PENRITH
CITY COUNCIL

MAJOR ASSESSMENT REPORT

Application number:	DA21/0225
Proposed development:	Demolition of existing structures and construction of 2-3 storey boarding house containing 64 rooms and a manager's residence, basement parking, landscaping and stormwater works.
Property address:	27 Park Avenue, KINGSWOOD NSW 2747 28 Park Avenue, KINGSWOOD NSW 2747
Property description:	Lot 12 DP 29528 Lot 11 DP 29528
Date received:	6 April 2021
Assessing officer	Lucy Goldstein
Zoning:	SEPP WSA - Affected by Obstacle Limitation SEPP WSA - Affected by Wildlife Buffer Zone Zone R3 Medium Density Residential - LEP 2010
Class of building:	Class 3 , Class 7a
Recommendations:	Refuse

Executive Summary

Council is in receipt of a Development Application for the Demolition of Existing Structures and Construction of a 2-3 Storey Boarding House Containing 64x rooms and a Manager's Residence, Basement Parking, Landscaping and Stormwater works at 27-28 Park Avenue, Kingswood NSW 2747.

The subject site is zoned R3 Medium Density Residential, and the development is defined as a Boarding House, which is a permissible land use in the zone under Penrith Local Environmental Plan 2010 (LEP).

Key issues identified in the assessment of the application include:

- Compatibility of the development with the character of the surrounding area in terms of building siting, massing and scale.
- The proposal is non-compliant with key built form and amenity controls under Penrith Development Control Plan (DCP) 2014, relating to front and side setbacks, building separation, and building design.
- The proposal is considered of poor design quality standard, and will have negative impact on the streetscape and surrounding residential amenity. Noting that the proposal has been reviewed by an external Urban Design consultant via Council's Urban Design Review Panel process, and found to be unsatisfactory.
- The proposal provides an insufficient number of onsite car parking spaces to serve the development, and has not demonstrated that onsite waste collection can safely and effectively occur on the site (in the basement).
- The application has been advertised and notified to nearby properties in accordance with Council's Community Engagement Strategy. Council received a total of 31x unique submissions. The submissions received raised various matters including impacts on amenity, local character, traffic and parking, safety and security, noise, and the cumulative impacts of boarding house developments in the vicinity. A response to the matters is provided within this report.

The application is to be reported to the Local Planning Panel, as Council has received more than 10x unique submissions in relation to the proposal.

With consideration to the scale and quantity of issues raised with the proposal, it is considered that a substantial redesign is required to address issues, and achieve a compliant scheme. On 3 May 2021, Council issued a letter to the Applicant raising preliminary issues, and recommended that the application be withdrawn. To date Council has not received a response from the Applicant.

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

Site & Surrounds

The subject site is legally described as Lot 11 and Lot 12 DP 29528, commonly known as 27 and 28 Park Avenue, respectively.

Site Context: The surrounding area consists of predominately residential development, comprising a mix of single cottages, and medium density development, including townhouses and dual occupancies. The site is located within a pocket of land zoned R3 Medium Density Residential, which acts as a transition area from higher density development located around the Kingswood Railway Station.

Currently adjoining the site to the east (no.27-30 Park Ave) is a townhouse development, and to the west (no. 25-26 Park Ave) is a single dwelling. The adjoining property no. 25-26 Park Ave is subject of an approved development consent for a townhouse development which is currently under construction (DA18/1171.) To the north, north-east and north-west of the site are single dwellings. To the south of the site (across Park Avenue) is the railway corridor.

Site Characteristics: The site is an irregular shape with frontage to Park Avenue of 31.61m, rear northern boundary of 30.48m, eastern side boundary of 50.95m and western side boundary of 59.31m. Currently on the site are two single-storey dwellings, associated garage and structures located on each lot.

Site Constraints:

- Flood affected.
- Mature Lemon Scented Gum tree located in the front south-west corner of the site.
- Electricity pole located on the landscape verge in front of the site.
- Railway corridor located approximately 20m south of the site.

Proposal

- Construction of a 2-3 storey boarding house containing 64x rooms and 1x manager's residence with basement parking;
- The boarding house comprises 60x double rooms and 4x-single rooms;
- Demolition of existing structures on the site and site preparation works, including excavation for two levels of basement;
- Provision of 32x onsite car parking spaces within the basement, inclusive of 6x accessible car parking spaces.
- Provision of 13x bicycle parking spaces and 2x motorcycle parking spaces within the basement;
- Associated drainage and landscape works; and
- Lot Consolidation of 27 and 28 Park Avenue, Kingswood.

Plans that apply

- Local Environmental Plan 2010 (Amendment 4)
- Development Control Plan 2014
- State Environmental Planning Policy (Affordable Rental Housing) 2009
- State Environmental Planning Policy (Infrastructure) 2007
- State Environmental Planning Policy No 55—Remediation of Land

- ## Section 4.15 - Evaluation

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

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

State Environmental Planning Policy (Affordable Rental Housing) 2009

The proposal has been assessed against relevant provisions under State Environmental Planning Policy (Affordable Rental Housing) 2009 (SEPP ARH). Overall, the proposal is non-compliant with key standards and objectives of SEPP ARH, as outlined below.

SEPP ARH, DIVISION 3 BOARDING HOUSES

Clause 29 Standards that cannot be used to refuse consent

2(a) Building Height
A consent authority must not refuse consent on the grounds that "*if the building height of all proposed buildings is not more than the maximum building height permitted under another environmental planning instrument for any building on the land,"*

The proposal breaches the Maximum Building Height of 8.5m permitted on the site under Penrith LEP 2010. The proposal was supported by a Clause 4.6 Request to Vary Development Standard, which on balance is not supportable. Refer to discussion in this report under 'Clause 4.6.'

2(b) Landscaped Area
A consent authority must not refuse consent on the grounds that "*if the landscape treatment of the front setback area is compatible with the streetscape in which the building is located,"*

The landscape treatment of the front setback area is not compatible with the streetscape in which the building is located. This is largely due to the insufficient front setback of the building, which is forward of both adjoining properties (29-30 and 25-26 Park Ave). The development comprises two building wings with a minimum front setback of 5.5m and 7m, compared to 8m for the existing townhouse at no.29-30 Park Avenue, and the townhouse development under construction at 25-26 Park Avenue which provides varied setback of 6m-8.5m. The insufficient front setback limits the opportunity for suitable landscaping along the front of the site to integrate the development into the surrounding context. In combination with this, the location of footpath, driveway, and services required for the scale of the development within the front setback area further restricts opportunity for a suitable landscape treatment.

2(e) Parking
A consent authority must not refuse consent on the grounds that "*if-*
(ii) in the case of development not carried out by or on behalf of a social housing provider - at least 0.5 parking spaces are provided for each boarding room, and
(iii) in the case of any development - not more than 1 parking space is provided for each person employed in connection with the development and who is a resident onsite."

It is noted that the proposal is not carried out by or on behalf of a social housing provider, as the supporting Statement of Environmental Effects identifies that the boarding house will be provided and managed by a private provider. As such, the car parking standard (ii) and (iii) as outlined above applies. The application proposes 65 rooms inclusive of one manager's room. Therefore, using the rate of 0.5 car spaces x 65 rooms, a total of 33x car parking spaces is needed to meet the standard under sub-clause (2)(e). The proposal provides 32x onsite car parking spaces, resulting in a shortfall of 1x car space. Given the nature of the proposal and locality, the shortfall of car parking is not considered supportable, and speaks to the proposal being an over development of the site.

Clause 30 Standards for boarding houses

1(a) *"if a boarding house has 5 or more boarding rooms, at least one communal living room will be provided."*

The Architectural Plan shows one communal living room is provided, located on ground floor at the rear of the building. However, the proposed communal living area is considered insufficient in size to meet the intention of Clause 30(1)(a). In this regard, the communal living area is 16sqm in area, which is inadequate in size to serve the number of lodgers proposed (being 124 lodgers). It is noted that Penrith DCP requires 13sqm of communal area to be provided per lodger, when more than 6x boarding rooms are proposed. As 124 lodgers are proposed, a minimum of 248sqm of communal area should be provided for the development.

Clause 30A Character of Area
Clause 30A requires the consent authority to consider the compatibility of the design with the character of the local area. The local area comprises a mix of traditional single dwellings and medium density development including dual occupancies and multi-unit housing. Surrounding developments typically have deep landscaped front and rear setbacks, and building forms that are broken into blocks approximately 20m in length, with a minimum building separation of 4m. The proposed built form is considered incompatible with the character of the local area in terms of building length, height, and design.

The proposed buildings are excessive in length being 38m and 43m. Noting that Penrith DCP requires buildings to be broken up into blocks of no longer than 20m to provide relief from built forms. The bulk and scale of the buildings is further exacerbated by the building design and height, noting that upper floors have not been stepped in and the building breaches the maximum height permitted on the site. Further, the northern elevation of the buildings present as a 3-storey building which directly overlooks the adjoining property to the rear. In combination with the height breach, this results in unreasonable privacy impacts and contributes to the building appearing‘overbearing’ and excessively large.

State Environmental Planning Policy (Infrastructure) 2007

The proposal was referred to Sydney Trains for consideration pursuant to Clause 86 of the SEPP Infrastructure. Clause 86 relates to development that involves certain excavation works that are located in, above, below or adjacent to a rail corridor, which is relevant to the proposal.

Clause 86 states that:

> *86 Excavation in, above, below or adjacent to rail corridors*
> *(1) This clause applies to development (other than development to which clause 88 applies) that involves the penetration of ground to a depth of at least 2m below ground level (existing) on land—*
> *(a) within, below or above a rail corridor, or*
> *(b) within 25m (measured horizontally) of a rail corridor, or*
> *(b1) within 25m (measured horizontally) of the ground directly below a rail corridor, or*
> *(c) within 25m (measured horizontally) of the ground directly above an underground rail corridor.*
>
> *(2) Before determining a development application for development to which this clause applies, the consent authority must—*
> *(a) within 7 days after the application is made, give written notice of the application to the rail authority for the rail corridor, and*
> *(b) take into consideration—*
> *(i) any response to the notice that is received within 21 days after the notice is given, and*
> *(ii) any guidelines issued by the Secretary for the purposes of this clause and published in the Gazette.*

With consideration to the above, the proposal involves excavation works that are more than 2m deep and which are located less than 25m of a railway corridor (which is south of the site). Accordingly, the proposal was referred to Sydney Trains for consideration. In their response dated 24 May 2021, Sydney Trains raised no objection to the proposal subject to imposing operational conditions relating largely to construction methods. Notwithstanding this advice, the proposal is recommended for refusal on other considerations as detailed in this report.

State Environmental Planning Policy No 55—Remediation of Land

The proposal has been assessed against relevant criteria of State Environmental Planning Policy No 55—Remediation of Land (SEPP 55), and is found to meet the requirements of this policy as outlined below:

- In review of Council's records, the site has historically been used for residential purposes, which is not considered a potentially contaminating activity. As such, it is considered that there is very low risk of land contamination issues. It is noted that the proposal does not seek a change of use to a more sensitive use.
- Given the age of the existing two dwellings on the site, it is considered necessary that a Hazardous Materials Survey be conducted prior to demolition, to ensure that structures will not impact the health of surrounding sensitive receives and the environment. This matter is capable of being addressed via a condition of consent.

With consideration to the above, the proposal is considered to meet the requirements of SEPP 55. Notwithstanding this, the proposal is recommended for refusal on other grounds as detailed in this report.

Local Environmental Plan 2010 (Amendment 4)

Provision	Compliance
Clause 2.3 Permissibility	Complies - See discussion
Clause 2.3 Zone objectives	Does not comply - See discussion
Clause 4.3 Height of buildings	Does not comply - See discussion
Clause 4.4 Floor Space Ratio	N/A
Clause 4.6 Exceptions to development standards	Does not comply - See discussion

Clause 2.3 Permissibility

Under Penrith LEP 2010, the subject site is zoned R3 Medium Density Residential. The proposal is defined as a 'Boarding House' which is permissible in the R3 Medium Density Residential zone with consent.

Clause 2.3 Zone objectives

The proposal is not considered consistent with the objectives of the R3 Medium Density zone, specifically:

- *To enhance the essential character and identity of established residential areas.*
  The development does not enhance the character and identify of the surrounding established area. The building design is of excessive bulk and scale relative to the context and size of the site. The front elevation does not enhance the streetscape, particularly as a result of the extent of the protrusion of the basement opening, which fronts the street and reads as a first-storey.

- *To ensure that development reflects the desired future character and dwelling densities of the area.*
  The proposed built form is incompatible with the future character of the local area in terms of building height, massing, design, setbacks and landscaping.

- *To ensure that a high level of residential amenity is achieved and maintained.*
  The proposal does not achieve a high level of residential amenity for occupants of the boarding house, and does not maintain surrounding residential amenity. The proposal provides inadequate communal living area relative to the scale of the boarding house, and provides a very poor interface with adjoining properties as a result of an excessive building height and length, insufficient side setbacks and excessive number of boarding rooms facing adjoining properties. In addition, the application has not demonstrated that the development is suitable in respect to noise impacts on residents of the boarding house and on adjoining sensitive receivers.

Clause 4.3 Height of buildings

A maximum building height of 8.5m is permitted on the site. The proposal breaches the Maximum Building Height control, having a maximum building height of 9.0m, representing a breach of 0.5m. The application was accompanied by a Clause 4.6 Request for Variation, as discussed in this report below.

Clause 4.6 Exceptions to development standards
Clause 4.6- 'Exceptions to development standards' allows an Applicant to make a written request to vary principle development standard(s). In this case, the proposal seeks to vary the development of Clause 4.3- 'Height of buildings'.

Clause 4.3 is a principal development standard, and can therefore be varied pursuant to Clause 4.6. Noting that Clause 4.6(2) refers to "*a development standard imposed by this or any other environmental planning instrument"*. In addition, Clause 4.6(8) lists several instances where the provisions of Clause 4.6 cannot be applied, and Clause 4.3 is not included in this list.

The objective of Clause 4.6 is outlined in sub-clause (1) and is, *"to provide an appropriate degree of flexibility in applying certain standards to particular development"; and "to achieve a better outcome for and from the development by allowing flexibility in particular circumstances*".

Written Request to Vary Development Standard:
The Development Application was supported by a request titled *Clause 4.6 Written Request for Variation to Clause 4.3(2) Height of Building*, dated 31 March 2021, prepared by Andrew Martin Planning. A copy of the written request in its entirety is provided to the Local Planning Panel as an attachment to this report.

The written request states that a variation to development standard should be permitted in this instance for the following main reasons, as summarised below:

- *The variation requested is up to a maximum 500mm over the 8.5m height control in the south-east corner of the eastern wing of the development. The variation equates to a 5.88% variation and is stated to be minor, and not impact adjoining properties.*

- *The request states that the development does not offend the objectives of Clause 4.3- Height of Buildings. Specifically, the request argues that the development is compatible with the height, bulk and scale of existing and desired future character of the locality, as the majority of the development complies with the height standard, and the breach will not be easily discernible from the street (Park Ave) as the portion of the building that breaches the height standard essentially sits behind the pitched roof form which faces Park Avenue. Further, the request argues that the proposal provides a front setback that is generally aligned with adjoining properties, and adequate landscaping is provided along the frontage, compatible with the surrounding character.*

- *The request argues that privacy is adequately persevered through the siting of window openings, installation of window screens to the first-floor level, and internal layout of the development. Noting that the upper level provides highlight windows only facing the side boundaries.*

- *The request states that the development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives of the R3 Medium Density Residential zone. Specifically the proposal will increase the supply of housing for the area, and is well located in terms of proximity to the railway and local services/facilities.*

- *The request makes reference to case law, including Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118; Rebel MH Neutral Bay Pty Ltd v North Sydney Council [2018] NSWLEC 191; SJD DB2 Pty Ltd v Woollahra Council [2020] NSWLEC 1112 (SJD DB2).*

Assessment of Request
The written request has been considered against the relevant criteria under Clause 4.6. Overall, the arguments put forward in the request are not supported.

In this regard, the request has not adequately demonstrated that compliance with the development standard is unreasonable or unnecessary in the instance of the case, or and that there is sufficient environmental planning grounds to justify contravening the development standard. Further, the request has not adequately demonstrated that the proposal will be in the public interest. As a result of the

non-compliance, the development is considered to have adverse impact on the amenity of surrounding residences, and provide a poor level of amenity for future occupants. The breach to the building height is considered to speak to the proposal being an over-development of the site.

With consideration to the objectives of the R3 Medium Density Residential zone, the request has not adequately demonstrated that the proposal will meet the objectives despite the departure to the Building Height standard. The objectives of the zone are:

- *To provide for the housing needs of the community within a medium density residential environment.*
- *To provide a variety of housing types within a medium density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide for a concentration of housing with access to services and facilities.*
- *To enhance the essential character and identity of established residential areas.*
- *To ensure that a high level of residential amenity is achieved and maintained.*
- *To ensure that development reflects the desired future character and dwelling densities of the area.*

As reflected in Council's assessment report, the proposal is not considered to meet the objectives of the zone.The proposal does not enhance the essential character and identity of the surrounding established residential area, which is evident by the development's non-compliance with the key built form controls including setbacks and building separation. Secondly, the development does not reflect the desired future character and dwelling densities of the area, as the building siting is inconsistent with the adjoining properties, restricting opportunity for suitable landscape treatment. Thirdly, the proposal does not ensure that a high level of residential amenity is achieved and maintained, noting that the proposal provides inadequate communal living area relative to the scale of the boarding house, and provides a very poor interface with adjoining properties as a result of an excessive building height and length, insufficient side setbacks and excessive number of boarding rooms facing adjoining properties.

For these reasons, the request to vary Clause 4.3(2) is not considered supportable.

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

Development Control Plan 2014

Provision	Compliance
C1 Site Planning and Design Principles	Does not comply - see Appendix - Development Control Plan Compliance
C2 Vegetation Management	Does not comply - see Appendix - Development Control Plan Compliance
C4 Land Management	Complies
C5 Waste Management	Does not comply - see Appendix - Development Control Plan Compliance
C6 Landscape Design	Does not comply - see Appendix - Development Control Plan Compliance
C7 Culture and Heritage	N/A
C8 Public Domain	N/A
C10 Transport, Access and Parking	Does not comply - see Appendix - Development Control Plan Compliance
C11 Subdivision	N/A
C12 Noise and Vibration	Does not comply - see Appendix - Development Control Plan Compliance
C13 Infrastructure and Services	Does not comply - see Appendix - Development Control Plan Compliance
D5.1. Application of Certification System	N/A
D5.2. Child Care Centres	N/A
D5.3. Health Consulting Rooms	N/A
D5.4. Educational Establishments	N/A
D5.5 Parent Friendly Amenities	N/A
D5.6. Places of Public Worship	N/A
D5.7. Vehicle Repair Stations	N/A
D5.8. Cemeteries, Crematoria and Funeral Homes	N/A
D5.9. Extractive Industries	N/A
D5.10 Telecommunication Facilities	N/A
D5.11 Boarding Houses	Does not comply - see Appendix - Development Control Plan Compliance

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

The proposal is considered capable of complying with the requirements under the Environmental Planning and Assessment Regulation 2000, subject to conditions that enforce the development to comply with all relevant requirements under the Building Code of Australia. Notwithstanding this, the proposal is recommended for refusal on other planning grounds.

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

Urban Design

The proposal was reviewed by an external Urban Design consultant, as part of Council's Urban Design Review Panel process. Based on this review, four key areas of concern were raised, relating to the compatibility of the proposal with the character of the local area, the impacts of the development upon the

amenity of neighbours, the level of amenity afforded by the boarding house, and poor design quality standard.

Overall, the Urban Design advice recommends that the proposal is not supported. The following matters are raised in the Urban Design advice:

Local Character

- In terms of setbacks and landscaped areas, the proposed development is fundamentally inconsistent with neighbouring developments that conform with the local control. The development comprises two building wings with minimum front setbacks of 5.5m and 7m, compared to 8m for the existing town house development at No. 29-30 Park Avenue and the development under construction at Nos 25 and 26. Consequently, the proposed building forms would stand appreciably-forward of those neighbouring buildings.

- Potential for front landscaping that might screen the proposed building is compromised by building services and by paved areas which are not sufficiently consolidated. In addition, side setbacks of 2m are insufficient to accommodate plantings that might moderate scale-impacts of facades that extend for between 37m and 45m.

- Mass and scale of the proposed building is fundamentally inconsistent with existing and desired characters of the area, as outlined below:

  (a) Side elevations would be visible from the street (as well as from neighbouring properties) and raw dimensions of between 37m and 45m present abrupt contrasts to neighbouring buildings which average 20m and which are separated by landscaped courtyards that are 4m wide.

  (b) Over three quarters of each side elevation comprises a third storey, either contained by sheer storey walls or located within a 'faux-attic' level. Calculations confirm that up to half of each three storey element exceeds the permissible maximum building height by up to half a metre. The scale of side elevations which comprise three attached elements is accentuated by an architecturally-incoherent assemblage of pitched roofs near the street, flat-topped 'attics' in the centre, and sheer-sided cubic forms to the rear.

  (c) Scale of the front elevation is accentuated by an architecturally-incoherent combination of balconies and sheer-walled elements together with building services that include a pump room and wide driveway.

  (d) Elements which are foreign to the surrounding streetscape include the driveway undercroft which is excessively tall and wide, and which also comprises visually-intrusive supporting structures and blank enclosing walls, together with fire services and a substation which limit the landscape potential of this highly-visible street-frontage.

  Collectively, these aspects of the proposed development demonstrate pronounced incompatibility with character of the local area because they would present stark contrasts to existing patterns within the surrounding streetscape, and also because they are contrary to numeric controls and qualitative considerations under the LEP and DCP.

- The proposed non-compliant building height accentuates the Development's incompatibility with desired character. Circumstances of the Site and the Development do not indicate that compliance with the standard might be considered unnecessary or unreasonable. The proposed non-compliance would be inconsistent with objectives for building height, and there are no apparent planning grounds for the proposed non-compliant elements of the Development.

Neighbour Amenity

- Neighbours' amenity would be compromised by the proposed development, noting that neighbourhood amenity frequently is considered to be an element of local character.

  (a) Facing the Site's boundaries, lower levels of the proposed development accommodate 13 rooms which have 2m setbacks from eastern or western boundaries to screened balconies, a further six upper storey rooms face the western boundary, and a total of 17 rooms face the rear boundary.

(b) Due to the aggregated number of boarding rooms that are proposed facing neighbour's bedrooms and living areas, acoustic impacts would be experienced by neighbouring townhouses, and those impacts would be accentuated by the 'acoustic proximity' of proposed boarding rooms.

(c) Visual privacy of the neighbouring townhouses would, to some extent, be addressed by proposed balcony shutters – although it is not clear whether shutters would screen the full frontage of each balcony.

(d) Partial-screening of north-facing balconies would not prevent overlooking of primary open spaces in at least two neighbouring cottages to the north.

Amenity of Boarding House Including Communal Area

- Communal areas within the development demonstrate very poor amenity, as detailed below:

  (a) The proposed communal living room has an affective area of 3.6m by 3.4m which is totally insufficient to meet the needs of a 65 room development.

  (b) The development would be likely to accommodate between 45 and 60 people at any one time, which incorporate reasonable assumptions regarding occupancy rates for double rooms and for the development as a whole. Applying those assumptions together with a 'Covid-safe' measure of 4sqm, per person, upwards of 55sqm is estimated to be the minimum reasonable area for common living areas – more than four times the area that is proposed.

  (c) A reasonable common room – or, preferably, a suite of rooms – would allow concurrent occupancy by unrelated individuals, and would accommodate a range of activity settings that allow for informal social interaction between residents for example, lounge areas for tv viewing, a kitchen and dining area, sitting and reading areas.

- Outdoor areas are not sufficient to offset pronounced shortcomings of the proposed small living room. The central courtyard has a width of 6m which primarily accommodates 'duplicated corridors' through a dark canyon-like space and, consequently, this area is inherently-unlikely to encourage sitting or informal social interaction. At the northern end of that corridor, a paved undercroft with no apparent purpose opens onto the rear setback which, although north-facing and sunny, is a narrow area that is unlikely to attract extensive use.

Car Parking

Clause 29(2)(e) of SEPP ARH provides minimum car parking standards that if met, cannot be used as grounds for refusal of an application. In this regard, the car parking standard is 0.5 spaces per boarding room. As the application proposes 65x boarding rooms (inclusive of 1x manager's room), a minimum of 33x car parking spaces is needed to meet this standard (rounded up).The proposal provides 32x car parking spaces. Given the nature of the proposal, the shortfall of 1x car space is not considered appropriate, and speaks to the scale of the development not being suitable for the site.

Vehicle Access and Circulation

The proposal was supported by a Traffic and Parking Impact Assessment Report, dated March 2021, prepared by Hemanote Consultants. However, the report contains inconsistencies with the architectural plans, and provides insufficient information to demonstrate that adequate vehicle access and circulation is achieved on the site, as specified below:

- The Traffic and Parking Impact Assessment Report states that a 5.5m basement ramp is provided with 0.3m clearance on either side. However the basement car parking ramp appears to be only 6.0m wide on the plans provided, and appears to narrow to less than 6.0m at the bottom of the ramp. The Traffic and Parking Impact Assessment Report needs to be consistent with the architectural plans, and where applicable is to incorporate a 6.1m wide access ramp to be fully compliant with AS2890.1 clearances.
- The proposed waste collection vehicle turntable arrangement in the basement is in principle acceptable. However details of a traffic warning light system (to alert other car park users, and to keep the basement ramp clear of other vehicles, during times when the waste collection vehicle is accessing the ramp and/or utilising the turntable) must be detailed, including methods of activation

and duration. Accordingly the integral elements (which may include, but are not limited to, traffic signal locations, heights and clearances, as well as hold lines and/or boom-gates, signage and/or any other traffic management features) of the system need to be included on the architectural plans for Council's assessment.

Flooding and Stormwater Management

The site is affected by 1% AEP local overland flow flood with a maximum flood level of RL 36.4m AHD. The finished floor levels are compliant with the free-board requirement under Council's flooding controls. In terms of stormwater management, the proposal includes an Onsite Detention System, and water filtration tank to meet water quality requirements. With respect to engineer matters, Council's Development Engineer does not object to the proposal.

Acoustic Impacts

The application was supported by an Acoustical Report prepared by Koikas Acoustics Pty Ltd (dated 31 March 2021, ref 4661). The Acoustical Report provides several recommended external and internal construction materials to mitigate external noise intrusion and inter-tenancy noise, as well as providing commentary on noise generated from mechanical plant associated with the proposed development. However, Council's Environmental Management Officer has raised concern regarding the methodology of the Acoustical Report, concluding that the report is unsatisfactory. Importantly, no acoustic monitoring and noise logging has been undertaken and incorporated into the Acoustical Report. As a result, Council cannot be certain that the proposal will not result in adverse noise impacts.

In this regard, the Acoustical Report provides insufficient information regarding the following matters:

- The Acoustical Report did not address noise impacts associated with the railway located to the south of the site. As such, the proposal has not demonstrated that the development complies with internal noise criteria as outlined in Australia/New Zealand Standards: *Acoustics Recommended design sound levels and reverberation times for building interiors* (AS/NZS 2107:2000).
- An assessment was not undertaken in relation to the potential noise impact on surrounding sensitive receivers during the demolition and construction phase of the proposed development.
- An assessment was not undertaken in relation to potential vibration impacts on surrounding sensitive receivers as a result of the construction of the proposed basement level.
- Consideration has not been given to surrounding sensitive receivers during the operational phase of the proposed development, including activities such as garbage and waste collection, mechanical plant noise, use of open and communal areas by tenants, and vehicle movements associated with the proposed development.

With regard to the above matters, the proposal has provided insufficient information to demonstrate the proposal is suitable in respect to noise impacts. This matter forms a reason for refusal.

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

The site is considered unsuitable for the development for the following reasons:

- The development does not respond to the local character in terms of front setback, building height, and built form.
- The proposal does not adequately demonstrate that impacts relating to bulk, scale, and amenity are adequately mitigated against or addressed in the design of the building.
- Insufficient information has been provided to demonstrate that the proposal will not result in unreasonable noise impacts.

Section 4.15(1)(d) Any Submissions

Community Consultation

In accordance with Council's Community Engagement Strategy the proposed development was notified to nearby and adjoining residents, and advertised in the local newspaper.

Council notified sixty-nine (69) residences in the area, and the exhibition period occurred between 19 April 2021 and 3 May 2021. The application was also advertised in the local newspaper on 15 April 2021.

Council has received thirty-one (31) unique submissions.

The issues raised by the submissions have formed part of the assessment of the application, as detailed below. For the purpose of this report, the submissions have been grouped by issues raised.

Issue Raised	***Comments***
Incompatible with surrounding character	Concerns noted, as discussed in this report under 'Likely Impacts'. The proposal is not considered compatible with the current or future desired character of the area, and forms a reason for refusal of the application.
Site Suitablity - concern regarding concentration of boarding houses in the area, suggests boarding houses should be geographically spread out. - schools are in close proximity to the site. - Site is not close enough to services such as health care, police, general services.	There are no local or state planning controls that prohibit the location of boarding house development based on their proximity to other boarding houses, schools, police and health services. Notwithstanding, the site is not considered suitable for the proposal, as the design is not responsive to the surrounding context. This issue forms a reason for refusal.
Loss of Residential Amenity - Privacy - Noise Impacts	Concerns noted, and form a reason for refusal. The proposal is not considered to retain a reasonable level of residential amenity, largely as a result of the excessive scale, massing and three-storey building form, which provides a poor interface with adjoining properties. Further, the proposal has provided insufficient information to properly address potential noise impacts.
-Increase demand for on-street car parking as a result of the proposal -Increased Traffic Congestion as a result of the proposal	The proposal provides an insufficient number of onsite car parking required for the development, which forms a reason for refusal. Refer to discussion under 'Likely Impacts' of this report. In terms of increase traffic congestion, the existing road network is considered capable of accommodating the proposal.
Perceived social issues as a result of the nature of the proposal. - Safety concerns -Onsite manager is needed	Boarding house development is intended to provide low-cost housing options for the community. The development provides an onsite manager who would be responsible for the ongoing operation of the development, and would be required to comply with a plan of management.
Concern that a wider catchment of residents should be notified.	The proposal was notified to nearby residents in accordance with Council's Community Engagement Strategy. Council notified 69 surrounding residents and advertised the proposal in the local newspaper. Further, as the proposal received more than 10 unique submissions, the application is to be reported to the Local Planning Panel, which involves a public meeting. Members of the public are able to attend public meeting and speak to any further issues.

Perceived loss of property values	A boarding house is a permissible use on the site. There is no evidence to suggest the development will result in reduced property values.
Insufficient landscaping is provided to offset the development: - visual impacts - environmental impacts (increased heat)	Concerns noted, particularly with regard to insufficient landscaping in the front setback area, which is comprised by building services and paved areas. Side setbacks of 2m are insufficient to accommodate plantings.
Poor level of internal amenity for future occupants	Concerns noted, and form a reason for refusal. Refer to discussion in this report under 'Likely Impacts'.

Referrals

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

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

Section 4.15(1)(e)The public interest

The proposal is not considered in the public interest, as the application is non-compliant with key objectives and controls under SEPP ARH, Penrith LEP 2010, and Penrith DCP 2014.

Section 94 - Developer Contributions Plans

Penrith City Council's Section 7.11 Contribution Plan applies to the proposal. However, given the application is recommended for refusal on other grounds, contribution fees have not applied in this instance.

Conclusion

In assessing this application against the relevant environmental planning policies, being State Environmental Planning Policy (Affordable Rental Housing) 2009, Penrith Local Environmental Plan 2010 and Penrith Development Control Plan 2014, the proposal does not satisfy the aims, objectives and provisions of these policies.

In its current form, the proposal will have a negative impact on the surrounding character of the area, and result in unreasonable amenity impacts to adjoining properties.

The proposed design is not site responsive, does not comply with key development standards. Therefore, the application is recommended for refusal for the following reasons.

Recommendation

1. That Development Application DA21/0225 for the Demolition of Existing Structures and Construction of 2-3 Storey Boarding House Containing 64x Rooms and a Manager's Residence, Basement Parking, Landscaping and Stormwater Works at 27-28 Park Avenue Kingswood be refused for the following reasons; and
2. That those making submissions are notified of the determination.

Refusal

1 X Special 02 (Refusal under Section 4.15(1)(a)(i) of EPA Act 1979)
The application is not satisfactory for the purpose of Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act 1979 as the proposal is inconsistent with the provisions of Penrith Local Environmental Plan 2010 as follows:

- **Clause 2.3 Zone objectives:** The proposal is inconsistent with the following objectives of the R3 Medium Density Residential zone:
  - To enhance the essential character and identity of established residential areas;
  - To ensure that a high level of residential amenity is achieved and maintained; and
  - To ensure that development reflects the desired future character and dwelling densities of the area.

- **Clause 4.3 Height of Buildings:** The proposal is non-compliant with the maximum height of building permitted for the site.

- **Clause 4.3(1) objectives:** The proposal is inconsistent with the objectives of Clause 4.3 of Penrith Local Environmental Plan 2010, specifically:
  - To ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality,
  - To minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes,

- **Clause 4.6 Exceptions to development standards:** The written request to contravene the Height of Building as required by Clause 4.3 of Penrith Local Environmental Plan 2010 under Clause 4.6 of that Plan provided by the applicant did not include sufficient environmental planning reasons to support the variation.

2 X Special 03 (Refusal under Section 4.15(1)(a)(ii) of EPA Act 1979)
The application is not satisfactory for the purpose of Section 4.15(1)(a)(i) of the Environmental Planning and Assessment Act 1979 as the proposal is inconsistent with the provisions of State Environmental Planning Policy (Affordable Rental Housing) 2009 as follows:

- Part 2, Division 3, Clause 29(2)(a) Building Height;
- Part 2, Division 3, Clause 29 (2)(b) Landscaped area;
- Part 2, Division 3, Clause 29(2)(e) Parking; and
- Part 2, Division 3, Clause 30A Character of local area.

3 X Special 04 (Refusal under Section 4.15(1)(a)(iii) of EPA Act 1979)
The development application is not satisfactory for the purpose of Section 4.15(1)(a)(iii) of the Environmental Planning and Assessment Act 1979, as the proposal is inconsistent with the following provisions of Penrith Development Control Plan 2014:

- Chapter C1 Planning and Design Principles
- Chapter C5 Waste Management and accompanying Waste Management Guideline
- Chapter C10 Transport, Access and Parking
- Chapter C12 Noise and Vibration
- Chapter D2 Residential Development
- Chapter D4 Other Land Uses

4 X Special 07 (Refusal under Section 4.15(1)(b) of EPA Act 1979)
The application is not satisfactory for the purpose of Section 4.15(1)(b) of the Environmental Planning and Assessment Act in terms of the likely impacts of the development, including:

- The development is not compatible with the existing and desired future character of the immediate locality in terms of building design, siting, massing, scale and height.
- The proposal provides inadequate front and side setbacks to suitably integrate the development into the existing local character, maintain surrounding residential amenity, and provide appropriate landscape treatment of the site.
- The proposal has not suitably demonstrated that the existing lemon scented gum located at the front of the site that is proposed to be retained, is achievable due to the proximity of the development to the tree. This tree contributes to the surrounding character and streetscape amenity.
- The proposal does not provide a suitability level of internal amenity stemming from the layout and inadequate provision of communal living area.
- The proposal provides an insufficient number of onsite car parking spaces to service the development.
- The development is considered to be an over-development of the site.
- The application has not demonstrated that onsite waste collection can safely and effectively occur on the site, to service the development.
- The waste collection room does not meet Council requirements in terms of size and design.
- The accompanying Acoustic Assessment report provides insufficient information to demonstrate that the development will not result in negative noise impacts on surrounding sensitive receivers and that the development will comply with relevant noise levels for occupants of the development.

5 X Special 08 (Refusal under Section 4.15(1)(c) of EPA Act 1979)
The application is not satisfactory for the purpose of Section 4.15(1)(c) of the Environmental Planning and Assessment Act 1979 as the site is not suitable for the proposed development.

6 X Special 10 (Refusal under Section 4.15(1)(e) of EPA Act 1979)
The application is not satisfactory for the purpose of Section 4.15(1)(e) of the Environmental Planning and Assessment Act as the proposal is not in the public interest, and would create an undesirable precedent.

7 X Special 9 (Refusal under Section 4.15(1)(d) of EPA Act 1979)
The application is not satisfactory for the purpose of Section 4.15(1)(d) of the Environmental Planning and Assessment Act due to matters raised in submissions which include:

- Compatibility of the development with the surrounding local character
- Amenity and acoustic impacts
- Car parking impacts

Appendix - Development Control Plan Compliance

Development Control Plan 2014

Part C - City-wide Controls

The proposal is inconsistent with the following objectives and controls under Penrith DCP:

C1 Site Planning and Design Principles

The application is not consistent with the height, bulk and scale of adjacent buildings, and provides insufficient articulation and excessive building lengths (greater than 20m).

C2 Vegetation Management

The site contains seven existing trees. Importantly, an existing established lemon scented gum is located at the front corner of the site. The lemon scented gum provides significant streetscape amenity, given the location and height of the tree, and therefore should be retained. Whilst the proposal includes retention of the lemon scented gum, Council's Tree Management Officer has raised concern that the supporting Arborist Report provides insufficient information to demonstrate how this tree can be suitably retained with the current design and not damaged, given the proximity of the development to the tree. In this regard, the development encroaches the Tree Protection Zone (TPZ) of the lemon scented gum of more than 10%. Further, there are aspects of the development that encroach the TPZ which have not been considered within the Arborist Report, such as retaining walls, front courtyards, paving. Therefore, Council cannot be certain that the proposal will enable the retention and ongoing health of the lemon scented gum on the site.

C5 Waste Management

The development seeks onsite waste collection within the basement, and includes a waste collection room within the basement. However, the proposed waste collection arrangement and infrastructure is not in accordance with Chapter C5 and accompanying ‘Residential flat building waste management guideline’ as outlined below:

- **Section 2.2.3:** Swept paths for the waste vehicle accessing the site do not show that 500mm clearances to the truck is achieved for all onsite maneuvers as required by Council's waste guideline. Swept path models are required to illustrate how Council’s standard waste collection vehicle will enter, service and exit the site safely and effective, with a 500mm unobstructed clearance from all obstructions for the vehicle’s ingress and egress maneouvres, including in scenarios when cars are parked on either side of the road in front of the development.

- **Section 2.2.4:** For rear-load vehicles an additional 2m unobstructed loading zone is required behind the vehicle for the loading of 660L and 1,100L bins, which is not provided.

- **Section 3.5.1:** The proposed waste chute room located in basement 1 does not incorporate the following requirements of Section 3.5.1, including:
  - Minimum 0.9m clearance around the linear or circular carousel system to allow for maneuverability and system maintenance is not provided.
  - 1.8m unobstructed clearance zone between the linear/circular track system and the entrance for access and manoeuvrability is not provided.
  - Is required to accommodate two additional 1,100L service bins in each chute room with a minimum access clearance of 1.8m wide for the loading of 1100L bins.
  - No service bins are shown on plans

C10 Transport, Access and Parking

The provisions relating to car parking rates under SEPP ARH apply, and override local provisions. Refer to discuss in this report under 'Likely Impacts'.

C12 Noise and Vibration

Refer to discuss in this report under 'Likely Impacts'.

C13 Infrastructure and Services

The location of the pump room at the front of the building (facing the street) is poor, and does

not encourage passive surveillance of the street. The indicative location for the substation along the eastern side boundary is unrealistic, as this location does not meet required clearances for an easement. The substation is likely to require to be relocated, further reducing landscaping along the site frontage.

D5 Other Land Uses

D5.11 Boarding Houses

Control	Required	Proposed	Comment
Minimum lot frontage required for a townhouse or boarding house that is of equivalent scale Section 2.4.2 Multi Dwellings	22m	31.6m	Complies
Rear Setback Section.5.11 (2) – Boarding Houses	4m at ground floor 6m at first floor	6.5m at ground floor 6.8m at first and second floors	Complies.
Side Setbacks Section.5.11(2) – Boarding Houses	2m along not more than 50% of the building length.The remaining 50% is to achieve minimum 3m, these areas are to be min. 1.5m wide.	2m for more than 50% of the building length at first and second floors. Basement is setback 2m for full length of northern boundary and 1.2m full length of southern boundary.	**Non-compliant**
Building Separation and Length for a townhouse or boarding house that is of equivalent scale Section 2.4.4 Multi Dwellings	Minimum building separation of 4m on site. Building length no more 20m.	Range of building separation of 3.1m-8.2m Building length of 38m and 43m	**Non-compliant**
Landscaped Area >2m wide Section 5.11(2) – Boarding Houses	R3 Zone: 40%	<40% of the site. Calculated at approximately 22%	**Non-Compliant**
Deep Soil Section 5.11 (3) – Boarding Houses	Within front setback- a minimum of 18sqm of deep soil area of min. width and length of 3m.	18sqm provided	Complies

Access Section 5.11 - Boarding Houses	10% of boarding rooms are to be accessible when >10 rooms are proposed. 64 rooms proposed = 7x accessible rooms required (rounded up)	6x accessible rooms	**Non-compliant.** Noting an additional accessible room would require an additional accessible car space be provided.

	REQ:	PROP:	COMPLIANCE:
SITE AREA	-	1680.0 sqm	-
ZONE	-	R3	YES
MIN FRONTAGE	-	31.605m	YES
F.S.R	-	-	N/A
SETBACK			
FRONT	5.5 m	6.31 m	YES
SIDE	BUILDING ENVELOPE 45 DEGREES - 6.5m FROM NGL	THE BUILDING IS WITHIN THE ENVELOPE	YES
REAR	6.0 m	6.56 m	YES
LANDSCAPE	COMPATIBLE WITH STREETSCAPE	COMPATIBLE WITH STREETSCAPE	YES
OPEN SPACE			
COMMUNAL	20.0 sqm	46.50sqm	YES
MANAGER	8.0 sqm	25.50 sqm	YES
PARKING			
CAR PARKING			
0.5 PER ROOM	32 SPACES	32 SPACES	YES
BICYCLE			
0.2 PER ROOM	12.8 SPACES	13 SPACES	YES
MOTRCYCLE			
0.2 PER ROOM	12.8 SPACES	13 SPACES	YES

ROOM NO.	SIZE m^2 (nett)	NO. OF PERSONS	ACCESSIBLE ROOM (Y or N)
01	16.0	2	Y
02	16.0	2	Y
03	14.5	1	N
04	17.5	2	N
05	14.0	1	N
06	16.0	2	N
07	16.0	2	N
08	16.0	2	N
09	16.0	2	N
10	16.0	2	Y
11	16.0	2	Y
12	16.0	2	Y
13	16.0	2	Y
14	16.0	2	N
15	16.0	2	N
16	16.0	2	N
17	16.0	2	N
18	16.0	2	N
19	16.0	2	N
20	16.0	2	N
21	16.0	2	N
22	17.5	2	N

ROOM NO.	SIZE m^2 (nett)	NO. OF PERSONS	ACCESSIBLE ROOM (Y or N)
23	17.5	2	N
24	14.5	1	N
25	17.5	2	N
26	17.5	2	N
27	14.5	1	N
28	17.0	2	N
29	17.0	2	N
30	16.0	2	N
31	16.0	2	N
32	16.0	2	N
33	16.0	2	N
34	17.5	2	N
35	17.5	2	N
36	17.5	2	N
37	17.5	2	N
38	17.5	2	N
39	17.5	2	N
40	16.0	2	N
41	16.0	2	N
42	16.0	2	N
43	16.0	2	N
44	16.0	2	N

ROOM NO.	SIZE m^2 (nett)	NO. OF PERSONS	ACCESSIBLE ROOM (Y or N)
45	16.0	2	N
46	16.0	2	N
47	16.0	2	N
48	16.0	2	N
49	16.0	2	N
50	16.0	2	N
51	16.0	2	N
52	16.0	2	N
53	16.0	2	N
54	17.5	2	N
55	17.5	2	N
56	17.5	2	N
57	17.5	2	N
58	17.5	2	N
59	17.5	2	N
60	16.6	2	N
61	16.6	2	N
62	16.6	2	N
63	16.6	2	N
64	16.6	2	N
M	17.5	2	N
C	16.0	N/A	N/A

A1-Sheet List	
Sheet Number	Sheet Name
A1-01	COVER PAGE
A1-02	SURVEY PLAN
A1-03	BASIX COMMITMENTS
A1-04	SITE ANALYSIS
A1-05	DEMOLITION PLAN
A1-06	SITE PLAN
A1-07	BASEMENT 2 FLOOR PLAN
A1-08	BASEMENT 1 FLOOR PLAN
A1-09	GROUND FLOOR PLAN
A1-10	FIRST FLOOR PLAN
A1-11	SECOND FLOOR PLAN
A1-12	ROOF PLAN
A1-13	ELEVATIONS
A1-14	ELEVATIONS
A1-15	SECTIONS
A1-16	SHADOW DIAGRAMS
A1-17	SCHEDULE OF FINISHES
A1-18	3D PERSPECTIVE
A1-19	3D PERSPECTIVE
A1-20	3D PERSPECTIVE
A1-21	HEIGHT PLANE ANALYSIS
A1-22	FENCE DETAILS
A1-23	NOTIFICATION PLAN

CK design
design + interiors
PRELIMINARY NOT FOR CONSTRUCTION
LEVEL 2, 240 CHURCH ST,
PARRAMATTA NSW 2150
P: +61 2 7804 0888 - M: 0411 222 888
E: chris@ckdesign.net.au
W: www.ckdesign.net.au

Issue	Description	Date

DEVELOPMENT APPLICATION

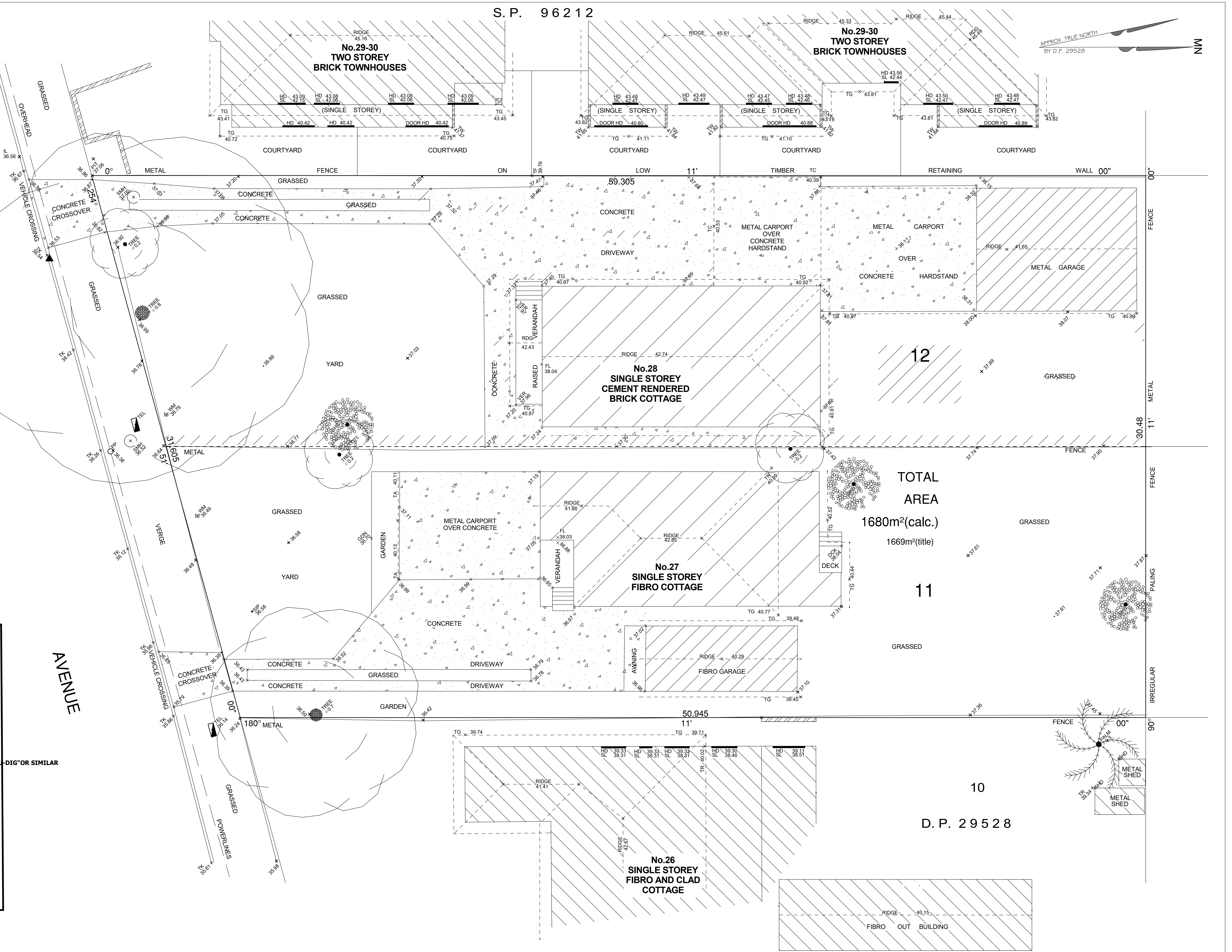
NEW GENERATION BOARDING HOUSE DEVELOPMENT

ADDRESS:

27 & 28 PARK AVE, KINGSWOOD

CLIENT:

CK DESIGN



EXPLANATORY NOTES

1) THE BOUNDARIES HAVE NOT BEEN DETERMINED OR MARKED. THE RELATIONSHIP OF IMPROVEMENTS TO THE BOUNDARY IS DIAGRAMMATIC ONLY.

2) DO NOT SCALE OFF THIS PLAN.WHERE BOUNDARY OFFSETS ARE CRITICAL THEY SHOULD BE CONFIRMED BY FURTHER SURVEY.

3) NO SERVICES SEARCH HAS BEEN UNDERTAKEN. SERVICES SHOWN ON HERE HAVE BEEN DETERMINED FROM VISUAL EVIDENCE ONLY.OTHER SERVICES MAY EXIST THAT ARE NOT SHOWN.
IT IS RECOMMENDED A DIAL 1100 "DIAL-BEFORE-YOU-DIG"OR SIMILAR SEARCH IS MADE BEFORE CONSTRUCTION.

4) ALL AREAS AND DIMENSIONS SHOWN HAVE BEEN COMPILED FROM PLANS AVAILABLE AT NSW LRS. THE BEARINGS SHOWN ARE ON MAGNETIC NORTH.

5) ROOF RIDGE LOCATIONS MAYBE INDICATIVE ONLY.

6) FEATURES,SUCH AS FENCING,SHOWN ON OR NEAR THE BOUNDARIES ARE INDICTIVE ONLY AND HAVE BEEN LOCATED FOR PLOTTING PURPOSES ONLY.

7) ADJOINING BUILDING LOCATIONS AND HEIGHTS HAVE BEEN DERIVED FROM INDIRECT METHODS DUE TO LIMITED ACCESSIBILITY AND MAYBE APPROXIMATE ONLY.

8) THESE NOTES FORM AN INTEGRAL PART OF THE PLAN AND SHOULD NOT BE REMOVED.

