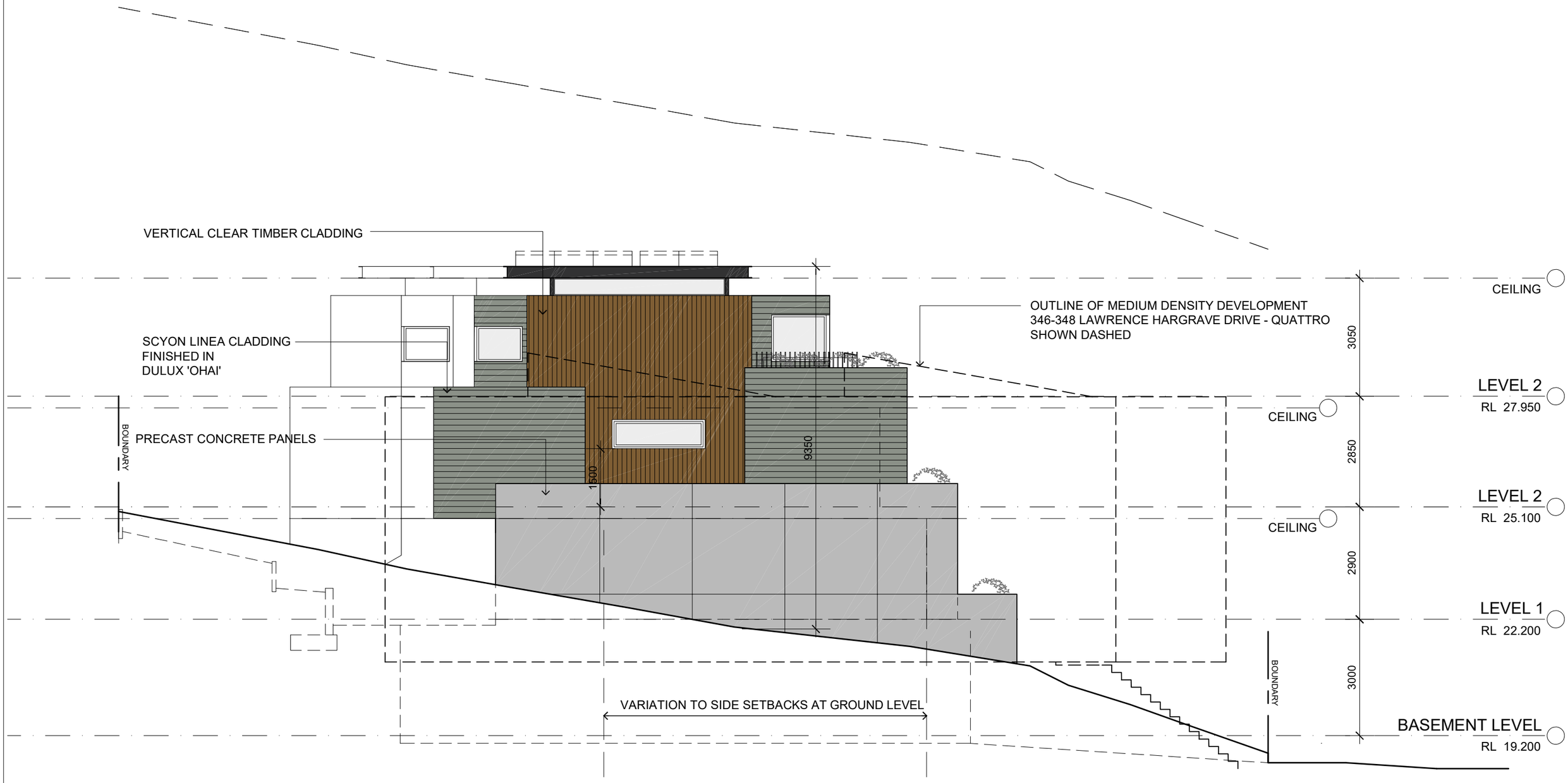
PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name:	Job No.	Dwg.No
NORTH EAST ELEVATION	DML 18/011	A-08

FOR:	Scale	Date	Rev.
ILLAWARRA PROPERTY HOLDINGS PTY LTD	1:100 (A3)	05.12.19	A



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PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: SOUTH WEST ELEVATION

Job No. DML 18/011

Dwg.No A-09

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:100 (A3)

Date 05.12.19

Rev. A

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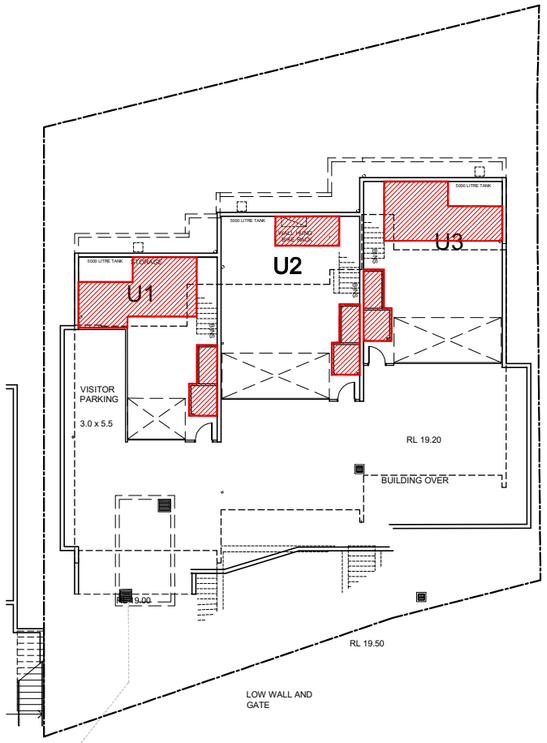
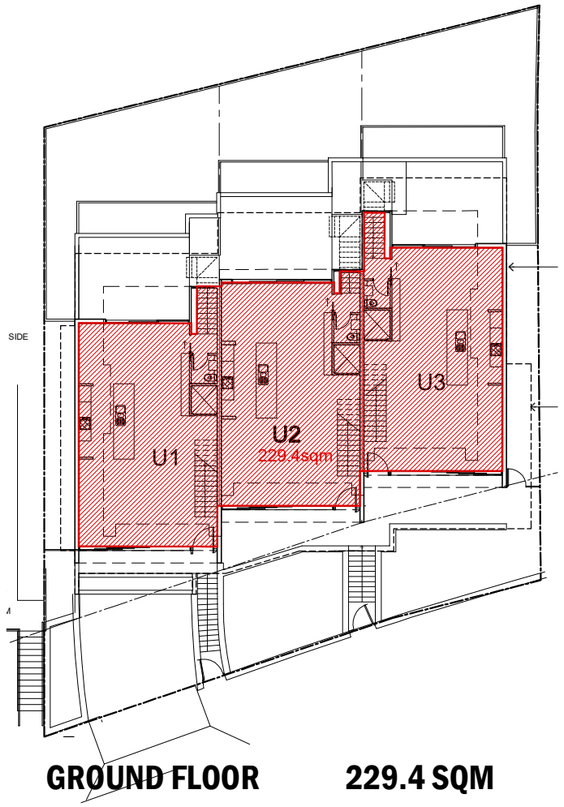
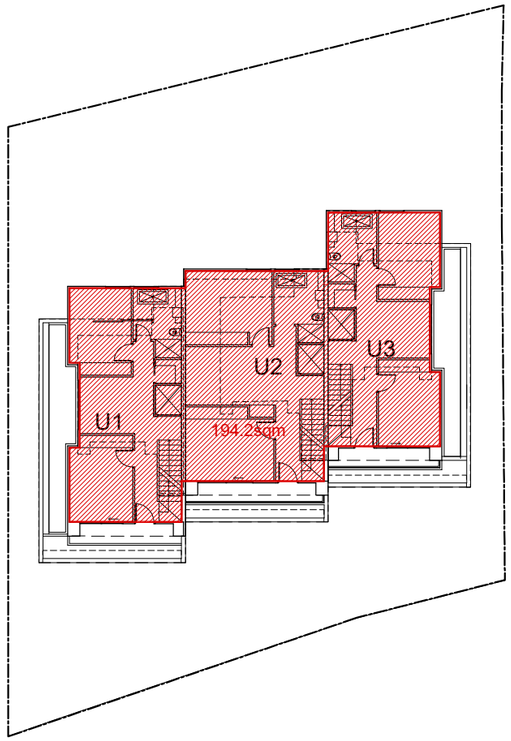
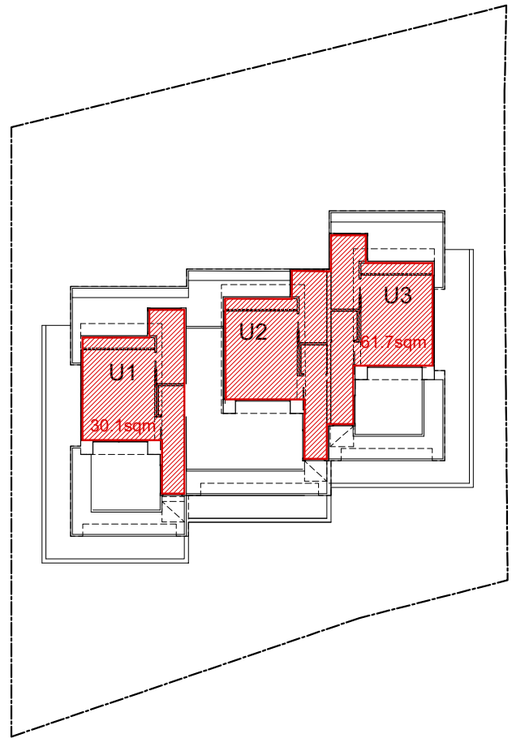
Drawing Name:		Job No.	Dwg.No
NORTH WEST ELEVATION		DML 18/011	A-10
FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD	Scale 1:100 (A3)	Date 05.12.19	Rev. A









SUBTERRANEAN GARAGE LEVEL 55 SQM **GROUND FLOOR 229.4 SQM** **FIRST FLOOR 194.2 SQM** **SECOND FLOOR 91.8 SQM**

NEW DRIVEWAY

NOTE: GARAGE LEVEL LOCATED WHOLLY BELOW NATURAL GROUND WITH NO HABITABLE AREAS

TOTAL PROPOSED GROSS FLOOR AREA 570.4 SQM

Date	Issue	Revision
24.03.20	A	Issued for development Approval
28.05.20	B	Revised DA Issue
30.06.20	C	Revised DA Issue- draft for discussion
20.08.20	D	Revised DA Issue

Develop My Land
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PO Box 119. Thirroul. NSW. 2515. Tel. 0449 255488 e. steve@developmyland.com.au

PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: WLEP GROSS FLOOR AREA DIAGRAMS

Job No. DML 18/011

Dwg.No A-16

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:200 (A3)

Date 05.12.19

Rev. D

NOTES: SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE ONLY. PRIOR TO ANY DEMOLITION, DESIGN, EXCAVATION OR CONSTRUCTION ON SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.

RELATIONSHIPS OF IMPROVEMENTS TO BOUNDARIES IS DIGRAMMATIC ONLY. WHERE OFFSETS ARE CRITICAL THEY SHOULD BE CONFIRMED BY FURTHER SURVEY.

BEARINGS AND DISTANCES ARE BY TITLE/DEED ONLY. NO BOUNDARY INVESTIGATION HAS BEEN CARRIED OUT.

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DIAL 1100 BEFORE YOU DIG

AN UNDERGROUND SERVICES SEARCH SHOULD BE UNDERTAKEN PRIOR TO ANY EXCAVATION TAKING PLACE UPON THE SITE

×CODE LIST
E/L - ENTRY LEVEL
G/H - GUTTER HEIGHT
R/H - RIDGE HEIGHT
E/H - EAVE HEIGHT
S.V. - STOP VALVE
HYD. - WATER HYDRANT
ELP. - ELECTRICITY LIGHT POLE
W.M. - WATER METER

No	DATE	REVISION DETAILS	BY
A	29.08.18	ISSUE FOR INFORMATION	PO.

CONSULTING REGISTERED SURVEYORS

C. ROBSON & ASSOCIATES PTY. LTD.
LAND & ENGINEERING SURVEYORS
UNIT 1 LEVEL 6 85-87 SMITH STREET, WOLLONGONG 2500
P.O. BOX 93, CORRIMAL 2518
Phone: 02 4243 1645 Fax: 02 4243 1658 Mobile 0402 641 693
Email: crobsonsur@optusnet.com.au
A.B.N. 63 105 569 837

0 2 4 6 8 10m
1 : 100 A1
1 : 200 A3

SURVEYOR	CR	FIELDBOOK WW AUG 2018
DRAWN	PO	

CLIENT: DEVELOP MY LAND

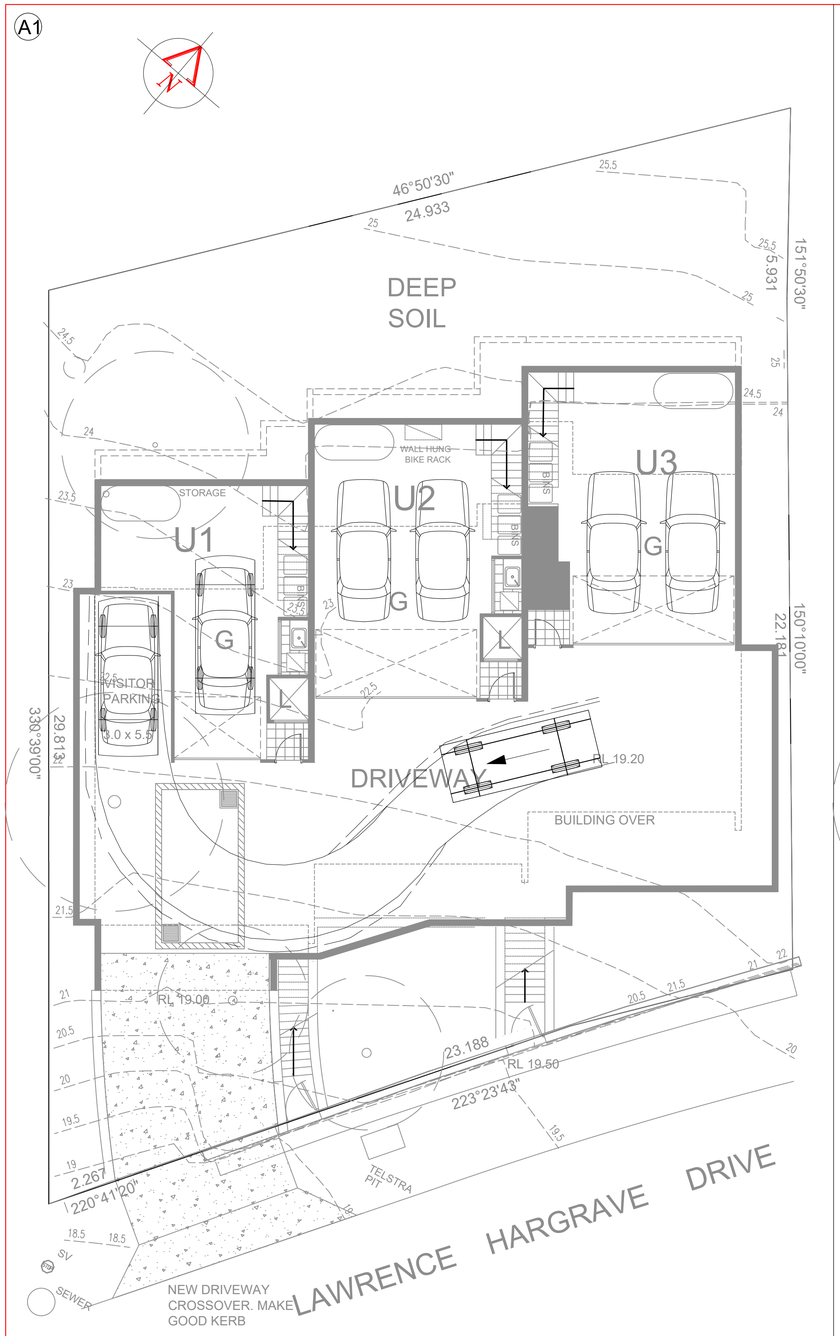
SCALES:	AS SHOWN
DATUM:	AHD
GRID:	LOCAL
JOB REF:	18413
APPROVED:	CR

PROJECT: 342 - 344 MAIN ROAD THIRROUL
LOT B DP 378330

DRAWING: DETAIL SURVEY PLAN

DRAWING No **18413-0**
REVISION **A**
SHEET 1 OF 1 SHEETS **A1**
ISSUED FOR: **INFORMATION**

A1



PLAN–SWEPT PATHS (UNIT 1 & VISITOR'S)

(SCALE 1:100)

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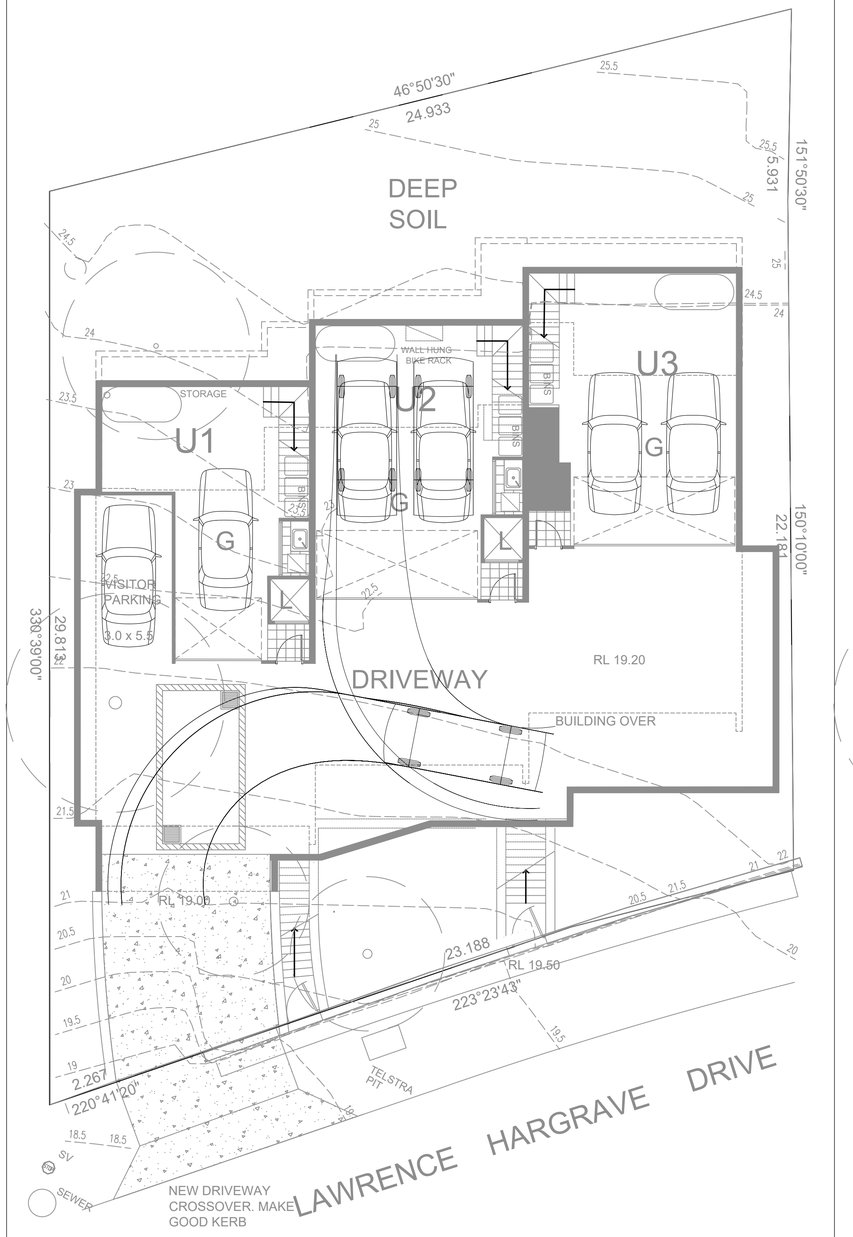
METRES



PLAN–SWEPT PATHS (UNIT 2)

(SCALE 1:100)

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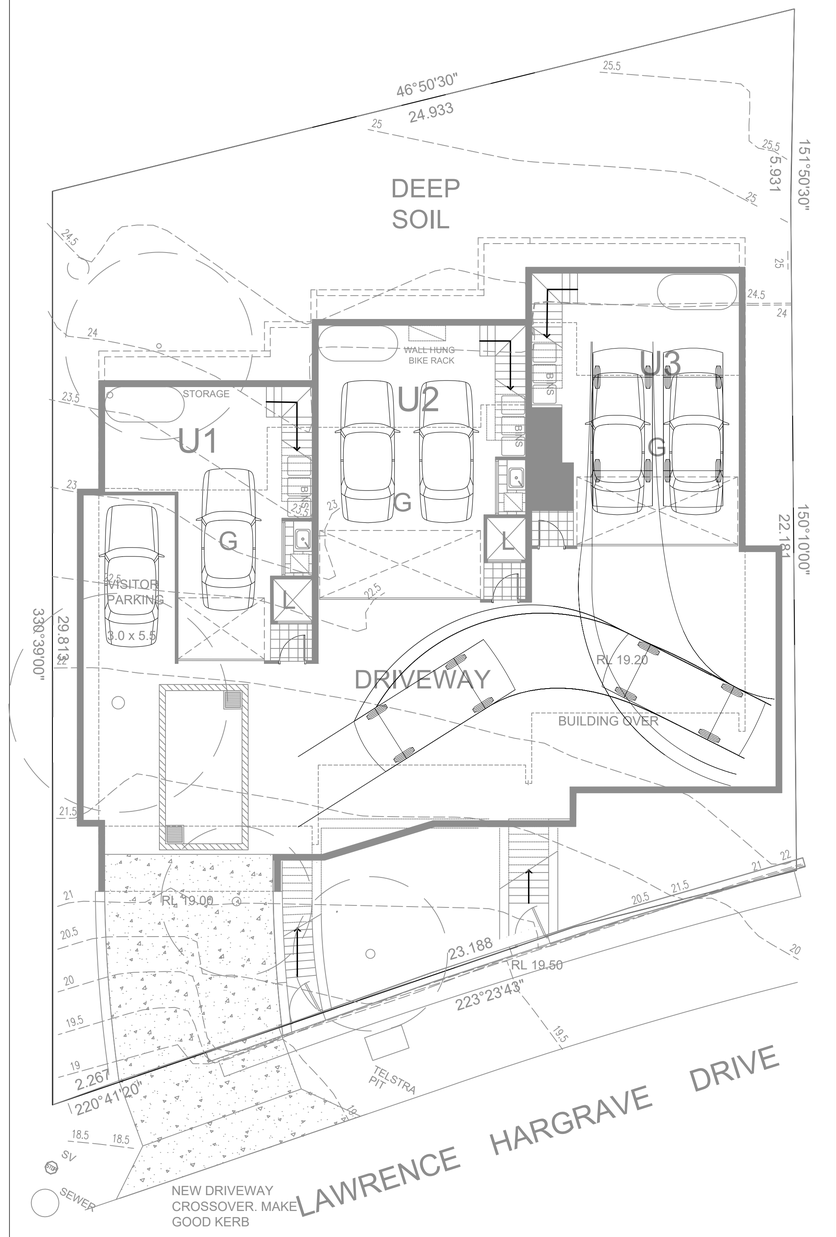
METRES



PLAN–SWEPT PATHS (UNIT 3)

(SCALE 1:100)

-2.5 0 2.5 5.0 7.5

METRES

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PO BOX 7426, MOUNT ANNAN, NSW, 2567
P: (02) 4760 0760 E: adam@gilconse.com
W: gilconeng.com ABN: 73 931 889 644

CLIENT: DEVELOP MY LAND

PROJECT: PROPOSED MEDIUM DENSITY DEVELOPMENT AT 342-344 LAWRENCE HARGRAVE DRIVE, THIRROUL

APPROVED:

ADAM GILLETT
B.ENG (Hons), M.I.E. AUST.

