### **Wollongong Local Planning Panel Assessment Report** | 23 February 2023

WLPP No.	Item No.3
DA No.	DA-2022/320
Proposal	Residential - demolition of existing structures, construction of 9 storey building consisting of 35 units, basement parking, swimming pool and associated communal spaces
Property	17-19 Gladstone Avenue, Wollongong
Applicant	Design Workshop Australia
Responsible Team	Development Assessment and Certification - City Centre Major Development Team

#### ASSESSMENT REPORT AND RECOMMENDATION

#### **Executive Summary**

### **Reason for consideration by Local Planning Panel**

The proposal has been referred to Local Planning Panel pursuant to clause 2.19(1)(a) of the Environmental Planning and Assessment Act 1979. Under Schedule 2 (4)(b) of the Local Planning Panels Direction of 30 June 2020, the proposal is development to which State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development applies. Additionally, under Schedule 2(b) the development is the subject of 10 or more unique submissions.

#### **Proposal**

The proposal is for demolition of existing structures, construction of 9 storey building consisting of 35 units, basement parking, swimming pool, landscaped areas and associated communal spaces.

#### Permissibility

The site is zoned B4 Mixed Use pursuant to Wollongong Local Environmental Plan 2009. The proposal is categorised as a residential flat building which is permissible in the zone with development consent.

#### Consultation

The proposal was notified in accordance with Council's Notification Policy and received ten (10) submissions which are discussed at part 1.3 of the assessment report.

#### **Main Issues**

- Flooding development is proposed within the high flood risk precinct / floodway
- Inadequate stormwater disposal
- LEP development departure building separation
- Landscaping, communal open space and deep soil zone issues
- Variation to northern setbacks in the context of the development to the north
- Submissions

#### **RECOMMENDATION**

It is recommended that the application be refused.

#### **1 APPLICATION OVERVIEW**

#### 1.1 PLANNING CONTROLS

The following planning controls apply to the proposal:

#### State Environmental Planning Policies:

- State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development
- SEPP (Resilience and Hazards) 2021
- SEPP (Transport & Infrastructure) 2021
- SEPP (Building Sustainability Index: BASIX) 2004
- SEPP (Koala Habitat Protection) 2021

#### **Local Environmental Planning Policies:**

• Wollongong Local Environmental Plan (WLEP) 2009

#### **Development Control Plans:**

Wollongong Development Control Plan 2009

#### Other policies

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

#### 1.2 DETAILED DESCRIPTION OF PROPOSAL

The proposal comprises the following:

#### Site preparation

- Demolition of all existing buildings/structures
- Earthworks for three basement levels

#### Works / Construction / building details

- Construction of a new 9 storey residential flat building with 35 residential units
- Three (3) levels of basement car parking with motorbike and bicycle parking
- Communal spaces including swimming pool and gym
- Landscaped areas

#### Traffic, parking and servicing

- 39 car parking spaces (include 4 accessible spaces) and motorbike and bicycle parking
- Vehicle access from Gladstone Avenue via a 7m wide centrally located driveway
- Servicing is from ground floor loading dock located behind lobby

The development is not identified as integrated development.

#### **1.3 BACKGROUND**

A pre-lodgement meeting was held for the proposed development (PL-2021/20). The main issues were flooding, positioning of the driveway in relation to the Rowland Avenue intersection, interface with the streetscape interface and also with the adjoining property to the north.

#### **Current application**

DA-2022/320 was lodged 24 March 2022 seeking approval for a residential building with 36 residential units. Following assessment, correspondence was sent to the applicant on 26 July 2022 advising that the application could not be supported due to a number of determinative issues, including flooding

and stormwater matters, non-compliant floor space ratio, inadequate Clause 4.6 Statement in relation to building separation, SEPP 65/Apartment Design Guide issues as well as Heritage, Landscaping and Environmental issues.

The applicant sought to address these matters, lodging revised plans and additional information on 26 August 2022. Following re-assessment of this information, the applicant was advised by e-mail on 22 November 2022 that the revised proposal did not resolve all the issues and could not be supported. Given the flooding issues would necessitate a re-design, the revised plans were not re-referred to the Design Review Panel. A formal letter providing the detail of the outstanding matters was issued on 22 December 2022.

#### Development history

Various proposals for the site have been the subject of pre-lodgement meetings and Design Review Panels.

Application Number	Description	Decision	Decision Date
DE-2020/8	Demolition of existing structures and construction of a mixed use building consisting of one (1) ground level commercial, twelve (12) levels residential (95 units) over two (21) levels of basement parking and hotel consisting of one (1) ground level hotel facilities, nine (9) levels hotel rooms (80 rooms) over two (2) levels of basement parking	None	09-Mar-2020
PL-2020/45	Mixed Use Development - MS Teams meeting	None	03-Jun-2020
PL-2021/20	Demolition of existing dwellings and construction of unit development with two (2) levels basement parking and forty (40) units - MS Teams 25.3.21	None	29-Apr-2021
DE-2021/30	Demolition of existing dwellings and construction of unit development with two (2) levels basement parking and forty (40) units	None	29-Apr-2021
DA-2022/320	Residential - demolition of existing structures, construction of 10 storey building consisting of 36 units, basement parking, swimming pool and associated communal spaces		

#### **Customer service actions**

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

#### 1.4 SITE DESCRIPTION

The site is located at 17-19 Gladstone Avenue, Wollongong and the title reference is Lots 78 and 79 of DP 13047. The site is regular in shape, with an area of 1237.18m² and a combined frontage of approximately 30m to Gladstone Ave. The site is relatively flat with a slight fall towards the rear of the site (west to east). Existing improvements comprise a single storey dwelling at 17 Gladstone Avenue and a single storey commercial building at 19 Gladstone Avenue currently operating as a massage premises.

#### **Property constraints**

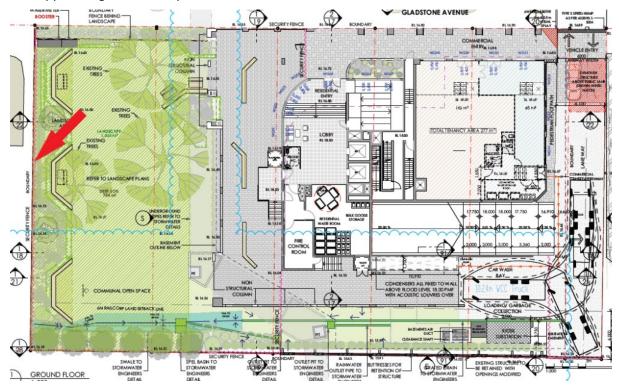
Council records identify the land as being impacted by the following constraints:

- Flood affected including areas of high flood risk and floodway
- Site is in the vicinity of two heritage items Wollongong TAFE to the south-west and Wollongong Railway Station group to the north-east (State listed item)
- State Rail land adjoins the site to the east. Concurrence has been provided.
- Sewer lines in proximity to the northern and eastern boundaries
- A 3m wide service easement exists adjacent to the southern boundary (easement for underground cables)

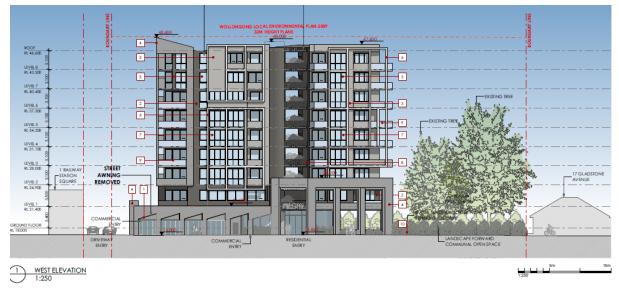
There are no restrictions on the title.

Adjoining development is as follows:

• North: 7-15 Gladstone Ave – currently occupied by a vacant commercial building in the northern portion of the site with a large, grassed area with 3 trees in the southern portion of the site. A shop top housing development has recently been approved by the Court (DA-2021/890). The approved ground floor plan and street elevation is shown below:



**Figure 1:** Ground floor plan of shop top housing development on adjoining northern lot at 7-15 Gladstone Ave (northern boundary of subject site indicated by red arrow)



**Figure 2:** Gladstone Avenue elevation of approved shop top housing development adjoining the site to the north at 7-15 Gladstone Avenue (subject site on right).

- East: railway land & Wollongong station to the north-east
- South: single storey dual occupancy at 21 Gladstone Ave
- West: Gladstone Avenue road reserve, shop top housing development on the western side of Gladstone Ave with Wollongong TAFE to the southwest

The locality is characterised by higher density commercial and residential development to the north, with lower scale residential to the south.

#### 1.5 SUBMISSIONS

The application was notified in accordance with Council's Community Participation Plan 2019 between 6<sup>th</sup>-21<sup>st</sup> April 2022 and eight (8) submissions were received. Revised plans were notified between 2<sup>nd</sup>-19<sup>th</sup> September 2022 where a further two (2) submissions were received.



Figure 3 - Notification map

A total of ten (10) submissions were received and the concerns raised are discussed below.

**Table 1: Submissions** 

Concern	Comment
Overshadowing impacts	The submitted shadow diagrams indicate no overshadowing impacts to Vantage Apartments at 22 Gladstone Avenue in midwinter (i.e. worst case scenario).
	The adjoining properties to the south will receive overshadowing due to the east-west lot arrangement. In a city centre location, such lots are vulnerable to overshadowing and sunlight access is difficult to protect where the planning controls anticipate high density development. The shadow diagrams indicate that the adjoining southern property will maintain solar access to the private open space areas in midwinter.
Loss of privacy	Some concerns were raised in relation to privacy impacts to Vantage Apartments at 22 Gladstone

Concern	Comment
	Avenue opposite the site. The distance between the two buildings would be a minimum of 20m, directly across Gladstone Avenue. Some form of moveable screen to the balconies of the north-western units would provide opportunities to minimise direct lines of sight across the road.
	The setbacks to the southern boundary comply and main windows to living areas and balconies are oriented to the east and west to minimise overlooking opportunities.
View impacts	The site is located approximately 1.5km from the coast. Between the site and the coast, the height limit is up to 60m. The proposal is for a building which is compliant in height. Although the northern setback is sought to be varied, the flooding constraints of the subject site and the adjoining site is likely to mean that a relatively open view corridor may be retained as viewed from the existing apartments opposite the site at 22-30 Gladstone Avenue.
Loss of property value	This is not a consideration under the EP&A Act. Any adverse impacts on surrounding properties relevant to the assessment are discussed elsewhere.
Non-compliant setbacks to the north	The non-compliant setbacks have been considered having regard to the SEPP 65/Apartment Design Guide, LEP and WDCP2009. Although there may be scope for some variation, further increases to the northern setback are required.
Traffic and parking	The car parking complies, noting that 1 surplus visitor car space is proposed.
<ul> <li>More off-street parking should be provided</li> <li>Location includes large number of units, is close to intersection of Rowland Avenue which carries a lot of traffic</li> </ul>	A Traffic Impact Assessment has been submitted with the application and assessed as satisfactory by Council's Traffic Engineer. The driveway position is located away from the intersection with Rowland Avenue.
Council should be encouraging car sharing schemes	The current requirements do not require car sharing; however, it is noted that one surplus car space could be allocated as a car share space if needed.
Too much emphasis sometimes placed on 'desired character' and existing residents feel ignored	The existing and future desired character has been considered in the assessment, both with regard to impacts from the development and also character under Chapter D1 of WDCP2009.
LEP should be revisited due to frequent development departures to the building separation	This is beyond the scope of the assessment for the proposed development. The current DA must be assessed against the applicable controls. A review of city centre controls under the LEP and DCP is currently underway.

Concern	Comment
Building is too high	The building is 9 storeys above ground level and complies with the maximum 32m height limit and.
Impacts on land stability on foundations	The site is not identified as being unstable land. A geotechnical report has been submitted with the application indicating the proposal is feasible from a geotechnical perspective. Suitable conditions of consent could be imposed where consent is granted, including requirements for dilapidation reports pre and post development.
Noise and dust impacts during construction	Demolition and construction impacts could be reasonably be managed through conditions of consent.
Flooding concerns including impacts on nearby areas	The development has been assessed as unsatisfactory with regard to the flooding constraints of the land and the applicable controls.
Heritage impacts and request to rezone the eastern side of Gladstone Avenue	Heritage impacts have been considered in the assessment. Rezoning the land is not a matter that is within the scope of a DA assessment.

#### 1.6 CONSULTATION

#### 1.6.1 INTERNAL CONSULTATION

#### **Geotechnical Engineer**

Council's Geotechnical Officer has reviewed the application and has provided a satisfactory referral noting that the Geotechnical Report prepared by Fortify Geotech provides a good preliminary overview of site conditions and demonstrates feasibility of the development from a geotechnical perspective. Conditions of consent were recommended.

#### **Stormwater Engineer**

Council's Stormwater Officer has reviewed the application and given an unsatisfactory referral. A number of issues raised in the original referral remain unresolved, including filling/development being proposed within a High Flood Risk Precinct/floodway, unsatisfactory flood study and non-compliance with stormwater disposal and on-site detention requirements.

#### **Heritage Officer**

Council's Heritage Officer has reviewed the application and has provided a satisfactory referral, subject to a satisfactory referral from Heritage NSW (not yet received). Conditions of consent were recommended.

#### **Landscape Architect**

Council's Landscape Architect has reviewed the application and given an unsatisfactory referral noting the lack of landscape screening between the loading dock and the southern boundary and the conflict between the location of the deep soil zone and the sewer line (proposed to be concrete encased).

#### **Traffic Engineer**

Council's Traffic Officer has reviewed the application in relation to traffic impacts, vehicle access, servicing and car parking requirements and has given a satisfactory referral. Conditions of consent were recommended.

#### **Environment Officer**

Council's Environment Officer has reviewed the application in relation to contamination, acoustic issues, Water Sensitive Urban Design and Construction Management and given a satisfactory referral and has recommended conditions.

#### 1.6.2 EXTERNAL CONSULTATION

#### **Sydney Trains**

Council requested concurrence from Sydney Trains under Clause 2.98 of the SEPP (Transport and Infrastructure) 2021 as the site adjoins the rail corridor. Sydney Trains provided their concurrence having regard to Clause 2.98(4) on 3 May 2022, reinforced in their correspondence dated 27 September 2022 following consideration of the revised plans. Their concurrence was subject to the imposition of Deferred Commencement conditions requiring submission of detailed plans and reports for written endorsement including geotechnical and structural reports, construction methodology, cross sectional drawings, detailed survey plans, civil plans, stormwater connections, and other requirements if required by Sydney Trains.

#### **Heritage NSW**

The site adjoins Wollongong Railway Station, which is a state listed heritage item. Heritage NSW were referred the development application following receipt of the Heritage Impact Statement. At the time of writing this report comments have not been received from Heritage NSW.

#### **Endeavour Energy**

A referral was sent to Endeavour Energy under Clause 45 of the Infrastructure SEPP. Comments from Endeavour Energy were received on 26 April 2022 with further comments on revised plans received on 3 September 2022. Endeavour Energy noted the easement for high voltage underground cables along the southern side boundary. The latest referral also noted that no details were available with regard to how the adjoining substation would be utilised (i.e. as part of the adjoining site at 7-15 Gladstone Avenue).

#### **Design Review Panel**

The original proposal was reviewed by the Design Review Panel under the requirements of the SEPP on 16 May 2022. The Panel identified that further development and refinement was required to demonstrate design excellence and respond to the design principles of SEPP 65, while acknowledging the varied constraints of the site. Given the flooding issues necessitate a substantial re-design, the revised proposal was not re-referred to the Panel.

A summary of how the revised design responded to the DRP's commentary is provided in the table below, noting that the full DRP commentary forms Attachment 4:

Design Principle	DRP commentary	Comment of revised plans
Context and Neighbourhood Character	<ul> <li>Northern setback could be relaxed given adjoining development to the north if adequate to provide a landscaped buffer</li> <li>The neighbouring site is also flood affected, which is likely to drive a built form response that is consolidated on the northern portion of the site and utilises the southern portion of the site (adjoining the subject site) as an area of communal open space. This creates a condition in which</li> </ul>	The northern setback was increased marginally at ground level to between 2.45m-4m at ground level and between 3.5m-4m on Levels 1-8. A sewer line exists 1m from the northern boundary of the site. The increased setback has not enabled a reasonable landscape buffer. The setback also misses an

consideration may be given to relaxing the boundary setback to the north. However, the northern setback must still be sufficient accommodate a landscape buffer (containing trees of scale) that protects the privacy of the COS of the neighbouring site. Ideally northern setback should also be adequate to accommodate a sunny area of COS to service the subject site. A minimum setback of 4 to 4.5m is recommended.

the

Contextual study should include further contextual built form studies to demonstrate existing and future solar access to the south, and also reflect the future streetscape which doesn't envisage a continuous street

opportunity to utilise the northern portion of the site for usable communal open space area with good solar access. The current design does not adequately DRP's respond to the comments.

This has been provided.

#### Built form and scale

The Panel acknowledges that this is an extremely constrained site that limits the potential for a design response that would relate better to the street / natural ground level and generally provide more amenable space at ground level. However, within the constraints of the site, further development should still be undertaken to improve amenity and provide an improved presentation to the street.

- Provide an increased setback to the northern boundary (minimum 4m-4.5m) to accommodate trees of scale and ideally accommodate an area of communal open space in the north-eastern corner of the site.
- Increase the extent of the lobby area that sits at natural ground level. To achieve this goal the OSD tank may need to be relocated. Provide a direct connection from the lobby to the ground floor communal open space.
- Opportunities to provide more soft landscaping within the southern courtyard space should be investigated.

The revised design improved the interface with the street through reducing the floor level of the lobby and incorporating a gym with glazing. Services have been relocated so that the view from the street through the angled driveway looks into the lobby rather than presenting as a dark space dominated by services.

Unresolved issues include:

There is no connection between lobby and communal open space.

No communal open space at ground level is provided.

The substation has been removed from the design on the basis that the proposed development intends to share the substation with the adjoining northern site at 7-15 Gladstone Ave. However, no details have been provided in this regard. Also, it is relevant to note that approved development - All materials and finishes visible from the street should be of high quality / suitable for presentation to the public domain. The space to the south of the building must not present as a utilitarian service area. Refer to Aesthetics for further detail.

- The potential to utilize a substation from a neighbouring development should be

at 7-15 Gladstone Ave included the relocation of the substation to the northeastern corner of that site.

#### Sustainability

it is unclear from the information provide if units 501, 601 and 701 are receiving solar access as claimed. The provision of sun's eye diagrams with screens in the open position should be provided.



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investigated.

Revised plans have redesigned the layout of Levels 1-7, increasing the solar access to these units. The sun-eye diagrams indicate 2 hours sunlight access is received to both living areas and balconies for units #01 at levels 6-7, but not for the lower levels (NB solar access achieved to balconies but not living areas at 12.30pm - refer Dwg 071-G). 24 out of 35 units receive the 2 hours (69%) which is marginally non-compliant based on the information available.