CODES

TK	DENOTES TOP KERB
PAV	DENOTES LEVEL ON PAVING
TIL	DENOTES LEVEL ON TILES
BIT	DENOTES LEVEL ON BITUMEN
TG	DENOTES TOP OF GUTTER
TR / TA	DENOTES TOP OF ROOF / AWNING
FL	DENOTES FLOOR LEVEL
HD / SL	DENOTES WINDOW HEAD / SILL
TEL	DENOTES TELECOMMUNICATIONS PIT
PP / PPL	DENOTES POWER POLE / WITH LIGHT
SIP/SVP/SMH	DENOTES SEWER; PIT/ VENT PIPE/ MAN HOLE

Registered Surveyor: Bruce Andrew Johnston
ID No. 1376

ORIGINAL ISSUE 26/11/2019
AMENDMENT | DATE | APPR'D

Plan of Levels and Detail at Nos. 27 & 28 Park Avenue Kingswood

L.G.A.: PENRITH
LOCALITY: KINGSWOOD
SURVEY: RLJ / BAJ | DRAWN: RLJ | CHECKED: BAJ
CLIENT: NASSER MATTA

SCALE 1:100 | A1
PROPERTY DESCRIPTION: LOTS 11 & 12 IN D.P. 29528
DATUM & ORIGIN OF LEVELS
SSM 42319 RL 33.09 (AHD)
SOURCE : SCIMS 12/11/2019

Cibar Surveying Pty Ltd
P.O. BOX 605
ENGADINE N.S.W. 2233
PHONE: 8544 3312
MOB: 0438 78 1184
EMAIL : bruce@cibarsurveying.com.au

SHEET 1 OF 1 | DATE OF SURVEY 12/11/2019 | DRAWING NUMBER 19152_LD | FILE No: 19152

BASIX® Certificate

Building Sustainability Index www.basix.nsw.gov.au

Multi Dwelling

Certificate number: 1189128M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary
Date of issue: Wednesday, 31 March 2021
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW Government | Planning, Industry & Environment

Project summary		
Project name	Boarding house @ 27-28 PARK AVE, KINGSWOOD	
Street address	27-28 PARK Avenue KINGSWOOD 2747	
Local Government Area	Penrith City Council	
Plan type and plan number	deposited 29528	
Lot no.	12	
Section no.	-	
No. of residential flat buildings	1	
No. of units in residential flat buildings	64	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	✔ 41	Target 40
Thermal Comfort	✔	concession Target Pass
Energy	✔ 45	Target 45

Project address	
Project name	Boarding house @ 27-28 PARK AVE, KINGSWOOD
Street address	27-28 PARK Avenue KINGSWOOD 2747
Local Government Area	Penrith City Council
Plan type and plan number	deposited 29528
Lot no.	12
Section no.	-
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	64
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	1680
Roof area (m²)	870
Non-residential floor area (m²)	0.0
Residential car spaces	32
Non-residential car spaces	0

Common area landscape	
Common area lawn (m²)	120.0
Common area garden (m²)	60.0
Area of indigenous or low water use species (m²)	0.0
Assessor details	
Assessor number	N/A
Certificate number	N/A
Climate zone	N/A
Ceiling fan in at least one bedroom	N/A
Ceiling fan in at least one living room or other conditioned area	N/A
Project score	
Water	✔ 41 Target 40
Thermal Comfort	✔ concession Target Pass
Energy	✔ 45 Target 45

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✔	✔	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✔	✔
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✔	✔
(e) The applicant must install: (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✔ ✔	✔ ✔
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✔	✔	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✔	
(g) The pool or spa must be located as specified in the table.	✔	✔	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	4 star	4 star	-	-	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✔	✔	✔
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✔	✔
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✔	✔

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✔	✔	✔
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔ ✔	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 6 star	individual fan, ducted to façade or roof	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	-	1-phase airconditioning EER 3.5 - 4.0	-	1-phase airconditioning EER 3.5 - 4.0	1 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
10, 11, 12, 13, 14	-	-	-	-	gas cooktop & electric oven	2.5 star	yes	4 star	-	2 star	no	yes
All other dwellings	-	-	-	-	gas cooktop & electric oven	2.5 star	yes	4 star	-	2 star	yes	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The development will be a Class 3 building. The applicant must include in the documentation accompanying the application for a construction certificate (or complying development certificate, if applicable), a report demonstrating that the development will meet Section J of the National Construction Code - Volume 1.	✔	✔	✔

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✔	✔
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✔	✔	✔
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✔	✔	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✔	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✔	✔
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✔	✔

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✔	✔
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✔	✔	✔
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✔	✔	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✔	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✔	✔
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✔	✔

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

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No.	Description	Date

BASIX COMMITMENTS

PRELIMINARY NOT FOR CONSTRUCTION

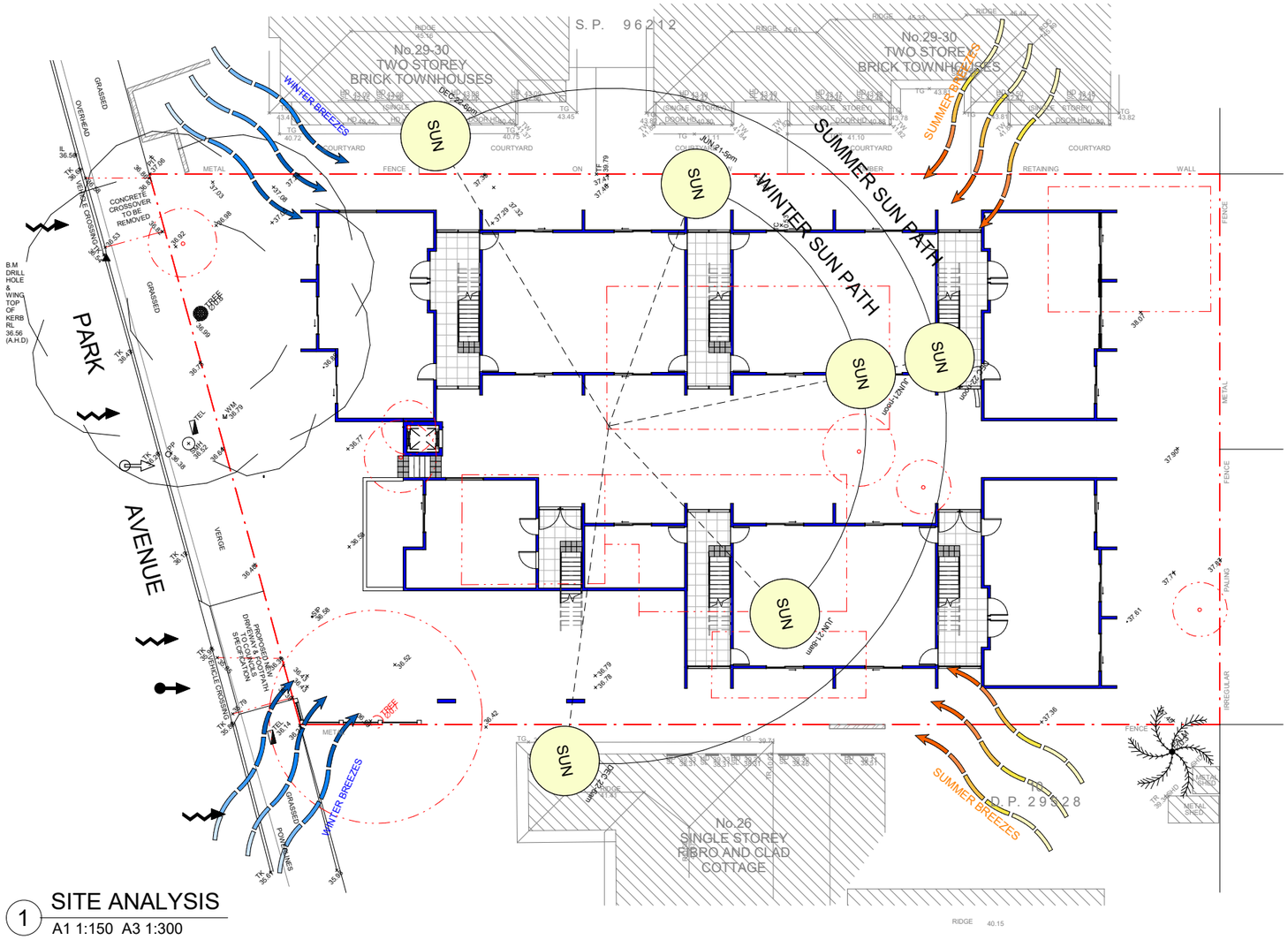
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale		
Drawn by TA	Date MAY 20	
Checked by CK	Sheet number A1-03	
Project number 20016-04		



1 SITE ANALYSIS

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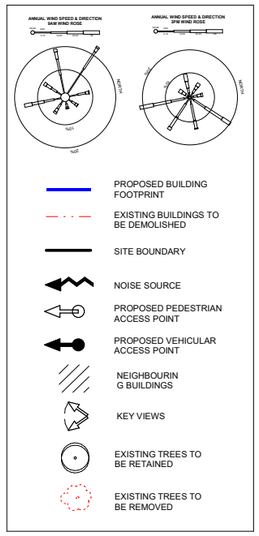
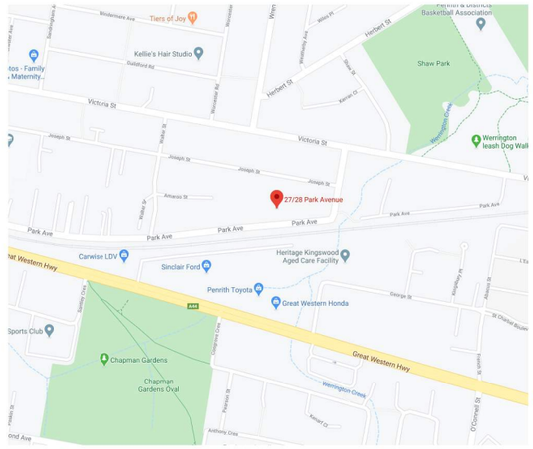
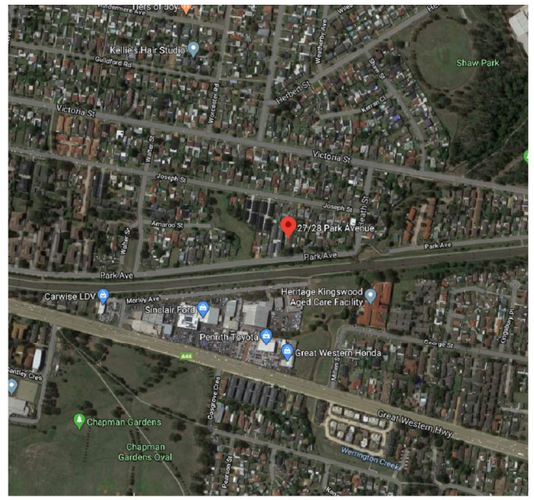


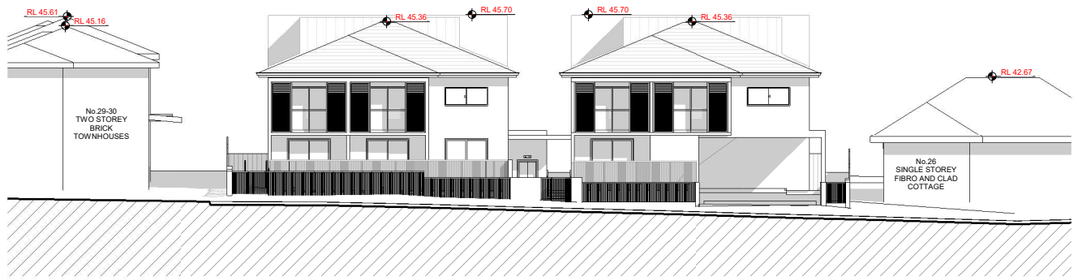


LOCATION MAP



AERIAL IMAGE

EXISTING STREETSCAPE



2 PROPOSED STREETSCAPE ELEVATION

A1 1:150 A3 1:300

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No.	Description	Date

SITE ANALYSIS

PRELIMINARY NOT FOR CONSTRUCTION

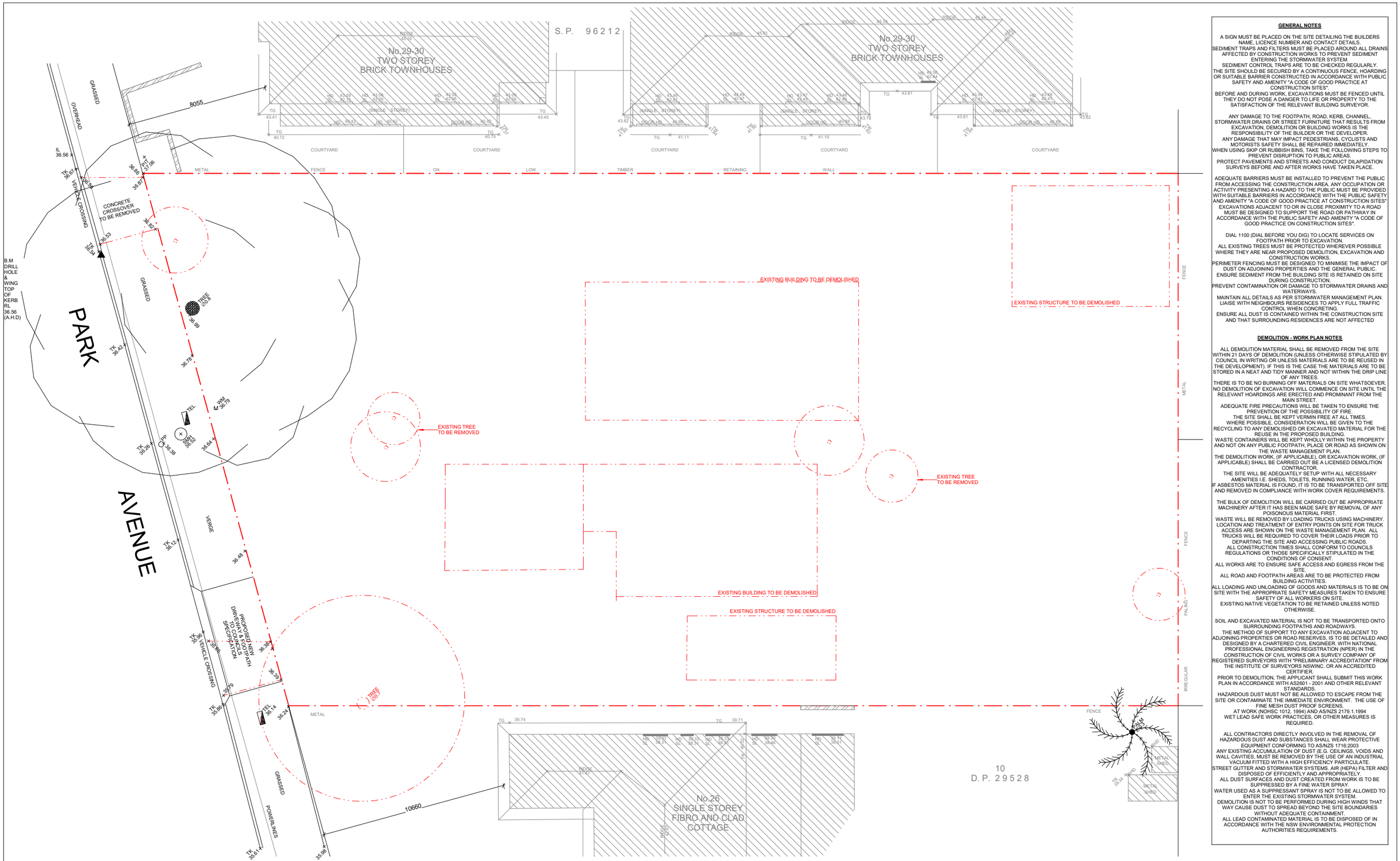
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	As indicated
Drawn by	TA
Date	MAY 20
Checked by	CK
Sheet number	A1-04
Project number	20016-04



GENERAL NOTES

A SIGN MUST BE PLACED ON THE SITE DETAILING THE BUILDERS NAME, LICENCE NUMBER AND CONTACT DETAILS.
SEDIMENT TRAPS AND FILTERS MUST BE PLACED AROUND ALL DRAINS AFFECTED BY CONSTRUCTION WORKS TO PREVENT SEDIMENT ENTERING THE STORMWATER SYSTEM.
SEDIMENT CONTROL TRAPS ARE TO BE CHECKED REGULARLY.
THE SITE SHOULD BE SECURED BY A CONTINUOUS FENCE, HOARDING OR SUITABLE BARRIER CONSTRUCTED IN ACCORDANCE WITH PUBLIC SAFETY AND AMENITY "A CODE OF GOOD PRACTICE AT CONSTRUCTION SITES".
BEFORE AND DURING WORK, EXCAVATIONS MUST BE FENCED UNTIL THEY DO NOT POSE A DANGER TO LIFE OR PROPERTY TO THE SATISFACTION OF THE RELEVANT BUILDING SURVEYOR.

ANY DAMAGE TO THE FOOTPATH, ROAD, KERB, CHANNEL, STORMWATER DRAINS OR STREET FURNITURE THAT RESULTS FROM EXCAVATION, DEMOLITION OR BUILDING WORKS IS THE RESPONSIBILITY OF THE BUILDER OR THE DEVELOPER.
ANY DAMAGE THAT MAY IMPACT PEDESTRIANS, CYCLISTS AND MOTORISTS SAFETY SHALL BE REPAIRED IMMEDIATELY.
WHEN USING SKIP OR RUBBISH BINS, TAKE THE FOLLOWING STEPS TO PREVENT DISRUPTION TO PUBLIC AREAS.
PROTECT PAVEMENTS AND STREETS AND CONDUCT DILAPIDATION SURVEYS BEFORE AND AFTER WORKS HAVE TAKEN PLACE.

ADEQUATE BARRIERS MUST BE INSTALLED TO PREVENT THE PUBLIC FROM ACCESSING THE CONSTRUCTION AREA. ANY OCCUPATION OR ACTIVITY PRESENTING A HAZARD TO THE PUBLIC MUST BE PROVIDED WITH SUITABLE BARRIERS IN ACCORDANCE WITH THE PUBLIC SAFETY AND AMENITY "A CODE OF GOOD PRACTICE AT CONSTRUCTION SITES"
EXCAVATIONS ADJACENT TO OR IN CLOSE PROXIMITY TO A ROAD MUST BE DESIGNED TO SUPPORT THE ROAD OR PATHWAY IN ACCORDANCE WITH THE PUBLIC SAFETY AND AMENITY "A CODE OF GOOD PRACTICE ON CONSTRUCTION SITES".

DIAL 1100 (DIAL BEFORE YOU DIG) TO LOCATE SERVICES ON FOOTPATH PRIOR TO EXCAVATION.
ALL EXISTING TREES MUST BE PROTECTED WHEREVER POSSIBLE WHERE THEY ARE NEAR PROPOSED DEMOLITION, EXCAVATION AND CONSTRUCTION WORKS.
PERIMETER FENCING MUST BE DESIGNED TO MINIMISE THE IMPACT OF DUST ON ADJOINING PROPERTIES AND THE GENERAL PUBLIC.
ENSURE SEDIMENT FROM THE BUILDING SITE IS RETAINED ON SITE DURING CONSTRUCTION.
PREVENT CONTAMINATION OR DAMAGE TO STORMWATER DRAINS AND WATERWAYS.
MAINTAIN ALL DETAILS AS PER STORMWATER MANAGEMENT PLAN.
LIAISE WITH NEIGHBOURS RESIDENCES TO APPLY FULL TRAFFIC CONTROL WHEN CONCRETING.
ENSURE ALL DUST IS CONTAINED WITHIN THE CONSTRUCTION SITE AND THAT SURROUNDING RESIDENCES ARE NOT AFFECTED

DEMOLITION - WORK PLAN NOTES

ALL DEMOLITION MATERIAL SHALL BE REMOVED FROM THE SITE WITHIN 21 DAYS OF DEMOLITION (UNLESS OTHERWISE STIPULATED BY COUNCIL IN WRITING OR UNLESS MATERIALS ARE TO BE REUSED IN THE DEVELOPMENT). IF THIS IS THE CASE THE MATERIALS ARE TO BE STORED IN A NEAT AND TIDY MANNER AND NOT WITHIN THE DRIP LINE OF ANY TREES.
THERE IS TO BE NO BURNING OFF MATERIALS ON SITE WHATSOEVER.
NO DEMOLITION OF EXCAVATION WILL COMMENCE ON SITE UNTIL THE RELEVANT HOARDINGS ARE ERECTED AND PROMINANT FROM THE MAIN STREET.
ADEQUATE FIRE PRECAUTIONS WILL BE TAKEN TO ENSURE THE PREVENTION OF THE POSSIBILITY OF FIRE.
THE SITE SHALL BE KEPT VERMIN FREE AT ALL TIMES.
WHERE POSSIBLE, CONSIDERATION WILL BE GIVEN TO THE RECYCLING TO ANY DEMOLISHED OR EXCAVATED MATERIAL FOR THE REUSE IN THE PROPOSED BUILDING.
WASTE CONTAINERS WILL BE KEPT WHOLLY WITHIN THE PROPERTY AND NOT ON ANY PUBLIC FOOTPATH, PLACE OR ROAD AS SHOWN ON THE WASTE MANAGEMENT PLAN.
THE DEMOLITION WORK, (IF APPLICABLE), OR EXCAVATION WORK, (IF APPLICABLE) SHALL BE CARRIED OUT BE A LICENSED DEMOLITION CONTRACTOR.
THE SITE WILL BE ADEQUATELY SETUP WITH ALL NECESSARY AMENITIES I.E. SHEDS, TOILETS, RUNNING WATER, ETC.
IF ASBESTOS MATERIAL IS FOUND, IT IS TO BE TRANSPORTED OFF SITE AND REMOVED IN COMPLIANCE WITH WORK COVER REQUIREMENTS.

THE BULK OF DEMOLITION WILL BE CARRIED OUT BE APPROPRIATE MACHINERY AFTER IT HAS BEEN MADE SAFE BY REMOVAL OF ANY POISONOUS MATERIAL FIRST.
WASTE WILL BE REMOVED BY LOADING TRUCKS USING MACHINERY.
LOCATION AND TREATMENT OF ENTRY POINTS ON SITE FOR TRUCK ACCESS ARE SHOWN ON THE WASTE MANAGEMENT PLAN. ALL TRUCKS WILL BE REQUIRED TO COVER THEIR LOADS PRIOR TO DEPARTING THE SITE AND ACCESSING PUBLIC ROADS.
ALL CONSTRUCTION TIMES SHALL CONFORM TO COUNCILS REGULATIONS OR THOSE SPECIFICALLY STIPULATED IN THE CONDITIONS OF CONSENT.
ALL WORKS ARE TO ENSURE SAFE ACCESS AND EGRESS FROM THE SITE.
ALL ROAD AND FOOTPATH AREAS ARE TO BE PROTECTED FROM BUILDING ACTIVITIES.
ALL LOADING AND UNLOADING OF GOODS AND MATERIALS IS TO BE ON SITE WITH THE APPROPRIATE SAFETY MEASURES TAKEN TO ENSURE SAFETY OF ALL WORKERS ON SITE.
EXISTING NATIVE VEGETATION TO BE RETAINED UNLESS NOTED OTHERWISE.

SOIL AND EXCAVATED MATERIAL IS NOT TO BE TRANSPORTED ONTO SURROUNDING FOOTPATHS AND ROADWAYS.
THE METHOD OF SUPPORT TO ANY EXCAVATION ADJACENT TO ADJOINING PROPERTIES OR ROAD RESERVES, IS TO BE DETAILED AND DESIGNED BY A CHARTERED CIVIL ENGINEER. WITH NATIONAL PROFESSIONAL ENGINEERING REGISTRATION (NPER) IN THE CONSTRUCTION OF CIVIL WORKS OR A SURVEY COMPANY OF REGISTERED SURVEYORS WITH "PRELIMINARY ACCREDITATION" FROM THE INSTITUTE OF SURVEYORS NSWINC. OR AN ACCREDITED CERTIFIER.
PRIOR TO DEMOLITION, THE APPLICANT SHALL SUBMIT THIS WORK PLAN IN ACCORDANCE WITH AS2601 - 2001 AND OTHER RELEVANT STANDARDS.
HAZARDOUS DUST MUST NOT BE ALLOWED TO ESCAPE FROM THE SITE OR CONTAMINATE THE IMMEDIATE ENVIRONMENT. THE USE OF FINE MESH DUST PROOF SCREENS.
AT WORK (NOHSC 1012, 1994) AND AS/NZS 2179.1.1994 WET LEAD SAFE WORK PRACTICES, OR OTHER MEASURES IS REQUIRED.

ALL CONTRACTORS DIRECTLY INVOLVED IN THE REMOVAL OF HAZARDOUS DUST AND SUBSTANCES SHALL WEAR PROTECTIVE EQUIPMENT CONFORMING TO AS/NZS 1716:2003
ANY EXISTING ACCUMULATION OF DUST (E.G. CEILINGS, VOIDS AND WALL CAVITIES, MUST BE REMOVED BY THE USE OF AN INDUSTRIAL VACUUM FITTED WITH A HIGH EFFICIENCY PARTICULATE.
STREET GUTTER AND STORMWATER SYSTEMS, AIR (HEPA) FILTER AND DISPOSED OF EFFICIENTLY AND APPROPRIATELY.
ALL DUST SURFACES AND DUST CREATED FROM WORK IS TO BE SUPPRESSED BY A FINE WATER SPRAY.
WATER USED AS A SUPPRESSANT SPRAY IS NOT TO BE ALLOWED TO ENTER THE EXISTING STORMWATER SYSTEM.
DEMOLITION IS NOT TO BE PERFORMED DURING HIGH WINDS THAT WAY CAUSE DUST TO SPREAD BEYOND THE SITE BOUNDARIES WITHOUT ADEQUATE CONTAINMENT.
ALL LEAD CONTAMINATED MATERIAL IS TO BE DISPOSED OF IN ACCORDANCE WITH THE NSW ENVIRONMENTAL PROTECTION AUTHORITIES REQUIREMENTS.

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No.	Description	Date

DEMOLITION PLAN

PRELIMINARY NOT FOR CONSTRUCTION

N

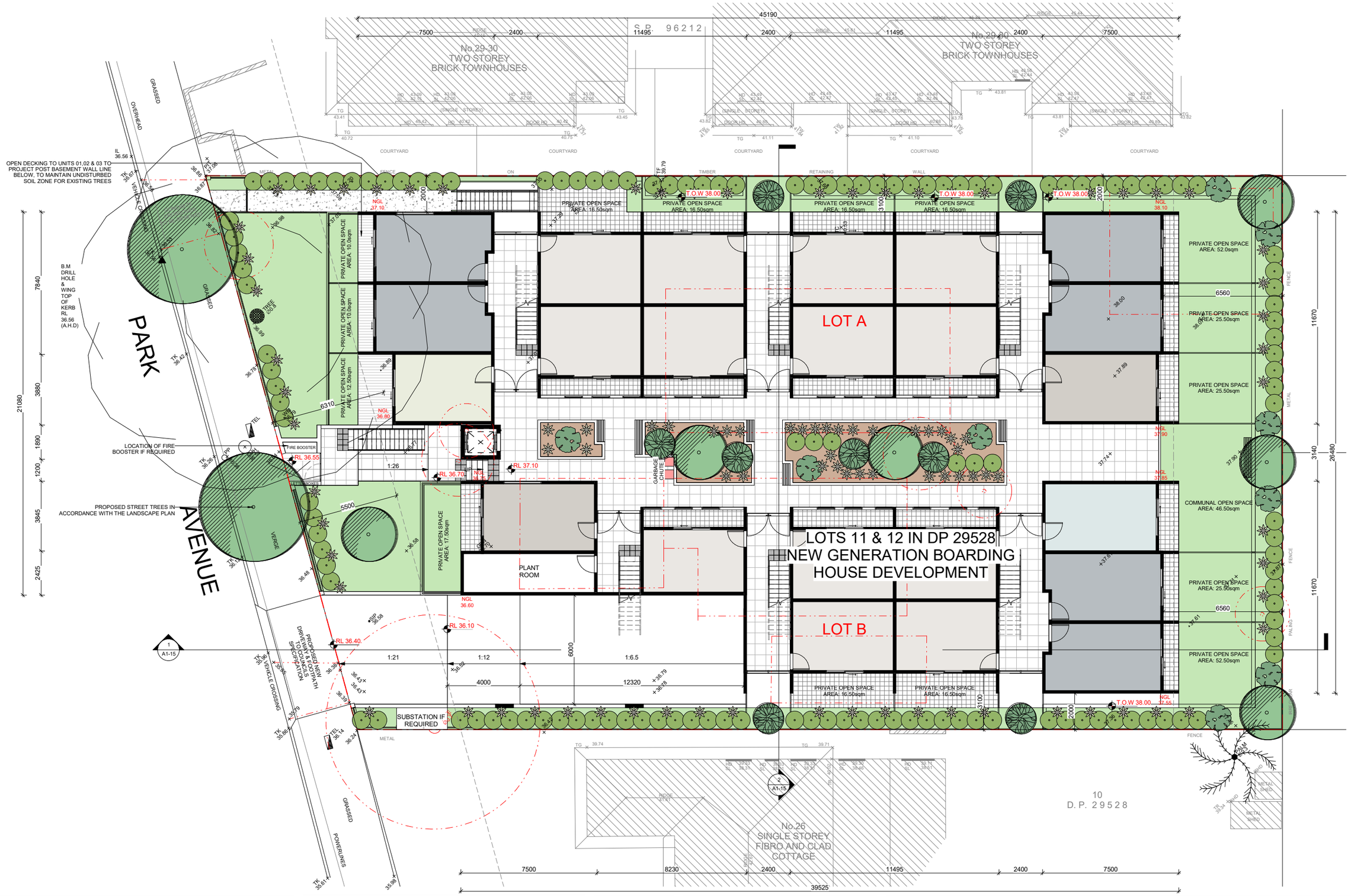
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	JB
Date	MAY 20
Checked by	CK
Sheet number	A1-05
Project number	20016-04



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SITE PLAN

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	TA
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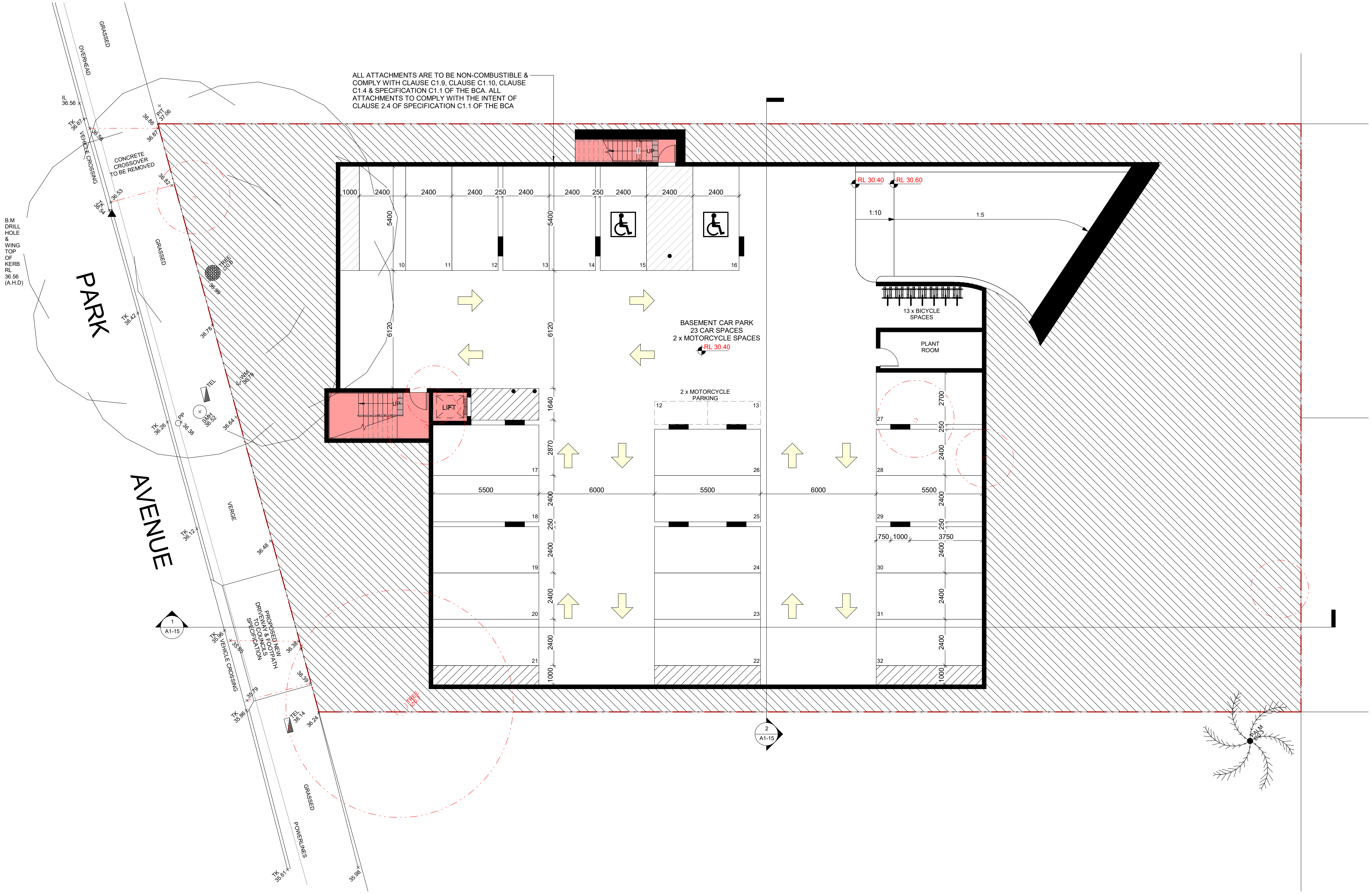
Sheet number	A1-06
Project number	20016-04


ALL ATTACHMENTS ARE TO BE NON-COMBUSTIBLE & COMPLY WITH CLAUSE C1.9, CLAUSE C1.10, CLAUSE C1.4 & SPECIFICATION C1.1 OF THE BCA. ALL ATTACHMENTS TO COMPLY WITH THE INTENT OF CLAUSE 2.4 OF SPECIFICATION C1.1 OF THE BCA
PARK
AVENUE
CONCRETE CROSSOVER TO BE REMOVED
VEHICLE CROSSING
OVERHEAD
GRASSED
VERGE
POWERLINES
B.M DRILL HOLE & WING TOP OF KERB RL 36.56 (A.H.D)
PROPOSED NEW DRIVEWAY & FOOTPATH TO COUNCIL'S SPECIFICATION
BASEMENT CAR PARK
23 CAR SPACES
2 x MOTORCYCLE SPACES
RL 30.40
RL 30.60
2 x MOTORCYCLE PARKING
13 x BICYCLE SPACES
PLANT ROOM
LIFT
UP
1:10
1:5
PALM

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No.	Description	Date

BASEMENT 2 FLOOR PLAN

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	TA
Date	MAY 20
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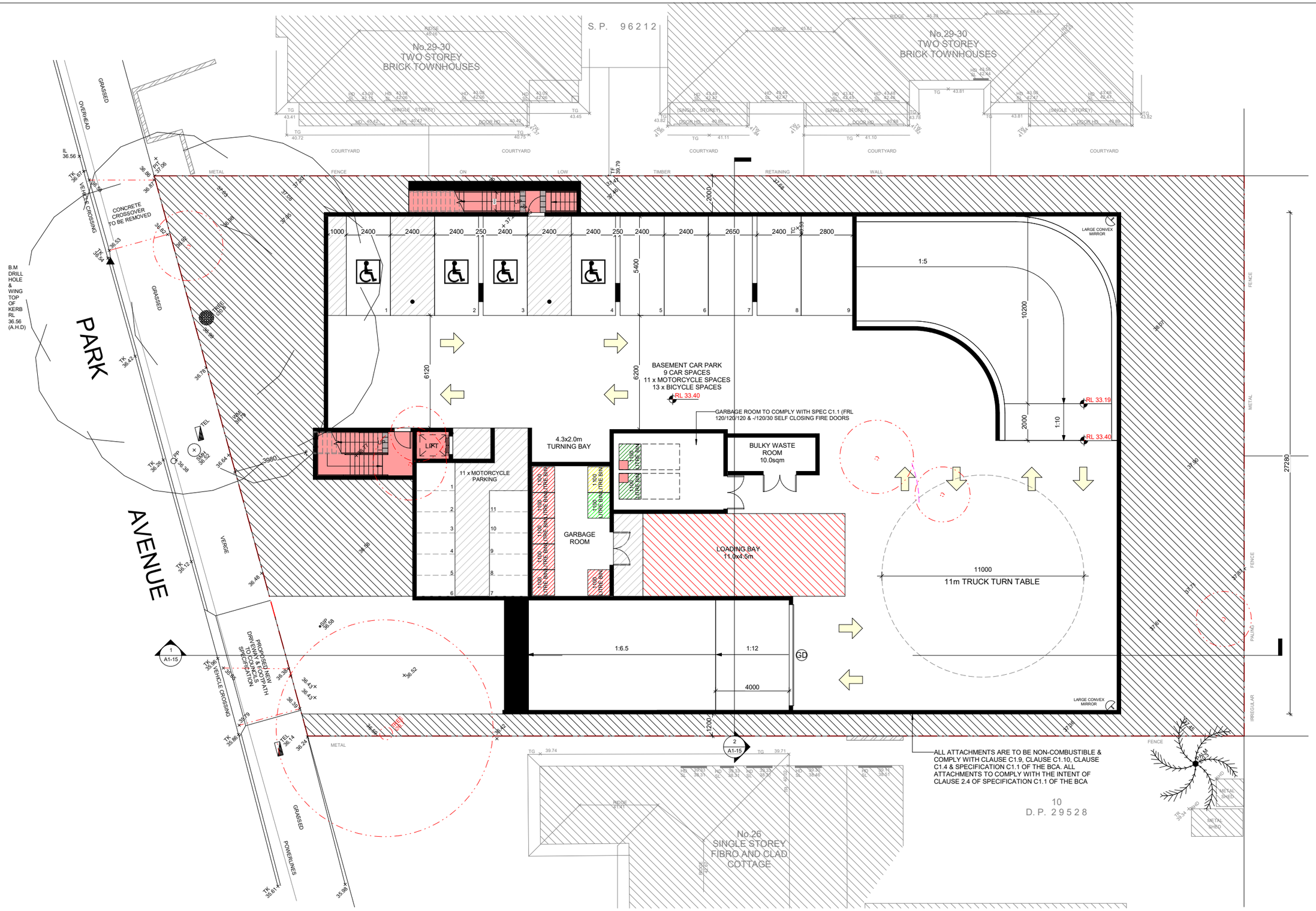
Sheet number	A1-07
Project number	20016-04



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No.	Description	Date

BASEMENT 1 FLOOR PLAN

PRELIMINARY NOT FOR CONSTRUCTION

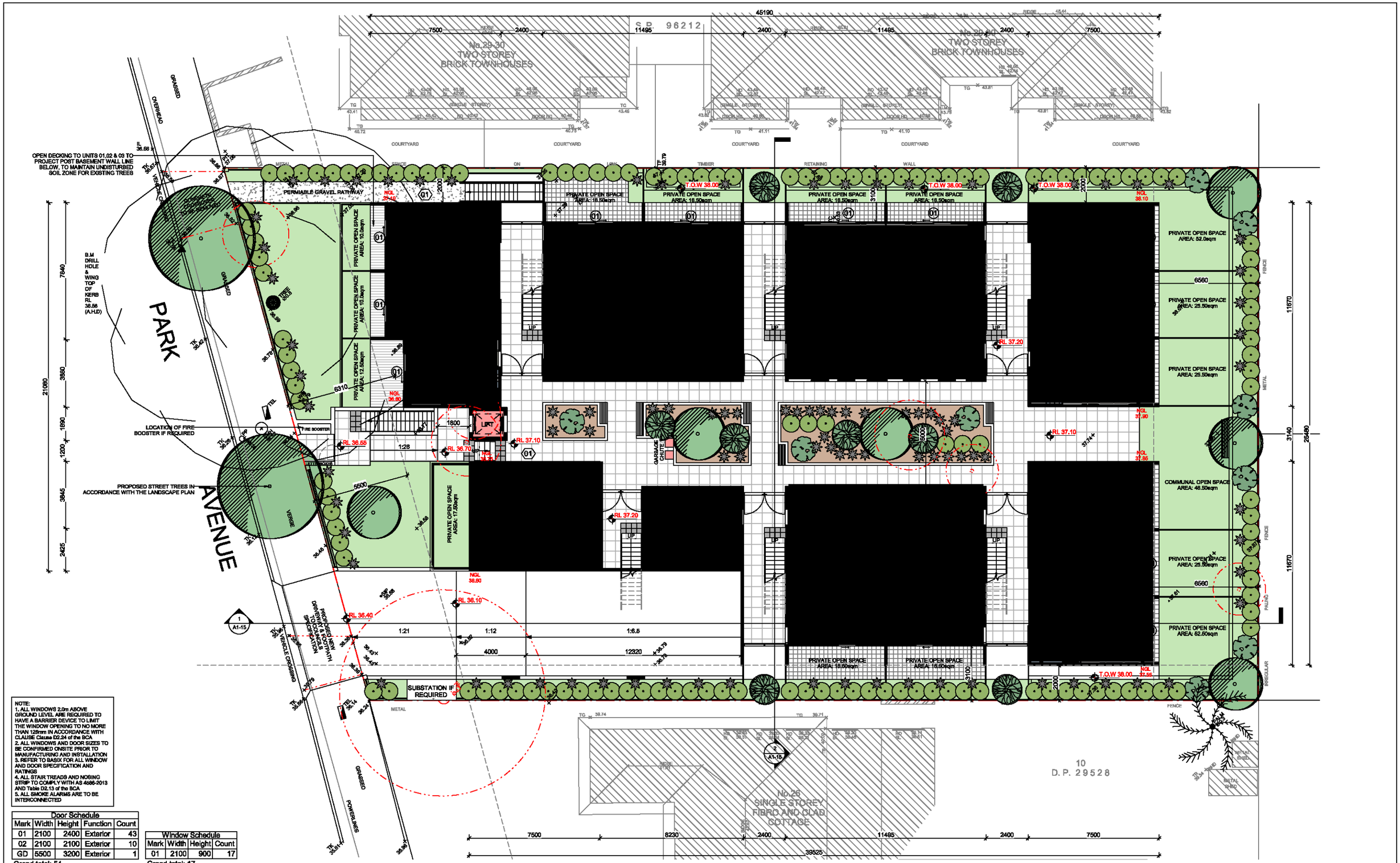
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	TA
Date	MAY 20
Checked by	CK
Sheet number	A1-08
Project number	20016-04



NOTE:
1. ALL WINDOWS 2.0m ABOVE GROUND LEVEL ARE REQUIRED TO HAVE A BARRIER DEVICE TO LIMIT THE WINDOW OPENING TO NO MORE THAN 125mm IN ACCORDANCE WITH CLAUSE Clause D2.24 of the BCA
2. ALL WINDOWS AND DOOR SIZES TO BE CONFIRMED ONSITE PRIOR TO MANUFACTURING AND INSTALLATION
3. REFER TO BASIX FOR ALL WINDOW AND DOOR SPECIFICATION AND RATINGS
4. ALL STAIR TREADS AND NOSING STRIP TO COMPLY WITH AS 4586-2013 AND Table D2.13 of the BCA
5. ALL SMOKE ALARMS ARE TO BE INTERCONNECTED

Door Schedule				
Mark	Width	Height	Function	Count
01	2100	2400	Exterior	43
02	2100	2100	Exterior	10
GD	5500	3200	Exterior	1

Grand total: 54

Window Schedule			
Mark	Width	Height	Count
01	2100	900	17

Grand total: 17

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No.	Description	Date

GROUND FLOOR PLAN

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

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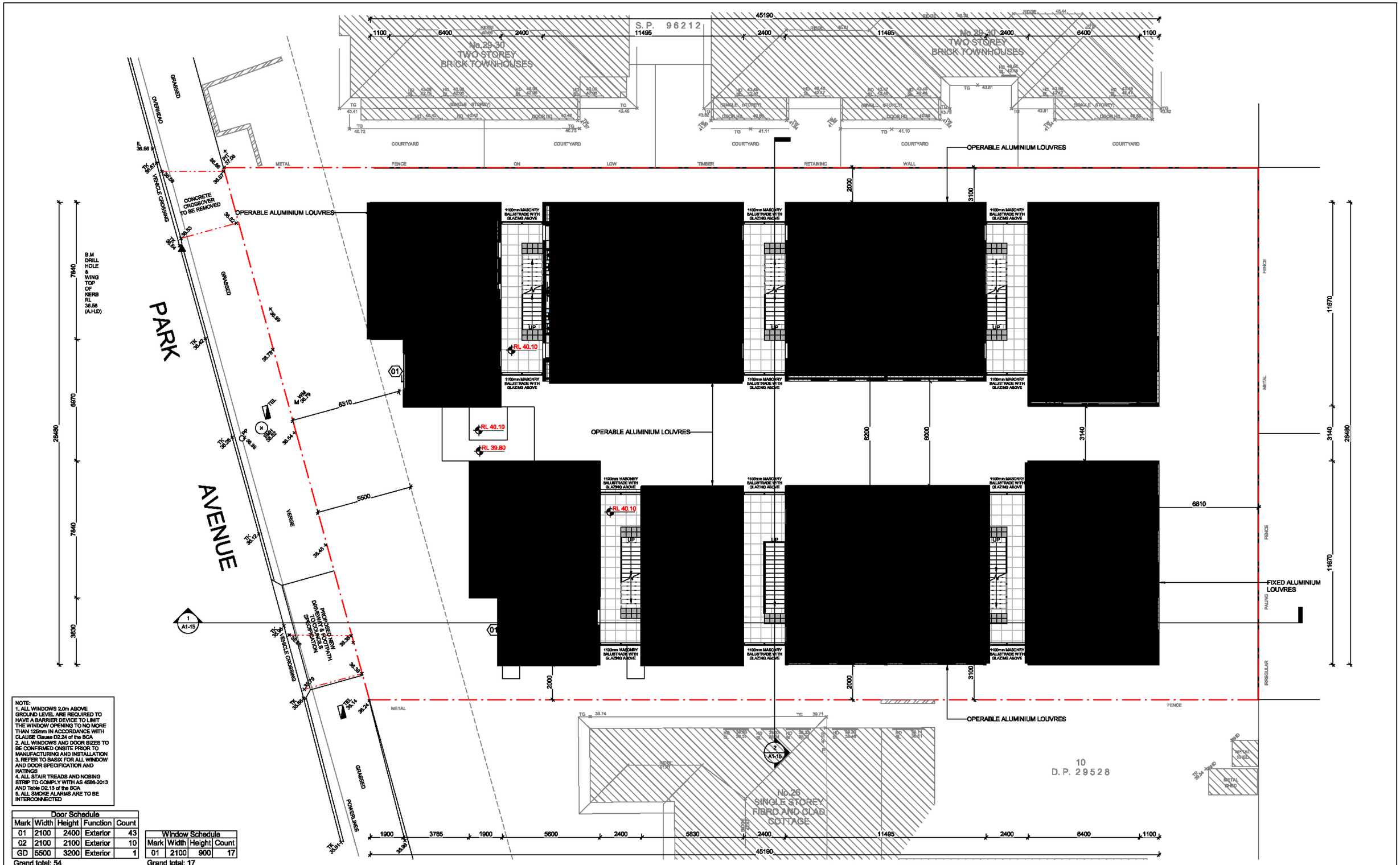

NOTE:
1. ALL WINDOWS 2.0m ABOVE GROUND LEVEL ARE REQUIRED TO HAVE A BARRIER DEVICE TO LIMIT THE WINDOW OPENING TO NO MORE THAN 125mm IN ACCORDANCE WITH CLAUSE Clause D2.24 of the BCA
2. ALL WINDOWS AND DOOR SIZES TO BE CONFIRMED ONSITE PRIOR TO MANUFACTURING AND INSTALLATION
3. REFER TO BASIX FOR ALL WINDOW AND DOOR SPECIFICATION AND RATINGS
4. ALL STAIR TREADS AND NOSING STRIP TO COMPLY WITH AS 4586-2013 AND Table D2.13 of the BCA
5. ALL SMOKE ALARMS ARE TO BE INTERCONNECTED

Door Schedule

Mark	Width	Height	Function	Count
01	2100	2400	Exterior	43
02	2100	2100	Exterior	10
GD	5500	3200	Exterior	1

Grand total: 54

Window Schedule

Mark	Width	Height	Count
01	2100	900	17

Grand total: 17

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design + interiors
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PARRAMATTA NSW 2150
P: +61 2 7804 0888 - M: 0411 222 888
E: chris@ckdesign.net.au
W: www.ckdesign.net.au

No.	Description	Date

FIRST FLOOR PLAN

PRELIMINARY NOT FOR CONSTRUCTION

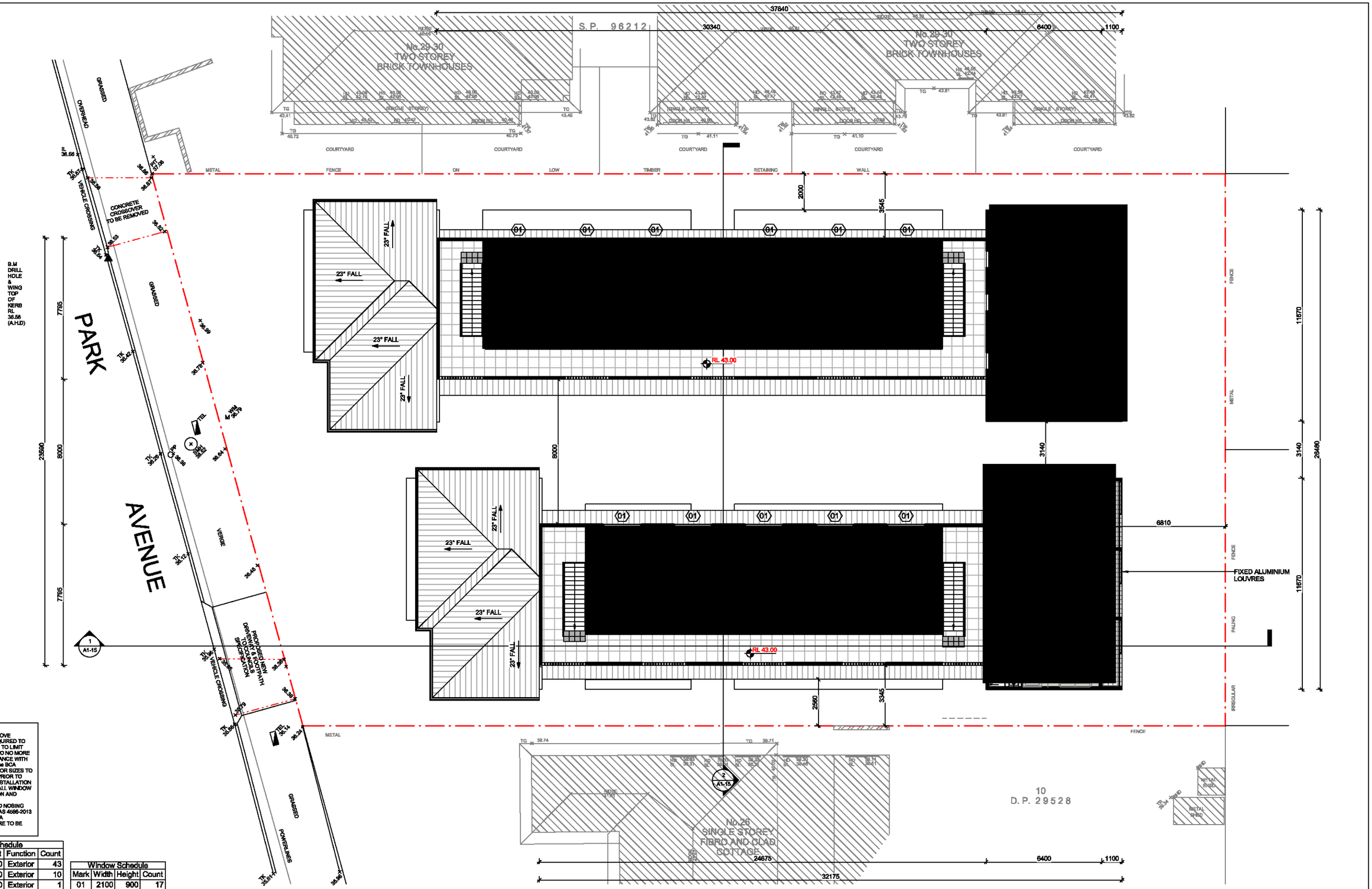
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	TA
Date	MAY 20
Checked by	CK
Sheet number	A1-10
Project number	20016-04



NOTE:
1. ALL WINDOWS 2.0m ABOVE GROUND LEVEL ARE REQUIRED TO HAVE A BARRIER DEVICE TO LIMIT THE WINDOW OPENING TO NO MORE THAN 125mm IN ACCORDANCE WITH CLAUSE Clause D2.24 of the BCA
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Door Schedule				
Mark	Width	Height	Function	Count
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02	2100	2100	Exterior	10
GD	5500	3200	Exterior	1

Grand total: 54

Window Schedule			
Mark	Width	Height	Count
01	2100	900	17

Grand total: 17

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No.	Description	Date

SECOND FLOOR PLAN

PRELIMINARY NOT FOR CONSTRUCTION

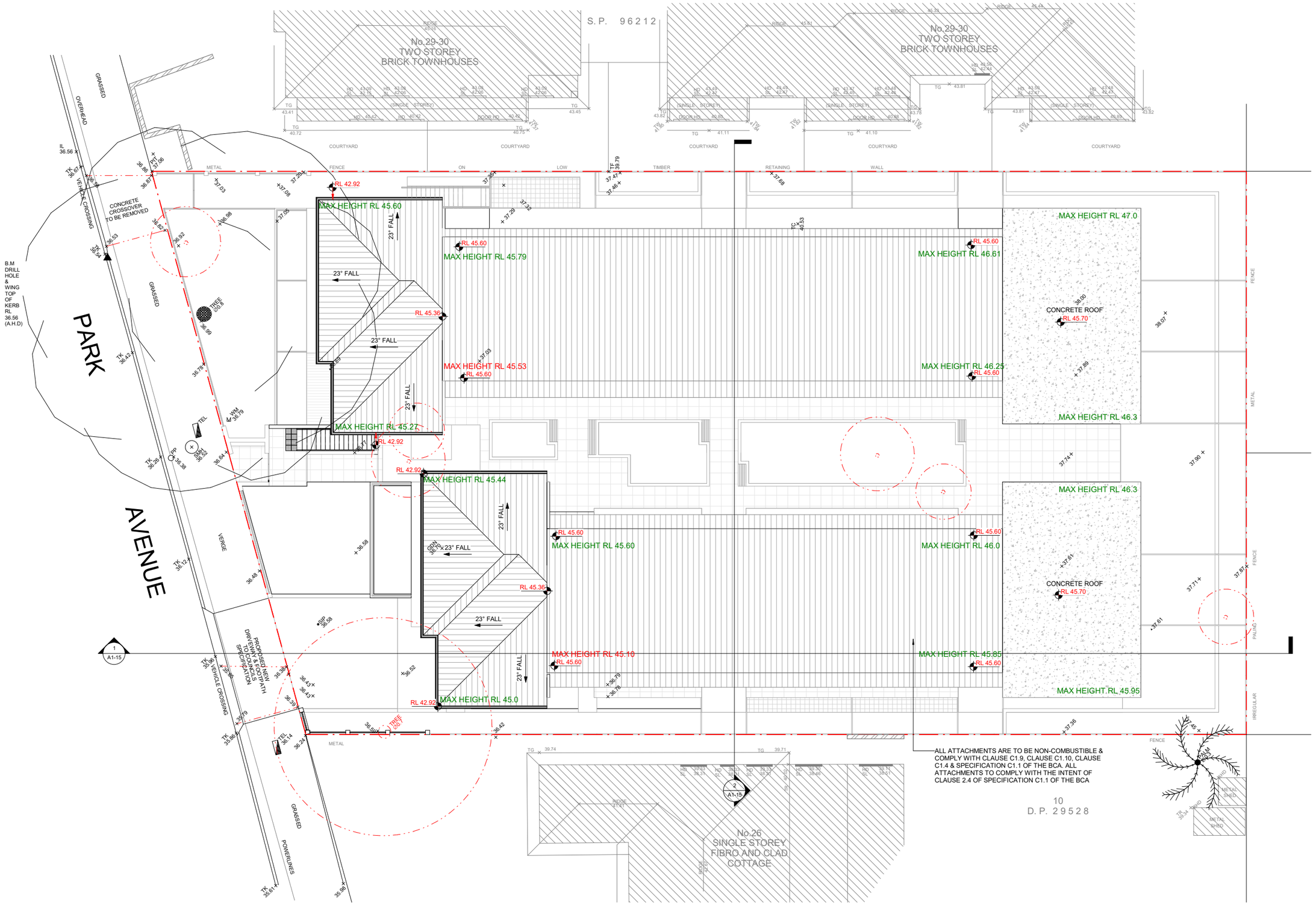
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	TA
Date	MAY 20
Checked by	CK
Sheet number	A1-11
Project number	20016-04



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E: chris@ckdesign.net.au
W: www.ckdesign.net.au

No.	Description	Date

ROOF PLAN

PRELIMINARY NOT FOR CONSTRUCTION

N

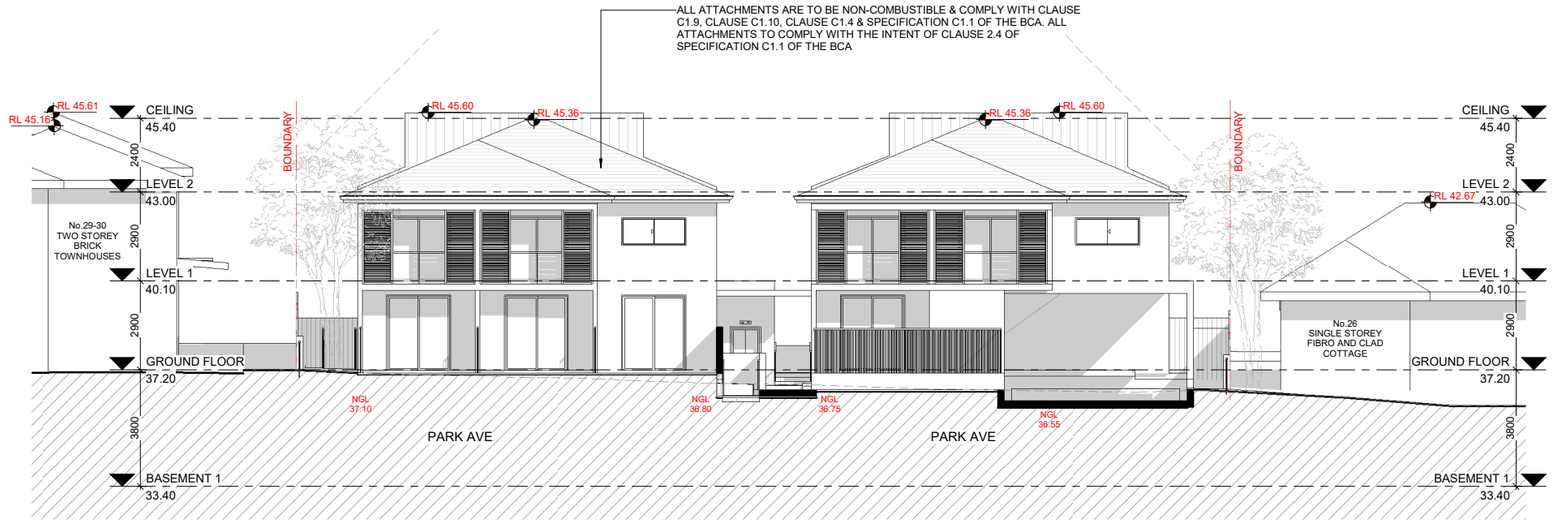
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:100 A3 1:200
Drawn by	TA
Date	MAY 20
Checked by	CK
Sheet number	A1-12
Project number	20016-04