DRAWING TITLE: SWEPT PATHS

ISSUE	DATE	REVISIONS:
E	31/08/2020	UPDATED TO ARCHITECTURAL DRAWINGS
D	27/05/2020	SWEPT PATHS REVISED TO SHOW B99 VEHICLE
C	30/03/2020	STORMWATER DRAINAGE DETAILS ADDED

DRAWN BY: EK/NS | ENGINEER: EK

DATE: 16/07/2019

SCALE: AS SHOWN ON A1

JOB NO: 19362

SHEET No: *C01*

A1

GENERAL NOTES:

1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WOLLONGONG COUNCIL'S STORMWATER, DETENTION & SEDIMENT CODE
2. THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST IF NECESSARY.
3. THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJOINING LANDS WITHOUT THE PERMISSION OF THE SUPERINTENDENT.
4. ALL NEW WORKS SHALL MAKE SMOOTH CONNECTION TO EXISTING CONDITIONS.
5. ALL IMPORTED FILL SHALL BE APPROVED BY THE COUNCIL . THE FILL SHALL BE PLACED IN NOT MORE THAN 300mm LAYERS AND SHALL BE COMPACTED TO AT LEAST 98% STANDARD COMPACTION TO COUNCIL'S SPECIFICATION.
6. PROVIDE VEHICULAR CROSSING TO COUNCIL'S SPECIFICATION IN KERB WHERE SHOWN (IF APPLICABLE).
7. THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.
8. ALL IMPORTED FILL TO BE USED TO SUPPORT GROUND SLABS SHALL BE COMPACTED TO A MINIMUM LEVEL OF COMPACTION OF 98% OF MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +- 2% OF OPTIMUM (AS1289.5.1.1)
9. STEP IRONS AT 300mm CENTRES & TO COUNCIL'S SPECIFICATIONS SHALL BE PROVIDED WHERE PITS ARE DEEPER THAN 1000mm
10. ALL DOWNPIPES ARE SHOWN DIAGRAMATICALLY. POSITION OF DOWNPIPES SHALL BE CONFIRMED ON SITE
11. EXISTING LEVELS AND SERVICE DEPTH AND LOCATION TO BE CHECKED PRIOR TO CONSTRUCTION.
12. WALLS FORMING THE ON SITE DETENTION SYSTEM & STORAGE AREAS ARE TO BE WATER TIGHT.

SEDIMENT & EROSION CONTROL

1 THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES TO THE COUNCIL'S SPECIFICATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND DURING CONSTRUCTION.

2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED IN A SATISFACTORY WORKING ORDER DURING THE CONSTRUCTION PERIOD. INSPECTIONS OF THESE DEVICES SHALL BE CARRIED OUT AFTER EACH STORM. REPAIRS AND/OR DE-CLOGGING SHALL BE CARRIED OUT TO ENSURE PROPER OPERATION OF THE DEVICE.
3. PROVIDE TEMPORARY CONSTRUCTION EXIT TO SHAKE OFF SITE MATERIALS FROM EXITING VEHICLES AND SHALL CONSIST OF A PAD OF COURSE CRUSHED ROCK, (75mm TO 150mm RANGE) HAVING A MINIMUM DEPTH OF 200mm, A MINIMUM LENGTH OF 25m AND 3.5m WIDE OR "CATTLE GRID" SYSTEM.
4. THE GULLY PITS SHALL BE PROTECTED IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS
5. THE GRATED SURFACE PITS SHALL BE PROTECTED IN ACCORDANCE TO COUNCIL'S REQUIREMENTS

STORMWATER DRAINAGE NOTES:

THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3:2018 "STORMWATER DRAINAGE" & AS/NZS 3500.3.2:1998 "STORMWATER DRAINAGE-ACCEPTABLE SOLUTIONS".

ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.

ANY VARIATIONS TO SPECIFIED PRODUCTS OR DETAILS SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL.

BOX COLORBOND OR ZINCALUME STEEL GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150 DEEP UNO.

EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA) COLORBOND OR ZINCALUME STEEL UNO.

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500.

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH).

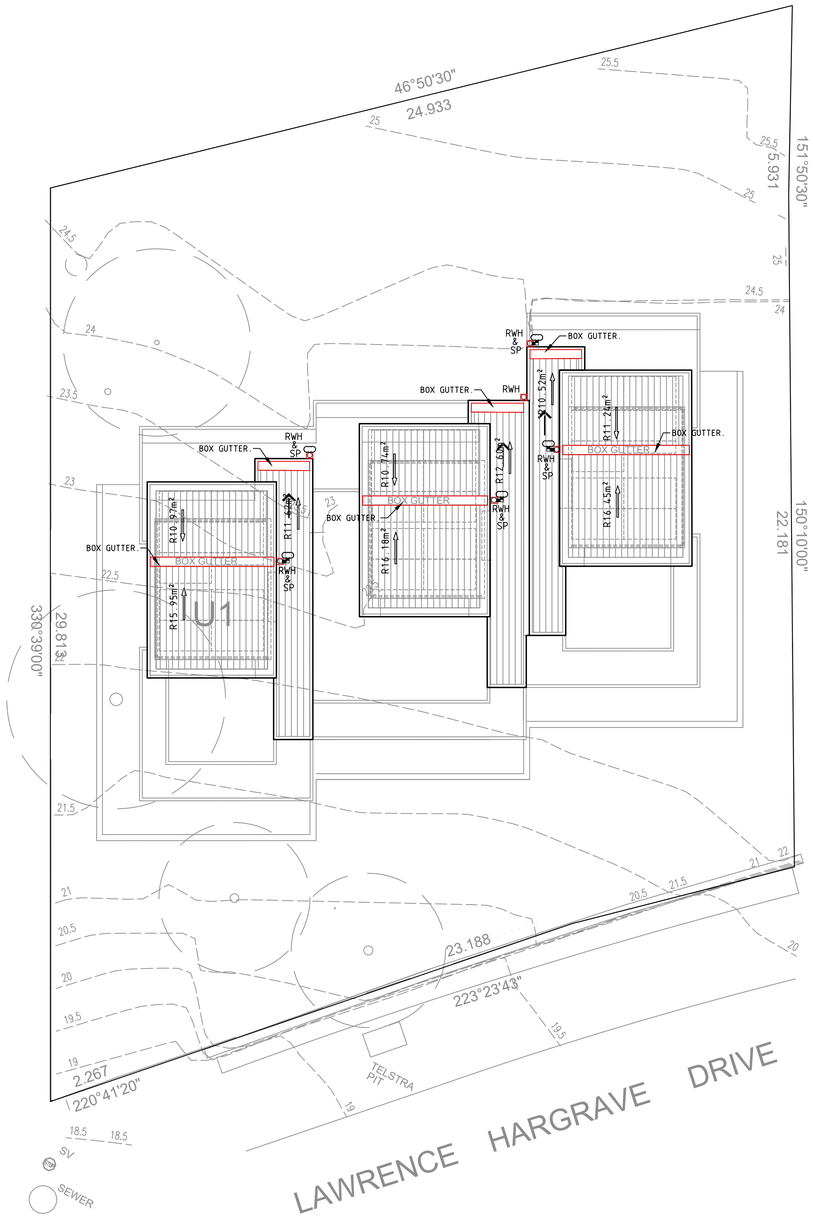
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.

FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL.

SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:
- DP = Ø100 OR 100 x 75 RECTANGULAR DOWN PIPE, UNO.
- FO = Ø150 FLOOR OUTLET
- GSIP = SURFACE INLET PIT (NO LINTEL)
- 100 (c) = Ø100 CHARGED LINE
- IP = Ø100 INSPECTION POINT
- SP & DP = RAINWATER SPREADER & DOWNPIPE

XXXX = PROPOSED FINISHED SURFACE LEVEL



PLAN– ROOF DRAINAGE LAYOUT

(SCALE 1:100)

-2.5 0 2.5 5.0 7.5

METRES

EXTREME CARE SHALL BE TAKEN WHEN DOING WORK NEAR EXISTING PIT/STRUCTURES AND UNDERGROUND CABLES.

LOCATION & DEPTH OF ALL UNDERGROUND CABLES & SERVICES TO BE CONFIRMED PRIOR TO CONSTRUCTION. CONTACT 'DIAL BEFORE YOU DIG' ON 1100

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PO BOX 7426, MOUNT ANNAN, NSW, 2567
P: (02) 4760 0760 E: adam@gilconse.com
W: gilconeng.com ABN: 73 931 889 644

CLIENT: DEVELOP MY LAND

PROJECT: PROPOSED MEDIUM DENSITY DEVELOPMENT AT 342-344 LAWRENCE HARGRAVE DRIVE, THIRROUL

APPROVED:

ADAM GILLETT
B.ENG (Hons), M.I.E. AUST.

DRAWING TITLE: DRAINAGE LAYOUT PLAN

ISSUE	DATE	REVISIONS:
E	31/08/2020	UPDATED TO ARCHITECTURAL DRAWINGS
D	27/05/2020	SWEPT PATHS REVISED TO SHOW B99 VEHICLE
C	30/03/2020	STORMWATER DRAINAGE DETAILS ADDED

DRAWN BY: EK/NS | ENGINEER: KN & NS

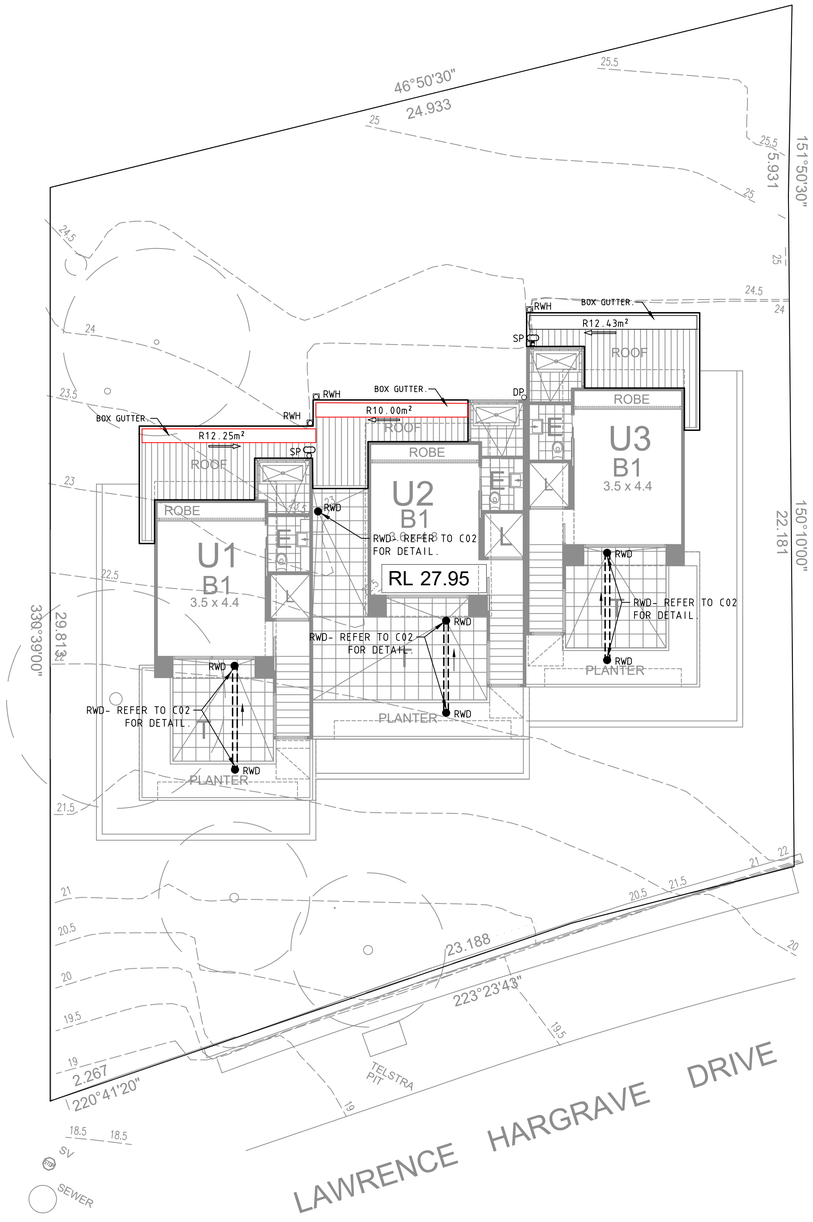
DATE: 16/07/2019

SCALE: AS SHOWN ON A1

JOB NO: 19362

SHEET No: C02

A1



PLAN– LEVEL 2 DRAINAGE LAYOUT

(SCALE 1:100)

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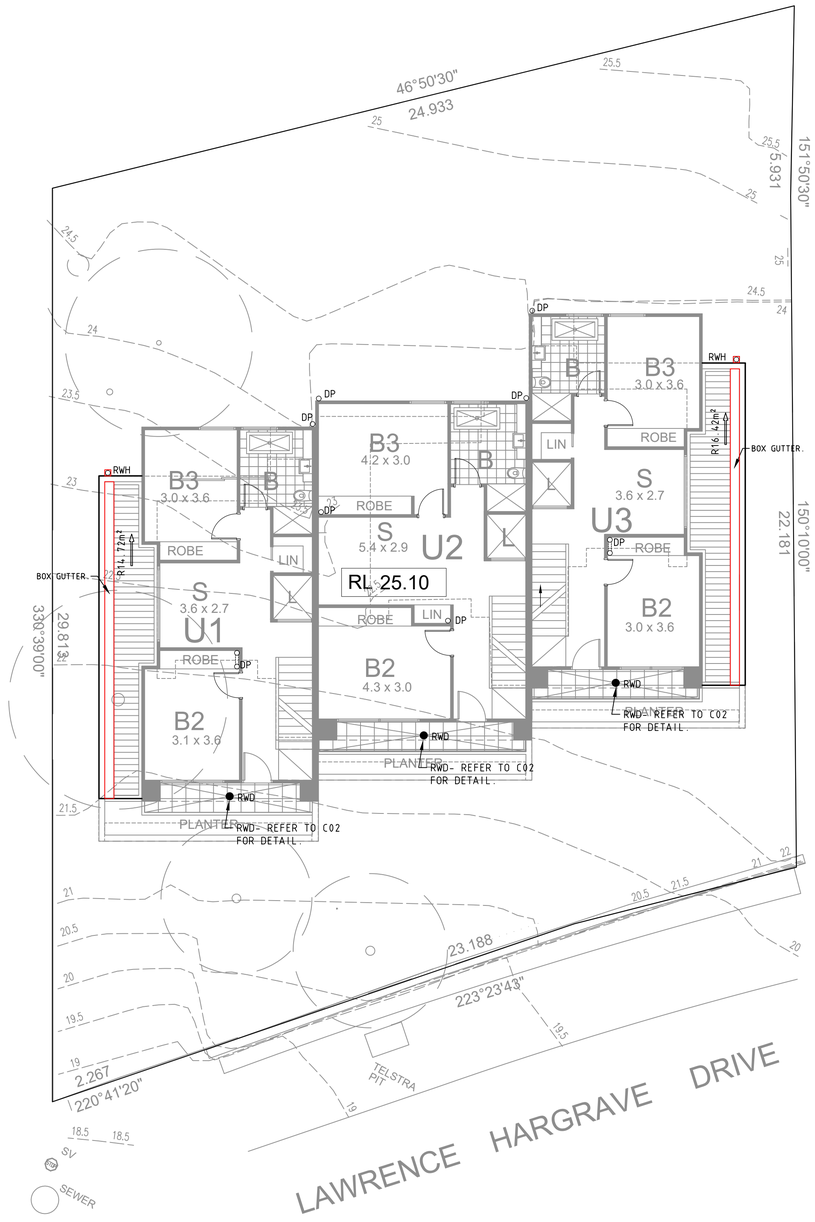
METRES



PLAN– LEVEL 1 DRAINAGE LAYOUT

(SCALE 1:100)

-2.5 0 2.5 5.0 7.5

METRES

EXTREME CARE SHALL BE TAKEN WHEN DOING WORK NEAR EXISTING PIT/STRUCTURES AND UNDERGROUND CABLES.

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APPROVED:

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DRAWING TITLE: DRAINAGE LAYOUT PLAN

ISSUE	DATE	REVISIONS:
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C	30/03/2020	STORMWATER DRAINAGE DETAILS ADDED

DRAWN BY: EK/NS

ENGINEER: KN & NS

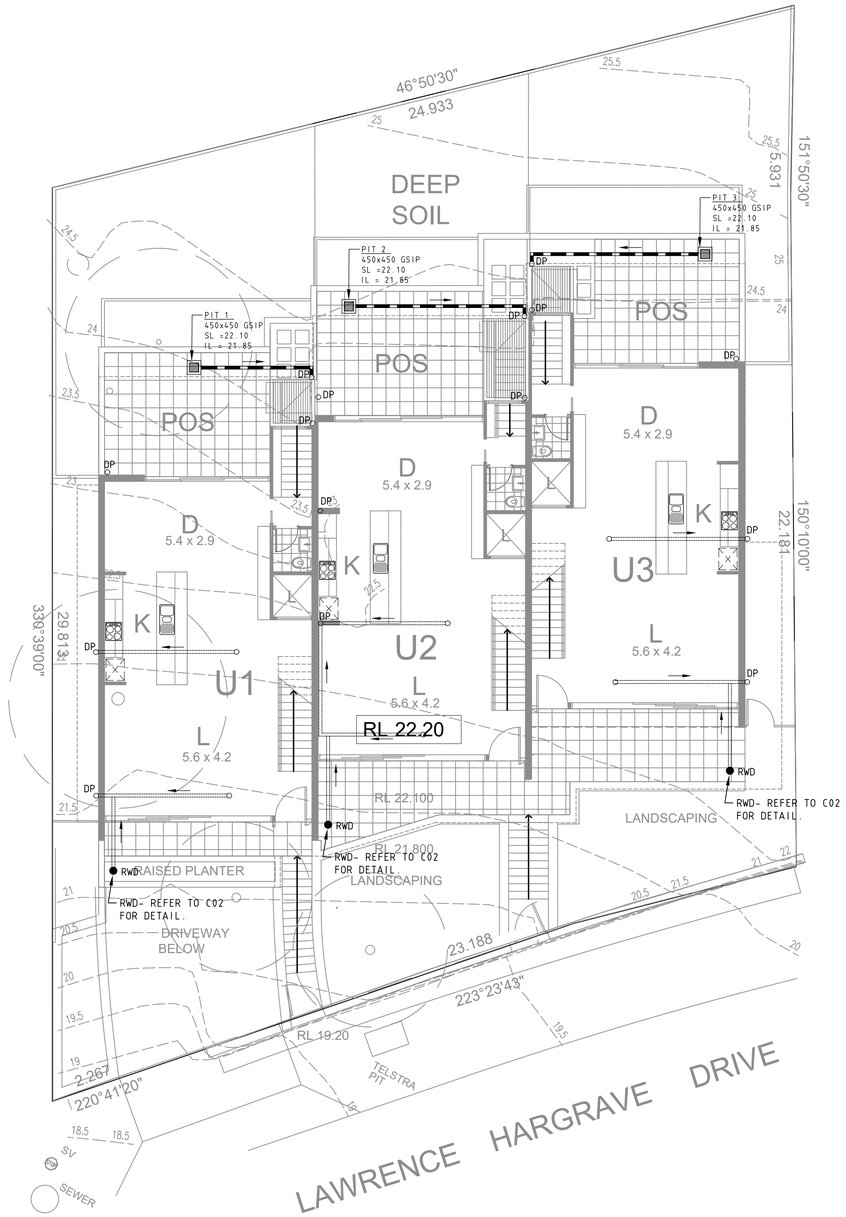
DATE: 16/07/2019

SCALE: AS SHOWN ON A1

JOB NO: 19362

SHEET No: C03

A1



PLAN– GROUND FLOOR DRAINAGE LAYOUT

(SCALE 1:100)

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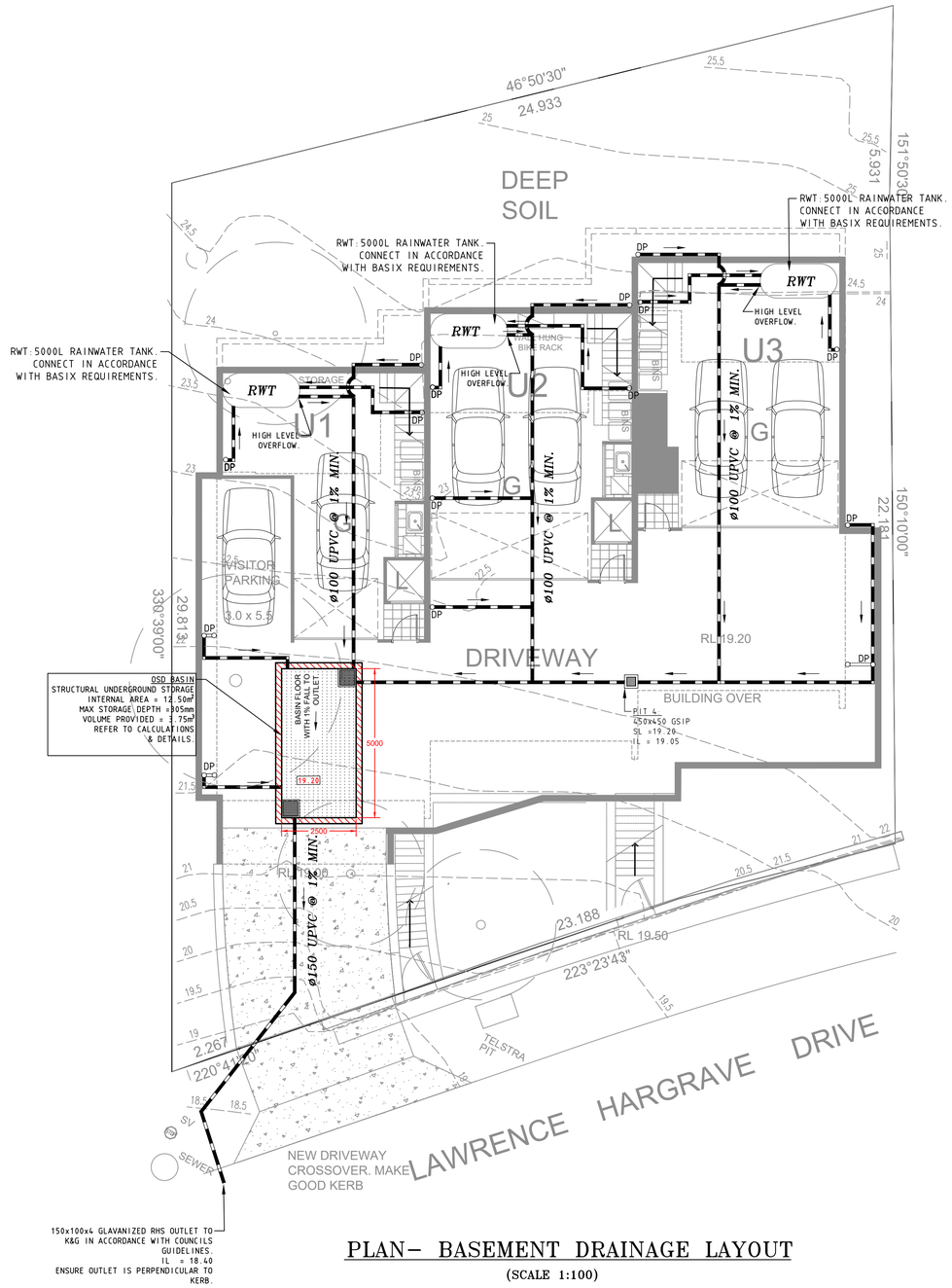
METRES



PLAN– BASEMENT DRAINAGE LAYOUT

(SCALE 1:100)

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METRES

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CLIENT: DEVELOP MY LAND

PROJECT: PROPOSED MEDIUM DENSITY DEVELOPMENT AT 342-344 LAWRENCE HARGRAVE DRIVE, THIRROUL

APPROVED:

ADAM GILLETT
B.ENG (Hons), M.I.E. AUST.