Additionally, U1.03 and U2.03 are indicated as receiving 2 hours however the future context sun-eye diagrams (Dwg 075-077-G) indicate a future building will compromise compliant solar access to these units.

#### Landscape

The Panel is not yet persuaded that the landscape outcomes of the proposal are acceptable for either the streetscape, ground level (as noted above) or the communal open space (COS). The relocation of the rooftop COS (to achieve height standard compliance) to level 1 results in most of the new space being under the building, raising concerns about compliance with ADG solar access requirements, amenity of the space and viability of the proposed landscape plantings.

The applicant stated that the sewer line constrains the planting of trees in the northern setback. This constraint does not appear to

detailed Many recommendations were made, and the revised design has incorporated some but not all of these. Although the streetscape interface has improved, a meaningful and connected communal open space area at ground level with suitable landscape planting (noting the sewer locations) has not been provided. A large proportion of the communal

	have affected the design of the eastern setback which also contains the sewer line.	open space on Level 1 (pool area) is predominantly an undercroft area, limiting amenity and high-quality landscaping. Solar access is available to the gym; however, it is questionable how much amenity this brings given the function of this room.  The design of the communal
		open space does not optimise the available northern aspect.
Amenity	Many of the typical living room layouts are square in proportion. Of particular concern are units 202, 205, 302, 305, 402, 405, 502, 505, 602, 605, 702 and 705. Living spaces of these units are awkward to furnish and serviced by galley kitchens. Further development of the building form should seek to provide better proportioned living spaces.	The revised plans have addressed this issue, noting no galley kitchens are proposed.
	Balcony dimensions should be provided to demonstrate ADG compliance.	Balcony dimensions shown to demonstrate minimum dimensions/area are met.
	The level 1 communal open space provides an amenable area that can facilitate a variety of activities. However, it appears to lack good solar access. The provision of an additional area of communal open space with good solar access at ground level, or rooftop is encouraged.	A gym has been provided in the north-eastern corner of the ground floor. Although this receives good solar access, an outdoor communal area at ground level or on the roof has not been provided.
Safety	It is recommended a NCC BCA Report accompany all applications to ensure critical access, egress and fire protection/ fighting measures are reasonably incorporated in planning and design	A BCA Report has been provided.
Housing Diversity and	The proposal will provide an appropriate housing option for this neighbourhood.	The COS provided offers opportunity for social
Social Interaction	However, further development is required to provide a positive interface with the street / public domain and an inviting COS that supports social interactions among the residents.	interaction.  The street interface has improved from the design considered by the Panel.
Aesthetics	It is envisaged that the form of this proposal may develop further in response to issues raised in this report. Material selection documented in drawing 082, Proposed Building 3D views, documents an appropriate pallet of materials for this context.	The ground plane has improved to provide a more active interface with Gladstone Avenue, given the constraints.

The ground plane must also be developed to provide a less utilitarian response that engages with the street. The quality of all materials visible to the public domain must be of a high quality. The

southern driveway must present as a landscaped courtyard and not a utility space:

- Flooring, perhaps a vehicular trafficable paver.
- Walls, not to be painted concrete, the expressed joint cladding fronting the street should be wrapped around the southern elevation of the building. Alternatively, a glazed tile could be considered to express the base of the building.
- Soffit, services should not be exposed, lighting should be integrated, and a quality finish applied (perhaps timber).

Detail sections (1:20 or 1:50) through the building should be provided, to clearly demonstrate the architect's design intent.

Sections should show balustrade detail / specification, concealment of services, lighting, drainage, soft treatments, details of screens

and louvres etc.

Servicing of the building must be considered at this stage of the design process. The location of service risers, AC condensers, down pipes, fire hydrant boosters etc. should be accommodated.

Although the services are less prominent, the certainty of sharing а substation with the adjoining site at 7-15 Gladstone Avenue has not been demonstrated at this stage.

#### **2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

## 1.7 Application of Part 7 of Biodiversity Conservation Act 2016 and Part 7A of Fisheries Management Act 1994

This Act has effect subject to the provisions of Part 7 of the Biodiversity Conservation Act 2016 and Part 7A of the Fisheries Management Act 1994 that relate to the operation of this Act in connection with the terrestrial and aquatic environment.

#### **NSW BIODIVERSITY CONSERVATION ACT 2016**

Where threshold not triggered

Section 1.7 of the Environmental Planning and Assessment Act 1979 (EP&A Act) provides that Act has effect subject to the provisions of Part 7 of the Biodiversity Conservation Act 2016 (BC Act).

Part 7 of the BC Act relates to Biodiversity assessment and approvals under the EP&A Act where it contains additional requirements with respect to assessments, consents and approvals under this Act.

No native vegetation is proposed to be cleared as part of the development.

The site is not identified as being of high biodiversity value on the <u>Biodiversity Values Map</u>. Therefore, the proposal does not trigger the requirement for a biodiversity offset scheme.

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

2.1.1 STATE ENVIRONMENTAL PLANNING POLICY NO 65—DESIGN QUALITY OF RESIDENTIAL APARTMENT DEVELOPMENT

The development meets the definition of a 'residential flat building' as it is more than 3 storeys and comprises more than 4 dwellings. As such, the provisions of SEPP 65 apply. The proposal has been considered by Council's DRP in accordance with Clause 28 and Schedule 1, as reflected above. The DRP raised numerous issues with the current design, some of which remain unresolved. The design does not achieve all design quality principles.

A statement has been prepared by a Registered Architect addressing the requirements of SEPP 65 and was submitted with the application at lodgement accordance with Clauses 50(1A) & 50(1AB) of the Environmental Planning and Environment Regulation 2000 (in force at time of lodgement).

Schedule 1 of SEPP 65 sets out the design quality principles for residential apartment development. These must be considered in the assessment of the proposal pursuant to clause 30(2)(a) of the Policy and are discussed below. The proposal in its current form does not meet all of these principles.

#### Principle 1: Context and neighbourhood character

The design reasonably responds to the desired future character of the area however does not respond to the flooding context of the site and relevant planning controls applicable to the land.

#### Principle 2: Built form and scale

The bulk and scale of the development is largely consistent with the applicable planning controls for the area with the exception of the northern setbacks. The design of the development adequately addresses the public domain given that the site is highly constrained by flooding, easements, and sewer lines.

#### **Principle 3: Density**

The density of the development does not exceed the maximum FSR permitted for the land. The site is well located with regard to access to public transport and services.

#### **Principle 4: Sustainability**

Further information is required to demonstrate that the minimum solar access is achieved. Natural ventilation requirements are achieved, and the development does incorporate some sustainability measures including solar panels and water capture/re-use.

#### **Principle 5: Landscape**

Further development of the landscaped areas and communal open space is required to better respond to the opportunities of the site, improve solar access for residents and provide meaningful landscape screening to the northern and southern boundaries.

#### **Principle 6: Amenity**

Further information is required to demonstrate that the minimum solar access is achieved. The northern setbacks should be increased to promote external and internal visual privacy and enhance landscaping. The proposal meets the minimum requirements for cross ventilation, communal open space, and communal circulation as detailed elsewhere in this report.

#### **Principle 7: Safety**

The proposal does not adequately respond to the significant flooding constraints of the site which compromises safety for residents. The design of the basement presents some concealment opportunities at Basement 1, with no other significant safety and security issues apparent.

#### Principle 8: Housing diversity and social interaction

A mix of unit sizes and layouts are proposed which could be improved through an increase in 3-bedroom units and also provision of a greater range of adaptable units to improve housing diversity. Social interaction is available through the proposed common areas and communal facilities.

#### **Principle 9: Aesthetics**

Overall, the proposal is considered appropriate with regard to the materials and finishes and form.

#### **Apartment Design Guide**

With regard to Clause 28(2)(c), the Apartment Design Guide has been considered and a compliance table is provided at Attachment 5. Objectives under the Apartment Design Guide (ADG) that are not met with the current design are summarised below:

Part 3D Communal open space (COS)

Although numerically compliant, the design of the communal open space does not maximise available sunlight access. The proposal offers a variety of recreation activities (pool and gym). Increased setbacks to the northern boundary would facilitate landscaping and potential for a north facing outdoor communal space.

Part 3F Visual privacy

The proposed reduced setback to the northern boundary responds to the anticipated built form on the adjoining northern lot at 7-15 Gladstone Avenue. A shop top housing development has been approved by the Court which is sited over 20m from the subject site's northern boundary. The approved communal open space area for this development directly adjoins the subject site due to flooding constraints which inhibits development in that portion of the site.

Although some reduction to the northern setback may be reasonable, an increased setback would allow for more landscape screening to improve the visual privacy between the subject site and the communal open space of the site to the north. A 3.5m-4m habitable setback is proposed at all levels where minimum 6m, 9m and 12m setbacks are identified under the design criteria. It is also relevant to note that there is no certainty that the development as approved at 7-15 Gladstone Avenue will proceed.

#### Part 4A Solar and daylight access

Further information is required to demonstrate that the minimum 70% solar access to balconies and living rooms is achieved. The sun-eye view diagrams indicate 24 out of 35 units would currently receive the required 2 hours of sunlight (which is marginally below the minimum requirements at 69%). Where the adjoining site to the north at 7-15 Gladstone Ave is redeveloped in accordance with the recent approval, 22 units would receive the required minimum 2 hours sunlight (63%).

#### 2.1.2 STATE ENVIRONMENTAL PLANNING POLICY (RESILIENCE AND HAZARDS) 2021

#### Chapter 4 Remediation of land

#### Clause 4.6

Council records do not indicate the site as being contaminated land, with a history of residential and commercial land uses being carried out on the site. The proposal has been supported by a Preliminary and Detailed Site Investigation prepared by Reditus which concludes the site is suitable for the proposed residential development. Council's Environment Officer has considered this information and given a satisfactory referral. Conditions have been recommended including requirements for an unexpected finds protocol, and waste classification of excavated material. The provisions of Clause 4.6 are satisfied.

#### 2.1.3 STATE ENVIRONMENTAL PLANNING POLICY (TRANSPORT AND INFRASTRUCTURE) 2021

#### **Chapter 2 Infrastructure**

#### <u>Clause 2.48 Determination of development applications – other development</u>

The application was referred to Endeavour Energy under this clause and comments were received as outlined in Part 1.6 of this report.

#### Clause 2.98 Development adjacent to rail corridors

The application was referred to Sydney Trains under this clause and their concurrence was received on 27 September 2022 as outlined in Part 1.6 of this report.

#### Clause 2.99 Excavation in, above, below to rail corridors

The application was referred to Sydney Trains under this clause and their concurrence was received on 27 September 2022 subject to a deferred commencement conditions as outlined in Part 1.6 of this report.

#### Clause 2.100 Impact of rail noise or vibration on non-rail development

The railway corridor adjoins the eastern boundary of the site. Approval is sought for residential accommodation therefore this clause applies.

Under subclause (2), the consent authority must consider the Department of Planning's document titled 'Development near Rail Corridors and Busy Roads – Interim Guidelines' ('the guidelines'). An acoustic report has been provided dated 22 August 2022 prepared by Harwood Acoustics in support of the application which concludes that the development can comply with the noise and vibration requirements required by Clause 2.100 if the development is carried out in accordance with the recommendations of the report.

The acoustic report has been considered by Council's Environment officer and conditions were deemed to satisfy the provisions of this clause.

#### Clause 2.119 Development with frontage to classified road

The site has frontage to Gladstone Avenue which is identified as a regional road.

#### Clause 2.122 Traffic-generating development

N/A – The development is not identified as traffic generating development under Schedule 3.

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

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

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

#### 2.1.5 SEPP (KOALA HABITAT PROTECTION) 2021

The State Environmental Planning Policy (Koala Habitat Protection) 2021 applies to the Wollongong Local Government Area, identified as being in the South Coast koala management area.

#### 12 Development assessment process—other land

Consent can be issued for development on the subject land if Council is satisfied that the land is not core koala habitat. The land has not been assessed by a suitably qualified and experienced person as being highly suitable koala habitat, and Council has no record of the presence of koalas on the site currently or within the previous 18 years. The proposal does not include the removal of extensive native vegetation and the land is not considered to comprise core koala habitat.

#### 2.1.6 WOLLONGONG LOCAL ENVIRONMENTAL PLAN 2009

#### Clause 1.4 Definitions

**residential flat building** means a building containing 3 or more dwellings, but does not include an attached dwelling, co-living housing or multi dwelling housing.

Note-

Residential flat buildings are a type of *residential accommodation*— see the definition of that term in this Dictionary.

**residential accommodation** means a building or place used predominantly as a place of residence, and includes any of the following—

(h) residential flat buildings,

#### Part 2 Permitted or prohibited development

#### Clause 2.2 – zoning of land to which Plan applies

The zoning map identifies the land as being zoned **B4 Mixed Use.** 

#### <u>Clause 2.3 – Zone objectives and land use table</u>

The objectives of the zone are as follows:

- 1 Objectives of zone
- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To support nearby or adjacent commercial centres without adversely impacting on the viability of those centres.

The proposal is satisfactory with regard to the above objectives.

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

#### 2 Permitted without consent

Building identification signs; Business identification signs; Home occupations

#### 3 Permitted with consent

Advertising structures; Amusement centres; Boarding houses; Car parks; Centre-based child care facilities; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Environmental facilities; Exhibition homes; Function centres; Home businesses; Hostels; Hotel or motel accommodation; Information and education facilities; Medical centres; Multi dwelling housing; Oyster aquaculture; Passenger transport facilities; Places of public worship; Recreation areas; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Self-storage units; Seniors housing; Service stations; Shop top housing; Tank-based aquaculture; Tourist and visitor accommodation; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Wholesale supplies

#### 4 Prohibited

Pond-based aquaculture; Any other development not specified in item 2 or 3

The proposal is categorised as a *residential flat building* as defined above and is permissible in the zone with development consent.

#### Clause 2.6 Subdivision—consent requirements

No subdivision is proposed.

#### Clause 2.7 Demolition requires development consent

Demolition of all existing structures is proposed under the current application, thereby satisfying this clause.

#### Part 4 Principal development standards

#### Clause 4.3 Height of buildings

The proposed building height of 31.6m does not exceed the maximum of 32m permitted for the site (RL 47.7 to top of lift overrun, RL 16.1 at ground level below).

#### Clause 4.4A Floor space ratio – Wollongong City Centre

- (1) This clause applies to land within the Wollongong city centre.
- (2) Despite clause 4.4, the maximum floor space ratio for a building on land within a zone specified in Column 1 of the Table to this subclause, on land with a site area and street frontage specified opposite that zone in Column 2 of the Table, is—
- (a) the amount specified opposite that zone in Column 3 of the Table, if the building is used only for residential purposes, or
- (b) the amount specified opposite that zone in Column 4 of the Table, if the building is used only for purposes other than residential purposes.
  - (a) the amount specified opposite that zone in Column 3 of the Table, if the building is used only for residential purposes, or
  - (b) the amount specified opposite that zone in Column 4 of the Table, if the building is used only for purposes other than residential purposes.

#### Table Column 1 Column 2 Column 3 Column 4 Zone B3 Commercial Core Site area of any size and no street frontage equal to 1.5:1 1.5:1 or greater than 20 metres Site area less than 800 square metres and a street 2:1 3.5:1 frontage equal to or greater than 20 metres Site area equal to or greater than 800 square metres As set out in subclause (3) As set out in subclause (3) and less than 2000 square metres and a street frontage equal to or greater than 20 metres Site area equal to or greater than 2000 square 6:1 3.5:1 metres and a street frontage equal to or greater than 20 metres Zone B4 Mixed Use Site area of any size and no street frontage equal to 1.5:1 1.5-1 or greater than 20 metres Site area of any size and a street frontage equal to or 2.5:1 3.5:1

Maximum FSR permitted for the zone: 2.5:1

Site area:  $1237m^2$  GFA:  $3092m^2$ 

FSR:  $3066.4*/1237m^2 = 2.48:1$ 

The proposal complies with the maximum gross floor area/floor space ratio.

\*One (1) surplus car space (visitor) has been included as GFA (~13sqm).

### Clause 4.5 Calculation of floor space ratio and site area

The FSR and site area has been calculated in accordance with this clause.

#### Clause 4.6 Exceptions to development standards

#### **Building** separation

An exception to the building separation requirements under Clause 8.6 is sought. The applicant's Clause 4.6 Statement forms Attachment 6.

As outlined under Clause 8.6, there is a development departure for the ground floor in relation to subclause 2(a), which requires no separation between neighbouring buildings up to the street frontage height or up to 24m, whichever is the lesser. The Clause 4.6 Statement has not addressed this departure.

The 4.6 Statement relates to the building separation clause under subclause 3(a) and 3(b) of Clause 8.6 which relates to the 16m and 20m distance where a building contains a dwelling. Currently, there are no buildings within these distances as measured from the proposed residential flat building, which means that there is no development departure under subclause 3.

The Clause 4.6 statement has been provided in relation to the separation distance not being shared equitably between sites. This is a merit assessment in relation to setback requirements under Part 3F of the Apartment Design Guide.

For clarification, the assessment in the table below does not relate to the actual departure under subclause 2(a) as the applicant's submission does not address this.

(.,	abinission does not address this.
WLEP 2009 clause 4.6 proposed	development departure assessment
Development departure	Clause 8.6 Building Separation.
Is the planning control in question a development standard	Yes
4.6 (3) Written request submitted	d by applicant contains a justification:
that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and	No, not in relation to subclause 2(a)
that there are sufficient environmental planning grounds to justify contravening the development standard.	No, not in relation to subclause 2(a)
4.6 (4) (a) Consent authority is sa	itisfied that:
the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and	The applicant's written request has not addressed the matters required to be addressed by subclause (3). The applicant's request relates only to building separation requirements under subclause (3)(a) and (b) of Clause 8.6 for which a development departure is not required.
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	The objective of clause 8.6 is to ensure sufficient separation of buildings for reasons of visual appearance, privacy and solar access.  The objectives of the clause have not been addressed in relation to the departure under subclause (2)(a).

which the development is proposed to be carried out, and	The objectives for development within the B4 mixed use zone are:
	To provide a mixture of compatible land uses.
	• To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
	To support nearby or adjacent commercial centres without adversely impacting on the viability of those centres.
	The objectives of the clause have not been addressed in relation to the departure under subclause (2)(a).
the concurrence of the Secretary has been obtained.	The WLPP can exercise its assumed concurrence in this instance.

#### Part 5 Miscellaneous provisions

#### Clause 5.10 Heritage conservation

The site is not heritage listed nor is it located within a heritage conservation area. There are a number of listed items of environmental heritage within the vicinity of the site identified in Figure 1 below. These are: -

- Wollongong TAFE Item 6467 (Local)
- Wollongong Railway Station Group 6382 (State listed item)



Figure 4: Map showing Site's proximity to nearby heritage items

The application was referred to Heritage NSW given the site's proximity to the state listed heritage item however a response has not been received.

#### Clause 5.21 Flood Planning

The site is identified as being flood affected and the provisions of this clause apply. Part of the site is within a high flood risk precinct and floodway. Residential development is proposed outside the

existing footprint of approved structures which is unsuitable as it represents an intensification of use within the high flood risk precinct. Matters under subclauses (2) and (3) of this clause have been considered and the proposed development is not compatible with the flood function of the land.