1 SOUTH ELEVATION

A1 1:100 A3 1:200

2 EAST ELEVATION

A1 1:100 A3 1:200

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No.	Description	Date

ELEVATIONS

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale: A1 1:100 A3 1:200

Drawn by: TA

Date: MAY 20

Checked by: CK

Project number: 20016-04

Sheet number: A1-13

1 NORTH ELEVATION

A1 1:100 A3 1:200

2 WEST ELEVATION

A1 1:100 A3 1:200

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No.	Description	Date

ELEVATIONS

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale: A1 1:100 A3 1:200

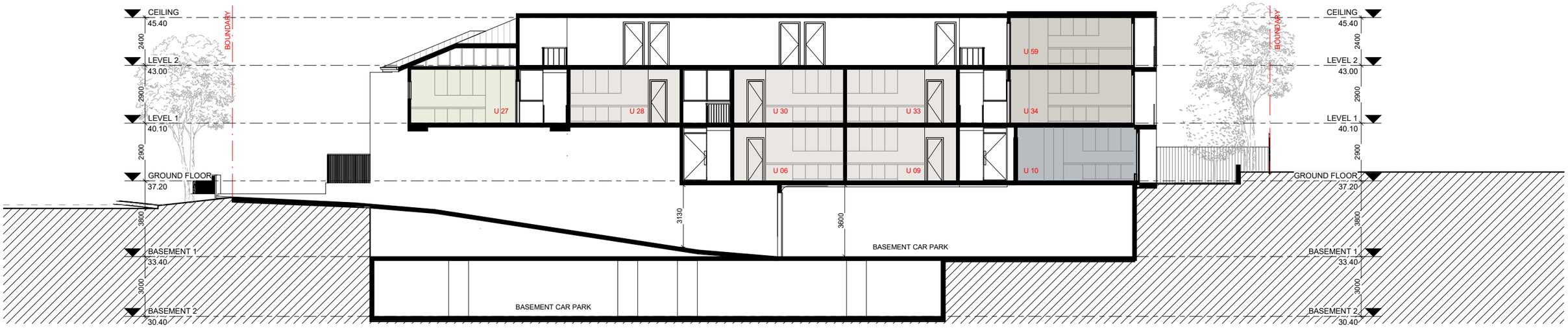
Drawn by: TA

Date: MAY 20

Checked by: CK

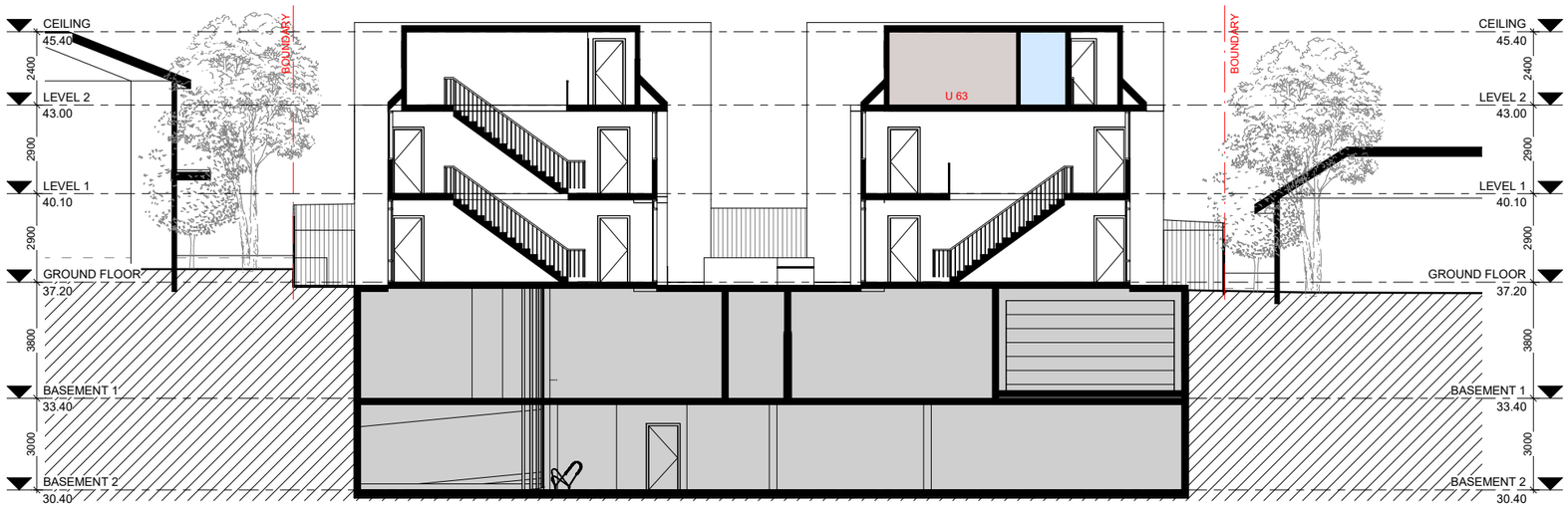
Sheet number: A1-14

Project number: 20016-04



1 SECTION A

A1 1:100 A3 1:200



2 SECTION B

A1 1:100 A3 1:200

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No.	Description	Date

SECTIONS

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale: A1 1:100 A3 1:200

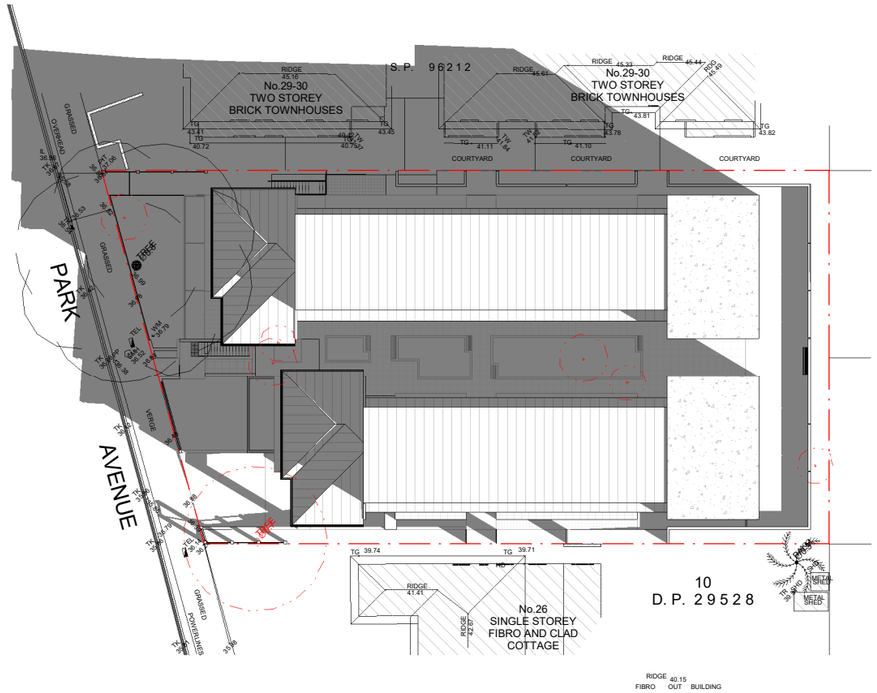
Drawn by: TA

Date: MAY 20

Checked by: CK

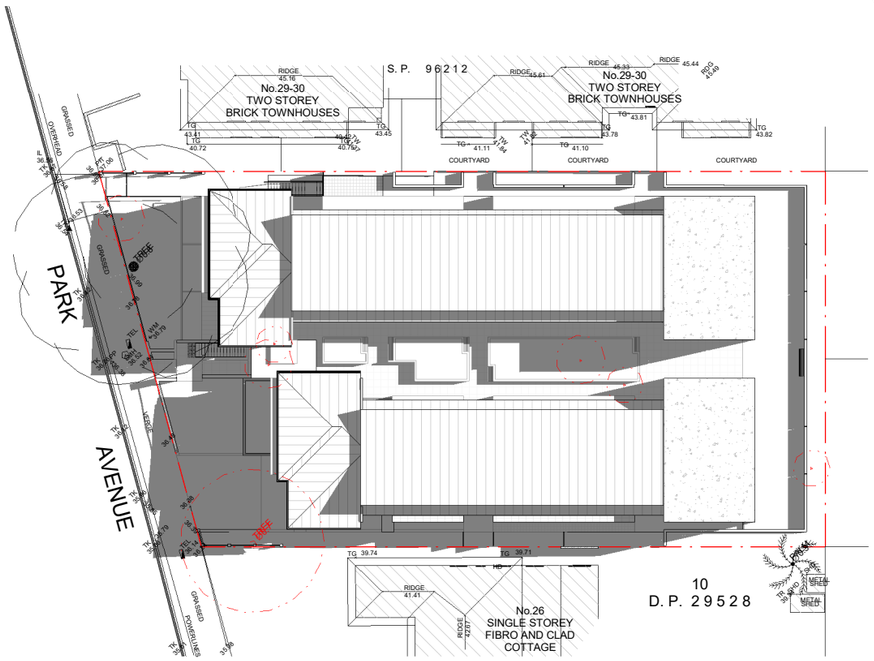
Project number: 20016-04

Sheet number: A1-15



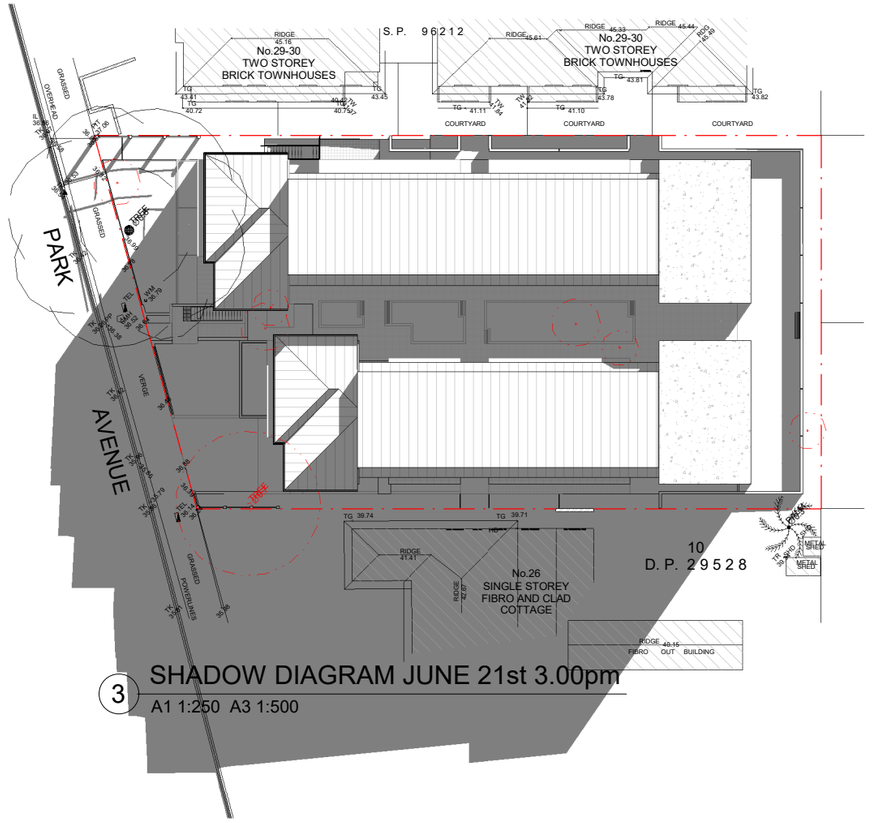
1 SHADOW DIAGRAM JUNE 21st 9.00am

A1 1:250 A3 1:500



2 SHADOW DIAGRAM JUNE 21st 12.00pm

A1 1:250 A3 1:500



3 SHADOW DIAGRAM JUNE 21st 3.00pm

A1 1:250 A3 1:500

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No.	Description	Date

SHADOW DIAGRAMS

PRELIMINARY NOT FOR CONSTRUCTION

N

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:250 A3 1:500
Drawn by	TA
Date	MAY 20
Checked by	CK
Sheet number	A1-16
Project number	20016-04

1

WALLS AND ROOF - STANDING SEAM MONUMENT MATT

(NON-COMBUSTIBLE TO AS 1530.1)

2

WALLS TO BE RENDERED & PAINTED DULUX - TIMELESS GREY

(NON-COMBUSTIBLE TO AS 1530.1)

3

WALLS TO BE RENDERED & PAINTED DULUX - LEXICON

(NON-COMBUSTIBLE TO AS 1530.1)

4

LOUVRES, WINDOW AND DOOR FRAMES POWERCOATED DULUX DURALLOY - NIGHT SKY MATT

(NON-COMBUSTIBLE TO AS 1530.1)

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No.	Description	Date

DO NOT SCALE.
USE FIGURED DIMENSIONS IN PREFERENCE TO SCALED. CHECK ALL DIMENSIONS ON SITE BEFORE FRABRICATION. -

DISCLAIMER:
ALL WORKS ARE TO BE IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND FOLLOW THE GUIDELINES OF THE BUILDING CODE OF AUSTRALIA.

SCHEDULE OF FINISHES

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	N.T.S
Drawn by	JB
Date	MAY 20
Checked by	CK
Sheet number	A1-17
Project number	20016-04

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No.	Description	Date

3D PERSPECTIVE

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	
Drawn by: TA	Date: MAY 20
Checked by: CK	Sheet number: A1-18
Project number: 20016-04	

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W: www.ckdesign.net.au

No.	Description	Date

3D PERSPECTIVE

PRELIMINARY NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT:
CK DESIGN

ADDRESS:
27 & 28 PARK AVE, KINGSWOOD

Scale	
Drawn by: JB	Date: MAY 20
Checked by: CK	Sheet number: A1-19
Project number: 20016-04	

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LEVEL 2, 240 CHURCH ST,
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P: +61 2 7804 0888 - M: 0411 222 888
E: chris@ckdesign.net.au
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No.	Description	Date

3D PERSPECTIVE

PRELIMINARY NOT FOR CONSTRUCTION

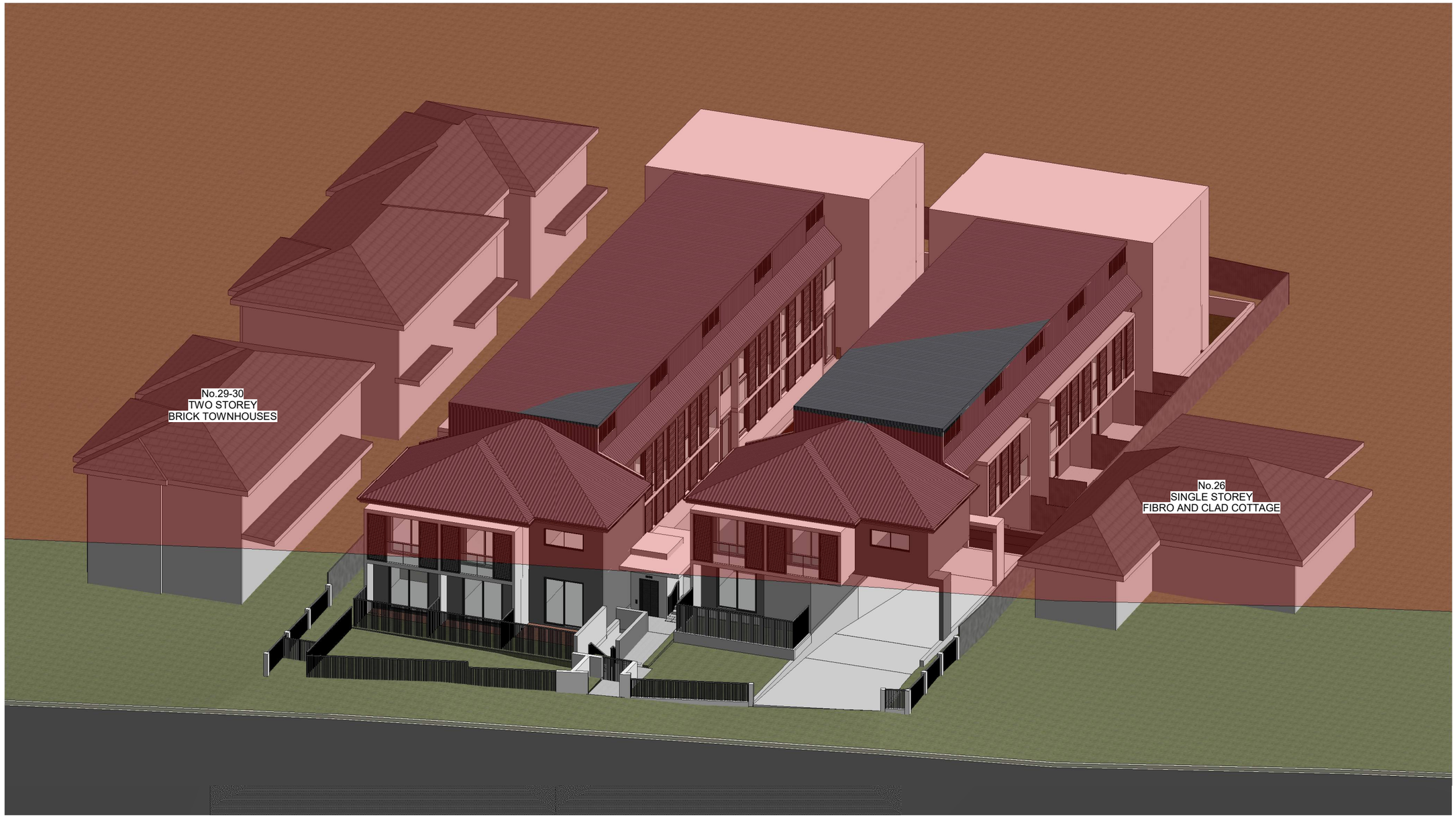
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	
Drawn by: JB	Date: MAY 20
Checked by: CK	Sheet number: A1-20
Project number: 20016-04	



8.5m HEIGHT PLANE

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W: www.ckdesign.net.au

No.	Description	Date

HEIGHT PLANE ANALYSIS

PRELIMINARY NOT FOR CONSTRUCTION

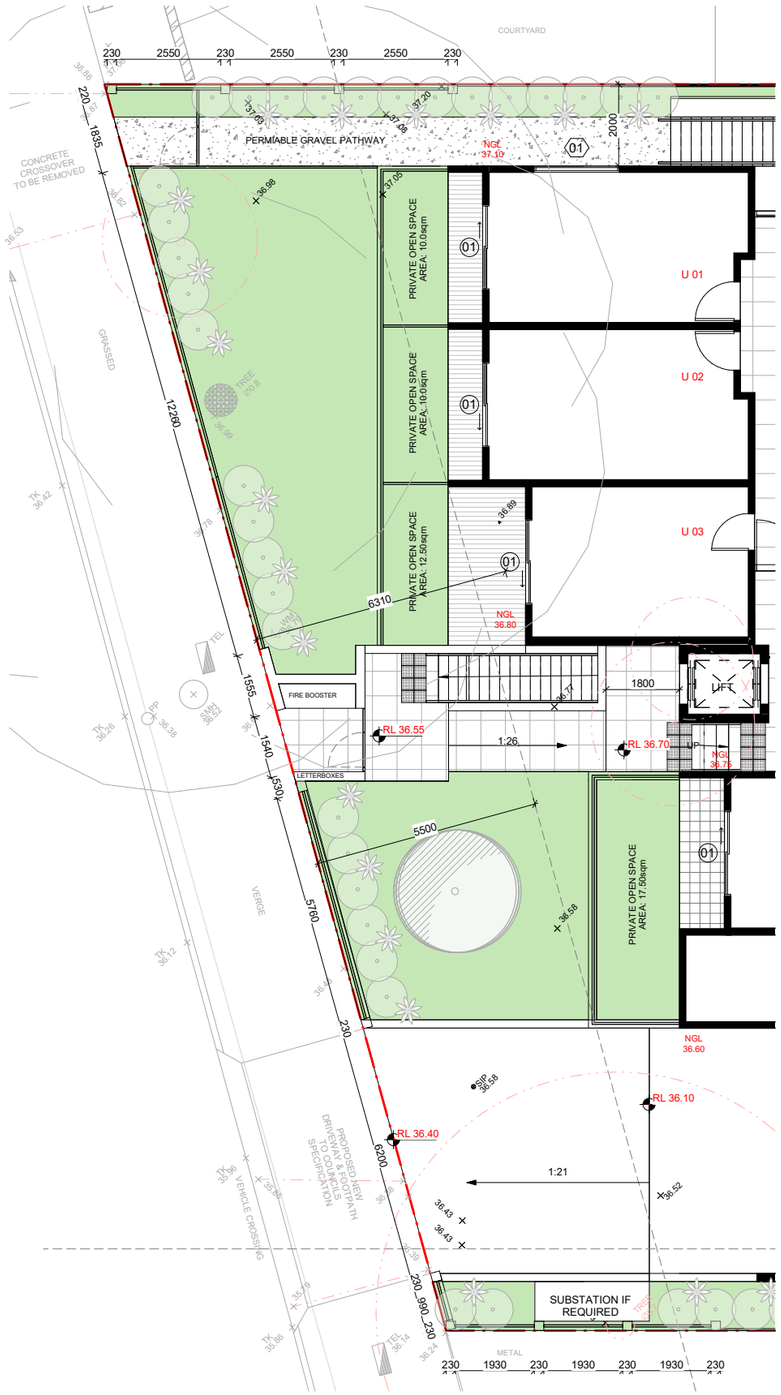
DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

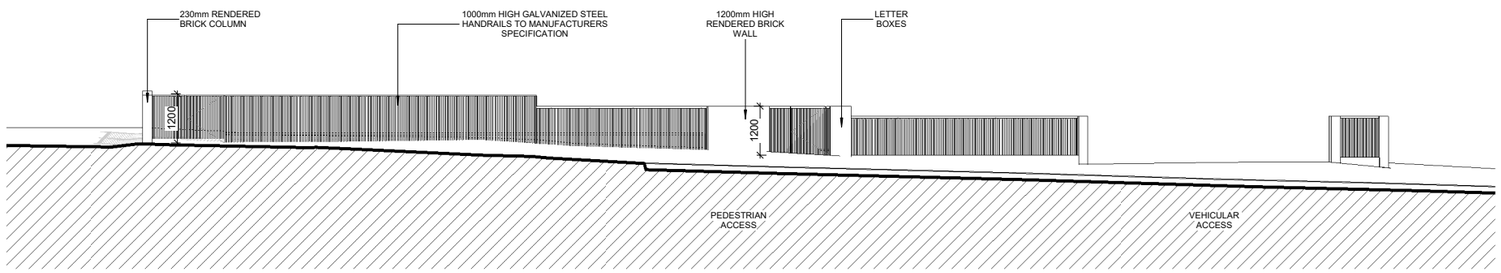
CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

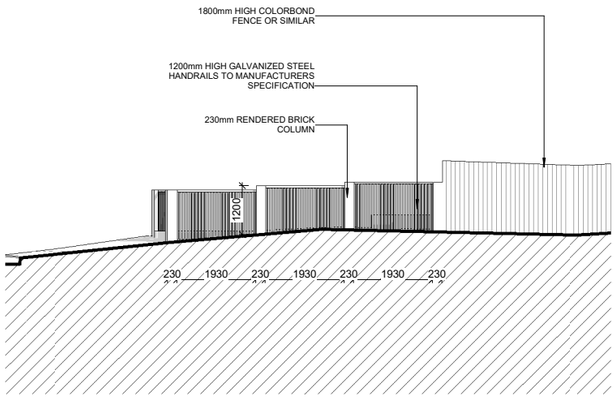
Scale	1 : 100
Drawn by	JB
Date	MAY 20
Checked by	CK
Sheet number	A1-21
Project number	20016-04



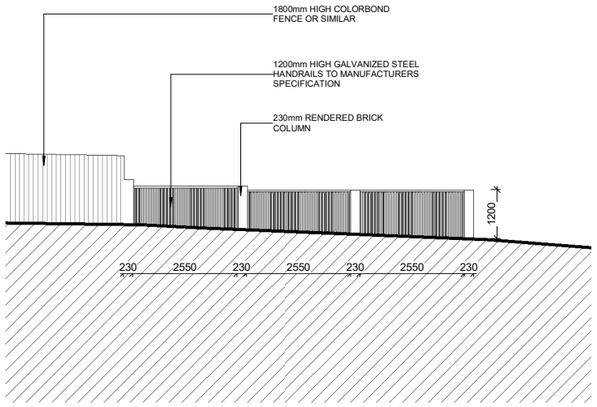
1 FENCE DETAIL - GROUND FLOOR
A1 1:75 A3 1:150



2 FENCE SOUTH ELEVATION
A1 1:75 A3 1:150



3 FENCE EAST ELEVATION
A1 1:75 A3 1:150



4 FENCE WEST ELEVATION
A1 1:75 A3 1:150

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E: chris@ckdesign.net.au
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No.	Description	Date

FENCE DETAILS

PRELIMINARY NOT FOR CONSTRUCTION

N

DEVELOPMENT APPLICATION

NEW GENERATION BOARDING HOUSE DEVELOPMENT

CLIENT: CK DESIGN

ADDRESS: 27 & 28 PARK AVE, KINGSWOOD

Scale	A1 1:75 A3 1:150
Drawn by	JB
Date	MAY 20
Checked by	CK
Sheet number	A1-22
Project number	20016-04

CLAUSE 4.6 REQUEST FOR VARIATION

TO

CLAUSE 4.3 (2) (HEIGHT OF BUILDING) OF PENRITH LOCAL ENVIRONMENTAL PLAN 2010 (PLEP 2010)

27-28 PARK AVENUE

KINGSWOOD

31ST March 2021

Andrew Martin Planning Pty Ltd - Town | Urban | Environmental ABN 71 101 798 001

t. 02 9518 4120 m. 0405 449 150 e. amartin@amplanning.com.au p. PO Box 601 Pyrmont NSW 2009

www.amplanning.com.au

1.0 Introduction

- This is a request to vary a development standard pursuant to the provisions of Clause 4.6 of Penrith Local Environmental Plan 2010 (PLEP 2010), the relevant clause being Clause 4.3(2) (Height of Building).
- The relevant maximum height of building control is **8.5m**.
- The relevant Height of Building control is a *development standard* for the purposes of the *EP & A Act 1979*.
- This request to vary the height development standard considers the judgment in *Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118* ("Initial Action").
- The relevant case law confirms that the consent authority not be directly satisfied that compliance is unreasonable or unnecessary and sufficient environmental planning grounds exist, but rather that it *"only indirectly form the opinion of satisfaction that the applicant's written request has adequately addressed".*
- The objective of Clause 4.6 1(a) is to provide an appropriate degree of flexibility in applying certain development standards to particular development. The intent is to achieve better outcomes for and from development by allowing flexibility in particular circumstances in accordance with Clause 4.6 1(b).
- The relevant plans relied upon are those identified as the plans prepared by CK Design.

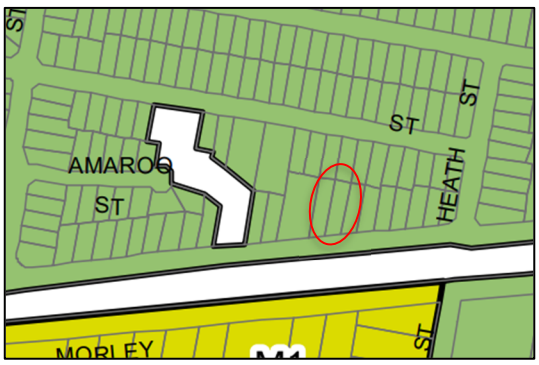
2.0 Development Standard to be Varied – Height

The relevant *development standard* to be varied is the **8.5m** height control under Clause 4.3(2). Clause 4.3 of PLEP relevantly provides:

4.3 Height of buildings

(1) The objectives of this clause are as follows—
(a) to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality,
(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes,
(c) to minimise the adverse impact of development on heritage items, heritage conservation areas and areas of scenic or visual importance,
(d) to nominate heights that will provide a high quality urban form for all buildings and a transition in built form and land use intensity.
(2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.

The relevant height of buildings map is identified below:



Map 1- Height Map PLEP (Map HOB__013)

The subject site is mapped **"I" – 8.5m(max).**

3.0 Nature of Variation Sought

The requested variation is as follows:

The variation requested is up to a maximum **500mm** over the 8.5m height control - when the *site level existing* definition is applied. This maximum is shown in the south-east of the building in Figures 1 & 2 below. The variation equates to a 5.88% variation and is considered minor.

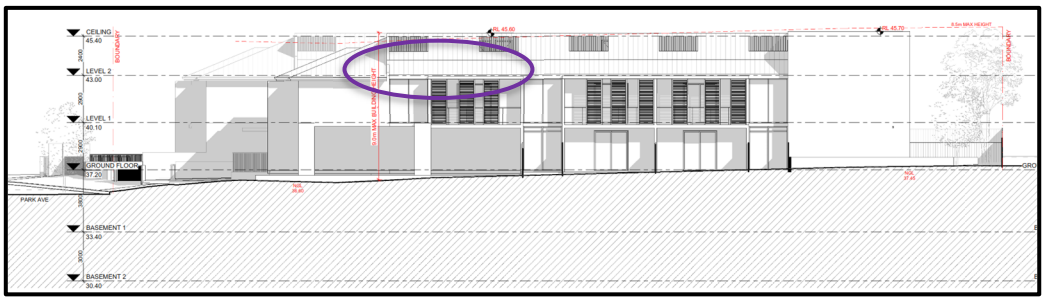


Figure 1: Extract of Eastern Elevation showing maximum height in the south-east corner of the building

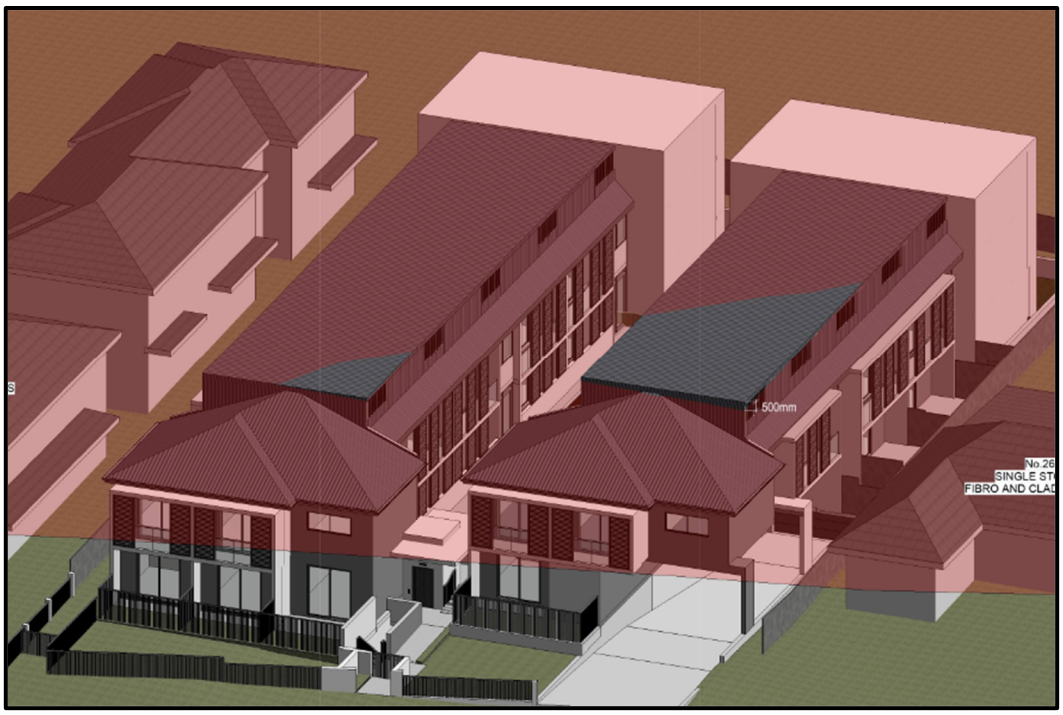


Figure 2: Height Plane showing 500m maximum variation in south-east corner of the eastern wing of the development. All areas of variation are numerically minor and do not impact on the adjoining properties

4.0 Height – Development Standard

A development standard is defined in S1.4 of the *Environmental Planning and Assessment Act 1979* ("EPA Act") to mean:

"provisions of an environmental planning instrument or the regulations in relation to the carrying out of development, being provisions by or under which requirements are specified or standards are fixed in respect of any aspect of that development, including, but without limiting the generality of the foregoing, requirements or standards in respect of:
(a) the area, shape or frontage of any land, the dimensions of any land, buildings or works, or the distance of any land, building or work from any specified point,
(b) the proportion or percentage of the area of a site which a building or work may occupy,
(c) the character, location, siting, bulk, scale, shape, size, height, density, design or external appearance of a building or work,
(d) the cubic content or floor space of a building,
(e) the intensity or density of the use of any land, building or work,
(f) the provision of public access, open space, landscaped space, tree planting or other treatment for the conservation, protection or enhancement of the environment,
(g) the provision of facilities for the standing, movement, parking, servicing, manoeuvring, loading or unloading of vehicles,
(h) the volume, nature and type of traffic generated by the development,
(i) road patterns,
(j) drainage,
(k) the carrying out of earthworks,
(l) the effects of development on patterns of wind, sunlight, daylight or shadows,
(m) the provision of services, facilities and amenities demanded by development,
(n) the emission of pollution and means for its prevention or control or mitigation, and
(o) such other matters as may be prescribed."

The **8.5m** maximum height standard is a *development standard* as defined under the *EP & A Act 1979.*

5.0 Clause 4.6 of Penrith Local Environmental Plan 2010

The following provides a response to relevant Clause 4.6 provisions:

Clause 4.6(2) provides that:

> *(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.*

The HOB development standard is not expressly excluded from the operation of cl4.6 and accordingly, consent may be granted.

Clause 4.6(3) relates to the making of a written request to justify the contravention of a development standard and states:

> *(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:*
>
> ***(4) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and***

> ***(5) that there are sufficient environmental planning grounds to justify contravening the development standard. (our emphasis)***

The proposed development does not comply with the **HOB** development standard pursuant to cl4.3 of the P**LEP 2010**. However, strict compliance is considered to be unreasonable and unnecessary in the circumstances of this case as detailed further in this written request.

Sufficient environmental planning grounds exist to justify contravening the development standard as detailed in Section 8.

Clause 4.6(4) provides that consent must not be granted for development that contravenes a development standard unless:

> *(6) 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 Secretary has been obtained.*

Sections below of this written request address the matters required under cl4.6(4)(a) of the PLEP 2010 and cl4.6(4)(b).

Clause 4.6(5) provides that:

> *(7) In deciding whether to grant concurrence, the Secretary must consider:*
>
> *(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and*
>
> *(b) the public benefit of maintaining the development standard, and*
>
> *(c) any other matters required to be taken into consideration by the Secretary before granting concurrence.*

Sections below of this written request addresses the matters required under cl4.6(5) of the PLEP 2010.

Clauses 4.6(6) and (8) are not relevant to the proposed development.

Cl 4.6(7) is an administrative clause requiring the consent authority to keep a record of its assessment under this clause after determining a development application.

6.0 Relevant Decisions

Initial Action

In the Judgment of *Initial Action Pty Ltd v Woollahra Municipal Council [2018] NSWLEC 118* ('Initial Action'), Preston CJ indicated that cl4.6 does not directly or indirectly establish a test that a non-compliant development should have a neutral or beneficial effect relative to a compliant development. For example, a building that exceeds a development standard that has adverse amenity impacts should not be assessed on the basis of whether a complying development will have no adverse impacts. Rather, the non-compliance should be assessed with regard to whether the impacts are

reasonable in the context of achieving consistency with the objectives of the zone and the objectives of the development standard. The relevant test is whether the environmental planning grounds relied upon and identified in the written request are "sufficient" to justify the non-compliance sought.

In addition, Preston CJ ruled that cl4.6 does not directly or indirectly establish a "test" that a development which contravenes a development standard results in a "*better environmental planning outcome*" relative to a development that complies with the development standard. There is no provision in PLEP clause 4.6 that requires a development that contravenes a development standard to achieve better outcomes.

Furthermore, Preston CJ ruled that it is incorrect to hold that the lack of adverse amenity impacts on adjoining properties is not a sufficient ground justifying the development contravening the development standard, when one way of demonstrating consistency with the objectives of a development standard is to show a lack of adverse amenity impacts.

Rebel MH Neutral Bay Pty Ltd v North Sydney Council [2018] NSWLEC 191 Moore J (herein refereed to as Rebel MH").

In Rebel MH Neutral Bay Pty Ltd v North Sydney Council [2018] NSWLEC 191 Moore J identifies the steps provided in *Initial Action* confirming what the consent authority must do in order to satisfy itself as follows:

"For me to grant development consent for this development as it contravenes the permitted maximum building height development standard, cl 4.6(4)(a) requires me to be satisfied that:

(1) The written request adequately demonstrates that compliance with the development standard is unreasonable or unnecessary in the circumstances of this proposed development (cl 4.6(3)(a) and cl 4.6(4)(a)(i)); and

(2) The written request adequately establishes sufficient environmental planning grounds to justify contravening the development standard (cl 4.6(3)(b) and cl 4.6(4)(a)(i)); and

(3) The proposed development will be in the public interest because it is consistent with the objectives of the standard in question - set out in cl 4.3 of the LEP (cl 4.6(4)(a)(ii)); and

(4) The proposed development will be in the public interest because it is consistent with the objectives of the R4 High Density Residential Zone (cl 4.6(4)(a)(ii)),

For the first of the above matters, Preston CJ made it clear, in Initial Action at [25], that the Court need not be directly satisfied that compliance is unreasonable or unnecessary and sufficient environmental planning grounds exist, but rather that it "only indirectly form the opinion of satisfaction that the applicant's written request has adequately addressed those matters."

SJD DB2 Pty Ltd v Woollahra Council [2020] NSWLEC 1112 (SJD DB2).

This appeal sought consent for the construction of a six-storey Shop top housing development at 28-34 Cross Street Double Bay (the DA). The Court approved the proposed development, having a height of 21.21m where the control was 14.7m – representing a maximum variation of approximately 44% (or 6.51m) – and a floor space ratio (FSR) of 3.54:1 where the control was 2.5:1 – representing a variation of approximately 41%.

The Court drew from the decisions in *Initial Action* and *RebelMH* in the *SJD DB2* judgment, and noted that although there are a number of ways to demonstrate that compliance with a development standard is unreasonable or unnecessary, it may be sufficient to establish only one way (at [35].) In considering the clause 4.6 variation requests submitted by the Applicant, the Court considered that they could be treated together, as the breaches they related to were fundamentally related, as where there is greater building form with additional height, so too is there greater floor area (at [63].)

Acting Commissioner Clay makes it clear in his judgment, 'cl 4.6 is as much a part of [an LEP] as the clauses with development standards. Planning is not other than orderly simply because there is reliance on cl 4.6 for an appropriate planning outcome' (at [73]).

7.0 Clause 4.6(3)(a): Compliance with the Development Standard is Unreasonable or Unnecessary in the Circumstances of the Case

In dealing with the "unreasonable and unnecessary" Preston CJ identifies and validates the 5 options available to an applicant in Wehbe v Pittwater Council which can be adopted in dealing with the *unreasonable and unnecessary* test under **Cl. 4.6(3)(a).**

Preston CJ at states as follows:

"*As to the first matter required by cl 4.6(3)(a), I summarised the common ways in which an applicant might demonstrate that compliance with a development standard is unreasonable or unnecessary in Wehbe v Pittwater Council at [42]-[51]. Although that was said in the context of an objection under State Environmental Planning Policy No 1 – Development Standards to compliance with a development standard, the discussion is equally applicable to a written request under cl 4.6 demonstrating that compliance with a development standard is unreasonable or unnecessary."*

Based on the above the following identifies the first method identified in Wehbe:

"Ways of establishing that compliance is unreasonable or unnecessary

42 An objection under SEPP 1 may be well founded and be consistent with the aims set out in clause 3 of the Policy in a variety of ways. The most commonly invoked way is to establish that compliance with the development standard is unreasonable or unnecessary because the ***objectives of the development standard are achieved notwithstanding non-compliance with the standard****:* (our emphasis)

Clause 4.6(3)(a) – UNREASONABLE AND UNNECESSARY

This clause 4.6 responds to the matters required to be demonstrated by sub-clause 4.6(3) namely:

- *that compliance with the development standard is unreasonable or unnecessary, in the circumstances of the case, and*
- *that there are sufficient environmental planning grounds to justify contravening the development standard.*

Having considered the above the applicant relies upon the first method demonstrating that compliance is *unreasonable and unnecessary* because the objectives of the development standard are achieved notwithstanding a variation with the standard.

In dealing with the control it is necessary to identify the purpose of the height control and then progress to dealing with the consistency or otherwise with the height objectives. The first consideration relates to overall scale of a building given that both height and FSR determines the scale of a building to another building or natural feature and noting that there is no FSR control applicable for this development.

A response to the objectives of the height standards is as follows:

(a) to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of the locality,

The proposal does not offend this objective. The majority of the building complies with the 8.5m height limit. The only section that is required to be varied is the south-east corner roof of the eastern wing and a very minor roof section of the western wing (refer to Figure 2 above – Height Plane). The site and the surrounding area are zoned for medium density development. While the additional residential density has not yet been taken up by redevelopment of the area as a whole, the local planning provisions, together with the state legislation, allow for this type and density of development on the site. The proposal reflects more closely the likely future development of the area, the proposed height variation is only minor and only applies to a relatively section of the two separate wings of the development. The two roof lines where the variation occurs sit behind the front pitched roofs that present to Park Avenue. They will be barely discernible from the footpaths along the Park Ave frontage, noting that the pitched roof forms facing Park Avenue reflect the existing and likely future character of medium density development in this locality.

(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development and to public areas, including parks, streets and lanes,

The development presents as two x two storey buildings when viewed various vantage points along the street. The frontages are staggered to generally align and be consistent with the front setbacks of the adjoining houses. Landscaping within the front setback outperforms the requirements of Council's DCP in terms of the amount of landscaped area within the front setback and the percentage of that area available as deep soil planting zones. This same design solution could potentially be expected of two new houses on the two properties. There are no view sharing impacts resulting from the development. Privacy is adequacy preserved and resolved through the siting of window openings and internal layout of the development. The north-south orientation of the site results in morning shadows to the west and afternoon shadows to the east. In each case the adjoining houses receive either good morning or afternoon sunlight – mid-winter. The objective is satisfied by the proposal.

(c) to minimise the adverse impact of development on heritage items, heritage conservation areas and areas of scenic or visual importance.

The site is not a heritage item, is not within a heritage conservation area and is not in proximity to any heritage that it would impact on the reading or historical significance of that item.

(d) to nominate heights that will provide a high-quality urban form for all buildings and a transition in built form and land use intensity

The site and surrounding area is zoned for low rise medium density development as evidenced by the combination of the height standard with the medium density zoning. The proposal offers a suitable design response to the local planning provisions with only a minor variation in two corners of the two wings of the development. These are less than 6% variations. Council has previously approved a boarding house on Park Avenue with both flat and pitched front roof forms facing Park Avenue. The design solution for this development reflects the pitched roof forms of the existing and likely future development in the area. The section of the building that exceeds the building height limit are the corners of the flat roofs. These flat roof forms are indicative of Council approved development in the area, but in this case, they are located behind the pitched roofs and will be barely discernible.

8.0 4.6(3)(b) – Sufficient Environmental Planning Grounds

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

The variation relates to height and as such calls upon those matters considered to be environmental planning grounds relevant to the subject matter. Justification provided for the variation applies to this particular application and not environmental planning grounds that could apply to all lands zoned **R3 Medium Density Residential**.

The maximum additional height proposed by the development is **500mm.** The environmental planning grounds justification for the height variation is provided as follows:

- The variation enables the front pitched roof forms to complement the desired future character of the area with the flat roofs (where the two minor variations occur) essentially sit behind the pitched roofs and will not be discernible from various vantage points along Park Avenue.
- The 500mm variation is a maximum height with the large majority of the both roofs complying with the height limit.
- The streetscape along Park Avenue will change over time. It is one-sided due to the railway line opposite – to the south. As such there is no built form to complement or reflect on the southern of Park Ave. There are existing two storey townhouses on Park Avenue, older three storey walk-ups and low density, single detached dwellings which are likely to redevelop as their age and redevelopment viability allow.
- The proposal demonstrates that the site has the capacity to support the additional height without significant adverse impacts by way of privacy or overshadowing of adjoining properties. Therefore, the amenity of adjoining residences can be maintained and as such the proposed development achieves an appropriate urban design outcome for Park Avenue.
- Future development of the adjoining property to the east of the site is no disadvantaged by the variation due to excessive overshadowing or amenity issues resulting from the height variation

In dealing with the sufficient environmental planning grounds Preston CJ in Initial Action considers that it is available to the applicant to also deal with the Objectives of the Act under S1.3 in order to demonstrate that grounds exist to warrant a variation to height. Clause 1.3 of the *EP&AAct 1979* relevantly provides:

> **"1.3 Objects of Act** (cf previous s 5)
>
> *The objects of this Act are as follows:*
>
> ***(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,***
> ***(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,***
> ***(c) to promote the orderly and economic use and development of land,***
> *(d) to promote the delivery and maintenance of affordable housing,*
> ***(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,***
> *(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),*
> ***(g) to promote good design and amenity of the built environment,***
> ***(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,***

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,
(j) to provide increased opportunity for community participation in environmental planning and assessment. (emphasis added)

A development that complies with the landuse zoning of the site (**R3 Medium Density Residential)** satisfies the objectives of under S1.3 *EP&A Act 1979.*

The plans by CK Design satisfies the objectives in bold given that:

- The development is located within a 'medium density' residential zone which recognises that the likely future character of Park Avenue will be characterised by medium density, not low density, development. The proposed boarding house is one development typology permissible in the R3 zoned area;
- The site is on the fringe of the main urban area but recognised as medium density and therefore functions as a transitional area for residential accommodation in the Penrith area;
- A variety of residential built forms, densities and ages of development exist in the area;
- The proposal remains medium-density and compatible with the likely future character of the area – being low rise, medium density residential accommodation – on the adjoining properties to the east and west along Park Avenue;
- The development allows for the timely and economic development of the land which is important given the site's ease of access to the local train station to the west on Park Avenue and to a variety of services and facilities in the local area;
- The redevelopment of two older dwellings with a new residential accommodation represents a positive social outcome as the development is in a highly accessible location in terms of employment, living and recreation;
- The design presents acceptable scale, bulk and form notwithstanding the minor height variation;
- The design and layout of the development maintains satisfactory access to daylight, sunlight and natural ventilation while maintaining adequate amenity for adjoining residents.

Based on the above the consent authority can be satisfied that there are sufficient environmental planning grounds to warrant the variation.

Notwithstanding the above Preston CJ clarified in Micaul and Initial Action, that sufficient environmental planning grounds may also include demonstrating a lack of adverse amenity impacts. In this case, these include:

- The proposal has an acceptable visual fit and balances the opportunities and constraints of the site, given its locational context.
- Maintains satisfactory levels of solar access and privacy to the neighbours.

In summary, the Height of Building variation is considered to be in the public interest given its ability to not cause significant adverse impacts but also because of its ability to provide site specific environmental planning grounds demonstrating that strict compliance is unreasonable and unnecessary in the circumstances of this particular case.

The proposal as one departing from the height standard is in the public interest given its ability to:

- not cause significant adverse natural and built form impacts;
- the additional housing supply and housing choice provided by the development;
- provide environmental planning grounds demonstrating that strict compliance is unreasonable and unnecessary in the circumstances. The justification and specific site considerations are not matters that would apply to all sites zoned R3 Medium Density Residential under the Penrith LEP 2010.

Clause 4.6(4)(a)(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.

Consistency with the Zone Objectives

An enquiry is now made in relation to the ability of the proposal and the identified variation, as one departing from the HOB standard, to reasonably satisfy the stated objectives of the zone.

R3 Medium Density Residential

The objectives of the R3 Medium Density Residential zone are as follows:

Zone R3 Medium Density Residential

1 Objectives of zone

- *To provide for the housing needs of the community within a medium density residential environment.*
- *To provide a variety of housing types within a medium density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide for a concentration of housing with access to services and facilities.*
- *To enhance the essential character and identity of established residential areas.*
- *To ensure that a high level of residential amenity is achieved and maintained.*
- *To ensure that development reflects the desired future character and dwelling densities of the area.*

The following provides a review of the zone objectives:

- *To provide for the housing needs of the community within a medium density residential development*

The use of the two lots remains residential, meeting the housing needs of the community within a medium density development typology that is permissible in the zone. The objective is achieved.

- *To provide a variety of housing types within a medium density residential environment*

The proposal increases the supply of housing for the area – within a development typology that adds variety to the available housing supply. The objective is achieved.

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

This objective is not relevant to the proposal.

- *To provide for a concentration of housing with access to services and facilities.*

The subject site is well located to provide residents access to a variety of local services and facilities. The Western Sydney (Werrington) Campus is to the east, the Kingswood Train Station to the west, Werrington Lakes Reserve, Penrith Valley Regional Sports

Centre, TAFE NSW – Nepean, Kingswood, Kingswood South Public School, Nepean Hospital and a variety of shopping and employment opportunities within a 3-4km radius of the site. Therefore, the site has good access to these services and facilities.

- *To enhance the essential character and identity of established residential areas.*

The area is characterised by a variety of housing forms – from low to medium density, of various ages and levels of maintenance. The R3 zone permits a variety of medium density development, including boarding houses. There is no FSR for development of the subject site or within the immediate area, only a height limit. Therefore, it can be anticipated that medium density development that develops in this R3 zone over time will have a variety of densities, dependent upon the development typology proposed. The area will transition and morph over time. This has already commenced with the townhouses and boarding house to the west of the site, adding variety to the older three-storey walk-ups closer to the train station.

The proposed height is within the acceptable range and does not occur across the entire building footprint. The additional height, of itself, does not facilitate/promote an additional storey when viewed from the street or from adjoining site. In order to be compatible the new infill development does not necessarily need to be the same and on this basis the boarding house will be compatible with likely future character of development along Park Avenue. The objective is achieved.

- *To ensure that a high level of residential amenity is achieved and maintained.*

The development will provide a high level of internal amenity for residents by the grouping of the rooms into small clusters that will identify with each other via shared access and landing areas, then via the larger vertical associations, then the boarding house as a whole via the various communal open spaces. Onsite parking is sufficient for the development and cycling and walking will be encourage by the relatively flat topography along Park Avenue and surrounds.

Externally the development is designed to appear as two x two-storey medium density developments with the central core separating the two wings. This is fronted by domestic style landscaping to complement the residential nature of the area. Overlooking and privacy and privacy to adjoining properties has been addressed via adequate setbacks and installation of window screens to the first floor level. The upper level has only highlight windows facing the side boundaries.

- *To ensure that development reflects the desired future character and dwelling densities of the area.*

As noted previously the proposal reflects the likely future character of development within the R3 zone along Park Avenue. The existing single dwelling sites contain older dwellings that will, over time, redevelop to their optimal development capacity. This has started to occur with the townhouses west of the subject site. This development may become a catalyst for more medium density development in the area. Its location close to the local services and facilities noted below will continue to make this area an attractive location for future redevelopment.

The departure from the HOB control does not hinder the ability of the development to provide appropriate residential accommodation for a variety of residents on adjoining site. The development does not isolate any sites and therefore does not hinder the future development potential of the aera.

The height and scale of the development is acceptable given the locational context of the site and its proximity to the Kingswood Train Station, Penrith Valley Regional Sports Centre, Werrington Lake Reserve, Nepean Hospital, Western Sydney University (Werrington).

8.0 Other Matters For Consideration

Step 4 - Clause 4.6(4)(b) – The Concurrence of the Secretary has been obtained

On 21 February 2018, the Secretary of the Department of Planning and Environment issued a Notice ('the Notice') under cl. 64 of the *Environmental Planning and Assessment Regulation 2000* (the EP&A Regulation) providing that consent authorities may assume the Secretary's concurrence for exceptions to development standards for applications made under cl4.6 of the P**LEP**.

The Court has power to grant development consent to the proposed development even though it contravenes the **HOB** development standard, without obtaining or assuming the concurrence of the Secretary by reason of s39(6) of the *Land and Environment Court Act 1979* (the Court Act).

Clause 4.6(5) - Concurrence Considerations

In the event that concurrence cannot be assumed pursuant to the Notice, cl4.6(5) of the LEP provides that in deciding whether to grant concurrence, the Secretary must consider:

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

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

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

The proposed contravention of the **HOB** development standard has been considered in light of cl4.6(5) as follows:

- The proposed non-compliance does not raise any matter of significance for State or regional environmental planning as it is peculiar to the design of the proposed development for this particular site. It is not directly transferrable to any other site in the immediate locality, wider region or the State and the scale of the proposed development does not trigger any requirement for a higher level of assessment;

- As indicated in Section 7 and Section 8, the proposed contravention of the development standard is considered to be in the public interest because it is consistent with the objectives of the zone and the objectives of the development standard.

The proposed development contravenes the **HOB** development standard under **cl4.3(2) of PLEP 2010** and the building control under **cl 4.3 of the PLEP 2010** is a development standard and is not excluded from the application of cl 4.6.

This written request to vary the development standard has been prepared in accordance with **cl4.6(3) of the PLEP** and demonstrates that strict compliance with the development standard is unreasonable and unnecessary for the following reasons:

- the proposed development is consistent with the relevant objectives of the development standard pursuant to **cl4.3 of the PLEP 2010** and is consistent with the relevant objectives of the **R3** zone and therefore, the proposed development is in the public interest;

- the proposed dwelling will not result in significant adverse environmental harm in that the amenity of neighbouring properties will be satisfactory and the dwelling will enhance the Wilson Street streetscape.

STATEMENT OF ENVIRONMENTAL EFFECTS

"Demolition of existing structures and construction of a new age boarding house with basement parking"

27-28 Park Avenue, Kingswood

March 2021

1.0 INTRODUCTION

1.1 This statement has been prepared on behalf of the applicant in support of a development application to the Penrith City Council (the "Council") comprising demolition of the existing structures and construction of a boarding house containing 64 boarding rooms with basement parking, at 27 & 28 Park Avenue, Kingswood.

1.2 The proposal seeks approval for a boarding house containing sixty-four (64) boarding rooms and managers residence. The building is a two-three storey structure over two basement levels - containing parking and various service areas. The development presents to Park Avenue as two storeys and two separate buildings. It is divided into eight (8) vertical clusters of rooms, each with their own stairway access and landing. There is an east and west wing which is separated by a common courtyard in the middle of the site. The third habitable level is set behind the front room clusters – which are only two storeys with sloping rooflines facing Park Ave. Access to the basement levels is via a two-way driveway located adjacent the eastern boundary.

1.3 The subject site is located approximately 700m east of the Kingswood Train Station, north of the railway line reserve. It comprises two allotments, adjoining an existing medium density townhouse development and low density detached housing.

1.4 The site is zoned R3 Medium Density Residential under Penrith LEP 2010. The site is not subject to a FSR development standard, only a height of building control. There is minor variation requested to 8.5m height limit to allow for the uniformity of the structures and the sloping roof lines when viewed from Park Avenue. The variation is only 500mm in the south-east corner of the building – less than 10% and able to be supported in the circumstances. A clause 4.6 written request for variation is submitted as part of the DA documentation.

1.5 The use of the site as a boarding house development is permissible within the R3 zone, with the consent of Council. The proposal has been reviewed against the zone and HOB development standard objectives and found to be acceptable, particularly in terms of the likely future character of development in this area and its proximity to a number of services and facilities within the immediate vicinity of Park Avenue. Further, there are no significant adverse environmental impacts associated with the use.

1.6 The proposal has been assessed in terms of SEPP (Affordable Rental Housing) (SEPPARH) and the Penrith DCP. The SEPPARH overrides the PDCP in the areas specified being the non-discretionary development standards such as parking and landscaped area. As identified in DA Plan set the proposed boarding house has an acceptable visual fit; will be part of an eclectic mix of residential accommodation in the immediate area; and over time will reflect the likely future character given that the zoning permits a higher density of development. It has been assessed and found to satisfy the requirements of the SEPPARH in relation to the character test.

1.7 This document has been prepared pursuant to Section 4.12 of the *EP&A Act 1979*, and cl.47 and Schedule 1, Part 1, cl. 2(c) of the Environmental Planning and Assessment Regulation 2000 and reviews the applicable environmental planning instruments and development control plans that apply to the subject property.

1.8 The subject proposal is not Integrated or Designated Development pursuant to the *EP&A Act 1979*. The proposal is to be assessed as local development under Part 4 of the *EP&A Act 1979*. It is noted that clauses 45 and 85 of the SEPP (infrastructure) apply to the subject site and the development application will be referred to the relevant authorities as part of the DA assessment process by Penrith Council.

1.9 Therefore, it is with confidence and high expectation of support that the development application is submitted to Council.

2.0 DESCRIPTION OF SITE AND LOCALITY

2.1 Site Description

The subject site is legally described as Lot 11 & Lot 12 DP 29528. The two lots are commonly known as No. 27 and No. 28 Park Avenue, respectively. The proposed development site comprises both lots. It is an irregular site with frontage to Park Avenue of 31.61m, rear northern boundary of 30.48m, eastern side boundary of 50.95m and western side boundary of 59.31m.

The two sites are currently occupied by two single storey dwellings and associated garage and structures. They are both generally tired and aged houses on relatively large residential blocks, sitting within a R3 zone. The sites appear to be generally in a fairly unkept condition.