DRAWING TITLE: DRAINAGE LAYOUT PLAN

ISSUE	DATE	REVISIONS:
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C	30/03/2020	STORMWATER DRAINAGE DETAILS ADDED

DRAWN BY: EK/NS | ENGINEER: KN & NS

DATE: 16/07/2019

SCALE: AS SHOWN ON A1

JOB NO: 19362

SHEET No: C04

9AM
JUNE 22

shadow projections from proposal impact non habitable and two habitable (bed 3) and secondary bed 1 windows.
No living room windows impacted

12PM
JUNE 22

shadow projections from proposal do not impact any habitable windows of adjoining dwelling. Secondary bedroom window impacted.
No living room windows impacted

3PM
JUNE 22

shadow projections from proposal do not impact any habitable or non habitable windows of adjoining dwelling.
No living room windows impacted

Date	Issue	Revision
24.03.20	A	Issued for development Approval

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PO Box 119. Thirroul. NSW. 2515. Tel. 0449 255488 e. steve@developmyland.com.au

PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: MID WINTER SHADOW PROJECTIONS

Job No. DML 18/011

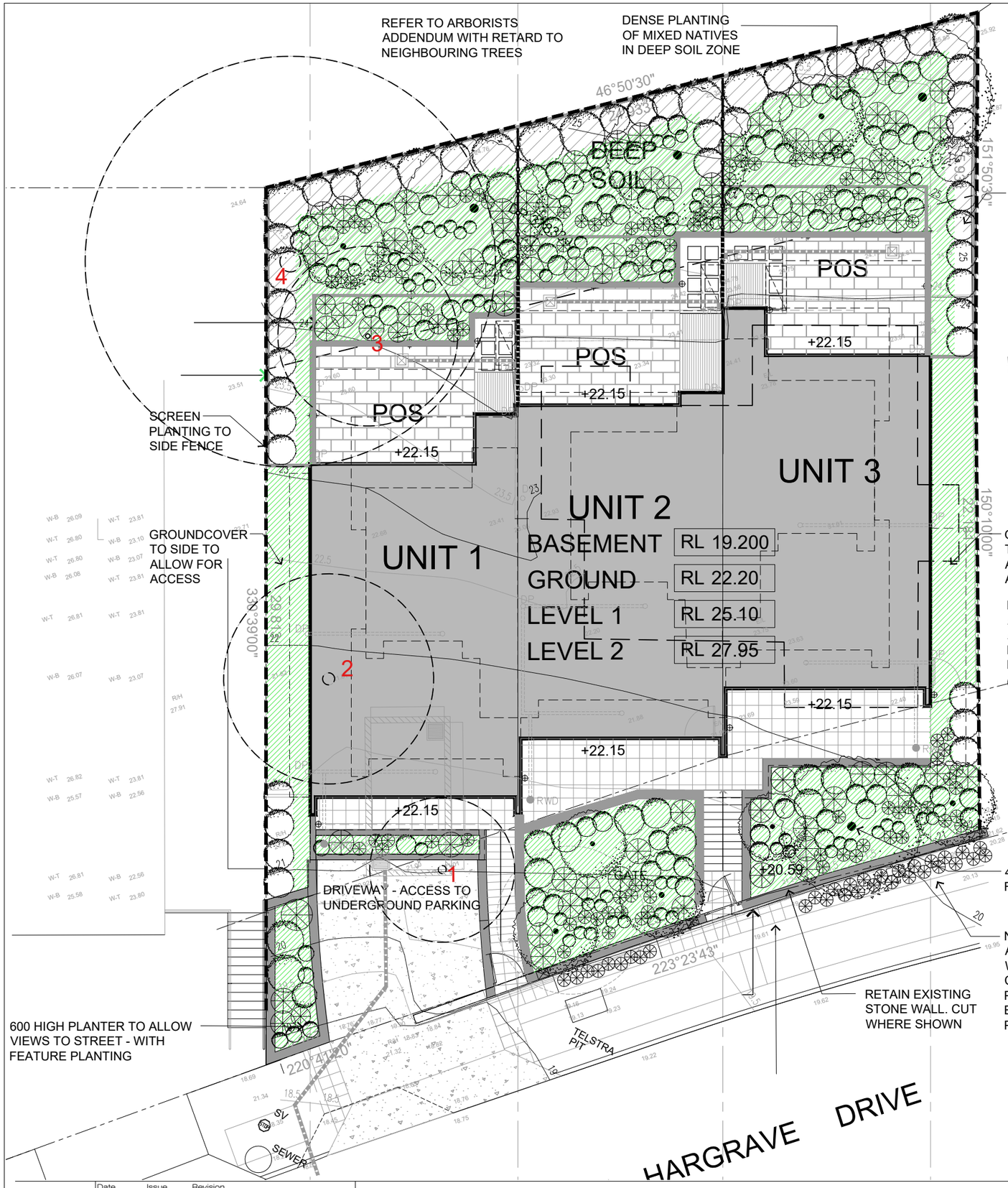
Dwg.No A-15

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:300 (A3)

Date 05.12.19

Rev. A



LEGEND

- PROPERTY BOUNDARY
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED
- PROPOSED TREE
- PROPOSED SHRUBS & GRASSES
- GROUNDCOVER
- DEEP SOIL ZONE
- EXISTING LEVELS AND CONTOURS
- PROPOSED SPOT LEVELS
- RETAINING WALL
- LOW TIMBER RETAINING WALL (REFER TO NOTE)
- PROPOSED CONCRETE DRIVEWAY
- MULCH
- SANDSTONE PAVING TO FRONT ENTRY AREAS
- PAVING TO REAR COURTYARD AREAS
- PAVERS SET IN MULCH TO DRYING LINE AREAS
- 1200 HIGH PALISADE FENCE (POWDER COATED ALUMINIUM)
- 1800 HIGH SCREEN FENCE BETWEEN REAR COURTYARDS
- EXISTING FENCE TO BE RETAINED/REPAIRED
- BALUSTRADE - REFER TO ARCHITECT'S PLANS
- PROPOSED DRAINAGE REFER TO ENG. DWGS
- HOSEBIB

PROPOSED PLANT SCHEDULE

BOTANICAL	COMMON NAME
TREES AND LARGE SHRUBS	
Archontophoenix cunninghamina	Bangalow Palm
Banksia integrifolia	Coast Banksia
Elaeocarpus 'Prima Donna'	Blueberry Ash
Grevillea 'Honey Gem'	Grevillea
Grevillea 'Moonlight'	Grevillea
Hibiscus tiliaceus	Cottonwood
Syzigium 'Straight and Narrow'	Lilly Pilly
Tristania 'Luscious'	Water Gum
SMALL SHRUBS AND ACCENT PLANTS	
Asplenium nidus	Birds Nest Fern
Correa alba	White Correa
Correa 'Coastal Pink'	Pink Correa
Cycas revoluta	Sago Palm
Dracaena 'Draco'	Dragon Tree
Phormium tenax 'Green'	New Zealand Flax
Philotheca myoporoides	Wax Flower
Philodendron 'Xanadu'	Philodendron
Syzigium australe 'Blaze'	Dwarf Lilly Pilly
Westringea 'Aussie Box'	Coastal Rosemary
Westringea 'Naringa'	Coastal Rosemary
GROUND COVERS, GRASSES AND ACCENTS	
Carpobrotus rossii	Pigface
Crinum penduculatum	Swamp Lily
Dianella 'Emerald Arch'	Flax Lily
Dianella 'Little Rev'	Flax Lily
Lepidosperma 'Gladiator'	Coast Sword Sedge
Lomandra 'Evergreen Baby'	Dwarf Mat Rush
Lomandra 'Tanika'	Mat Rush
Myoporum parvifolium 'Yarena'	Creeping Boobialla
Phormium tenax 'Green'	New Zealand Flax
Scaevola 'Mauve Clusters'	Fan Flower
Westringea 'Flat and Fruity'	Prostrate Coastal Rosemary

TREES TO BE REMOVED
(REFER ALSO TO ARBORIST'S REPORT ND ADDENDUM)

TREE 1
Cupressus sempervirens - Mediterranean Cypress
TREE 2
Jacaranda mimosifolia - Jacaranda
TREE 3
Melaleuca citrina - Red Bottlebrush
TREE 4
Jacaranda mimosifolia - Jacaranda

LANDSCAPE AREAS

PROPOSED SITE AREA	694.6 sqm
REQUIRED LANDSCAPE AREA	208.38 SQM
REQUIRED DEEP SOIL AREA	104.19 SQM
PROPOSED LANDSCAPE AREA	226.4 SQM (32.5%)
PROPOSED DEEP SOIL AREA	149.2 SQM (21.4%)

NOTES:
REFER ALSO TO ENGINEERS PLANS
LANDSCAPE PLANS COMPATIBLE WITH ENGINEERS DRAINAGE PLANS. TIMBER RETAINING WALLS MAX. 600 HIGH WITH NO FOOTING SO AS TO NOT IMPACT ON PLANTING AREA IN DEEP SOIL ZONE.

DESIGN STATEMENT:
THE DESIGN AIMS TO CREATE AN INFORMAL COASTAL FEEL TO THE REAR OF THE BUILDING. PLANTING TO THE FRONT IS TO BE IN KEEPING WITH THE THIRROUL VILLAGE HERITAGE CHARACTER AND ADJACENT 'CENTRO' DEVELOPMENT
.

Date	Issue	Revision
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28.05.20	B	Revised DA Issue
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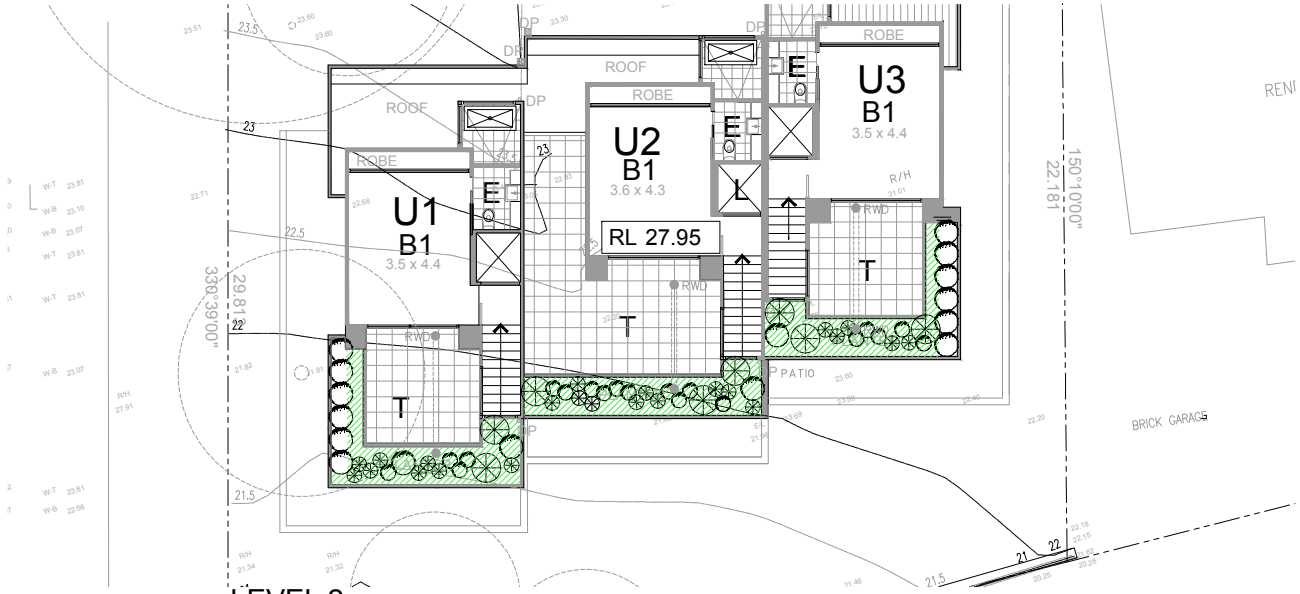
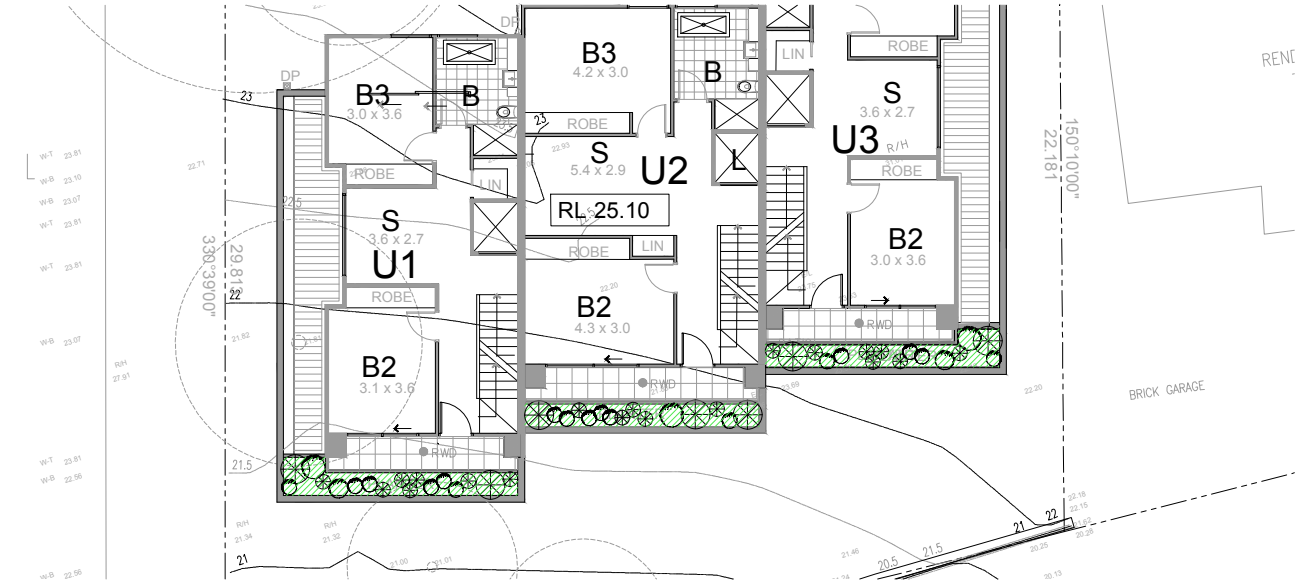
PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name:	Job No.	Dwg.No
LANDSCAPE PLAN - GROUND FLOOR	DML 18/011	L-01

FOR:	Scale	Date	Rev.
ILLAWARRA PROPERTY HOLDINGS PTY LTD	1:150@A3	05.12.19	D



LEVEL 2



LEVEL 1

LEGEND

- PROPOSED SHRUBS & GRASSES
- GROUNDCOVER
- EXISTING LEVELS AND CONTOURS
- + 24.40 PROPOSED SPOT LEVELS
- PLANTER
- RWD PROPOSED DRAINAGE REFER TO ENG. DWGS

PROPOSED PLANT SCHEDULE

REFER ALSO TO PROPOSED PLANT LIST ON L-01

OPTIONAL FOR TOP PLANTER BOXES

Aloe 'Sea Urchin'	Aloe
Carpobrotus glaucescens	Pig Face
Cycas revoluta	Sago Palm
Dianella 'Little Rev'	Flax Lily
Senecio macroglossus	Wax Ivy
Senecio serpens	Blue Chalk Sticks
Senecio vitals	Chalk Sticks
Yucca desmetiana 'Spellbound'	Yucca
Zamia furfuracea	Cardboard plant

Date	Issue	Revision
24.03.20	A	Issued for development Approval
29.05.20	B	Additional information

Develop My Land

PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: LANDSCAPE PLAN - LEVEL 1 AND 2

Job No. DML 18/011

Dwg.No L-02

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:150@A3

Date 05.12.19

Rev. B

ALLIED TREE
CONSULTANCY
Level 5 and 8 Arboriculturist

Arboricultural Impact Assessment Report

For the site address
Lot B, (DP 378330),
No. 342-344 Lawrence Hargrave Drive,
THIRROUL NSW

Prepared for
Develop My Land P/L

AUTHOR
Geoff Beisler and Warwick Varley

STATUS

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REFERENCE D4033

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1.0 Introduction

1.1 The following Arborist report has been requested by the *Develop My Land* for the development proposal at No. 342-344 Lawrence Hargrave Drive Thirroul. This development consists of subdivision and the construction of a dual occupancy residential dwelling development. This report includes six trees located on, and adjacent to the lot, and discusses the viability of these trees based on the proposed works.

1.2 This report will address for these trees, the:

- species' identification, location, dimensions, and condition;
- SULE (Safe Useful Life Expectancy) and STARS (Significance of a Tree Assessment Rating System) rating;
- discussion and impact of the proposed works on each tree;
- recommendations for the removal, retention and/or pruning;
- tree protection zones and protection specifications for trees recommended for retention.

1.3 The subject site resides within Thirroul; for this reason, Wollongong City Council is the consenting authority for any tree works recommended in this report.

2.0 Standards

2.1 Allied Tree Consultancy provides an ethical and unbiased approach to all assignments, possessing no association with private utility arboriculture or organisations that may reflect a conflict of interest.

2.2 This report must be made available to all contractors during the tendering process so that any cost associated with the required works for the protection of trees can be accommodated.

2.3 It is the responsibility of the project manager to provide the requirements outlined in this report relative to the Protection Zones, Measures (Section 7.0) and Specifications (Section 8.0) to all contractors associated with the project before the initiation of work.

2.4 All tree-related work outlined in this report is to be conducted in accordance with the:

- Australian Standard – AS4373; Pruning of Amenity Trees.
- Guide to Managing Risks of Tree Trimming and Removal Work[1].

[1] Safe Work Australia; July 2016; Guide to Managing Risks of Tree Trimming and Removal Work, Australia

- All tree works must be carried out at a tertiary level (minimum Certificate-level 3) qualified and experienced (minimum of five years) arboriculturist.
- For any works in the vicinity of electrical lines, the arboriculturist must possess the ISSC26 endorsement (Interim guide for operating cranes and plant in proximity to overhead powerlines).

2.5 As a minimum requirement, all trees recommended for retention in this report must have removed all dead, diseased, and crossing limbs and branch stubs to be pruned to the branch collar. This work must comply with the local government tree policy (Wollongong City Council) and Section 2.4.

2.6 Any tree stock subject to conditions for works carried out in this report must be supplied by a registered Nursery that adheres to the AS 2303; 2015[2].

- All tree stock must be of at least 'Advanced' size (minimum 75lt) unless otherwise requested.
- All tree stock requested must be planted with adequate protection. This may include tree guards (protect stem and crown) and, if planted in a lawn area, a suitable barrier (planter ring) of an area, at least, $1m^2$ to prevent grass from growing within the area adjacent to the stem.

3.0 Disclosure Statement

Trees are living organisms and, for this reason, possess natural variability. This cannot be controlled. However, risks associated with trees can be managed. An arborist cannot guarantee that a tree will be safe under all circumstances, nor predict the time when a tree will fail. To live or work near a tree involves some degree of risk, and this evaluation does not preclude all the possibilities of failure.

4.0 Methodology

4.1 The following tree assessment was undertaken using criteria based on the guidelines laid down by the International Society of Arboriculture.

4.2 The format of the report is summarised below;

4.2.1 **Plan 1;** Tree Location Relative to Site: This is an unscaled plan reproduced from the Survey Plan as referenced in Section 4.4.1, depicting the area of assessment.

[2] Australian Standard; 2015, AS2303, Tree stock for landscape use, Australia

4.2.2 Table 1; This table compiles the tree species, dimensions**,** brief assessment (history, structure, pest, disease or any other variables subject to the tree), significance, allocation of the zones of protection (i.e., Tree Protection Zone[3] ;TPZ and Structural Root Zone; SRZ) for each tree illustrated in Plan 1, Section 5.0. All measurements are in meters. An 'Action' is included and provides the nomination for retention/removal based on the tree location relative to the proposed design (drawing set, Section 4.4.2).

4.2.3 Discussion relating to the site assessment and proposed works regarding the trees.

4.2.4 Protection Specification; This Section (Section 8.0) details the requirements for that area designated as the Tree Protection Zone (TPZ), for those trees recommended for retention.

4.3 The opinions expressed in this report, and the material, upon which they are based, were obtained from the following process and data supplied:

4.3.1 Site assessment on the 18th July 2019 using the method of the Visual Tree Assessment[4]. This has included a Level 2 risk assessment, being a *Basic Assessment*[5]. The assessment has been conducted by Geoff Beisler[6] on behalf of *Allied Tree Consultancy*.

4.3.2 Trees included in this report are those that conform to the description of a prescribed tree by the local government policy.

4.3.3 All measurements, unless specified otherwise are taken from the tree centre.

4.3.4 Raw data from the preliminary assessment including the specimen's dimensions was compiled by the use of a diameter tape, height clinometer, angle finder, compass, steel probes, Teflon hammer, binoculars and recording instruments.

4.4 Documentation provided

The following documentation has been provided to Allied Tree Consultancy and utilised within the report.

---

[3] Australian Standard, 4970; 2009 – Protection of Trees on Development Sites, Australia

[4] Mattheck, C. Breloer, H.,1994, The Body Language of Trees – A handbook for failure analysis The Stationary Office, London

[5] Dunster J.A., 2013, Tree Risk Assessment Manual, International Society of Arboriculture, 2013, USA

[6] Consulting Arborist, Diploma of Arboriculture (level 5)

4.4.1 Surveyor

Drawn by *C Robson and Associates*
Date: 29 August 2018
Reference: 18413
Drawing No: Sheet 1 of 1

4.4.2 Design

Drawn by *Develop My Land*
Date: 5 December 2019
Reference: (Job No.) DML 18/011
Drawing No: A-01 and A-02, revision P2

4.5 Limitations of the assessment/discussion process

4.5.1 The assessment has considered only those target zones that are apparent to the author and the visually apparent tree conditions, during the time of assessment.

4.5.2 Any tree regardless of apparent defects would fail if the forces applied to exceed the strength of the tree or its parts, for example, extreme storm conditions.

4.5.3 The assessment has been limited to that part of the tree which is visible, existing from the ground level to the crown. Root decay can exist and in some circumstances provide no symptoms of the presence. This assessment responds to all the symptoms provided by a tree, however, cannot provide a conclusive recommendation regarding any tree that may have extensive root decay that leads to windthrow without the appropriate symptoms.

5.0 Plan 1; Area of assessment illustrating tree location

Not to scale
Trees labelled A, B and C are exempt from the report, see Section 7.0.
Source: Adapted from *C Robson and Associates,* see Section 4.4.1

6.0 Table 1 – Tree Species Data

Terminology/references provided in Appendix A.