Flooding matters have been assessed as unsatisfactory by Council's Stormwater Engineer and the provisions and objectives of this clause have not been satisfied.

#### Part 7 Local provisions – general

#### Clause 7.1 Public utility infrastructure

This clause seeks to ensure that sufficient infrastructure is available to service development and requires that consent not be granted for development unless the consent authority is satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

The site is already serviced by electricity, water and sewerage services. It is expected that the existing utility services can be augmented to support the proposed development.

#### Clause 7.6 Earthworks

The proposal involves excavation to facilitate the provision of three (3) basement levels. The earthworks have been considered in relation to the matters for consideration outlined in Clause 7.6 and are not expected to have a detrimental impact on environmental functions and processes, neighbouring uses or heritage items and features of surrounding land. Council's Geotechnical Engineer has considered the application noting the proposal is feasible from a geotechnical perspective.

#### Clause 7.13 Certain land within business zones

The objective of Clause 7.13 is to ensure active uses are provided at the street level to encourage the presence and movement of people. The clause prevents development consent from being granted unless the consent authority is satisfied that the ground floor of the building:

- (a) will not be used for the purpose of residential accommodation, and
- (b) will have at least one entrance and at least one other door or window on the front of the building facing the street other than a service lane.

The proposal is for residential development with a lobby elevated above the existing ground level for flooding purposes. The residential lobby and gymnasium are proposed on the ground floor. No residential units are proposed on the ground floor.

The ground floor has an entrance and windows fronting Gladstone Avenue, thereby satisfying subclause (b).

The objectives of this clause are satisfied.

### Clause 7.18 Design excellence in Wollongong city centre and at key sites

The site is located within the Wollongong city centre and is subject to this clause, the objective of which is to deliver the high standards of architecture and urban design.

Under this clause, the proposed development has been considered by the Design Review Panel (DRP). A number of concerns were identified and in its current form the proposal is not considered to exhibit design excellence as follows:

- The site is not suitable for the development in its current form. Although the proposal is permitted, the scale and built form of any future building that realises the development potential may not be achievable due to the constraints of the site.
- The location of the tower has not demonstrated it will have an acceptable relationship with the neighbouring site to the north.

• The proposal does not adequately respond to sustainable design as it does not achieve the minimum required solar access.

#### Part 8 Local provisions—Wollongong city centre

#### Clause 8.1 Objectives for development in Wollongong city centre

The proposal provides housing in an accessible location however does not respond to the objectives relating to sustainable environmental outcomes with regard to the flooding constraints of the site.

#### Clause 8.4 Minimum building street frontage

The Gladstone Avenue frontage exceeds the 20m street frontage requirement under this clause, having a site width of 30m following consolidation of the existing two allotments.

#### Clause 8.6 Building Separation within Zone B3 Commercial Core or Zone B4 Mixed Use

The objective of this clause is to ensure sufficient separation of buildings for reasons of visual appearance, privacy, and solar access.

#### Subclause 2 states:

- (2) Buildings on land within Zone B3 Commercial Core or B4 Mixed Use must be erected so that—
- (a) there is no separation between neighbouring buildings up to the street frontage height of the relevant building or up to 24 metres above ground level whichever is the lesser, and
- (b) there is a distance of at least 12 metres from any other building above the street frontage height and less than 45 metres above ground level, and
- (c) there is a distance of at least 28 metres from any other building at 45 metres or higher above ground level.

In relation to 2(a), street frontage height means the height of that part of a building that is built to the street alignment under subclause (5). At ground level, the building is setback 1m from Gladstone Avenue. At ground level, the building is setback between 2.4m-4m from the northern boundary and 9m from the southern boundary. Above ground level subclause 3 applies as dwellings are proposed on Levels 1-8. The proposal does not meet the requirement under subclause 2(a) for there to be no separation between neighbouring buildings.

#### Subclause 3 states that

- (3) Despite subclause (2), if a building contains a dwelling, all habitable parts of the dwelling including any balcony must not be less than—
  - (a) 20 metres from any habitable part of a dwelling contained in any other building, and
  - (b) 16 metres from any other part of any other building.

Levels 1-8 within the proposed development contain residential apartments, therefore the 20m and 16m separation distances apply.

The building separation requirements aim to share the minimum distances equitably between adjoining sites, so that half the separation distances equal the required setback to the boundaries. Rather than sharing the separation distance equitably, the proposal seeks to benefit from the increased setback of an approved shop top housing development on the adjoining northern site at 7-15 Gladstone Avenue. As shown in Figures 1 and 2, the building footprint is limited to the northern portion of the site, keeping the southern area as communal open space to reflect the flooding constraint as it is a floodway. This is further shown in Figure 7 below, taken from the applicant's 4.6 Statement:

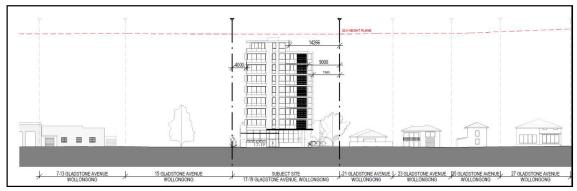


Figure 13 – Current Gladstone Avenue Streetscape including Proposed Development (DWA)

Figure 5 – Building separation with neighbouring buildings

The proposed building separation distances in relation to the requirements of Clause 8.6 are:

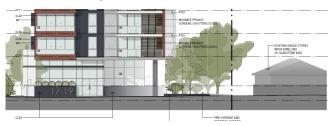
Required separation	Proposed separation	Compliance
Clause 2(a)	Northern boundary	
no separation	At ground level, the building has a 2.4m-4m setback.	
between neighbouring buildings up to the street frontage height or up to 24m, whichever the	The site adjoins 7-15 Gladstone Avenue which is significantly flood affected and is therefore unlikely to have a building built to the common boundary. In these circumstances it would not be feasible to achieve 'no separation between neighbouring buildings' at ground level.	No – the applicant's 4.6 statement does not address subclause 2(a) to the northern or southern
lesser	Southern boundary	boundaries
	The building to the south at 21 Gladstone Avenue is a single storey dual occupancy with a common driveway along its northern boundary. Achieving 'no separation between neighbouring buildings' is not feasible in the current context.	
Clause 3(a)	Northern boundary	
20m from any habitable part of	A 3.5m-4m northern setback is sought at Levels 1-7 where dwellings are proposed.	Complies
a dwelling contained in any other building; and	In relation to subclauses 3(a) and 3(b), there is no neighbouring building to the north within 16m or 20m. The proposal has habitable rooms and balconies that face the northern boundary however the closest building is a vacant commercial building at 7-15 Gladstone Avenue located approximately 30m from	
Clause 3(b)	the subject site's northern boundary, as shown below:	
16m from any other part of any other building		



In this regard, the reduced northern setbacks do not represent a development departure under subclauses 3(a) or 3(b). A Clause 4.6 statement has been provided in relation to the separation distance not being shared equitably between sites. This is more a merit consideration and a setback variation which is discussed under Part 3F of the Apartment Design Guide.

#### Southern boundary

The building to the south at 21 Gladstone Avenue is a single storey dual occupancy therefore there are no dwellings with an interface with the proposed units at Level 1 (see Dwg 030-G).



#### Eastern boundary

There are no neighbouring buildings within 16m or 20m of the site to the east (railway land).

#### Western boundary

There are residential units on the western side of Gladstone Avenue at 20-22 Gladstone Ave and a single dwelling on the corner of Gladstone and Rowland Avenue. Given the road reserve is 20m wide, the minimum 20m separation distances from any habitable part of a dwelling contained in any other building is achieved.

#### Complies

#### Complies

#### Clause 8.7 Shops in Zone B4 Mixed use

No shops are proposed as part of the proposal.

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

None applicable

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

#### 2.3.1 WOLLONGONG DEVELOPMENT CONTROL PLAN 2009

#### **CHAPTER A1 – INTRODUCTION**

#### 8 Variations to development controls in the DCP

The proposal involves variations to the side setbacks, particularly in relation to the northern boundary setback. A variation statement with regard to the DCP setback requirements has not been provided, deferring to the Visual Privacy provisions under the Apartment Design Guide, which is discussed under that part. See Attachment 7 for full compliance table.

#### 2.3.2 WOLLONGONG CITY WIDE DEVELOPMENT CONTRIBUTIONS PLAN

#### Wollongong City-Wide Development Contributions Plan - City Centre

The Wollongong City-Wide Development Contributions Plan applies to the subject property. This Plan levies a contribution based on the estimated cost of development. The proposed cost of development\* is over \$250,001 and a levy rate of 2% would apply where consent was granted.

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

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

## 2.5 SECTION 4.15(A)(IV) THE REGULATIONS (TO THE EXTENT THAT THEY PRESCRIBE MATTERS FOR THE PURPOSES OF THIS PARAGRAPH)

The Environmental Planning and Assessment Regulation 2021 commenced on 1 March 2022 and applies to the application.

#### 61 Additional matters that consent authority must consider

(1) In determining a development application for the demolition of a building, the consent authority must consider the Australian Standard AS 2601—2001: The Demolition of Structures. Demolition of all existing structures is proposed, and appropriate conditions of consent would be imposed where approval was recommended.

#### 2.6 SECTION 4.15(1)(B) THE LIKELY IMPACTS OF DEVELOPMENT

In its current form, there are expected to be adverse environmental impacts on the natural and built environments and adverse social or economic impacts in the locality.

This is demonstrated through the following:

- The proposal is unsatisfactory with regard to the applicable planning controls as detailed in the body of this report.
- Referrals are unsatisfactory as detailed in this report.

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

#### Does the proposal fit in the locality?

Some form of residential flat building or shop top housing is considered appropriate with regard to the zoning of the site and proximity to public transport. However, the design of the development does not adequately respond to the site constraints, particularly flooding.

#### Are the site attributes conducive to development?

The site attributes are conducive to some form of redevelopment however the site is constrained by flooding, limiting the position of any future building on the site. This constraint may mean that a building that sensitively responds to the site constraints may not be able to realise the full extent of the planning controls (e.g., floor space ratio).

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

Refer Part 1.5

#### 2.9 SECTION 4.15(1)(E) THE PUBLIC INTEREST

The proposal does not respond to the applicable planning controls regarding flood affected land or stormwater disposal. Design changes are also required to better respond to the opportunities of the site such as increased setbacks, more landscape screening and improved solar access to communal open space areas. In its current form it is likely to result in unreasonable impacts on the environment and the amenity of the locality. Given these issues the development in its current form is not considered to be in the public interest.

#### **3 CONCLUSION**

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

The submissions received have been considered in the assessment as outlined in this report.

The current design does not adequately respond to the site constraints. The site is significantly flood affected which requires a redesign to address this relevant planning controls. The proposed development has not demonstrated adequate stormwater disposal can be achieved. In its current form the design does not adequately respond to the design principles under SEPP 65, nor adequately respond to various objectives under the Apartment Design Guide. The proposed development does not achieve design excellence as required under Wollongong LEP and the provisions of Clause 4.6 have not been satisfied in relation to the applicable building separation departures. Given lack of a clause 4.6 submission there is no power to grant consent. Due to the unresolved issues, the development is not supported.

#### **4 RECOMMENDATION**

It is recommended that the development application be refused for the reasons outlined in Attachment 8.

#### **Attachments**

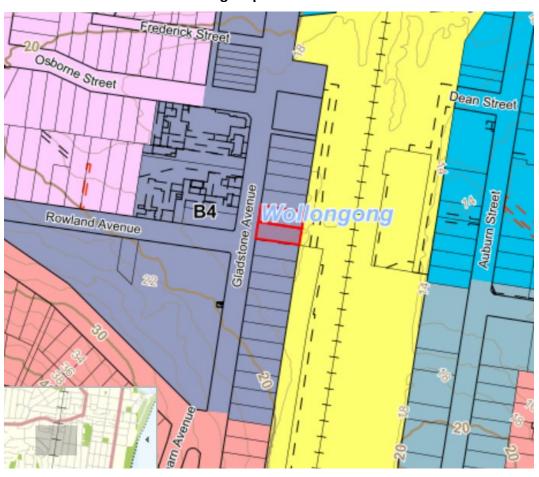
- 1 Aerial photograph
- 2 WLEP zoning map
- 3 Plans
- 4 DRP Notes

- 5 ADG Compliance Table
- 6 Clause 4.6 Variation
- 7 WDCP Assessment
- 8 Reasons for refusal

Attachment 1 - Aerial photograph



Attachment 2 - WLEP 2009 zoning map



#### 0007052700 26 Aug 2022 Assessor Martin Pinson 5.9 Address 17-19 GLADSTONE AVENUE . WOLLONGONG . NSW . 2500 HOUSE hstar.com.au

NO.

COVERSHEET

DCP ANALYSIS

URBAN CONTEXT

LOCAL CONTEXT

DEMOLITION PLAN

SITE PLAN - ROOF PLAN

LEVEL 02 TO 07 (TYPICAL)

FUTURE CONTEXT FLOOR PLANS

FUTURE CONTEXT FLOOR PLANS

FUTURE CONTEXT FLOOR PLANS FUTURE CONTEXT SOLAR ANALYSIS

FUTURE CONTEXT SOLAR ANALYSIS

FUTURE CONTEXT SOLAR ANALYSIS

PROPOSED STREETSCAPE ELEVATIONS

FUTURE STREETSCAPE ELEVATIONS

JUNE - 9AM-12PM SHADOW DIAGRAMS

JUNE - 1PM - 3PM SHADOW DIAGRAMS DECEMBER - 9AM - 3PM SHADOW DIAGRAMS

SOLAR VIEWS - FUTURE CONTEXT (NORTH)

SOLAR VIEWS - FUTURE CONTEXT(NORTH) SOLAR VIEWS - FUTURE CONTEXT (NORTH)

FUTURE CONTEXT GFA PLANS

FUTURE CONTEXT SECTION

**ELEVATION - WEST** ELEVATION - SOUTH

**ELEVATION - NORTH** 

ELEVATION - EAST

SECTION A

SECTION B

SECTION C

SECTION D

SECTION E

SECTION F

SECTION G

DETAIL SECTIONS

SOLAR VIEWS

SOLAR VIEWS

SOLAR VIEWS + SCHEDULE

CROSS VENT + SCHEDULE

SOLAR VIEWS (COS)

PROPOSED 3D VIEWS

PROPOSED BUILDING 3D VIEWS

GFA (GROSS FLOOR AREA) PLANS

GBA (GROSS BUILDING AREA) PLANS

FUTURE 3D VIEWS

3D HEIGHT PLANE

CONTEXT 3D VIEWS

UNIT TYPE KEY PLANS STORAGE CALCULATIONS

SITE ANALYSIS

SITE SURVEY

PRECEDENCE

BASEMENT 3

BASEMENT 2

BASEMENT 1

LEVEL 01

LEVEL 08

ROOF

**GROUND FLOOR** 

000

001

002

003

004

005

006

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090

## 17-19 GLADSTONE AVENUE, WOLLONGONG

### KINETIC WOLLONGONG PTY LTD



APARTMENT TYPE SCH	EDULE
NAME	QTY

1 BED	7
2 BED	21
2 BED ADAPTABLE	4
3 BED	3
	35

PARKING SCHEDULE		
TYPE	QTY	
MOTORBIKE PARKING	3	
RESIDENT PARKING	31	
VISITOR PARKING	8	
TOTAL	42	

AREA SCHEDULE (GFA)				
LEVEL	AREA	FSR		
GROUND FLOOR	156.26 m²	0.13		
LEVEL 01	264.31 m²	0.21		
LEVEL 02	402.31 m²	0.33		
LEVEL 03	402.31 m²	0.33		
LEVEL 04	402.31 m²	0.33		
LEVEL 05	402.31 m²	0.33		
LEVEL 06	402.31 m²	0.33		
LEVEL 07	402.31 m²	0.33		
LEVEL 08	218.91 m²	0.18		
	3053.36 m <sup>2</sup>	2.47		

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HERITAGE	GBA HERITAGE	SHABNAM YAZDANI MEHR	(02) 9299 8600	shabnammehr@gbaheritage.com

### SITE ADDRESS

#### SITE AREA

1237.18 sqm TOTAL

3084.59 sqm TOTAL PROPOSED 3053.36 sam

ALLOWABLE 2.47:1

REQUIRED 309.30 sam (25%) PROPOSED 310.8 sam (25.1%)

DEEP SOIL ZONE PROPOSED 143.17 sqm (11%)

31 RESIDENTIAL CARPARKING REQUIRED

(0.9 SPACES PER 2 BED)

(0.2 SPACES PER UNIT)

CARPARKING PROVIDED VISITORS

MOTORBIKE SPACES PROVIDED RESIDENTIAL (1 PER 15 UNITS)

TOTAL PROVIDED = 25 UNITS (71.43%)

60% OF UNITS (22 UNITS) REQUIRED TO ACHIEVE CROSS VENTILATION (ADG)

10% OF UNITS (4 UNITS) REQUIRED TO BE ADAPTABLE

TOTAL ADAPTABLE PROVIDED - 04 UNITS (2.04, 3.04, 4.04, 5.04)

TOTAL LIVABLE PROVIDED -

REQUIREMENTS THESE UNITS ARE ALSO CAPABLE OF SATISFYING THE INTENT OF

17-19 GLADSTONE AVENUE, WOLLONGONG

#### SUMMARY

TOTAL ALLOWABLE

2.50:1

COMMON OPEN SPACE AREA

BICYCLE SPACES PROVIDED

REQUIRED 86.60 sqm (7%)

(0.6 SPACES PER 1 BED)

(1.4 SPACES PER 3 BED) VISITORS

31 RESIDENTIAL

VISITORS (NIL REQUIRED)

03 VISITOR (1 PER 12 UNITS = 3)

14 RESIDENTIAL (REQUIRED=1 PER 3 UNITS = 12)

70% OF UNITS (25 UNITS) REQUIRED TO ACHIEVE SOLAR COMPLIANCE (ADG)

TOTAL PROVIDED = 28 UNITS (80.00%)

20% OF UNITS (8 UNITS) REQUIRED TO ACHIEVE SILVER (LIVABLE HOUSING)

13 UNITS (2.04, 3.04, 4.04, 5.04, 6.04, 7.04, 1.03, 2.03, 3.03, 4.03, 5.03, 6.03, 7.03)

(NOTE: SINCE 10% OF THE UNITS ALREADY COMPLY WITH ADAPTABLE UNIT SILVER LEVEL OF LIVABLE HOUSING GUIDELINES).

## ADDITIONAL INFORMATION

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	SCALE: QA:	RG	DWG No.	Rev

### DISCLAIMER

Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client. Drawings are not are not suitable for purchase of property.