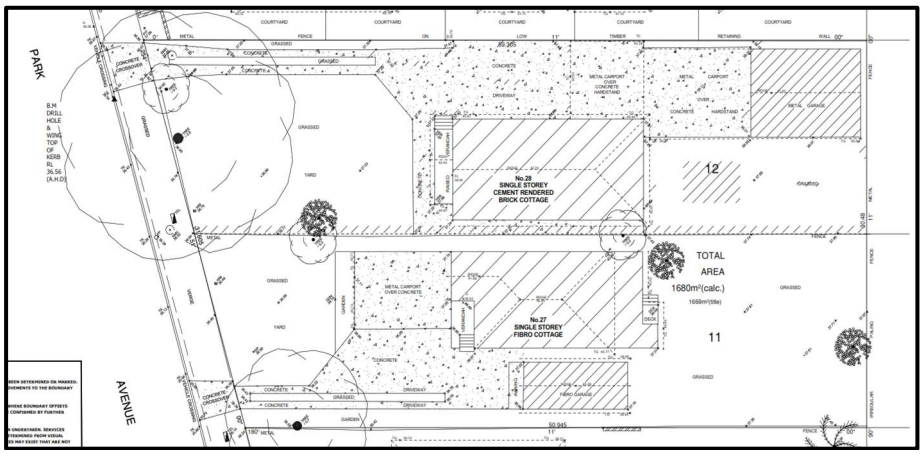


Figure 1: Extract of Site Survey

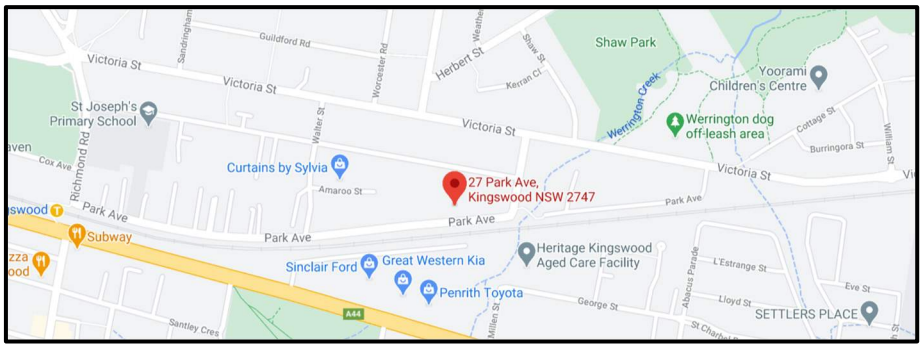


Figure 2: Location of the site (Source: googlemaps)

Figure 3: Aerial view of the subject site (Source: sixmaps NSW)

Figure 4: View of subject site from Park Avenue

Surrounding the site is an eclectic mix of residential development both low and medium density. The above photos of development along Park Ave demonstrates the existing mix and transitioning nature of development in the area.

Figure 4: View looking east from subject site – single storey older style dwellings on left of photo and State Rail reserve on right of photo (screened by dense vegetation)

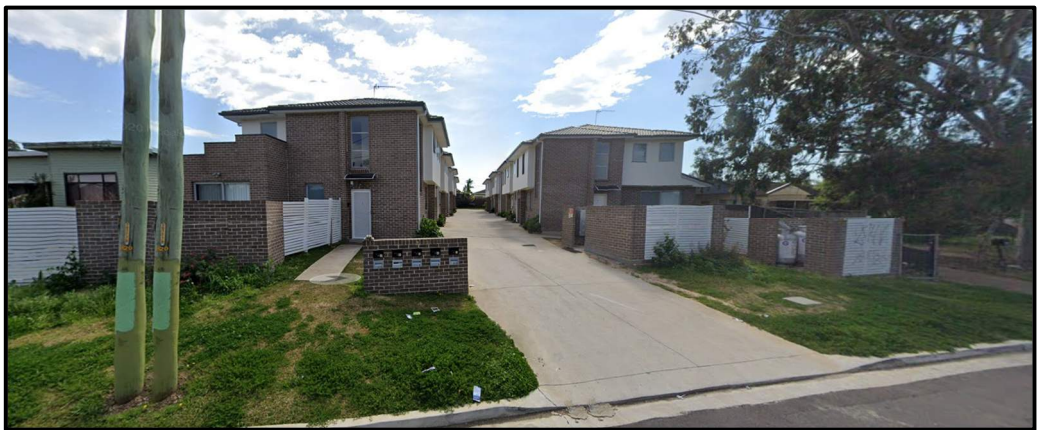


Figure 5: View of townhouse development at No. 30 Park Avenue being a product of the R3 zoning hierarchy

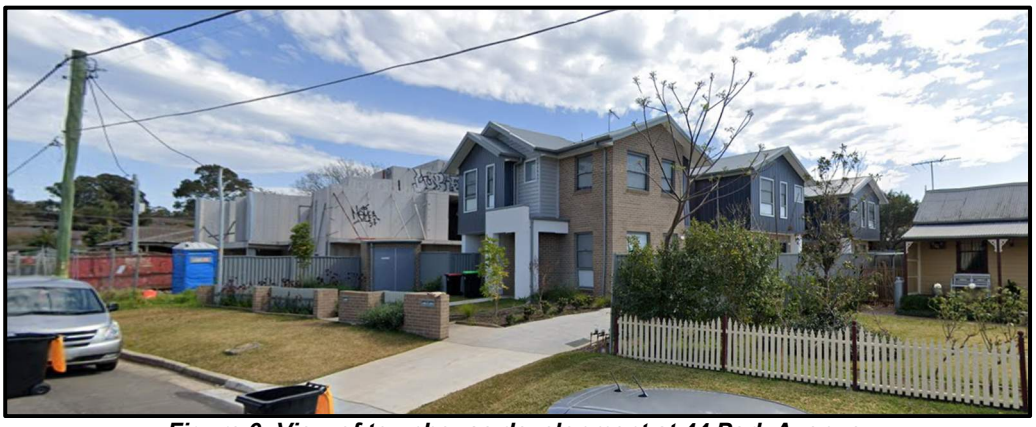


Figure 6: View of townhouse development at 44 Park Avenue

Figure 7: View of approved boarding house, under construction as at September 2020 at 45 Park Avenue

Figure 8: View of older style three storey walk-up residential flats at 56 and 58 Park Ave. These are typical of a number of unit development along Park Ave – west of the subject site towards the Kingswood Train Station

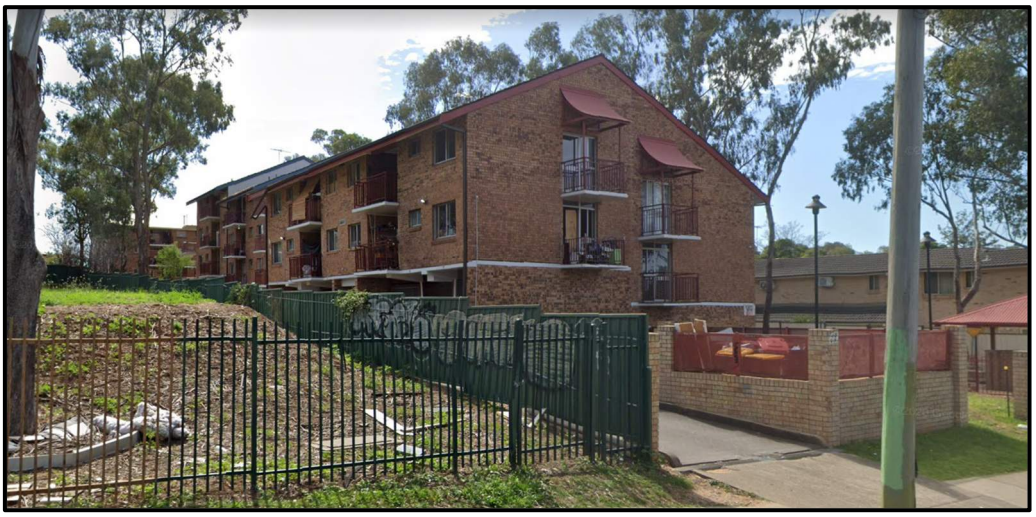


Figure 9: View of medium density units (3 storeys) at 70 Park Ave

3.0 DESCRIPTION OF PROPOSAL

Demolition: Removal of all structures on both allotments and site preparation works.

Site Preparation: Excavation of the basement levels with appropriate soil and sediment erosion control measures in place

Construction: Construction of 2-3 storey boarding house containing 64 rooms and a manager's residence with basement parking over two levels.

The building is a two-three storey structure over two basement levels - containing parking and various service areas. The development presents to Park Avenue as two storeys and two separate buildings. It is divided into eight (8) vertical clusters of rooms, each with their own stairway access and landing. There is an east and west wing with a separated by a common courtyard in the middle of the site. The third habitable level is set behind the front room clusters – which are only two storeys with sloping rooflines facing Park Ave. Access to the basement levels is via a two-way driveway located adjacent the eastern boundary.

The boarding house is to containg sixty-four (64) boarding rooms, parking for thrity-two (32) vehicles, 13 motorbike and 13 bicycle spaces with manager's room on the ground floor level. The proposed development may be summarised as follows:

Basement 2

- Parking for 32 vehicles, including 2 accessible spaces
- Parking for 2 motorcycles and 13 bicycles
- Plant room
- Lift and stairs to basement 1

Basement 1

- Parking for 9 vehicles, including 4 accessible spaces
- Parking for 11 motorcycles and 13 bicycles
- Bulky waste room, bin storage room
- Loading bay
- Lift and stairs to other levels

Ground Floor Level

- Twenty-one (21) boarding rooms (including 6 accessible rooms and 2 single rooms, others are double rooms)
- Community room (22.5m²) with outdoor COS area 46.5m²
- Manager's room 17.5m² with POS area 25.5m²
- Central courtyard between east and west wings of the development
- Stairs to each vertical room cluster
- Lift and stairs to other levels

First Floor Level

- Twenty-six (26) boarding rooms (including 2 single rooms, otherwise double rooms)
- Stairs to each vertical room cluster

Second Floor Level

- Seventeen (17) boarding rooms (all double rooms)
- Stairs to each vertical room cluster

Ancillary

- Consolidate lots
- Landscaping
- Drainage

Table 1: Schedule of rooms

Room No.	Size m^2 (nett)	No. of persons	Accessible room (Y or N)	Room No.	Size m^2 (nett)	No. of persons	Accessible room (Y or N)
1	16.0	2	Y	33	16.0	2	N
2	16.0	2	Y	34	17.5	2	N
3	14.5	1	N	35	17.5	2	N
4	17.5	2	N	36	17.5	2	N
5	14.0	1	N	37	17.5	2	N
6	16.0	2	N	38	17.5	2	N
7	16.0	2	N	39	17.5	2	N
8	16.0	2	N	40	16.0	2	N
9	16.0	2	N	41	16.0	2	N
10	16.0	2	Y	42	16.0	2	N
11	16.0	2	Y	43	16.0	2	N
12	16.0	2	Y	44	16.0	2	N
13	16.0	2	Y	45	16.0	2	N
14	16.0	2	N	46	16.0	2	N
15	16.0	2	N	47	16.0	2	N
16	16.0	2	N	48	16.0	2	N
17	16.0	2	N	49	16.0	2	N
18	16.0	2	N	50	16.0	2	N
19	16.0	2	N	51	16.0	2	N
20	16.0	2	N	52	16.0	2	N
21	16.0	2	N	53	16.0	2	N
22	17.5	2	N	54	17.5	2	N
23	17.5	2	N	55	17.5	2	N
24	14.5	1	N	56	17.5	2	N
25	17.5	2	N	57	17.5	2	N
26	17.5	2	N	58	17.5	2	N
27	14.5	1	N	59	17.5	2	N
28	17.0	2	N	60	16.6	2	N
29	17.0	2	N	61	16.6	2	N
30	16.0	2	N	62	16.6	2	N
31	16.0	2	N	63	16.6	2	N
32	16.0	2	N	64	16.6	2	N
Total	**64 rooms**	**124 persons**	**6**				
Manager's Room		**17.5m^2**					

The following plan extracts show the areas of change from the original development to the proposed development:

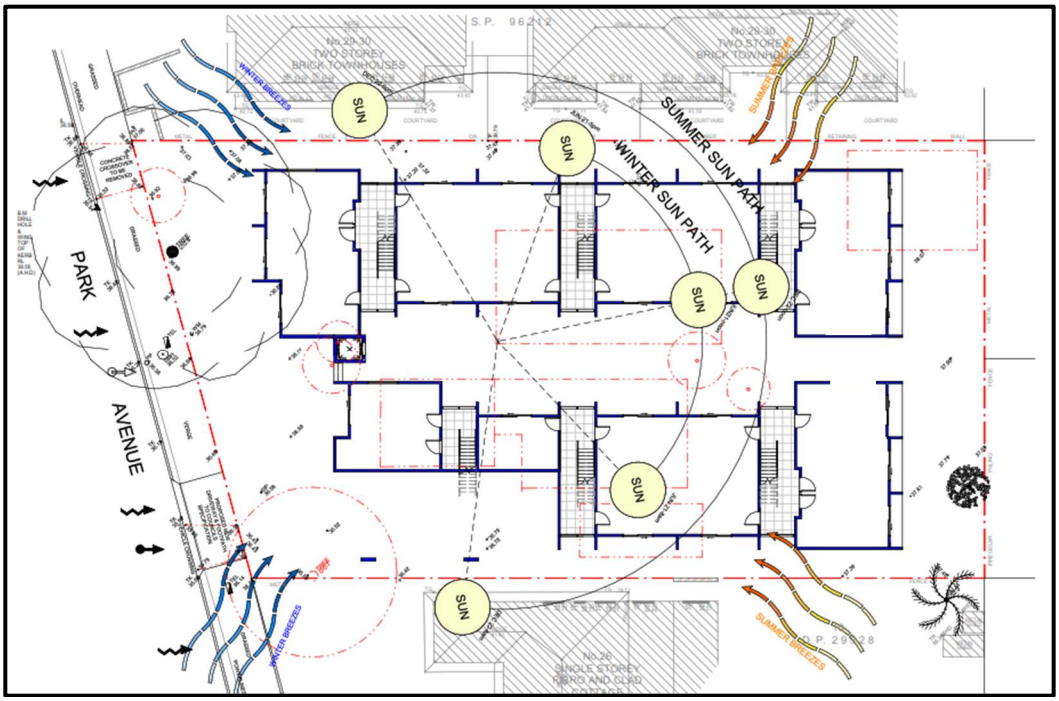


Figure 10: Extract of site analysis plan showing tree retention in front yard, staggered building front setback, building separation to neighbouring properties and sun light paths across the site

Figure 11: Proposed streetscape and south elevation showing domestic scale and hieght of devleopment relative to adjoining landuses. Development presents as two x two storey buildings, separated by open space in between; pitched roofline retained along Park Avenue frontage

Figure 12: East Elevation incorporating third storey within roof space; flat roof and high level window openings to upper level

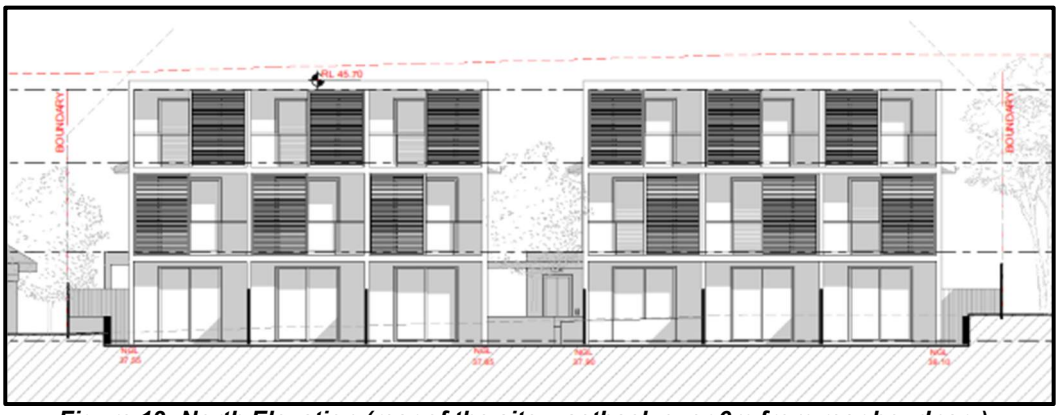


Figure 13: North Elevation (rear of the site – setback over 6m from rear boudnary)

Figure 40: West Elevation showing two storey pitched roof line to Park Ave frontage

Figure 15: 3-D view from Park Avenue showing two storey presentation to Park Ave; single driveway access adjacent eastern boundary and building separation between the east and west wings of the boarding house

4.0 SECTION 4.15 ASSESSMENT – HEADS OF CONSIDERATION

In accordance with s4.15 of the *EP&A Act 1979* the following matters shall be considered in determination of the development application:

4.15 Evaluation
(1) ***Matters for consideration—general***
In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:
(a) the provisions of:
(i) any environmental planning instrument, and
(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and
(iii) any development control plan, and
(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, and
(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph),
(v) (Repealed) that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,
(c) the suitability of the site for the development,
(d) any submissions made in accordance with this Act or the regulations,
(e) the public interest.

4.1 Relevant Statutory Environmental Planning Policies (EPIs)

The following identifies the relevant EPIs applicable to the assessment of the application.

The application is assessed under the provisions of Section 4.15 of the E*nvironmental Planning and Assessment Act 1979*, as amended, which include:

- Sydney Regional Environmental Plan no 20 – Hawkesbury Nepean River (No 2 - 1997)
- SEPP No. 55 - Remediation of Land
- SEPP (Vegetation in Non-Rural areas) 2017
- SEPP (Infrastructure) 2007
- SEPP (ARH) – Division 3 – Boarding Houses
- Draft SEPP (Housing Diversity)
- Penrith Local Environmental Plan (PLEP) 2010
- Penrith Development Control Plan 2014 (PDCP 2014)

4.1.1 Sydney Regional Environmental Plan no 20 – Hawkesbury Nepean River (No 2 - 1997)

Sydney Regional Environmental Plan is applicable to land within the Penrith LGA as identified within the associated mapping.

The site is located approximately 4.6km from the Nepean River foreshore. It is not considered likely that the proposal will impact water quality through its construction operation. Nonetheless, the proposed development incorporates a range of measures to ensure the development does not adversely impact the environment of the Hawkesbury-Nepean River system.

Stormwater runoff from the development will be conveyed to Council drainage system in Park Avenue. Appropriate erosion and sediment controls will be implemented throughout construction, as identified on the Erosion and Sediment Control Plan submitted with the DA package.

The proposal has also been designed to be consistent with the provisions Penrith LEP 2010 and the Penrith DCP 2014. The development is therefore consistent with the aims of the Sydney Regional Environmental Plan No 20 - Hawkesbury Nepean River.

4.1.2 SEPP 55 – Remediation of Land

State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) requires that a consent authority must not consent to the carrying out of any development on land unless it has considered whether or not the land is contaminated.

The site is located within an established residential area with residential land uses continuing to the present. The site is therefore considered to have a low risk for potential land contamination.

Should any contamination be discovered on site during excavation or construction, appropriate management and notification procedures will be followed as per conditions of consent and consistent with the legislative requirements and guideline document to manage any contaminated land.

4.1.3 SEPP (Vegetation in Non-Rural areas) 2017

State Environmental Planning Policy (Vegetation in Non-Rural areas) 2017 seeks to protect the biodiversity values of vegetation in non-rural areas of the State and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.

The redevelopment of the site across the two lots requires a small number of small trees to be removed as they are located withing the building footprint or zone of influence of the new driveway. The large eucalypt in the front yard is to be retained and protected. This is a significant and important tree within the Park Avenue streetscape and its retention is a positive element of the development.

New landscaping will significantly improve on the current streetscape of the two properties. The side and rear boundary areas are to include trees, plants, shrubs and ground cover to suitably address the need for privacy and a softening of the development when viewed from various vantage points.

The maintenance of the landscaping will be undertaken by management of the property, not left to individual residents – as is the case with strata titled townhouses.

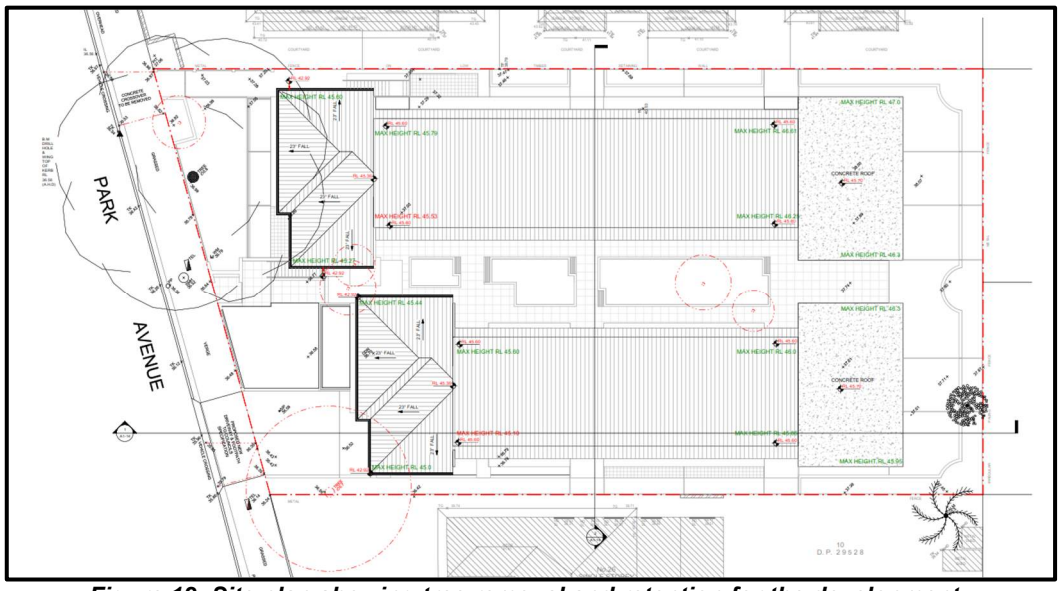


Figure 12: Site plan showing tree removal and retention for the development

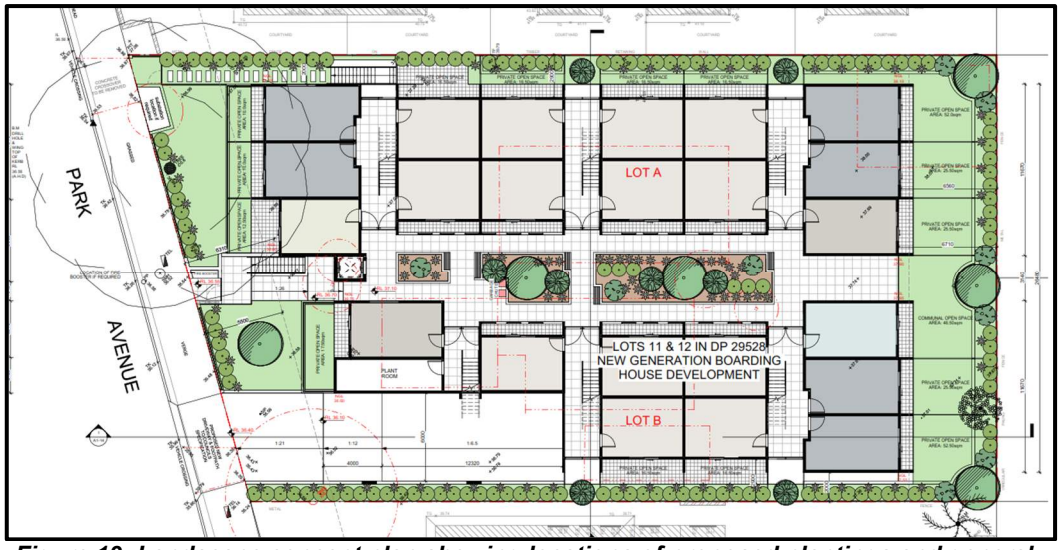


Figure 13: Landscape concept plan showing locations of proposed plantings and general planting scheme. Refer also to detailed landscape plans

4.1.4 SEPP (Infrastructure) 2007

The site is located immediately north of the State Rail line that runs in an east-west direction. Notwithstanding that the site is separated from the state reserve land by the Park Avenue road reserve, cl 85(3) calls up the provisions of the SEPP as it applies to the subject site.

The Park Avenue frontage is also traversed by a power line immediately adjacent the front property boundary. Clause 45 of the iSEPP is considered on this basis. Clause 45 of iSEPP states:

45 Determination of development applications—other development

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following—

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,

(b) development carried out—

(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or

(ii) immediately adjacent to an electricity substation, or

(iii) within 5m of an exposed overhead electricity power line,

(c) installation of a swimming pool any part of which is—

(i) within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or

(ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,

(d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.

(2) Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must—

(a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and

(b) take into consideration any response to the notice that is received within 21 days after the notice is given.

Council may refer the application to the relevant electricity supply authority for comment, noting that the new development is proposed to setback more than 5.5m from the front property boundary. However, given the driveway works and proposed tree retention within the front yard, this technical clause of the iSEPP is addressed within this Statement.

Clause 85 of iSEPP states:

85 Development adjacent to rail corridors

(1) This clause applies to development on land that is in or adjacent to a rail corridor, if the development—

(a) is likely to have an adverse effect on rail safety, or

(b) involves the placing of a metal finish on a structure and the rail corridor concerned is used by electric trains, or

(c) involves the use of a crane in air space above any rail corridor, or

(d) is located within 5 metres of an exposed overhead electricity power line that is used for the purpose of railways or rail infrastructure facilities.

Note—

Clause 45 also contains provisions relating to development that is within 5 metres of an exposed overhead electricity power line.

(2) Before determining a development application for development to which this clause applies, the consent authority must—

(a) within 7 days after the application is made, give written notice of the application to the rail authority for the rail corridor, and

(b) take into consideration—

(i) any response to the notice that is received within 21 days after the notice is given, and

(ii) any guidelines that are issued by the Secretary for the purposes of this clause and published in the Gazette.

(3) Land is adjacent to a rail corridor for the purpose of this clause even if it is separated from the rail corridor by a road or road related area within the meaning of the Road Transport Act 2013.

The application will be referred to rail authority for comment as part of the notification stage of the development application assessment. As there are no anticipated adverse environmental impacts on the land owned and operated in the State Rail reserve area, it is expected that the authority will respond favourably to the proposal.

4.1.5 SEPP (Affordable Rental Housing) 2009

The aim of ARH SEPP is to facilitate increased supply of rental housing in NSW. Division 3 of the ARH SEPP permits certain development for the purposes of boarding houses to be carried out if:

- that development is permitted with consent under another environmental planning instrument;
- the site does not contain a heritage item; and
- the site is located within an accessible area. Boarding houses are permitted with consent in the R3 Medium Density Residential zone pursuant to the Penrith LEP 2010.

The proposal requires consideration under Part 2, Division 3 of State Environmental Planning Policy (Affordable Rental Housing) 2009 (SEPP ARH), in accordance with Clauses 26 and 27.

The SEPP ARH contains a number of controls for boarding house developments. The relevant Clauses relating to boarding house developments are outlined in Table 2 below.

Table 2: Compliance Table under State Environmental Planning Policy (Affordable Rental Housing) 2009

Division 3 – Boarding Houses	
Clause	**Proposed**
26 Land to which Division applies This Division applies to land within any of the following land use zones or within a land use zone that is equivalent to any of those zones: • Zone R3 Medium Density Residential	The subject site is zoned R3 Medium Density Residential. The SEPP applies to the proposal and is assessed below.
27 Development to which Division applies This Division applies to development, on land to which this Division applies, for the purposes of boarding houses.	Noted.
28 Development may be carried out with consent Development to which this Division applies may be carried out with consent.	Noted.
29 Standards that cannot be used to refuse consent A consent authority must not refuse consent to development to which this Division applies on the grounds of density or scale if the density	No FSR applicable to the subject site.

and scale of the buildings when expressed as a floor space ratio are not more than: (a) the existing maximum floor space ratio for any form of residential accommodation permitted on the land, or	
(b) if the development is on land within a zone in which no residential accommodation is permitted—the existing maximum floor space ratio for any form of development permitted on the land, or	Residential permissible in the zone.
(c) if the development is on land within a zone in which residential flat buildings are permitted and the land does not contain a heritage item that is identified in an environmental planning instrument or an interim heritage order or on the State Heritage Register—the existing maximum floor space ratio for any form of residential accommodation permitted on the land, plus: (i) 0.5:1, if the existing maximum floor space ratio is 2.5:1 or less, or (ii) 20% of the existing maximum floor space ratio, if the existing maximum floor space ratio is greater than 2.5:1.	Residential flat buildings are not permissible in this R3 Medium Density Residential zone and there is no heritage item or interim heritage order on the site. Therefore, this clause does not. Apply. Not applicable.
(2) A consent authority must not refuse consent to development to which this Division applies on any of the following grounds:	These are non-discretionary standards.
(a) **building height** if the building height of all proposed buildings is not more than the maximum building height permitted under another environmental planning instrument for any building on the land,	No. There is minor variation to the 8.5m height limit for the site. The proposal, in the south-east corner is 500m above the height max height limit. This is addressed in the clause 4.6 written request for variation that is submitted as part of the DA package.
(b) **landscaped area** if the landscape treatment of the front setback area is compatible with the streetscape in which the building is located,	The proposal includes a landscape area along each frontage, the central courtyard, POS and COS along the side and rear boundaries. Refer to the Landscape plans, submitted with the DA plan set and package. This landscaping will improve upon the current unkept nature of the sites and provide an attractive

	green setback to the street frontage. This is compatible with domestic level of landscaping in the area. The treatment of the front setback is compatible with the local area having regard to the fact that in order to be compatible the treatment does not need to be the same. The proposal achieves a deep soil front setback outside the areas of the driveway.
(c) **solar access** where the development provides for one or more communal living rooms, if at least one of those rooms receives a minimum of 3 hours direct sunlight between 9am and 3pm in mid-winter,	Communal room faces north and will receive a minimum of 3 hours sunlight – mid-winter.
(d) **private open space** if at least the following private open space areas are provided (other than the front setback area): (i) one area of at least 20 square metres with a minimum dimension of 3 metres is provided for the use of the lodgers, (ii) if accommodation is provided on site for a boarding house manager—one area of at least 8 square metres with a minimum dimension of 2.5 metres is provided adjacent to that accommodation.	The internal courtyard is a communal area, together with the ground level communal open space area at the rear of the site (46.5m²) The Managers residence is located on the ground floor level with a POS area of 25.5m². It has direct access to the manager's residence.
(e) **parking** if: (i) in the case of development in an accessible area—at least 0.5 parking spaces are provided for each boarding room, and (ii) in the case of development not in an accessible area—at least 0.4 parking spaces are provided for each boarding room, and (iii) in the case of any development—not more than 1 parking space is provided for each person employed in connection with the development and who is resident on site,	Parking spaces: Car spaces: 32, including 6 accessible Motorcycle spaces: 13 Bicycle spaces: 13
(f) **accommodation size** if each boarding room has a gross floor area (excluding any area used for the purposes of	Each of the rooms comply.

private kitchen or bathroom facilities) of at least: (i) 12 square metres in the case of a boarding room intended to be used by a single lodger, or (ii) 16 square metres in any other case.	
(3) A boarding house may have private kitchen or bathroom facilities in each boarding room but is not required to have those facilities in any boarding room.	Each room has its own facilities.
(4) A consent authority may consent to development to which this Division applies whether or not the development complies with the standards set out in subclause (1) or (2).	Noted.
30 Standards for boarding houses	
A consent authority **must not consent** to development to which this Division applies unless it is satisfied of each of the following: (a) if a boarding house has 5 or more boarding rooms, at least one communal living room will be provided,	One communal room and dedicated open space areas is provided at ground floor level – at the rear of the building.
(b) no boarding room will have a gross floor area (excluding any area used for the purposes of private kitchen or bathroom facilities) of more than 25 square metres,	Each room is less than 25sqm – nett area. Refer to Table 1 in Section 3 above.
(c) no boarding room will be occupied by more than 2 adult lodgers,	Table 1 in Section 3 above lists the number of lodgers per room. Each room provides for only 1 or 2 lodgers.
(d) adequate bathroom and kitchen facilities will be available within the boarding house for the use of each lodger,	Each room has its own bathroom and kitchen facilities.
(e) if the boarding house has capacity to accommodate 20 or more lodgers, a boarding room or on-site dwelling will be provided for a boarding house manager,	Double rooms: 60 Single rooms: 4 Max No. of lodgers: 124
(f) (Repealed)	N/A
(g) if the boarding house is on land zoned primarily for commercial purposes, no part of the ground floor of the boarding house that fronts a street will be used for residential purposes unless another environmental planning instrument permits such a use.	The land is zoned R3 Medium Density Residential.

(h) at least one parking space will be provided for a bicycle, and one will be provided for a motorcycle, for every 5 boarding rooms.	Required: 64/5 = 12.8 or 13. Provided: 13 motorcycle and bicycle spaces.
(2) Subclause (1) does not apply to development for the purposes of minor alterations or additions to an existing boarding house.	N/A
30A Character of local area A consent authority must not consent to development to which this Division applies unless it has taken into consideration whether the design of the development is compatible with the character of the local area.	Area permits medium density residential development and boarding houses. Refer to the character analysis in section 4.1.5 below.
Part 4 Miscellaneous **52 No subdivision of boarding houses** A consent authority must not grant consent to the strata subdivision or community title subdivision of a boarding house.	N/A

4.1.6 30A Character of local area

The surrounding R3 Medium Density Residential zoned area supports an eclectic mix of twentieth century single storey dwellings, 3-storey walk-ups residential flat buildings, 2 storey multi-dwelling houses/townhouses, approved and/or constructed boarding houses. The age and built form of the area is as varied. Older style single dwellings are being replaced by newer contemporary development. The character of the area is transitioning and generifying from the historical low-density single dwelling development to medium density residential development and boarding houses displaying similar built form. The area is growing to accommodate growth associated with the Penrith CBD and greater Western Sydney. The R3 Medium Density residential zoning of land supports such growth.

The site and surrounding locality are well positioned near services and facilities to cater for an increase in residential density. Newer developments have typically been two storey designs including multi dwelling housing, single dwellings and boarding houses (mostly on single allotments).

Both newer and older style developments in the area tend to have hipped or gable roofs. This is part of the established character of the area. Vegetation removal to accommodate new footprints is often needed and is replaced with new domestic planting schemes.

The proposed development has been designed to consider the likely character of the area.

The design elements incorporated into the proposal are to ensure the proposal does not generate ‘physical impacts’ to surrounding development in accordance with the planning principle derived from Project Venture Developments v Pittwater Council (2005) NSW LEC 191:

- The proposed building, while not the same, exhibits a reasonable level of consistency with the scale adopted by neighbouring and nearby residential development;
- The design adopts setbacks and associated building separation that mitigates any significant adverse impact associated with privacy, overlooking and overshadowing. Screening is provided to further strengthen levels of internal privacy for residents;
- Despite the absence of a maximum floor space ratio, the design is broken into two distinct buildings to assist with dispersal of visual bulk and scale. The side elevations are articulated due to the physical breaks between the buildings.
- The DA Plan set indicates that development of the proposed scale can be accommodated comfortably within the site;
- The separation of buildings results in the development presenting as two x two storey dwelling houses to Park Avenue, with traditional features of a dwelling house including formal front entrance with pathway, landscaped areas and main living areas fronting the street plus pitched roof with eave;
- The design incorporates a pitched roof line to Park Ave – reflective and consistent with the existing roof styles in the immediate area;
- Landscaping, including a variety of trees, shrubs and groundcovers, will provide a vegetated buffer between neighbouring properties;
- Windows and doors of main living areas and small private open space areas have been orientated to Park Ave to assist with retaining surveillance and security of the site;
- The proposed development will not constrain any future redevelopment potential of adjoining sites as it does not create any isolated sites that can benefit from the R3 Medium Density Residential zoning.
- The proposal generates no significant adverse 'physical' impacts' to surrounding development. The overall perceived presentation to the side boundaries and the street is 2 storeys.

The following comments are provided in relation to the 'compatible' appearance of the development:

- The height, bulk and scale of the proposal is consistent with existing and desired building typologies in the medium density residential zone.
- The built form, facing Park Avenue, is limited to two storeys with gable roof forms to ensure the development is compatible with the immediate locality;
- Architectural height plane analysis demonstrates that the majority of the boarding house is compliant with the LEP height limit. A minor variation (less than 6%) is proposed in the south-east of the front section of the building. As this will be barely discernible once constructed and does not, of itself, result in any impacts such as extraneous shadow impacts, the development is therefore considered to be consistent with existing and future desired building heights to be provided in accordance with the LEP control;
- Compliant setbacks are provided to front boundary – providing a stepped presentation in line with the offset alignment of the front boundary;
- The two wings of the boarding house are separated by the central communal courtyard, thereby maximising building separation between adjoining dwellings and optimising useable open space, natural ventilation and sunlight as it crosses the site from east to west (that is, side boundary to side boundary in this case).
- Landscaping is consistent with requirements for residential developments and will significantly improve the current presentation of the two sites to Park Avenue and ultimately upgrade the streetscape;
- A single double width driveway servicing the consolidated site is no greater in area than the two combined single driveways that would typically serve each lot.

A character analysis has therefore been undertaken in accordance with the planning principle derived from *Project Venture Developments v Pittwater Council (2005) NSW LEC 191* and the design of the boarding house is compatible with the height, bulk and scale of surrounding and likely future development. It respects the residential built form narrative established by existing medium density development in the local area. The proposal respects the emerging character. The new 2/3 storey development t is able to co-exist with the existing single storey forms.

4.2 Any Draft, exhibited environmental planning instruments

4.2.1 Draft State Environmental Planning Policy (Housing Diversity)

The Draft Housing Diversity SEPP is a proposed new policy which aims to facilitate the delivery of diverse and affordable housing to meet the needs of the State's growing population. An *Explanation of Intended Effect* was exhibited between 29 July and 9 September 2020 for the proposed new Housing Diversity SEPP. The draft SEPP proposes to amend some boarding house provisions of the ARH SEPP as discussed in Table 3 below.

Table 3: Draft Housing Diversity SEPP

Proposed Amendment	Comment
The definition of a boarding house is to be amended as follows: ***boarding house*** *means an affordable rental building that —* *(a) provides lodgers with a principal place of residence for 3 months or more, and* *(b) is managed by a registered not-for-profit community housing provider (CHP), and* *(c) has some shared facilities, such as a communal living room, bathroom, kitchen or laundry, and* *(d) has rooms, some or all of which may have private kitchen and bathroom facilities, that accommodate one or two adult lodgers,* *but does not include backpackers' accommodation, a group home, hotel or motel accommodation, seniors housing or a serviced apartment.* *Note. Boarding houses are a type of residential accommodation.*	The development falls outside the amended definition of a boarding house under the proposed Housing Diversity SEPP as it not to be managed by a community housing provider. The remainder of the criteria are satisfied. As this is a draft SEPP only and not currently in effect, Council is not prevented from approving the application and it is our understanding that the SEPP will contain savings provision. The proposed boarding house does not fall within the definition of backpackers' accommodation, a group home, hotel or motel accommodation, seniors housing or a serviced apartment.
Boarding house development will not be mandated in the R2 Low Density Residential zone	The site falls within the R3 Medium Density Residential zone. Boarding houses will continue to be a permissible land use within this zone under the proposed Housing Diversity SEPP.

Introduction of a flat 20% FSR bonus above the existing maximum FSR where residential flat buildings are permissible in the zone.	Residential flat buildings are not permissible under the PLEP 2010 within the R3 Medium Density Residential zone. Further, there is no FSR applicable for this site.
Maintain reduced minimum car parking rates for boarding house development applications lodged by or on behalf of a social housing provider.	The development is not being carried out by Provider. Car parking is provided as required by the current SEPP provisions and complies with the minimum numbers for vehicles, motorcycles and bicycles.

4.2.2 Strategic Planning Context for Housing Diversity

Future Directions for Social Housing

Future Directions for Social Housing in NSW is a 10 year housing strategy by the State Government intended to guide social and affordable housing supply and respond to affordability trends. The strategy will address the full gamut of housing; homelessness to home ownership, in a coordinated approach that includes regional NSW locations.

The expected waiting times for social housing in the Penrith area (Penrith zone) is identified as 5 to 10 years for studio and 1-bedroom properties, according to the *Guide to waiting times for social housing,* as at 30 June 2020.[1]

While this proposal is not to be developed by the State Government or managed by a community housing provider, it aligns with the general objectives of the policy. That is, assisting in the provision of housing supply. A private boarding house offers an alternative to the more expensive new single residential units dwellings. In this manner, the proposal will support the State Government broader housing policy. The proposal provides a more private living option than say a share 2 bedroom flat or unit.

A Housing Strategy for NSW

A Housing Strategy for NSW, prepared in May 2020, is a Discussion Paper which identified affordability as one of the primary barriers to home ownership. Low income growth coupled with rising cost of housing has increased mortgages and placed significant pressure on social housing services.

The Discussion Paper identified a range of affordability concerns, including impacts associated with the rental price of housing within centres and close to services and amenities. Where prices are often inflated in 'liveable' areas, the Government identified provision of support for residents who need to live near local facilities, jobs and their networks to assist with gaining financial sustainability. The proposed development is consistent with this approach through facilitation of high quality housing within walking distance to transport services which will take residents to jobs and services. There is also a range of recreational facilities and areas available in the Penrith district together with community-based services for residents.

[1] *https://www.facs.nsw.gov.au/housing/help/applying-assistance/expected-waiting-times*

Greater Sydney Regional Plan 2018

The Greater Sydney Region Plan was released in 2018 to guide the growth and development of Sydney. The site is located within the 'Western City' district and Planning Priority W5 is relevant to the provision of social housing as follows:

W5 - Providing housing supply, choice and affordability, with access to jobs, services and public transport.

Further analysis of the strategy indicates that the development is consistent with the government's desire to provide housing in the right places; locations that are in walking distance to trains, buses, retail facilities, open space and schools. The subject site is well located to capitalise on a range of important amenities provided within Penrith. Further, the boarding house typology effectively responds to the changing demand for social housing, particularly provision of housing to assist residents in times of immediate need.

The proposed development will therefore contribute to regional social housing objectives through effective utilisation of an underutilised residential site.

Penrith City Strategy

The Penrith City Strategy (referred to as 'the Strategy') was adopted by Council on 24 June 2013. The Strategy summarises the key issues facing the LGA over the next 10-20 years and outlines how Council will respond.

The Strategy identified that there are significant changes emerging in the structure of the LGA's housing with an increase in single person households. More accommodation is needed, particularly apartments, townhouses and smaller dwellings to meet community needs. Further, a greater diversity in housing types is required to better suit changing community needs, including the availability of smaller housing options. The Strategy identifies that it is important to ensure there is a diversity of housing types in both new and older areas.

The Strategy also identifies that housing affordability is an ongoing and significant issue, particularly in recent years. This has resulted in demand for smaller, less expensive homes.

Council's policy response aims to provide housing that meets community needs with regard to supply, choice, design quality, sustainability and affordability.

Key housing goals include:

H1. Protection of the City's agreed urban and rural boundaries
H2. An additional 25,000 dwellings between 2006 and 2031.
H3. A choice of housing that responds to a diverse community and changing household structures.
H4. Housing design is of a high standard and enhances the character of the City.
H5. Design is appropriate for our climate.
H6. Medium and high-density residential development located in and adjacent to the City's centres
H7. Housing that maximises resource efficiency and minimises greenhouse gas emissions
H8. Housing that is adaptable and accessible and will accommodate people of all ages and abilities, recognising that their needs change over time.
H9. Affordable housing through partnerships and Government initiatives.

The proposed development is consistent with the housing goals as follows:

- The development is conveniently located within an existing urban area, with proximity to the Penrith City Centre, transport infrastructure, open spaces, employment and retail facilities to support residents and visitors.
- The development will support population growth through accommodation of up to 124 residents at any time (NB: this is a maximum).
- The boarding house will contribute to the diversity in built form and residential typology within the area.
- The development will aptly provide for the LGA's increase in single person households and the recognised need for smaller dwellings and accommodation.
- The contemporary but familiar architectural design represents an upgrade to the site and surrounding low density dwellings.
- The proposal is within the R3 Medium Density Residential zone conveniently located within walking distance of the Kingswood Train Station, local bus services and the topography encourages walking and cycling as it is generally flat in the immediate area.
- The boarding house has been designed to maximise resource efficiency and minimise greenhouse gas emissions will be constructed in accordance with BASIX commitments.
- The development will provide adaptable and accessible housing within six (6) accessible rooms.
- The onsite resident manager will oversee the operation of the boarding house, thereby ensuring a high level of maintenance, order and compliance with the adopted POM and House Rules.
- The boarding house will contribute to affordable rental provision of high quality accommodation for residents, particularly those on lower incomes, those not requiring larger accommodation and those needing to be located need places of employment and/or services.

The proposal will therefore assist in meeting the key housing goals as identified at the State and Local levels.

4.3 Local Planning Instrument

4.3.1 Penrith Local Environmental Plan 2010 (PLEP 2010)

The proposed use reasonably satisfies the stated aims and objectives of the LEP.

1.2 Aims of Plan

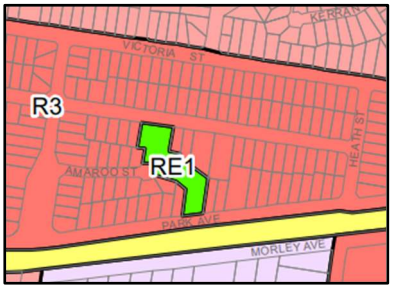
(2) The particular aims of this Plan are as follows—
(aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,
(a) to provide the mechanism and planning framework for the management, orderly and economic development, and conservation of land in Penrith,
(b) to promote development that is consistent with the Council's vision for Penrith, namely, one of a sustainable and prosperous region with harmony of urban and rural qualities and with a strong commitment to healthy and safe communities and environmental protection and enhancement,
(c) to accommodate and support Penrith's future population growth by providing a diversity of housing types, in areas well located with regard to services, facilities and transport, that meet the current and emerging needs of Penrith's communities and safeguard residential amenity,
(d) to foster viable employment, transport, education, agricultural production and future investment opportunities and recreational activities that are suitable for the needs and skills of residents, the workforce and visitors, allowing Penrith to fulfil its role as a regional city in the Sydney Metropolitan Region,

(e) to reinforce Penrith's urban growth limits by allowing rural living opportunities where they will promote the intrinsic rural values and functions of Penrith's rural lands and the social well-being of its rural communities,
(f) to protect and enhance the environmental values and heritage of Penrith, including places of historical, aesthetic, architectural, natural, cultural, visual and Aboriginal significance,
(g) to minimise the risk to the community in areas subject to environmental hazards, particularly flooding and bushfire, by managing development in sensitive areas,
(h) to ensure that development incorporates the principles of sustainable development through the delivery of balanced social, economic and environmental outcomes, and that development is designed in a way that assists in reducing and adapting to the likely impacts of climate change.

Comment: The subject site is located within the Penrith area. The proposal is a permissible land use. It seeks to provides an affordable and alternative form of residential accommodation, being a boarding house. The development will provide a service to the local residential community and/or those on a temporary basis but no less than 3 months. The proposal will not significantly impact on the surrounding area and will provide a boost to local businesses and employment sites in the area. The Nepean Hospital and Western University Campus are in relatively close proximity to the site.

Table 4 below provides an assessment of the proposal against the provisions of the Penrith LEP 2010.

Table 4: Penrith LEP 2010

LEP Clause	Proposal	Complies
Zone and Permissibility  ***Map series 13*** ***Zone R3 Medium Density Residential*** ***Objectives of zone*** • *To provide for the housing needs of the community within a medium density residential environment.* • *To provide a variety of housing types within a medium density residential environment.* • *To enable other land uses that provide facilities or services to meet the day to day needs of residents.* • *To provide for a concentration of housing with access to services and facilities.*	Boarding houses are permitted with consent in the R3 zone under PLEP 2010. The proposed development is consistent with the R3 zone objectives in that: • The proposal contributes to the housing needs of the community in a proposed built form that reflects the permissible use in Park Avenue and is consistent with the objectives of the zone; • Increases the diversity of housing supply and choice in the area; • The development is designed to optimise the advantages of the site's proximity to public transport, educational, employment and recreational facilities and services.	Yes

• *To enhance the essential character and identity of established residential areas.* • *To ensure that a high level of residential amenity is achieved and maintained.* • *To ensure that development reflects the desired future character and dwelling densities of the area* ***Permitted with consent*** *Attached dwellings; Bed and breakfast accommodation;* ***Boarding houses****; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Emergency services facilities; Environmental protection works; Exhibition homes; Exhibition villages; Flood mitigation works; Group homes; Home-based child care; Home businesses; Home industries; Information and education facilities; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Recreation areas; Respite day care centres; Roads; Secondary dwellings; Semi-detached dwellings; Seniors housing; Shop top housing; Tank-based aquaculture* ***4 Prohibited*** *Pond-based aquaculture; Any other development not specified in item 2 or 3.*		
Clause 4.1 Minimum subdivision lot size The minimum lot size is 400sqm.	The proposal does not involve subdivision.	N/A
Clause 4.3 Height of buildings  ***"I" = 8.5m***	The proposal varies the maximum height for the site – in the south-east corner of the building. A Clause 4.6 HOB request for variation is submitted with the DA package, addressing the minor variation.	No minor variation

The maximum building height for the subject site is 8.5m.		
Clause 4.4 Floor space ratio No FSR mapped for the site.	The site has no mapped floor space ratio.	N/A
Clause 5.10 Heritage conservation	The site is not identified as a heritage item or located within a heritage conservation area. No heritage items are located within proximity of the site.	N/A
Clause 7.1 Earthworks	Earthworks are required for the two basement levels. Appropriate drainage, erosion and sediment controls will be incorporated during construction and throughout the use of the development. The proposed earthworks will not have a significant detrimental impact on the environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.	Yes
Clause 7.2 Flood Planning	Site is located within the Flood Planning Area of the Penrith CBD Catchment Overland Flow Flood Study. The Park Ave and the front boundaries of the sites area identified as being flood affected. The site is located clear of any overland flows and therefore flood related development controls are not applicable to the development.  Flood Planning Area	N/A

Clause 7.3 Development on natural resources sensitivity land	The site is not identified within the Natural Resources Sensitive Map.	N/A
Clause 7.4 Sustainable development	The proponent is committed to achieving a high level of sustainability measures within the new age boarding house development to reduce emissions, water and waste. The proposed design incorporates boarding rooms and common areas with northern orientation, good solar access and natural ventilation. The development will be provided with appropriate waste management and recycling facilities throughout its operation as per the Waste Management Plan. The development is located with good access to public transport facilities and within walking distance to a range of services including commercial, community and medical facilities thus reducing vehicle dependence for tenants. The site is zoned R3 Medium Density Residential with the proposed boarding house being a rational, economic and orderly use of the land. Adaptive re-use potential of the site is therefore not required to be considered further as the existing built form is at the end of its economic life.	Yes
Clause 7.5 Protection of Scenic Character and Landscape Values	The site is not identified within the Land with Scenic and Landscape Values Map.	N/A
Clause 7.6 Salinity	None known.	N/A
Clause 7.7 Servicing	The proposal will incorporate provision of or connection to the reticulated water, sewer, electricity, gas and telephone.	Yes

Clause 7.9 Development of land in the flight paths of the site reserved for the proposed Second Sydney Airport	The site does not fall within the anticipated flight path of the proposed Second Sydney Airport and therefore it is unlikely the development will be adversely affected by aircraft noise from that source.	N/A

4.4 Non-statutory Planning Instruments and Policies

4.4.1 Penrith Development Control Plan 2014 (PDCP 2014)

Further to this broad context, the PDCP as a whole contains the development controls that guide this type of residential development. Table 5 below is an assessment of the proposal against the provisions of the DCP.