Tree No.	Botanical Name Common Name	Height (m)	DBH (m)	Crown Spread (m)	Age	Crown Class	Crown Aspect	Vitality	SULE Rating	STARS Rating	TPZ	SRZ
1	*Cupressus sempervirens* [A] Mediterranean Cypress	12	0.45 [B]	5 x 5	M	D	Sym.	A	**B1**	**HIGH**	**5.4**	**2.4**
ASSESSMENT: Presents as typical for the species. English Ivy (*Hedera helix*) is encroaching upon the stem to a height of approximately 7m.											See Section 7.1.1	
2	*Jacaranda mimosifolia* Jacaranda	6	0.11	4 x 6	M	S	S	A	**D2**	**LOW**	**2.0**	**1.5**
ASSESSMENT: Presents as typical for the species, when grown in the suppressed class. Conflict with the neighbouring structure will result with continuing growth.											See Section 7.1.2	
3	*Melaleuca citrina* Red Bottlebrush	5	0.18	4 x 4	M	S	Sym.	A	**A2/3**	**LOW**	**2.2**	**1.6**
ASSESSMENT: Once co-dominant, the northern stem has been lopped at the base, leaving a large, open wound.											See Section 7.1.1	
4	*Jacaranda mimosifolia* Jacaranda	10	0.43 0.44	10 x 11	M	D	N	A	**B1**	**MEDIUM**	**7.4**	**2.7**
ASSESSMENT: Presents as typical for the species. A tear-out wound remains open, mid crown, northern side. Branches (lower crown) have been lopped (southern side) and epicormic growths are present.											See Section 7.1.2	

A. Incomplete identification of species due to insufficiently available plant material
B. Diameter taken below 1.4m due to low stem bifurcation
C. estimate due to the overgrown area and/or limited access
D. deciduous species, void of foliage at the time of assessment
E. Level 3 assessment required to determine the accurate rating

7.0 Site Assessment

The area of assessment is rhomboid in shape. The lot has a consistent medium gradient with a southerly aspect to the front (southern) boundary, where the lot terminates in a sandstone retaining wall. The two-story red brick dwelling is located centrally on the lot and surrounded by a concrete footpath. The rear of the property (northern side) presents a retaining wall (brick construction), facilitating a level area in the rear yard. An 'outhouse' is located in the northeastern portion of the lot, serviced by a concrete slab that extends from the dwelling. The northern boundary of the lot has a brick retaining wall constructed to incorporate planting beds. The deliberate plantings are a combination of native and exotic species and are located on the lots curtilage. A private residence is located to the east, a multi-unit development to the west.

The trees labeled as A, B and C that have been included on the survey drawing (Plan 1), however, excluded from this report because of the failure to conform to the description of a prescribed tree based on the Wollongong Councils Development Control Plan.

Tree A: dead trees

Tree B: trees that occur on the lot proposed for development and are exempt species[7].

Tree C: trees offered consent for removal. The Tree Management Permits (Notice of Determination) are referenced as follow;

- Application: TMO-2019/821, Dated 28 August 2019
- Application: TMO-2019/937, Dated 30 September 2019

7.1 Proposed development

The proposed development consists of the demolition of existing site structures and construction of a residential unit development and basement parking, drive access, and drainage infrastructure. No stormwater drawings have been included as part of the document set.

Assumption 1: The excavation required for the retaining walls will need to be further from the outside edge of the proposed wall to allow for construction of the wall, waterproofing and drainage, therefore, the actual cut has been assumed within this report to be up to 300mm from the line indicating the location of the retaining wall. All calculations for the encroachment of any zone of protection (TPZ, SRZ) has been based on this assumption.

[7] Wollongong City Council, Wollongong Development Control Plan, 2009, Chapter E17; Preservation & Management of Trees and Vegetation, Appendix 1: Exempt Tree Species List, page 20

Assumption 2: The excavation required for this basement will need to be outside of the basement wall footprint to allow for the construction of the wall, waterproofing and drainage, therefore, the actual cut has been assumed within this report to be up to 500mm outside of the line indicating the location of the basement wall. The calculated encroachment of any zone of protection (TPZ, SRZ) has been based on this assumption.

This report discusses the impact of the proposed design on the trees. Six (6) trees have been listed within this report based upon the vicinity of the proposed works. This has included street and neighbouring trees where any part of the zones of protection; Tree Protection Zone (TPZ), and Structural Root Zone (SRZ) to encroach into the lot. Recommendations based on the tree significance and condition, together with the impact on these trees regarding the development for this lot follow;

7.1.1 Trees directly conflicting with the design

Trees No. 1 and 3

These trees are located in the footprint of the proposed design and would require removal based on this premise alone. The conflict is summarised as follows;

Tree No. 1; within the footprint of the proposed driveway.

Tree No. 3; within the footprint of the proposed basement cut.

7.1.2 Trees subject to a major encroachment

Trees No. 2 and 4

These trees are not directly located in the footprint of the proposed design, however, they are located close and adjacent to the dwelling footprint and subject to a *major encroachment*, that is, in excess of 10% of the TPZ. The extent and type of encroachment for each tree are discussed and the relative implications.

Tree No. 2: Encroachment: 44%; based on drawing A-02. The encroachment consists of excavation for the basement cut[8]. This will present excessive root removal (TPZ and SRZ) that could not sustain the tree. The existing design will not accommodate this tree.

Tree No. 4: Encroachment: 20%; based on drawing A-02. The encroachment consists of excavation for the basement cut[8] (twelve percentage points) and also the excavation for the retaining wall[9] (eight percentage points) This will present excessive root removal (TPZ and SRZ)

[8] See Section 7.1; Assumption 2

[9] See Section 7.1; Assumption 1

that could not sustain the tree. Furthermore, the significant northerly crown bias supports the necessity for crown modifications to accommodate the proposed design. This is estimated to be up to 40% of the crown mass. This is excessive and will not accommodate this tree.

8.0 Protection Specification

The retention and protection of trees provide for the requirement of the Tree Protection Zone (TPZ) to conform to the conditions outlined below. These conditions provide the limitations of work permitted within the area of the Tree Protection Zone (TPZ) and must be adhered to unless otherwise stated.

1. Foundation/footing types should not be strip type, but utilise footing types that are sympathetic towards retaining root system that is, screw, pier, etc. Slab on the ground can be accommodated in some circumstances and will be nominated by the project arborist. The extent of encroachment will be dependent upon the tree species, soil type (texture and profile) and gradients.

2. Subsurface utilities can extend through the TPZ and Structural Root Zone (SRZ), however, are limited to the method of installation. That is under boring is permitted, however trenching is limited and depends on the proposed route within the TPZ. No trenching is permitted within the area of the TPZ unless stipulated by the project arborist.

3. Crown pruning can be accommodated, however, must conform to the AS 4373; *Pruning of Amenity Trees*, and not misshape the crown nor remove in excess of 10-15% of the existing crown, pending on the species, and vitality. The opportunity for, type and proportion of pruning will be required to be nominated by the project arborist.

4. Soil levels within the TPZ must remain the same. Any excavation within the TPZ must have been previously specified and allowed for by the project arborist:

   a) So it does not alter the drainage to the tree.

   b) Under specified circumstances,

      - Added fill soil does not exceed 100mm in depth over the natural grade. Construction methodologies exist that can allow grade increases in excess of 100mm, via the use of an impervious cover, an approved permeable material or permanent aeration system or other approved methods.

- Excavation cannot exceed a depth of more than 50mm within the area of the TPZ, not including the SRZ. The grade within the SRZ cannot be reduced without the consent from a project arborist.

5. No form of material or structure, solid or liquid, is to be stored or disposed of within the TPZ.

6. No lighting of fires is permitted within the TPZ.

7. All drainage runoff, sediment, concrete, mortar slurry, paints, washings, toilet effluent, petroleum products, and any other toxic wastes must be prevented from entering the TPZ.

8. No activity that will cause excessive soil compaction is permitted within the TPZ. That is, machinery, excavators, etc. must refrain from entering the area of the TPZ unless measures have been taken, and with consultation with the project, arborist to protect the root zone.

9. No site sheds, amenities or similar site structures are permitted to be located or extend into the area of the TPZ unless the project arborist provides prior consent.

10. No form of construction work or related activity such as the mixing of concrete, cutting, grinding, generator storage or cleaning of tools is permitted within the TPZ.

11. No part of any tree may be used as an anchorage point, nor should any noticeboard, telephone cable, rope, guy, framework, etc. be attached to any part of a tree.

12. (a) All excavation work within the TPZ will utilise methods to preserve root systems intact and undamaged. Examples of methods permitted are by hand tools, hydraulic, or pneumatic air excavation technology.

    (b) Any root unearthed which is less than 50mm in diameter must be cleanly cut and dusted with a fungicide, and not allowed to dry out, with minimum exposure to the air as possible.

    (c) Any root unearthed which is greater than 50mm in diameter must be located regarding their directional spread and potential impact. A project arborist will be required to assess the situation and determine future action regarding retaining the tree in a healthy state.

Project Arborist: person nominated as responsible for the provision of the tree assessment, arborist report, consultation with stakeholders, and certification for the development project. This person will be adequately experienced and qualified with a minimum of a level 5 (AQF); Diploma in Horticulture (Arboriculture)[10].

[10] Based upon the definition of a 'consulting arborist' from the AS 4970; Protection of trees on development sites; 2009, section 1.4.4, p 6.

9.0 Summary of tree impact

Based on the design supplied, the following summary provides the impacts imposed on the trees included in this report.

9.1 Trees No. 1-4

The proposed design will impact adversely on these trees and are unable to be retained based on the design.

The opinions expressed in this report by the author have been provided within the capacity of a Consulting Arborist. Any further explanation or details can be provided by contacting the author.

Assessed and Prepared by Geoff Beisler
Consulting Arborist
Level 5 Arborist
ISA Tree Risk Assessment Qualification

Prepared and checked by Warwick Varley
Consulting Arborist; Principal
Level 5 and 8; Arborist
ISA Tree Risk Assessment Qualification
IACA and ISA Member

Accredited member of
INSTITUTE OF AUSTRALIAN
IACA
CONSULTING ARBORICULTURISTS ®

REGISTERED HORTICULTURIST
0032
AIH

10.0 Appendix A- Terminology Defined

Height

Is a measure of the vertical distance from the average ground level around the root crown to the top surface of the crown, and on palms - to the apical growth point.

DBH

Diameter at Breast Height – being the stem diameter in meters, measured at 1.4m from ground level, including the thickness of the bark.; Mult. refers to multiple stems, that is in excess of 4 stems.

Crown Spread

A two-dimension linear measurement (in metres) of the crown plan. The first figure is the north-south span, the second being the east-west measurement.

Age

Is the estimate of the specimen's age based upon the expected lifespan of the species. This is divided into three stages.

Young (Y)	Trees less than 20% of life expectancy.
Mature (M)	Trees aged between 20% to 80% life expectancy.
Over-mature (O)	Trees aged over 80% of life expectancy with probable symptoms of senescence.

Crown Aspect

In relation to the root crown, this refers to the aspect the majority of the crown resides in. This will be either termed Symmetrical (Sym.) where the centre of the crown resides over the root crown or the cardinal direction the centre of the crown is biased towards, being either North (N), South (S), East (E) or West (W).

Vitality Rating

Is a rating of the health of the tree, irrespective and independent of the structural integrity, and defined by the 'ability for a tree to sustain its life processes' ((Draper, Richards, 2009). This is divided between three variables, and based on the assessment of symptoms including, but not limited to; leaf size, colour, crown density, woundwood development, adaptive growth formation, and epicormic growth.

A: Normal vitality, typical for the species

B: Below average vitality, possibly temporary loss of health, partial symptoms.

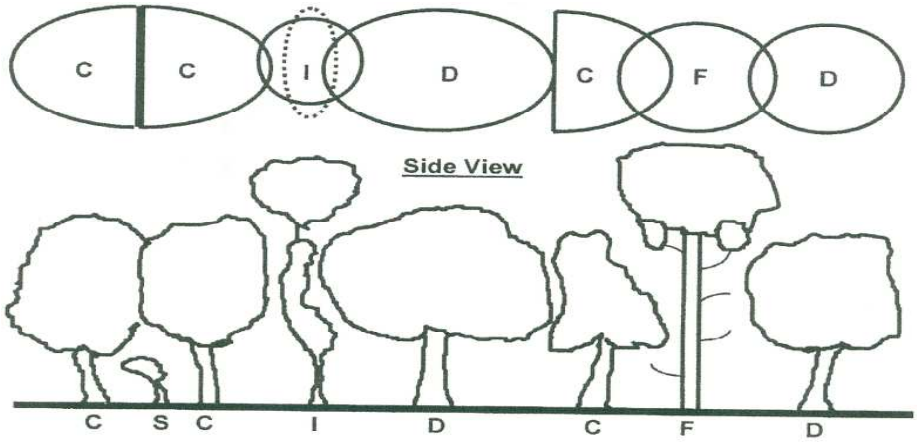
C: Poor vitality; obvious decline, potentially irreversible

Crown Class

Is the differing crown habits as influenced by the external variables within the surrounding environment. They are:

D	– *Dominant*	Crown is receiving uninterrupted light from above and sides, also known as emergent.
C	– *Codominant*	Crown is receiving light from above and one side of the crown.
I	– *Intermediate*	Crown is receiving light from above but not the sides of the crown.
S	– *Suppressed*	Crown has been shadowed by the surrounding elements and receives no light from above or sides.
F	– *Forest*	Characterised by an erect, straight stem (usually excurrent) with little stem taper and virtually no branching over the majority of the stem except for the top of the tree which has a small concentrated branch structure making up the crown.

Top View



D C, I & S, and side view, after (Matheny, N. & Clark, J. R. 1998, Trees Development, Published by International Society of Arboriculture, P.O. Box 3129, Champaign IL 61826-3129 USA, p.20, adapted from the Hazard Tree Assessment Program, Recreation and Park Department, City of San Francisco, California).

Levels of assessment

Level 1: Limited visual: a visual tree assessment to manage large populations of trees within a limited period and in order to identify obvious faults which would be considered imminent.

Level 2: Basic assessment: a standard performed assessment providing for a detailed visual assessment including all parts of the tree and surrounding environment and via the use of simple tools.

Level 3: Advanced assessment: specific type assessments conducted by either arborist who specialise with specific areas of assessment or via the use of specialised equipment. For example, aerial assessment by use of an EWP or rope/harness, or decay detection equipment.

TPZ; Tree Protection Zone

Is an area of protection required for maintaining the trees vitality and long-term viability. Measured in meters as a radius from the trees centre. The requirements of this zone are outlined within the Protection Specification, Section 8.0, and are to be adhered to unless otherwise stated.

The size of the Tree Protection Zone (TPZ) has been calculated from the *Australian Standard, 4970; 2009* – Protection of Trees on Development Sites

The TPZ does not provide the limit of root extension, however, offers an area of the root zone that requires predominate protection from development works. The allocated TPZ can be modified by some circumstances; however will require compensation equivalent to the area loss, elsewhere and adjacent to the TPZ.

SRZ; Structural Root Zone

Is the area around the tree containing the woody roots necessary for stability. Measured in meters as a radius from the trees centre. The requirements of this zone are outlined within the Protection Specification, Section 8.0, and are to be adhered to unless otherwise stated.

Protection Measures

These are required for the protection of trees during demolition/construction activities.

Protective barriers are required to be installed before the initiation of demolition and/or construction and are to be maintained up to the time of landscaping. Samples of the recommended protection measures are illustrated in Appendix C.

Significance Rating, Significance of a Tree Assessment Rating System (S.T.A.R.S), IACA, 2010[11]

Tree Significance – Assessment Criteria

1. High Significance in landscape

- The tree is in good condition and good vitality;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ – tree is appropriate to the site conditions.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vitality;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vitality;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,

[11] IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

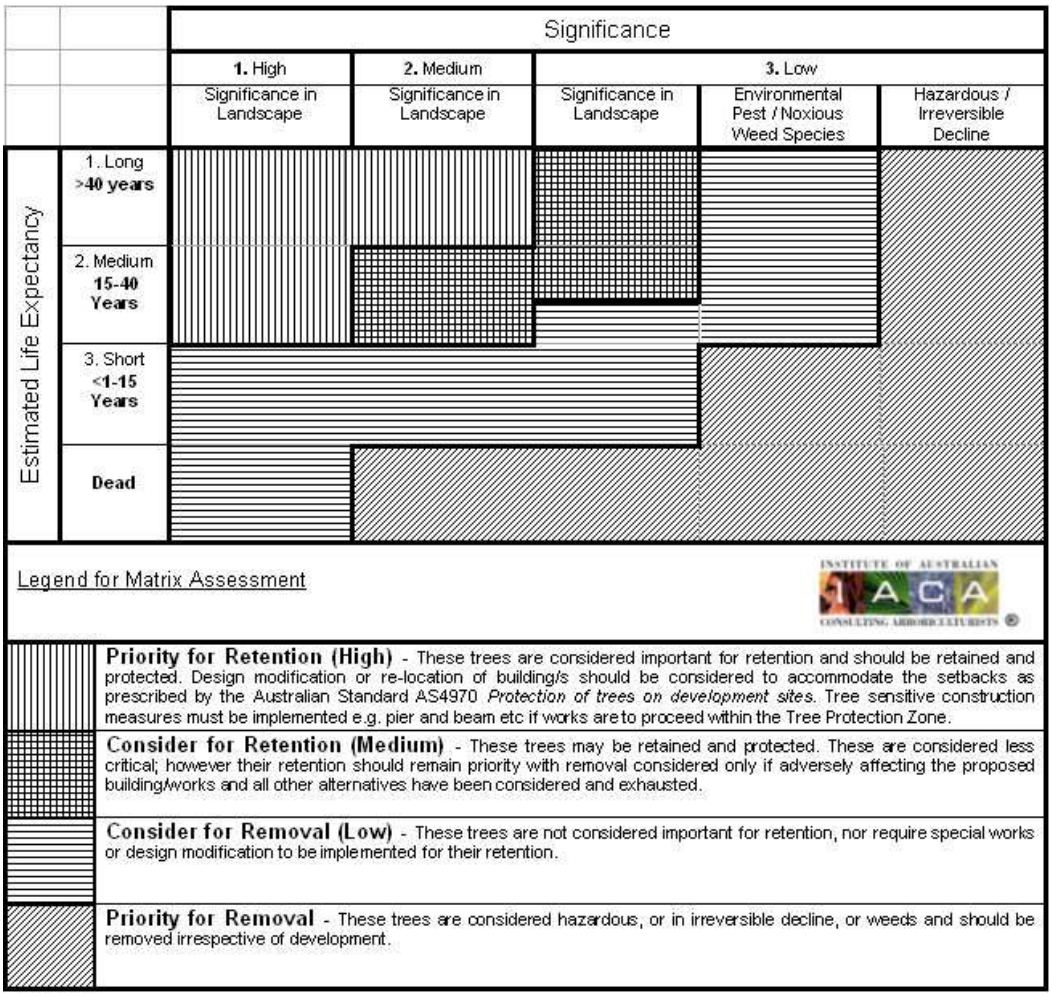
Hazardous/Irreversible Decline

- The tree is structurally unsound and/or unstable and is considered potentially dangerous, - The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short-term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g.

Table 3; Tree Retention Value – Priority Matrix.



Safe Useful Life Expectancy – S.U.L.E (Barell 1995)

	1. Long	2. Medium	3. Short	4. Removal	5. Moved or Replaced
	Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	Trees that appeared to be retainable at the time of assessment for 15 – 40 years with an acceptable level of risk.	Trees that appeared to be retainable at the time of assessment for 5 – 15 years with an acceptable level of risk.	Trees that should be removed within the next 5 years.	Trees which can be reliably moved or replaced.
A	Structurally sound trees located in positions that can accommodate future growth.	Trees that may only live between 15 and 40 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 5m in height.
B	Trees that could be made suitable for retention in the long term 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 instability on recent loss of adjacent trees.	Young trees less than 15 years old but over 5m in heights
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 would 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.	Damaged trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been 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 provide space for new plantings.	
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 reasons given in (A) to (F).	

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Reference: **4033A**
22nd May 2020

Develop My Land P/L

Arborist Addendum

Re: Lot B, (DP 378330), No. 342-344 Lawrence Hargrave Drive, THIRROUL NSW

Introduction

The following addendum has been requested by *Develop My Land P/L*, based upon a response from Wollongong City Council, via a request for additional information[1] . This addendum is based on the data provided in the Arboricultural Impact Assessment issued with the initial application and referenced D4033, dated March 2020. The following discussion responds to the section of the council document under the heading *Landscape*, the first bullet point and reads;

Several trees on adjoining property have not been picked up by survey or assessed in arborist report. Attention is drawn to trees along rear and northern boundary.

Response

Trees adjacent to the rear boundary

Five trees are located adjacent to the rear boundary line, and these are; *Photinea sp., Elaeocarpus reticulatus, Pittosporum undulatum (*two of), and a *Leptospermum laevigatum.* A concrete retaining wall of approximately 400mm height extends across the rear boundary (see Photo 1). Allowing for the structure of this wall. That is, not having breached or formed a lean, a footing is estimated to exist that is up to 200mm depth. That is, a barrier of 600mm depth extends across the rear boundary. Accounting for the limited size of these trees and respective maturity, no root ingress is considered to have formed beneath the wall and into the area of development. Although the respective zones of protection (i.e., Tree Protection Zone) could offer root ingress into the area of development, the existing retaining wall is considered to offer sufficient barrier to inhibit any such ingress. Based on this premise, the neighbouring trees have not been included due to the lack of root mass considered to exist in the lot; therefore no encroachment can occur.

Although the existing retaining wall is proposed to be replaced, the proposed wall is less than 600mm high and a wooden structure and within the footprint of the existing retaining wall. Therefore will not require to be engineered, and no further excavation that is deep footing is required. That is, the extent of works adjacent to these trees consists of replacing the existing retaining wall with a structure that offers minimal impact to the surrounding areas.

[1] Wollongong City Council, Date: 14 May 2020, Reference: DA-2020/290, Sheet No.: 3

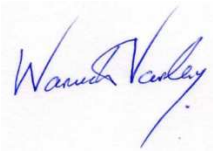
Trees adjacent to the northern boundary

No trees occur within the neighbouring lot on the northern side. However, a single tree exists adjacent to the northern boundary and within the lot and has not been included in the survey or arborist report. This tree (*Persea americana*) is an exempt species, and based on this premise has not been included in the report, see Photo 2.

Impact by the proposed design

The design is not considered to offer any adverse impact on the neighbouring trees.

The opinions expressed in this brief by the author have been provided within the capacity of a Consulting Arborist. Any further explanation or details can be provided by contacting the author.



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Photos

Photo 1, existing concrete retaining wall located on the rear boundary line, facing north

Photo 2, *Persea americana* located adjacent to boundary line, facing north

View of site pre development taken from Woodward Memorial. Lawrence Hargrave Drive Thirroul.

View of site pre development taken from north end of northbound platform Thirroul Railway Station.

View of site post development taken from Woodward Memorial. Lawrence Hargrave Drive Thirroul.

View of site post development taken from north end of northbound platform Thirroul Railway Station. Note that this was the only location at the station from where a view of the site could be taken from ground level.

Date	Issue	Revision
26.10.20	A	Issued for development Approval

Develop My Land
. management . consultancy . landscape architecture . urban design .
PO Box 119. Thirroul. NSW. 2515. Tel. 0449 255488 e. steve@developmyland.com.au

PROJECT: DEVELOPMENT APPLICATION - Medium Density Development
342-344 Lawrence Hargrave Drive THIRROUL

Drawing Name: VIEWS TO PROPOSAL FROM LOCAL HERITAGE ITEMS

Job No. DML 18/011

Dwg.No A-20

FOR: ILLAWARRA PROPERTY HOLDINGS PTY LTD

Scale 1:200 (A3)

Date 05.12.19

Rev. A

Attachment 2

4.6.4 CLAUSE 4.6 – VARIATION REQUEST

This report comprises a written request from the Applicant under Clause 4.6 of Wollongong Local Environmental Plan 2009 ("LEP 2009") that seeks to justify the contravention by the new building in the Proposed Development of the development standard for floor space ratio in Clause 4.4(2) of LEP 2009.

Clause 4.6(2) & (3) of LEP 2009 states:

(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.

The remainder of this report seeks to demonstrate that compliance with Clause 4.4 of LEP 2009 is both unreasonable and unnecessary in the circumstances of the case and that there are sufficient environmental planning grounds to justify contravening the development standard in this instance.

Clause 4.6(4) of LEP 2009 states:

> *(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.*

The floor space ratio (FSR) of the development at 0.82.2:1, exceeds the FSR of 0.75:1 under clause 4.4(4), as shown on **Figure** 8 above, which is an extract of Floor Space Ratio Map – Sheet FSR_023. The FSR control of 0.75:1 is not a prohibition. The development proposes an FSR greater than that provided by Clause 4.4 (i.e. 0.82.2:1). As such a variation is sought under 'Clause 4.6 – Exceptions to development standards' under WLEP 2009, which equates to 9.5% variation to the standard.