All parking and ramps to traine engineers details. (Oubject to Approval)				
REF.	DATE	AMENDMENT		
В	25.01.2022	CONSULTANT COORDINATION		
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE		
D	16.08.2022	CONSULTANT ISSUE		
E	22.08.2022	TO HERITAGE CONSULTANT		
G	26.08.2022	ADDITIONAL INFORMATION		
DISCLAIN All dimensions	ΛER are in millimeters. Verify a	Il dimensions on site prior to commencement of any work.	DESIGN	

Wollongong 81a Princes Highway Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT:

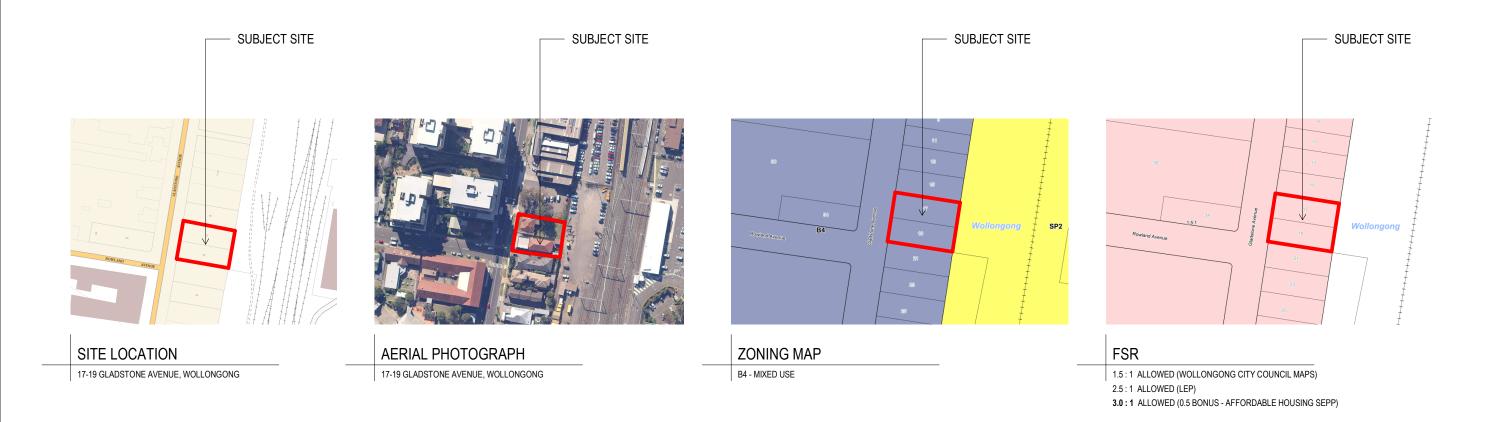
KINETIC WOLLONGONG PTY LTD

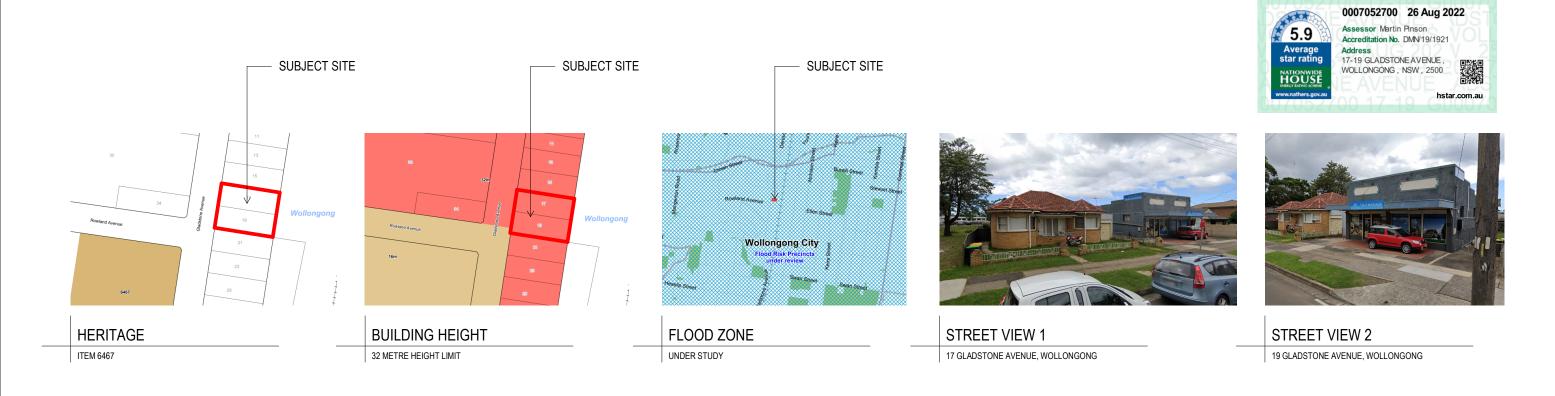
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17-19 GLADSTONE AVENUE, WOLLONGONG

DRAWING NAME: COVERSHEET

Document Set ID: 22963582 Version: 1. Version Date: 30/08/2022





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in parking and ramps to trame engineers details. (Subject to Approvar)					
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D	16.08.2022	CONSULTANT ISSUE			
G	26.08.2022	ADDITIONAL INFORMATION	D'I'I		
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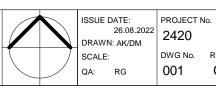
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: DRAWING NAME: DCP ANALYSIS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS:

17-19 GLADSTONE AVENUE, WOLLONGONG

## ADDITIONAL INFORMATION



Rev.

### **SUBJECT SITE** 17-19 GLADSTONE AVENUE, WOLLONGONG



### **URBAN CONTEXT**

1:8000

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AMENDMENT
CONSULTANT COORDINATION
DEVELOPMENT APPLICATION ISSUE
CONSULTANT ISSUE 25.01.2022 16.02.2022 16.08.2022 ADDITIONAL INFORMATION 26.08.2022 DISCLAIMER ment of any work DESIGN WORKSHOP AUSTRALIA

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

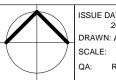
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DRAWING NAME: URBAN CONTEXT

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

## ADDITIONAL INFORMATION



ISSUE DATE: 26.08.2022 DRAWN: AK/DM

WOLLONGONG, NSW, 2500

PROJECT No. 2420 DWG No. Rev. 002 G



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AMENDMENT
CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 26.08.2022 ADDITIONAL INFORMATION

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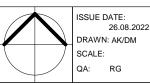
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

DRAWING NAME: LOCAL CONTEXT

CLIENT:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

## ADDITIONAL INFORMA



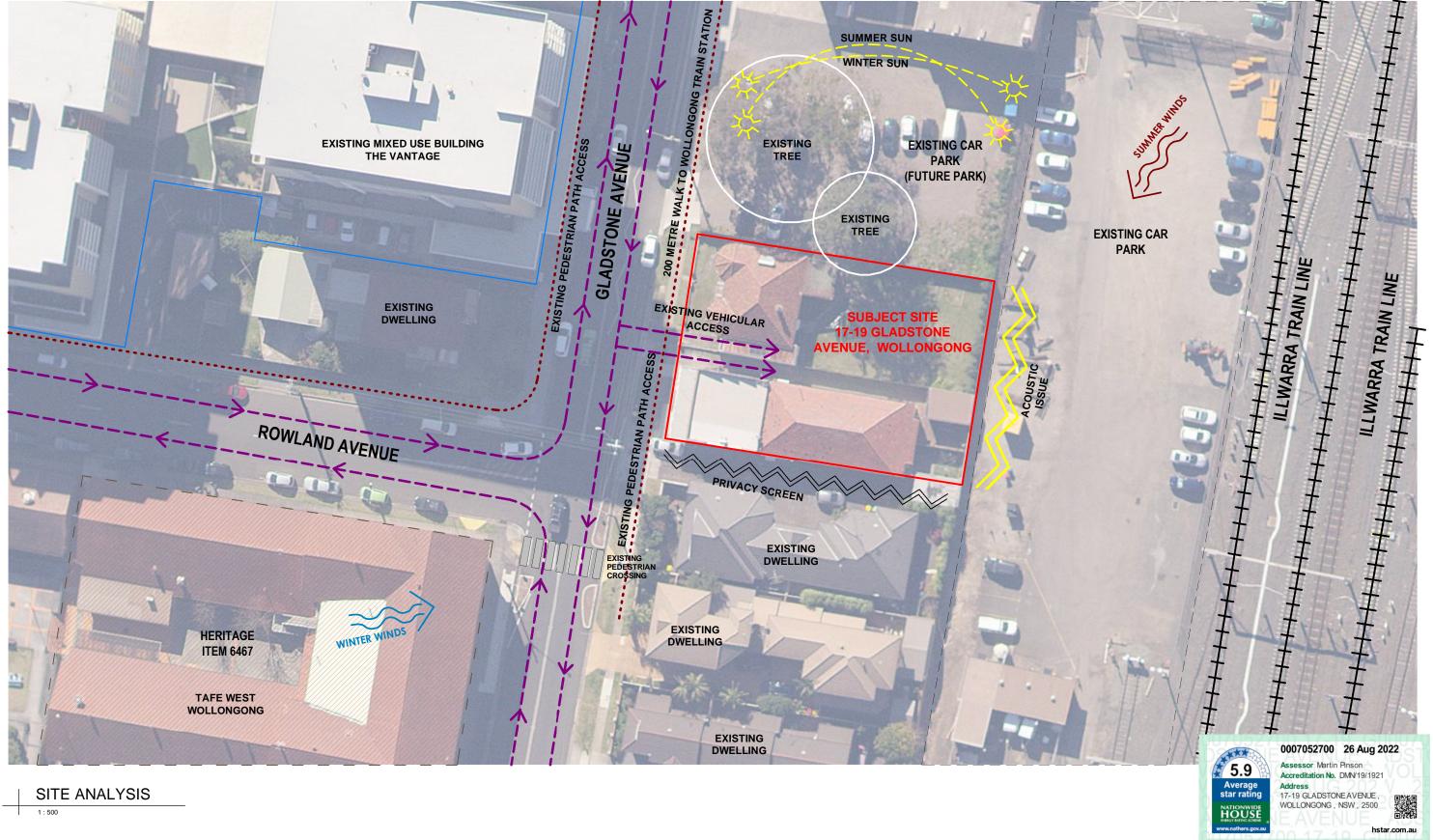
Rev.

PROJECT No.

2420

DWG No.

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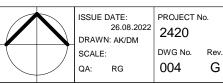
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

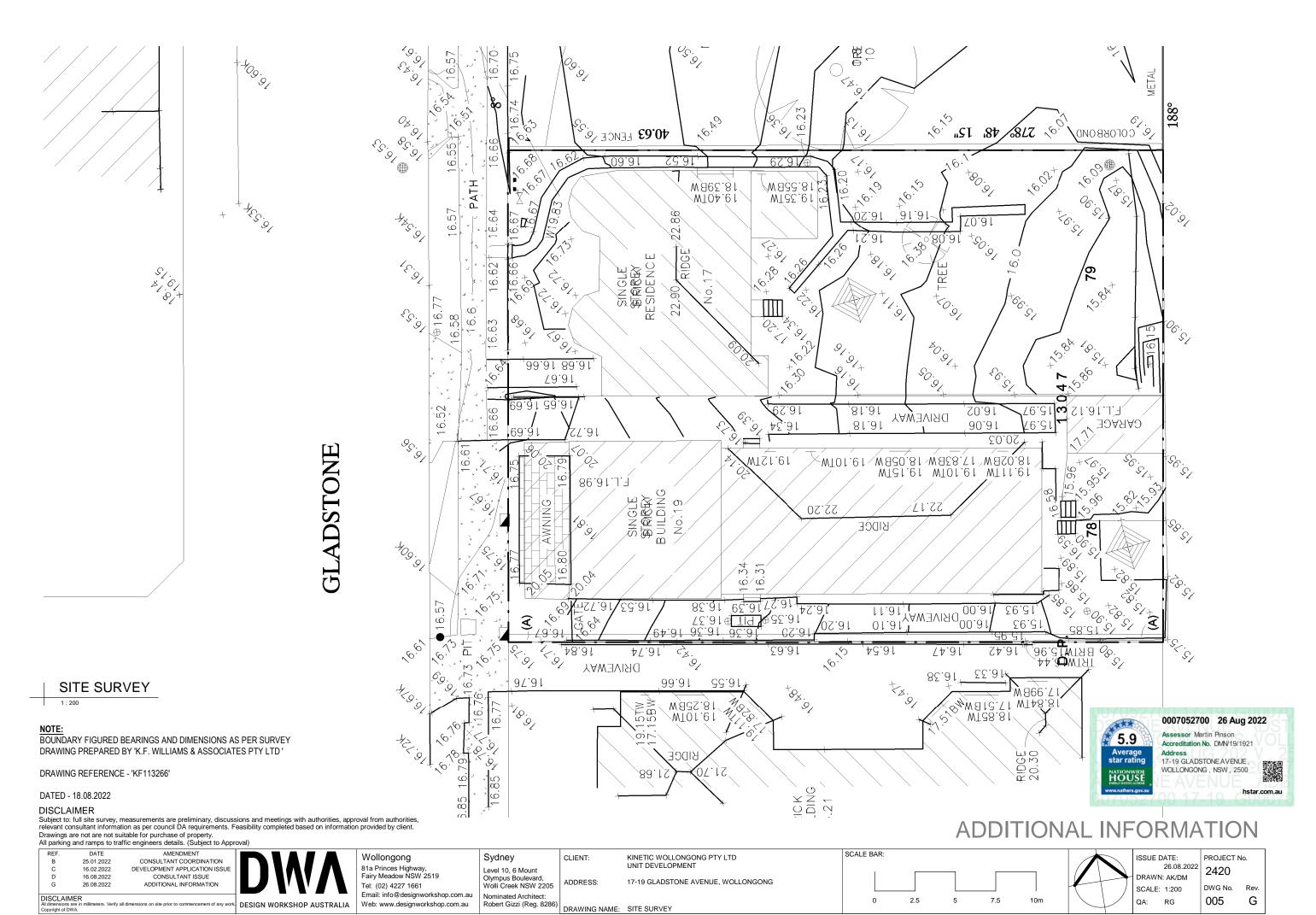
DRAWING NAME: SITE ANALYSIS

CLIENT:

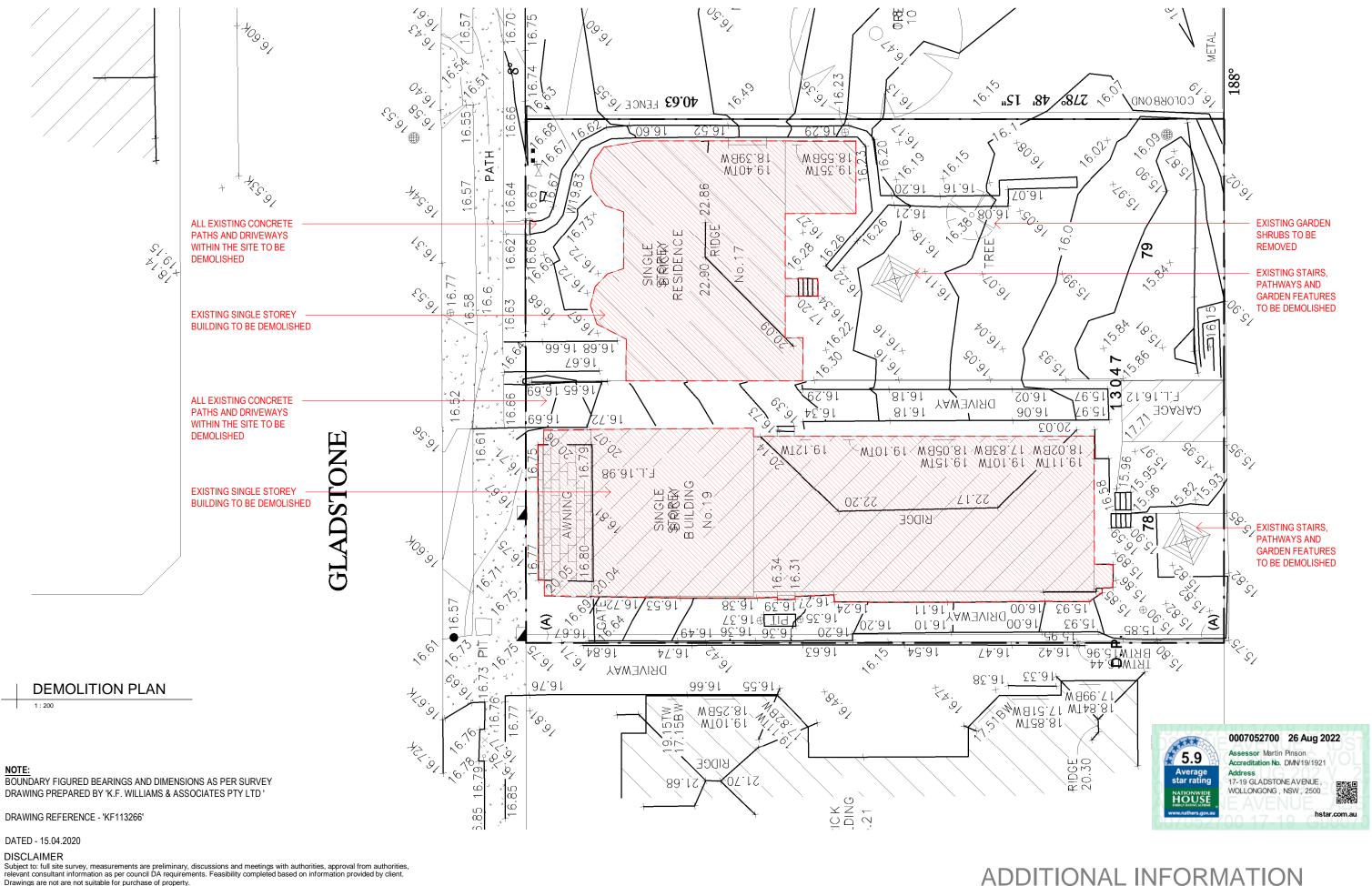
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# ADDITIONAL INFORMATION





Document Set ID: 22963566 Version: 1, Version Date: 30/08/2022



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All parking and ramps to traffic engineers details. (Subject to Approva

AMENDMENT

CONSULTANT COORDINATION 25.01.2022 16.02.2022 DEVELOPMENT APPLICATION ISSUI CONSULTANT ISSUE 16.08.2022 26.08.2022 ADDITIONAL INFORMATION DISCLAIMER



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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: DEMOLITION PLAN

SCALE BAR 7.5 10m



ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 RG 006



























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AMENDMENT
CONSULTANT COORDINATION
DEVELOPMENT APPLICATION ISSUE
CONSULTANT ISSUE
TO HERITAGE CONSULTANT 25.01.2022 16.02.2022 16.08.2022 22.08.2022