Table 5: Penrith DCP Assessment

Clause	Proposal	Complies
Part C1: Site Planning and Design Principles		
1.1 Site Planning	A Site Analysis Plan has been prepared for the proposed development in accordance with the DCP controls.	Yes
1.2 Design Principles	The high-quality architectural design maximises energy efficiency across the proposal – internally and externally. All rooms within the boarding house have access to natural light and natural ventilation. The development will be constructed in accordance with BASIX commitments as outlined within the BASIX Certificate submitted with the DA package. It is considered the proposed will result in an appropriate outcome for the site in that it responds to existing site constraints and characteristics. While not necessarily the same development typology as existing in the area, it is similar to No. 45 Park Avenue Boarding House (approved by Council). Its design and layout reasonably reflects the approved and likely future character of residential development within the R3 zone along Park Avenue. The proposed maximum height of 9.0m is a technical variation to the	Yes

	8.5m maximum height control of the PLEP2010. However, it is numerically minor, only applies to the two sections of the building. The proposal generally fits with the eclectic nature of residential development in the immediate area. The proposed development is consistent with CPTED principles and has been designed to mitigate the incidence of opportunistic crime where possible. The following principles have been implemented within the design of the development: • the proposed design of rooms, common room, gathering spaces and balconies/ terraces combines a sense of safety, privacy and residential stewardship. • the built form and open space footprints afford maximum natural surveillance opportunities. • the pedestrian and car park entry will be secured to ensure residents are provided with an appropriate level of access control. • lighting, fencing, landscaping and signage design will facilitate target hardening. The proposed boarding house provides six accessible rooms and six accessible parking spaces.	
Part C2: Vegetation Management		
2.1 Preservation of trees	The proposal requires the removal of a number of trees on the site. The main tree – the mature eucalypt within the front yard of the site is retained and protected. The staggered building setback assists with the protection of this tree together with the splay setback. Suitable replacement plantings are proposed as part of the development which will make a significant improvement to the biodiversity values of the site and	Yes

	enhance the ecological qualities of the area. Extensive landscaping which incorporates a range of trees, shrubs and ground covers will positively contribute to the landscape character of the site and domestic scale of landscaping along Park Avenue.	
Part C3: Water Management		
3.2 Catchment Management and Water Quality	A Stormwater Management Plan is submitted as part of the DA package. Appropriate stormwater management controls are to be implemented for the development during construction and throughout the use of the site, which will contribute towards protecting water quality and the catchment.	Yes
3.4 Groundwater	The proposed boarding house is unlikely to have an adverse impact on underlying and surrounding groundwater.	Yes
3.6 Stormwater Management and Drainage	A Stormwater Management Plan is submitted with the DA package. Stormwater runoff from the development will be conveyed to Park Ave and Council's existing stormwater drainage network. The proposed stormwater measures are appropriate to control the quality and quantity of stormwater runoff from the development.	Yes
C4: Land Management		
4.1 Site stability and earthworks	The proposal includes excavation of the basement levels to a depth of up to 6.8m. The area is limited to the building envelope, under the boarding rooms and driveway areas. A dilapidation report and Construction Management Plan (CMP) will be prepared and submitted with the Construction Certificate documentation. It is considered that the earthworks can be appropriately managed and will not have an undue adverse	Yes

	environmental or amenity impact on adjoining properties. Conditions of consent to be imposed.	
4.3 Erosion and Sedimentation	Appropriate erosion and sedimentation controls will be implemented during construction of the development.	Yes
4.4 Contaminated lands	The site has been used for residential purposes and contamination risks are low having regard to previous use of the site.	Yes
4.5 Salinity	No known impacts.	Yes
Part C5: Waste Management		
5.1 Waste Management Plans	A Waste Management Plan is submitted with the DA package. The plan details the types and volumes of wastes and recyclables likely to be generated by the development, how waste and recyclables will be stored and treated on site, and ongoing waste management procedures.	Yes
5.2 Development Specific Controls	The development provides designated bin rooms for waste receptacles and bulky goods waste room. There is a loading bay and truck turn table for to access the waste area in basement 1. Internal waste storage areas will also be provided for each room. The proposed waste bin location and layout complements the building design and is suitable for the use of the proposed development. Waste will be appropriately managed during occupation in accordance with the DCP controls, as outlined within the Waste Management Plan.	Yes
Part C6: Landscape Design		
6.1 Controls	A high-quality landscape design is proposed, which integrates with the building design and makes a positive contribution to the streetscape. The design incorporates a range of soft and hard	Yes

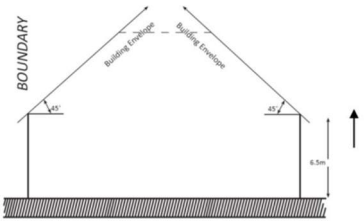
	landscaping elements along with a range of plantings including native and exotic plants, including trees, shrubs and ground covers.	
C7: Culture and Heritage		
7.1 European Heritage	The site is not identified as a heritage item or located within a heritage conservation area. No heritage items are located within proximity of the site.	Yes
7.2 Aboriginal Culture and Heritage	The site is significantly disturbed for residential land use. Should any relics be found during construction works, the relevant stop work procedure will be followed.	Yes
7.3 Significant Trees and Gardens	The site does not contain any significant trees or gardens that are considered to be of cultural, historical, scientific or aesthetic significance. The one large eucalypt in the front yard is retained.	
Part C10 Transport, Access and Parking		
10.2 Traffic Management and Safety	The Traffic Report submitted with the DA package concludes that the proposed development will not generate substantial adverse traffic or parking implications. The proposed driveway and parking areas have been designed to improve road and pedestrian safety. The vehicular access and exit points are clearly defined and located to provide safe and efficient movement of traffic and pedestrians. The development also provides suitable off-street parking facilities for vehicles, motorcycles and bicycles, including accessible spaces.	Yes
10.5 Parking, Access and Driveways	Parking requirements are derived from SEPP (Affordable Rental Housing) 2009 and the DCP is not relevant. The amount of parking provided for vehicles, motorcycles, bicycles and	Yes

	accessible rooms is compliant with the provisions of the SEPPARH.	
10.7 Bicycle Facilities	The development provides space for storage of thirteen (13) bicycles in accordance with the requirements of ARH SEPP.	Yes
Part C13: Infrastructure and Services		
13.2 Utilities and Service Provision	In accordance with the DCP requirements, the proposal will incorporate provision of or connection to the following services: • Reticulated water • Electricity • Reticulated sewer • Telecommunications	Yes
Part D Land Use Controls		
D5 – Other Land Uses **5.11 Boarding Houses**		
Objectives		
a) To ensure that boarding houses fit the local character or desired future local character of the area.	a) As discussed in section 4.1.6 above, the proposal fits with the eclectic existing residential typologies along Park Ave, together with the approved and likely future character of residential development on the area.	Yes
b) To minimise negative impacts on neighbourhood amenity.	b) the potential impacts are addressed in accordance with the provisions of s4.15 of the EP&A Act. Where a variation to any State or Local Planning provision is proposed, the variation has been addressed through appropriate design solutions or justified. In this way any potential negative impacts have been adequately addressed and the development is worthy of approval.	Yes
c) To ensure boarding house premises are designed to be safe and accessible.	c) The necessary measures to ensure safety and security are addressed throughout this Statement – CPTED measures, access report,	Yes

	landscaping design and a resident manager and POM.	
d) To respond to increasing neighbourhood densities resulting from boarding house development.	d) Noted. The proposal adds to the residential density in the neighbourhood. It is a permissible use, design in a manner to address and mitigate potential impacts.	Yes
e) To ensure that boarding houses operate in a manner which maintains a high level of amenity, health and safety for residents.	e) Internal and external amenity has been addressed within the design, layout, POM, House Rules and locational context of the development. In each case the proposal is considered to achieve a high level of amenity.	Yes
C. Controls **1) Local Character** *a) Boarding house development applications shall be accompanied by detailed site analyses to assist with the determination of local character.* *b) A neighbourhood analysis must be completed to identify the desired future character of the neighbourhood. It is recommended that community consultation be undertaken as part of the analysis to determine aspirations for the future character.* *c) Key elements that contribute to consideration of local and neighbourhood character include: - Surrounding land uses - Social and Historic Context - Scale - Built Form - Natural Environment - Density - Amenity - Safety and Security - Social dimensions and housing affordability – Aesthetics*	Detailed site analysis is included as part of development application plans. The character of the area and the fit of the proposal is addressed as part of the SEPPARH Character test (refer to Section 4.1.6 above). The boarding house has been designed to consider existing older style housing stock, eclectic residential built forms along Park Avenue and the future built form anticipated for the Park Ave area. The development is compatible with the height, bulk and scale of nearby older, new and approved developments, including a boarding house at No. 45 Park Avenue. A range of measures have been incorporated into the design to ensure the boarding house positively contributes to the existing and emerging character of the area, including:	Yes

	• The proposed building height and design exhibits consistency with the scale adopted by newer neighbouring residential dwellings; • The design adopts setbacks and associated building separation that mitigates any unacceptable impact associated with privacy, overlooking and overshadowing; • the design is broken into two distinct building wings (east and west) to assist with dispersal of visual bulk. • the floor area proposed is not overbearing and the Site Plan clearly indicates that development of the proposed scale can be accommodated comfortably within the site; • the front façades include pitched roof lines, reflecting the general built form character along Park Ave; • Landscaping, including advanced trees, shrubs and groundcovers, will provide a vegetated buffer between neighbouring properties; • The proposal is consistent with the provisions of the PLEP 2010 and DCP 2014.	
2) Built Form, Street Impact and Appearance *a) The entrance to the boarding house must be in a prominent position addressing the street.* *b) New boarding houses must not reduce the achievement of access to a minimum of 3 hours sunlight in the main living area and in at least 50% of private open space between 9am and 3pm on 21 June for adjoining properties.* *c) Boarding houses must be designed to have a sympathetic relationship with adjoining development.*	a) Pedestrian entrance to the boarding house is in a prominent position addressing Park Avenue. b) Shadow impacts are addressed in the DA plan set, demonstrating that properties to the east and west of the site will retain morning or afternoon sunlight – mid-winter. c) The boarding house has been designed with internal and external spaces sited to	Yes Yes Yes

	address amenity of the resident and adjoining neighbours. The building setbacks are sufficient for separation – with those setback areas containing landscape features to soften and separate the properties.	
d) Proposals must demonstrate that neighbourhood amenity will not be adversely impacted by factors such as noise and privacy.	d) Amenity issues are addressed via the setbacks, landscaping, orientation of rooms, tree retention at the front of the site, onsite management of the development.	Yes
e) There must be no basement encroachments to setbacks either above or below ground.	e) Noted. The basement levels are setback from the side and rear boundaries.	Yes
f) R3 Zone - Minimum setbacks. The intent of this control is to ensure consistency with local character by replicating streetscape patterns of buildings and private gardens in established neighbourhoods, which have visual and symbolic richness that are valued by their community. *R3 zone:* *Front: average of adjoining neighbours to 5.5m, whichever is the greater.* *Side: 2m along not more than 50% of the building length.* *The remaining 50% is to achieve a minimum setback of 3m.* *These areas are to be a min of 1.5m wide.* *Rear: 4m for single storey building or 6m for two storey building.* *Building Envelope: As per diagrams below:*	f) Setbacks: Front: the proposal has a staggered setback over 5.5m from the front boundary. The staggered setback achieves the DCP averaging and protects the mature gum tree on the site. Complies. Side setbacks: Both side elevations have a 2m min with 3m recesses along the building elevation, thereby articulating and modulating the appearance of the building from both adjoining properties. This complies with the intent of the DCP provision. Rear setback: each level is setback 6.7m from the rear boundary. Complies. Building Envelope: The following red lines show the 45^0 building envelope above 6.5m at the boundary. In each case the	Yes



development complies. Refer also to Dwg No. A1-12 & A1-13.

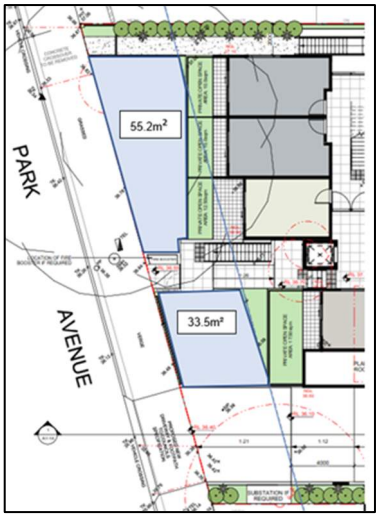
Plate A: South Elevation

Plate B: North Elevation

Front setback landscaping:
Proposed:
Area forward of 5.5m building line: 181.5m^2
Required landscaped area: 40% or 72.6m^2

Proposed:
Landscaped area forward of the 5.5m building line (excluding POS areas): 88.7m^2
Complies.

R3 zone:
Compatibility of Landscaping with Streetscape in the front setback:
40% landscaped area.



The proposal includes substantial plantings in accordance with the DCP controls. Areas across the site include a number of deep soil zones which will support larger plants and trees and soften the built form. The mature tree in

g) In an R2 or R3 Zone, boarding houses should comply with controls for Single Dwellings where these controls do not conflict with the requirements of the SEPP. *h) A boarding house proposal of a scale similar to a multi dwelling housing development should comply with the controls and objectives for Multi Dwelling Housing within this DCP, where they are not in conflict with the requirements of the SEPP and the objectives of the zone.* *i) A boarding house proposal of a scale similar to a residential flat building or high density mixed use development should comply with the controls and objectives for Residential Flat Buildings within this DCP, where they are not in conflict with the requirements of the SEPP, and the objectives of the zone.*	the front yard is retained and protected. The front setback landscaping will improve the current domestic presentation of the new development to Park Avenue. The communal areas of the site will be maintained by the boarding house management, not left to individual residents. This will ensure that the external appearance of the site and the development will be well maintained. g) – i) This is a medium density zone as opposed to an R2 zone. The proposal is not a single dwelling, a townhouse development or residential flat building. It is not considered appropriate to require a boarding house to apply the same controls, particularly where Council provides specific development controls that are to guide the development of boarding house within a R3 zone. There is no provision in g) – i) that indicates which provisions override the other. In this case, the boarding house has been sited and designed in accordance with Council's DCP controls for boarding houses, as enunciated in their adopted PDCP 2014.	
3) Compatibility with Streetscape in the Front Setback *In order to be compatible with the streetscape, boarding houses must supply the following elements within the front setback, in addition to complying with other relevant Landscape Design controls in this DCP and Built form, streetscape impact and appearance controls in this section:*		

a) A minimum of 18m² deep soil area must be provided to support larger plants and trees used to soften the form of the building and provide shade. Deep soil areas are to be a minimum width and length of 3m. Deep soil zone may form part of the landscaped area calculation. *b) A watering system that does not rely on lodgers to maintain plantings.*	Required: 18m² deep soil area for planting of larger plants and trees. Proposed: 55.2m² area (forward of the 5.5m building line - located on the western section of the site), includes the retention of the large mature eucalypt. The 33.5m² area on the eastern side of the site is similar – deep soil planting area. Both areas comply with the 3m x 3m dimensions. Subject to condition of consent.	
4) Tenant Amenity, Safety and Privacy *Boarding houses are to maintain a high level of resident amenity, safety and privacy by ensuring:* *a) communal spaces including laundry, bathroom, waste facilities, private open space, kitchen and living areas are accessible to all lodgers;* *b) if over 10 boarding rooms are supplied, 10% of the total number of dwellings (rounded up) must be accessible;* *c) cross ventilation should be achieved in common areas including corridors, common kitchen areas, living areas, laundry, waste and kitchen facilities;* *d) all opening windows are to be provided with fly screens; and* *e) secure mailboxes shall be provided on the property allowing resident only access* *f) Communal kitchen facilities must be provided with a minimum area of:* *a. 7m2 for up to 6 lodgers,* *b. or 11m2 for more than 6, up to 12 lodgers.* *c. A minimum of 15m² will be provided above 12 lodgers, plus 1m² for each additional lodger over 12; or all bedrooms shall contain kitchenette facilities with a fridge, adequate cupboards and shelves and a*	In accordance with DCP requirements, the proposed design includes: • The development is accessible to all lodgers. • Six rooms and six parking spaces are available for as accessible rooms and parking. • Cross ventilation is provided to common area. • Window openings will be provided with flyscreens. • Secure mailboxes will be provided on the property. • Kitchen facilities are provided within rooms. • 22.8m² of floor area provided for the common room with direct access to a further 46.5m² outdoor COS area.	Yes

microwave. For fire safety reasons no other cooking appliances are permitted. *g) Common rooms must be provided at a minimum rate of 2m2 per lodger, or a minimum of 13m2 where there are fewer than 6 lodgers. Common rooms do not include circulation space or laundry, bathroom, waste and kitchen facilities.*		
5) Visual and Acoustic Amenity Impacts *Boarding houses are to provide:* *a) bedrooms separate from significant noise sources;* *b) sound insulation between bedrooms to provide reasonable amenity;* *c) communal areas and bedroom windows away from the main living area or bedroom windows of any adjacent buildings; and* *d) screen fencing, plantings, and acoustic barriers in appropriate locations.*	The rooms are broken up into four vertical clusters around a central courtyard. There is an east and west wing. Rooms are oriented either towards the central courtyard or outwards towards a property boundary. At ground level the rooms have POS areas. At upper floor levels rooms have small balconies to provide natural ventilation. The width and size of the balconies do not facilitate gatherings of people. Therefore, privacy and noise emissions are reduced and the amenity of adjoining residents protected. Screen plantings around the boundaries is proposed to increase privacy across ground level.	Yes
6) Location *Boarding Houses shall not be located in cul-de-sacs.*	Park Avenue is not a cul-de-sac.	N/A
7) Plan of Management *An operating 'Plan of Management' is to be submitted with each development application for a boarding house (including new and existing boarding houses).*	A Draft POM and House Rules is Appendix A of this Statement. It is anticipated that this will be a condition of consent of any approval.	Yes

4.5 Suitability of the site for the development

It is considered that the development, as proposed, is suitable for the subject site. Council has previously approved a boarding house of similar design and external appearance at No. 45 Park Avenue. This application, while proposed over two allotments, breaks up the boarding house into two wings (east and west) and into eight (8) vertical room clusters. Visually this reduces the perceived scale of the development. The two front room clusters have a pitched roof line – reflecting the existing character of nearby single dwellings and townhouses. These two clusters are two storeys only, thereby retaining the two storey character of development along parts of Park Avenue and the expected built form in this area. The third storey rooms are essentially within an attic level of the rear of the development, nested behind the front pitched roof. They will be barely discernible from Park Avenue.

As detailed by this assessment, the proposed development is unlikely to have any significant negative impacts on the natural or built environments. The proposed development is generally consistent with relevant state and local planning legislation and design guidelines for boarding houses. Any non-compliances have been identified and addressed through design solutions or considered on planning grounds to be reasonable and justified.

The proposal aims to provide rental housing which will assist in meeting State Government objectives for Western Sydney.

The site is considered to be suitable for the proposed development for following reasons:

- The proposed development is permissible and consistent with the objectives of the R3 land use zoning;
- There are no site constraints that would prevent a boarding house development;
- The locational context of the subject site provides additional housing within proximity to a range of facilities and services that will benefit the new residents and the local economy;
- The existing character is an eclectic mix of residential development – of various ages and built form typologies that will transition over time;
- The residential character along Park Ave and surrounds is undergoing a transition from low density to a more diverse residential community facilitated by the R3 zoning controls;
- The location is well-sited to accommodate additional residents, being serviced by public transport and other services in Kingswood and the broader Penrith district;
- The dual site can adequately accommodate the proposed development without adversely impacting the residential amenity of neighboring development; and
- The proposal's design is based on sound site analysis and contributes positively to the locality.

4.6 Any submissions made in accordance with this act or the regulations

Council is responsible for the referral of the application to relevant Government bodies and to adjoining owners. Any submissions will be reviewed by the applicant and Council during the assessment process, and duly considered.

4.7 Public Interest

Given that the relevant issues have been addressed with regard to the public interest as reflected in the relevant planning policies and codes, the development is unlikely to result in any adverse impact to the public interest in the circumstance of the case.

The proposal is a new age boarding house to be managed in the private rental sector, not by a social housing provider. Notwithstanding this, a review of the social housing waiting lists for the area reveals that there is a significant need for additional housing outside of the larger, more expensive private unit or townhouse rental market.

There are currently 1,678 applicants on the waiting list for social housing in the GW05 Penrith region with 179 of these are categorised to be priority application.[2] The expected social housing waiting time data for the Penrith area, as at 30 June 2020, are listed below:

- Expected waiting time for studio/1 bedroom property – 5 to 10 years;
- Expected waiting time for 2-bedroom property – 5 to 10 years;
- Expected waiting time for 3-bedroom property – 10+ years;
- Expected waiting time for 4+ bedroom property – 5 to 10 years.

It is clear that any assistance in providing housing in the private rental market that can help some local residents is in the public interest. More private housing opportunities will reduce some burden on public housing in the medium to long term.

5.0 CONCLUSION

The proposal seeks approval for a boarding house containing sixty-four (64) boarding rooms over basement parking. The site is zoned R3 Medium Density Residential, wherein a boarding house is a permissible landuse, with Council's consent.

The proposal has been sited and designed taking into account the site features as well as the adjoining and adjacent development. The design solution includes breaking the development into vertical rooms clusters and two wings sited around a central courtyard. Parking is provided at basement level, creating space for good quality landscaping at the front, sides and rear of the site plus impacts of parking and access is internalised.

The development will be consistent with the objectives of the R3 Medium Density Residential zone and the PLEP Height of building development standard. The minor variation to the height limit is addressed within the Clause 4.6 variation request. The environmental planning grounds are outlined in that submission, demonstrating that the proposal can be supported under the circumstances of this case.

Accordingly, the subject application, as described in this Statement, will result in no undue environmental impact that would warrant modification or refusal of the application. The proposal is worthy of the approval of Council.

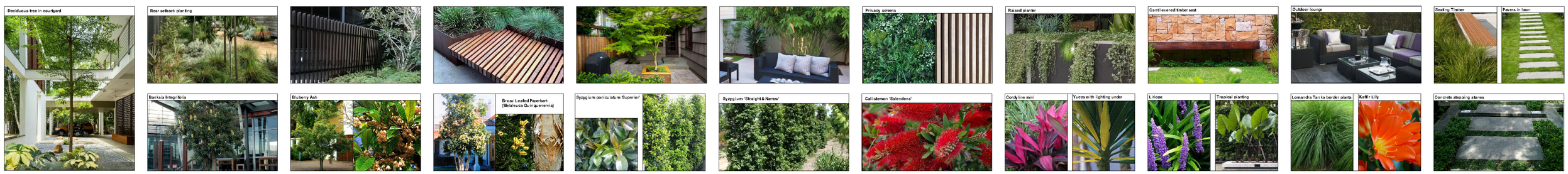
Andrew Martin *MPIA*
Planning Consultant

[2] https://www.facs.nsw.gov.au/housing/help/applying-assistance/expected-waiting-times

Landscape site plan 1:100 @ A1

0 1 2 3 4 5 10

Note: See sheet 2 for detailed levels & soil area information.



Legend

- Existing trees to be removed
- Existing trees
- Proposed evergreen trees
- Proposed Deciduous tree
- Taller palm
- Smaller palm tropical style
- Strappy leaved understorey plants
- Purple foliage strappy plants
- Tree Ferns / Cycads
- Low shrubs / ornamental grasses
- Screen plants
- Steps up
- Private open space paving
- Common open space paving
- Timber decking / seating
- Groundcovers / mulch
- Gravel / mulch path
- Turfed lawn areas
- Balustrading / Screen
- 21.29 Proposed levels
- Strip drainage grate Drainage pit
- Concrete
- Walls
- Survey layer under

Amendments

B	31.3.21	For DA
A	31.3.21	For Review

PAUL SCRIVENER LANDSCAPE

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Project: Boarding House Development at 27 & 28 Park Ave, Kingswood

Dwg: Landscape Site plan

Date: 31.3.21 Scale: 1:100 @A1

Job Ref: 20/2248

North

1 of 3

ISSUE-B

Calculations plan 1:100 @ A1

0 1 2 3 4 5 10

Existing wall on adjoining property

Existing manhole

Existing manhole

Retaining wall steps down to natural ground level

Maintain ex. metal fence over low wall. Make good as required to maintain existing levels

T.O.W 38.10

Masonry retaining wall to side setback to 800mm high

Timber retaining wall terminates here

Step up to garden

Timber sleeper post & rail wall to max 600mm high

New 1800mm high colourbond fence

T.O.W 37.90

Timber sleeper post & rail wall to max 600mm high

T.O.W 37.90

Timber retaining wall terminates here

T.O.W 37.36

Top of wall to step down with natural ground level

Low masonry retaining wall on basement wall to follow natural ground level.

Unit 1
Unit 2
Unit 21
Unit 21
Unit 20
Unit 20
Unit 17
Unit 14
Unit 16
Unit 15
Unit 13
Unit 12
Unit 7
Unit 8
Unit 6
Unit 9
Unit 11
Unit 10
Ramp up

Landscape soil calculations

	Site area	0.00 m2
	Natural deep soil	413.7 m2
	Raised planter 1000mm-1200mm	52.4 m2
	Raised planter 600-800mm	15.3 m2
	Natural soil continuation under deck	13.6 m2
	Crushed gravel paving at natural ground level	16.8 m2

AMENDMENTS

B	31.3.21	FOR DA
A	31.3.21	FOR REVIEW

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PROJECT: BOARDING HOUSE DEVELOPMENT AT 27 & 28 PARK AVE, KINGSWOOD

DWG: SOIL CALCULATIONS & LEVELS PLAN

DATE: 31.3.21 SCALE: 1:100 @A1

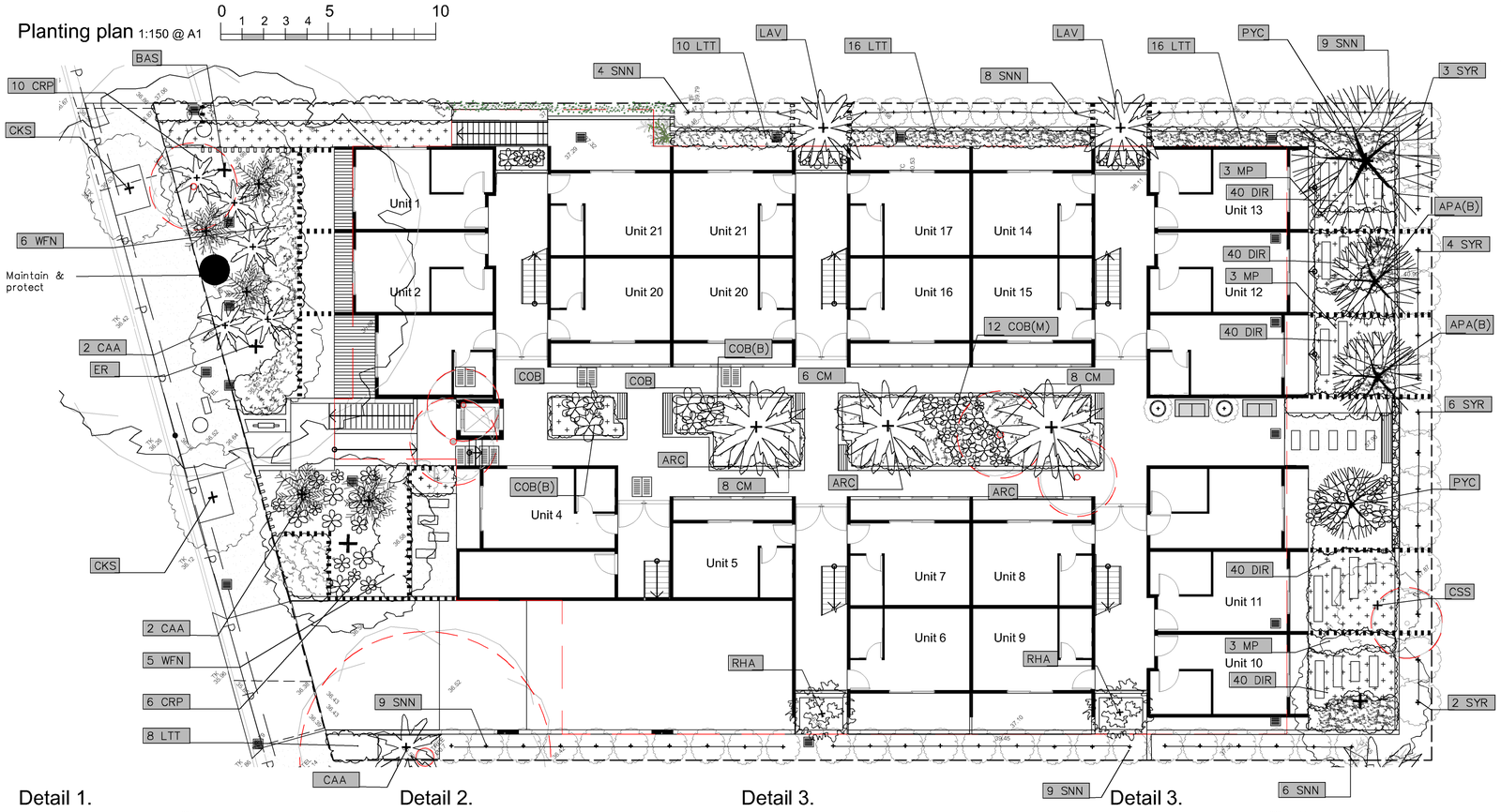
JOB REF: 20/2248

2 OF 3

ISSUE-B

NORTH

Planting plan 1:150 @ A1



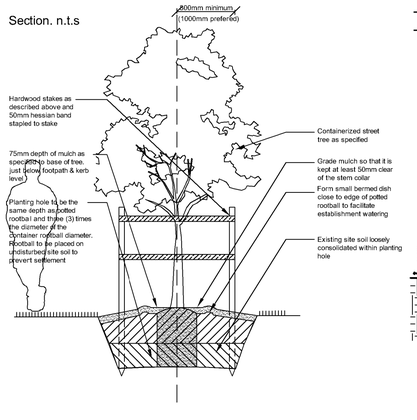
Planting schedule

Symbol	Botanical name	Common name	Cont. size	Staking	Mature height	No req.
Trees						
APA (B)	Acer palmatum 'Bonfire'	Bonfire Japanese Maple (Small deciduous garden tree)	75Lt	3x50x50x1800	5-7.0M	2
BAS	Banksia serrata	Old Man Banksia (Small native. Gnarled trunk & serrated leaves)	75Lt	3x50x50x1800	4-6.0M	1
CKS	Callistemon 'Kings Park Special'	Kings Park Special Bottlebrush (suitable small street tree)	45Lt	4x50x50x1800	3-4.0M	2
ER	Elaeocarpus reticulatus	Blueberry Ash (indigenous small tree)	45Lt	3x50x50x1800	6-8.0M	1
PYC	Pyrus calleryana 'Çapital'	Ornamental Pear (medium deciduous narrow tree)	75Lt	2x50x50x1800	7-10.0M	2
Shrubs / small feature trees						
CSS	Camellia sasanqua 'Setsugekka'	Camellia sasanqua (semi hedged Camellia)	300mm	2x50x50x1800	2-2.5M	1
MP	Murraya paniculata	Orange Jessamine (flowering screening plant)	300mm	hedged	2-3.0MM	9
SNN	Syzygium 'Straight & Narrow'	Straight & Narrow Lilly Pilly (very narrow and vertical screen)	300mm	hedged to req.height	3-5.0M	45
SYR	Syzygium 'Resilience'	Resilience Lilly Pilly (native screen plant. Can be hedged)	300mm	hedged	2.8-3.5M	15
WFN	Westringia fruticosa 'Naringa'	Ozbreed Grey Box® (hardy low screen can be hedged)	200mm	hedged	0.4-0.7M	11
Ferns / Palms / Succulents / ornamental bamboos						
ARC	Archontophoenix cunninghmaniana	Bangalow Palm (Tropical style tall palm)	Semi adv.	wire guys	8-12M	3
CAA	Cyathea australe	Tree Fern (Native tree ferns)	300mm	nil	2-4.0M	5
COB(B)	Colocasia esculenta 'BM'	Black Magic Elephants ears (Dark large leaved plant)	200mm	nil	1-1.5M	2
COB	Colocasia esculenta '	Elephants ears (Large leaved plant)	200mm	nil	1-1.5M	2
COR(M)	Cordyline spp. Mini	Selected Dwarf Cordyline (Shade tolerant bright foliage)	200mm	nil	0.6M	12
LAV	Livistona australis	Cabbage Palm (tall indigenous palm)	semi adv	wire guys	8-12.0M	2
RHA	Raphis excelsor	Lady Finger Palm	300mm	nil	2-2.5M	2
Groundcovers/Climbers						
DIR	Dichondra repens	Kidney weed (native carpet groundcover)	tubes	nil	0.1M	200
Ornamental grasses/strappy leaved plants						
CM	Clivea miniata	Kaffir Lily (shade tolerant groundcover)	200mm	nil	0.5M	22
CRP	Crinum pedunculatum	Swamp Lily (native mass planted groundcover)	200mm	nil	0.5-0.7	16
LTT	Lomandra Lime Tuff	Dwarf Lomandra (ornamental grass)	150mm	nil	0.4M	50

Planting schedule species to be sourced from local nurseries supplying plants of local provenance wherever possible. Landscape contractor is to check plant numbers on plan against the schedule prior to submitting tender price. Contact landscape architect if any number discrepancies are found. Council compliance controls require that any substitution of species variety or container size MUST be confirmed with landscape architect to ensure a compliance certificate can be issued that's meets the specific development consent conditions of the project.

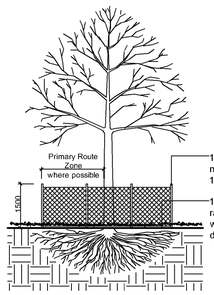
Detail 1.

Section. n.t.s



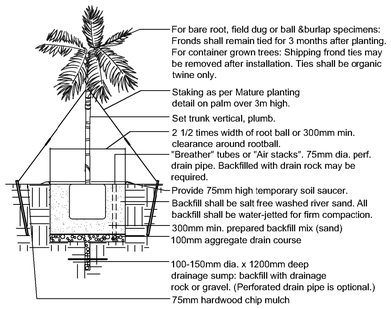
Detail 2.

Tree protection measure
Type 2 n.t.s.



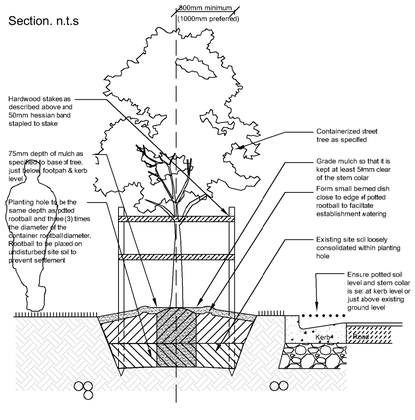
Detail 3.

Palm planting detail n.t.s



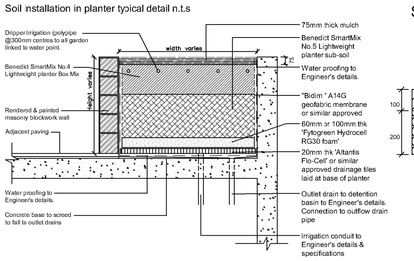
Detail 3.

Section. n.t.s



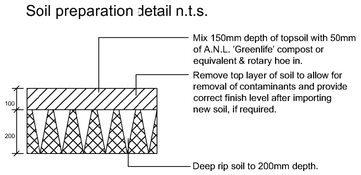
Detail 5.

Soil installation in planter typical detail n.t.s



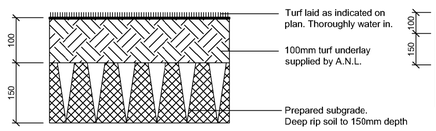
Detail 6.

Soil preparation detail n.t.s.



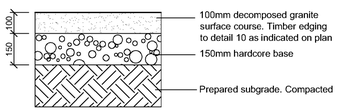
Detail 7.

Turf over soil n.t.s



Detail 8.

Decomposed granite on aggregate base n.t.s



Irrigation notes

Automatic drip line watering system to be selected. To extend to ALL garden areas nominated on the deep soil and planter box areas and is to include all raised planter boxes over slab. (all nature strip lawn areas to be excluded) Water supply tap hosecocks as indicated on CC stage drawings.(To be coordinated with Hydraulic and Structural Engineer's details). Dripline supply system onl y to be incorporated.

Prior to approval by the project manager and prior to installation the Contractor responsible for the irrigation installation is to provide an irrigation design to meet the following requirements.

Generally: Supply an automatic drip line irrigation system. To include all piping to solenoids either PVC lines and/or class 12 pressure pipe or low density, rubber modified polypropeyline reticulation as required to provide water supply to the nominated areas. To be coordinated with Hydraulic engineers plans. To include all bends, junctions, ends, ball valves, solenoids and all other ancillary equipment. Backwash valve: An approved backwash prevention valve is to be bcated at the primary water source for top up valves to rainwater tanks (where applicable).

Ensure rain sesnsor is installed for common area garden zones connected to timers

Chemical root control: Provide standard chemical root inhibiting chemical cartridge. These are to be industy standard, in-line replacable cartridges located for easy access for replacement cartridge installatio n

Automatic Controller: Provide automatic 2 week timer with hourly multi-cycle operation for each zone as noted on the irrigation areas plan on sheet …. , . Battery timers to isolated planter boxes is acceptable and to maintained by the owners corporation as part of the ongoing property maintenance.

Performance: It shall be the Landscape Contractor's responsibility to ensure and guarantee satisfactory operation of the irrigation system. The system is to be fit for the purpose and should utilize sufficient solenoids to provide for the varying watering requirements of landscape areas to allow all plants and lawn areas to thrive and attain long term viability.

Testing: After the system has been installed to the satisfaction of the project manager, the installation shall be tested under working conditions. Acceptance of the installed plant and equipment shall be subject to these being satisfactory.

Warranty: A twelve month warranty is to be provided in writing by the Landscape Contractor, which shall commit the Landscape Contractor to rectify the system (the items they have installed) to the satisfacion of the project manager or nominated representative. This will apply should any fault develop, or the capacty or efficiency fall below that guaranteed, or should the discharge or pressure be inadequate, or should defects develop in the filter unit or control heads, or any blockages that may develop in the system.

Approvals: The Landscape Contractor is to liaise as necessary, to ensure that the irrigation system conforms with all Water Board, Council and Australian standards (AS)

General construction notes

1. Site preparation
Any existing trees and vegetation to be retained shall be preserved and protected from damage of any sort during the execution of landscape work. In particular, root systems of existing plants must not be disturbed if possible. Any nearby site works should be carried carefully using hand tools. To ensure the survival and growth of existing trees during landscaping works, protect by fencing or armoring where necessary. Trees shall not be removed or lopped unless specific written approval to do so is given or is indicated on plan. Storage of materials, mixing of materials, vehicle parking, disposal of liquids, machinery repairs and refueling, site office and sheds, and the lighting of fires shall not occur within three (3) metres of any existing trees. Do not stockpile soil, rubble or other debris cleared from the site, or building materials, within the dripline of existing trees. Vehicular access shall not be permitted within three (3) metres of any tree.

2. Soil preparation
All proposed planting areas to be deep ripped to 200mm (where possible) and clay soils to be treated with clay breaker.. Apply at least 200mm depth good quality garden soil mix to all garden planting areas. To comply with AS 4419 Turfed areas as noted to be laid over 100mm min. good quality turf underlay over existing soil which is to be deep ripped to 200mm depth prior to installation. To be worked in with rotary hoe except where tree root damage would otherwise occur. In such situations care to be taken to hand cultivate in any area where existing tree roots exist to preserve health of trees and to comply with the requirements of the Arborist's report. Where planting is to occur in existing soil profiles ensute soil conditioners and compots worked into the top 200mm profile. To comply with AS 4454:1999 .

3. New plantings
Newly planted trees and large shrubs should be secured to stakes with hessian ties to prevent rocking by wind. Planting holes for plant material should be large enough in size to take root ball with additional space to take back filling of good quality planting mix. (Please note mature heights of planting as shown on planting schedule can vary due to site conditions, locations in constricted deep soil or over slab planters and so forth) Also shallow soils in certain locations may affect planting heights. Nominated heights for piantings in raised planters over slabs are nominated as less than their normal expected heights in acknowledgement of the contained soil environment. For other deep soil trees heights are subject to particular site conditions, and intended hedging or pruning for functional requirements such as available planting width, intended access under branches and solar access.

4. Planter boxes & waterproofing.
All slab areas to be waterproofed and 'Atlantis' drainage cell installed with geotextile fabric or similar approved. (see planter drainage detail this drawing package) Refer Engineer's details for ALL structural, drainage and installation details whatsoever for planter box construction. All internal planter slab levels to have mortar screed to fall to drainage outlets as nominated by the Stormwater Engineering details. All planting containers to have the following soils:

- Benedicts Smart Mix no. 4 Lightweight Planter Mix (or approved equivalent) to min. 300mm depth. To be installed over Benedicts light weight No.5 light weight sub-soil mix (or approved equivalent). To comply with AS 4419 and AS 3743
- All planter boxes are to have automatic dripline irrigation system. Connecting pipesconduit to be cast into slab structures prior to slab pour to be coordinated with the Structural Engineer's plans.
- Landscape contractor to install all planter box fill material and plant material after other site works are completed to ensure no deterioration of waterproof membrane. To be confirmed by Engineers and project manager to confirm the integrity of the engineer's specified waterproofing of the planter boxes a: time of soil and plant installation.

5. Mulching
All planting areas to be mulched with a minimum 75mm thick cover of recycled hard wood chip mulch and then all plant areas to be thoroughly soaked with water. To comply with AS 4454

6. Fertliser
All planting areas to be fertilised with 9 month 'NPK' slow release fertiliser.

7. Staking
To those plants indicated on the planting schedules provide: hardwood stakes as nominated and driven into ground to a depth able to achieve rigid support. No staking in raised planters to avoid damaging waterproofing installation

8. Turfing
Turfed areas to be to be laid over 100mm good quality turf underlay over existing soil which is to be deep ripped to 200mm depth prior to installation.

9. Structural
All structural details whatsoever to Engineer's details.

Amendments		
B	31.3.21	For DA
A	31.3.21	For Review

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Project: Boarding House Develcpment at 27 & 28 Park Ave, Kingswood

Dwg: Planting plan

Date: 31.3.21 Scale: 1:150 @A1

Job Ref: 20/2248

3 of 3

North

ISSUE-B

JobsArchitects\CC Design / Kingswood / 2248

STORMWATER DRAWINGS

FOR

PROPOSED BOARDING HOUSE DEVELOPMENT

AT

27 & 28 PARK AVENUE, KINGSWOOD

Revisions		
B	1/04/21	FOR D.A.
A	29/03/21	FOR D.A.

DRAWING SCHEDULE

DRAWING NO.	DRAWING TITLE
D01	GENERAL COVER PAGE
D02	ROOF DRAINAGE PLAN
D03	GROUND FLOOR DRAINAGE PLAN
D04	BASEMENT 1 DRAINAGE PLAN
D05	BASEMENT 2 DRAINAGE PLAN
D06	DRAINAGE DETAILS
D07	MUSIC RESULTS AND DETAILS
D08	SOIL AND WATER MANAGEMENT PLAN

LOCALITY MAP

UNDERGROUND SERVICE LEGEND

- SW - STORMWATER
- P - OVERHEAD POWER
- A - AUSGRID
- O - OPTUS
- E - ELECTRICITY
- T - TELSTRA
- G - GAS
- S - SEWER
- W - WATER

EROSION CONTROL NOTES

1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
2. ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC.
3. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADDEN WATER, TO COUNCIL'S STANDARDS
4. NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH THE REQUIREMENTS OF THE CLEAN WATERS ACT.
5. ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

NOTES

1. ALL LINES ARE TO BE Ø100 U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
4. ALL PITS TO BE MINIMUM 450x450 BRICK OR CONCRETE.
5. PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
6. PITS DEEPER THAN 900 MUST BE 900x900 AND HAVE STEP RUNGS AT 300 CENTRES.
7. ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
8. ALL EXTERNAL SLABS TO BE WATERPROOFED.
9. ALL GRATES TO HAVE CHILD PROOF LOCKS.
10. ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
11. ALL DP'S TO HAVE LEAF GUARDS
12. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
13. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
14. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
15. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
16. EXISTING STORMWATER PIPE LOCATIONS HAVE BEEN ASSUMED. PLUMBER TO INSPECT PRIOR TO WORKS AND UPGRADE PIPES AS NECESSARY.
17. ALL NEW ROOF AREAS WILL BE PROVIDED WITH GUTTERS AND DOWNPIPES COMPLYING WITH THE REQUIREMENTS OF THE BCA, HOUSING PROVISIONS AND AS 3500.3.2, 2003.

SYMBOLS

F.F.L.	FINISHED FLOOR LEVEL
F.G.L.	FINISHED GARAGE LEVEL
T.K.	TOP OF KERB
× 11.0	FINISHED LEVEL
+ 11.0	EXISTING LEVEL
S.L.	SURFACE LEVEL
I.L.	INVERT LEVEL
20 R	ROOF CATCHMENT AREA (m2)
20 I	IMPERVIOUS CATCHMENT AREA (m2)
20 L	LANDSCAPED CATCHMENT AREA (m2)
DP	Ø100 DOWN PIPE OR EQUIVALENT
SP	SPREADER
VD	VERTICAL DROP
VR	VERTICAL RISER
	RAIN WATER HEAD & DOWN PIPE
	CLEAN OUT POINT
SUMP	Ø150 SUMP
	CONCRETE COVER JUNCTION PIT
	GRATED INLET PIT 450x450
	200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
	STORMWATER PIPE
	SUSPENDED STORMWATER PIPE
	CHARGED STORMWATER PIPE
	PUMP LINE
	Ø100 SUBSOIL PIPE
	SILT FENCE
	OVERLAND FLOW

UNDERGROUND SERVICES

COVERS SHOWN IN THIS TABLE IS A GENERAL GUIDE ONLY. DEPTH OF SERVICES TO BE DETERMINED BY SERVICE CONTRACTOR/BUILDER PRIOR TO DIGGING.

SERVICE	COVER (mm)	DIAMETER (mm)	REFERENCE
ELECTRIC CABLES	600	150	ENERGY AUSTRALIA DRAWINGS, DBYD
	900	150	ENERGY AUSTRALIA DRAWINGS, DBYD
TELSTRA	250		DBYD DRAWING,
GAS	750	75	NSW-GUIDE TO CODES AND PRACTICES FOR STREETS OPENING
WATER	600	150	SYDNEY WATER DRAWING & GUIDE TO CODES AND PRACTICES FOR STREETS OPENING

IF DIGGING WITHIN 2m OF AUSGRID TRANSMISSION CABLES AN AUSGRID SERVICE COORDINATOR MUST BE NOTIFIED AND PRESENT WHILE DIGGING.

AS 3500.3 - TABLE 7.2

MINIMUM GRADIENT OF SURFACE WATER DRAINS

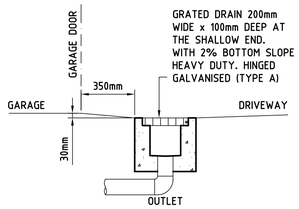
NOMINAL SIZE DN	MINIMUM GRADIENT AUST.
90	1:100
100	1:100
150	1:100
225	1:200
300	1:250
375	1:300

AS 3500.3 - TABLE 8.2

SIZE OF MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS

DEPTH TO INVERT OF OUTLET	MINIMUM INTERNAL DIMENSION (mm)		
	RECTANGULAR		CIRCULAR
	WIDTH	WIDTH	DIAMETER
≤600	450	450	600
>600 ≤900	600	600	900
>900 ≤1200	600	900	1000
<1200	900	900	1000

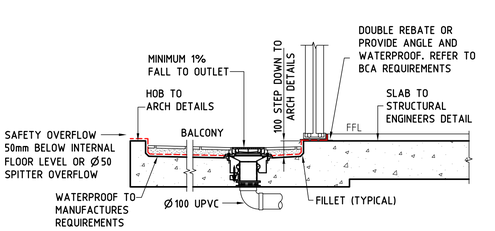
NOTE:
PITS GREATER THAN 900 DEEP TO HAVE STEP RUNGS AT 300 CTS IN ACCORDANCE WITH AUSTRALIAN STANDARDS



TYPICAL GRATE SECTION

SCALE 1:20

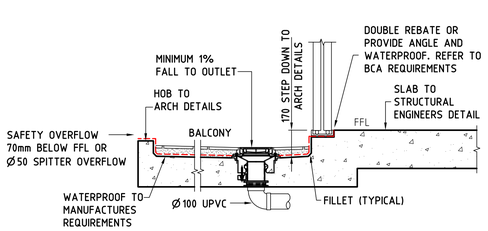
NOTE: APPLICABLE TO ALL DRAIN SIZES 100-300 WIDE



TYPICAL 100mm BALCONY STEP DOWN

SCALE 1:20

NOTE:
1. FALLS TO BCA REQUIREMENTS
2. SLAB AND WALLS TO STRUCTURAL ENGINEERS DETAIL
3. WATERPROOF WALLS AND SLAB TO AS4654.2-2012 AND ALL BCA REQUIREMENTS
4. CONTRACTOR TO PROVIDE FILLETS AT CORNERS AND BOND BREAKERS AT EXPANSION JOINTS



TYPICAL 170mm BALCONY STEP DOWN

SCALE 1:20

NOTE:
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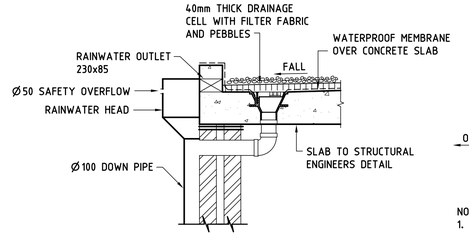
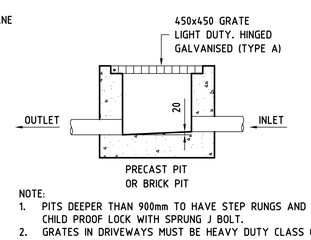


RWH

CONCRETE ROOF WITH RAIN WATER OUTLET

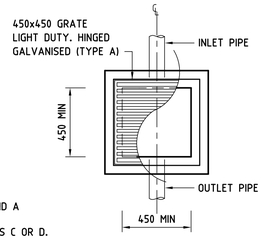
SCALE 1:20



NOTE:
1. PITS DEEPER THAN 900mm TO HAVE STEP RUNGS AND A CHILD PROOF LOCK WITH SPRUNG J BOLT.
2. GRATES IN DRIVEWAYS MUST BE HEAVY DUTY CLASS C OR D.
3. GRATES IN PATHWAYS TO BE HEEL GUARD.

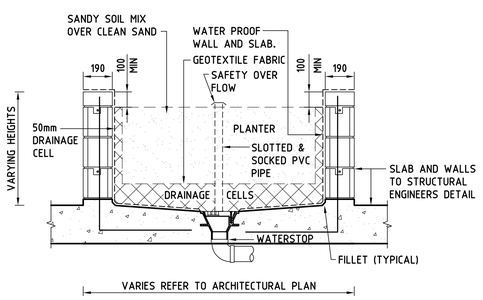
TYPICAL PIT SECTION

SCALE 1:20



STANDARD PIT

SCALE 1:20



TYPICAL PLANTER BED

SCALE 1:20

NOTE:
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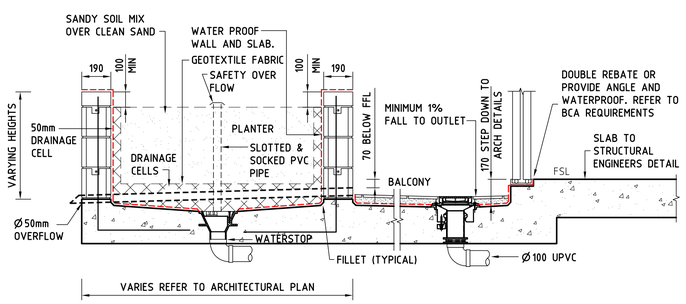

TYPICAL PLANTER BED & OVERFLOW DETAIL

SCALE 1:20

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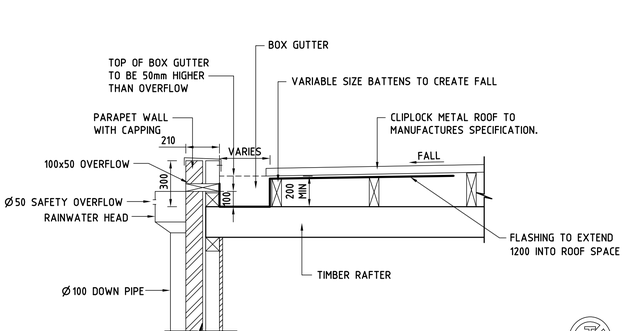

BOX GUTTER WITH RAIN WATER OUTLET

SCALE 1:20

1m 0 1 2 3 4 5m
1 : 200 A3

1m 0 1 2 3 4 5m
1 : 100 A1

FOR D.A. ONLY
PENRITH CITY COUNCIL

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NO SUBSURFACE INVESTIGATION HAS BEEN MADE IT IS YOUR RESPONSIBILITY TO OBTAIN SERVICE DIAGRAMS FROM RELEVANT AUTHORITIES

CLIENT
CK DESIGN

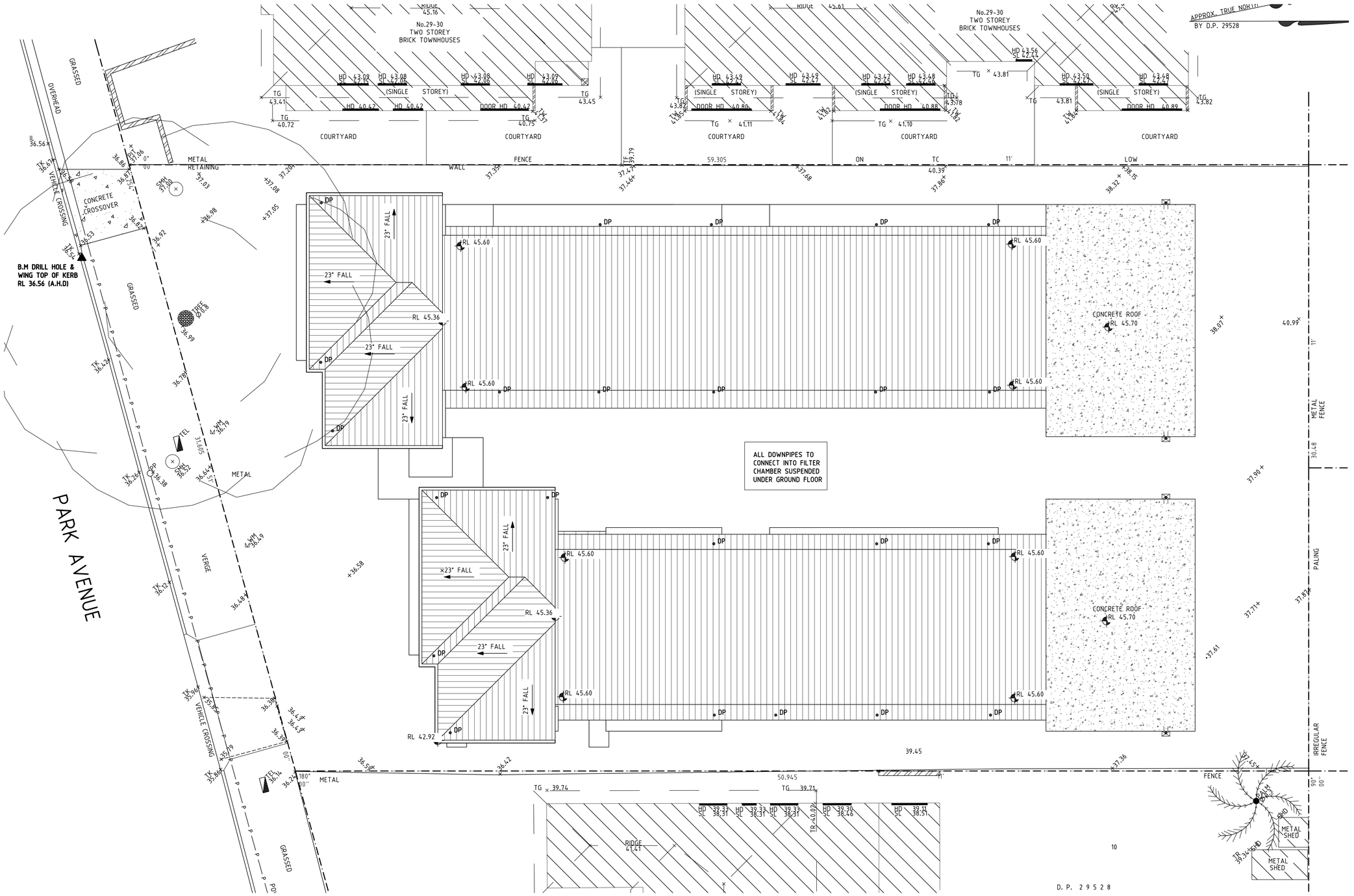
PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
GENERAL COVER PAGE

A.C.N. 090 572 973
UNITED CONSULTING ENGINEERS PTY LTD
Civil/Structural Engineers
Office 1, 147-153 Liverpool Road, Burwood NSW, 2134
Telephone: (02) 9715 5111
Facsimile: (02) 9715 6222
Mobile: 0411 453 012
Email: united_eng@bigpond.com

Approved: Mark Anthony Boudib MIEAust, CPEng, NPER

North	Designed	Drawn
	MAB	F.B.
	Checked	Scale
	MAB	1:100 U.N.O.
	Drawing No.	Sheet / Issue
	20MB8541/D01	1 of 8 / B



ROOF DRAINAGE PLAN

SCALE 1:100

NOTE:

1. MINIMUM ROOF FALL 1% TO OUTLETS
2. WATERPROOF ALL CONCRETE ROOFS
3. PROVIDE SAFETY OVERFLOW TO ALL ROOFS
4. ALL BALCONIES TO HAVE FLOOR WASTE AND 1% FALL WITH SAFETY OVERFLOW
5. ALL DOWNPIPES TO BE CONSTRUCTED OF ONE MATERIAL FOR AESTHETICS REASONS AND PAINTED TO PROTECT THEM AGAINST ULTRA-VIOLET LIGHT DAMAGE.

REFER TO DRAWING NUMBER 20MB8541/D01 & D06 FOR DRAINAGE DETAILS

Revisions	
B	1/04/21 FOR D.A.
A	29/03/21 FOR D.A.

EROSION CONTROL NOTES

1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
2. ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC.
3. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADDEN WATER, TO COUNCIL'S STANDARDS
4. NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH THE REQUIREMENTS OF THE CLEAN WATERS ACT.
5. ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

NOTES

1. ALL LINES ARE TO BE Ø100 U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.
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15. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
16. EXISTING STORMWATER PIPE LOCATIONS HAVE BEEN ASSUMED. PLUMBER TO INSPECT PRIOR TO WORKS AND UPGRADE PIPES AS NECESSARY.
17. ALL NEW ROOF AREAS WILL BE PROVIDED WITH GUTTERS AND DOWNPIPES COMPLYING WITH THE REQUIREMENTS OF THE BCA, HOUSING PROVISIONS AND AS 3500.3.2, 2003.

SYMBOLS

F.F.L.	FINISHED FLOOR LEVEL
F.G.L.	FINISHED GARAGE LEVEL
T.K.	TOP OF KERB
* 11.0	FINISHED LEVEL
+ 11.0	EXISTING LEVEL
S.L.	SURFACE LEVEL
I.L.	INVERT LEVEL
20 R	ROOF CATCHMENT AREA (m2)
20 I	IMPERVIOUS CATCHMENT AREA (m2)
20 L	LANDSCAPED CATCHMENT AREA (m2)
DP	Ø100 DOWN PIPE OR EQUIVALENT
SP	SPREADER
VD	VERTICAL DROP
VR	VERTICAL RISER
	RAIN WATER HEAD & DOWN PIPE
	CLEAN OUT POINT
SUMP	Ø150 SUMP
	CONCRETE COVER JUNCTION PIT
	GRATED INLET PIT 450x450
	200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
	STORMWATER PIPE
	SUSPENDED STORMWATER PIPE
	CHARGED STORMWATER PIPE
	PUMP LINE
	Ø100 SUBSOIL PIPE
	SILT FENCE
	OVERLAND FLOW

1m 0 1 2 3 4 5m
1 : 100 A1

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CLIENT
CK DESIGN

PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
ROOF DRAINAGE PLAN

ACN. 090 572 973
UNITED
UNITED CONSULTING ENGINEERS PTY LTD
Civil/Structural Engineers
Office 1, 147-153 Liverpool Road, Burwood NSW, 2134
Telephone: (02) 9715 5111
Facsimile: (02) 9715 6222
Mobile: 0411 453 012
Email: united_eng@bigpond.com

Approved: Mark Anthony Boutlis MIEAust, CPEng, NPER

Designed	MAB	Drawn	F.B.
Checked	MAB	Scale	1:100 U.N.O.
Drawing No	20MB8541/D02	Sheet	2 of 8
		Issue	B

Revisions	
B	1/04/21 FOR D.A.
A	29/03/21 FOR D.A.

EROSION CONTROL NOTES

1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
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	STORMWATER PIPE
	SUSPENDED STORMWATER PIPE
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	PUMP LINE
	Ø 100 SUBSOIL PIPE
	SILT FENCE
	OVERLAND FLOW

GROUND FLOOR DRAINAGE PLAN

SCALE 1:100

NOTE:
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REFER TO DRAWING NUMBER 20MB8541/D01 & D06 FOR DRAINAGE DETAILS

1m 0 1 2 3 4 5m
1 : 100 A1

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CLIENT
CK DESIGN

PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
GROUND FLOOR DRAINAGE PLAN

A.C.N. 090 572 973
UNITED
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North	Designed	Drawn	
	MAB	F.B.	
	Checked	Scale	
	MAB	1:100 U.N.O.	
	Drawing No.	Sheet	Issue
	20MB8541/D03	3 of 8	B

Revisions	
B	1/04/21 FOR D.A.
A	29/03/21 FOR D.A.