4.6.4.1 EXCEPTION TO DEVELOPMENT STANDARDS – CLAUSE 4.6

Clause 4.6 of the WLEP 2009 operates as a precondition to the exercise of power to grant consent and unless a consent authority is satisfied that the precondition has been met, consent cannot be granted to a proposed development that contravenes development standards. Two positive opinions of satisfaction under clause 4.6(4)(a)(i) and (ii) must be made.

4.6.4.1.1 CLAUSE 4.6(4)(A)(I) – ADEQUATE ADDRESS OF MATTERS UNDER CLAUSE 4.6(3)

In response to cl. 4.6(3) two matters must be addressed:

A. compliance with the development standards is unreasonable and unnecessary in the circumstances of the case; and
B. there are sufficient environmental planning grounds to justify contravention of the development standard.

A. Compliance with the development standard is unreasonable and unnecessary in the circumstances of the case

The objectives of cl 4.4(1) are:

(a) to provide an appropriate correlation between the size of a site and the extent of any development on that site,
(b) to establish the maximum development density and intensity of land use, taking into account the availability of infrastructure to service that site and the vehicle and pedestrian traffic the development will generate,
(c) to ensure buildings are compatible with the bulk and scale of the locality.

These objectives are achieved notwithstanding the breach of the standard, making it unnecessary to apply the FSR standard or restrict the building to 0.75:1.

(a) to provide an appropriate correlation between the size of a site and the extent of any development on that site,

The Council FSR controls for the LGA differ across the various suburbs and indeed adjoining the subject site (refer to **Figure** 8 above), with 0.5:1 for low density development; 0.75:1 for medium density and mixed use development (B4) and 1.5:1 for B2 Local Centre (shopping precinct). Given the location of the R3 medium density zone opposite the Thirroul Railway Station, together with the height control of 13m, a higher FSR greater than 0.75:1, in our opinion would be appropriate.

The maximum extent of the non-compliance is a percentage variation of 7.2%. One of the matters that has arisen, is the issue of the gross floor area of the development having regard to the Land & Environment Court decision of Chami V Lane Cove Council (2015) NSWLEC 1003. Response to the Issue is provided below.

This is based on the interpretation of gross floor area. Council has provided the following definition of Gross Floor Area contained in LEP 2009 and DCP 2009 and that within the Standard Instrument, being:

gross floor area means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:
(a) the area of a mezzanine, and
(b) habitable rooms in a basement or an attic, and
(c) any shop, auditorium, cinema, and the like, in a basement or attic,
but excludes:
(d) any area for common vertical circulation, such as lifts and stairs, and
(e) any basement:
(i) storage, and
(ii) vehicular access, loading areas, garbage and services, and
(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and
(g) car parking to meet any requirements of the consent authority (including access to that car parking), and
(h) any space used for the loading or unloading of goods (including access to it), and
(i) terraces and balconies with outer walls less than 1.4 metres high, and
(j) voids above a floor at the level of a storey or storey above.

The gross floor areas have been calculated based on the above and shown on **Figure** 9 below.

The Council has advised that any storage area within the basement will be excluded from GFA calculations if identified on the plans, but not the stairs and lift-well as they are not 'common' (Clause d above) to the proposed development being individual to each unit. It should be noted that should the area in the basement that is non-habitable be removed from the calculation in accordance with the LEP definition, the gross floor area would be 515.4m^2 with an FSR of 0.742:1 and therefore compliant.

It was agreed that the total floor area of the building is 570.4m^2 and hence a Clause 4.6 request. The variation of less than 10% can be dealt with by Council officers. Importantly, the area of non-compliance cannot be detected having regard to the Chami matter.

The Chami decision is the basis of the above. In the matter of Chami, Moore SC had a number of matters to deal with and floor space ratio (FSR) was one of the matters addressed by the Court and that of the experts.

It would be noted that the dwelling was under construction and there were purported changes or significant departures to the approved plans.

The Lane Cove Local Environmental Plan 2009 (LEP) provided a maximum permitted FSR of 0.5:1 applied to the development. The objective of the FSR in the LEP is:

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

(a) to ensure that the bulk and scale of development is compatible with the character of the locality

At 268 it is stated that:

The consequence of the recalculation by Mr Nash is that, on the interpretation of the definition of gross floor area advanced by Mr Ross and accepted by Mr Nash (namely that the stairway and the lift well are to be excluded from such calculations), the as built structure satisfies the floor space ratio control.

As stated above, (d) was excluded from the calculation of gross floor area. Further, it was stated that:

276. First, I accept that the inclusion of the word 'common' when added to the words 'vertical circulation areas' means that the draughtsperson intended that that word would have some work to do as, if it were not intended, in some fashion, to qualify or limit the broader term, there would have been no need to include it as the words 'vertical circulation areas' are, in themselves, a complete and all-encompassing concept representing the outcome contested for by Mr Ross as being the meaning to be ascribed to the composite expression that includes the word 'common'.

277. Second, the Macquarie dictionary definition of 'common' is, relevantly, in the following terms:

> 1. belonging equally to, or shared alike by, two or more or all in question: common property.

FIGURE 9 – GROSS FLOOR AREA

278. It is evident that the application of this definitional element to the expression 'vertical circulation areas' has the effect of imposing, in the fashion proposed by Mr Eastman, a limit on the meaning of the broader all-encompassing expression.

279. Finally, it is well settled that a plain and ordinary meaning is to be derived from such an expression and that it is inappropriate to endeavour to force such an expression into some contrary meaning if the ordinary, plain meaning makes sense in its context and is capable of reasonable application.

280. As a consequence, I am satisfied that the proper interpretation of the definition of gross floor area necessitates the inclusion of the stairs and lift well, for each level of this single dwelling, in the calculation of the gross floor area for the dwelling.

284. As a consequence, it is to be presumed, for the purposes of compliance with the compatibility objective in cl 4.4(1)(a) of the LEP, that which is constructed on the site satisfies the objective. However, this does not effect an absolute exclusion of bulk and scale as considerations leading to a potential finding of unacceptability on that ground. It does, however, exclude FSR as a basis for reaching such a conclusion.

The issue of the calculation of FSR or gross floor area in this matter, went to the issue that the floor areas, particularly at the upper levels, added to the bulk and scale of the dwelling and therefore consistency with the objective of Clause 4.4(1)(a).

In respect of the subject proposal to construct three (3) x 3 storey townhouses, the subject property adjoins a residential flat building development to the west, which has a single access point from Lawrence Hargrave Drive, which is an RMS road. Whilst immediately adjoining the property to the east is a single storey dwelling, with a double garage constructed on the property boundary. This necessitates cars reversing onto the road to exit the garages.

The front of the subject property has a wall, as the land is elevated above street level, with a garage built on the property boundary. Again necessitating a vehicle to reverse into the street.

The subject proposal provides for a basement garaging for each unit. The garages provide for two spaces, internal stairs, a lift and garbage storage. The ground floor kitchen/dining area/lounge. Private open space is provided at this level. The first floor has two bedrooms; whilst the second floor has one bedroom area. Each floor is accessed via the lift or stairs.

The south east elevation of the development is shown on A-07 and clearly depicted in the street image at A-13. It would be noted that the development is stepped-in and stepped-back at every level, unlike the Chami matter, where the issue of bulk and scale were considered as part of the decision. Height of the development is compliant with clause 4.3 of the LEP, as shown on the plans.

The subject site has an area of 695m^2. The permissible FSR is 0.75:1 or 520.9m^2. The proposed development based on the interpretation has an FSR of 0.82.2:1 or 570.4m^2 or 49.4m^2 (refer to table at A-16 for details).

All of the units are greater than 125m^2. Under DCP 2009, each unit with a floor area greater than 110m^2 should provide two carparking spaces, plus 0.2 spaces per dwelling for visitor spaces, which has been provided. Provision is also required for bicycle storage within each unit, which can be provided in front of the cars.

In respect of the DCP, which provides a definition of gross floor area, as stated above, the following controls apply multi-dwelling housing:

Wollongong DCP 2009 Chapter B1

5.4.2.2. Where a basement parking area is provided for an attached dwelling development, the controls relative to basement parking areas for residential flat buildings will apply.

6.9 Basement Car Parking
6.9.1 Objective

- *To integrate the siting, scale and design of basement parking into the site and building design.*

6.9.2 Development Controls
1. Where parking is provided within a basement level(s), the scale and siting of the basement car park must not impact upon the ability of the development to satisfy minimum landscaping and deep soil zone requirements.

2. The roof of any basement podium, measured to the top of any solid wall located on the podium must not be greater than 1.2m above natural or finished ground level, when measured at any point on the outside walls of the building. On sites with a greater slope, a change in level in the basement must be provided to achieve this maximum 1.2m height. Generally variation to this 1.2m podium height limit will not be supported, however Council recognises that there may be occasions where this standard cannot be achieved.

Should such a circumstance arise, the additional portion of the basement podium above 1.2m height must be included in the total gross floor area calculation for the development.

4. The following setbacks from side and rear boundaries apply to basement podiums:
(a) Where the height of the basement podium (measured to the top of any solid wall located on the podium) is less than 1.2m above natural or finished ground level (whichever distance is greater), the basement podium may ***extend to the property boundary.*** *A minimum 1.5m wide landscaped planter must be provided on the perimeter of any section of the basement podium which is located on a side or rear property boundary. Such planter must prevent direct access to the outer edge of the podium, to minimise direct overlooking of adjacent dwellings and open space areas.*

As the Council requires two spaces per unit and storage, the basement garages should be excluded from the calculation of FSR. It would be noted that the laundry cupboard is also located in the basement and would be excluded from the FSR calculation. Indeed, the definition of gross floor area is measured from that part above 1.4m.

The basement carparking is below natural ground level and therefore excluded from the calculation of FSR. Indeed, having regard to the Chami decision, this 'turned' on the issue of bulk and scale. It was concluded that the upper floors added to the bulk and scale and therefore not in accordance with the objective.

Finally, the definition of gross floor area refers to habitable rooms in a basement or attic. It would be noted from the plans that there are no habitable rooms within the basement and that it is purely garaging of vehicles and storage space, including garbage. As such the basement is not included in the calculation of FSR and doesn't 'fit' under the judgement of Chami and therefore excluded.

Objective 1(a) of Clause 4.6 is satisfied by the discretion granted to a consent authority by virtue of Subclause 4.6(2) and the limitations to that discretion contained in subclauses (3) to (8).

This submission has addressed the requirements of Subclauses 4.6(3) & (4) in order to demonstrate to the consent authority that the exception sought is consistent with the exercise of "an appropriate degree of flexibility" in applying the development standard, and is therefore consistent with objective 1(a).

In this regard, the extent of the discretion afforded by Subclause 4.6(2) is not numerically limited, in contrast with the development standards referred to in, Subclause 4.6(6).

(b) **to establish the maximum development density and intensity of land use, taking into account the availability of infrastructure to service that site and the vehicle and pedestrian traffic the development will generate,**

As stated above, the subject property is ideally located for medium density development having regard to high levels of public transport afforded within a short walking distance to the subject property. The Thirroul Shopping Centre is located approximately 50m to the west. This centre provides convenience shopping with higher level services located at Wollongong CBD, which is also readily accessible.

Infrastructure is available and pedestrian and vehicle generation will not impact on the street system. Indeed, it is considered that most persons occupying the development will utilise public transport and the services offered at Thirroul.

(c) **to ensure buildings are compatible with the bulk and scale of the locality.**

Bulk and scale were addressed above. It is noted that Clause 4.4 is not "expressly excluded" from the operation of Clause 4.6 and it is therefore open to the consent authority to grant development consent to the development pursuant to this Clause, despite the proposed variation to Clause 4.4.

The objective articulates the function and form of the FSR standard. The maximum FSR of buildings is identified on the Floor Space ratio Map. As previously described, the maximum FSR permitted is 0.75:1 and the proposal is 0.81.6:1, noting that a 13m height is permissible. The proposal varies the standard, which has prompted the preparation of this written request.

Despite the nature and scale of development proposed by this Development Application, Clause 4.4 achieves the objective of nominating a range of maximum FSR across land use zones, using the Floor Space Ratio Map as a mechanism to do so. As stated above, within the immediate area there are three FSR controls.

This written request identifies the extent of variation proposed and explains why the variation is acceptable in the circumstances. The subject site is zoned R3 and medium density development is permissible with development consent.

As discussed in the context of the other objectives below, the proposal will not conflict with the underlying aims for built form and land use intensity in the zone or the site's relationship to the "hierarchy" of height limits or FSR controls for surrounding land.

The site is in a location that is suitable for the proposed development, being on the fringe of the Thirroul shopping centre and the desired pattern of development reflects this. The proposed scale of the development relates to the built form envisaged by the planning controls, specifically FSR and height, despite the relatively numerical departure from the FSR standard.
The proposed non-compliance will better achieve the aims of providing local services (housing) to meet the needs of the immediate population.

Despite the proposed variation, it is submitted that the development reflects the intended scale

of development at the site, in that the variation is minor, and the scale of the proposal is not substantially different to that of a compliant scheme, particularly when perceived from the street.

It is considered that the requirement for strict compliance with the control would be counterproductive to achieving the aims to support residential accommodation in the LGA, particularly when the scale of development will not be perceptibly different to a strictly compliant proposal, with the non-compliance being essentially internal to the development and minor variances to each dwelling (refer to photo below). The development is articulated and steps back as the development rises.

Having regard to all of the above, it is our opinion that compliance with the FSR development standard is unnecessary in the circumstances of the case as the development meets the objectives of that standard and the zone objectives, as described in this written variation request.

It is also relevant that, as a general principle, the highest and best economic use of land which has been identified as appropriate for residential development, will conversely act to preserve the character of the area, particularly having regard to the setting of the area and adjoining developments.

Having regard to the above we consider that the approach taken serves the objects of the Act of promoting the orderly and economic use of land, with a development that provides for housing close to all services and facilities in the immediate area.

It is not considered that a variation to the development standard in these circumstances would act as a general planning change more appropriately dealt with under *Part 3* of the *Environmental Planning & Assessment Act 1979*.

4.6.4.2 OBJECTS OF THE ZONE

The objectives of Zone R3 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.

Clause 4.6(4)(a)(ii) also requires that the consent authority be satisfied that the development is in the public interest because it is consistent with relevant zone objectives. The proposed development is consistent with the objectives of Zone R3 Medium Density in that multi dwelling housing is a permitted use, and therefore will complement the existing development composition on adjoining and nearby sites. The development will create accommodation for persons close to all services and facilities provided in Thirroul and other close centres. Access to transport is also readily available in Lawrence Hargrave Drive.

For these reasons the development proposal meets the objectives for development in Zone R3, despite non-compliance with the FSR development standard.

4.6.4.3 COMPLIANCE WITH THE DEVELOPMENT STANDARD IS UNREASONABLE AND UNNECESSARY

Clause 4.6(3)(a) requires that the written request to vary a development standard demonstrate that compliance with the development standard is unnecessary or unreasonable in the circumstances of the case.

In Wehbe v Pittwater Council (2007) NSW LEC 827, Preston CJ sets out ways of establishing that compliance with a development standard is unreasonable or unnecessary.

The judgement goes on to state that:

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).

Having regard to all of the above, it is our opinion that compliance with the FSR development standard is unnecessary in the circumstances of the case as the development meets the objectives of that standard and the zone objectives, as described above in this written variation request. On this basis, the requirements of Clause 4.6(3)(a) are satisfied.

4.6.4.4 SUFFICIENT ENVIRONMENTAL PLANNING GROUNDS

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

Having regard to the objectives of the *Environmental Planning and Assessment Act 1979* sufficient environmental planning grounds exist in this case to justify breaching the FSR standard. In particular the objects under section 1.3(a), (b), (c), (g) and (h) are pursued by this development. The objective seeking orderly and economic development of land and good design are clearly supported by approval of this development.

Part of the environmental planning grounds in this matter arise from the design aspects and the fall of the land from the rear to the front and they are supportive of the variation sought to the FSR control to allow the variation.

The fall of the land has enabled the basement garage to be constructed, but given the floors above, a lift and stairway has to be provided in each dwelling to provide ease of access to floors above from the garage level in particular.

Clause 4.6(3)(b) requires that the written request to vary a development standard demonstrates that that there are sufficient environmental planning grounds to justify contravening the development standard. In order to demonstrate that there are sufficient environmental planning grounds to justify varying the development standard and to satisfy objective (1)(b) of Clause 4.6 by demonstrating that the proposed variation allows for a better outcome for the development.

The discussion provided throughout this variation request demonstrates that the additional FSR will not result in any adverse environmental impacts, in terms of amenity impacts, nor will there be any adverse streetscape impacts given the nature of the departure being essentially within the building footprint. It is submitted that there are sufficient environmental planning grounds to support the variation.

In particular, the site has unique qualities relating to providing housing close to services and facilities, and the proposed massing arrangement results in a site responsive building form without any consequent impacts on the amenity of neighbouring sites.

Compliance with the FSR requirements will mean that it would not be economically viable to construct the development, thus preventing the establishment of much needed quality accommodation within the area.

The FSR requirement is in the circumstances of this matter, unreasonable and unnecessary, as discussed in this written submission. The site is zoned for medium density development, with an FSR control of 0.75:1, which also applies to the mixed use zone on the opposite side of the subject site. Yet some 50m away in the shopping precinct, an FSR of 1.5:1 applies. We are of the opinion that given the height control of 13m, the location of the property to high levels of public transport that the FSR should be higher to encourage good quality residential accommodation in essentially a beachside suburb, which home owners seek larger living space.

Exceedance of the FSR control is therefore not a prohibition, but more relating to development that may be developed in medium density zones, with height controls restricting development to 13m. The zoning of the land clearly envisages higher densities.
The development is designed for quality living for persons seeking a 'sea change' and require reasonable sized areas to be able to enjoy such lifestyle. Although the dwellings are compliant with the requirements that meet the Australian Standards for internal access and lift access to all floors above ground level, the development is; however, located within easy walking access to all services and facilities within the immediate area with easy access to and by high levels of public

transport. As such the development offers a level of amenity suitable to the proposed development.

The restriction on FSR in this particular case, is unreasonable having regard to the matters raised above.

(C) In addition, under cl 4.6(4)(a)(ii) of the LEP, the consent authority must also be satisfied that:

> (1) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and with the objectives for the development within the zone in which the development is proposed to be carried out.

Having regard to the objectives of the *Environmental Planning and Assessment Act 1979* sufficient environmental planning grounds exist in this case to justify breaching the FSR standards, in particular the good design objective is emphasised by this proposed development. In particular the objects under section 1.3(a), (b), (c), (g) and (h) are pursued by this development.

The objectives of the standard and the zone are addressed above under heading A. In addition the public interest is well served by the new high quality building replacing an outdated dwelling on this property and achieving the densities envisaged by the R3 zoning of the land.

It is considered that this design represents an individual response which Clause 4.6 was intended to be available to set aside compliance with the generic controls as unreasonable or unnecessary in the circumstances of this particular case.

4.7.2.10 REQUEST FOR VARIATIONS

In respect of setbacks, the development has a variable front setback, but doesn't meet the 6m control for the entire frontage. The façade of the building varies from east at 5.455m and west 8.039m. On the western side, the setbacks are 1.5m from ground floor, 2.9m from first floor and 3.4m for second floor. On the eastern side, the setbacks are 1.555m ground floor, 2.955m for first floor and 3.465m for second floor.

In respect of the setbacks, it is our understanding that Council's "vision" for this part of Thirroul as having a 'continuous urban streetscape form' and not requiring strict adherence to the 'neighbourhood character' controls. In addition, the 0.8 x ceiling height setback for either side is not achieved. However, the 0.1 x ceiling height for the rear setback is achieved and a variation is requested.

As can be seen from Sheets A-08 & A-09, the northwestern and southwestern elevations, a high level window is provided to the study area for the first floor, with blank walls at ground floor level. On the second level, bedroom 1 for dwellings 1 and 3 have highlight windows.

As such there is no impact on privacy of adjoining properties. In terms of the rear setback, given the shape of the land and the requirement by the DRP to 'square up' the POS, the setback requirement has not been met. Importantly, overshadowing is not a significant issue (refer to A-15), with shadows falling mainly on the road.

The objectives for the front setback are:

(a) To reinforce the existing character of the street by acknowledging building setbacks.
(b) To promote compatibility in front setbacks to provide for unity in the building line.

In respect of the front setback, it is noted that the existing dwelling is setback on the high part of the land, with the garage constructed on the front alignment. This is the same as the dwelling at No 340. At No 346-348, the residential flat building is setback 4.9m from the eastern boundary and further back at the western boundary, these setbacks are similar to that proposed in terms of the development aligning with the shape of the land. The terrace has been removed from the front setback area and replaced by stairs.

It is noted the library building has a significant setback, but this is to provide a space that the community can use for different purposes. It is therefore considered that the front setback is consistent with the objectives for the front setback control, which are to reinforce the existing character and compatibility of front setbacks have been met.

With the side and rear setbacks, the following objectives are provided:

(a) To provide adequate setbacks from boundaries and adjoining dwellings to retain privacy levels, views, sunlight and daylight access and to minimise overlooking
(b) To provide appropriate separation between buildings to achieve the desired urban form.
(c) To optimise the use of land at the rear of the property and surveillance of the street at the front of the property.
(d) To minimise overshadowing of adjacent properties and private or shared open space.

In terms of the above, the side setbacks were described above, including window details. We are of the opinion that the proposal is consistent with objective (a).

As detailed above, the development steps in from side boundaries as the development rises. The setbacks commence at 1.5m at ground level and at the second level are 3.4m or nearly 2m as the development rises. This provides appropriate separation from the development at No 346-348, which has a 3.465m setback. This results in an effective setback of 4.965m at ground level and 6.865m at second level, noting the comments above about blank walls and windows.

We note that the DRP did not raise any specific issues with the side boundary setback controls and this aligns with the Council 'vision' of a continuous urban streetscape form'.

On the eastern side, the existing dwelling and garage at No 340 are located reasonably close to the side boundary. It is considered that when this property is redeveloped, it would adopt similar setbacks to that proposed by this application. This is consistent with objective (b).

With the rear setback, as stated above the DRP requested that the rear POS be 'squared up' to provide more useable space for residents. This has resulted in the rear setback of 6m for deep soil planting non-compliant. We support this approach, as the POS becomes a better extension of the internal space and improves the amenity of this space for residents. Notwithstanding the non-compliance, the deep soil zone provided ensures that the objectives have been met, particularly (a), (b) and (d).

It would be noted that the front façade of the development has balconies and areas to provide casual surveillance of the street to comply with CPTED principles, which is addressed below in Section 4.7.5. Therefore the proposal is consistent with objective (c).

In terms of overshadowing, the height map envisages buildings to 13m in the R3 zone. In applying these controls, in would reasonably expected that some form of overshadowing would occur. However, given the northerly orientation, overshadowing from the development will mainly fall on the road during the winter solstice and will have some impact on adjoining development in the morning and afternoon (refer to Sheets A-14 of Annexure A). This overshadowing would not be reasons for refusal and therefore consistent with objective (d).

Having regard to the above, Council is respectfully requested to vary the setback controls.