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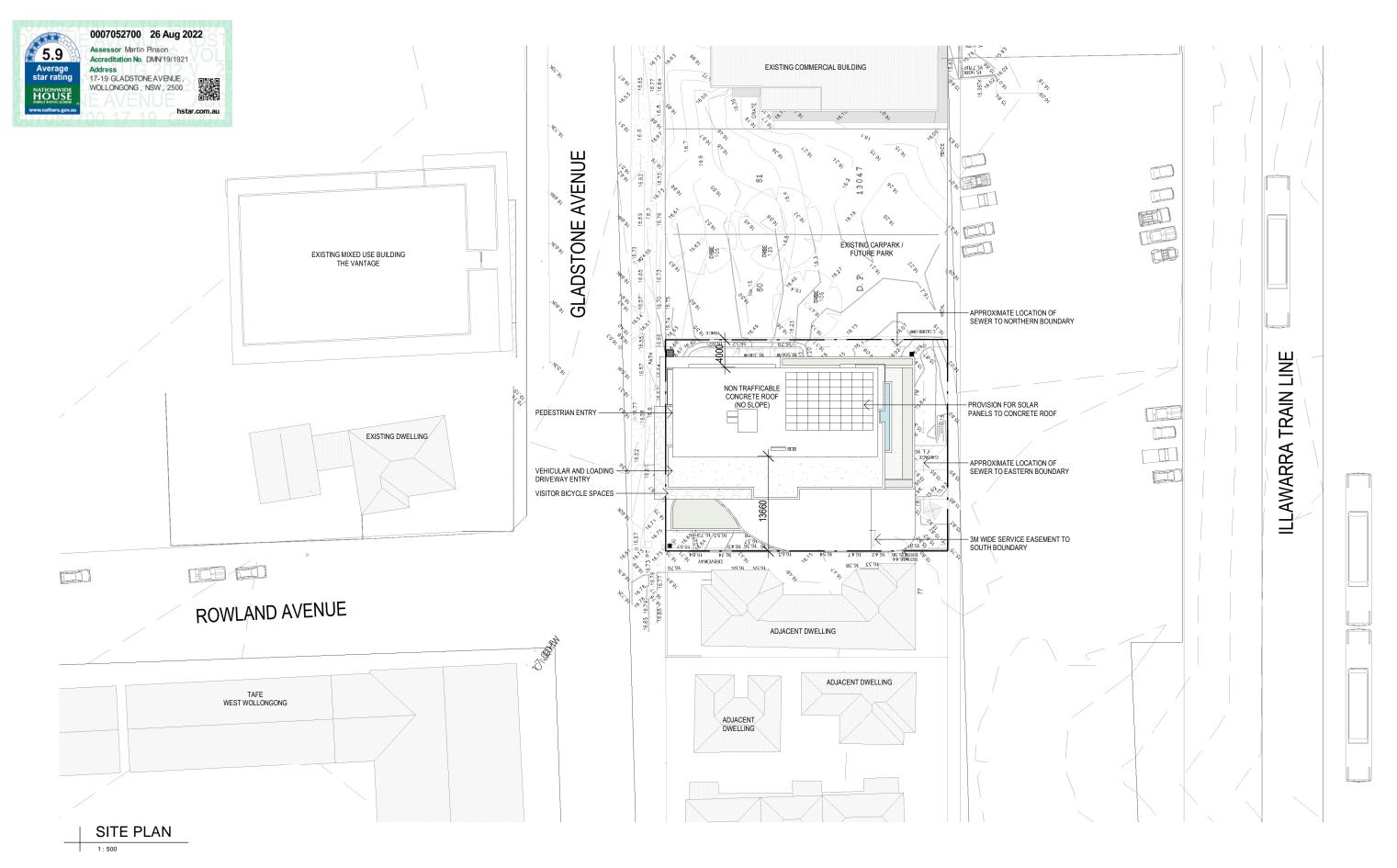
CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

Robert Gizzi (Reg. 8286) DRAWING NAME: PRECEDENCE

## ADDITIONAL INFORMATION

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 007 G QA: RG



AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.202.
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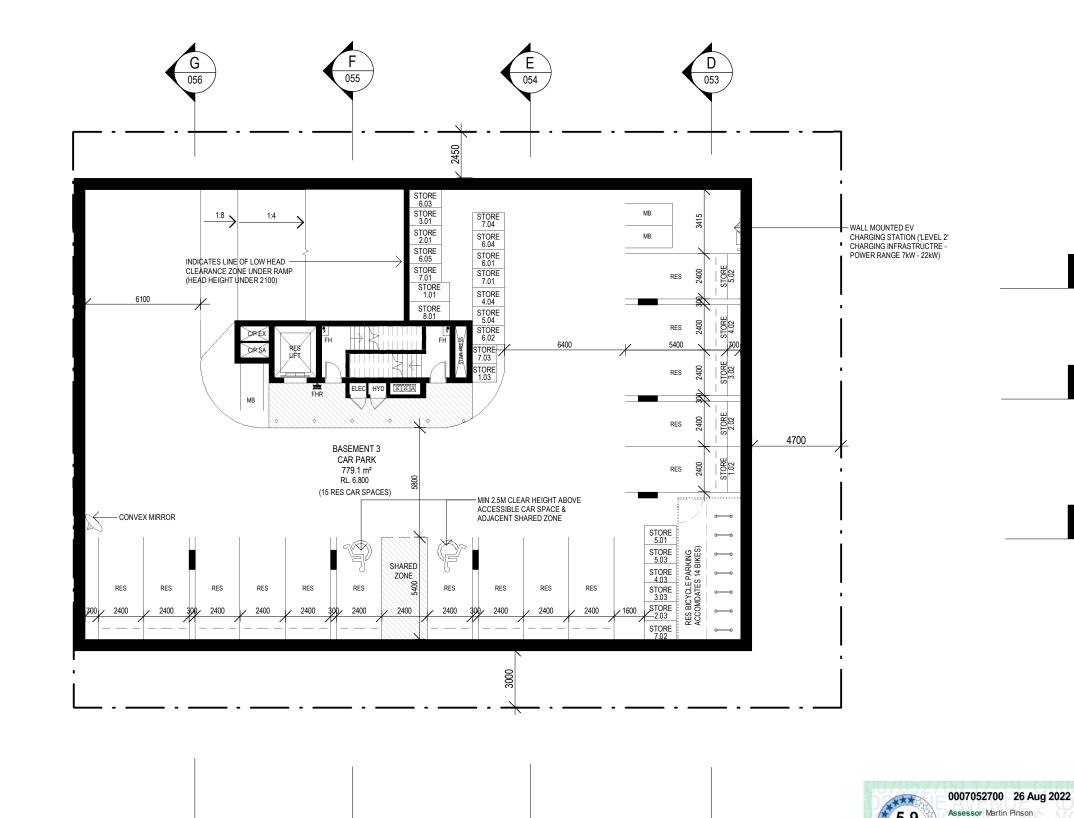
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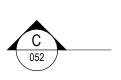
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

KINETIC WOLLONGONG PTY LTD CLIENT: UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: SITE PLAN - ROOF PLAN

SCALE BAR: 10 15 20 25m

### ADDITIONAL INFORMATION PROJECT No. ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: 1:500







DATE

AMENDMENT CONSULTANT ISSUE 16.08.2022 22.08.2022 26.08.2022 TO HERITAGE CONSULTANT ADDITIONAL INFORMATION DISCLAIMER millimeters. Verify all dimensions on site prior to commencement of any work. DESIGN WORKSHOP AUSTRALIA

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CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: BASEMENT 3

# SCALE BAR: 10m

### ADDITIONAL INFORMATION ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM

Accreditation No. DMN/19/1921 Address
17-19 GLADSTONE AVENUE,

WOLLONGONG, NSW, 2500

BASIX WATER ITEM	PROPOSED FOR DEVELOPMENT
Rainwater Tank	6 kL rainwater
Rainwater Tank collection	Collect all non-trafficable roofs >500 m2
Rainwater Tank use	Rainwater for all irrigation
Fire Sprinklers	2 systems - Basement + Building
Fire Sprinkler Test Water (2 systems)	Building + basement test water recycled (closed loop reuse)
Showers	≤ 7.5 L/min (4 star, mid-flow in BASIX)
Toilets	≥ 4 star
Kitchen Taps	≥ 5 star
Bathroom Taps	≥ 5 star
On demand hot recirculation	No
Dishwashers	≥ 4 star WELS (all dwellings)
Clothes washers	≥ 4 star WELS (all dwellings)
Landscape	<470 m2 plants and 0 m2 lawn
Planting – low water species	>65% of plants (306 m2) is locally indig. or 1-drop species
Blackwater/Greywater reuse	None
Pools	Yes <40 kL pool, pump timer, solar (>25m2) + gas boost

BASIX ENERGY ITEM	PROPOSED FOR DEVELOPMENT
Heating for Units	Living and beds - unzoned - 1-phase, 4-star average (new rating)
Cooling for Units	Living and beds - unzoned - 1-phase, 4 star average (new rating)
AC zoning (day/night -1 zone at a time)	Not used (so both zones can be used at the same time)
Clothes lines private	No permanent clothes lines (on balconies/internal)
Bathroom Exhaust	Fan to façade/roof - manual switch
Laundry Exhaust	Fan to façade/roof - manual switch
Kitchen Exhaust	Fan to façade/roof - manual switch
Lighting for Apartment -living	LEDs ≥80% fittings in all unit rooms (dedicated)
Lighting for Apartment -dining	LEDs ≥80% fittings in all unit rooms (dedicated)
Lighting for Apartment -bedrooms	LEDs ≥80% fittings in all unit rooms (dedicated)
Lighting for Apartment -toilets	LEDs ≥80% fittings in all unit rooms (dedicated)
Lighting for Apartment -laundry	LEDs ≥80% fittings in all unit rooms (dedicated)
Vented fridge-spaces	No (needs ≥ 1 side or top totally open)
Cooking	Gas cooktop & electric oven
Fridges	≥ 3.5 star energy
Clothes washers	≥ 4 star energy
Dishwashers	≥ 4 star energy
Clothes dryers	≥ 7 star energy

PV Solar Power 15kW peak output (approx. 45 panels or more, <100m2)  Lifts - 1 x lift VVVF gearless traction  BMS - Building Management Syst. None  PFC - Power Factor Correction None  common washing None  Hot Water Instant gas 5 stars for each unit  Hot Water Supply riser insulation n/a  ar Park Ventilation Mech supply/exhaust - with VSD fans and CO monitors  air Dags comms Ventilation Mech exhaust only - continuous  coilet gym Ventilation Natural ventilation only  iround Floor Lobby Ventilation HVAC - BMS or timer  witch/NBN Rooms Ventilation Mech supply with thermo-sensors  lant Room Ventilation Mech supply with timer or BMS			111
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oilet gym Ventilation Mech exhaust only – timer/BMS ommon Corridor Ventilation Natural ventilation only iround Floor Lobby Ventilation HVAC – BMS or timer witch/NBN Rooms Ventilation Mech supply with thermo-sensors lant Room Ventilation Mech supply only – continuous torage Rooms Ventilation Mech supply with timer or BMS lym Ventilation Mech supply with timer or BMS tym Ventilation HVAC – BMS or timer  Lift lights LEDs (connected to call-button) Plant rooms Lights LEDs, manual on/off Car Park Lights LEDs, motion sensor + zoning Corridors Lights LEDs, motion sensor + zoning Lobbies Lights LEDs, motion sensor + zoning Loading dock Lights LEDs, motion sensor Garbage Rooms Lights LEDs, motion sensor Storage rooms Lights LEDs, motion sensor Storage rooms Lights LEDs, motion sensor	Loading Dock Ventilation	Mech exhaust only – with VSD fans and CO monitors	
ommon Corridor Ventilation Natural ventilation only iround Floor Lobby Ventilation HVAC – BMS or timer witch/NBN Rooms Ventilation Mech supply with thermo-sensors lank Room Ventilation Mech supply only - continuous torage Rooms Ventilation Mech supply with timer or BMS tyruy Ventilation HVAC – BMS or timer Lift lights LEDs (connected to call-button) Plant rooms Lights LEDs, manual on/off Car Park Lights LEDs, motion sensor + zoning Corridors Lights LEDs, motion sensor + zoning Lobbies Lights LEDs, motion sensor + zoning Lodding dock Lights LEDs, motion sensor Garbage Rooms Lights LEDs, motion sensor Storage rooms Lights LEDs, motion sensor	Garbage rooms Ventilation	Mech exhaust only – continuous	
iround Floor Lobby Ventilation HVAC – BMS or timer  witch/NBN Rooms Ventilation Mech supply with thermo-sensors  lant Room Ventilation Mech supply only – continuous  torage Rooms Ventilation Mech supply with timer or BMS  tym Ventilation HVAC – BMS or timer  Lift lights LEDs (connected to call-button)  Plant rooms Lights LEDs, manual on/off  Car Park Lights LEDs, motion sensor + zoning  Corridors Lights LEDs, motion sensor + zoning  Loading dock Lights LEDs, motion sensor  Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor  LEDs, motion sensor  LEDs, motion sensor	Toilet gym Ventilation	Mech exhaust only – timer/BMS	
witch/NBN Rooms Ventilation Mech supply with thermo-sensors lant Room Ventilation Mech supply only – continuous torage Rooms Ventilation Mech supply with timer or BMS tym Ventilation HVAC – BMS or timer  Lift lights LEDs (connected to call-button) Plant rooms Lights LEDs, manual on/off  Car Park Lights LEDs, motion sensor + zoning  Corridors Lights LEDs, motion sensor + zoning  Lobbies Lights LEDs, motion sensor to zoning  Leading dock Lights LEDs, motion sensor  Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor  LEDs, motion sensor  LEDs, motion sensor	Common Corridor Ventilation	Natural ventilation only	
lant Room Ventilation Mech supply only – continuous torage Rooms Ventilation Mech supply with timer or BMS tym Ventilation HVAC – BMS or timer  Lift lights LEDs (connected to call-button) Plant rooms Lights LEDs, manual on/off  Car Park Lights LEDs, motion sensor + zoning  Corridors Lights LEDs, motion sensor + zoning  Lobbies Lights LEDs, motion sensor + zoning  Loading dock Lights LEDs, motion sensor  Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor	Ground Floor Lobby Ventilation	HVAC – BMS or timer	
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ym Ventilation HVAC – BMS or timer  Lift lights LEDs (connected to call-button)  Plant rooms Lights LEDs, manual on/off  Car Park Lights LEDs, motion sensor + zoning  Corridors Lights LEDs, motion sensor + zoning  Lobbies Lights LEDs, motion sensor + zoning  Loading dock Lights LEDs, motion sensor  Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor	Plant Room Ventilation	Mech supply only – continuous	
Lift lights LEDs (connected to call-button)  Plant rooms Lights LEDs, manual on/off  Car Park Lights LEDs, motion sensor + zoning  Corridors Lights LEDs, motion sensor + zoning  Lobbies Lights LEDs, motion sensor + zoning  Loading dock Lights LEDs, motion sensor  Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor	Storage Rooms Ventilation	Mech supply with timer or BMS	
Plant rooms Lights  LEDs, manual on/off  Car Park Lights  LEDs, motion sensor + zoning  Corridors Lights  LEDs, motion sensor + zoning  Lobbies Lights  LEDs, motion sensor + zoning  Loading dock Lights  LEDs, motion sensor  Garbage Rooms Lights  LEDs, motion sensor  Storage rooms Lights  LEDs, motion sensor  Toilet gym Lights  LEDs, motion sensor	Gym Ventilation	HVAC – BMS or timer	
Car Park Lights LEDs, motion sensor + zoning Corridors Lights LEDs, motion sensor + zoning Lobbies Lights LEDs, motion sensor + zoning Loading dock Lights LEDs, motion sensor Garbage Rooms Lights LEDs, motion sensor Storage rooms Lights LEDs, motion sensor Toilet gym Lights LEDs, motion sensor	Lift lights	LEDs (connected to call-button)	
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Lobbies Lights LEDs, motion sensor + zoning Loading dock Lights LEDs, motion sensor Garbage Rooms Lights LEDs, motion sensor Storage rooms Lights LEDs, motion sensor Toilet gym Lights LEDs, motion sensor	Car Park Lights	LEDs, motion sensor + zoning	
Loading dock Lights LEDs, motion sensor  Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor	Corridors Lights	LEDs, motion sensor + zoning	
Garbage Rooms Lights LEDs, motion sensor  Storage rooms Lights LEDs, motion sensor  Toilet gym Lights LEDs, motion sensor	Lobbies Lights	LEDs, motion sensor + zoning	
Storage rooms Lights LEDs, motion sensor  Tollet gym Lights LEDs, motion sensor	Loading dock Lights	LEDs, motion sensor	
Toilet gym Lights LEDs, motion sensor	Garbage Rooms Lights	LEDs, motion sensor	
	Storage rooms Lights	LEDs, motion sensor	
Gym Lights LEDs, timers	Toilet gym Lights	LEDs, motion sensor	
	Gym Lights	LEDs, timers	





AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.202 DISCLAIMER All dimensions are in com-

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Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: BASEMENT 2

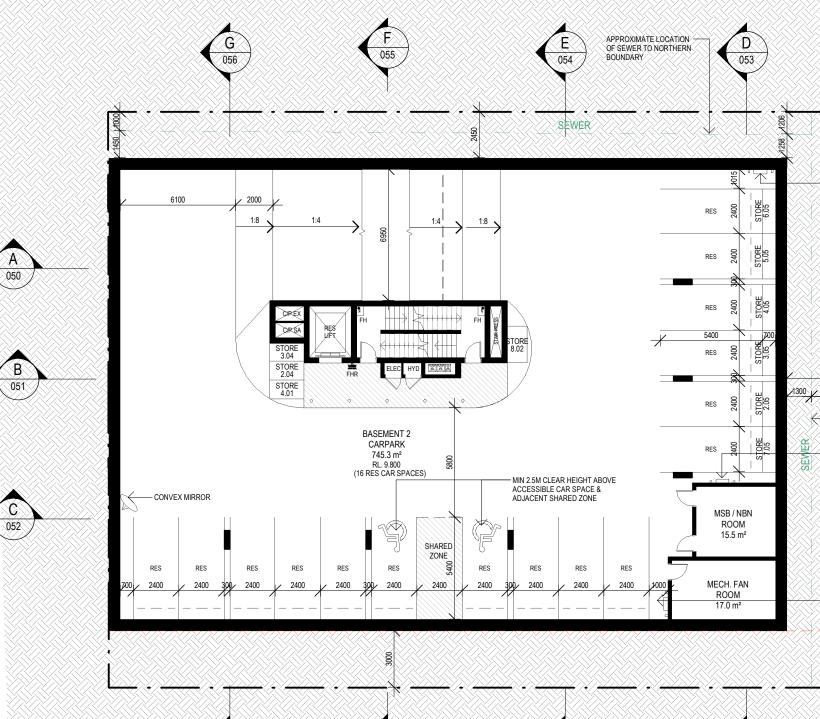
SCALE BAR: 7.5 10m



ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: 1:200 RG

PROJECT No. 2420 DWG No. Rev. 011 G

A >



# WALL MOUNTED EV CHARGING STATION ('LEVEL 2' CHARGING INFRASTRUCTRE -

5.9

0007052700 26 Aug 2022 Assessor Martin Pinson Accreditation No. DMN/19/1921 Address 17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

hstar.com.au

## ADDITIONAL INFORMATION

WALL MOUNTED EV CHARGING STATION ('LEVEL 2' CHARGING INFRASTRUCTRE -POWER RANGE 7kW - 22kW)