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SYMBOLS

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	200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
	STORMWATER PIPE
	SUSPENDED STORMWATER PIPE
	CHARGED STORMWATER PIPE
	PUMP LINE
	Ø100 SUBSOIL PIPE
	SILT FENCE
	OVERLAND FLOW

BASEMENT 1 DRAINAGE PLAN

SCALE 1:100

NOTE:
1. MINIMUM BASEMENT FALL 0.7% TOWARDS DRAIN OUTLET.
2. NO PONDING PERMITTED IN DRIVEWAY.
3. CONNECT PERIMETER DRAIN TO FREE OUTLET.

REFER TO DRAWING NUMBER 20MB8541/D01 & D06 FOR DRAINAGE DETAILS

ALL ATTACHMENTS ARE TO BE NON-COMBUSTIBLE & COMPLY WITH CLAUSE C1.9, CLAUSE C1.10, CLAUSE C1.4 & SPECIFICATION C1.1 OF THE BCA. ALL ATTACHMENTS TO COMPLY WITH THE INTENT OF CLAUSE 2.4 OF SPECIFICATION C1.1 OF THE BCA

1m 0 1 2 3 4 5m
1 : 100 A1

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PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
BASEMENT 1 DRAINAGE PLAN

A.C.N. 090 572 973
UNITED CONSULTING ENGINEERS PTY LTD
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Office 1, 147-153 Liverpool Road, Burwood NSW, 2134
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Approved: Mark Anthony Boudib MIEAust, CPEng, NPER

North	Designed	Drawn	
	MAB	F.B.	
	Checked	Scale	
	MAB	1:100 U.N.O.	
	Drawing No.	Sheet	Issue
	20MB8541/D04	4 of 8	B

Revisions	
B	1/04/21 FOR D.A.
A	29/03/21 FOR D.A.

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	RAIN WATER HEAD & DOWN PIPE
	CLEAN OUT POINT
SUMP	Ø150 SUMP
	CONCRETE COVER JUNCTION PIT
	GRATED INLET PIT 450x450
	200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
	STORMWATER PIPE
	SUSPENDED STORMWATER PIPE
	CHARGED STORMWATER PIPE
	PUMP LINE
	Ø100 SUBSOIL PIPE
	SILT FENCE
	OVERLAND FLOW

BASEMENT 2 DRAINAGE PLAN

SCALE 1:100

NOTE:
1. MINIMUM BASEMENT FALL 0.7% TOWARDS DRAIN OUTLET.
2. NO PONDING PERMITTED IN DRIVEWAY.
3. CONNECT PERIMETER DRAIN TO FREE OUTLET.

REFER TO DRAWING NUMBER 20MB8541/D01 & D06 FOR DRAINAGE DETAILS

1m 0 1 2 3 4 5m
1 : 100 A1

FOR D.A. ONLY
PENRITH CITY COUNCIL

DIAL 1100 BEFORE YOU DIG
NO SUBSURFACE INVESTIGATION HAS BEEN MADE IT IS YOUR RESPONSIBILITY TO OBTAIN SERVICE DIAGRAMS FROM RELEVANT AUTHORITIES

CLIENT
CK DESIGN

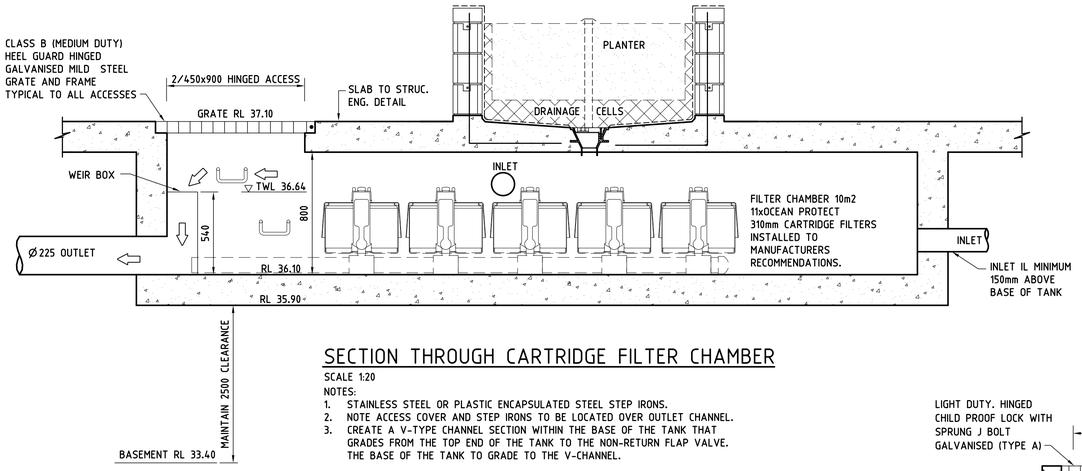
PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
BASEMENT 2 DRAINAGE PLAN

A.C.N. 090 572 973
UNITED
UNITED CONSULTING ENGINEERS PTY LTD
Civil/Structural Engineers
Office 1, 147-153 Liverpool Road, Burwood NSW, 2134
Telephone: (02) 9715 5111
Facsimile: (02) 9715 6222
Mobile: 0411 453 012
Email: united_eng@bigpond.com

Approved: Mark Anthony Boudib MIEAust, CPEng, NPER

North	Designed	Drawn	
	MAB	F.B.	
	Checked	Scale	
	MAB	1:100 U.N.O.	
	Drawing No.	Sheet	Issue
	20MB8541/D05	5 of 8	B



SECTION THROUGH CARTRIDGE FILTER CHAMBER

SCALE 1:20

NOTES:
1. STAINLESS STEEL OR PLASTIC ENCAPSULATED STEEL STEP IRONS.
2. NOTE ACCESS COVER AND STEP IRONS TO BE LOCATED OVER OUTLET CHANNEL.
3. CREATE A V-TYPE CHANNEL SECTION WITHIN THE BASE OF THE TANK THAT GRADES FROM THE TOP END OF THE TANK TO THE NON-RETURN FLAP VALVE. THE BASE OF THE TANK TO GRADE TO THE V-CHANNEL.

STANDARD PUMP OUT DESIGN NOTES

THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

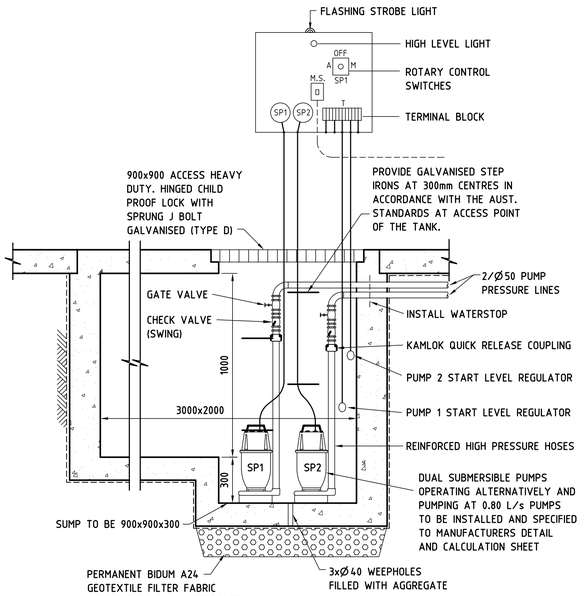
A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW LEVEL FLOAT.

A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL WHICH IS APPROXIMATELY THE ROOF LEVEL

OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AN A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.



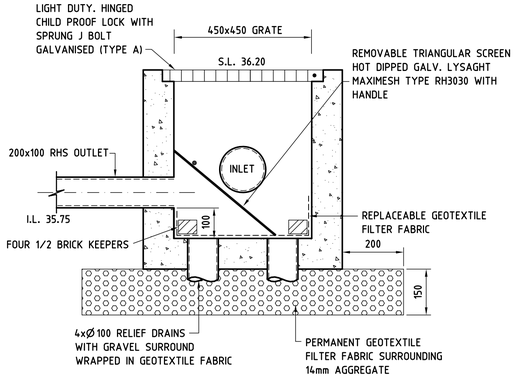
SECTION THROUGH PUMP WELL

SCALE 1:20

DESIGN SUMMARY

TOTAL SITE AREA = 1680m2
PRE DEV. IMP. AREA = ***m2 (**%)
POST DEV. IMP. AREA = 1228m2 (**%)

IN ACCORDANCE WITH PENRITH CITY COUNCIL - STORMWATER DRAINAGE SPECIFICATION FOR BUILDING DEVELOPMENT.
4. ON-SITE DETENTION (OSD) APPENDIX D: THE SITE IS LOCATED OUTSIDE THE OSD REQUIRED AREA ON MAP 'KINGSWOOD & ORCHARD HILLS'



SILT ARRESTOR PIT-SECTION

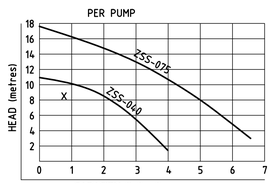
SCALE 1:10

COMPONENTS
1. TWO(2) PUMPS OMEGA SUBMERSIBLE PUMPS (240v)
2. ONE(1) PUMPS START CONTROL PANEL (CONTROL DESIGN TO ALTERNATE PUMPS ON START ON CONSECUTIVE START OPERATION)
3. TWO(2) GATE VALVES (BRONZE)
4. TWO(2) CHECK VALVES (SWING TYPE) (BRONZE)
5. TWO(2) SETS OF DISCHARGE HOSES WITH KAMLOK QUICK RELEASE COUPLINGS
6. ALL IN TANK PIT/PIPE AND PIPE FITTINGS, BRACKETS/SUPPORTS, HD GAL. CHAINS
7. FOUR(4) KWIK START KENRAHN MERCURY LEVEL FLOAT REGULATORS
8. INSTALLATION IN PROVIDED TANK/PIT

OPTIONS
1. TANK PACKAGE/COVERS/MANHOLE, ALARM BELL, LOW LEVEL ALARM REGULATOR

MODEL - ALINE	OUTLET SIZE	MAX FLOW	MAX HEAD	MOTOR SIZE	WEIGHT	POWER
OMEGA ZSS-040	50mm	3.9 L/sec	11m	0.40 kW	11 kg	240v
OMEGA ZSS-075	50mm	6.6 L/sec	18m	0.75 kW	18 kg	240v

PUMP SPECIFICATIONS



PUMP PERFORMANCE CURVES

SCALE 1:20

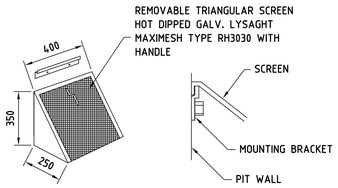
PUMP WELL DETAILS

SUMP SIZE AND PUMP SIZE BASE ON 100 YEAR 2 HOURS STORM INTENSITY IS 44.1 mm/hr, AREA DRAINING TOWARDS SUMP IS 65m2
Q=CIA/3600 = 1.0x44.1x65/3600 = 0.8 L/s
VOLUME REQUIRED IS 0.8x(2x60x60) = 5,760 Litres
STORAGE PROVIDED 3000x2000x1000 = 6,000 Litres
THEREFORE ADEQUATE STORAGE PROVIDED

EACH PUMP SHALL HAVE A MINIMUM CAPACITY OF 5 L/s

USE DUAL ZSS-075 PUMPS TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE PUMPS TO ACT ALTERNATIVELY AT 8.5m HEAD

PUMPS USED MUST BE CLASS ONE, ZONE 2.



MULTI PURPOSE FILTER SCREEN

SCALE 1:20
PRODUCT CODE: MMMPS (MASCOT ENGINEERING)

CONFINED SPACE WARNING SIGN

A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT EACH ACCESS GRATE OF THE BELOW GROUND DETENTION TANK

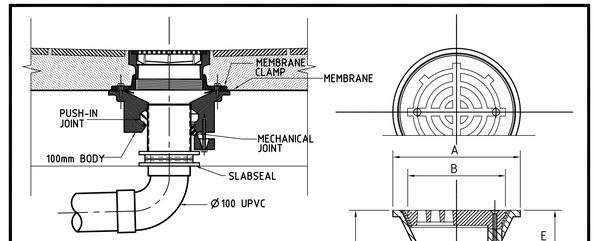
COLOURS:-
"DANGER" AND BACKGROUND - WHITE
ELLIPTICAL AREA - RED
RECTANGLE CONTAINING ELLIPSE - BLACK
OTHER LETTING AND BORDER - BLACK

A. A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANK/S CONFINED SPACE.

B. MINIMUM DIMENSIONS OF THE SIGN - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
- 250mm x 180mm (SMALL ENTRIES SUCH AS GATES & MANHOLES)

C. THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.

D. SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN AND/OR SUITABLE EPOXY GLUE/CEMENT.



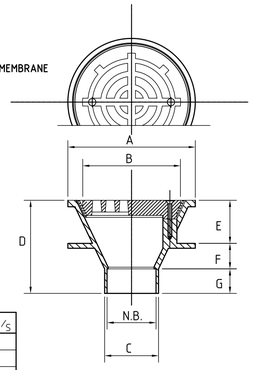
BALCONY OUTLET-100Ø

N.T.S.

DIMENSIONAL DATA

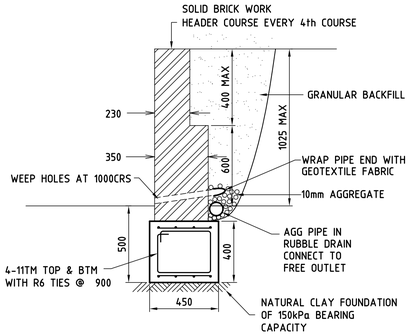
N.B.	A	B	C	D	E	F	G	FLOW RATE L/s
50	160	110	58	72	31	14	27	
80	200	150	85	80	33	22	25	
100	260	200	110	95	44	26	25	8.2
150	260	200	160	110	46	6	38	10.2
SUPERFLO	400	300	160	143	66	39	38	17

BASED ON 50mm HEAD OF WATER ABOVE SURFACE LEVEL.
FOR FURTHER DATA REFER TO FLOW RATE CHARTS.



USPS TRUFLO FLAT GRATE

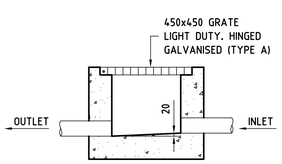
N. T. S.

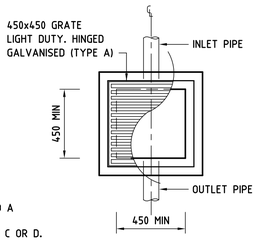


TYPICAL RETAINING WALL

SCALE 1:20

R.W. EXCEEDING 600 TO BE DESIGNED BY STRUCTURAL ENGINEER





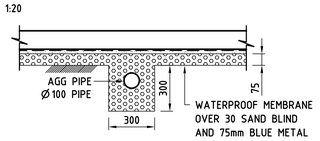
NOTE:
1. PITS DEEPER THAN 900mm TO HAVE STEP RUNGS AND A CHILD PROOF LOCK WITH SPRUNG J BOLT.
2. GRATES IN DRIVEWAYS MUST BE HEAVY DUTY CLASS C OR D.
3. GRATES IN PATHWAYS TO BE HEEL GUARD.

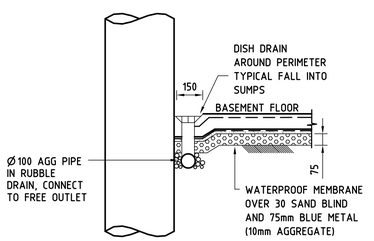
TYPICAL PIT SECTION

SCALE 1:20

STANDARD PIT

SCALE 1:20





SECTION 1 / D05
SCALE 1:20

SECTION 2 / D05
SCALE 1:20

1m 0 1 2 3 4 5m
1 : 100 A1

FOR D.A. ONLY
PENRITH CITY COUNCIL

DIAL 1100 BEFORE YOU DIG
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Revisions		
B	1/04/21	FOR D.A.
A	29/03/21	FOR D.A.

EROSION CONTROL NOTES

1. ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
2. ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECT'S OR LANDSCAPE ARCHITECT'S DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC.
3. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADDEN WATER, TO COUNCIL'S STANDARDS
4. NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH THE REQUIREMENTS OF THE CLEAN WATERS ACT.
5. ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE

NOTES

1. ALL LINES ARE TO BE Ø100 U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
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5. PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
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17. ALL NEW ROOF AREAS WILL BE PROVIDED WITH GUTTERS AND DOWNPIPES COMPLYING WITH THE REQUIREMENTS OF THE BCA, HOUSING PROVISIONS AND AS 3500.3.2, 2003.

SYMBOLS

F.F.L.	FINISHED FLOOR LEVEL
F.G.L.	FINISHED GARAGE LEVEL
T.K.	TOP OF KERB
* 11.0	FINISHED LEVEL
+ 11.0	EXISTING LEVEL
S.L.	SURFACE LEVEL
I.L.	INVERT LEVEL
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VD	VERTICAL DROP
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CLIENT
CK DESIGN

PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
DRAINAGE DETAILS

A.C.N. 090 572 973
UNITED
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Civil/Structural Engineers
Office 1, 147-153 Liverpool Road, Burwood NSW, 2134
Telephone: (02) 9715 5111
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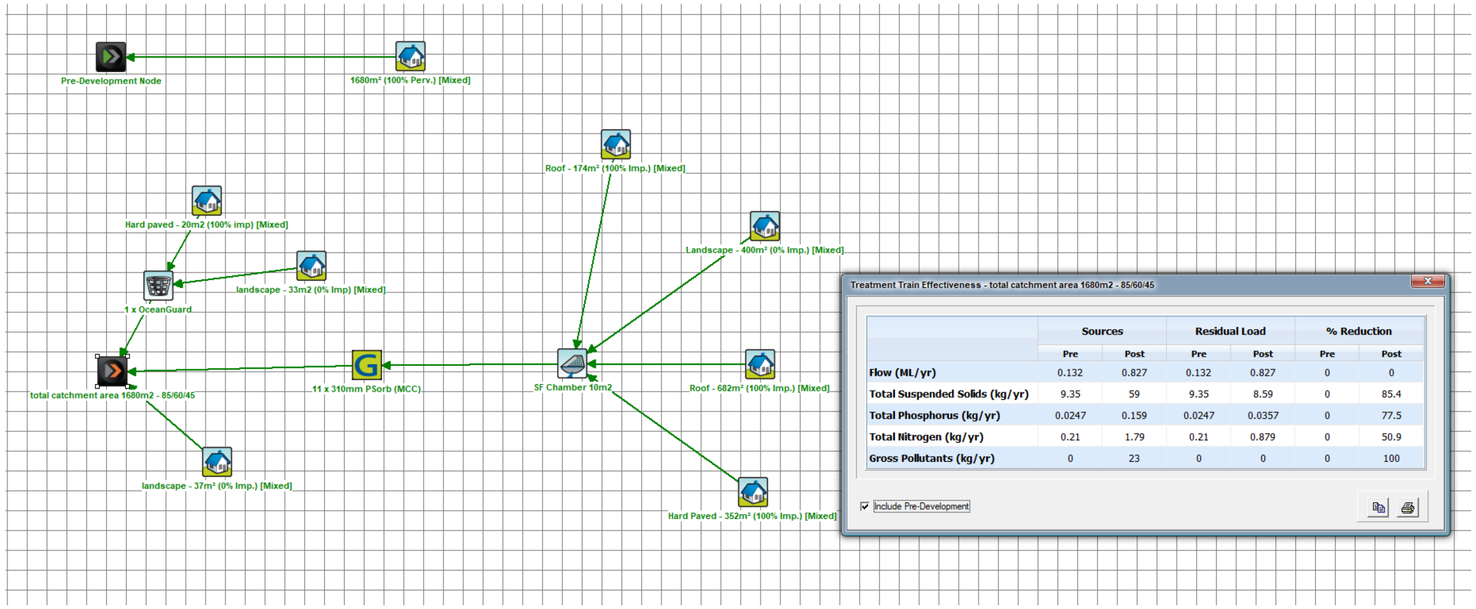
Approved: Mark Anthony Boudib MIEAust, CPEng, NPER

North	Designed	Drawn	
	MAB	F.B.	
	Checked	Scale	
	MAB	1:100 U.N.O.	
	Drawing No.	Sheet	Issue
	20MB8541/D06	6 of 8	B



	Sources		Residual Load		% Reduction	
	Pre	Post	Pre	Post	Pre	Post
Flow (ML/yr)	0.132	0.827	0.132	0.827	0	0
Total Suspended Solids (kg/yr)	9.35	59	9.35	8.59	0	85.4
Total Phosphorus (kg/yr)	0.0247	0.159	0.0247	0.0357	0	77.5
Total Nitrogen (kg/yr)	0.21	1.79	0.21	0.879	0	50.9
Gross Pollutants (kg/yr)	0	23	0	0	0	100

MUSIC MODELLING LAYOUT AND RESULTS

STORMWATER TREATMENT SUMMARY

TOTAL SITE AREA = 1680m2
"MUSIC" HAS BEEN USED FOR WATER QUALITY TREATMENT ANALYSIS.

AS PER COUNCIL'S REQUEST PLEASE SEE STORMWATER TREATMENT DESIGN FOR THE DEVELOPMENT SITE. THE CATCHMENT IN MUSIC IS MODELLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES AND PARAMETERS.

- MUSIC VERSION 6.3
- "DRAFT NEW MUSIC MODELING GUIDELINES" SYDNEY CATCHMENT MANAGEMENT AUTHORITY (AUGUST 2010)
- SF CHAMBER NODE MODELLED WITH 'K' VALUES SET TO 1
- RAINFALL STATION 66.062 SYDNEY OBSERVATORY HILL, 6 MINUTE TIME STEP 1962 TO 1966
- SYDNEY CATCHMENT MANAGEMENT AUTHORITY (CMA) SOURCE NODE(S) UTILIZING MODIFIED % IMPERVIOUS AREA, RAINFALL THRESHOLD, SOIL PROPERTIES & POLLUTANT CONCENTRATIONS
- NO DRAINAGE ROUTING BETWEEN NODES.

THE SYSTEM HAS BEEN MODELLED TO MEET THE PENRITH CITY COUNCIL WATER SENSITIVE URBAN DESIGN (WSUD) POLICY DECEMBER 2013 TARGET OF:

GP 90% REDUCTION
TSS 85% REDUCTION
TP 60% REDUCTION
TN 45% REDUCTION

TREATMENT DEVICES;
1. 1 x ENVIROPOD SERIES 200 FILTER BASKETS
2. 11 x (310mm PSORB) STORMFILTER SYSTEM

WSUD SUMMARY

THE PROPOSED STORMWATER QUALITY TREATMENT TRAIN COMPRISES OF 11-CARTRIDGE (310mm PSORB) DETENTION STORMFILTER SYSTEM AND 1 ENVIROPOD TO REMOVE DIFFERENT SOURCE POLLUTANTS. IT IS OUR OPINION THAT IF THESE MEASURES ARE IMPLEMENTED, THE PROPOSED DEVELOPMENT WILL COMPLY WITH THE INTENT OF THE SUTHERLAND SHIRE COUNCIL REQUIREMENT. IN ADDITION, THE PROPOSED STORMWATER QUALITY TREATMENT TRAIN SHALL BE MAINTAINED AND SERVICED BY THE OWNERS OF THE PROPOSED DEVELOPMENT AT NO COST TO COUNCIL.

Revisions		
B	1/04/21	FOR D.A.
A	29/03/21	FOR D.A.

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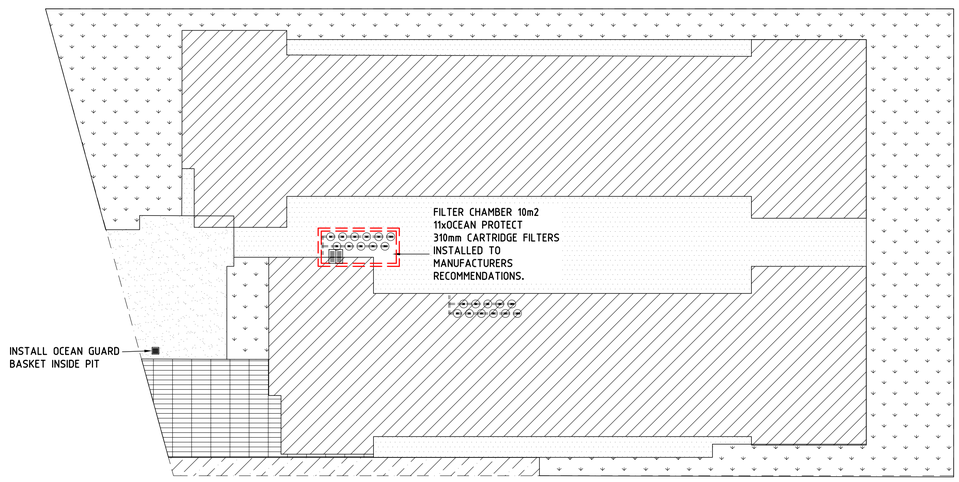
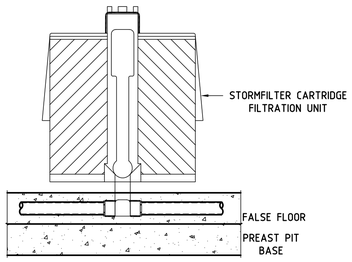


CATCHMENT AREA SITE PLAN
SCALE 1:200

CARTRIDGE NAME / SIPHON HEIGHT	310mm
CARTRIDGE PHYSICAL HEIGHT	600mm
TYPICAL WEIR HEIGHT	540mm
CARTRIDGE FLOW RATE PSORB MEDIA (L/s)	0.39



STORMFILTER CARTRIDGE DETAL
N.T.S.
BY STORMWATER 360 CONTACT INFORMATION:
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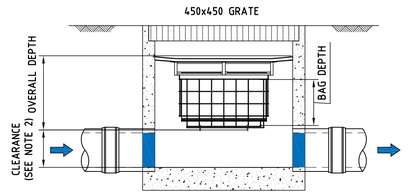

SURFACE FLOW CONFIGURATION

OCEANGUARD
N.T.S.

SIZE S - 450mm x 450mm
BAG DEPTH - 170mm
OVERALL DEPTH - 270mm

GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWING NOT TO SCALE.

LEGEND

- DRIVEWAY TO FILTER
- HARD PAVED TO FILTER
- AREA TO OCEAN GUARD
- LANDSCAPE TO FILTER
- ROOF TO FILTER
- LANDSCAPE BYPASS TREATMENT

1m 0 1 2 3 4 5m
1 : 100 A1

FOR D.A. ONLY
PENRITH CITY COUNCIL

DIAL 1100 BEFORE YOU DIG
NO SUBSURFACE INVESTIGATION HAS BEEN MADE
IT IS YOUR RESPONSIBILITY TO OBTAIN SERVICE
DIAGRAMS FROM RELEVANT AUTHORITIES

CLIENT
CK DESIGN

PROJECT
PROPOSED BOARDING HOUSE DEVELOPMENT
27 & 28 PARK AVENUE, KINGSWOOD

TITLE
MUSIC RESULTS AND DETAILS

A.C.N. 090 572 973
UNITED CONSULTING ENGINEERS PTY LTD
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North	Designed	Drawn	
	MAB	F.B.	
	Checked	Scale	
	MAB	1:100 U.N.O.	
	Drawing No.	Sheet	Issue
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DELIVERING SOUND ADVICE

ABN: 12 058 524 771

ACOUSTICAL REPORT

PROPOSED BOARDING HOUSE

27-28 PARK AVENUE, KINGSWOOD NSW

Date: Thursday, 8th April 2021

File Reference: 4661R20210406mj27-28ParkAveKingswood_DA.docx

DOCUMENT CONTROL

Project title	Acoustical Report Proposed boarding house 27-28 Park Avenue, Kingswood NSW
Project number	4661
Document reference	4661R20210406mj27-28ParkAveKingswood_DA.docx
Document path	G:\Shared drives\KA Acoustics 2021\REPORT\Boarding House\4661 (jt) 27-28 Park Ave, Kingswood\4661R20210406mj27-28ParkAveKingswood_DA.docx

Version	Date	Author	Review	Notes
V1	08/04/2021	MJ	NK	Report version 1 available for issue

Approved by	Nick Koikas M.A.A.S Acoustical Consultant
Client	Nassar Matta C/- CK Design Attention: Chris Khoury Email: chris@ckdesign.net.au

ACOUSTICAL REPORT

PROPOSED BOARDING HOUSE

27-28 PARK AVENUE, KINGSWOOD NSW

CONTENTS

TABLE OF APPENDICES

1.0 INTRODUCTION

Koikas Acoustics Pty Ltd was engaged to prepare a noise impact assessment for the proposed development at 27-28 Park Avenue, Kingswood NSW seeking approval for the construction of a new boarding house with 64 boarding rooms, a communal room & managers room over three above ground floor levels with associated basement level parking.

For the DA proposal, the acoustic adequacy of the proposed design must be assessed in terms of standard planning guidelines issued by the Council in their Local Environment Plan (LEP) and Development Control Plan (DCP), and also in terms of other standard planning guidelines related to common sources of noise.

As per Council guidelines and other standard planning instruments, Koikas Acoustics has determined the following acoustical components require an assessment at the current DA stage:

1. **Mechanical plant** noise emission from the proposed development to neighbouring dwellings (determine criteria only).
2. **Operational** noise emission from the proposed development to neighbouring dwellings.
3. **Rail** noise associated with the T1 Line and its impact on future occupants of the development.
4. **Inter-tenancy sound-insulation** requirements for shared partitions within the building.

This report presents the results and findings of an acoustic assessment for the subject proposal. In-principle acoustic treatments and noise control recommendations are included (where required) so that the premises may operate in compliance with the nominated acoustic planning levels.

2.0 THE PROPOSAL

The development is proposed to occupy the site at 27-28 Park Avenue, Kingswood NSW. The application is for a new boarding house with 64 boarding rooms, a communal room & a manager's room over three above ground floor levels with two basement level parking. The current development design can be seen in architectural drawings as prepared by CK Design, detailed in Table 1. All calculations and noise modelled scenarios conducted for this assessment are referenced to these architectural drawings.

Table 1. Design drawings used in the assessment

Drawing Title	Drawing No.	Date	Project No.
Cover page	A1-01	May 20	20016-14
Site analysis	A1-03	May 20	20016-14
Site plan	A1-04	May 20	20016-14
Basement 2 floor plan	A1-05	May 20	20016-14
Basement 1 floor plan	A1-06	May 20	20016-14
Basement 1 floor plan	A1-07	May 20	20016-14
Ground floor plan	A1-08	May 20	20016-14
First floor plan	A1-09	May 20	20016-14
Second floor plan	A1-10	May 20	20016-14
Roof plan	A1-11	May 20	20016-14
Elevations	A1-12	May 20	20016-14
Elevations	A1-13	May 20	20016-14
Sections	A1-14	May 20	20016-14

Notes 1. Detailed above are the plans and drawings available at the time of assessment. Where design changes are made without the prior knowledge of Koikas Acoustics, the assessment results and conclusions published within this report may be incorrect.

The development location is situated in a primarily urban residential area. The subject site is classified as R3 'Medium Residential' as per relevant land zoning maps from Penrith Local Environmental Plan 2010. Surrounding properties are also predominantly residential in classification, also located within R3 'Medium Residential' zoning.

Prevailing ambient noise conditions on-site and in the local area are generally the result of typical environmental noise such as rail, distant traffic and localised domestic noise sources.

The subject site and surrounding properties are identified on the aerial photograph included in Figure 1.

Figure 1. Aerial photo of the subject site, monitoring location and surrounding area (image source – Six maps)

3.0 RAIL NOISE AND VIBRATION SURVEYS

Rail noise and vibration surveys were conducted by Koikas Acoustics on the 7th April 2021 at the subject premises. The location of each survey can be seen in Figure 1.

The assessment procedure of AS 2377-2002 considers that a minimum of 20 rail pass-by events should be recorded to acquire reliable noise and vibration data. 20 rail pass-by events were recorded during the survey, all of which were commuter trains.

Noise measurements were taken with a Type 1 NTi XL2-TA spectrum analyser sound level meter. The instrument was field calibrated with a Larson Davis CAL200 Precision Acoustic Calibrator before and after the survey. No system drift was recorded. The Sound Exposure Level (SEL) of each pass-by event was recorded in dB(A).

Rail vibration levels were measured with a Vibrock 901 seismograph. Vibration levels were recorded in directions x, y and z as unweighted R.M.S. acceleration. The survey data was subsequently analysed as per ISO2631-2:2003 to appropriate a Vibration Dose Value (VDV) in $m/s^{1.75}$ for each measured train pass-by event.

The calculated VDV's for all 20 recorded events were separated into groups of commuter and freight trains and then averaged. The average VDV for a single commuter and freight train pass-by event was then used to calculate the total DAY and NIGHT period VDV for all rail pass-bys.

A summary of the surveyed data is included below.

Table 2. Rail noise and vibration survey results

Description	Value	Measurement result
Noise from train pass-by	SEL	81 dB(A)
Vibration from train pass-by	VDV (i)	0.046 $m/s^{1.75}$
Notes 1. 2.	SEL = Sound Exposure Level VDV (i) = Vibration Dose Value for a single pass-by event	

4.0 ACOUSTICAL REQUIREMENTS

4.1 RAIL NOISE – ISEPP/DOP

As per Clause 87 of the State Environmental Planning Policy (Infrastructure) 2007, hereafter referred to as ISEPP, development for a residential, place of public worship, hospital, educational facility or child care centre use must be designed to consider the indoor noise amenity of future occupants.

Where the development is for residential use, the consent authority must be satisfied that the following internal rail levels will not be exceeded:

- L_{Aeq} 35 dB in any bedroom in the building between the hours of 10 pm and 7 am.
- L_{Aeq} 40 dB elsewhere in the building (excluding a garage, kitchen bathroom or hallway) at any other time.

Neither the ISEPP nor DoP guidelines specifically define a target level for sleeping areas during daytime hours. To maintain a level of consistency between indoor noise amenity in living and sleeping areas during daytime hours, an $L_{Aeq, (15\ hours}$ limit of 40 dB is adopted by Koikas Acoustics. A summary of the applied rail noise planning levels is included in Table 3.

ISEPP requires that before any application is determined under which this clause applies, consideration must be given to guidelines that are issued by the Director-General. It is the understanding of Koikas Acoustics that the Director-General has issued guidelines relating to the determination of suitable indoor noise levels for development with open windows allowing natural ventilation of indoor areas. The Director-General has recommended under this condition (open windows) that indoor noise levels should not exceed:

- L_{Aeq} 45 dB in any bedroom in the building between the hours of 10 pm and 7 am.
- L_{Aeq} 50 dB elsewhere in the building (excluding a garage, kitchen bathroom or hallway) at any other time.

The NSW Department of Planning (DoP) supports the design targets of ISEPP and the Director-General guidelines within their road/rail noise guidelines (*Development near rail corridors and busy roads, Interim Guideline 2008*).

As mentioned previously, neither the ISEPP nor DoP guidelines specifically define a target level for sleeping areas during daytime hours. Koikas Acoustics has adopted for living and sleeping areas during daytime hours an $L_{Aeq,\ 15\ hours}$ 50 dB for windows and doors open.

A summary of the applied rail noise planning levels is included in Table 3.

Table 3. Indoor design noise level [dB]

Design condition	Area	Noise metric	Day (7 am to 10 pm)	Night (10 pm to 7 am)
Windows/doors closed	Bedroom	L_{Aeq}	40	35
Windows/doors closed	Living area	L_{Aeq}	40	
Windows/doors open	Bedroom	L_{Aeq}	50	45
Windows/doors open	Living area	L_{Aeq}	50	

4.2 EPA NOISE POLICY FOR INDUSTRY

Noise emission design targets have been referenced from the NSW Environmental Protection Authority Noise Policy (EPA) for Industry (NPfI). The NPfI replaces the former Industrial Noise Policy, also prepared by the EPA.

The NPfI is designed to assess environmental noise impacts associated with scheduled activities prescribed within the Protection of the Environment Operations Act 1997, Schedule 1. It is also commonly used as a reference tool for establishing suitable planning levels for noise generated by mechanical plant and equipment and noise emission from commercial operations.

The guideline applies limits on the short-term intrusive nature of a noise or noise-generating development (project intrusive noise level), as well as applying an upper limit on cumulative industrial noise emissions from all surrounding development/industry (project amenity noise level).

The most stringent of the project intrusive noise level and project amenity noise level is applied as the **project noise trigger level**. The project noise trigger level is the point, above which noise emission from a source or development site would trigger a management response.

To be able to define the more stringent of the intrusive and amenity noise levels, the underlying noise metrics must be the same. As the intrusive noise level is defined in terms of an $L_{Aeq\ 15\ minutes}$ and the amenity noise level is defined in terms of an $L_{Aeq\ Period}$, a correction +3dB correction is applied to the project amenity noise level to equate the $L_{Aeq\ Period}$ to $L_{Aeq\ 15\ minutes}$.

4.3 PROTECTION OF THE ENVIRONMENT OPERATIONS (NOISE CONTROL) REGULATION 2017

Clause 45 of the regulation requires that air conditioning units installed on residential premises must not emit noise that is audible within a habitable room in any other residential premises between the hours of 10 pm and 7 am (Monday to Friday) or 10 pm and 8 am (Saturday, Sunday and public holidays).

4.4 INTER-TENANCY NOISE

In Class 2 or 3 buildings, the BCA acoustical Performance Requirements state that separating walls and floors must provide insulation against the transmission of airborne or impact generated sound sufficient to prevent illness or loss of amenity for the occupants.

A wall/floor partition is considered to satisfy BCA Performance Requirements where it is shown to:

- Have a laboratory tested acoustic rating that meets or exceeds the Deemed-to-Satisfy provisions of F5.4 to F5.7, or
- Complies with Specification F5.2, or
- Is tested on-site to achieve the minimum acoustic performance as defined within *Verification Methods* FV5.1 and FV5.2.

The Deemed-to-Satisfy provisions applying to this specific development are summarised below:

Table 4. BCA acoustic design requirements			
Partition	**Detail**	**Airborne sound**	**Impact sound**
Floor	Separating SOU's, or an SOU from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or part of a different classification	Rw + Ctr ≥ 50	Ln,w ≤ 62
Wall *See notes 1 and 2*	Separating SOU's	Rw + Ctr ≥ 50	Not applicable
	Separating a habitable room (other than a kitchen) in one SOU from a bathroom, sanitary compartment, laundry, kitchen in another SOU	Rw + Ctr ≥ 50	Discontinuous construction
	Separating an SOU from a plant room or lift shaft	Rw ≥ 50	Discontinuous construction
	Separating an SOU from a stairway, public corridor, public lobby or the like, or part of a different classification	Rw ≥ 50	Not applicable
Door	Located in a wall separating an SOU from a stairway, public corridor, public lobby or the like	Rw ≥ 30	Not applicable
Services	Duct, soil, waste or water supply pipes located in a wall or floor cavity and serves or passes through more than one SOU (including a stormwater pipe)	Rw + Ctr ≥ 40 (habitable) Rw + Ctr ≥ 25 (other)	Not applicable
Pumps	A flexible coupling must be used at the point of connection between the service's pipes in a building and any circulating or another pump.		
Notes 1. 2. 3.	Where a wall is to achieve a sound insulation rating and has a floor above, the wall must continue to either the underside of the floor or to the ceiling which has a comparable sound insulation rating to the wall. Where a wall is to achieve a sound insulation rating and has a roof above, the wall must continue to either the underside of the roof or to the ceiling which has a comparable sound insulation rating to the wall. As defined by the BCA, a 'habitable room' means a room used for normal domestic activities such as bedroom, living room, lounge room, music room, television room, kitchen dining room, study, playroom, family room, home theatre and sunroom.		

5.0 MECHANICAL PLANT AND BUILDING USE NOISE IMPACTS

Mechanical plant and equipment on this project could include air conditioning condensers units where they are installed in the development and other ventilation plant required for basement levels and garbage rooms etc.

Outdoor common areas such as the outdoor communal area are considered to be noise generating areas associated with 'building use'.

5.1 PROJECT NOISE TARGETS

This noise is assessed as per the planning levels contained within the NPfI. Acoustic planning levels are largely determined with to the existing environmental noise levels. Noise surveys conducted for this assessment show that environmental noise levels can differ based on the location of a particular receiver and its orientation to major contributors of noise in the area, such as road corridors and commercial operations. The following NPfI planning levels apply for this project, based on logging conducted by Koikas Acoustic previously:

Table 5. NPfI planning levels

Period, T (Note 1)	Intrusive		Amenity					Project noise trigger level
	RBL	RBL + 5	Area classification	Recommended amenity noise level	High traffic area	Project amenity noise level	+3dB correction	
Day	38	43	Urban	60	No	55	58	43
Evening	37	42	Urban	50	No	45	48	42
Night	32	37	Urban	45	No	40	43	37

Notes
1. The NSW EPA Industrial Noise Policy refers to the following periods, Day – 7 am to 6 pm Monday to Saturday and 8 am to 6 pm Sunday and public holidays, Evening – 6 pm to 10 pm Monday to Sunday, Night – 10 pm to 7 am Monday to Saturday and 10 pm to 8 am Sunday and public holidays.
2. The amenity criterion is based on the area classification of the site as being 'urban' and has been corrected for an assessment in areas of high traffic and for existing industrial noise where applicable.
3. Project noise amenity level = recommended noise amenity level – 5dB, except where specific circumstances are met, such as high traffic.

Surrounding commercial properties must also not be exposed to noise that exceeds $L_{Aeq\ Period\ (business\ hours)}$ 63 dB during business hours.

At this stage, a mechanical design is yet to be completed. A detailed mechanical plant noise impact assessment is to be provided once the final mechanical design and specification have been completed.

5.2 CALCULATED RECEIVER LEVELS

Operational noise levels have been predicted to nearby residential receivers by way of preparing an acoustic model and conducting point-to-point calculations based on standard sound propagation algorithms. Reference should also be made to additional noise control recommendations included within Section 5.4 of this report, which also govern the calculated receiver noise levels.

Due to the size of the development, several potentially affected receiver locations must be assessed in terms of their respective noise exposure from 'building use' associated with the development. The most noise-sensitive receiver locations are summarised below.

R1	Residential townhouse (1st floor level)	30 Park Avenue
R2	Residential townhouse (1st floor level)	30 Park Avenue
R3	Residential townhouse (1st floor level)	30 Park Avenue
R4	Residential dwelling (ground floor level)	20 Joesph Street
R5	Residential dwelling (ground floor level)	18 Joesph Street
R6	Residential dwelling (ground floor level)	16 Joesph Street
R7	Residential dwelling (ground floor level)	26 Park Avenue
R8	Residential dwelling (ground floor level)	26 Park Avenue

Where noise levels are shown to comply at the above most noise affected properties, compliance is implied at other less sensitive properties.

5.3 CALCULATED NOISE LEVELS

The external common area is identified on the ground floor of the site neighbouring the internal community room, as well as a seating area occupying the southern boundary of the ground floor. Noise from the internal communal living area will be confined to indoor areas where windows and doors are closed. In this regard, the primary focus of the noise emission assessment is attributed to persons talking in the outdoor common area, especially during nighttime hours.

When predicting noise emission, conservatively 24 people are assumed to occupy the ground floor communal outdoor area with 50% talking with a normal vocal effort. Sound power levels attributed to a normal conversational voice are 68 dB L_{wAeq}.

Based on that there are 32 car parking spaces within the proposed car park area of the development site, a maximum of 20 vehicle movements into the car park is predicted at the peak

arrival/departure during the busiest 15-minute period. Noise from car engines igniting and doors slamming will be confined to internal areas within the garage and therefore have not been considered for this assessment.

Noise source levels are shown below:

Table 6. Noise Source and noise levels

Noise Source	Descriptor	Noise level [dB]	Location
A person talking with normal vocal effort	L_{WAeq}	68	Communal Open Spaces
Car entering/leaving the car park	L_{WAeq}	78	Carpark/Driveway

Calculated cumulative receiver noise levels are as follows:

Table 7. Predicted noise levels to residential and commercial receiver locations [dB] - $L_{Aeq\ 15\text{-}minutes}$

Receiver	Location Height	Predicted receiver noise levels	Night-time Criteria	Exceedance
R1	First Floor	13	**37**	-
R2	First Floor	17		-
R3	First Floor	39[1]		-
R4	Ground Floor	35		-
R5	Ground Floor	35		-
R6	Ground Floor	37		-
R7	Ground Floor	34		-
R8	Ground Floor	16		-
Notes 1.	Receiver locations are outside neighbouring windows. Noise reduction over a balustrade and through an open window with a non-direct line of sight is expected to be approximately 5-10 dB, therefore compliance with the limiting EPA NPfI criteria.			

Cadna/A noise contour diagrams are attached as **Appendix B.**

The noise impact from people talking in the outdoor spaces and cars traversing to the car park area is predicted to not exceed the night-time project noise trigger levels at any residential properties surrounding the proposed development site provided the recommendations outlined in Section 5.4 of this report are implemented. As the noise is predicted to comply with night-time NPfI guidelines, it is expected to also comply with the less stringent daytime and evening criteria.

5.4 RECOMMENDATIONS

- Boundary fences should be a minimum of 1.8 m high. Boundary fences should utilise the following construction:
    - Double lapped 15mm thick timber fence palings offset so that there are no air gaps. This equates to a total barrier thickness of 30 mm; OR
    - 15mm compressed fibre cement panels with no air gaps at the joins; OR
    - 6mm compressed fibre cement panels on either side of a 50 mm steel frame with fibre-glass insulation batts (14 kg/m^3) to the cavity, or
    - the equivalent in sound transmission loss.
- The outdoor communal area should not be occupied by more than 24 people at any one time during the night-time period.
- Doors to the indoor communal areas should be kept shut during the night-time period.

6.0 RAIL NOISE AND VIBRATION ASSESSMENT

6.1 NOISE

Calculating the resulting level of noise that is transmitted through a façade and into a room is dependent upon the external façade noise level, the sound insulation performance of the building façade (inclusive of all building components), and the level of acoustic absorption that is present within the subject room.

A calibrated CadnaA noise model was used to predict external façade rail noise levels. The calibrated model considered:

- Commuter trains generating an average SEL for each pass-by of 81 dB(A).
- 259 commuter trains passing by the site during daytime hours (7 am to 10 pm) – as per Sydney Trains timetables.
- 60 commuter trains passing by the site during night hours (10 pm to 7 am) – as per Sydney Trains timetables.

Maximum external façade traffic noise levels are expected to be:

Daytime $L_{Aeq,\ 15\ hours}$ 58 dB and

Night time $L_{Aeq,\ 9\ hours}$ 53 dB

at the upper floor level and along the southern façade of the building exposed to the rail corridor.

Reduced noise exposure along the sides of the building will result from the limited field of view of the rail corridor and partial noise shielding from adjacent buildings.

The least noise-exposed façade of the building will be along the northern boundary where a high level of noise shielding is generated by the subject building and surrounding buildings.

Indoor noise levels were calculated to certify the acoustic performance of the proposed building facade. The noise modelling and subsequent analysis conclude the following:

6.1.1 External walls

Table 8. External walls recommendations	
Recommended construction	**Area to which the recommendation applies**
AFS150 wall system	All external walls

6.1.2 Ceiling/roof

Table 9. Ceiling/roof recommendations	
Recommended construction	**Area to which the recommendation applies**
• 0.6mm metal clad • One layer of 18mm plywood • 150 mm timber joist with 100 mm Earthwool ceiling insulation (14 kg/m^3) • One layer of 13 mm standard plasterboard **OR** • 100 mm thick concrete slab	All ceiling/roof areas

6.1.3 Windows and doors

Table 10. Glazing recommendations		
Room	**Glass recommendation**	**Seals**
All areas	6.38 mm laminated glass	Q-lon and fin

In addition to the minimum glass recommendation, the installed window/glazed door systems (inclusive or framing and seals) must achieve a minimum acoustic rating of Rw 31 for 6.38mm thick laminated glass and comply with Notes 1 to 4 below.

Notes

1. Window frames should be tightly fitted to the external wall minimising any air gaps. Any air gaps present should be packed with timber and an appropriate acrylic sealant such as Knauf Bindex (or approved equivalent).
2. All open-able windows and glazed door systems should be airtight when closed.
3. Q-lon type seals or the equivalent should be fitted along the perimeter of all glazing systems to minimise air gaps. For sliding glass systems that cannot incorporate Q-lon seals, heavy-duty fin-type seals such as Schlegel SilentFin could be used. If the windows/doors are not designed to be air-tight when closed, the reduced performance of the windows/doors could compromise the acoustic integrity of the building facade.
4. Recommended glass systems are calculated based on current architectural drawings as established within this report.

Koikas Acoustics notes that the recommendations provided in this report are for the minimum required glazing that is predicted to achieve satisfactory acoustic performance. No consideration has been given to other factors such as safety, thermal or energy efficiency that may render the recommended glazing not compliant with other standards or guidelines. It is, therefore, the responsibility of the client to ensure all glazed windows and sliding doors installed on-site to meet all building design requirements.

6.1.4 Ventilation

In some cases where external rail traffic noise levels are high, it is not a viable option to naturally ventilate rooms through the opening of windows and/or doors. This is due to the level of traffic noise being transmitted through the open doors resulting in a breach of the applied noise criterion.

As a general rule, where windows or doors opened sufficiently to provide natural ventilation to a room, the indoor noise level is 10dB below the outside noise level. Therefore, a window or sliding door to a room may be opened to provide natural ventilation where the outdoor noise level does not exceed 10dB above the "Windows open" criteria as detailed within this report.

In this case, rail noise levels are not significant and naturally ventilated rooms are expected to still result in the 'open windows' noise criteria being achieved.

6.2 VIBRATION

Vibration levels (VDV) for individual pass-by events have been calculated from site survey results and are included in Table 3 of this report. Where the individual VDV values for commuter train pass-bys are corrected for the cumulative impact throughout the day and night periods based on the expected rail movements summarised above in Section 6.1, the total VDV for the day and night periods calculated for the future development are:

- Daytime total VDV (commuter and freight trains): 0.095m/s$^{1.75}$
- Nighttime total VDV (commuter and freight trains): 0.066m/s$^{1.75}$

These values are significantly below the human comfort thresholds recommended in the DEC guideline. As such, Koikas Acoustics expects a low probability of adverse comment.

7.0 INTER-TENANCY NOISE

The following recommendations are expected to satisfy the relevant provisions of the BCA sound insulation requirements between tenancies. Options have been provided in all cases that consider a range of standard constructions.

All wall systems should be installed as per general installation guidelines included in the BCA and as per relevant manufacturer installation guidelines/requirements.

Alternate systems and design may be considered to those recommended within this report provided that they are approved by an appropriately qualified acoustical engineer/consultant.

7.1 RECOMMENDED PARTITION WALLS

Table 11 recommends several partition wall systems that are capable of achieving the required acoustic performance.

Table 11. Recommended partition wall systems		
Wall type	**BCA design standard**	**Construction**
Inter-tenancy wall	Rw + Ctr ≥ 50 Discontinuous	*Partition wall between sole-occupancy units – Separating a habitable room (other than a kitchen) in one unit from a bathroom, sanitary compartment, laundry or kitchen in an adjoining unit* **[AFS]** AFS 162 Logicwall, 20mm cavity, 64mm steel studs with 75mm thick Tontine TSB4 insulation within the stud cavity, 10mm Soundcheck. **[Masonry]** Two leaves of 110mm clay brick masonry, 50mm cavity between the leaves (where brick ties are used they are to be of the resilient type), 13mm cement render to each side. *BCA D.T.S.* **[Concrete]** 125mm concrete panel, 20mm cavity, 64mm steel studs, 70mm polyester insulation (9kg/m^3) between the studs, 13mm plasterboard fixed to studs. *BCA D.T.S.* **[Hebel]** 13mm Fyrchek, 75mm Hebel Powerpanel, 35mm cavity, 64mm steel studs with 100mm S6 polyester insulation, 13mm Fyrchek/Aquachek. **[Lightweight]** 2x64mm steel studs, 20mm cavity, 60mm polyester insulation (11kg/m3) positioned between one row of studs, 2x13mm fire resistant plasterboard each side.
	Rw + Ctr ≥ 50	*Partition wall between sole-occupancy units* **[AFS]** AFS 162 Logicwall panel, paint or render finish. **[AFS]** AFS 162 Logicwall panel, 28mm furring channel, Tontine TSB2 insulation within the framing cavity, 13mm plasterboard. **[Masonry / Hebel / Lightweight]** As above. **[Concrete]** 200mm concrete panel, 13mm cement render of each face. *BCA D.T.S.*
Common wall	Rw ≥ 50 Discontinuous	*Partition wall between sole-occupancy unit and plant room or lift shaft* As above for inter-tenancy wall partitions that satisfy discontinuous construction
	Rw ≥ 50	*Partition wall between sole-occupancy unit and stairway, public corridor, public lobby or the like or part of a different classification* **[AFS]** AFS 150 Logicwall panel, paint or render finish. **[AFS]** AFS 162 Logicwall panel, paint or render finish. **[Masonry]** Single leaf 150mm brick masonry with 13mm cement render on each face. **[Concrete]** 125mm thick concrete panel. **[Hebel]** 13mm Gyprock CD, 75mm Hebel Powerpanel, minimum 20mm cavity, 64mm steel framing with 50mm glasswool insulation, 13mm Gyprock CD. **[Lightweight]** 92mm steel studs, 60mm polyester insulation (11kg/m3) positioned between the studs, 2x13mm fire-resistant plasterboard each side.
Services shaft wall	Rw+Ctr ≥40	*Services shaft wall to habitable room within unit* **[Masonry]** 110mm brick masonry with 13mm cement render on each face. *BCA D.T.S.* **[Concrete]** 100mm thick concrete panel. *BCA D.T.S.* **[Lightweight]** 2x13mm plasterboard, pipe lagging (Soundlag 4525C, Acoustilag 45)
	Rw+Ctr ≥25	*Services shaft wall to non-habitable room within unit* **[Lightweight]** 2 layers of 13mm plasterboard
Notes:1.	Recommendations within the above table are based on published acoustic data obtained from the manufacturer's website.	
2.	Laboratory tests of the AFS 162 Logicwall on its own showed non-compliance with the BCA requirement of Rw + Ctr 50. However, an investigation by PKA Consulting concludes that the poor acoustic performance was due to factors not related to the wall system, but rather the test facility. It is expected that the acoustic performance will satisfy the BCA condition. This conclusion is supported by numerous field tests that indicate compliance with the BCA verification methods rating.	
3.	All installation of proprietary type wall systems must be as per the relevant installation guidelines and manuals.	
4.	*BCA D.T.S.* =BCA Deemed-to-Satisfy construction. These wall systems are to be installed as per "Construction Deemed-to-Satisfy" notes included within Specification F5.2 of Volume One of the BCA. Where these systems are installed correctly as per the BCA they do not require compliance testing to verify acoustic performance.	

7.2 RECOMMENDED PARTITION FLOOR/CEILING

The following floor/ceiling assemblies are recommended to achieve the BCA minimum acoustic rating requirements.

Table 18. Typical acoustical performance achieved with Uniroll underlays that would achieve or better the BCA & Council's requirements	
Floor-type	**Construction details or underlay type**
Carpet	Carpet over carpet underlay over ≥ 150 mm concrete slab will typically achieve L'nTw ≤ 40
Direct Stick Tiles	- 9 or 10 mm ceramic tiles over - 5 mm adhesive over a composite underlay **RFC**750 (4.5 mm) **RF**700 (4- 5- 10 mm)RF700 over - 200 mm thick concrete slab over - 100 mm ceiling cavity and - 13 mm plasterboard ceiling will typically achieve L'nTw ≤ 50
Under Screed Tiles	- 9 or 10 mm ceramic tiles over_ - 5 mm glue over - 30 mm screed over RFC750 (4.5mm) or RF700 (5mm) over - 200 mm concrete slab over - 100 mm ceiling cavity and - 13 mm plasterboard ceiling will typically achieve L'nTw ≤ 50
Direct Stick Or	***- 19 mm strip timber*** over - adhesive over - 15 mm ply + RFC700 (4, 5 or 10 mm) over - 200 mm concrete slab over - 100 mm ceiling cavity and - 13 mm plasterboard ceiling will typically achieve L'nTw ≤ 50
Floating Floor	***- Engineered floating floor*** over - 2 mm foam slip layer + RF700 (4, 5mm) - 200 mm concrete slab over - 100 mm ceiling cavity and 13 mm plasterboard ceiling will typically achieve L'nTw ≤ 50
Direct Stick Vinyl Flooring	- Vinyl flooring over - RF700 (3, 4, 5 or 10 mm) over - 200 mm concrete slab over - 100 mm ceiling cavity and - 13 mm plasterboard ceiling will typically achieve L'nTw ≤ 55

Notes

RF Rubber foam composite

RFC Rubber foam cork composite

Alternative underlay suppliers could also be considered.