Attachment 4

Wollongong Design Review Panel
Meeting minutes and recommendations

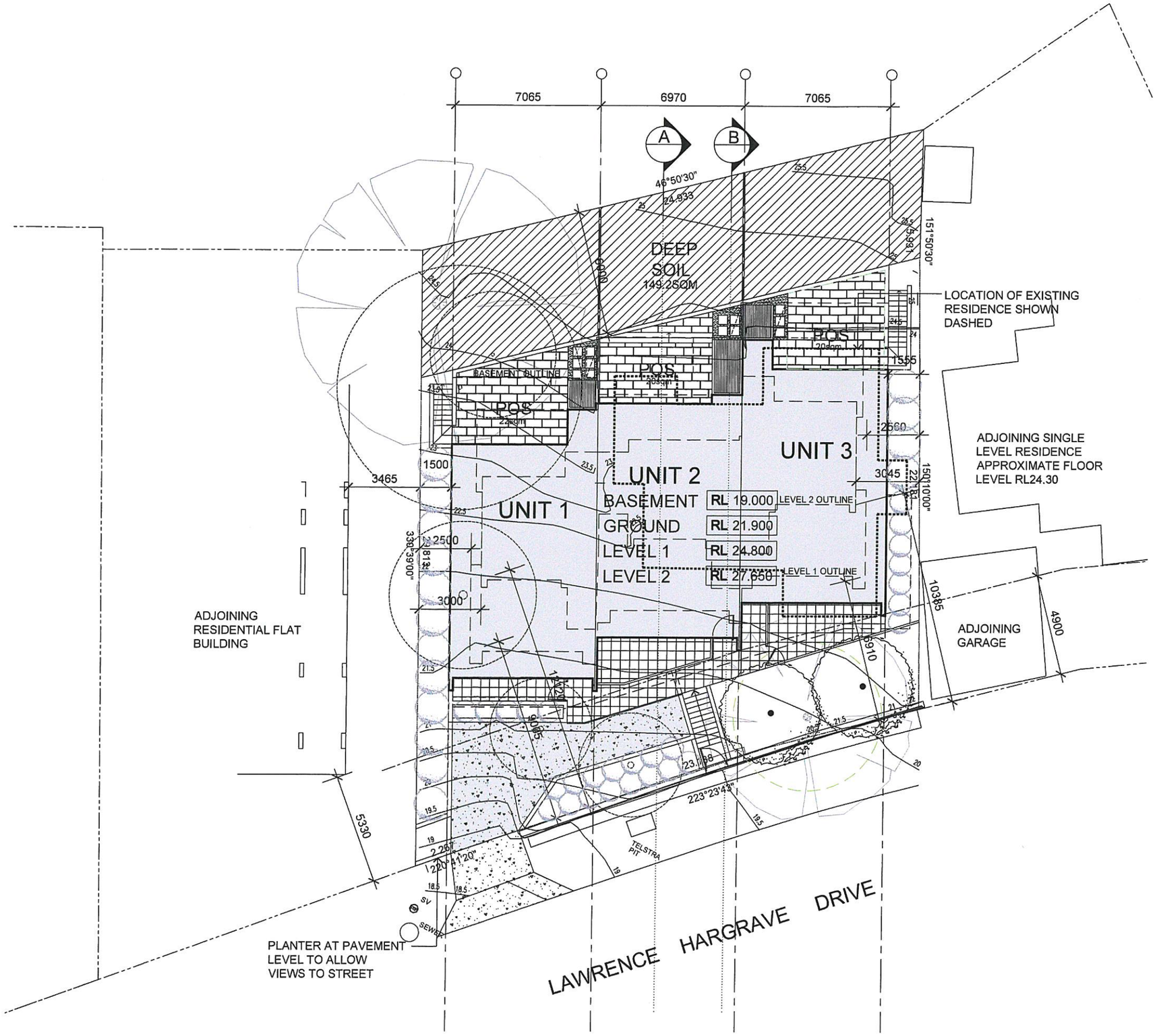
Date	12 November 2019
Meeting location	Wollongong City Council Administration Offices
Panel members	Brendan Randles
	Carlo Di Giulio
	Marc Deuschle
Apologies	
Council staff	Mark Riordan – Manager City Planning Nicole Ashton – City Wide Development Manager (Acting) Brigit Mathai – Development Project Officer
Guests/ representatives of the applicant	Steven Hughes – Develop My Land Kate Lynch – Develop My Land
Declarations of Interest	
Item number	1
DE number	DE-2019/107
Determination pathway	
Property address	342-344 Lawrence Hargrave Drive Thirroul
Proposal	Three (3) townhouses over basement parking
Applicant or applicant's representative address to the design review panel	
Background	The site was Inspected by the Panel on 12 November 2019
Design quality principals SEPP 65	
Context and Neighbourhood Character	The site is located on the north side of busy Lawrence Hargrave Drive, within a short walk to Thirroul Railway Station, Thirroul Town Centre and its retail, educational and cultural facilities. Due to topography, the site is elevated above the road and slopes approximately six metres to the north. The site currently features a dry laid stone wall along its street frontage and is occupied by a two storey brick gabled single detached dwelling. The site is within an R3 (medium density residential) zone, which allows a density of 0.75:1 within a maximum 9m height plane. The site area of 694.6sqm therefore allows a permissible floor area of 520.95.sqm. The site is adjacent to larger dwellings to its south, including a residential flat building and the Thirroul Library and Community Centre next to that. To its north is a single detached dwelling with its ground floor elevated approximately one storey higher than the subject site. While the proposal is reasonably well housed within its slope and street context and successfully contains adverse impacts on both neighbouring properties, it seeks to reduce the required side setbacks for the site. In addition, the method used to calculate GFA does not align with Council's requirements, which results in an apparent excess of floor area.
Built Form and Scale	The proposal comprises three town house dwellings elevated above the street frontage, with a centrally located gate and steps for residential pedestrian entry. In response to the splayed frontage, dwellings are stepped in plan and section, creating landscaped planters over three levels crowned by simple skillion roofs. To minimize impacts on adjoining properties, non compliant side setbacks are proposed that increase from 1500mm at ground level to 3000mm at level 02.

	Each dwelling is served by a double garage accessed by a common driveway at the western end of the street frontage, with discrete elevators providing individual access to each level of each dwelling. Generally, the dwellings are well planned and will provide excellent residential amenity, good light and great outlook. However, the development seems slightly too large for the site, resulting in undersized bedrooms, very tight internal spaces and minimal head clearances over stairs. This apparent “tightness” is exacerbated by Council advice that the side setbacks proposed significantly depart from DCP requirements; this issue alone will attract multiple submissions from residents and could create planning risk. While the Panel is reasonably satisfied that the impacts on adjoining properties are reasonably well contained – and understand that full compliance may undermine the proposal’s feasibility –it also acknowledges that the setbacks proposed are minimal and thereby constrain the proposal’s landscape potential, visual amenity and its capacity to reduce apparent bulk. The Panel therefore strongly recommends that side setbacks are increased as much as possible. The proposal also contradicts Council’s methods of GFA measurement. Apart from inviting further planning uncertainty, this leads to the squeezing of head clearances, thereby impacting on the proposal’s design quality. The Panel would therefore recommend that the proposal be slightly reduced in area and comply with Council’s method of measurement to avoid this apparent contradiction with DCP requirements.. The Panel recommends : - slightly reduce the width of each dwelling to provide larger, more compliant setbacks - provide each dwelling with larger bedrooms (minimum 3m width) and either remove fourth bedroom or create a study - redesign the roof over the stair to remove the tight clearances on the highest level - slightly amend the lift position to provide more landing space at each level - provide each dwelling with a physically and visually larger ground floor courtyard by pushing the retention wall further to the rear of the site (as discussed, this will require careful planning so as not to impact on deep soil compliances) - create a larger entry area at street level with a generous return stair to ground floor level - realign the driveway to allow a small planter and tree at street level along the southern portion of the street frontage
Density	As noted above, the proposal contradicts Council’s methods of GFA measurement. Apart from inviting planning uncertainty, this leads to the squeezing of upper stairs’ head clearances, which impacts on the design quality of the proposal. The Panel would therefore recommend that the proposal be slightly reduced in area so as to comply with Council’s density requirements.

Sustainability	The proposed dwellings will have good solar access, natural ventilation and good visual and physical access to landscape. The proposal complies with deep soil requirements and site coverage. It is not clear if additional sustainability measures have been proposed over and above Basix; at a minimum, the Panel would recommend water collection and reuse and solar panels.
Landscape	As no specific landscape plan was provided, these comments are based on discussions and future expectations of the proposal's landscape design. The driveway alignment should be considered, along with the front landscape in general, to provide a frontage that is in keeping with the transitional nature of the streetscape. To the south it is open and green (both residential and community facilities have large setbacks with large green spaces) while to the north (as per the current arrangement on this site) the frontage is a ~2m high retaining wall. Give the wall is likely to need rebuilding there is a great opportunity to consider how these disparate frontages could be mediated on this site. Further to this, if the front stairs are realigned the levels along the frontage could create a small terrace in between street and GF levels as opposed to one large wall / level jump. **Being** on such a steep site, the rear POS / COS + DSZ, raised concerns about usability for these areas not being resolved as successfully as needed. Currently the rear POS has retaining walls between 1.3 – 2m+ that create confined POS and leave the DZS / COS inaccessible (except for maintenance). The removal of these walls and replacement with terracing or sloped gardens should be explored to retain the DSZ but open up the visual and physical qualities of the POS. Whether the DSZ is to act as usable COS, usable POS or just a visual asset, issues around privacy, accessibility, maintenance and titling need to be resolved and demonstrated to effectively work. For future submissions a resolved landscape concept plan should be included, clearly definining all hard and soft landscaping. It is recommended that native and endemic species are given preference, as are low water-use species. Levels should also be included to clearly indicate how the spaces work and relate to each other and the architecture (currently missing from this submission).
Amenity	Generally, the dwellings are each well designed. However, there are some amenity issues that could easily be addressed with a slight reduction in building size. See notes above regarding : - increasing size of front entry and steps - increasing size of (under sized) bedrooms - deleting fourth bedrooms - increasing size of transitional spaces such as entries, landings, lift thresholds, upper level stair clearances - increasing physical and visual size of ground floor terraces
Safety	Consideration should be given to the driveway arrangement to avoid visual blind spots along the street for both pedestrians walking along the street and also car exiting into traffic.

	By relocating the driveway further north and creating a small garden bed on the south, views to the south will be opened up and vehicles will have clearer sight lines when entering and exiting the property. Given the steepness of the site, required retaining walls in the landscape will create obvious fall hazards. Retaining walls should be minimised, and where required, these should have balustrades hidden from view to avoid additional perceived height and bulk.
Housing Diversity and Social Interaction	Acceptable
Aesthetics	Generally, the proposal is well expressed and sits well in its context. The front stone wall remains an ambiguous element; if it needs to be rebuilt (which is likely), it is not clear at present whether it should be level, sloped, stepped or at least made high enough to conceal the visitors' space (disturbingly visible at present in the front setback. This should be considered, designed and clarified with particular focus on the adjoining properties. Ideally, street facing material along the street will be consistent, but treated in different ways At the meeting, it was suggested that the proposal may be more coherently expressed as masonry (render or concrete for example) with a light weight top level. Currently it reads as predominantly rendered or masonry planters, interspersed with timber clad elements, which the proponent prefers. While this is up to the designers' judgement, it should be reviewed and clarified.
Design Excellence WLEP2009	
Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved	Y
Whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain,	Y
Whether the proposed development detrimentally impacts on view corridors,	Y – although, with non compliant setbacks, this needs to be demonstrated.
Whether the proposed development detrimentally overshadows an area shown distinctively coloured and numbered on the Sun Plane Protection Map,	N
How the development addresses the following:	
the suitability of the land for development,	Y
existing and proposed uses and use mix	Y

heritage issues and streetscape constraints,	Y
the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,	N/A
bulk, massing and modulation of buildings	See notes on setbacks above
street frontage heights	Y
environmental impacts such as sustainable design, overshadowing, wind and reflectivity	Sustainability measures need to be made clear
the achievement of the principles of ecologically sustainable development	Y
pedestrian, cycle, vehicular and service access, circulation and requirements	Y
impact on, and any proposed improvements to, the public domain	Y
Recommendations	Incorporate above recommendations. No need to return to Panel.



DEVELOPMENT DATA

SITE AREA	694.6sqm
PERMISSABLE FSR (WOLLONGONG LEP 2009)	0.75:1
PERMISSABLE BUILDING AREA	520.95sqm
PROPOSED GROUND FLOOR AREA	229.3 sqm
PROPOSED LEVEL 1 PLAN	200.6 sqm
PROPOSED LEVEL 2 PLAN	90.9 sqm
TOTAL PROPOSED GROSS FLOOR AREA	520.8 sqm
PROPOSED FSR (excludes garage and storage areas)	0.749:1
PROPOSED LANDSCAPED AREA	236.6 sqm (34%)
PROPOSED DEEP SOIL AREA	142sqm (20%)
PROPOSED ON SITE CARPARKING	6 spaces

SITE PLAN

PROPOSED MEDIUM DENSITY DEVELOPMENT 342-344 LAWRENCE HARGRAVE DRIVE THIRROUL

0 1 3 5

Develop My Land
. management . consultancy . landscape architecture . urban design .
PO Box 119. Thirroul. NSW. 2515. Tel. 0449 255488 e. steve@developmyland.com.au

DWG-01

wollongong
city of innovation

WOLLONGONG CITY COUNCIL

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PRE-LODGEMENT NOTES – PL-2019/83

25-Jun-2019

Property:	342-344 Lawrence Hargrave Drive, THIRROUL NSW 2515 Lot B DP 378330	
Proposal:	Proposed medium density residential development - 3 x 3 storey townhouses over basement parking	
Attendees:	*Council:*	John Madry – Landscape Architect Will Sale – Development Engineer John Wood – Manager(City Wide Development) Suzi Stojcevska – Assistant Development Project Officer Brigit Mathai – Development Project Officer
	Proponent:	Steve Hughes – Develop My Land Kate Lynch – Develop My Land

Proposal/Project Overview:	The proposed development is for 3 three storey Town Houses over a Basement carpark. The proposal includes tree removal, excavation, stormwater works, landscaping, and other site facilities.
Meeting Outcomes Summary:	Based on the concept plans provided the proposed development appears to have non-compliance with the provisions of Wollongong Local Environmental Plan 2009, with respect to the floor space ratio of the development. This and other matters regarding, variations to side and front setback requirements, parking/vehicle manoeuvring, etc need to be carefully considered and addressed in any application lodged for assessment. It is recommended that a voluntary design review panel process be undertaken due to the distinctive town house design comprising 3 storeys with a basement and the constraints related to the site prior to lodgement.

Main Issues:

- **FSR over the permissible 0.75:1 limit**
- **Variations to Side & Front setback**
- **Unstable land**
- **Possible View Loss**
- **Site Frontage to classified road**

Planning

Relevant Environmental Planning Instruments

The provisions of all relevant Environmental Planning Instruments and Development Control Plan(s) must be addressed within the Statement of Environmental Effects (SEE).

The relevant Environmental Planning Instruments and Development Control Plans are:

- Wollongong Local Environmental Plan 2009 (WLEP 2009)
- Wollongong Development Control Plan 2009 (WDCP 2009)
- Wollongong City Wide Development Contributions plan 2018
- State Environmental Planning Policy No 55 – Remediation of Land

Wollongong Local Environmental Plan 2009 (WLEP 2009)

The Statement of Environmental Effects (SEE) must address the permissibility of the proposal, how regard has been given to the zone objectives and the proposals compliance with all relevant provisions of WLEP 2009. Most notably:

- Clause 4.4 Floor Space Ratio: A maximum FSR of 0.75:1 is permitted for the land

  A set of plans highlighting the floor areas on each floor showing compliance with the permitted FSR for the overall development must be submitted with the development application. The gross floor area must be calculated as per the definition within the LEP. (Note: Areas of vertical access including stairs and lift-well on all floors that are not common to the development is included in the gross floor area calculations)
- Clause 4.3 Height of the buildings: A maximum building height of 13m is applicable
- Clause 7.14(1) Minimum Site Width sets a minimum site width of 18m for the development.
- Clause 4.6 Exceptions to development standards.

Wollongong Development Control Plan 2009 WDCP 2009)

The applicant must consult the relevant chapters of WDCP 2009 for appropriate development controls prior to finalisation of the design and submission of the development application. The SEE must address all relevant chapters as relates to the development proposal and provide full justification for any variation requests in accordance with Cl. 8 of Chapter A1.

- A comprehensive Site and Context Analysis Plan prepared in accordance with the minimum standards outline within Part A, Chapter A1 of Wollongong Development Control Plan 2009 (WDCP 2009) is to be submitted with the development application.
- A comprehensive set of architectural plans must be prepared in accordance with the minimum standards outlined within Part A, Chapter A1 of WDCP 2009. These should include plans illustrating all existing structures onsite, site plans, floor plans, elevations, sections, shadow diagrams and demolition plans (if applicable).
- Chapter B1 – Residential Development addressing relevant sections 4 & 5 within the chapter.
- A preliminary desktop audit in relation to site contamination must be included in the Statement of Environmental Effects. Refer to Wollongong Development Control Plan 2009 – Chapter E20: Contaminated Land Management.

- Waste management details are to be provided. Refer to Chapter E7: Waste Management of Wollongong Development Control Plan 2009.
- The site is identified to be unstable. A geotechnical report is to be provided. Refer to Chapter E12.
- Demolition of Structures: Chapter E21
- Chapter E2 - Crime Prevention through Environmental Design
- Existing and proposed finished ground levels are to be shown on the elevation and sectional plans to Australian Height Datum (AHD).

Wollongong City-Wide Development Contributions Plan 2018

A development contributions levy will apply to the proposed development if approved. A detailed cost estimate report is required to be provided in conjunction with the Development Application. (Please note: Council uses the Cordell's Ecosting Guide to confirm the accuracy of construction cost estimates).

General planning issues:

Referral to Local Planning Panel

From 1 March 2018 based on directions from the Minister, the referral criteria to a Local Planning Panel (LPP, formerly known as IHAP in WCC) has changed.

The referral criteria applicable to WCC are contained at schedule 2 available in the link below:

http://www.planning.nsw.gov.au/Assess-and-Regulate/Development-Assessment/Independent-Hearing-and-Assessment-Panels/Statutory-rules

It is also noted that LPP is a determining authority. Based on a review of schedule 2 the proposal could trigger to be determined by LPP under item 3 Departure from development standards if the contravention to Clause 4.4 Floor Space Ratio in WLEP 2009 is more than 10%.

Design Review Panel (DRP)

As presented, given the scale and nature of the proposed development and having 3 storeys, it is considered that there would be merit in seeking an independent review of the proposal via a DRP process and in particular if the application requires to be determined by LPP.

Council requires via WLEP2009 in other identified areas of the City, that certain developments be independently design reviewed before a final determination to ensure satisfactory design outcomes. This is also available for other developments and the applicant is encouraged to engage in this process prior to lodgement if desired.

Whilst there is no mandatory requirement as relates to the development for Council's Design Review Process to be undertaken for the subject site, it should be appreciated that this information is provided in good faith with the understanding of the importance of the project and the expectation that this may expedite the assessment period following lodgement.

There is a charge associated with this facility in accordance with Council's fees and charges policy (this should be confirmed with Council's Customer Service Section prior to lodgement).

The applicant should contact Council's Development Project Officer regarding further progression of this process.

Site information/constraints:

A Section 10.7 Certificate should be obtained to clarify details on any constraints affecting the proposed development site. All relevant site constraint reports should be included within the Statement of Environmental Effects.

- **10.7 (2) Certificate** - Provides information about the zoning of the property, the relevant state, regional and local planning controls and other planning affectations such as heritage, land contamination and road widening; and
- **10.7 (2) and (5) Certificate** - Provides additional advice regarding demolition, foreshore building lines, other heritage considerations and general advice.

Development Engineering

Traffic:

- The applicant should refer to Chapter E3 – Car Parking, Access, Servicing/ Loading Facilities and Traffic Management and the traffic components of B1: Residential Development of the Wollongong Development Control Plan 2009.
- The applicant must provide all internal access dimensions on the site plan, including driveway grades, access widths, parking aisle widths which comply with AS2890.1.
- The development must demonstrate vehicles can enter and exit the site in a forward direction after completing no greater than a 3 point turn. Turn paths must be provided for parking spaces where required to demonstrate compliance.
- The development must demonstrate that safe site distance is provided from the driveway to the footpath area in accordance with AS2890.1
- Car parking must be provided as per Schedule 1 of Chapter E3 for the relevant development type.
- Motorcycle and bicycle parking must be provided as per Schedule 1 of Chapter E3 for the relevant development type. Bicycle parking for residential development must have appropriate security for the user class, oversized garages are considered appropriate if all residential units have oversized garages to allow bicycles to be stored outside the designated parking area.
- Residential parking for the development must be designed to ensure appropriate security
- Waste storage locations must be shown on plan in accordance with Chapter E6.

Subdivision

- If subdivision is proposed with the application. The subdivision must be designed in accordance with chapter B2 – Residential Subdivision of WDCP 2009.
- If subdivision is proposed with the application. A draft subdivision plan is required with the submission of the development application, clearly showing unit boundaries, internal and external walls, common property, etc

Stormwater

- On site detention is required where the increase in impervious area as a result of the development is greater than 100m2. The development will need be designed to comply Chapter E14 (Stormwater Management) of the Wollongong Development Control Plan (DCP) 2009. A Stormwater Concept Plan will need to be prepared by a suitably qualified civil engineer in accordance with Chapter E14 and submitted with the development application.
- The development must be designed to accept and cater for upslope runoff as per section 11.3.17 of Chapter E14. Details of the upslope catchment must be provided.
- The landscape and stormwater plans for the development will need to be compatible. Stormwater lines must not interact with existing or proposed trees, including where proposed easements will be provided.
- Details of retaining walls must be provided including top of wall levels, bottom of wall levels and locations.

Contact Details: The applicant's Consulting Engineer may contact Council's Development Engineer through Council's Customer Service Centre on the telephone number (02) 4227 7111 if any issues arise through the design phase prior to the lodgement of the development application**.**

Landscape:

- The developer is required to submit a Landscape Concept Plan (scale 1:100 or 1:200) as part of the Development Application in accordance with the requirement of Chapter E6 – Landscape of Wollongong Development Control Plan 2009. The landscape plan must identify all proposed retaining walls, driveways, fences existing/proposed and existing vegetation to be removed/or retained and any proposed car parking area.
- The landscape concept plan must show all existing trees on site accurately plotted, species identified and numbered to correspond with the arborist report. Clearly show which trees are to be retained or removed.
- Landscape Plan to be prepared by Registered Landscape Architect or person eligible for registration with the Australian Institute of Landscape Architects in accordance with the requirement of Chapter E6 – Landscape of Wollongong Development Control Plan 2009.
- Site and Context Analysis plan to be provided in accordance with the requirement of Chapter E6 – Landscape of Wollongong Development Control Plan 2009 and Chapter A1 Clause 9 Site and Context Analysis. Site Analysis plan submitted noted. Proximity to public transport and pedestrian movement should also be added and included in SEE.
- The protection and enhancement of surrounding suburb character is required as outlined in Wollongong Development Control Plan 2009 – Chapter D1: Character Statements and Chapter E6: Landscaping Section 5 Neighbourhood Amenity and Character.
- An Arborist Report is required in relation to any tree on the subject site (other

than an exempt tree) and trees on neighbouring properties that will be affected by the development, if it is 3 metres or more in height, or has a trunk diameter of 200mm or more at a height of 1 metre from the ground, or has a branch spread of 3 metres or more.

Please note: The retaining wall along the street front is slightly bowed by the existing tree. This should be taken into consideration with any proposed development.

Contact Details: The applicant's Landscape Architect may contact Council's Landscape Architect/Design Officer, through Council's Customer Service Centre on the telephone number (02) 4227 7111 if any issues arise through the design phase prior to the lodgement of the development application.

Land Use Planning:

Please note: If construction cost estimate is known you may obtain a lodgement fee quote by contacting Council's Customer Service Centre on the telephone number (02) 4227 7111

WHAT INFORMATION IS NEEDED WITH A DEVELOPMENT APPLICATION?

In order for Council to conduct a proper and informed assessment of your application, the following information must be submitted.