051

WALL MOUNTED EV

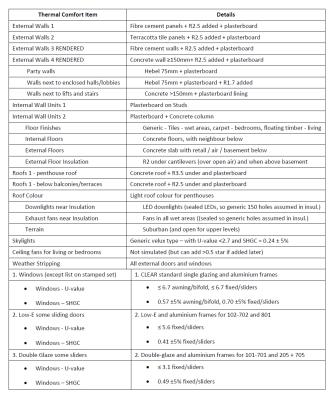
CHARGING STATION ('LEVEL 2' CHARGING INFRASTRUCTRE -

052

POWER RANGE 7kW - 22kW)

- APPROXIMATE LOCATION OF 300mm VCP SEWER TO EASTERN BOUNDARY

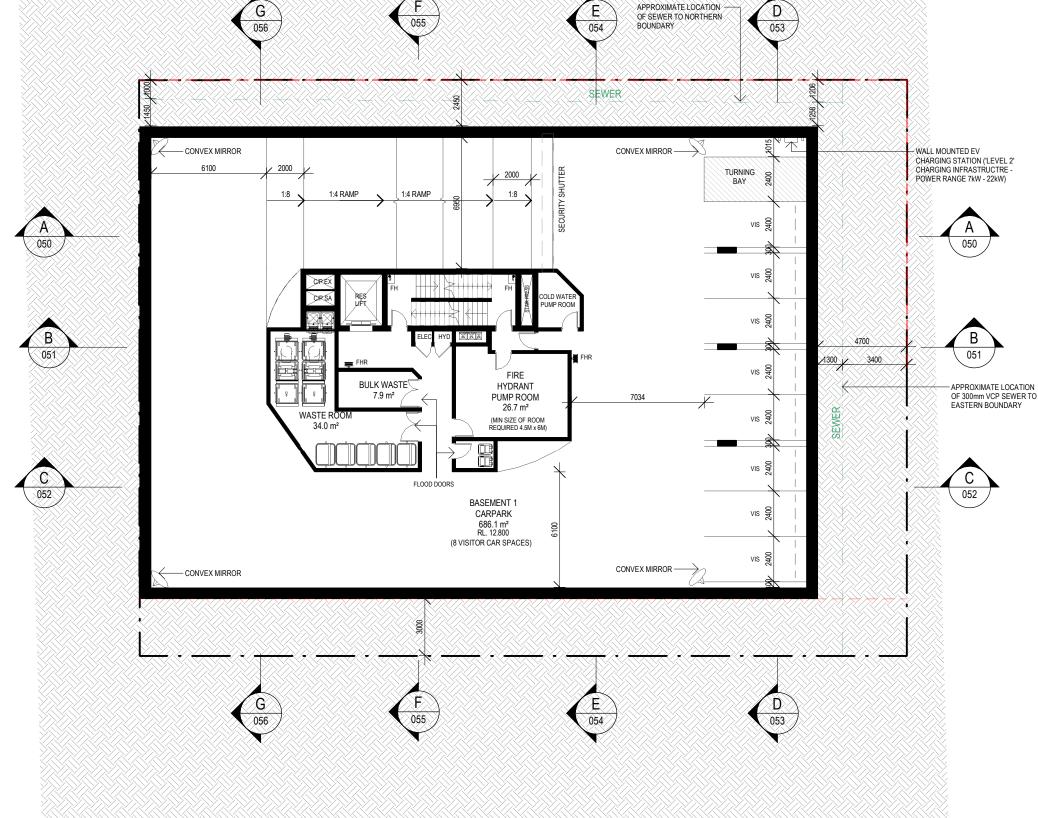
3400



Simulation notes

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- Floor types and thickness may need checking at CC stage, due to complexity of the proposed construction.
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- No RCP provided at DA so generic holes assumed for all exhaust fans (may need extra checking and rerunning at CC stage)
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- Neighbours modelled as shown on drawings but no tree preservations in place and not modelled

> ⋖ GLADSTONE







### DISCLAIMER

1:200

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All parking and ramps to traffic engineers details. (Subject to Approval)

	REF.	DATE	AMENDMENT		
	В	25.01.2022	CONSULTANT COORDINATION		
	С	16.02.2022	DEVELOPMENT APPLICATION ISSUE		
	D	16.08.2022	CONSULTANT ISSUE		
	E	22.08.2022	TO HERITAGE CONSULTANT		
	G	26.08.2022	ADDITIONAL INFORMATION		
DISCLAIMER All dimensions are in millimeters. Verify all dimensions on site prior to commencement of any work Copyright of DWA.					

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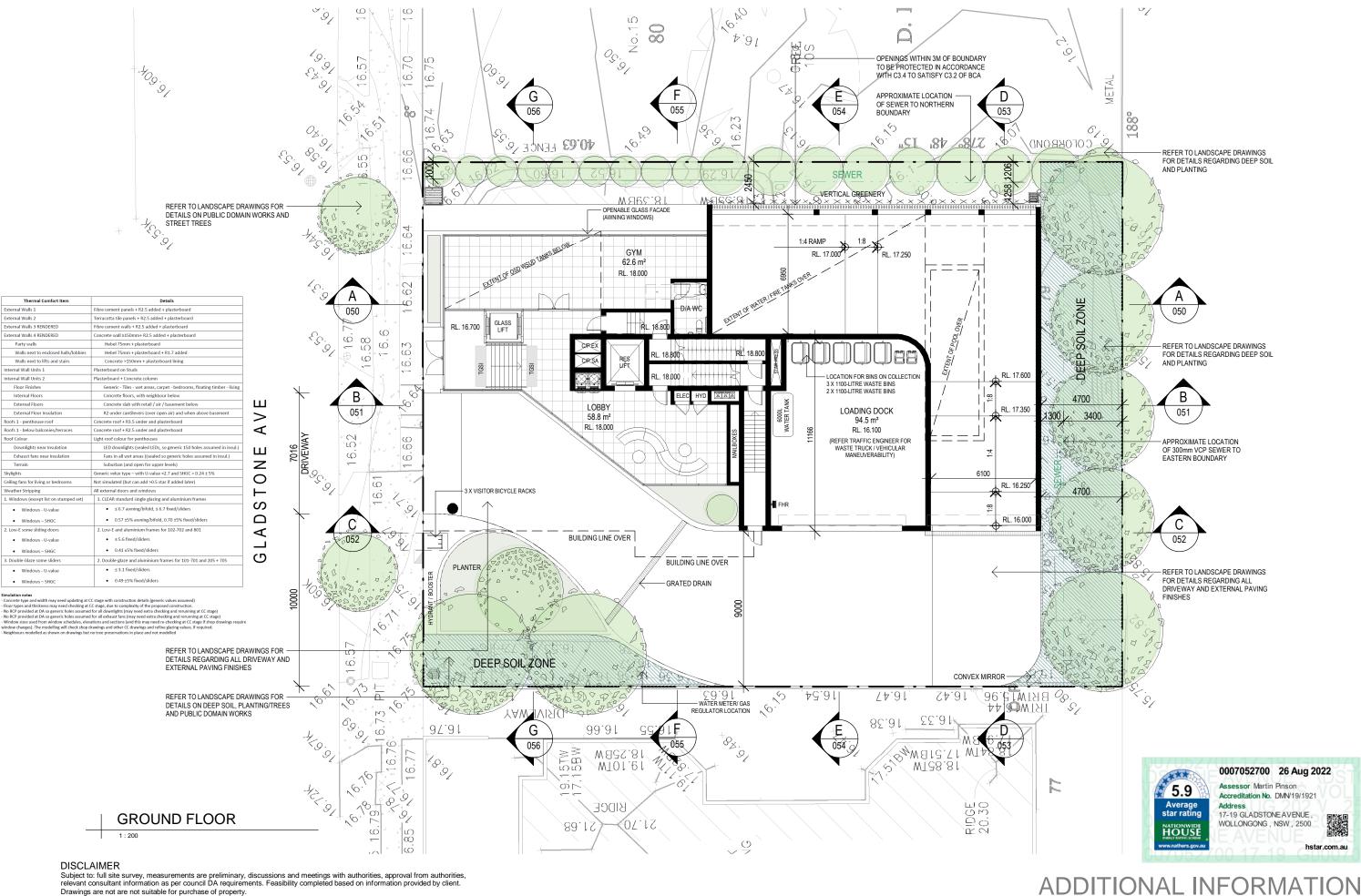
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

KINETIC WOLLONGONG PTY LTD CLIENT: UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: BASEMENT 1

ADDITIONAL INFORMATION SCALE BAR: 0 5 7.5 10m



ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 G QA: RG 012



AMENDMENT
CONSULTANT COORDINATION 25.01.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 16.02.2022 16.08.2022 TO HERITAGE CONSULTANT 22.08.2022 26.08.202

ment of any work DESIGN WORKSHOP AUSTRALIA

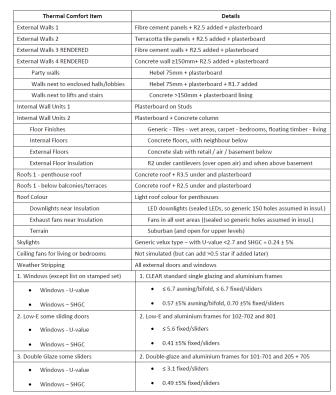
Wollongong 81a Princes Highway Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: GROUND FLOOR

SCALE BAR: 10m

ISSUE DATE: DRAWN: AK/DM SCALE: 1:200

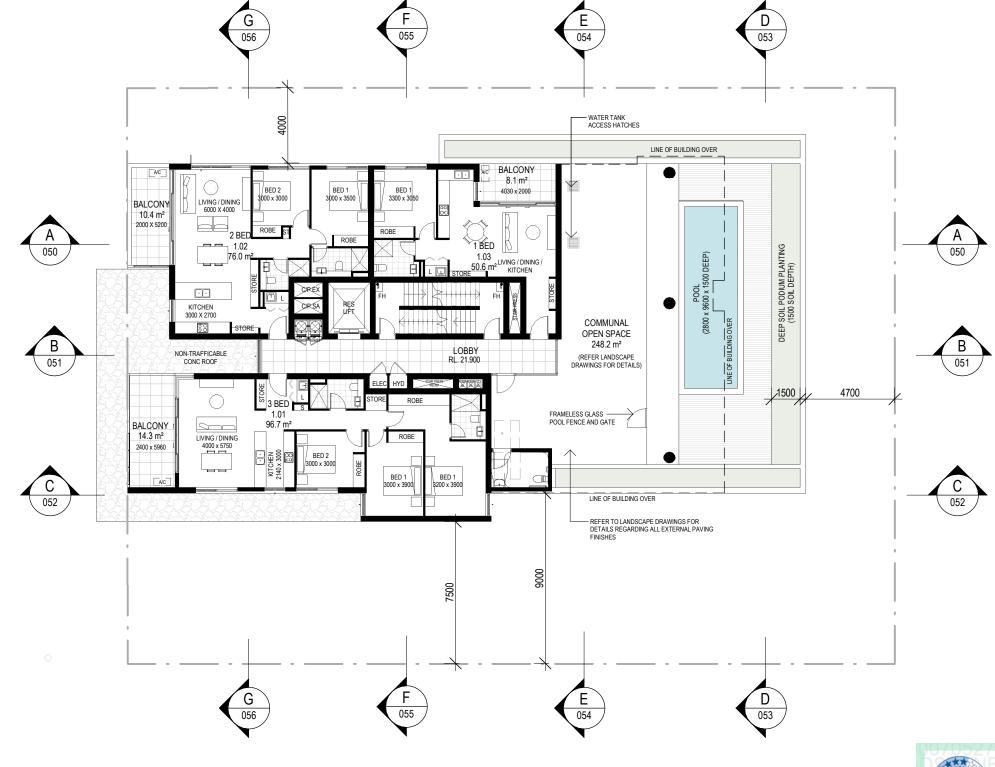
PROJECT No. 26.08.2022 2420 DWG No. Rev. 013



Simulation notes

- Concrete type and width may need updating at CC stage with construction details (generic values assumed)
- Floor types and thickness may need checking at CC stage, due to complexity of the proposed construction.
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- Neighbours modelled as shown on drawings but no tree preservations in place and not modelled

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AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 16.02.2022 16.08.2022 TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022
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All dimensions are in comm

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: LEVEL 01

### ADDITIONAL INFORMATION SCALE BAR: 0 5 7.5 10m

ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: 1:200

Address

5.9

HOUS HOUS ENERGY RATING SCHEM

PROJECT No. 2420 DWG No. Rev. RG 014 G

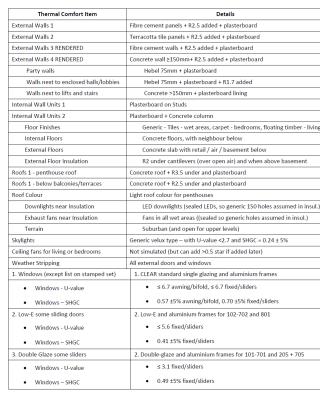
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0007052700 26 Aug 2022 Assessor Martin Pinson

Accreditation No. DMN/19/1921

17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

Document Set ID: 22963573 Version: 1, Version Date: 30/08/2022



Simulation notes

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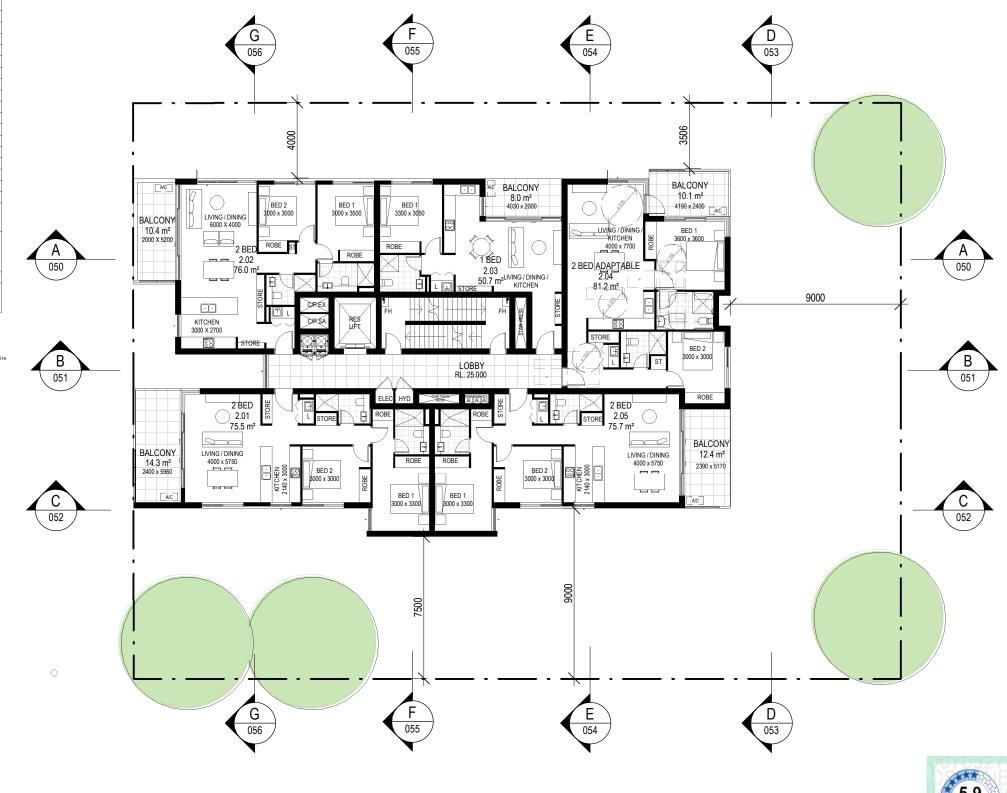
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### LEVEL 02 TO LEVEL 07 (TYPICAL)

### DISCLAIMER

Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client. Drawings are not are not suitable for purchase of property.

AMENDMENT CONSULTANT COORDINATION 25.01.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 16.02.2022 16.08.2022 TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022

DISCLAIMER
All dimensions are 1:

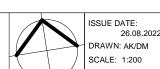
All parking and ramps to traffic engineers details. (Subject to Approval DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS: DRAWING NAME: LEVEL 02 TO 07 (TYPICAL)

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

ADDITIONAL INFORMATION SCALE BAR: 5 7.5 10m



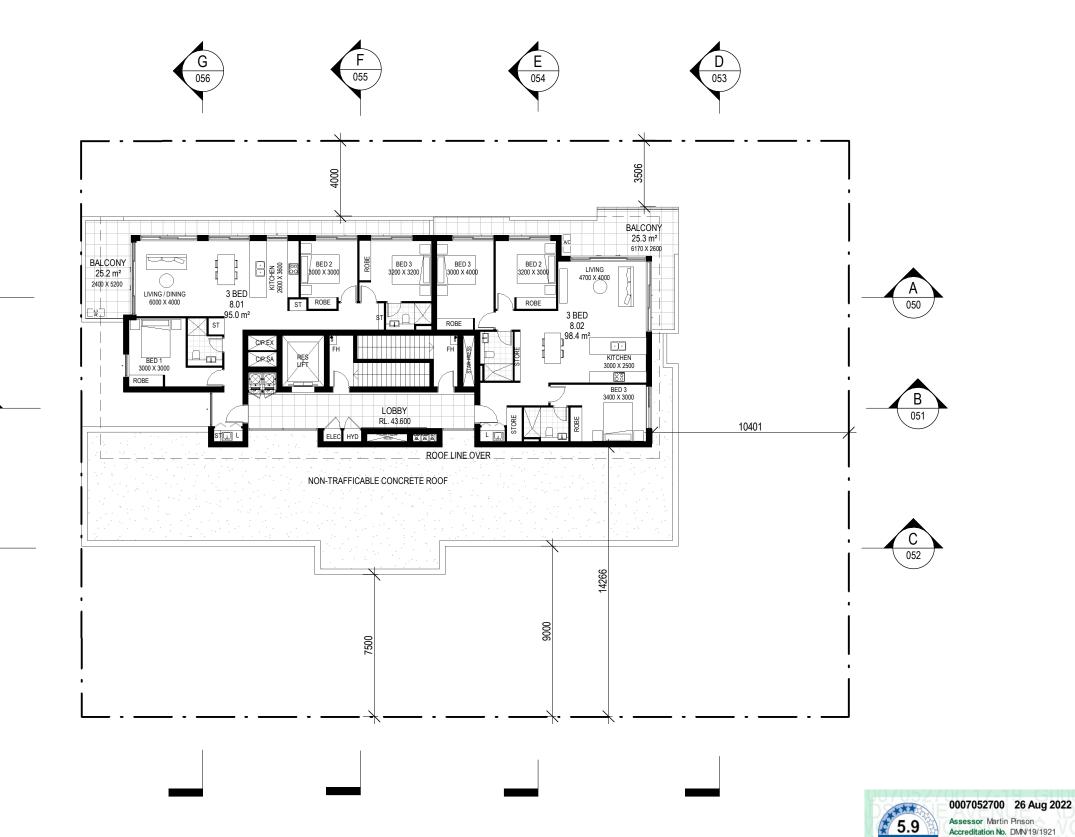
Address

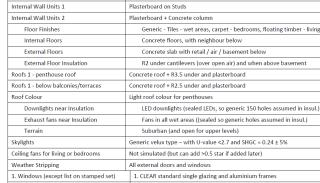
PROJECT No. 26.08.2022 2420 DWG No. QA: RG 015

0007052700 26 Aug 2022 Assessor Martin Pinson Accreditation No. DMN/19/1921

17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

Document Set ID: 22963573 Version: 1, Version Date: 30/08/2022 Rev.