If there is no suspended ceiling beneath the concrete slab, the acoustical impact noise rating would reduce by up to 8 rating points.

The above recommendations also apply to balconies/terraces situated above indoor areas of apartments below.

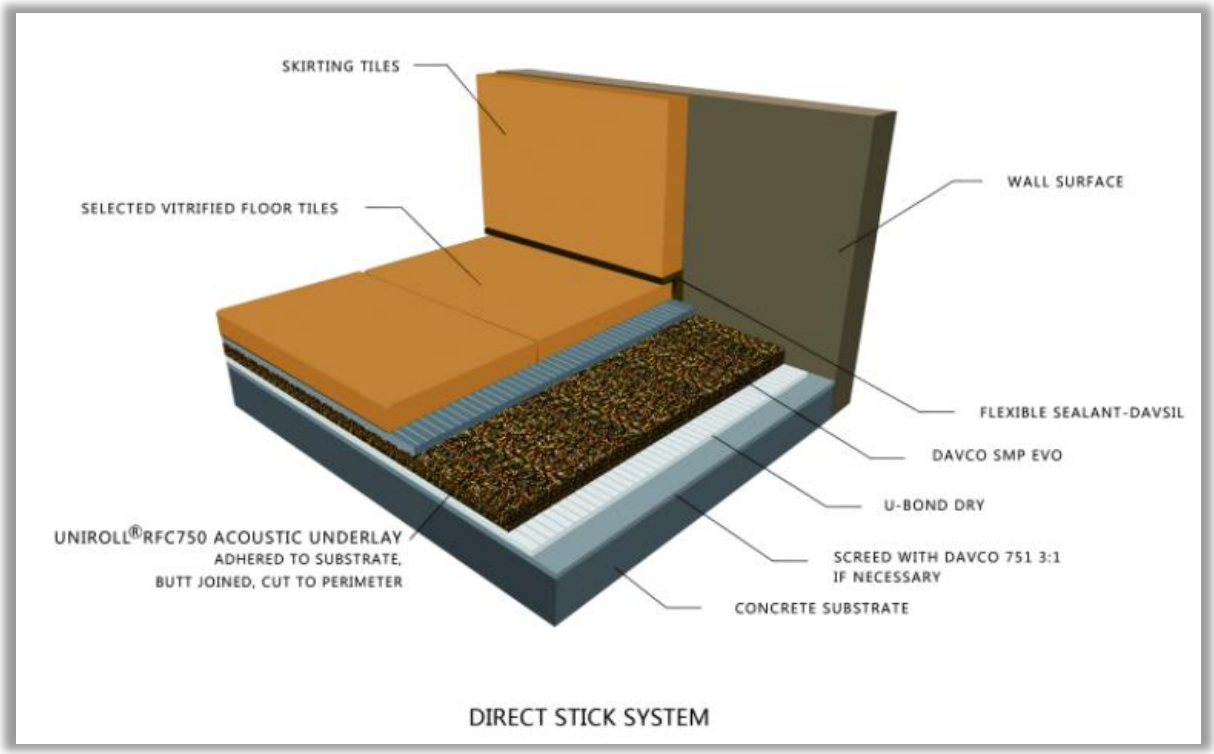
7.2.1 Installation requirements

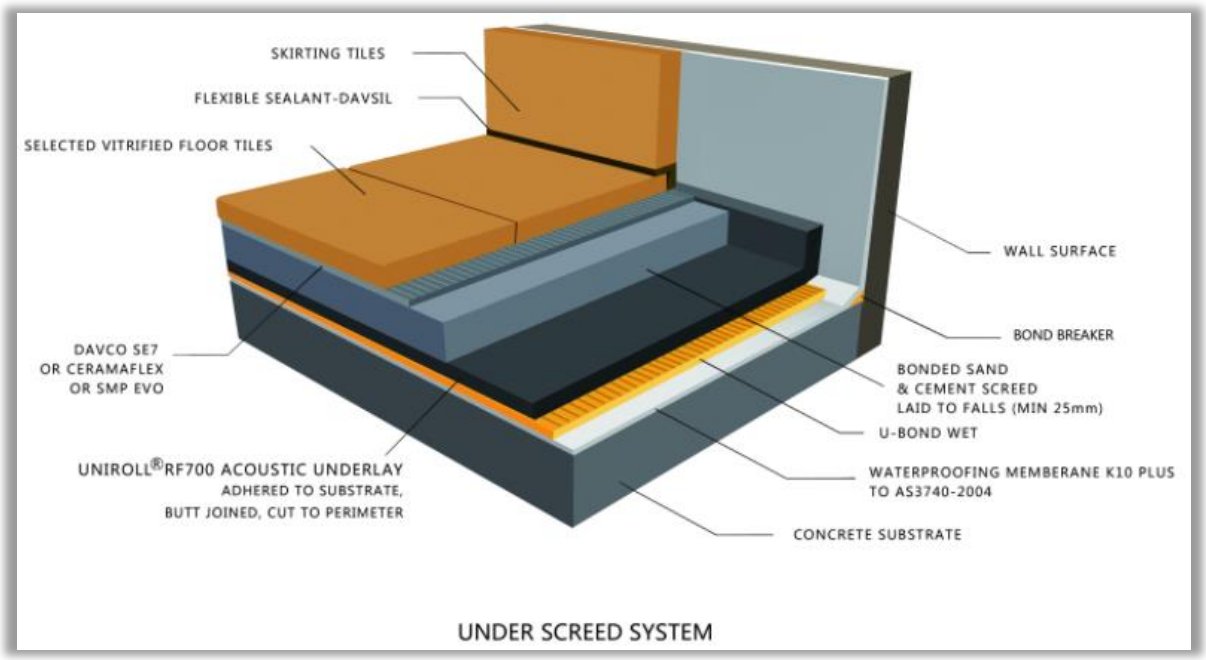
All flooring and acoustic underlays should be installed as per relevant manufacturers installation and design guides.

Hard floor coverings such as tiles must not make contact with any walls or joinery such as kitchen benches, cupboards etc.

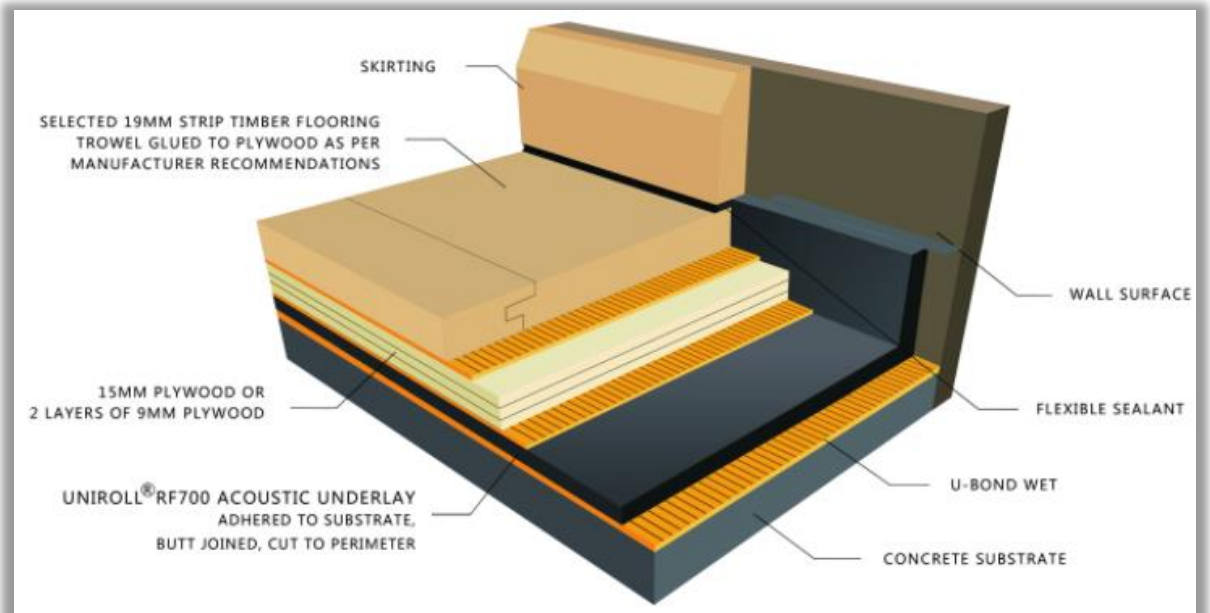
During the installation of hard floor coverings, temporary spacers of 5 - 10 mm should be used to isolate the floor covering from walls and/or joinery with the resulting gaps filled with a suitable mastic type sealant or off-cut of rubber-underlay material. Most acoustic underlay manufacturers include a construction detail in this regard that involves an upturn of the rubber underlay material at the wall/floor junction.

The following diagrams show detailed installation requirements of different flooring systems in conjunction with underlays.

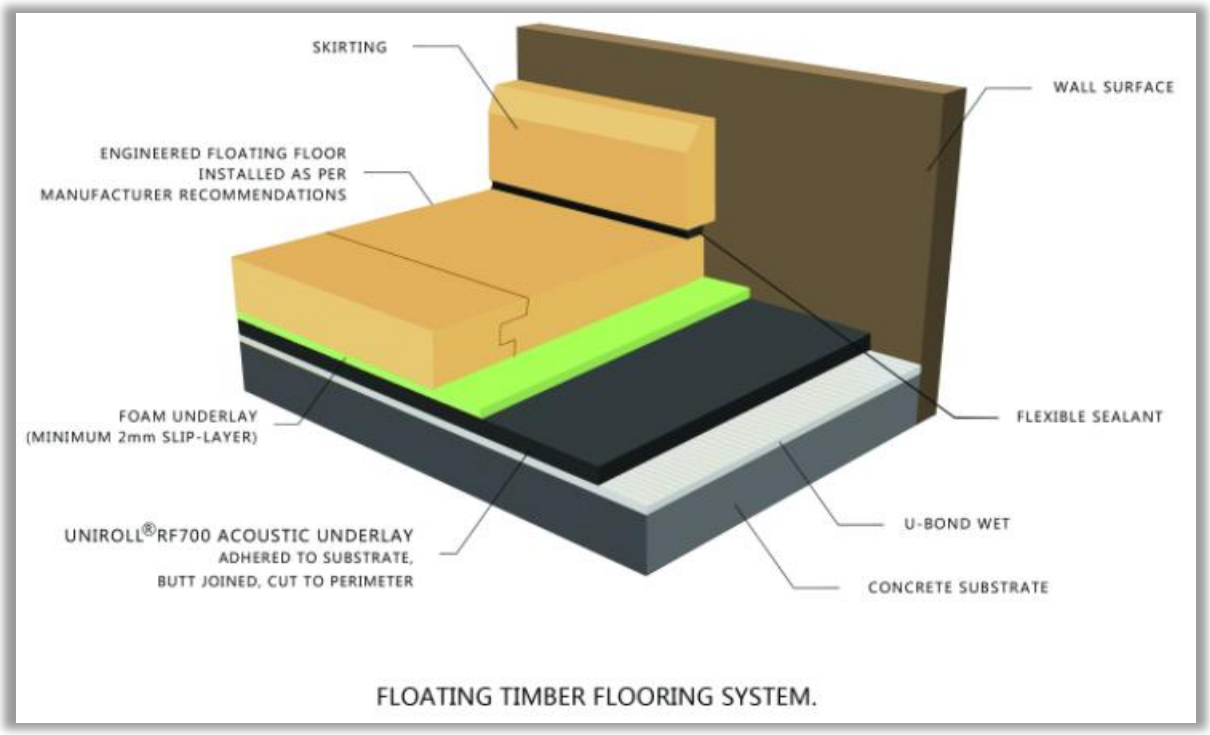




UNDER SCREED SYSTEM



STRIP TIMBER FLOORING SYSTEM



FLOATING TIMBER FLOORING SYSTEM.

7.2.2 Alternative ceiling/floor systems

Alternative floor/ceiling systems can be considered provided that the acoustic performance is tested or assessed by a consulting acoustical engineer as being compliant with the sound insulation performance requirements of the BCA.

Verification of installed acoustic performance should be determined following the recommendation of Section 5.5 of this report.

7.2.3 NATA certified ceiling/floor systems

Flooring systems tested in a NATA or an equivalent International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) certified laboratory and complying with the acoustical performance requirements of the BCA do not require that they be tested in-situ for verification of installed acoustic performance.

Flooring systems not tested by a NATA or ILAC MRA certified laboratory should be tested before any flooring is installed to ensure that the flooring systems comply with the BCA's impact-noise rating requirements.

7.2.4 Impact-noise rating performance

Impact-noise ratings derived from in-situ testing can vary from site to site and between different

space within the same building constructed of the same building materials.

Impact-noise rating differences can arise from:

- the type of flooring installed
- whether the flooring is touching the walls creating bridging,
- whether the flooring is in contact with the skirting boards creating bridging,
- the thickness of floor slabs,
- the air gap between the plasterboard ceiling and the concrete slab,
- the sealing between the plasterboard and the walls,
- the thickness and density of the plasterboard ceiling,
- the degree of sealing between the plasterboard ceiling and the down-lights,
- the connections of the suspended ceiling grid to the concrete slab,
- the insulation installed or not installed in the cavity,
- the surface area of the floor,
- the geometry of the floor surface,
- flanking paths between the concrete slab and the wall types, and
- the junctions between the slab and the walls.

7.2.5 Verification of Acoustic Performance

The recommendations for partition construction details included in this report are not BCA certifications of acoustic compliance. The recommendations are based on our professional opinion of acoustic performance ratings. Due to the number of variables that can exist between development sites, it is not possible to confirm acoustical compliance without conducting in-situ testing.

Koikas Acoustics recommends that in-situ testing is conducted on representative and fully installed partition assemblies to ensure adequate acoustic insulation and isolation is achieved before installation throughout the development.

7.2.6 Ceiling lining

Standard 13 mm plasterboard ceiling lining is satisfactory. Where a fire-rated ceiling is required, 13 mm or 16 mm fire-rated plasterboard may be used instead of standard plasterboard.

7.2.7 Insulation in ceiling cavities

Acoustic insulation in the ceiling cavities is not required provided that the depth of the ceiling cavity is no less than 100mm and that the suspended ceiling system used is a light steel grid type system such as Rondo Key-lock or similar.

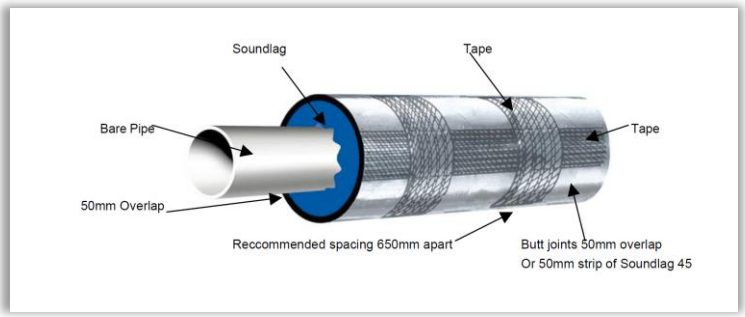
Where ceiling cavities are less than 100 mm in-depth, 50 mm fibreglass insulation (11kg/m^3 density) is recommended.

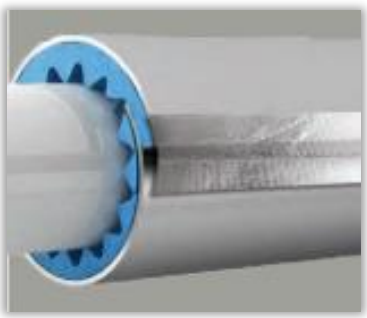
7.3 SOIL, WASTE, WATER SUPPLY PIPES

Where a duct, soil, waste or water supply pipe is located within a wall or ceiling cavity and serves or passes through one or more SOU's, the following separation details may be used to comply with the required acoustic rating:

Table 9. Services in cavity wall or ceiling

Option	Rating	Documented source	System detail
1	Rw + Ctr 25	CSR Red Book, KA opinion	2 layers of 10 mm plasterboard
2	Rw + Ctr 25	CSR Red Book	Acoustilag 45 and 13 mm plasterboard wall/ceiling lining
3	Rw + Ctr 25	CSR Red Book	Unlagged pipes and 13 mm Soundchek wall/ceiling lining. Alternatively, 2 layers of 16mm Fychek may be used as wall/ceiling lining
4	Rw + Ctr 40	CSR Red Book	Acoustilag 45 and 13 mm Soundchek wall/ceiling lining. Alternatively, 2 layers of 16 mm Fychek may be used as wall/ceiling lining
5	Rw + Ctr 40	Pyrotech Soundlag 4525C brochure	Soundlag 4525C and minimum 10 mm plasterboard wall/ceiling lining
Notes: 1. 2. 3.	The acoustic lagging material may be excluded by using Rehau Raupiano Plus pipe system. All installations are to be as per relevant manufacturers' specifications and requirements. Incorporating downlights into ceilings will impact the acoustic rating of the partition system. Consultation should be made with an acoustic consultant in the event of downlights being proposed in the ceiling. The CSR Red Book provides some guidance on downlights being installed in a services partition system.		





Photos by Pyrotek

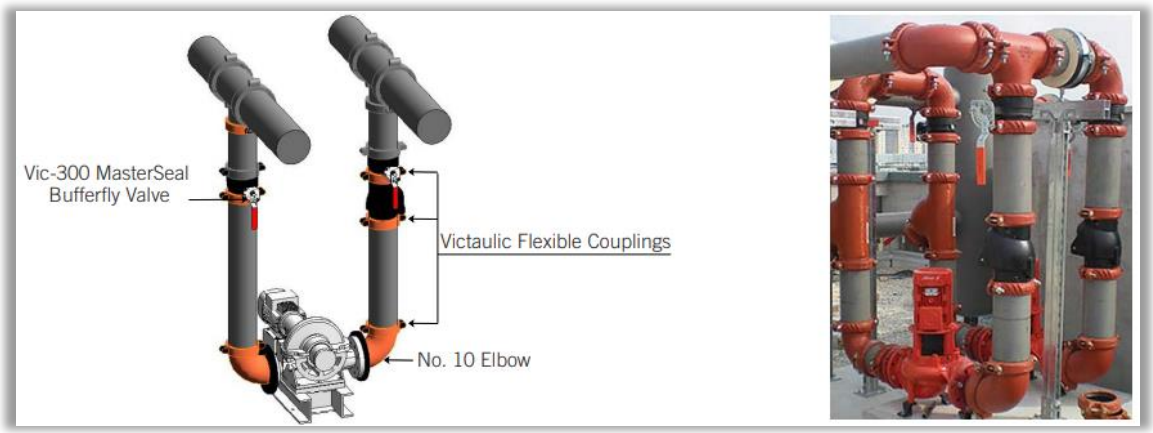
7.3.1 Additional BCA requirements

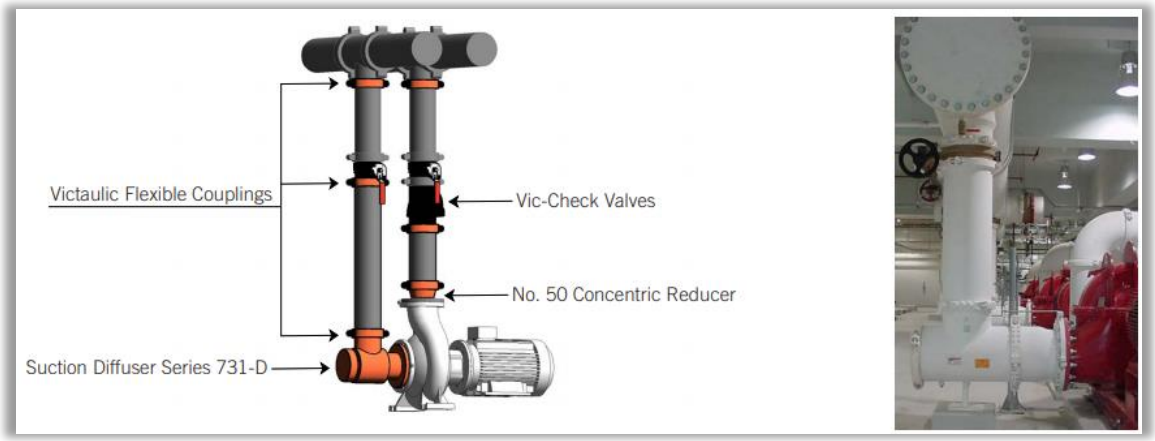
The BCA further qualifies the acoustic requirements of services partitions with the following:

- Services must not be chased into concrete or masonry elements,
- An access door or panel must be firmly fixed to overlap the frame or rebate the frame by not less than 10 mm and be fitted with proper sealing gasket along all edges and constructed of:
- Wood, particle board or block board not less than 38 mm thick; or
- Compressed fibre reinforced cement sheeting not less than 9 mm thick; or
- Other suitable material with a mass per unit area not less than 24 kg/m^2.
- A water supply pipe must only be installed in the cavity of discontinuous construction, and in the case of a pipe that serves only one SOU, must not be fixed to the wall leaf on the side adjoining any other SOU and have a clearance not less than 10 mm to the other wall leaf.

7.4 SOUND ISOLATION OF PUMPS

A flexible coupling must be used at the point of connection between the service's pipes in a building and any circulation or another pump.





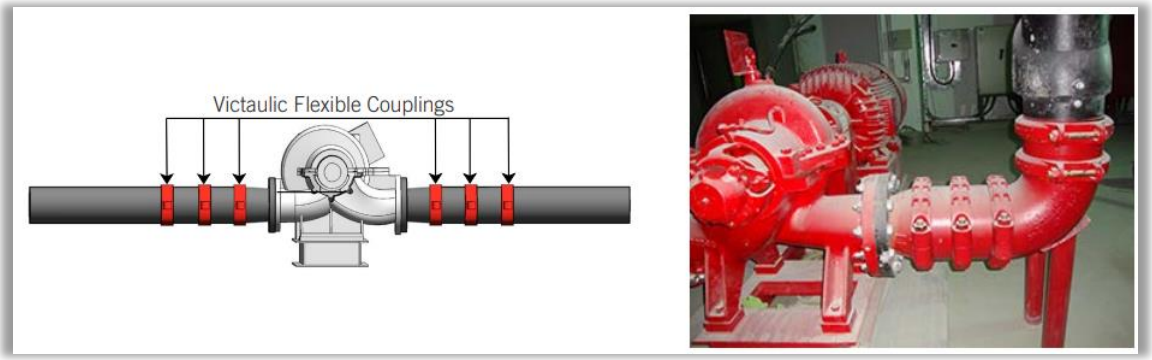
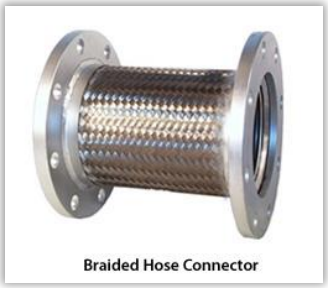


Photo by Victaulic

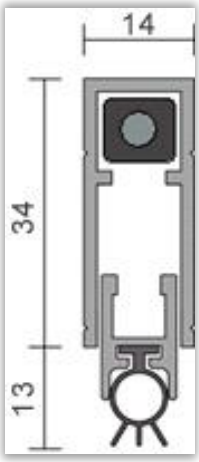


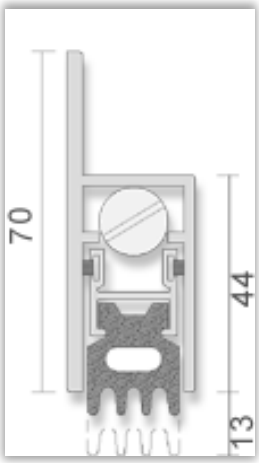
Photos by Empowering Pumps & Equipment

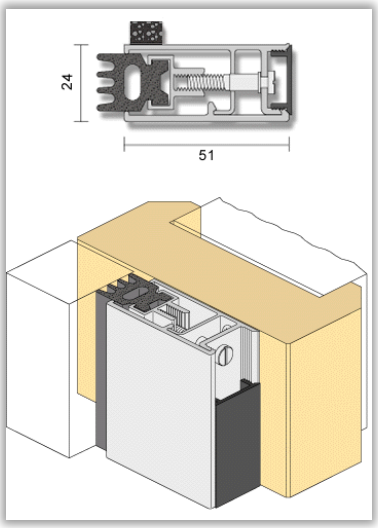
Photo by Plumbers Mate Ltd

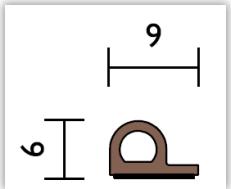
7.5 UNIT ENTRY DOORS

Where an entry door is incorporated into a wall that separates a tenancy from a common area such as a Lobby/Foyer, that door must achieve an acoustic rating of no less than R_w 30. A suitable door system to achieve this would be a 40 mm solid core timber door with Raven type RP10/RP10si door frame/perimeter seals and RP8si door bottom seals.









RP8Si RP38 RP24 RP48

The Schlegel type or other equivalent door seals can be considered provided that they provide comparable acoustical sound transmission loss performance.

7.6 VERIFICATION OF ACOUSTIC PERFORMANCE

It is common for comparable floor/ceiling systems designs to achieve varying acoustic insulation and isolation ratings between buildings. This can be due to the quality of workmanship, attention to detail in sealing any penetrations, and the emergence of flanking sound transmission paths within a building. For this reason, one cannot categorically state that any partition will achieve a specific acoustic rating without conducting in-situ testing.

Koikas Acoustics recommends that in-situ testing is conducted on a representative, and fully installed floor/ceiling assembly (for all types of floor coverings – timber, tiles, carpet) to ensure adequate acoustic insulation and isolation is achieved, before installing all floors on all floor levels of the building.

8.0 CONCLUSION

Koikas Acoustics was requested to prepare an acoustic report for the proposed boarding house at 27-28 Park Avenue, Kingswood NSW. The acoustic report is to accompany a development application being submitted to Penrith City Council.

The assessment considers potential noise impacts to future occupants of the development, and to surrounding residents such that acceptable acoustic amenity for the area is maintained.

Acoustic planning levels have been referenced from current ISEPP, NSW DoP, EPA, and BCA acoustic planning guidelines and requirements.

The included recommendations are based on designs prepared by CK Design.

The conclusions reached in this report should assist Council in making their determination of the proposal in terms of compliance with the necessary acoustic design requirements. A further detailed acoustic report may be required for the CC submission should the building design be amended, or as required by Council.

Of the assessed components of noise, the following conclusions have been reached:

1. Building noise is not expected to exceed the nominated criteria provided the recommendations outlined in section 5.4 of this report are properly implemented.
2. A detailed assessment of mechanical plant noise should be prepared for the subject development before construction. Where air conditioning and other mechanical ventilation systems not be proposed, the recommendations provided in this report would be voided.
3. The building can be sufficiently insulated against existing external sources of noise in the area such as rail traffic through the use of acoustic glazing. Recommended glazing systems are provided in this report. These recommendations should be verified before construction.
4. Acoustic treatment options for the common floors and services partitions included within this report would be adequate for satisfying the sound insulation provisions of the BCA.

In our professional opinion, there is sufficient scope within the proposed building design to achieve the applied acoustic planning guidelines.

APPENDIX A

APPENDIX A

APPENDIX A

**** Cadna/A ****
(Scenario 1 - Operational Noise)

Noise Sources:

~ 24 x People in the outdoor communal area 50% speaking with a normal vocal effort
~ Cars traversing the driveway

Note:

- LAeq15min noise level contours and receiver points R4 - R8 are 1.5 m above the natural floor level.

- Receiver points R1- R3 are 1.5 m above the first floor level

- The maximum reading at the nearest resident is 39 dB

PRINT DATE: 08/04/21

Point Source
Line Source
Building
Barrier
Contour Line
Receiver
Calculation Area

> 35.0 dB
> 40.0 dB
> 45.0 dB
> 50.0 dB
> 55.0 dB
> 60.0 dB
> 65.0 dB
> 70.0 dB
> 75.0 dB
> 80.0 dB
> 85.0 dB

koikas acoustics PTY LTD
CONSULTANTS IN NOISE & VIBRATION

JOB NUMBER: 4661
CLIENT: Nassar Matta
SITE ADDRESS: 27-28 Park Avenue, Kingswood
ASSESSED TO: EPA's Noise Policy for Industry
LIMITING CRITERIA: 37 dB(A) - Residential (Night)

N
W
S

NSW trees
Arboricultural Consultants
ABN: 41 063 751 928

Phone: 9785 4591 Mobile: 0419 71 71 70 PO Box 534, PANANIA NSW 2213
nswtrees@optusnet.com.au www.nswtreeservices.com.au

ARBORICULTURAL IMPACT ASSESSMENT

Mr. N. Mattar
c/- CK Design
27-28 Park Ave,
KINGSWOOD

Report Reference: AIA – CKD 04/21

7th April, 2021

Prepared by:

Sam Allouche

Diploma of Arboriculture (AQF Level 5)

Cert IV in Horticulture (Arboriculture

Member of Arboriculture Australia | Member of International Society of Arboriculture

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1.0 Introduction

I. This Arboricultural Impact Assessment (AIA) was commissioned by CK Design , on behalf of property owner, Mr Mattar , of 27-28 Park Ave, Kingswood, for trees potentially impacted by proposed Development Application (DA) to Penrith Council for redevelopment of the site .

II. The proposal entails the demolition of existing structures, and bulk excavation for the construction of a new multi-level boarding house , including basement parking.

III. The Arborist has identified a total of seven (7) trees, including site and street trees, where their TPZ extends into the clients site. All trees are assessed with respect to the Australian *Standard- Protection of trees on development* sites (AS 4970/2009).

IV. The Arborist had made recommendations for those T2-T7 to be removed , to facilitate the works, assessed as not significant , of low retention value, or exempt, and could be replaced as part of the new development.

V. Whist the street tree, T1 , was initially proposed for retention as part of the design, with a somewhat adequate setback from basement excavation, the cumulative impacts from ground floor grade modifications, and pruning to suit building elevations, results in major impact. Coupled with the species pre-disposition to branch failure, the Arborist also supports the trees removal.

VI. This AIA is to be sent to Penrith Council, as supporting documentation for the Development Application, for final determination of trees to be made.

2.0 Methodology

I. The Arborist accessed the site and inspected trees, by way of Visual Tree Assessment (VTA), at ground level only, on 1st April, 2021 , under normal weather conditions.

II. All dimensions are estimated by diameter tape or by eye sight.

III. Advanced assessment by means of sounding decay, subterranean investigation or canopy inspections were not undertaken at the time, nor warranted.

IV. Tree species are identified by foliage and fruit/nuts only, with no formal testing undertaken.

V. The Arborist tables the following in 3.2 Tree Observations -Table 1 - Tree Assessment & Impacts Evaluation;

   a. Genus & species, Common name, age, vigour and crown characteristics, general health and condition, defects and the presence of pest and disease.

b. An appraisal of trees with reference to Tree AZ; determination of the worthiness of trees in the planning process, and a Tree Retention Value (STARS Matrix) that assesses the trees significance and value for retention on the site where development occurs. (Refer to Appendix for further clarification of all scales and values)

c. Calculation of Tree Protection Zones (TPZ) and Structural Root Zones (SRZ), proposed setbacks to works and degree of incursion characterised by minor, moderate, major or no impact to trees.

VI. Findings in Table 1.0 are to be read in conjunction with Notes in Appendix.

VII. Calculations of impacts are undertaken by using an interactive calculator. (Treetec, 2014)

VIII. A Site Plan is included in Appendix, using survey provided by the client, and overlaid by the Arborist, to annotate tree locations only.

IX. A Glossary of terms is provided in the Appendix of this report, for clarification of Arboricultural terms and meanings

X. The following documentation was used as part of this assessment;

Plan Type/Document	Provided by	Reference	Date
Survey	Cibar Surveying	-	-
Site Plan	CK Design	Project 20016-04 Sheet A1-06	May 20
Basement 2 Floor Plan	CK Design	Project 20016-04 Sheet A1-06	May 20
Basement 1 Floor Plan	CK Design	Project 20016-04 Sheet A1-08	May 20
Ground Floor Plan	CK Design	Project 20016-04 Sheet A1-09	May 20
Roof Plan	CK Design	Project 20016-04 Sheet A1-12	May 20
Elevations	CK Design	Project 20016-04 Sheet A1-14	May 20
Sections	CK Design	Project 20016-04 Sheet A1-15	May 20
Arborist parameters design response	Paul Scrivener	2248 Issue B Sheets 1-3	31.03.2021

3.0 Observations

3.1 Site Observations

I. The sites are referred to as Lots 11 and 12 DP 29528 of Penrith City Council and zoned R3 - Medium Density Residential.

II. Both adjoining sites are of traditional rectangular allotments with slightly splayed frontages and of southern orientation.

III. Site ground slightly rise from the street and relatively flat within the boundaries ,

IV. Site context notes and freestanding clad dwellings with detached garages

V. The site (combined) is bound by town housing to west side , free-standing dwelling to the east and across the road from the railway.

VI. Soil on site is not formally assessed, but eSpade Web indicating it is Luddenham soil landscape containing "Wianamatta Group Ashfield Shale and Bringelly Shale formations. The Ashfield Shale consists of laminite and dark grey shale. Bringelly Shale consists of shale, calcareous claystone, and laminite. Between these two shale members is the Minchinbury Sandstone consisting of fine to medium-grained lithic quartz sandstone." (State of New South Wales - Department of Planning, Industry and Environment 2020)

VII. Site vegetation appears to be small, peripherally planted trees as part of landscape over the years, except for T1.

VIII. See picture (below) ,courtesy of SIXMaps, with combined sites as per orange outline.

3.2 Tree Observations & Impact Summary (AS4970:2009)

	Genus Species	Common Name	Height (m)	Spread (m)	Age	Condition	TREEAZ	Retention Value	DBH (mm)	DAB (mm)	TPZ (m)	SRZ (m)	Impacts/ Incursion %	Comments / Impact Summary
													Nil Low Major Total Loss Exempt	
1	*Corymbia citriodora*	Lemon scented gum	15	20x 18	M	F	A2	M /L	720	900	8.64	3.17	12.41% +	Street tree, within the front setback of No. 28.Canopy spans to adjoining properties and the street. A fair degree of kino weeping from the main trunk. The crown notes a handful of snapped limbs (100mm). At 6.5m high, the apical stem was previously torn and whilst the canopy holds good cover ,the crown is considered crowded , with conflicting branches, poor form, weeping over street cabling and adjoining properties. Basement encroachment (Lower limit of major impact) by way of excavation will occur within 5.5m and included 200mm of over excavation. Ground floor will incur 13.5% of the TPZ thus resulting in a cumulative Major impact. Retain and protect tree. Refer to recommendations for mitigations.
2	*Ulmus parvifolia*	Chinese elm x 3	6	5	M	F	Z10	L	150 x3	300	3.12	2.0		The stand comprises 3 small trees , within the combined site and intertwined in the fence. Plans denote these trees are within the construction zone and therefore deemed a total loss. Remove tree
3	*Eriobotrya japonica*	Loquat	4.5	4	M	F	Z3	L	100 x2	180	2.0	1.61		Sheltered tree. Exempt species under Penrith City Council - Exempt Tree Species List.
4	*Triadica sebifera*	Chinese tallow	7	5	M	F	Z3	L	200 160	300	3.12	2.0		Self-seeded tree. Exempt species under Penrith City Council - Exempt Tree Species List.

	Genus Species	Common Name	Height (m)	Spread (m)	Age	Condition	TREEAZ	Retention Value	DBH (mm)	DAB (mm)	TPZ (m)	SRZ (m)	Impacts/ Incursion % Nil Low Major Total Loss Exempt	Comments / Impact Summary
5	*Fraxinus griffithii*	Evergreen Ash	4+	5	M	F	Z3	L	100 x5	300	2.64	2.0		Small tree of low significance. Plans denote this tree is within the construction zone and therefore deemed a total loss. Remove tree
6	*Prunus sp*	Plum	4	4	M	F	Z3	L	150	280	2.0	1.94		Tree partly obscured by the Privet in the vicinity of the rear boundary. Exempt species under Penrith City Council - Exempt Tree Species List.
7	*Ulmus parvifolia*	Chinese elm	8	15 N/S	M	F/ P	G	L	180 x3 300 240	500	5.88	2.47		The eastern codominant stem has failed because of the bark inclusion and with other bark inclusions noted. Low set canopy, with dome like form. Plans denotes this tree is within the construction zone and therefore deemed a total loss. Remove tree

4.0 Indirect Impacts

The following are indirect impacts that trees may succumb to during construction related activities. It is imperative that these be taken into consideration and all attempts made to minimise indirect impacts, as they can occur over the duration of construction and indeed accumulate to have significant effect on trees longevity.

I. *Mechanical damage from plant/machinery*; Direct wounding and damage of stems and branches by large plant & machinery, including excavator, bob cat, crane, etc., during construction activities will have some impact in the form of cambium damage/abrasion to tree trunks and branch tearing well into collar attachments in turn exposing live woody tissue and predisposing the tree to pest and disease. Similarly, plant/machinery is also responsible for soil compaction within the trees TPZ.

II. *Indirect root injury from soil compaction*; When soil is compacted either via building materials/debris stockpiled on the TPZ or TPZ is utilised as a thoroughfare for heavy plant and machinery, the soil inevitable becomes compacted and impacts on the air and moisture uptake and ultimately affecting the gaseous exchange within the drip line that is vital for the trees health and longevity.

III. *Soil contamination;* where chemicals, cement, and paint products etc., get washed or spilled into the soil and the tree absorbs the soluble content through its roots in addition lime from cement wash off can alter the soil PH

IV. *Soil grade changes;* when the top soil cover down to a depth of approximately 150mm is striped it can illuminate vital feeder roots and can temporarily shock the tree. This process is common particularly during the landscape process. In addition, these fine roots if exposed can prematurely dehydrate and die

V. *Landscaping Impact*; Side paths and driveways comprised of concrete and non-porous materials can deprive roots of air and water and affect gaseous exchange. This is particularly true when there has been lack of consideration for trees located on adjacent properties and within close proximity to building envelope. In addition, masonry fence lines require sub grade footings and usually at the expense of root loss of nearby trees. Furthermore, there can be an increase in reflected heat to the remaining trees as a result from surrounding hard surfaces.

5.0 Discussion and Conclusion

I. The Arborist notes the sites , with the exception of the large significant Lemon scented gum, are devoid of large significant trees, and notes that vegetation assessed is characteristically small to medium, with no tree on site being assigned a high retention value .

II. Through consultation with designers, the Arborist notes the challenges brought about by redevelopment, where often the required developable area is markedly increased, mainly due to the size of the new development, upgrading of required facilities, amenities and inclusions associated with modern building.

III. In this case, the inclusion of a basement for secure off- street car parking, and to meet the needs of increased patronage, requires major soil cuts, inevitably at the expense of some of the natural environment. The Arborist cannot make judgments on other planning controls , nor on the clients choice of site usage, but takes such factors into consideration when assessing the viability of trees long term with respect to building and associated construction activities.

IV. Given the *nature* of the proposal it is *inevitable* that the natural environment will be lost to accommodate for the building footprint that includes a bulk soil cut for the basement that extends close to the eastern and western site boundaries, leaving rear boundary private open space , assumedly as a deep soil zone.

V. In accordance with AS4970:2009, site trees, T2 - T7 are all totally lost for the basement footprint , or for building area (side access), the Arborist noting none of these trees as worthy of design changes for their retention. The Arborist notes that of this cohort of trees, T3, T4 and T6 are exempt trees according to Penrith City Council and T2, T5 and T7 lack real arboricultural or landscape merit.

VI. The Arborist focus was then on the retention and management of T1, given its amenity and streetscape appeal. The Arborist accepts that the design allows 5.5m setback for the basement, resulting in a 12.41% incursion in accordance with AS4970:2009, marginally higher than the allowable incursion. However, the incursion is compounded when plans suggest the further grade modifications for ground floor, and pruning of the canopy to suit building elevations.

VII. In appraising the extent of pruning required for T1, to suit proposed building elevations, the Arborist noted several factors that consequently made him re-evaluate the trees retention, including the species itself and associated issues.

VIII. The extent of pruning was actually considered extensive in that large diameter branches would have to be removed to accommodate building elevations, mainly in part as the canopy is wide , low set and overcrowded. Indeed the tree itself cannot be formatively pruned to rectify the issues associated with the canopy, in that the tree is expected to respond with epicormic regrowth.

IX. At the inspection , the Arborist noted the tree having suffered several incidences of branch failure, with the apical stem completely lost, for reasons unknown.

X. The Lemon scented gum, is synonymous with the phenomenon of Summer Brach Drop (SBD) ,where mature trees, for no obvious reason , drop large branches. Barrell (2014) discusses that there are three major factors that create a threshold for defining SBD. Firstly , the tree must be mature, secondly the branch failure occurs after heavy rainfall following long periods of drought, much of what has occurred between 2019 and present in Sydney, and finally , the tree shows no other obvious defects that would correlate with the limb failure.

XI. Given the tree shows no obvious signs other defects, the loss of branches is being attributed to its genetic predisposition , and therefore this tree passes the thresholds for SBD.

XII. Whilst it is generally not a reasonable thought to remove trees purely based on what some refer to as anecdotal , rather than, scientific evidence, the fact is , that spontaneous limb failure *does* occur, and it has been documented enough to allow many Sydney Councils to be "weary " of certain species, in particular, the Lemon scented gum, which tells us that management of these trees is pertinent.

XIII. The Arborist has had to assess this tree ,contextually, that being in the context of high traffic area , where the tree hovers over a *higher* density of building on site, the pedestrian walkway, the street and adjoining sites.

XIV. It is for this reason that the Arborist re-evaluated the trees retention, after it seemingly passed the threshold test for SBD, and where it now poses an "unmanageable " risk . Even where an Arborist assumes the role of "monitoring " trees, this is challenged in this case, where in part, there are still some unknowns as to *why* SBD occurs, and that it is not easy, or even possible, to define or predict future limb failures , and therefore the tree is an unmanageable asset.

XV. Even where the risk of SBD is still considered low*,* the Arborist , in his professional judgement, feels that a preventative approach would be best suited on this site , where *no* amount of risk is considered acceptable, where frequency of use will be high.

6.0 Recommendations

I. The Arborist supports the removal of T1-T7.

II. The Park Ave verge can accommodate two (2) new advanced street tree plantings, at the developers cost, to suit Penrith Street Tree Master Plan.

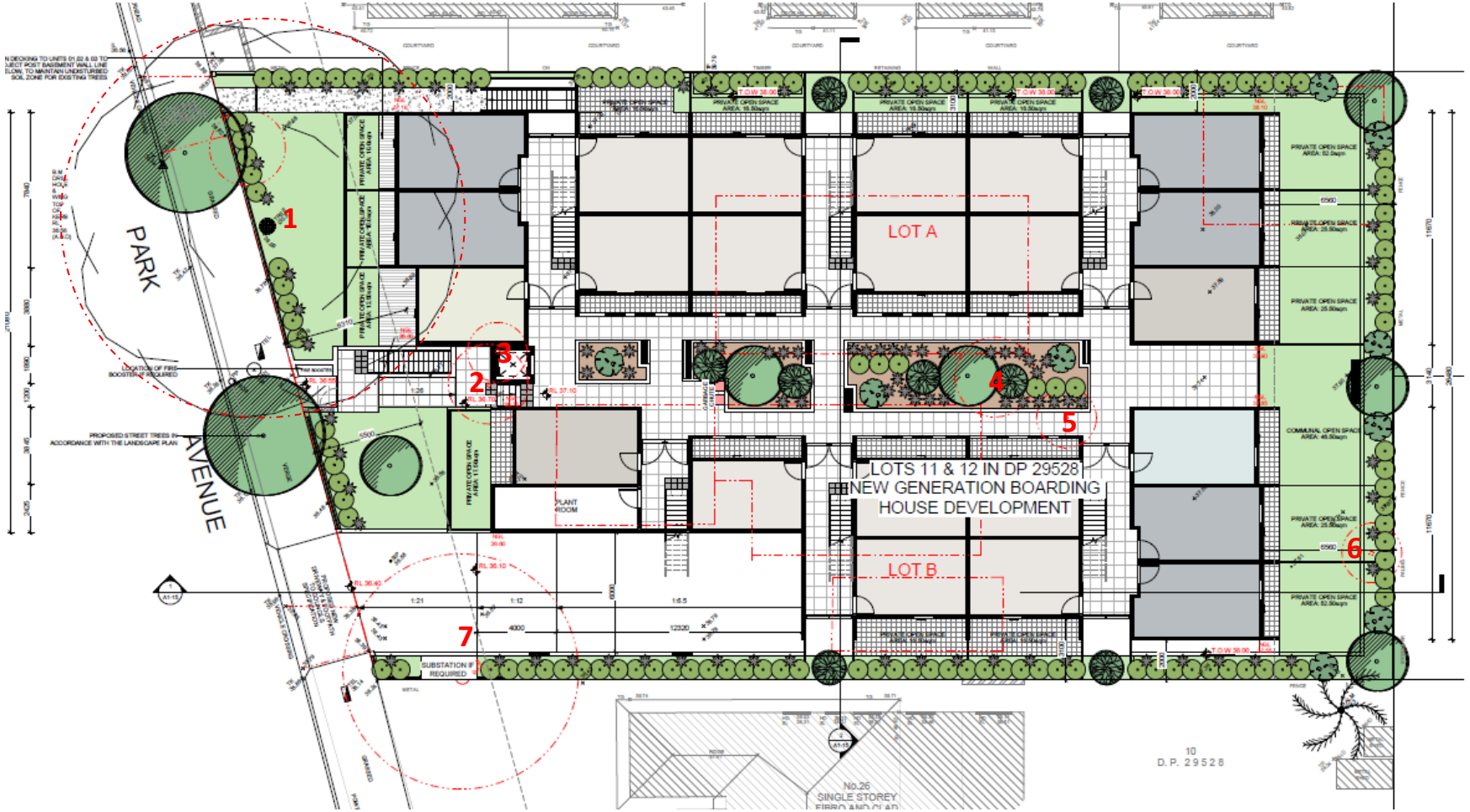
III. The Landscape Plan should also adequately compensate for the loss of tree canopy, with new small to medium sized trees in deep soil zones int ne rear , and in anterior common areas, where trees become communal assets and are subjected to a management regime. The replanting of Lemon scented gum is not endorsed.

Yours Faithfully,

Sam Allouche
Diploma of Arboriculture (AQF Level 5)
Cert IV in Horticulture
Arboriculture Australia (Consultant Arborist) | Member No. 1469
Member of I international Society of Arboriculture | Member No .173439

Appendix A

Tree Location Plan



Appendix B

Photographs

Photo 1: Looking south at T1 in location

Photo 2:Northern perspective of the crown. Note the torn apical stem, per red arrow

Photo 3: Looking east at T2 and T3 ,in location

Photo 4: Looking south at T4,in location

Photo 5: Looking west at T5, in location

Photo 6: Looking north at T6, in location

Photo 7: Looking north at T7, in location

Photo 8 : Bark included failed stem in T7

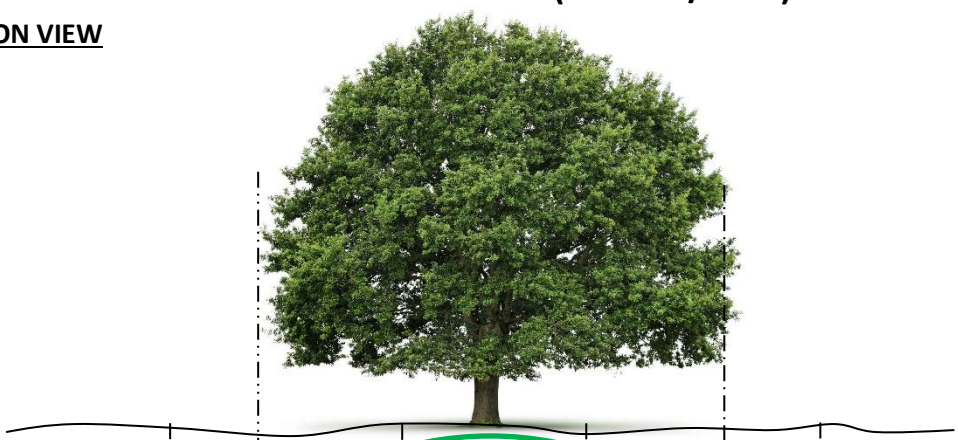
Appendix C

Tree Assessment & Impacts Evaluation Table Notes					
H	Height of tree (estimated)				
S	Spread of tree (estimated)				
Age	Y = Young J= Juvenile M= Mature O=Over mature S=Senescent EM = Early Mature				
Condition	G= Good F=Fair P= Poor D= Dead				
TREES AZ	Categorisation of trees with regards to development Refer to Appendix – Tree AZ				
Retention Value	H=High M=Medium L=Low R=Removal (Refer to Appendix - Significance of a Tree, Assessment Rating System (STARS)©				
DBH	Diameter at Breast Height (estimated circumference of tree at approximately 1400mm)				
DAB	Diameter at Basal				
TPZ	Calculated area above and below ground at a radial distance form centre of trunk. Exclusion zone for the protection of tree roots and crown to ensure tree viability				
SRZ	Calculated area below ground at a radial distance from centre trunk of tree, required exclusively for tree stability				
Setback	Calculated setback for proposed works from tree, measured at centre of trunk.				
Impacts/Incursion	Calculated degree of incursion				
	Nil No impact	Low 0% - 15%	Moderate 15%- 25%	Significant 25%+	Total Loss Lost to proposal
Tree data/Impacts Summary	Arborist commentary on tree location, health, structure and relationship to development.				

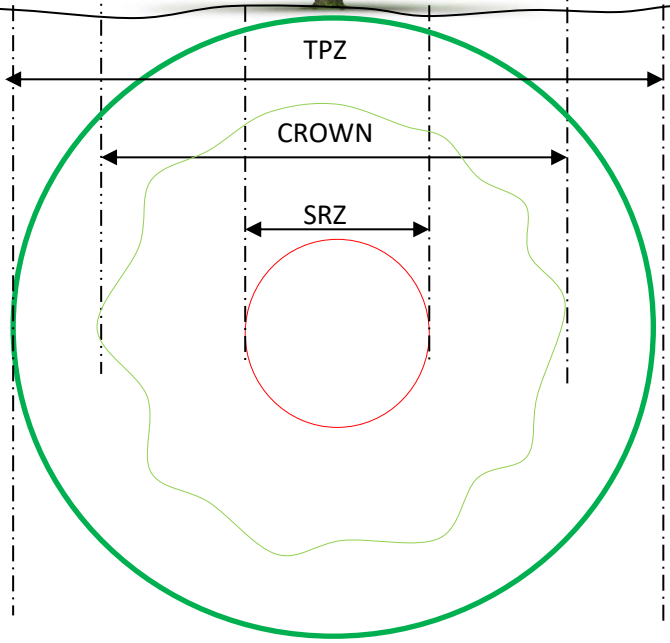
Appendix D

Indicative TPZ and SRZ (AS 4970/2009)

ELEVATION VIEW



PLAN VIEW



CALCULATIONS

TPZ (Radius) = DBH X 12

SRZ (Radius) = $(D \times 50)^{0.42} \times 0.64$

- The Australian Standards provides a formula for calculating both the TPZ and SRZ. The TPZ is a combination of both root and crown area requiring protection for viable tree retention. Basically, it is the area isolated from construction disturbances. The TPZ incorporates the SRZ, the area required for tree stability.
- It should be noted that the TPZs have been calculated with the following in mind; tree characteristics, typography of the site and the TPZ reconfiguration allowance as stated in AS 4970-2009. (Refer to Appendix E for calculation methods of TPZ.) The Standards allow 10% of the radii from one edge of the TPZ to be offset and added to another edge whilst still maintaining total surface area required for TPZ
- TPZ of palms is calculated as no greater than 1m of its radial canopy span and no SRZ is calculated.
- TPZ and SRZ estimated only and cannot be relied on as accurate with trees on neighbouring properties

Appendix E

IACA Significance of a Tree, Assessment Rating System (STARS) (IACA 2010)©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria* and *Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High, Medium and Low significance* in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria

1. High Significance in landscape

- The tree is in good condition and good vigour;
- 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 vigour;
- 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 vigour;
- 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,
- 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,

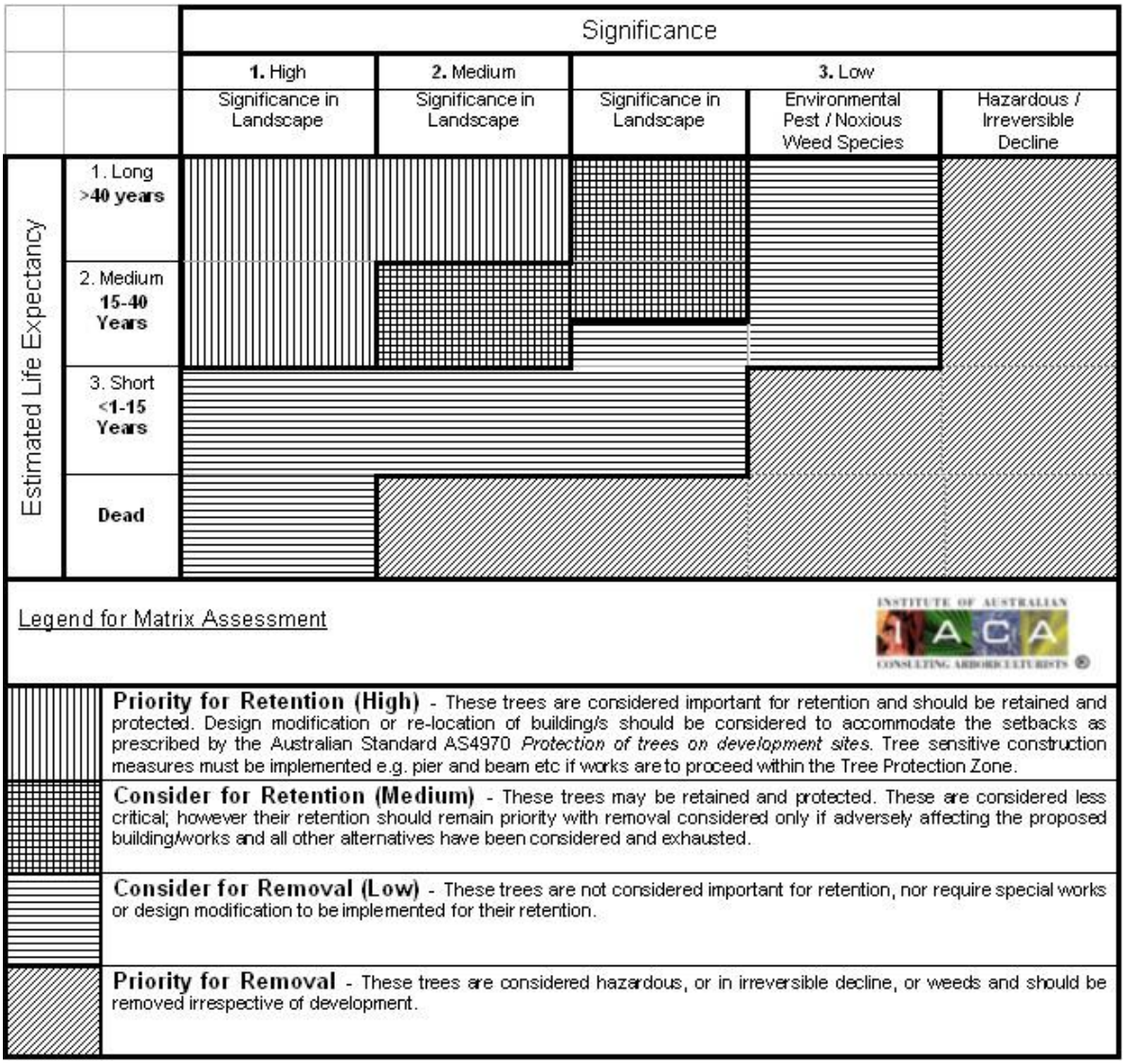
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.
  Environmental Pest / Noxious Weed Species
- The tree is an Environmental Pest Species 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

Table 1.0 Tree Retention Value - Priority Matrix

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



Appendix E

Tree AZ Categories (Version 10.10 ANZ)

Category Z: Unimportant trees not worthy of being a material constraint

Local policy exemptions: Trees that are unsuitable for legal protection for local policy reasons including size, proximity and species

Z1	Young or insignificant small trees, i.e. below the local size threshold for legal protection, etc
Z2	Too close to a building, i.e. exempt from legal protection because of proximity, etc
Z3	Species that cannot be protected for other reasons, i.e. scheduled noxious weeds, out of character in a setting of acknowledged importance, etc

High risk of death or failure: Trees that are likely to be removed within 10 years because of acute health issues or severe

Z4	Dead, dying, diseased or declining
Z5	Severe damage and/or structural defects where a high risk of failure cannot be satisfactorily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, overgrown and vulnerable to adverse weather conditions, etc
Z6	Instability, i.e. poor anchorage, increased exposure, etc

Excessive nuisance: Trees that are likely to be removed within 10 years because of unacceptable impact on people

Z7	Excessive, severe and intolerable inconvenience to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. dominance, debris, interference, etc
Z8	Excessive, severe and intolerable damage to property to the extent that a locally recognized court or tribunal would be likely to authorize removal, i.e. severe structural damage to surfacing and buildings, etc

Good management: Trees that are likely to be removed within 10 years through responsible management of the tree population

Z9	Severe damage and/or structural defects where a high risk of failure can be temporarily reduced by reasonable remedial care, i.e. cavities, decay, included bark, wounds, excessive imbalance, vulnerable to adverse weather conditions, etc
Z10	Poor condition or location with a low potential for recovery or improvement, i.e. dominated by adjacent trees or buildings, poor architectural framework, etc
Z11	Removal would benefit better adjacent trees, i.e. relieve physical interference, suppression, etc
Z12	Unacceptably expensive to retain, i.e. severe defects requiring excessive levels of maintenance, etc

NOTE: Z trees with a high risk of death/failure (Z4, Z5 & Z6) or causing severe inconvenience (Z7 & Z8) at the time of assessment and need an urgent risk assessment can be designated as ZZ. ZZ trees are likely to be unsuitable for retention and at the bottom of the categorization hierarchy. In contrast, although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate.