(✉Required information)

* Owner's Consent
* Survey Plan
* Site Context Analysis Plan
* Demolition Plan and Photographs
* BASIX assessment/certificate
* Statement of Environmental Effects
* Site Plan
* Floor Plans
* Building Elevations Plans
* Building Sections Plan(s)
* Shadow Profiles and Plans
* Schedule of External Finishes
* Streetscape Sketch
* Geotechnical Report
* Contamination Report
* Stormwater Concept Plan
* Landscape Concept Plan
* Arborist Report
* Acoustic Report
* Site Management Plan/Staging Plan
* Waste Management Plan

OUR AGREEMENT:

This pre-lodgement information does not constitute an approval.

This meeting note represents an agreement for the submission of information considered necessary for the timely determination of an application.

The notes are provided in good faith to assist applicants in the preparation of a development application. Relevant legislation and Council's requirements can vary from the time of this meeting to lodgement of the application. Public exhibition of the application can also raise unexpected relevant issues requiring lodgement of new or amended information.

Accordingly Council's final position on the proposal can only be made once a development application has been lodged and assessed.

Development Project Officer: Brigit Mathai

ATTACHMENT 5 - CONDITIONS

Approved Plans and Specifications

1 The development shall be implemented substantially in accordance with the details and specifications set out on Job No DML 18/011 Drawing A-01-F, A-02-E to A-05-E andA-19-A dated 20 October 2020, A-07-D, A-11-D and A-12-D dated 20 August 2020 and A-08-A to A-10-A dated 24 March 2020 prepared by Develop My Land and any details on the application form, and with any supporting information received, except as amended by the conditions specified and imposed hereunder.

General Matters

2 **Geotechnical**

a All work is to be in accordance with the geotechnical recommendations contained in the report dated 22 July 2019 by Douglas Partners and any subsequent geotechnical report required to address unanticipated conditions encountered during construction.

b All excavations need to be supported during and after construction particularly to protect adjoining property with nearby existing development.

c Retaining wall design is not to include anchors extending on to adjoining property without the written consent of the adjoining property owner.

d No disturbance of ground is to occur beyond site boundaries. A minimum buffer between site boundaries and the construction of retaining structures is to be recommended by the geotechnical consultant to ensure adjoining property is not adversely impacted upon by this development.

e Foundation systems are to be designed for Class P soils with all footings to be founded within the underlying weathered bedrock or as recommended by the geotechnical consultant.

f All site preparation earthworks including drainage, retaining wall and footing construction is to be subject to geotechnical supervision as defined in Australian Standard AS3798 Guidelines for Earthworks for Commercial and Residential Developments. Where necessary amendments are to be made to the designs during construction based on supplementary geotechnical advice given during the supervision to ensure that the completed works accommodates all encountered geotechnical constraints.

g All excavations for foundations are to be inspected by the geotechnical consultant and certified that the ground has been suitably prepared for the placement of footings.

3 **Transport NSW (TfNSW)**

Requirements issued by TfNSW dated 11August 2020 as attached shall form part of this Notice of Determination.

4 **Mailboxes**

The developer must install mailboxes along street frontage of the property boundary in accordance with Australia Post Guidelines. Prominent house numbers are to be displayed, with a minimum number size of 150 mm in height for each number and letter in the alphabet. The developer must install minimum two (2 No.) reflective paint house number on face of kerb along street frontage of the property to assist emergency services/deliveries/visitors.

5 **Occupation Certificate**

An Occupation Certificate must be issued by the Principal Certifier prior to occupation or use of the development. In issuing an Occupation Certificate, the Principal Certifier must be satisfied that the requirements of section 6.9 of the Environmental Planning and Assessment Act 1979, have been complied with as well as all of the conditions of the Development Consent.

6 **Tree Management**

The developer shall retain existing trees indicated on Concept Landscape Plan by DML Dwg. No. L-01 Issue D dated 20 October 2020 consisting of five (5 No.) trees on adjoining property along NW boundary identified in Arborist addendum Ref. No. 4033A dated 22 May 2020. Total number: five (5 No.).

Any branch or root pruning which has been given approval, must be carried out by a qualified arborist in accordance with Australian Standard AS4373 (2007).

All tree protection measures are to be installed in accordance with Australian standard AS4970-2009 Protection of Trees on development Sites.

Recommendations in arborist's report Ref. No. D4033 dated March 2020 by Allied Tree Consultancy Author Geoff Beisler & Warwick Varley to be implemented including and not restricted to: establishing Tree Protection Zones (TPZs), project arborist being present during work within Structural Root Zones (SRZs) and supervising work within TPZs, site induction with reference to tree protection, referring matters to project arborist, re routing of sub surface utilities to avoid TPZs, hand excavation within TPZ near tree roots, remedial tree pruning, deadwooding, fencing and signage, sediment buffer, stem protection, mulching and watering and root hormone application if required. Soil levels within the TPZ must remain the same.

The developer shall remove existing trees numbered 1, 2, 3, 4 and identified as A, B and C (x 2 No.). Total number: eight (8 No.) No other trees shall be removed without prior written approval of Council.

Prior to the Issue of the Construction Certificate

7 **Road Noise**

Any dwelling erected upon this site shall be designed and constructed in accordance with the recommendations and requirements of NSW Department of Planning document titled *"Development Near Rail Corridors and Busy Roads – Interim Guideline 2008"* in this regard the proposed dwellings must be designed to ensure that the following LAeq levels are not exceed:

- In any bedroom in the building - 35dB(A) anytime time between 10pm-7am.
- Anywhere else in the building (other than a garage, kitchen, bathroom or hallway) – 40dB(A) at any time.

This requirement shall be reflected on the Construction Certificate plans and supporting documentation for the endorsement by the Principal Certifier, prior to the issue of the Construction Certificate.

8 **Present Plans to Sydney Water**

Approved plans must be submitted online using Sydney Water Tap, available through www.sydneywater.com.au to determine whether the development will affect Sydney Water's sewer and water mains, stormwater drains and/or easements, and if further requirements need to be met.

The Principal Certifier must ensure that Sydney Water has issued an approval receipt prior to the issue of a Construction Certificate.

Visit www.sydneywater.com.au or telephone 13 20 92 for further information.

9 **Obscure Glazing for all Bathroom and WC Windows**

The bathroom and WC windows for each dwelling in the development shall be frosted or opaque glass. This requirement shall be reflected on the Construction Certificate plans.

10 **Fencing**

The development is to be provided with fencing and screen walls at full cost to the applicant/developer as follows:

a retain & reuse existing sandstone walling;

b rear and side property boundaries (behind the building line) and private rear courtyards are to be provided with minimum 1.8 metre high brick, timber lapped and capped, palisade or colorbond fences;

c any new fences or screens constructed on the site shall be of a type that will not obstruct the free flow of surface runoff from adjoining properties and be compatible with stormwater drainage requirements; and;

d fencing to suit character of local area.

This requirement is to be reflected on the Construction Certificate plans.

11 The parking dimensions, internal circulation, aisle widths, kerb splay corners, head clearance heights, ramp widths and grades of the car parking areas are to be in conformity with the current relevant Australian Standard AS2890.1, except where amended by other conditions of this consent. Details of such compliance are to be reflected on the Construction Certificate plans.

12 A change in driveway paving is required at the entrance threshold within the property boundary to clearly show motorists they are crossing a pedestrian area. Between the property boundary and the kerb, the developer must construct the driveway pavement in accordance with the conditions, technical specifications and levels to be obtained from Council's Manager Works. This requirement shall be reflected on the Construction Certificate plans and any supporting documentation.

13 **Structures Adjacent to Driveway**
Any proposed structures adjacent to the driveway shall comply with the requirements of the current relevant Australian Standard AS2890.1 (figure 3.2 and 3.3) to provide for adequate pedestrian and vehicle sight distance. This includes, but is not limited to, structures such as signs, letterboxes, retaining walls, dense planting etc. This requirement shall be reflected on the Construction Certificate plans.

14 The depth and location of all services (ie gas, water, sewer, electricity, telephone, traffic lights, etc) must be ascertained and reflected on the Construction Certificate plans and supporting documentation.

15 **Landscaping**
The submission of a final Landscape Plan to the Principal Certifier, prior to the release of the Construction Certificate. The final Landscape Plan shall address the following requirements:

a planting of indigenous plant species typical of the Illawarra Region such as: *Syzygium smithii* (formerly Acmena smithii) Lilly pilly, *Archontophoenix cunninghamiana* Bangalow palm, *Backhousia myrtifolia* Grey myrtle, *Elaeocarpus reticulatus* Blueberry ash, *Glochidion ferdinandii* Cheese tree, *Livistona australis* Cabbage palm tree, B*rachychiton acerifolius* Illawarra Flame Tree.; A further list of suitable suggested species for the Thirroul area may be found in Wollongong Development Control Plan 2009 – Chapter E6: Landscaping;

b a schedule of proposed planting, including botanic name, common name, expected mature height and staking requirements as well as number of plants and pot sizes;

c the location of all proposed and existing overhead and underground service lines. The location of such service lines shall be clear of the dripline of existing and proposed trees;

d the developer shall ensure that proposed planting is child friendly and must **not** include any of the types of plants listed below: **i)** plants known to produce toxins; **ii)** plant with high allergen properties; **vi)** any weed or potential weed species;

f stairs on boundary to be made good;

g existing streetscape paving to be made good;

h all podium planting areas are to have a waterproofing membrane that can provide a minimum 10 year warranty on product. Protective boarding is to be installed to protect membrane from damage. All podium planting areas to be provided with an adequate drainage system connected to the stormwater drainage system. The planter box is to be backfilled with free draining planter box soil mix. If selected mulch is decorative pebbles/gravel, the maximum gravel pebble size is 10mm diameter; and;

i any fill material should not cover topsoil. Topsoil shall be removed, stockpiled, ameliorated and replaced over any fill material to a minimum depth of 100mm.

16 The submission of certification from a suitably qualified and experienced landscape designer and drainage consultant to the Principal Certifier prior to the release of the Construction Certificate, confirming that the landscape plan and the drainage plan are compatible.

17 The implementation of a landscape maintenance program in accordance with the approved Landscape Plan for a minimum period of 12 months to ensure that all landscape work becomes well established by regular maintenance. Details of the program must be submitted with the Landscape Plan to the Principal Certifier prior to release of the Construction Certificate.

18 **Compensatory Planting**

The developer must make compensatory provision for the trees required to be removed as a result of the development. In this regard, eight (8 No.) 75 litre container advanced mature plant stock shall be placed within the property boundary of the site in appropriate locations. The suggested species are to be selected from the following list: *Elaeocarpus reticulatus* Blueberry ash, *Livistona australis* Cabbage palm tree, or B*rachychiton acerifolius* Illawarra Flame Tree. A further list of suitable suggested species may be found in Wollongong Development Control Plan 2009 – Chapter E6: Landscaping.

Details to be reflected on Final Landscape Plan prior to the issue of Construction Certificate.

19 **Tree Protection Measures**

The existing trees are to be retained upon the subject property and any trees on adjoining properties shall not be impacted upon during the excavation or construction phases of the development. This will require the installation and maintenance of appropriate tree protection measures, including (but not necessarily limited to) the following:

a Installation of Tree Protection Fencing - Protective fencing shall be 1.8 metre cyclone chainmesh fence, with posts and portable concrete footings. Details and location of protective fencing must be indicated on the architectural and engineering plans to be submitted to the Principal Certifier prior to release of the Construction Certificate.

b Mulch Tree Protection Zone: Areas within a Tree Protection Zone are to be mulched with minimum 75 mm thick 100% recycled hardwood chip/leaf litter mulch.

c Irrigate: Areas within the Tree Protection Zone are to be regularly watered in accordance with the arborist's recommendations.

The submission of a final Site Plan to the Principal Certifier indicating required tree protection fencing is required, prior to the release of the Construction Certificate.

20 **Engineering Plans and Specifications - Retaining Wall Structures Greater than One (1) Metre**

The submission of engineering plans and supporting documentation of all proposed retaining walls greater than one (1) to the Principal Certifier for approval prior to the issue of the Construction Certificate. The retaining walls shall be designed by a suitably qualified and experienced civil and/or structural engineer. The required engineering plans and supporting documentation shall include the following:

a A plan of the wall showing location and proximity to property boundaries;

b An elevation of the wall showing ground levels, maximum height of the wall, materials to be used and details of the footing design and longitudinal steps that may be required along the length of the wall;

c Details of fencing or handrails to be erected on top of the wall;

d Sections of the wall showing wall and footing design, property boundaries, subsoil drainage and backfill material. Sections shall be provided at sufficient intervals to determine the impact of the wall on existing ground levels. The developer shall note that the retaining wall, subsoil drainage and footing structure must be contained wholly within the subject property;

e The proposed method of subsurface and surface drainage, including water disposal. This is to include subsoil drainage connections to an inter-allotment drainage line or junction pit that discharges to the appropriate receiving system;

f The assumed loading used by the engineer for the wall design.

g Flows from adjoining properties shall be accepted and catered for within the site. Finished ground and top of retaining wall levels on the boundary shall be no higher than the existing upslope adjacent ground levels.

21 **Stormwater Connection to Kerb**

Connection across footways shall be by means of one or two (maximum), sewer grade UPVC pipe(s), 100mm diameter pipes with a continuous downslope gradient to the kerb. Connection to the kerb shall be made with a rectangular, hot dipped galvanised mild steel weephole(s) shaped to suit the kerb profile, with each weephole having the capacity equal to a 100mm diameter pipe. Alternatively, a maximum of two 150mm x 100mm hot dipped galvanised steel pipes may be used

across footways, with the 150mm dimension being parallel to the road surface to suit the kerb profile.

22 **Property Addressing Policy Compliance**

Prior to the issue of any construction certificate, the developer must ensure that any site addressing complies with Council's **Property Addressing Policy** (as amended). Where appropriate, the developer must also lodge a written request to Council's **Infrastructure Systems & Support – Property Addressing (propertyaddressing@wollongong.nsw.gov.au),** for the site addressing prior to the issue of the construction certificate. Please allow up to 3-5 business days for a reply. Enquiries regarding property addressing may be made by calling 4227 8660.

23 **Footpath Paving in Commercial Village Centres**

The developer is responsible for the making good of the existing footpath paving for the entire frontage of the development.

A nominal two percent (2%) minimum one percent (1%), maximum two and a half percent (2.5%) cross fall to be provided from property line to back of kerb. Any changes of level, ramps or stairs and associated tactile markers and handrails are to be contained with the property boundary.

The driveway entry threshold from the property boundary line to the face of kerb is to match the footpath material and be designed to withstand predicted traffic loadings.

The driveway threshold finish within property boundary line is to contrast with driveway entry.

The footpath and driveway entry on the council property must be installed to the satisfaction of WCC Manager of Works.

A Landscape Plan is to be submitted to Council for approval prior to the issue of the Construction Certificate showing proposed paving, footpath design levels, street tree details and location of all services.

24 **Stormwater Drainage Design**

A detailed drainage design for the development must be submitted to and approved by the Principal Certifier prior to the release of the Construction Certificate. The detailed design is to form part of the construction certificate drawings. The detailed drainage design must satisfy the following requirements:

a be prepared by a suitably qualified civil engineer in accordance with Chapter E14 of Wollongong City Council's Development Control Plan 2009, Subdivision Policy, conditions listed under this consent, and generally in accordance with the concept plan/s lodged for development approval, prepared by GILCON Structural Engineers (job no: 19362, rev: e, dated: 31 August 2020).

b include details of the method of stormwater disposal. Stormwater from the development must be piped to Council's existing stormwater drainage system.

c Engineering plans and supporting calculations for the stormwater drainage system are to be prepared by a suitably qualified engineer and be designed to ensure that stormwater runoff from upstream properties is conveyed through the site without adverse impact on the development or adjoining properties. The plan must indicate the method of disposal of all stormwater and must include rainwater tanks, existing ground levels, finished surface levels on all paved areas, estimated flow rates, invert levels and sizes of all pipelines,

d Overflow paths shall be provided to allow for flows of water in excess of the capacity of the pipe/drainage system draining the land, as well as from any detention storage on the land. Blocked pipe situations with 1 in 100 year ARI events shall be incorporated in the design. Overflow paths shall also be provided in low points and depressions. Each overflow path shall be designed to ensure no entry of surface water flows into any building and no concentration of surface water flows onto any adjoining property. Details of each overflow path shall be shown on the detailed drainage design.

25 **On-Site Stormwater Detention (OSD) Design**

The developer must provide on-site stormwater detention (OSD) storage for stormwater runoff from the development. The design and details of the OSD system must be provided in conjunction

with the detailed drainage design and approved by the Principal Certifier prior to the release of the Construction Certificate. The OSD design and details must satisfy the following requirements:

a Must be prepared by a suitable qualified engineer in accordance with Chapter E14 of the Wollongong DCP 2009.

b Must include details of the Site Storage Requirement (SSR) and Permissible Site Discharge (PSD) values for the site in accordance with Section 10.2.4 of Chapter E14 of the Wollongong DCP2009.

c The OSD facility must be designed to withstand the maximum loadings occurring from any combination of traffic (with consideration to residential and heavy vehicles), hydrostatic, earth, and buoyancy forces. Details must be provided demonstrating these requirements have been achieved.

d The OSD facility shall incorporate minimum 600mm x 600mm square lockable grate for access and maintenance purposes, provision for safety, debris control screen, and a suitably graded invert to the outlet to prevent ponding.

e Must include discharge control calculations (i.e. orifice/weir calculations) generally in accordance with Section 10.2.6 and 10.5.4 of Chapter E14 of the Wollongong DCP2009.

f Details of the orifice plate including diameter of orifice and method of fixing shall be provided.

g Must include details of a corrosion resistant identification plaque for location on or close to the OSD facility. The plaque shall include the following information and shall be installed prior to the issue of the occupation certificate:

- The structure is an OSD facility, being part of the stormwater drainage network, and is not to be tampered with.
- Identification number DA-2020/290;
- Any specialist maintenance requirements.

h Must include a maintenance schedule for the OSD system, generally in accordance with Chapter E14 of the Wollongong DCP2009.

26 **Council Footpath Reserve Works – Driveways and Crossings**

All redundant vehicular crossings and laybacks rendered unnecessary by this development must be reconstructed to normal kerb and gutter or existing edge of carriageway treatment to match the existing. The verge from the back of kerb to the boundary must be restored and the area appropriately graded, topsoiled and turfed in a manner that conforms with adjoining road reserve. The area forward of the front boundary must be kept smooth, even and free from any trip hazards. All alterations of public infrastructure where necessary are at the developer's expense.

All new driveway laybacks and driveway crossings must be designed in accordance with Wollongong City Council Standards. Any redundant line marking such as 'marked parking bays' are adjusted/removed at the developer's expense by a Council recognised contractor with the relevant insurances. Details and locations are to be shown on the Construction Certificate Plans.

27 **Driveway Width**

The driveway crossover within Council's Road reserve is to be 5.5 metres wide. This requirement shall be reflected on the Construction Certificate plans.

28 **Dilapidation Survey**

A dilapidation survey and report shall be submitted to the Principal Certifier.

The dilapidation survey and report shall accurately reflect the condition of existing adjoining and adjacent public and private infrastructure.

The report shall outline measures for the protection of existing public and private infrastructure during the works.

Any damage to infrastructure items and relics which is caused by the developer shall be repaired to the satisfaction of the Principal Certifier prior to the issue of a Certificate of Practical Completion for Subdivision works.

29 **Development Contributions**

Pursuant to Section 4.17 of the Environmental Planning and Assessment Act 1979 and the Wollongong City-Wide Development Contributions Plan, a monetary contribution of $14,630.00 (subject to indexation) must be paid to Council towards the provision of public amenities and services, prior to the release of any associated Construction Certificate.

This amount has been calculated based on the estimated cost of development and the applicable percentage rate.

The contribution amount will be subject to indexation until the date of payment. The formula for indexing the contribution is:

Contribution at time of payment = $C x (CP2/CP1)

Where:

$C is the original contribution as set out in the Consent

CP1 is the Consumer Price Index; All Groups CPI; Sydney at the time the consent was issued

CP2 is the Consumer Price Index; All Groups CPI; Sydney at the time of payment

Details of CP1 and CP2 can be found in the Australian Bureau of Statistics website – Catalogue No. 6401.0 - Consumer Price Index, Australia.

The following payment methods are available:

METHOD	HOW	PAYMENT TYPE
Online	http://www.wollongong.nsw.gov.au/applicationpayments Your Payment Reference: 1215887	• Credit Card
In Person	Wollongong City Council Administration Building - Customer Service Centre Ground Floor 41 Burelli Street, WOLLONGONG	• Cash • Credit Card • Bank Cheque
PLEASE MAKE BANK CHEQUE PAYABLE TO: Wollongong City Council (Personal or company cheques are not accepted)		

A copy of the Wollongong City-Wide Development Contributions Plan and accompanying Fact Sheet may be inspected or obtained from the Wollongong City Council Administration Building, 41 Burelli Street, Wollongong during business hours or on Council's web site at www.wollongong.nsw.gov.au

Prior to the Commencement of Works

30 **Prior to Tree Removal**

Prior to removal, the trees approved for removal under this development consent shall be closely inspected for native vertebrate fauna occupation, and if occupied by native vertebrate fauna, then the NSW Wildlife Information, Rescue and Education Service (WIRES) shall be contacted for advice (telephone 1300 094 737).

31 **Heritage - Photographic Recording**

Prior to the commencement of any works on site the existing building condition is to be documented through a photographic recording prepared in accordance with the NSW Heritage Branch Guidelines. A copy of the recording is to be provided to Council's Heritage Officer for inclusion in the local studies collection of the Wollongong City Library.

32 **Residential Building Work – Compliance with the Requirements of the Home Building Act 1989**

Building work involving residential building work within the meaning of the Home Building Act 1989 must not be carried out unless the Principal Certifier for the development to which the work relates:

a in the case of work to be done by a licensee under that Act:
  i has been informed in writing of the licensee's name, contractor license number and contact address details (in the case of building work undertaken by a contractor under the Home Building Act 1989); and
  ii is satisfied that the licensee has complied with the requirements of Part 6 of the Home Building Act 1989; or

b in the case of work to be done by any other person:
  i has been informed in writing of the persons name, contact address details and owner-builder permit number; and
  ii has been given a declaration signed by the property owner(s) of the land that states that the reasonable market cost of the labour and materials involved in the work is less than the amount prescribed for the purposes of the definition of owner-builder work in Section 29 of the Home Building Act 1989 and is given appropriate information and declarations under paragraphs (a) and (b) whenever arrangements for the doing of the work are changed in such a manner as to render out of date any information or declaration previously given under either of those paragraphs.

Note: A certificate issued by an approved insurer under Part 6 of the Home Building Act 1989 that states that the specific person or licensed contractor is the holder of an insurance policy issued for the purposes of that Part of the Act is, for the purposes of this condition, sufficient evidence that the person has complied with the requirements of that Part of the Act.

33 **Sign – Supervisor Contact Details**

Before commencement of any work, a sign must be erected in a prominent, visible position:

a stating that unauthorised entry to the work site is not permitted;
b showing the name, address and telephone number of the Principal Certifier for the work; and
c showing the name and address of the principal contractor in charge of the work site and a telephone number at which that person can be contacted at any time for business purposes.

This sign shall be maintained while the work is being carried out and removed upon the completion of the construction works.

34 **Temporary Toilet/Closet Facilities**

Toilet facilities are to be provided at or in the vicinity of the work site on which work involved in the erection or demolition of a building is being carried out at the rate of one toilet for every 20 persons or part of 20 persons employed at the site.

Each toilet provided must be:

a a standard flushing toilet; and
b connected to either:
  i the Sydney Water Corporation Ltd sewerage system or
  ii an accredited sewage management facility or
  iii an approved chemical closet.

The toilet facilities shall be provided on-site, prior to the commencement of any works.

35 **Enclosure of the Site**

The site must be enclosed with a suitable security fence to prohibit unauthorised access, to be approved by the Principal Certifier. No building work is to commence until the fence is erected.

36 **Demolition Works**

The demolition of the existing dwelling and structures shall be carried out in accordance with Australian Standard AS2601 (2001): The Demolition of Structures or any other subsequent relevant Australian Standard and the requirements of the SafeWork NSW.