Plasterboard on Studs

Details

Fibre cement panels + R2.5 added + plasterboard

Fibre cement walls + R2.5 added + plasterboard

Hebel 75mm + plasterboard

Terracotta tile panels + R2.5 added + plasterboard

Concrete wall ≥150mm+ R2.5 added + plasterboard

Hebel 75mm + plasterboard + R1.7 added

Concrete >150mm + plasterboard lining

• ≤ 6.7 awning/bifold, ≤ 6.7 fixed/sliders Windows - U-value 2. Low-E some sliding doors 2. Low-E and aluminium frames for 102-702 and 801

≤ 5.6 fixed/sliders

Thermal Comfort Item

Walls next to enclosed halls/lobbies

Walls next to lifts and stairs

External Walls 1

External Walls 2

External Walls 3 RENDERED

External Walls 4 RENDERED

Party walls

 0.41 ±5% fixed/sliders 3. Double Glaze some slider 2. Double-glaze and aluminium frames for 101-701 and 205 + 705 ≤ 3.1 fixed/sliders

0.49 ±5% fixed/sliders

Simulation notes

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AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022
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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: LEVEL 08

# SCALE BAR: 10m

# ADDITIONAL INFORMATION

Address

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 QA: RG 016 G

17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

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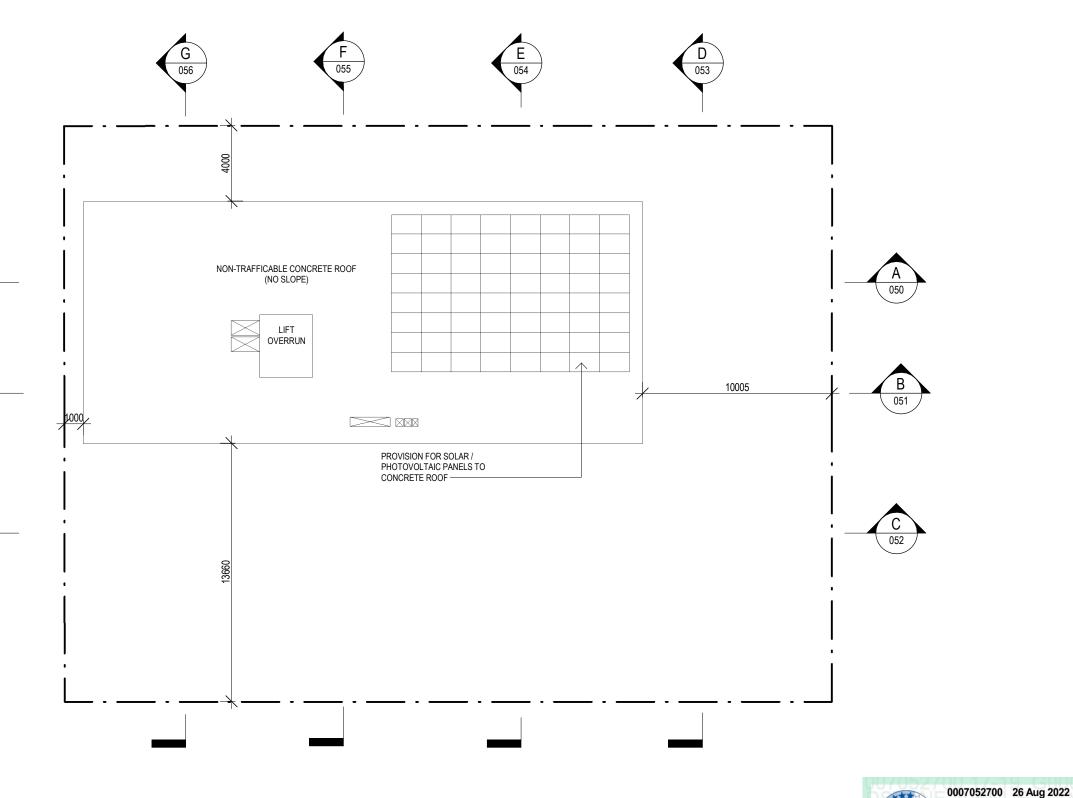
051

Simulation notes

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⋖ GLADSTONE







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AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022

G. 26.08.2022 ADDITIONAL INFORMATION

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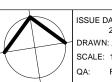
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286) DRAWING NAME: ROOF

KINETIC WOLLONGONG PTY LTD CLIENT: UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG

SCALE BAR: 5



10m



ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: 1:200 RG

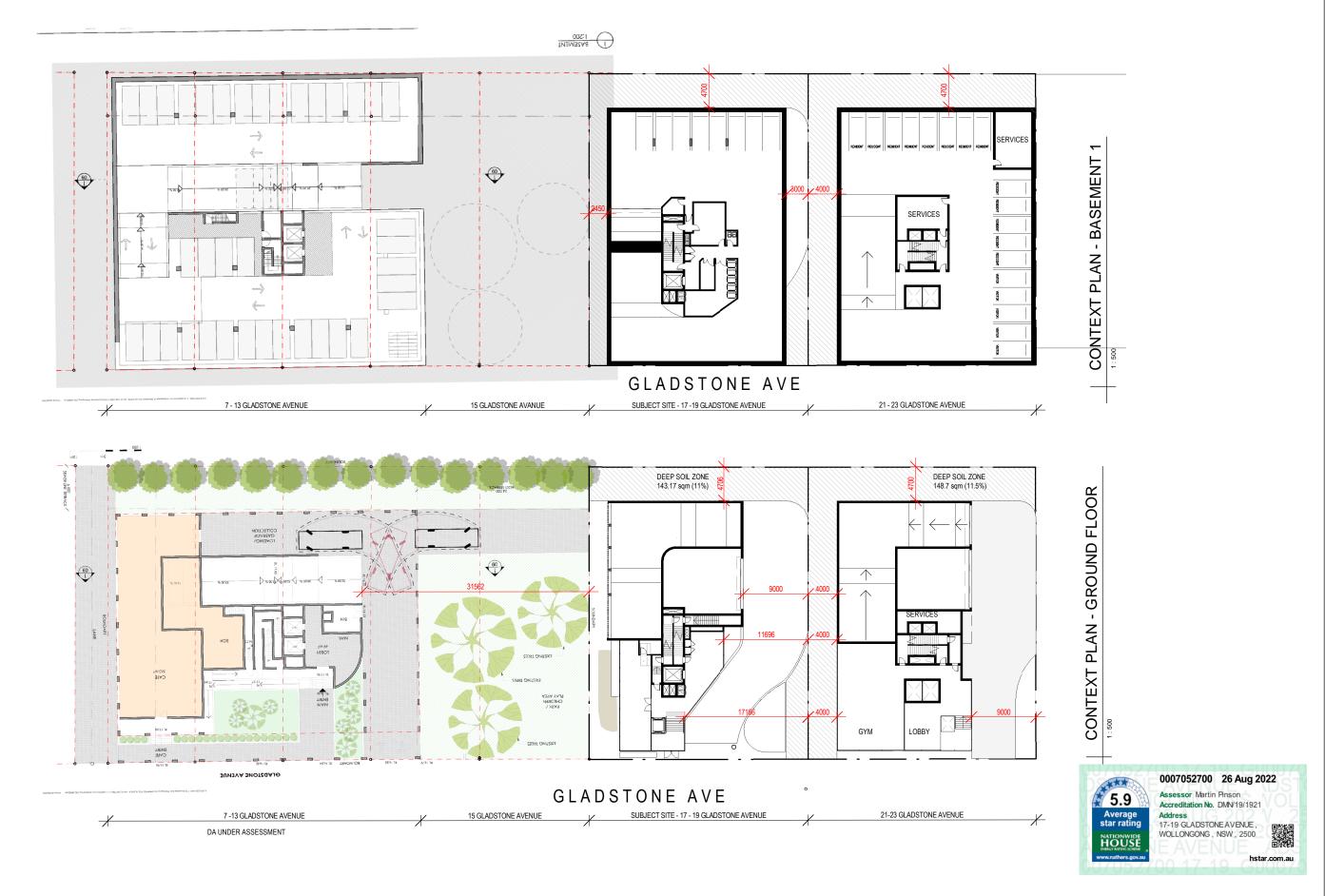
Assessor Martin Pinson Accreditation No. DMN/19/1921

17-19 GLADSTONE AVENUE, WOLLONGONG NSW . 2500

Address

PROJECT No. 2420 DWG No. Rev. 017 G

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CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: FUTURE CONTEXT FLOOR PLANS

SCALE BAR: 20 25m



DWG No. Rev. SCALE: 1:500 020 G



5.9

HOUSE

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AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE ADDITIONAL INFORMATION 26.08.2022 DISCLAIMER

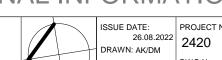
nent of any work. DESIGN WORKSHOP AUSTRALIA

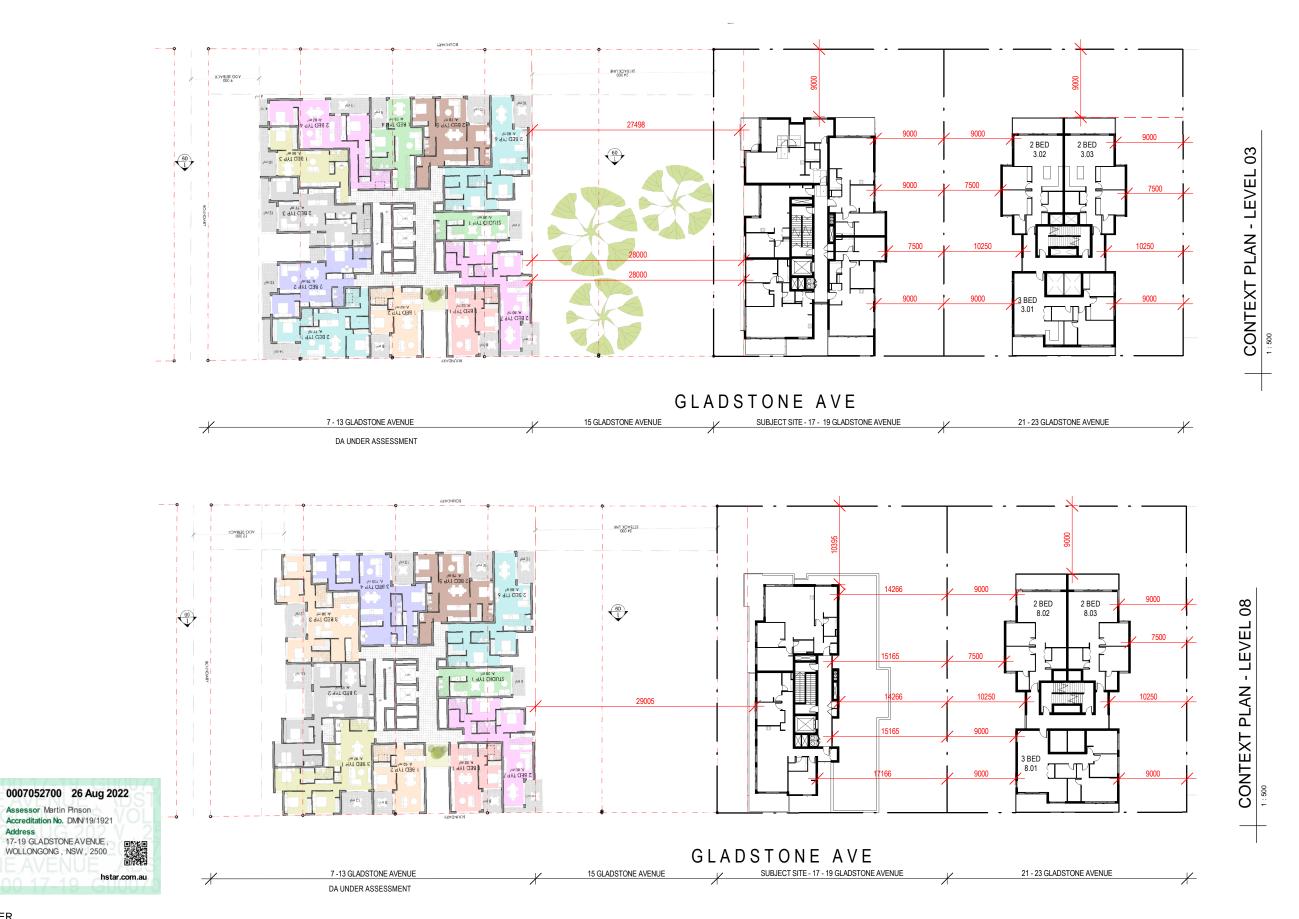
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CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: FUTURE CONTEXT FLOOR PLANS

# ADDITIONAL INFORMATION SCALE BAR: 20





5.9

HOUS

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Assessor Martin Pinson

AMENDMENT ADDITIONAL INFORMATION 26.08.2022

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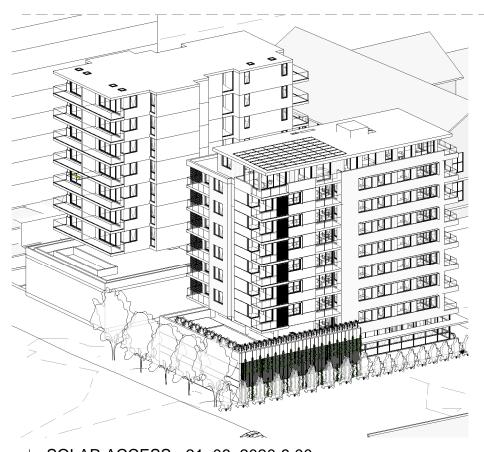
CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: FUTURE CONTEXT FLOOR PLANS

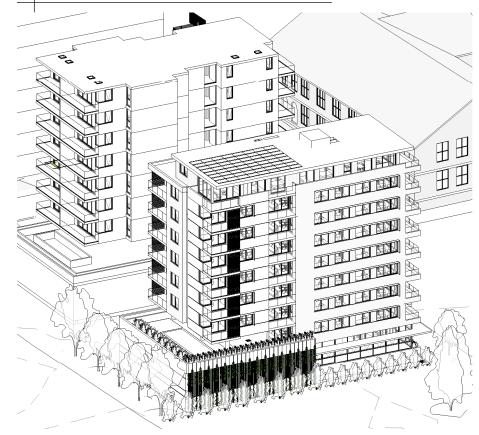
# ADDITIONAL INFORMATION SCALE BAR: 20

ISSUE DATE:

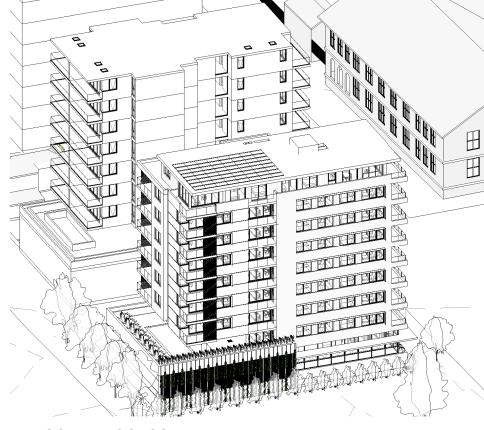
PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:500 023 G



### SOLAR ACCESS - 21\_06\_2020-9.00



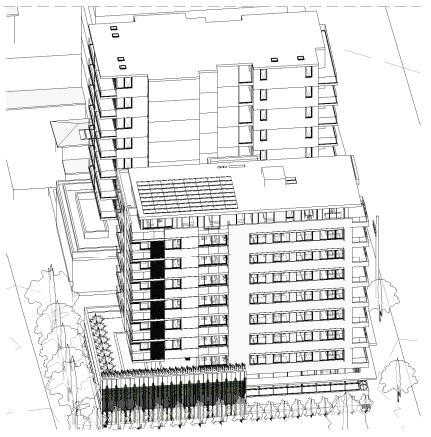
SOLAR ACCESS - 21 06 2020-9.30



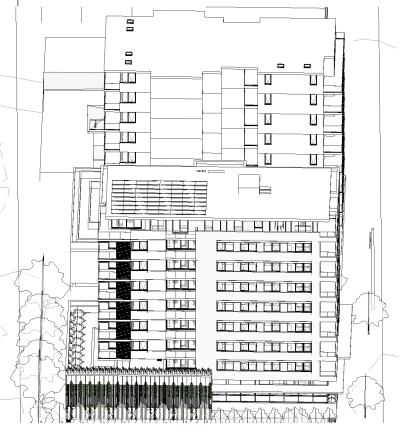
SOLAR ACCESS - 21\_06\_2020-10.00



SOLAR ACCESS - 21 06 2020-10.30



SOLAR ACCESS - 21\_06\_2020-11.00



SOLAR ACCESS - 21 06 2020-11.30

### DISCLAIMER

relevant consultant information as per council DA requirements. Feasibility comp Drawings are not are not suitable for purchase of property.

All parking and ramps to traffic engineers details. (Subject to Approv

AMENDMENT ADDITIONAL INFORMATION 26.08.2022

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519

Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au

Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 ADDRESS Nominated Architect:

Sydney

Robert Gizzi (Reg. 8286)

KINETIC WOLLONGONG PTY LTD CLIENT: UNIT DEVELOPMENT

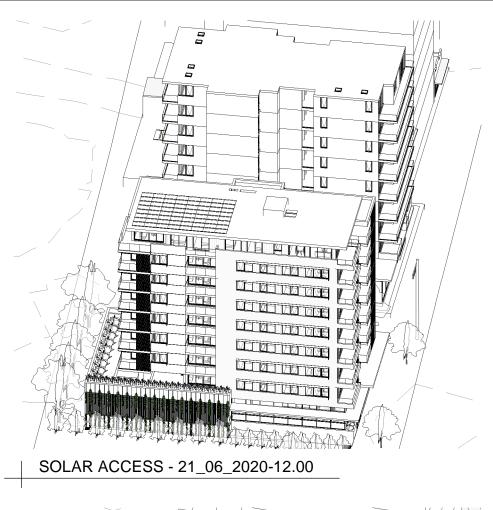
DRAWING NAME: FUTURE CONTEXT SOLAR ANALYSIS

17-19 GLADSTONE AVENUE, WOLLONGONG

0007052700 26 Aug 2022 Assessor Martin Pinson Accreditation No. DMN/19/1921 5.9 Address 17-19 GLADSTONE AVENUE WOLLONGONG, NSW, 2500 HOUSE

## ADDITIONAL INFORMATION

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 024 G QA: RG

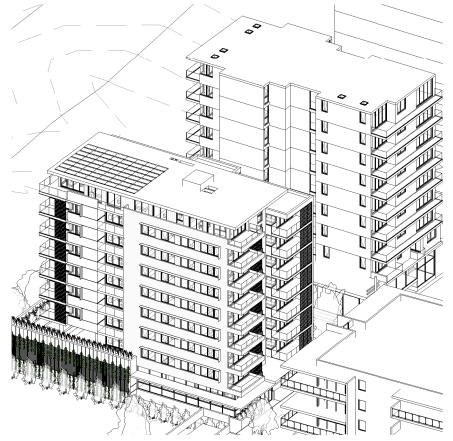




SOLAR ACCESS - 21\_06\_2020-13.00

SOLAR ACCESS - 21\_06\_2020-14.00





SOLAR ACCESS - 21\_06\_2020-14.30

hstar.com.au

0007052700 26 Aug 2022

Assessor Martin Pinson

17-19 GLADSTONE AVENUE

5.9

Average star rating

HOUS INTRICY RATING SCHEN



SOLAR ACCESS - 21\_06\_2020-13.30

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility com Drawings are not are not suitable for purchase of property.