Category A: Important trees suitable for retention for more than 10 years and worthy of being a material constraint

A1	No significant defects and could be retained with minimal remedial care
A2	Minor defects that could be addressed by remedial care and/or work to adjacent trees
A3	Special significance for historical, cultural, commemorative or rarity reasons that would warrant extraordinary efforts to retain for more than 10 years
A4	Trees that may be worthy of legal protection for ecological reasons (Advisory requiring specialist assessment)

NOTE: Category A1 trees that are already large and exceptional, or have the potential to become so with minimal maintenance, can be designated as AA at the discretion of the assessor. Although all A and AA trees are sufficiently important to be material constraints, AA trees are at the top of the categorization hierarchy and should be given the most weight in any selection process.

TreeAZ is designed by Barrell Tree Consultancy (www.barrelltreecare.co.uk) and is reproduced with their permission

Appendix F

Glossary of Terms

Taken from: Draper, D. B and Richards, P.A. (2009) Dictionary for Managing Trees in Urban Environments, CSIRO Publishing, Victoria, Australia

Arborist An individual with competence to cultivate, care and maintain trees from amenity or utility purposes.

Basal Proximal end of the trunk or branch, e.g. trunk wound extending to the ground is a basal wound, or as epicormic shoots arising from lignotuber

Branch failure The structural collapse of a branch that is physically weakened by wounding or from the actions of pests and diseases or overcome by loading forces in excess of its load – bearing capacity.

Buttress A flange of adaptive wood occurring at a junction of a trunk and root or trunk and branch in response to addition loading.

Callus wood Undifferentiated and unlignified wood that forms initially after wounding around the margins of a wound separating damaged existing wood from the later forming lignified wood or wound wood.

Canker A wound created by repeated localized killing of the vascular cambium and bark by wood decay fungi and bacteria usually marked by concentric disfiguration. The wound may appear as a depression as each successive growth increment develops around the lesion forming a wound margin (Shigo 1991, p. 140)

Canopy cover The amount of area of land covered by the lateral spread of the tree canopy, when viewed from above that land.

Codominant stem Two or more first order structural branches or lower order branches of similar dimensions arising from about the same position from a truck or stem.

Crown Of an individual tree all the parts arising above the trunk where it terminates by its division forming branches, e.g. the branches, leaves, flowers and fruits; or the total amount of foliage supported by the branches.

Decline The response of the tree to a reduction of energy levels resulting from stress. Recovery from a decline is difficult and slow, and decline is usually irreversible.

Diameter at Breast Height (DBH) Measurement of a trunk width calculated at a given distance from above ground from the base of the tree often measured at 1.4m.

Dominance A tendency in a leading shoot to maintain a faster rate of apical elongation and expansion other than other nearby lateral shoots, and the tendency also for a tree to maintain a taller crown than its neighbours (Lonsdale 1999, p.313)

Dripline A line formed around the edge of a tree by the lateral extent of the crown.

Dynamic Load Loading force that is moving and changes over time, e.g. from wind movement (James 2003, p. 166)

Endemic A native plant usually with a restricted occurrence limited to a particular country, geographic region or area and often further confined to a specific habitat.

Epicormic Branch derived from an epicormic shoot

Frass The granular wood particles produced from borer insects and can be categorized as fine frass, medium frass, and coarse frass with the different types being of different sizes and caused by different insects.

Habitat tree A tree providing a niche supporting the life processes of a plant or animal

Hazard The threat of danger to people or property from a tree or tree part resulting from changes in the physical condition, growing environment, or existing physical attributes of the tree, e.g. included bark, soil erosion, or thorns or poisonous parts, respectively.

Included bark The bark on the inner side of the branch union , or in within a concave crotch that is unable to be lost from the tree and accumulates or is trapped by acutely divergent branches forming a compression fork

Indigenous A native plant usually with a broad distribution in a particular country, geographic region or area. See also Endemic, Locally indigenous and non-locally indigenous. .

In situ Occurring in its original place, e.g. soil level, remnant vegetation, the place from where a tree was transplanted, or where a tree is growing.

Irreversible decline The decline of a tree where it has progressively deteriorated to a point where no remedial works will be sufficient to prevent its demise , usually of poor form and low vigour.

Isolated tree A tree growing as a solitary specimen in an exposed location away from other trees as a result of natural or artificial causes and may be naturally occurring.

Kino The extractive polyphenols (tannins) formed in veins in a cambial zone as a defense in response to wounding in eucalypts. Often visible as an exudate when the kino veins rupture or are injured (Boland, *et al.* 2006, p. 691)

Lignotuber A woody tuber developed in the axils of the cotyledons.

Loading Weight that is carried, e.g. as bending stress on a branch.

Locally Indigenous A native plant as remnant vegetation, self-sown or planted in an area or region where it occurred originally.

Longevity Long lived, referring to a plant living for a long period of time.

Mechanical wound -Wound inflicted by abrasion, by mechanical device

Naturalised A plant introduced from another country or region to a place where it was not previously indigenous where it has escaped from agriculture or horticulture or as a garden escape and has sustained itself unassisted and given rise to successive generations of viable progeny.

Necrotic Dead area of tissue that may be localized e.g. on leaves, branches, bark or roots

Negligence With regard to trees , failure to take reasonable care to prevent hazardous situations from occurring which may result in injury to people or damage to property (Lonsdale 1999, p. 317)

Noxious weed A plant species of any taxa declared a weed by legislation. Treatment for the control or eradication of such weeds is usually prescribed by legislation...

Remnant A plant /s of any taxa and their progeny as part of the floristics of the recognised endemic ecological community remaining in a given location after alteration of the site or its modification or fragmentation by activities on that land or on adjacent land

Useful Life Expectancy (ULE) A system used to determine the time a tree can be expected to be usefully retained

Shedding - Shedding of plant organs when it is mature or aged, by the formation of a corky layer across its base. This may be influenced by stress, drought, senescence, declining condition, reduced vigour and also occurs

Stability Resistance to change especially from loading forces or physical modifications to a trees growing environment

Stress A factor in a plants environment that can have adverse impacts on its life processes e.g. altered soil conditions, root damage, toxicity, drought or water logging. The impact t of stress may be reversible given good arboricultural practices that may lead to plant decline.

Structural defect A weak point in or on a tree causing its structural deterioration diminishing its stability in full or part

Structural integrity The ability of a load bearing part of a tree, and its resistance to loading forces

Structural roots- Roots supporting the infrastructure of the root plate providing strength and stability of the tree.

Symbiotic An association between different species usually but not always mutually beneficial.

Termite leads Tunnels of mud on the stem and between the bark created by termites that may be active or inactive.

Tree Protection Zone (TPZ) A combination of RPZ and CPZ as an area around the tree set aside for the protection of a tree and a sufficient proportion of its growing environment above and below ground established prior to demolition or construction and maintained until the completion of works to allow for its viable retention including stability.

Visual Tree Assessment (VTA) A visual inspection of a tree from the ground. Such assessment should only be undertaken by suitably competent practitioners.

Disclaimer

This report has been compiled using knowledge & expertise relating to trees, and makes recommendations based on this. It should be noted that trees are affected by many elements, environmental and situational, some of which cannot be predicted or foreseen even by Qualified Arborists.

The client when reading this report should take the following factors into consideration;

- It is not feasible to assume that Arborists identify all hazards or risks associated with trees at the time of consultation or indeed in this report.
- This Assessment is valid for 3 months from the date stipulated on the report, and may need to be updated after this.
- Regular maintenance and monitoring by a Qualified Arborist will minimize the risks associated with tree and contribute to its longevity in its growing environment, however there is no guarantee that all risks are to be eliminated and that the tree is not privy to external factors that will impact on the tree after it has been assessed by our service.
- The report is compiled in good faith, where any information given to our service is correct and true, and where interested parties and /or stakeholders are notified. This includes title and ownership of property, orders as directed by relevant authorities, development application determinations and other matters that affect the tree/s in question.
- The Arborist shall not be required to give testimony or to attend court by reason of this report unless other arrangements are made prior.
- This Arborist Report does not issue permission for any recommendations made in this report, particularly where trees are to be removed. Permission must be sought and obtained from Council and owner/s of trees.
- Any treatments recommended by the Arborist cannot be guaranteed, due to the volatile environment in which trees are growing.
- Clients may choose to accept or disregard the recommendations of the Arborist, or to seek additional advice.
- This report is intended for the Recipient, no part of this report is to be copied or altered without the authors permission

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Hemanote Consultants

27-28 PARK AVENUE, KINGSWOOD

PROPOSED NEW AGE BOARDING HOUSE

TRAFFIC & PARKING IMPACT ASSESSMENT

MARCH 2021

HEMANOTE CONSULTANTS PTY LTD

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TRAFFIC & PARKING IMPACT ASSESSMENT
27-28 PARK AVENUE, KINGSWOOD
PROPOSED BOARDING HOUSE
DATE: 30 MARCH 2021

DISCLAIMER

Doc. Revision	Prepared by	Reviewed by	Issued by	Issued date
Draft 1 (internally)	S. Payet	R. Selim	S. Payet	31 March 2021
Final draft (internally)	S. Payet	R. Selim	S. Payet	30 March 2021
Final report (to client)	S. Payet	R. Selim	R. Selim	31 March 2021

Table of Contents

1 INTRODUCTION

This report has been prepared by Hemanote Consultants to assess the traffic and parking implications for the proposed new age boarding house development at 27-28 Park Avenue, Kingswood, for sixty-four (64) self-contained boarding rooms, over two basement parking levels.

This report is to be read in conjunction with the architectural plans prepared by CK Design (reduced copy of the plans is attached in Appendix 'A' of this report) and submitted to Penrith City Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and its use;
- *Section 3:* Description of existing traffic conditions near the subject site;
- *Section 4:* Description of the proposal, vehicular access and on-site parking provision, layout and circulation;
- *Section 5:* Assessment of the on-street parking conditions and utilisation near the subject site; and impacts on parking;
- *Section 6:* Assessment of impacts on traffic near the subject site; and
- *Section 7:* Outlines conclusions.

2 EXISTING SITE DESCRIPTION

➢ ***Site Location***

The site is located on the northern side of Park Avenue at properties No. 27-28 (legally known as Lots 11 and 12 of DP29528) within the suburb of Kingswood. The site has a frontage of approximately 32 metres to Park Avenue from the south. Refer to Figure 1 for a site locality map.

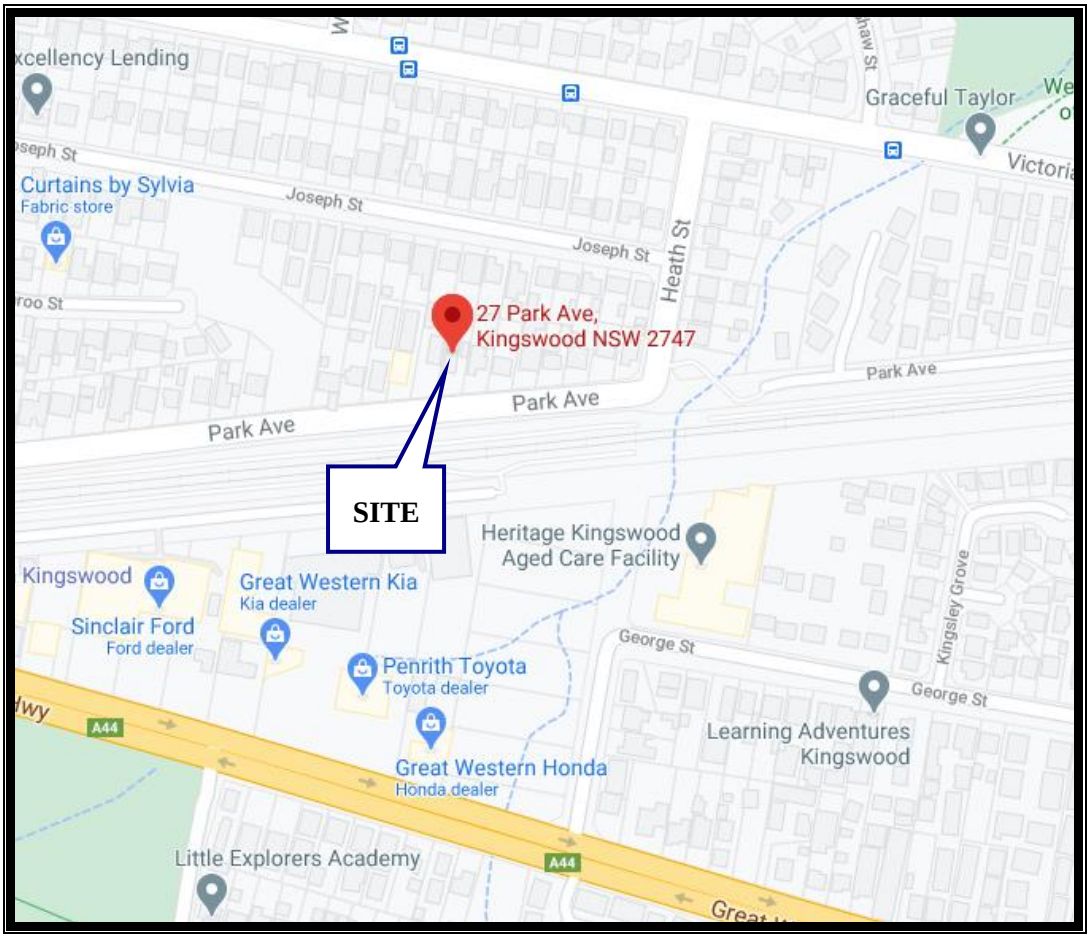


Figure 1: Site Locality Map

- ***Existing Site & Surrounding Land Use***

The subject site has an area of 1,680m^2 and is currently occupied by single residential dwellings. It is located in a mainly residential area, characterised by residential dwellings, as well as retail and commercial sites on the other side of the railway line. The site is also located approximately 850 metres from Kingswood Railway Station.

Photo 1: The frontage of the subject site to Park Avenue

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

Park Avenue is a local collector road that runs in an east to west direction, between Heath Street (local road) to the east and Richmond Road (local road) to the west. It intersects with Walter Street and Heath Street near the subject site.

3.2 Road Description and Traffic Control

Park Avenue has a two-way undivided carriageway with a width between kerbs of approximately 11 metres. This carriageway generally provides one travel lane per direction, with on-street parking available on both sides of the road. At present, unrestricted parking is permitted on both sides of Park Avenue, including the frontage of the subject site.

The legal speed limit on Park Avenue is 50km/h. Park Avenue intersects with Walter Street and is controlled by a T-priority, given to traffic travelling along Park Avenue.

Figure 2: Aerial photo of the subject site

Photo 2: Park Avenue near the subject site - facing east

Photo 3: Park Avenue near the subject site - facing west

3.3 Current Traffic Flows

A traffic volume count was undertaken by Hemanote Consultants on Park Avenue in front of the subject site on Wednesday 24 March 2021, during the morning period (7.00am to 9.00am) and afternoon period (3.00pm to 6.00pm), considering traffic peak periods.

The current traffic flows in the morning & afternoon peak are shown in Table 1 below.

Traffic movement	Morning Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	7.30am – 8.30am	5.00pm – 6.00pm
Park Avenue		
Eastbound	182	190
Westbound	175	184

Table 1: Current Peak traffic flows in the vicinity of the subject site (on a typical weekday)

The results of the traffic volume counts undertaken determined that the traffic morning peak period on Park Avenue was between 7.30am to 8.30am and the afternoon peak period was between 5.00pm to 6.00pm on a typical weekday.

The current traffic flows on Park Avenue near the subject site are typical for a local collector road in a mainly residential area near a railway station, where traffic is free flowing without major queuing or delays in peak hours, with spare capacity.

It is determined that the existing mid-block level of service on Park Avenue near the subject site is at level 'A', in accordance with Table 4.4 of the Roads & Maritime Services' *"Guide to Traffic Generating Developments - 2002"* (shown below) where peak hour flow is less than 200 vehicles/hr/direction.

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Table 4.4: Urban road peak hour flows per direction RMS Guide)

3.4 Existing Transportation Services

The subject site has good access to existing public transport services in the form of trains and buses. The site is located approximately 850 metres from Kingswood Railway Station.

Frequent bus services operate along Park Avenue, Victoria Street, Burton Street, Oxford Street, Richmond Road, William Street, Francis Street, Rugby Street, Charles Sturt Drive, Heavy Street, John Oxley Avenue, Wrench Street and Cambridge Street in close proximity of the subject site (i.e. bus routes 780, 782 and 785).

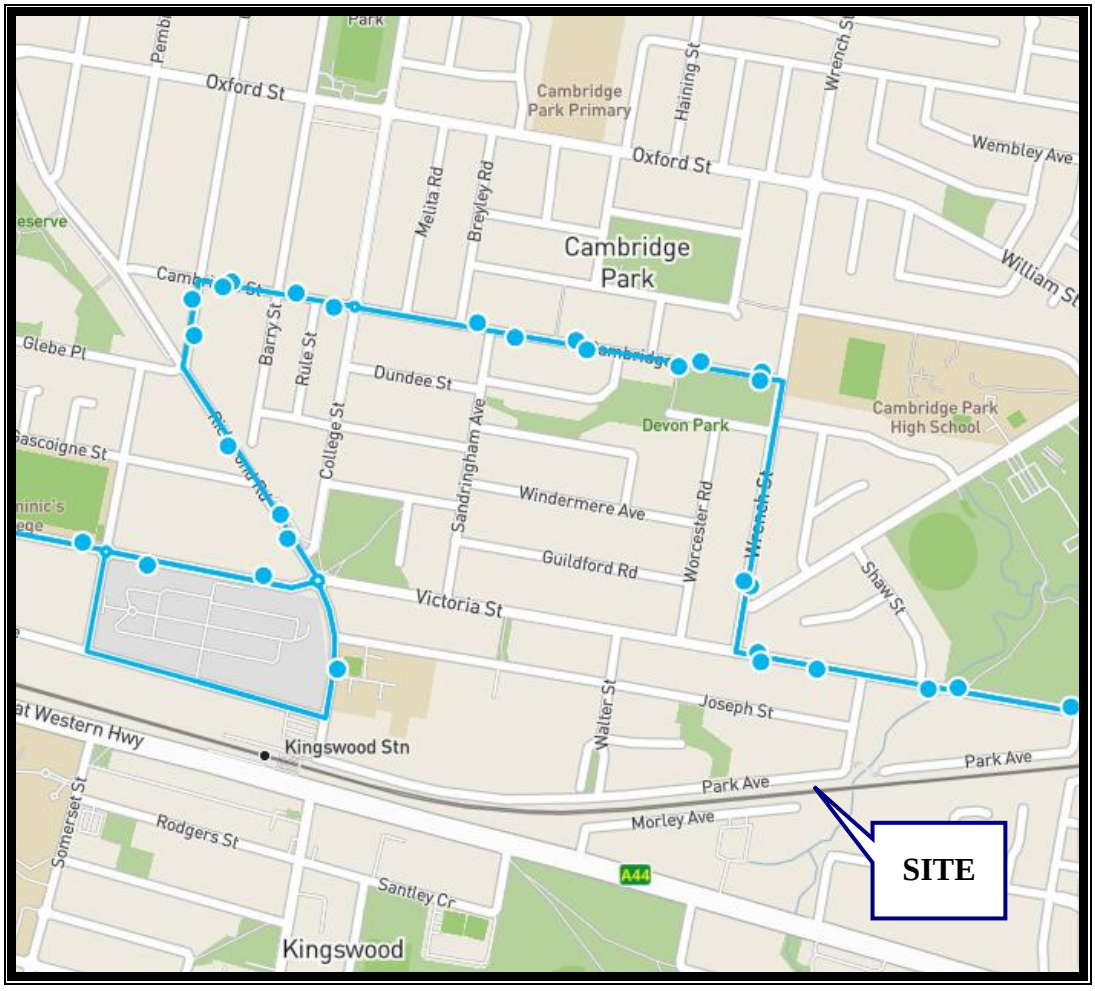


Figure 3: Bus services near the subject site (Bus route 785)

4 PROPOSED DEVELOPMENT

4.1 Description of the proposal

The proposed development is for the demolition of the existing residential dwellings located at 27-28 Park Avenue, Kingswood, and the construction of a new age boarding house with on-site basement parking.

The proposed development will include the following:

- A new age boarding house containing a total of sixty-four (64) self-contained boarding rooms (including 6 accessible rooms) allocated for the use of residents, in addition to a manager's room.
- A total of thirty-two (32) on-site car parking spaces (9 spaces in upper basement level and 23 spaces in lower basement level), including 6 accessible car spaces & adjacent shared areas, in addition to 13 motorcycle spaces (11 spaces in upper basement level and 2 spaces in lower basement level) and 13 bicycle storage spaces located in lower basement level.

Refer to ***Appendix 'A'*** for the proposed development plans.

4.2 Vehicular & Pedestrian Access

The vehicular access to and from the off-street basement car parking levels will be via an existing access driveway located towards the south-eastern corner of the site, in Park Avenue. The proposed access driveway is to be widened to 6.2 metres, which is adequate for a low volume (Category 1) access driveway in accordance with AS2890.1:2004 – Table 3.2.

The access driveway is to provide two-way vehicular movements, where two vehicles can pass each other at the same time without causing delays or congestion to traffic on the street. The proposed access driveway is located more than 6 metres from the tangent point of the adjacent kerbline, in accordance with Figure 3.1 of AS2890.1:2004.

Vehicular access is to be located and constructed in accordance with the requirements of AS2890.1:2004, where vehicles enter and exit the site in a forward direction at all times.

The existing vehicular crossing located in Park Avenue towards the south-western corner of the site is to be made redundant and replaced with new kerb, gutter and footpath, to be constructed to Council specifications.

The clear sight line triangle (2.5m x 2m) between the driver's eye view and pedestrians is to be provided on the exit side of the driveway, as per Figure 3.3 of AS2890.1:2004. A separate pedestrian access gate is also provided at the front of the site, to segregate pedestrians and vehicles and improve safety within the site.

4.3 On-site Parking Provision

The State Environmental Planning Policy (Affordable Rental Housing) ARHSEPP 2009 requires car parking to be provided at a rate of 0.5 car parking spaces for each boarding room for a development in an accessible area. The subject site is located in an accessible area as it is situated approximately 850 metres walking distance of a railway station and approximately 400 metres walking distance of a bus stop on a bus route. The ARHSEPP 2009 also requires parking for motorcycles and bicycles to be provided at a rate of 1 space per 5 boarding rooms.

Parking requirements	Car/ motorcycle/ bicycle parking rate	Proposed boarding rooms	Parking required	Total parking required	Total parking proposed
Boarding House Developments					
Car parking	1 per 2 boarding rooms	64	32	32	32
Motorcycle parking	1 per 5 boarding rooms		12.8	13	13
Bicycle parking	1 per 5 boarding rooms		12.8	13	13
			Total	58	58
Compliance with off-street parking					Yes

Table 2: On-site car, motorcycle & bicycle parking requirements and provision

The proposed boarding house for a total of 64 boarding rooms would, therefore require thirty-two (32) on-site car parking spaces, in addition to thirteen (13) motorcycle spaces and thirteen (13) bicycle storage spaces.

The proposed development provides a total of thirty-two (32) on-site car parking spaces (9 spaces in upper basement level and 23 spaces in lower basement level), including 6 accessible car spaces & adjacent shared areas, in addition to 13 motorcycle spaces (11 spaces in upper basement level and 2 spaces in lower basement level) and 13 bicycle storage spaces located in lower basement level.

Therefore, the on-site car, bicycle and motorcycle parking proposed is adequate for the proposed development and in compliance with ARHSEPP 2009 requirements.

4.4 On-site Parking Layout and Circulation

The layout of the on-site car parking area and manoeuvring arrangements has been designed to enhance vehicular and pedestrian access, where vehicles enter and exit the site in a forward direction, through the provision of adequate internal aisle width and turning space.

AS2890.1:2004 Parking facilities Part 1: Off-street car parking requires a minimum parking space width of 2.4 meters (for User Class 1A residential parking) and a minimum length of 5.4 meters. The proposed off-street car spaces have a minimum clear width of 2.4 metres and a minimum length of 5.4 meters each, which is adequate.

The accessible car parking spaces have a width of 2.4 metres, in addition to adjacent 2.4 metres wide shared area, which is adequate in accordance with AS2890.6:2009.

An extension at the blind aisle has been provided beyond the last parking spaces in accordance with Clause 2.4.2(c) of AS2890.1:2004. Car parking spaces adjacent to walls or obstructions have been made wider than the minimum width, to accommodate full door opening in accordance with Clause 2.4.2(d) of AS2890.1:2004.

Clause 2.4.2 of AS2890.1:2004 requires a minimum aisle width of 5.8 metres for two-way aisles, adjacent to 90^{o} angle parking. The proposed aisles have a minimum width of 6 metres, which is adequate for two-way traffic and manoeuvring into and out of parking spaces.

A 4.3 metres wide turning bay is provided towards the rear of the upper basement level, to allow vehicles to turn around within a maximum three-point-turn, if all other car parking spaces are occupied and exit the site in a forward direction.

The ramp to the upper basement level has a clear width of 5.5 metres, in addition to a 300mm wide kerb on either side and has a grade of 1:20 (5%) for the first 5.3 metres within the site. It has a maximum grade of 1:6.5 (15.4%) with changes in grade of 8.3% for 4 metres at either end of the ramp, to prevent vehicle scraping.

The ramp to the lower basement level has a minimum clear width of 5.5 metres, in addition to a 300mm wide kerb on either side and has a maximum grade of 1:5 (20%) with changes in grade of 10% for 2 metres at either end of the ramp, to prevent vehicle scraping.

A minimum 2.2 metres headroom clearance is to be generally provided from the car park basement levels to the underside of all services conduits and suspended stormwater pipelines, in accordance with Clause 5.3.1 of AS2890.1:2004. A "Maximum Clearance 2.2m Height" sign is to be erected at the entrance to the basement car park area and is to be clearly visible to all drivers. A minimum 2.5 meters headroom clearance is to be provided above the accessible parking spaces and the adjacent shared zones in accordance with Clause 2.4 of AS2890.6:2009. A headroom clearance of 3.1 metres is provided at the entrance to the upper basement and leading up to the loading bay and truck turning area.

Traffic convex mirrors are to be installed at the vehicular ramps (as shown on the basement plans), to provide drivers with further assistance with viewing oncoming traffic.

All vehicular manoeuvring within the site has been designed and checked using the HRV, B99 and B85 design vehicle turning paths from AS2890.1:2004, AS2890.2:2018 and Austroads. Refer to the vehicle swept paths diagrams attached in Appendix 'B' of this report.

Therefore, the car parking layout and circulation are adequate in accordance with AS2890.1:2004, AS2890.6:2009 and AS2890.2:2018, where vehicles are to enter and exit the site in a forward direction at all times.

➢ ***Waste Collection***

All waste storage is to take place within the dedicated garbage storage area located in basement 1 level. Waste Bins will be collected by a private waste contractor within the loading bay located in the upper basement level, using a Heavy Rigid Vehicle (HRV – 9.7 metres long truck as shown below). A truck turntable (11 metres in diameter) is provided in front of the loading bay to ensure trucks can enter and exit the site in a forward direction. Refer to the truck swept path plans attached in Appendix 'B' of this report.

2.3.1 Low Entry Heavy Rigid Waste Collection Vehicle

Vehicle Classifications	Heavy Rigid Vehicle Dimensions
Overall Length (m)	9.7
Operational Length (m)	11.7
Design Width (m)	2.8
Design Height (m)	3.1
Swept Circle (m)	17.0
Clearance (travel height) (m)	3.5
Roadway/ramp grade (max)	1:6.5 (15.4%)
Rate of change of grade (max)	1:12 (8.3%) in 4.0m of travel
Gross Weight (max tonnes)	28.0
Front Chassis Clearance	13°
Rear Chassis Clearance	16°

Table 1: Standard dimensions in accordance with AS 2890.2

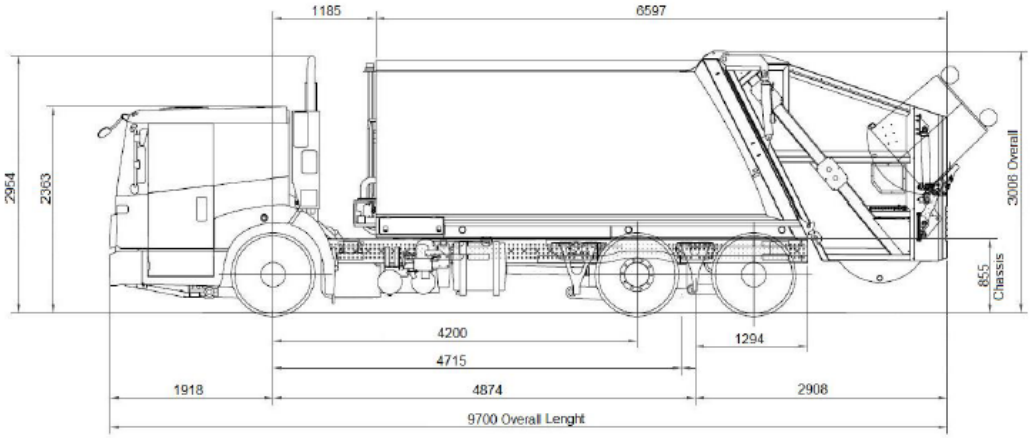


Figure 1: 9.7m Heavy Rigid Rear Load Waste Collection Vehicle specifications

5 ON-STREET PARKING PROVISION

5.1 Existing Parking Controls

The subject site is located in a mainly residential area, where unrestricted parking is permitted on both sides of Park Avenue, including the frontage of the subject site.

5.2 Impacts of Proposed Development on Parking

The parking demand resulting from the boarding house development can be accommodated within the proposed adequate and compliant on-site car, bicycle and motorcycle parking spaces. The subject site has good access to existing public transport in the form of train and bus services.

Therefore, the proposed development will not have adverse impacts on parking in the surrounding area.

6 EXTERNAL TRAFFIC IMPACT

An indication of the potential traffic generation of the proposed development is provided by the RMS *Guide to Traffic Generating Development - 2002*.

The Guide specifies the following traffic generation rates for high density residential developments:

- 1.52 daily vehicle trips per dwelling,
- 0.19 AM peak hour vehicle trips per dwelling, and
- 0.15 PM peak hour vehicle trips per dwelling.

Therefore, the proposed development with sixty-four (64) boarding rooms has an estimated traffic generation as follows:

- 98 daily vehicle trips (In and Out trips).
- 13 AM peak hour vehicle trips (In and Out trips).
- 10 PM peak hour vehicle trips (In and Out trips).

The estimated peak hour traffic generation from the proposed development is of low impact on existing flows on Park Avenue and surrounding streets. The traffic generated by the proposed boarding house development can be readily accommodated within the existing road network.

The potential increase in the number of vehicle movements in and about Park Avenue and adjacent streets is minor and will not have adverse impacts on the amenity of the area.

7 CONCLUSION

It can be concluded from the traffic and parking impact assessment that the proposed boarding house development at 27-28 Park Avenue, Kimgswood will not have adverse impacts on existing traffic or parking conditions and is worthy of Council's support in its current form.

- The current traffic flows on Park Avenue are typical for a local road in a mainly residential area near a railway station, with free-flowing traffic without major queuing or delay in peak traffic periods, with spare capacity.

- The estimated peak hour traffic generation is of low impact on existing flows on Park Avenue and the surrounding road network. The traffic generated by the proposed boarding house development can be readily accommodated within the existing road network.

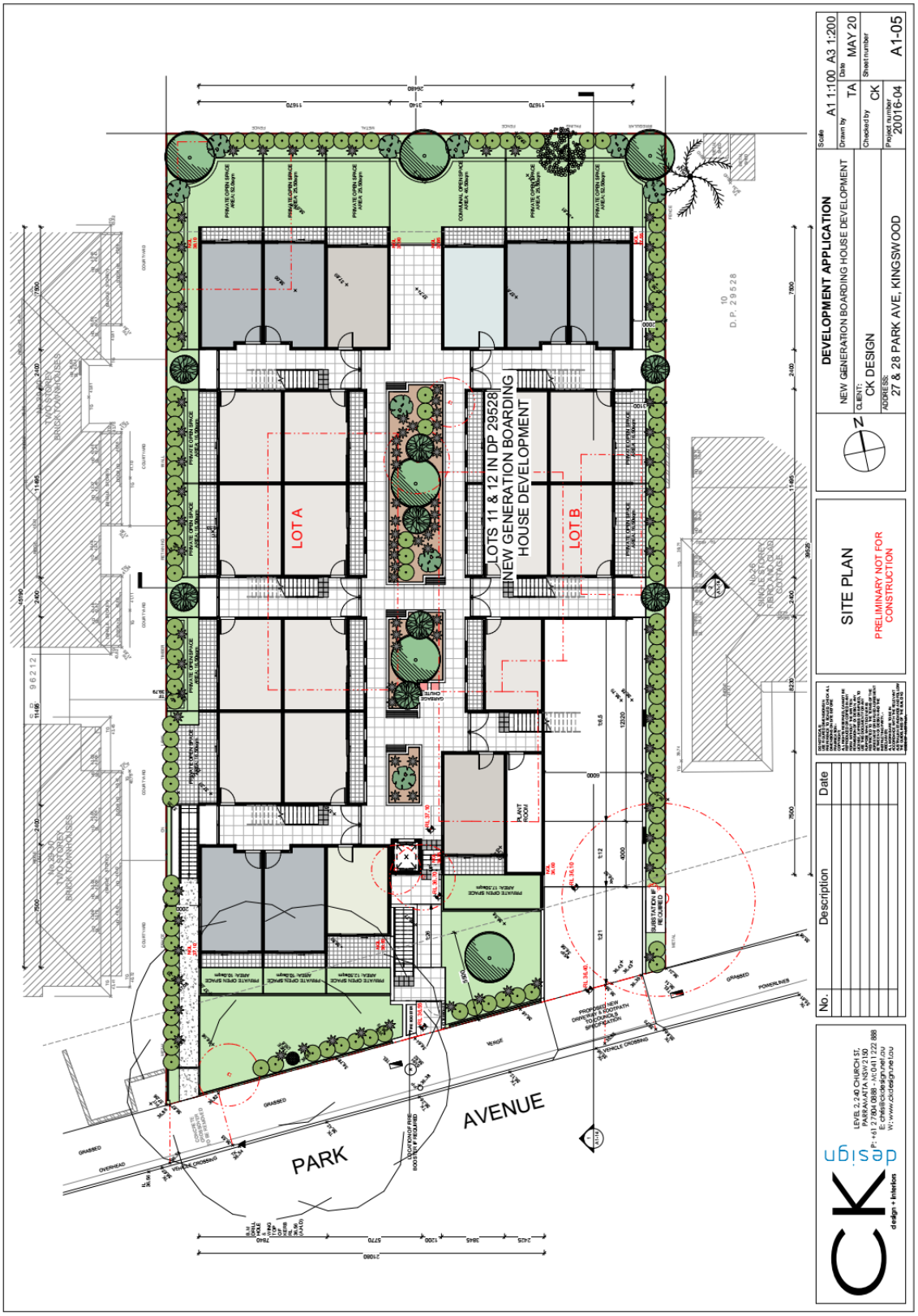
- The potential increase in the number of vehicle movements in and about Park Avenue and adjacent streets will not have adverse impacts on the amenity of the area.

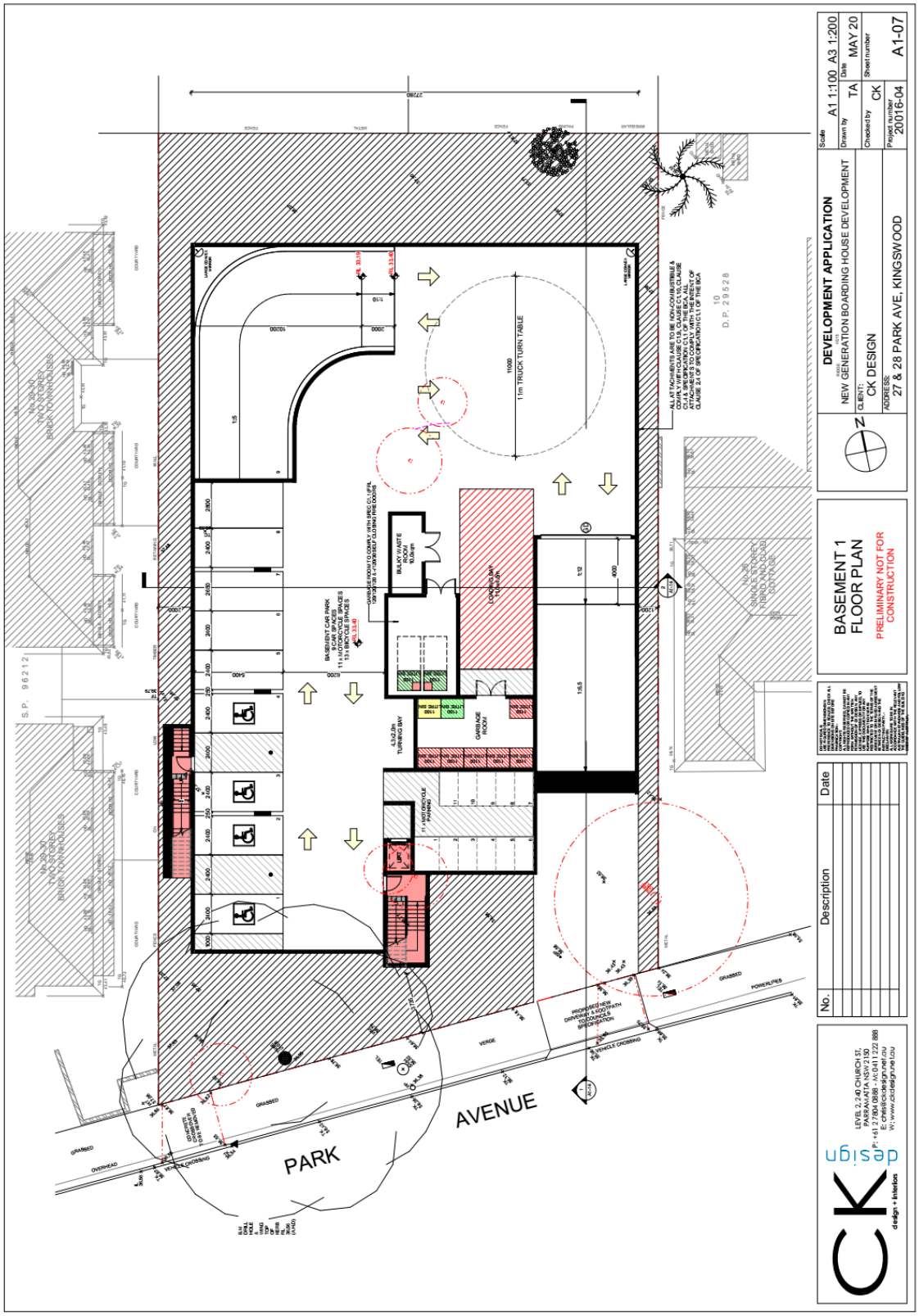
- The parking demand resulting from the proposed boarding house development can be easily accommodated within the proposed adequate off-street car, motorcycle and bicycle parking, which is in compliance with ARHSEPP 2009 requirements.

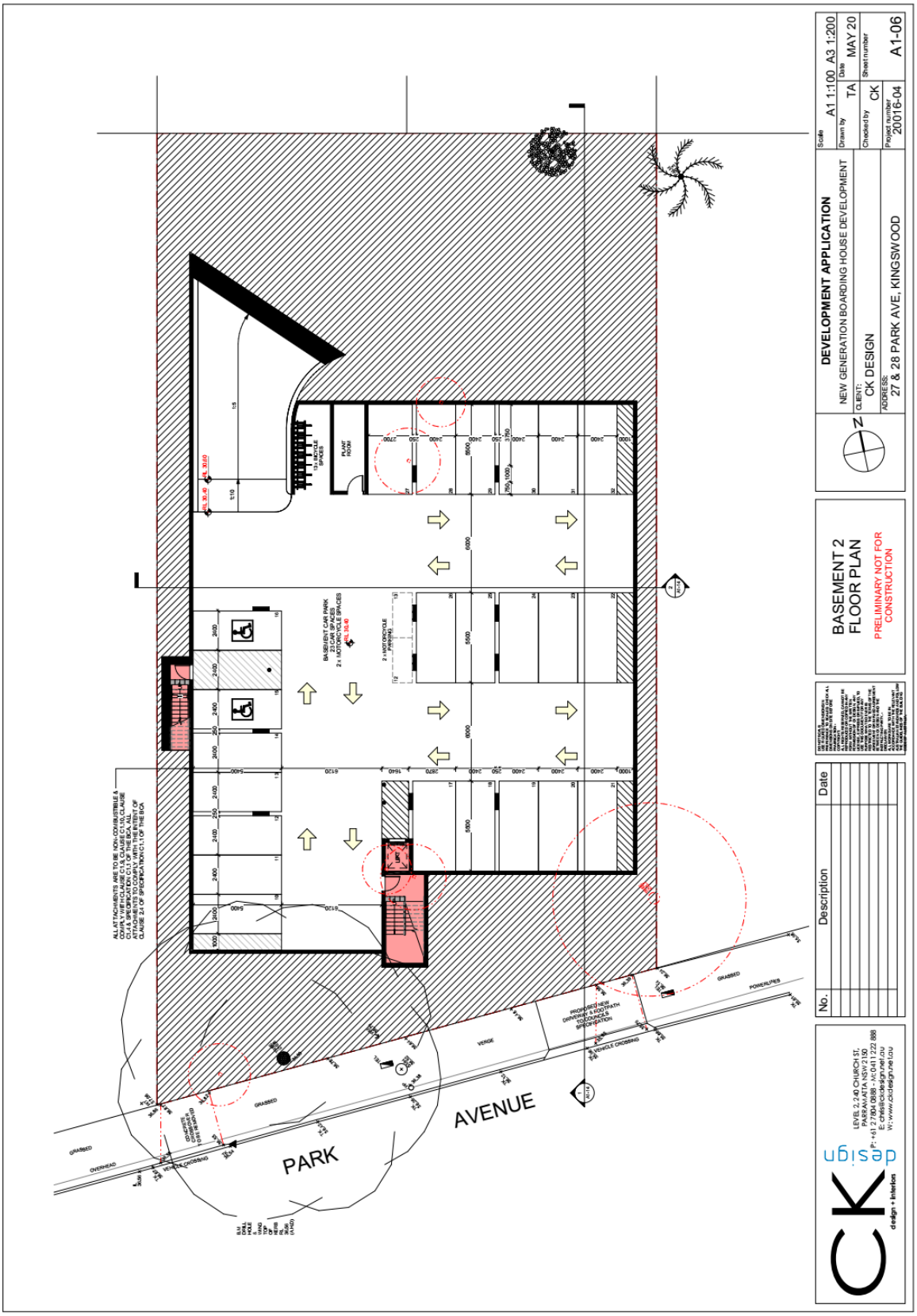
- The subject site has excellent access to existing public transport services in the form of regular train and bus services.

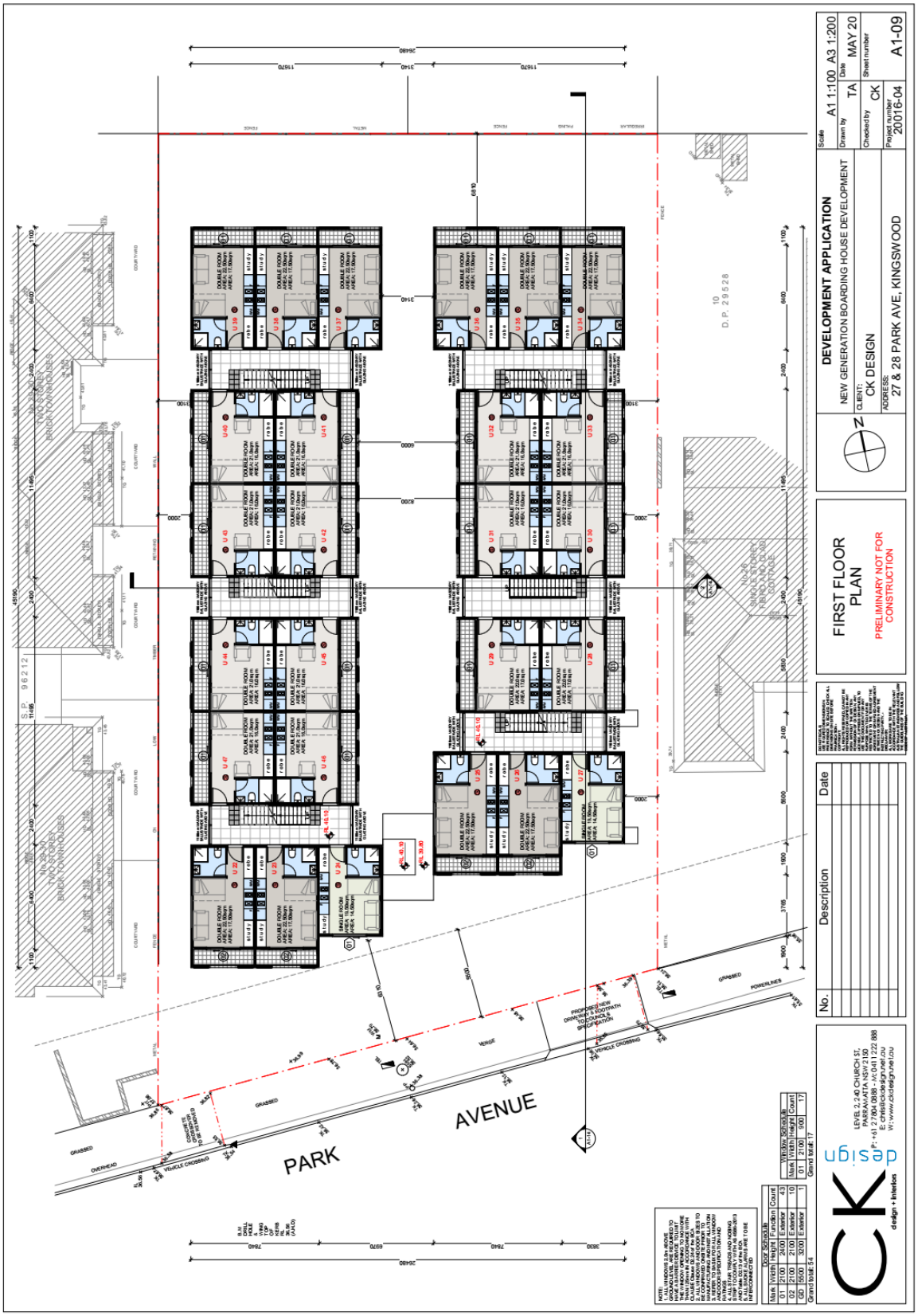
- The proposed development will not have adverse impacts on parking in the surrounding area.

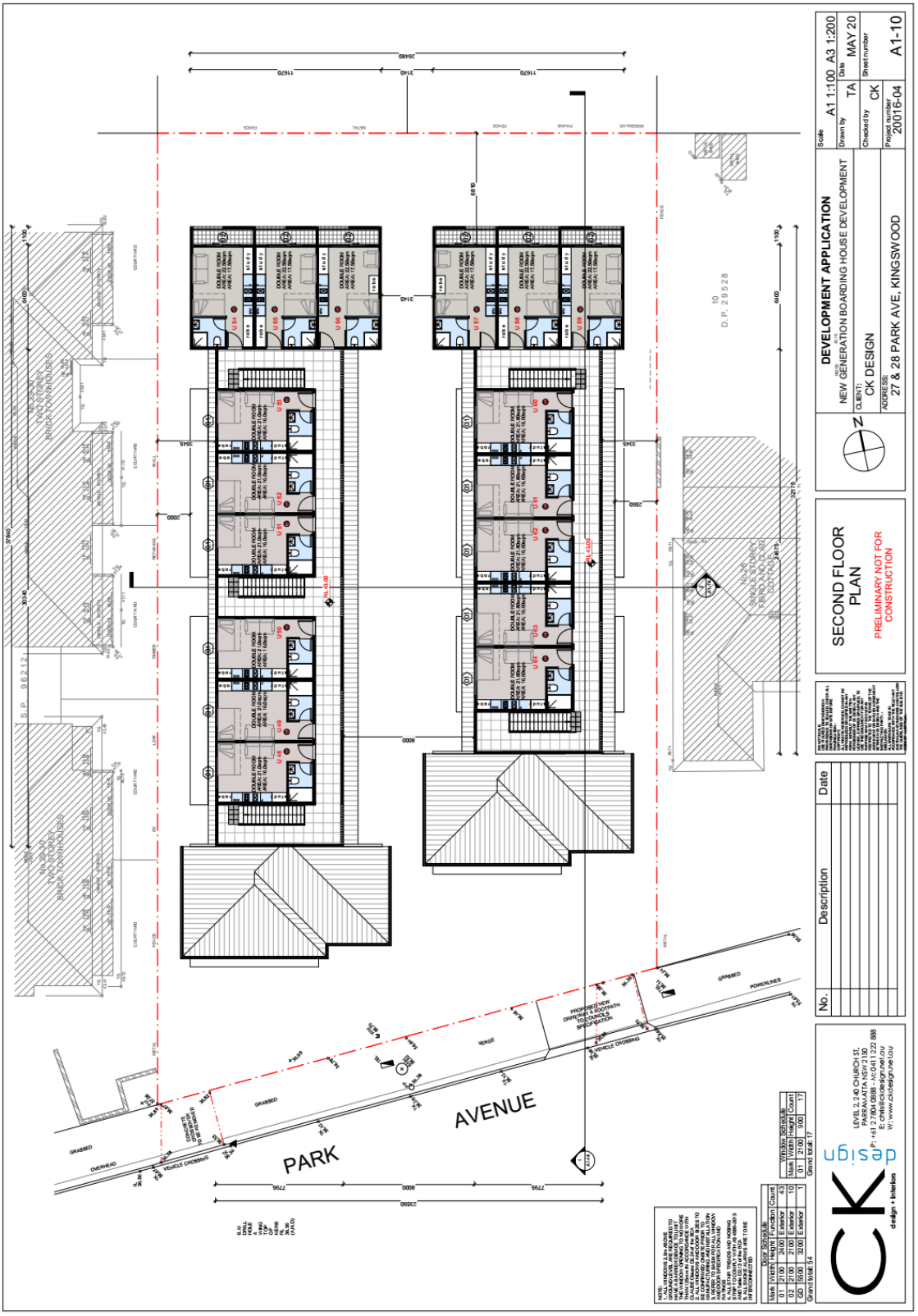
Appendix A – Proposed Development Plans

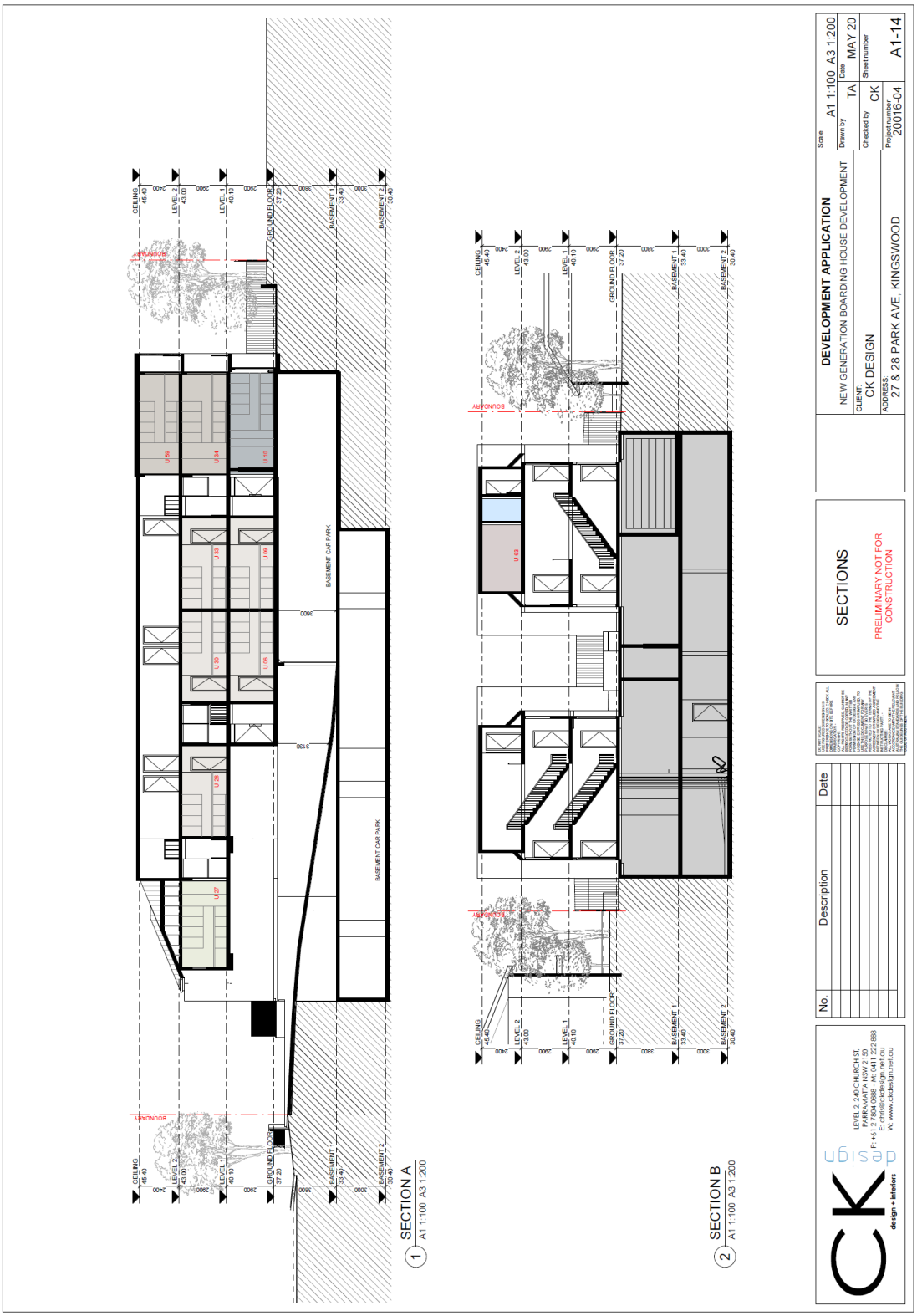












Appendix B – Vehicle Swept Paths