No demolition materials shall be burnt or buried on-site. The person responsible for the demolition works shall ensure that all vehicles leaving the site carrying demolition materials have

their loads covered and do not track soil or waste materials onto the road. Any unforeseen hazardous and/or intractable wastes shall be disposed of to the satisfaction of the Principal Certifier. In the event that the demolition works may involve the obstruction of any road reserve/footpath or other Council owned land, a separate application shall be made to Council to enclose the public place with a hoarding or fence over the footpath or other Council owned land.

37 **Demolition Notification to Surrounding Residents**
Demolition must not commence unless at least two (2) days written notice has been given to adjoining residents of the date on which demolition works will commence.

38 **Consultation with SafeWork NSW – Prior to Asbestos Removal**
A licensed asbestos removalist must give written notice to SafeWork NSW at least five (5) days before licensed asbestos removal work is commenced.

39 **Structural Engineer's Details**
Structural engineer's details for all structurally designed building works such as reinforced concrete footings, reinforced concrete slabs and structural steelwork must be submitted to the Principal Certifier, prior to the commencement of any works on the site.

40 **Contaminated Roof Dust**
Any existing accumulations of dust in ceiling voids and wall cavities must be removed prior to any demolition work commencing. Removal must take place by the use of an industrial vacuum fitted with a high efficiency particulate air (HEPA) filter.

41 **Survey Report – Siting of Development within Property Boundaries**
A survey report prepared by a registered surveyor is required to be submitted to the Principal Certifier to ensure that the proposed development is located on the correct allotment and at the approved distances from the boundary. This must be verified by pegging the site prior to commencement of works.

42 **Public Liability Insurance**
All contractors working in Council's road reserve and/or public reserve areas shall take out public liability insurance for a minimum amount of $10 Million. The policy shall specifically indemnify Council from all claims arising from the execution of the works. Written evidence of this insurance shall be supplied to the Principal Certifier and Council (in the event that Council is not the Principal Certifier) prior to the commencement of any such works in any road reserve or public reserve area.

43 **Temporary Sediment Fences**
Temporary geotextile fabric sediment fences must be installed on the site, prior to the commencement of any construction works in accordance with "Managing Urban Stormwater: Soils and Construction", 4th edition, Landcom, 2004. The temporary sediment fences shall be maintained at all times throughout the entire demolition, excavation and construction phases of the development and until the site has become stabilised.

44 **All-weather Access**
An all-weather stabilised access point must be provided to the site to prevent sediment leaving the site as a result of vehicular movement. Vehicular movement should be limited to this single accessway.

45 **Tree Protection Implementation**
The existing trees are to be retained upon the subject property and any trees on adjoining properties shall not be impacted upon during the excavation or construction phases of the development. This will require the installation and maintenance of appropriate tree protection measures, including (but not necessarily limited to) the following:

a installation of Tree Protection Fencing - Protective fencing shall be 1.8 m cyclone chainmesh fence, with posts and portable concrete footings;
b mulch Tree Protection Zone: Areas within a Tree Protection Zone are to be mulched with minimum 75 mm thick 100% recycled hardwood chip/leaf litter mulch;
c irrigate: Areas within the Tree Protection Zone are to be regularly watered in accordance with the arborist's recommendations.

The tree protection fencing shall be installed prior to the commencement of any demolition, excavation or construction works and shall be maintained throughout the entire construction phases of the development.

46 **Supervising Arborist – Tree Inspection and Installation of Tree Protection Measures**
Prior to the commencement of any demolition, excavation or construction works, the supervising arborist must certify in writing that tree protection measures have been inspected and installed in accordance with the arborist's recommendations and relevant conditions of this consent.

47 The arrangements and costs associated with any adjustment to a public utility service shall be borne by the applicant/developer. Any adjustment, deletion and/or creation of public utility easements associated with the approved works are the responsibility of the applicant/developer. The submission of documentary evidence to the Principal Certifier which confirms that satisfactory arrangements have been put in place regarding any adjustment to such services is required prior to any works commencing on site.

48 **Relocation of State Survey Marks**
In accordance with Surveying and Spatial Information Regulations, 2017 a person must not remove, damage, destroy, displace, obliterate or deface any survey mark unless authorised to do so by the Surveyor General. In this regard any proposed construction work that may affect a State Survey Mark cannot be undertaken until a registered surveyor is engaged to arrange its relocation, in accordance with the requirements of the NSW Land Registry Services.

49 **Works in Road Reserve - Minor Works**
Approval, under Section 138 of the Roads Act must be obtained from Wollongong City Council's Development Engineering Team prior to any works commencing or any proposed interruption to pedestrian and/or vehicular traffic within the road reserve caused by the construction of this development.

The application form for Works within the Road Reserve – Section 138 Roads Act can be found on Council's website. The form outlines the requirements to be submitted with the application, to give approval to commence works under the roads act. It is advised that all applications are submitted and fees paid, five (5) days prior to the works within the road reserve are intended to commence. The Applicant is responsible for the restoration of all Council assets within the road reserve which are impacted by the works/occupation. Restoration must be in accordance with the following requirements:

a All restorations are at the cost of the Applicant and must be undertaken in accordance with Council's standard document, "Specification for work within Council's Road reserve".
b Any existing damage within the immediate work area or caused as a result of the work/occupation, must also be restored with the final works.

50 **Protection of Public Infrastructure**
Council must be notified in the event of any existing damage to any of its infrastructure such as the road, kerb and gutter, road shoulder, footpath, drainage structures and street trees fronting the development site, prior to commencement of any work.

Adequate protection must be provided for Council infrastructure prior to work commencing and during building operations.

Any damage to Council's assets shall be made good, prior to the issue of any Occupation Certificate or commencement of the operation.

51 **Tree Protection**
Prior to commencement of any work on the site, including any demolition, all trees not approved for removal as part of this consent that may be subjected to impacts of this approved development must be protected in accordance with Section 4 of the Australian Standard Protection of Trees on Development Sites (AS 4970-2009).

Tree protection zones must be established prior to the commencement of any work associated with this approved development.

No excavation, construction activity, grade changes, storage of materials stockpiling, siting of works sheds, preparation of mixes or cleaning of tools is permitted within Tree Protection Zones.

During Demolition, Excavation or Construction

52 **Avoidance of Cruelty and Harm to Fauna**
During tree removal works, all care shall be taken to avoid cruelty and harm to fauna.

53 **Injured Fauna**
In the event any native fauna are injured during tree removal works, then the NSW Wildlife Information, Rescue and Education Service (WIRES) shall be contacted (phone 1300 094 737) for assistance.

54 **Survey Report for Levels**
A Survey Report must be submitted to the Principal Certifier verifying that each floor level accords with the floor levels and overall building height as per the approved plans under this consent. All levels shall relate to Australian Height Datum.

55 **No Adverse Run-off Impacts on Adjoining Properties**
The design and construction of the development shall ensure there are no adverse effects to adjoining properties, as a result of flood or stormwater run-off. Attention must be paid to ensure adequate protection for buildings against the ingress of surface run-off.

Allowance must be made for surface run-off from adjoining properties. Any redirection or treatment of that run-off must not adversely affect any other property.

56 **Copy of Consent to be in Possession of Person carrying out Tree Removal**
The applicant must ensure that any person carrying out tree removal is in possession of this development consent and the approved landscape plan, in respect to the vegetation which has been given approval to be removed in accordance with this consent.

57 **Waste Inventory Report**
A Waste Inventory report must be maintained on-site during demolition work. The waste inventory is a register of all materials and waste removed from the site during the demolition work. The register must record each load or movement of material and waste from the site and must include at a minimum the following information:

a the description of the material (including identified hazardous material);
b an estimate of the quantity by volume and weight;
c the name of the transporter and the registration details of the relevant vehicle;
d the intended destination of the material;
e a copy of the Waste Inventory and copies of relevant receipts of disposal shall be forwarded to Council's Division of Regulation and Enforcement prior to the Construction Certificate for re-development being issued.

58 **Restricted Hours of Construction Work**
The developer must not carry out any work, other than emergency procedures, to control dust or sediment laden runoff outside the normal working hours, namely, 7.00 am to 5.00 pm, Monday to Saturday, without the prior written consent of the Principal Certifier and Council. No work is permitted on public holidays or Sundays.

Any request to vary these hours shall be submitted to the **Council** in writing detailing:

a the variation in hours required (length of duration);
b the reason for that variation (scope of works);
c the type of work and machinery to be used;
d method of neighbour notification;
e supervisor contact number;
f any proposed measures required to mitigate the impacts of the works.

The construction works noise shall comply with the Australian Standard AS 2436-2010 "Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites" and any other requirements as specified by Council or the NSW Environment Protection Authority.

Note: The developer is advised that other legislation may control the activities for which Council has granted consent, including but not limited to, the Protection of the Environment Operations Act 1997.

59 **Site Management**
Stockpiles of sand, gravel, soil and the like must be located to ensure that the material:

a Does not spill onto the road pavement and
b is not placed in drainage lines or watercourses and cannot be washed into these areas.

60 Should during construction any waste material or construction material be accidentally or otherwise spilled, tracked or placed on the road or footpath area without the prior approval of Council's Works Division this shall be removed immediately. Evidence that any approval to place material on the road or road reserve shall be available for inspection by Council officers on site at any time.

61 Drains, gutters, access ways and roadways must be maintained free of sediment and any other material. Gutters and roadways must be swept/scraped regularly to maintain them in a clean state.

62 Building operations such as brick cutting, the washing of tools or paint brushes, or other equipment and the mixing of mortar must not be carried out on the roadway or public footpath or any other locations which could lead to the discharge of materials into the stormwater drainage system or natural watercourse.

63 **Dust Suppression Measures**
Activities occurring during the demolition, excavation and construction phases of the development must be carried out in a manner that will minimise the generation of dust.

64 **Asbestos – Removal, Handling and Disposal Measures/Requirements Asbestos Removal by a Licensed Asbestos Removalist**
The removal of any asbestos material must be carried out by a licensed asbestos removalist if over 10 square metres in area of non-friable asbestos, or if any type of friable asbestos in strict accordance with SafeWork NSW requirements (<http://www.safework.nsw.gov.au>).

65 **Asbestos Clearance Certificate**
A Clearance Certificate to certify that the site is free of asbestos is to be submitted to Council by a licensed asbestos assessor within fourteen (14) days of the completion of demolition works.

66 **Asbestos Waste Collection, Transportation and Disposal**
Asbestos waste must be prepared, contained, transported and disposed of in accordance with SafeWork NSW and NSW Environment Protection Authority requirements. Asbestos waste must only be disposed of at a landfill site that can lawfully receive this this type of waste. A receipt must be retained and submitted to the Principal Certifier, and a copy submitted to Council (in the event that Council is not the Principal Certifier), prior to commencement of the construction works.

67 **Provision of Waste Receptacle**
The developer must provide an adequate receptacle to store all waste generated by the development, pending disposal. The receptacle must be regularly emptied and waste must not be allowed to lie or accumulate on the property other than in the receptacle. Consideration should be given to the source separation of recyclable and re-usable materials.

68 **BASIX**
All the commitments listed in each relevant BASIX Certificate for the development must be fulfilled in accordance with Clause 97A(2) of the Environmental Planning & Assessment Regulation 2000.

A relevant BASIX Certificate means:

- A BASIX Certificate that was applicable to the development when this development consent was granted (or, if the development consent is modified under section 4.55 of the Environmental Planning & Assessment Act 1979, a BASIX Certificate that is applicable to the development when this development consent is modified); or
- if a replacement BASIX Certificate accompanies any subsequent application for a construction certificate, the replacement BASIX Certificate; and

- BASIX Certificate has the meaning given to that term in the Environmental Planning & Assessment Regulation 2000."

69 **Excess Excavated Material – Disposal**

Excess excavated material shall be classified according to the NSW Environment Protection Authority's Waste Classification Guidelines – Part 1: Classifying Waste (2014) prior to being transported from the site and shall be disposed of only at a location that may lawfully receive that waste.

70 **Provision of Taps/Irrigation System**

The provision of common taps and/or an irrigation system is required to guarantee that all landscape works are adequately watered. The location of common taps and/or irrigation system must be implemented in accordance with the approved Landscape Plan.

71 **Screen Planting**

To mitigate impact to adjoining dwelling a continuous hedge is to be established along north eastern and south western boundaries for the length of property boundary where feasible. Recommended species: *Callistemon viminalis 'Slim'*, *Photinia glabra Rubens, Viburnum tinus, Syzygium australe Aussie Southern, Syzygium, 'Resiliance', Viburnum odoratissimum Dense Fence or Waterhousea floribunda Sweeper*. Minimum spacing 1000mm. Minimum pot size 5 lt.

A further list of suitable suggested species may be found in Wollongong Development Control Plan 2009 – Chapter E6: Landscaping.

Prior to the Issue of the Occupation Certificate

72 **Drainage**

The developer must obtain a certificate of Hydraulic Compliance (using Council's M19 form) from a suitably qualified civil engineer, to confirm that all stormwater drainage and on-site detention works have been constructed in accordance with the approved plans. In addition, full works-as-executed plans, prepared and signed by a Registered Surveyor must be submitted. These plans and certification must satisfy all the stormwater requirements stated in Chapter E14 of the Wollongong DCP2009. This information must be submitted to the Principal Certifier prior to the issue of the final Occupation Certificate.

73 **Restriction on Use – On-site Detention System**

The applicant must create a restriction on use under the Conveyancing Act 1919 over the on-site detention system. The following terms must be included in an appropriate instrument created under the Conveyancing Act 1919 for approval of Council:

"The registered proprietor of the lot burdened must not make or permit or suffer the making of any alterations to any on-site stormwater detention system on the lot(s) burdened without the prior consent in writing of the authority benefited. The expression 'on-site stormwater detention system' shall include all ancillary gutters, pipes, drains, walls, kerbs, pits, grates, tanks, chambers, basins and surfaces designed to temporarily detain stormwater as well as all surfaces graded to direct stormwater to those structures.

Name of the authority having the power to release, vary or modify the restriction referred to is Wollongong City Council."

The instrument, showing the restriction, must be submitted to the Principal Certifier for endorsement prior to the issue of the Occupation Certificate and the use of the development.

74 **Waste Inventory**

A copy of the Waste Inventory which was maintained on-site during the demolition work and copies of relevant receipts of waste material being deposited at a waste disposal facility shall be forwarded to the Principal Certifier and Council's Regulation and Enforcement Division (in the event that Council is not the Principal Certifier), prior to the issue of the Occupation Certificate or commencement of the use.

75 **BASIX**

An Occupation Certificate must not be issued unless accompanied by the BASIX Certificate applicable to the development. The Principal Certifier must not issue the final occupation certificate unless satisfied that selected commitments have been complied with as specified in the relevant BASIX Certificate. NOTE: Clause 154B of the Environmental Planning and Assessment Regulation 2000 provides for independent verification of compliance in relation to certain BASIX commitments.

76 **Positive Covenant – On-Site Detention Maintenance Schedule**

A positive covenant shall be created under the Conveyancing Act 1919, requiring the property owner(s) to undertake maintenance in accordance with the Construction Certificate approved On-Site Stormwater Detention System and Maintenance Schedule (application number to be referenced).

The instrument, showing the positive covenant must be submitted to the Principal Certifier for endorsement prior to the issue of the Occupation Certificate and the use of the development.

77 **On-Site Detention – Structural Certification**

The submission of a certificate from a suitably qualified practising civil and/or structural engineer to the Principal Certifier is required prior to the issue of the Occupation Certificate. This certification is required to verify the structural adequacy of the on-site detention facility and that the facility has been constructed in accordance with the approved Construction Certificate plans.

78 **Acoustic Compliance**

Acoustic compliance report certifying requirements at Condition 7 of this consent have been satisfied in relation to road noise mitigation measures must be submitted to the Principal Certifier prior to the issue of the Occupation Certificate and the use of the development.

Operational Phases of the Development/Use of the Site

79 **Loading/Unloading Operations/Activities**

All loading/unloading operations are to take place at all times wholly within the confines of the site or within the road reserve under an approved traffic control plan.

Our ref: STH20/00055/03
Contact: Chris Millet 4221 2570

11 August 2020

Brigit Mathai
Wollongong City Council
BY EMAIL: bmathai@wollongong.nsw.gov.au; records@wollongong.nsw.gov.au

DEVELOPMENT APPLICATION DA 20120/290 – 342-344 LAWRENCE HARGRAVE DRIVE, THIRROUL, MULTI DWELLING HOUSING

Dear Madam

Transport for NSW (TfNSW) refers to the subject development application.

TfNSW has completed an assessment of the revised plans for the DA shown in Attachment 1, focussing on the impact to the state road network. The key State road is Lawrence Hargrave Drive.

TfNSW will not object to the DA subject to the conditions outlined in Attachment 2 being included in the conditions of development consent.

TfNSW highlights that in determining the DA under Part 4 of the *Environmental Planning and Assessment Act, 1979*, it is the consent authority's responsibility to consider the environmental impacts of any road works which are ancillary to the development. This includes any works which form part of the proposal and/or any works which are deemed necessary to include as requirements in the conditions of development consent. Depending on the level of environmental assessment undertaken to date and nature of the works, the consent authority may require the developer to undertake further environmental assessment for any ancillary road works.

Upon determination of this matter, it would be appreciated if Council could send a copy of the Notice of Determination to development.southern@rms.nsw.gov.au.

Yours faithfully

Fiona McLauchlan
A/Senior Manager, Regional Customer Services
Community and Place I South Region

See attached concept design titled Attachment 1

Prior to the issuing of the Construction Certificate, the developer must:

1. Apply for Section 138 consent under the Roads Act, 1993 from Council for all works on Lawrence Hargrave Drive.
2. Demonstrate to Council the development will comply with Clause 102 of the Infrastructure SEPP.

   Notes:

   - Traffic data from the traffic signals at Lawrence Hargrave Drive and Raymond Road indicates the volumes exceed 20,000 vehicles per day. Based on this, TfNSW believes the AADT around 342-344 Lawrence Hargrave Drive is likely to exceed 20,000 vehicles per day.
   - The relevant guideline is the NSW Government's Development Near Rail Corridors and Busy Roads – Interim Guideline, 2008.
3. Demonstrate to the satisfaction of Council the post development storm water discharge from the subject site, if going into the Lawrence Hargrave Drive drainage system, does not exceed the pre-development application discharge.

Prior to commencing works within the road reserve, the developer must:

1. Obtain Section 138 consent under the Roads Act, 1993 for the works on Lawrence Hargrave Drive from Council.

   Notes:

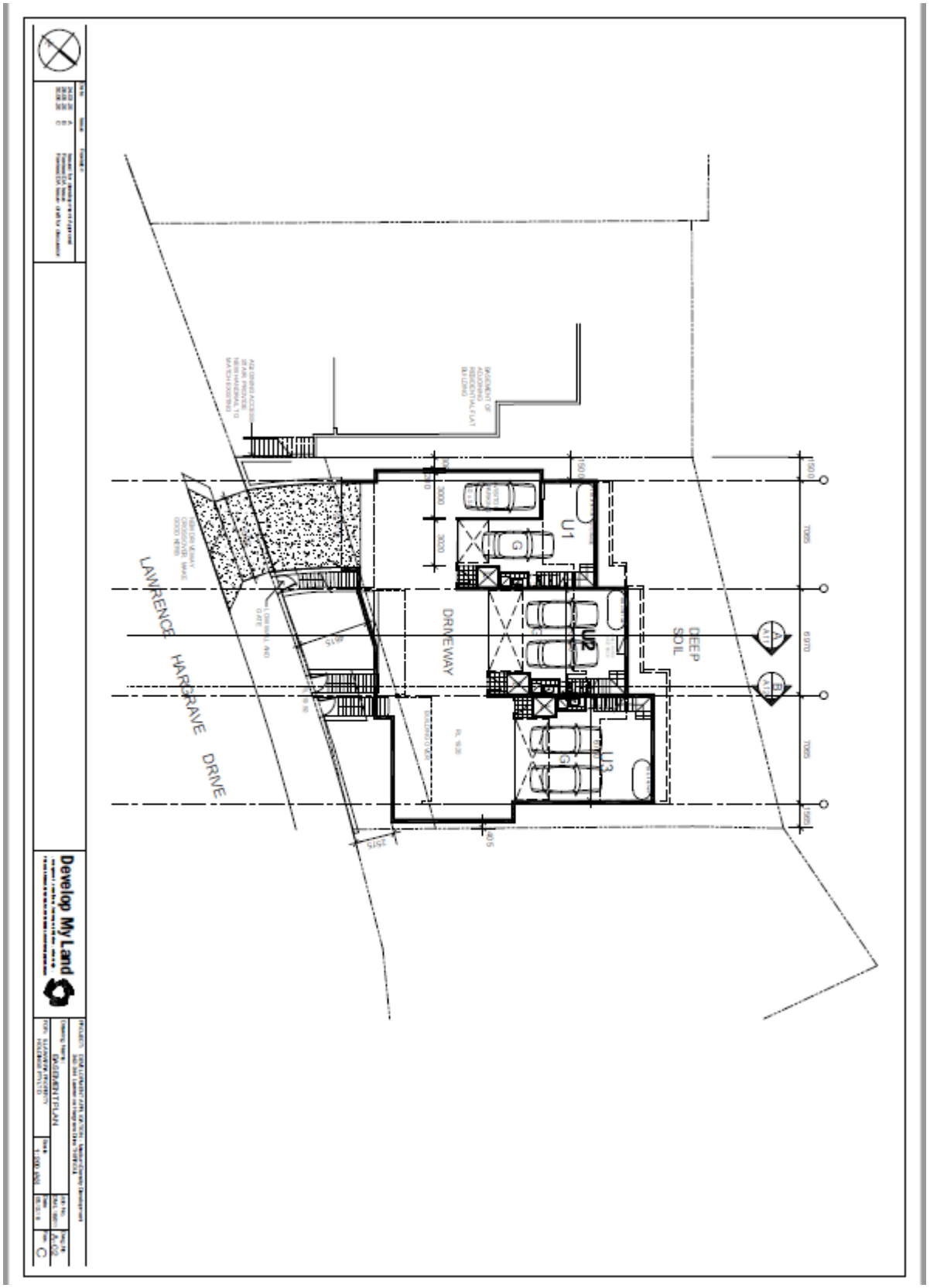
   - Provided Council is satisfied the works have been designed in accordance with the relevant Council standard, TfNSW issues its concurrence under Section 138 of the Roads Act, 1993.
2. Apply for, and obtain a Road Occupancy Licence (ROL) from the TfNSW Traffic Operations Unit (TOU) prior to commencing roadworks on a State road or any other works that impact a travel lane of a State road or impact the operation of traffic signals on any road.

   Notes:

   - For information on the ROL process and to lodge an ROL application, please visit https://myrta.com/oplinc2/pages/security/oplincLogin.jsf
   - The applicant will need to create an account (this may take a few days to register), prior to submitting the ROL application. The applicant must submit the ROL application 10 business days prior to commencing work. It should be noted that receiving an approval for the ROL within this 10 business day period is dependent upon TfNSW receiving an accurate and compliant TMP.
   - The application will require a Traffic Management Plan (TMP) to be prepared by a person who is certified to prepare Traffic Control Plans. Should the TMP require a reduction of the speed limit, a Speed Zone Authorisation will also be required from the TOU.
   - An approved ROL does not constitute an approval to commence works until an authorisation letter for the works has been issued by TfNSW Project Manager.

Prior to the issuing of the Occupation Certificate (interim or final), the developer must:

1. Design and construct the driveway on Lawrence Hargrave Drive to the satisfaction of Council, generally in accordance with Attachment 1 and Council standards.
2. Physically close any other existing access points to insert by reinstating the kerb and gutter OR fencing them and revegetating.


LAWRENCE HARGRAVE DRIVE
DRIVEWAY
U1
U2
U3
DEEP SOIL
Develop My Land