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ADDITIONAL INFORMATION 26.08.2022

Wollongong 81a Princes Highway Tel: (02) 4227 1661 Fmail: info@designv

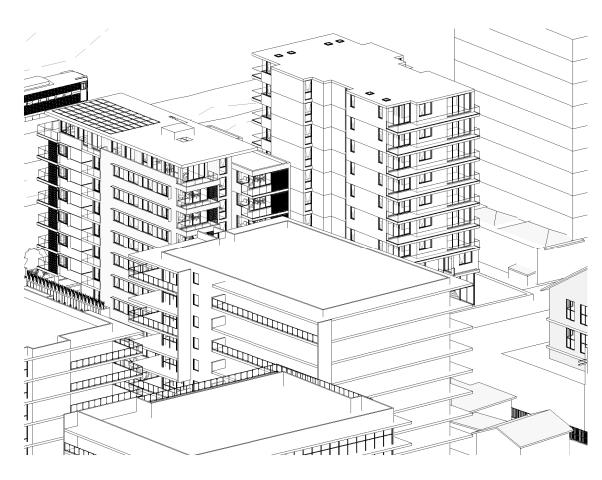
Sydney Level 10, 6 Mount Olympus Boulevard Nominated Architect: Robert Gizzi (Reg. 8286) CLIENT: 17-19 GLADSTONE AVENUE, WOLLONGONG

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

DRAWING NAME: FUTURE CONTEXT SOLAR ANALYSIS

## ADDITIONAL INFORMATION

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 025 G



SOLAR ACCESS - 21\_06\_2020-15.00

FUTURE SOLAR COMPLIANCE TABLE (21-23 GLADSTONE AVENUE, WOLLONGONG)		
UNIT NO:	HOURS OF SOLAR ACCESS:	TOTAL HOURS
UNIT 1.01	12.30PM - 2.30PM	2HRS
UNIT 1.02	12.30PM - 3PM	2.5HRS
UNIT 2.01	1PM - 3PM	2HRS
UNIT 2.02	9AM - 11AM	2HRS
UNIT 2.03	9AM - 9.30AM	0.5HRS
UNIT 3.01	1PM - 3PM	2HRS
UNIT 3.02	9AM - 11AM	2HRS
UNIT 3.03	9AM - 9.30AM	0.5HRS
UNIT 4.01	11AM - 3PM	4HRS
UNIT 4.02	9AM - 2.30PM	5.5HRS
UNIT 4.03	9AM - 9.30AM	0.5HRS
UNIT 5.01	9.30AM - 3PM	5.5HRS
UNIT 5.02	9AM - 3PM	6HRS
UNIT 5.03	9AM - 9.30AM	0.5HRS
UNIT 6.01	9AM - 3PM	6HRS
UNIT 6.02	9AM - 3PM	6HRS
UNIT 6.03	9AM - 9.30AM	0.5HRS
UNIT 7.01	9AM - 3PM	6HRS
UNIT 7.02	9AM - 3PM	6HRS
UNIT 7.03	9AM - 9.30AM	0.5HRS
UNIT 8.01	9AM - 3PM	6HRS
UNIT 8.02	9AM - 3PM	6HRS
UNIT 8.03	9AM - 3PM	6HRS
TOTAL		17/23 UNITS (73.9%)



DISCLAIMER
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All parking and ramps to traffic engineers details. (Subject to Approval)

AMENDMENT ADDITIONAL INFORMATION 26.08.2022 DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

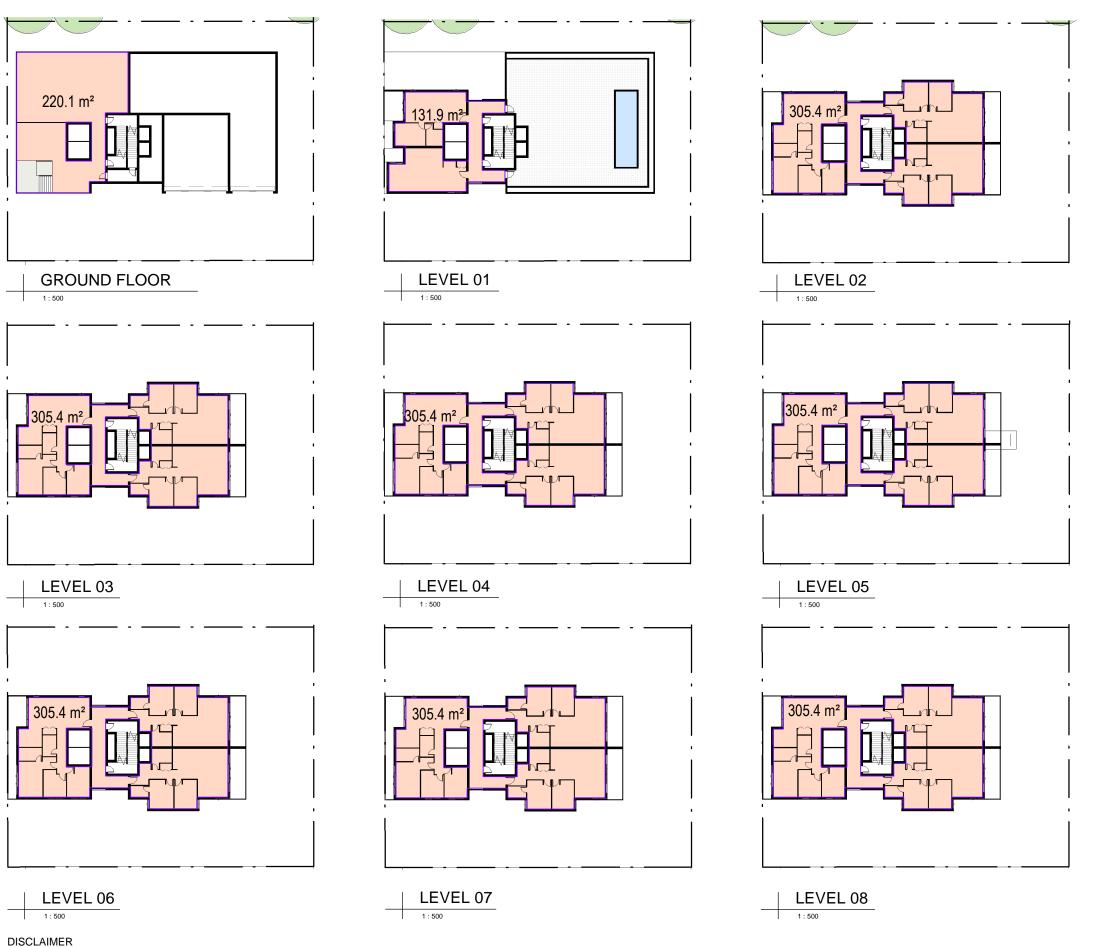
KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

DRAWING NAME: FUTURE CONTEXT SOLAR ANALYSIS

17-19 GLADSTONE AVENUE, WOLLONGONG

ADDITIONAL INFORMATION

PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 026 G QA: RG





APPROXIMATE SITE AREA - 1285 sqm. ALLOWABLE FSR - 2.5 : 1 ALLOWABLE AREA - 3212 sqm

### GFA SCHEDULE - 21 -23 GLADSTONE AVENUE Area FSR Level

GROUND FLOOR	220.1 m <sup>2</sup>	0.17
LEVEL 01	131.9 m²	0.10
LEVEL 02	305.4 m <sup>2</sup>	0.24
LEVEL 03	305.4 m <sup>2</sup>	0.24
LEVEL 04	305.4 m <sup>2</sup>	0.24
LEVEL 05	305.4 m <sup>2</sup>	0.24
LEVEL 06	305.4 m <sup>2</sup>	0.24
LEVEL 07	305.4 m <sup>2</sup>	0.24
LEVEL 08	305.4 m <sup>2</sup>	0.24
	2489 9 m <sup>2</sup>	1 94

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

Drawings are not are not suitable for purchase of property.

II parking	and ramps to traffi	c engineers details. (Subject to App	roval)	
REF. G	DATE 26.08.2022	AMENDMENT ADDITIONAL INFORMATION	DWA	Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au
DISCLAIM All dimensions a	ire in millimeters. Verify all d	limensions on site prior to commencement of any wor	DESIGN WORKSHOP AUSTRALIA	Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

DRAWING NAME: FUTURE CONTEXT GFA PLANS

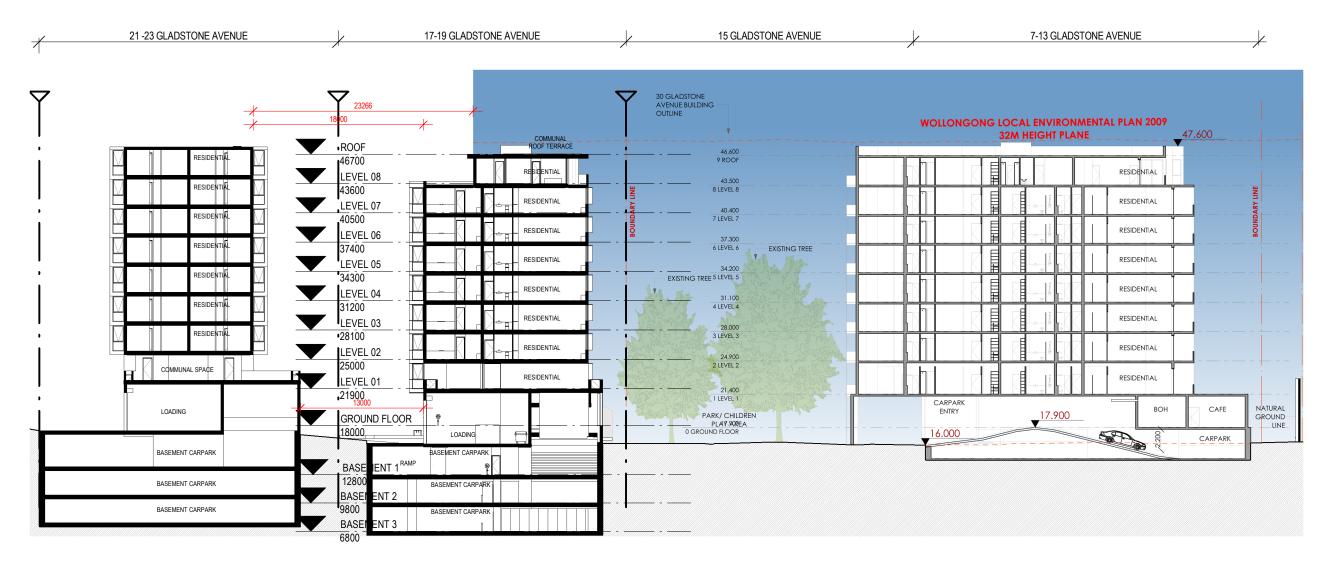
SCALE BAR: 15 20



ADDITIONAL INFORMATION

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:500 027 G QA: Checker





### **CONTEXT SITE SECTION** 1:400

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

Drawings are not are not suitable for purchase of property.

All parking and ramps to traffic engineers details. (Subject to Approval)

AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022

DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 16.02.2022 D G 16.08.2022 ADDITIONAL INFORMATION 26.08.2022 DISCLAIMER

cement of any work DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Web: www.designworkshop.com.au Robert Gizzi (Reg. 8286)

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: FUTURE CONTEXT SECTION

## ADDITIONAL INFORMATION SCALE BAR: 0 20m

PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:400 029 G QA: RG



AMENDMENT
DEVELOPMENT APPLICATION ISSUE DATE 16.02.2022 16.08.2022 22.08.2022 CONSULTANT ISSUE TO HERITAGE CONSULTANT 25.08.2022 TO BASIX CONSULTANT G 26.08.202:
DISCLAIMER
All dimensions are in .......

DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: ELEVATION - WEST

SCALE BAR: 2.5 5 7.5 10m

ADDITIONAL INFORMATION PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. SCALE: 1:200



iii paritirig	in parking and ramps to traine engineers details. (Oubject to reprover)			
REF.	DATE	AMENDMENT		
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE		
D	16.08.2022	CONSULTANT ISSUE		
E	22.08.2022	TO HERITAGE CONSULTANT		
F	25.08.2022	TO BASIX CONSULTANT		
G	26.08.2022	ADDITIONAL INFORMATION		
DISCLAIMER				
All dimensions a	are in millimeters. Verify a	Ill dimensions on site prior to commencement of any work	DESIGN WORKSHOP AUSTRALIA	

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Email: info@designworkshop.com.au Nominated Architect: Web: www.designworkshop.com.au Robert Gizzi (Reg. 8286)

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: ELEVATION - SOUTH

# ADDITIONAL INFORMATION SCALE BAR:

10m

7.5

2.5

PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 031 G QA: RG



ii parkiriy	r parking and ramps to trame engineers details. (Subject to Approval)				
REF.	DATE	AMENDMENT			
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE			
D	16.08.2022	CONSULTANT ISSUE			
E	22.08.2022	TO HERITAGE CONSULTANT			
F	25.08.2022	TO BASIX CONSULTANT			
G	26.08.2022	ADDITIONAL INFORMATION			
DISCLAIN Il dimensions a		Ill dimensions on site prior to commencement of any work	DESIGN WORKSHOP AUSTRALIA		

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Web: www.designworkshop.com.au Robert Gizzi (Reg. 8286)

CLIENT:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: ELEVATION - NORTH

SCALE BAR: 2.5 5 7.5 10m

PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. SCALE: 1:200 032 QA: RG

ADDITIONAL INFORMATION

Rev.



AMENDMENT
DEVELOPMENT APPLICATION ISSUE DATE

16.02.2022 16.08.2022 22.08.2022 CONSULTANT ISSUE TO HERITAGE CONSULTANT 25.08.2022 TO BASIX CONSULTANT G 25.06.2022

G 26.08.2022

DISCLAIMER
All dimensions are in millimeters. Verify all dir

DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

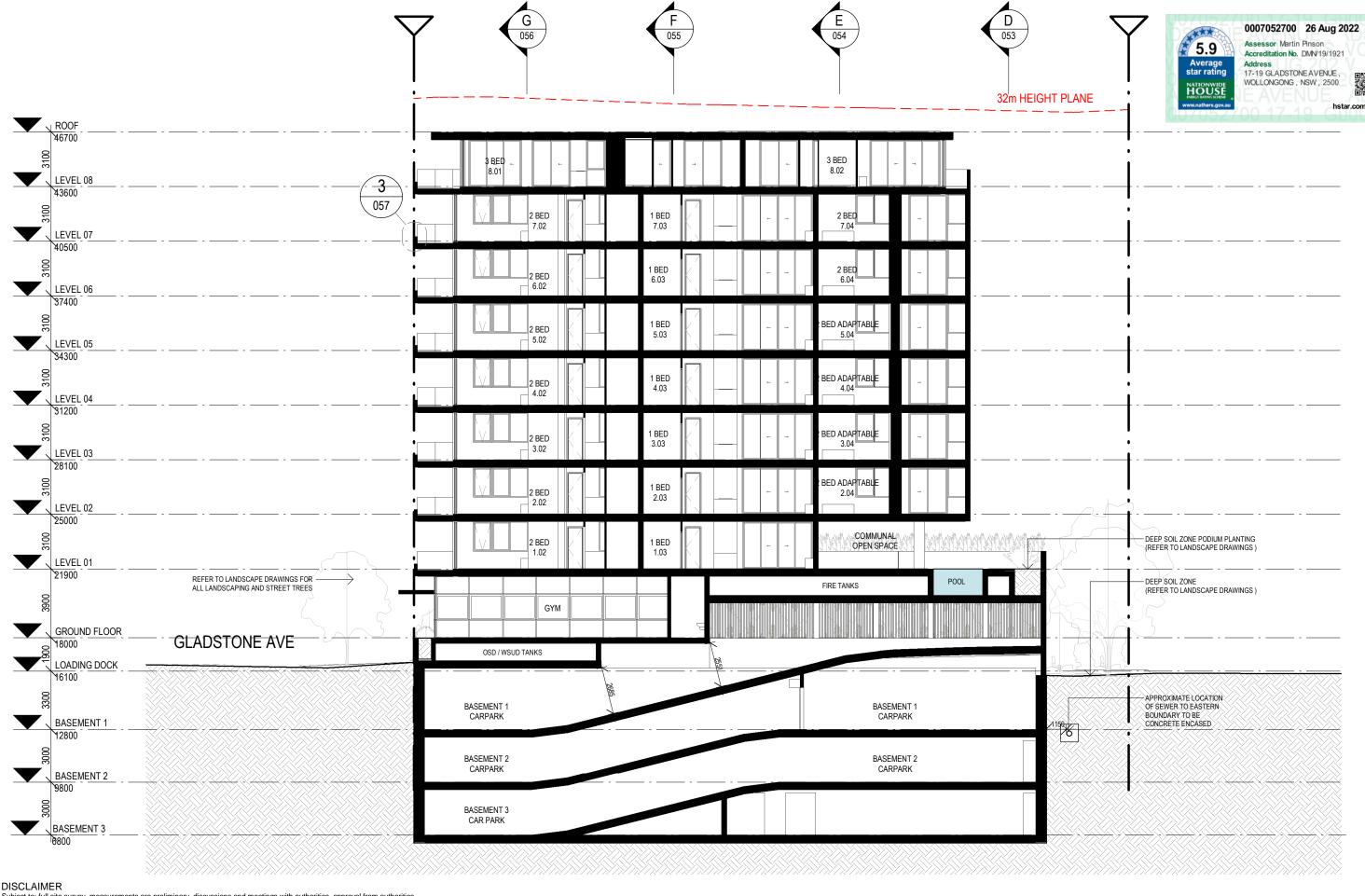
CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: ELEVATION - EAST

ADDITIONAL INFORMATION SCALE BAR: 7.5 10m

ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: 1:200 QA: RG

PROJECT No. 2420 DWG No. Rev. 033 G



AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022

DISCLAIMER
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Wollongong 81a Princes Highway Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

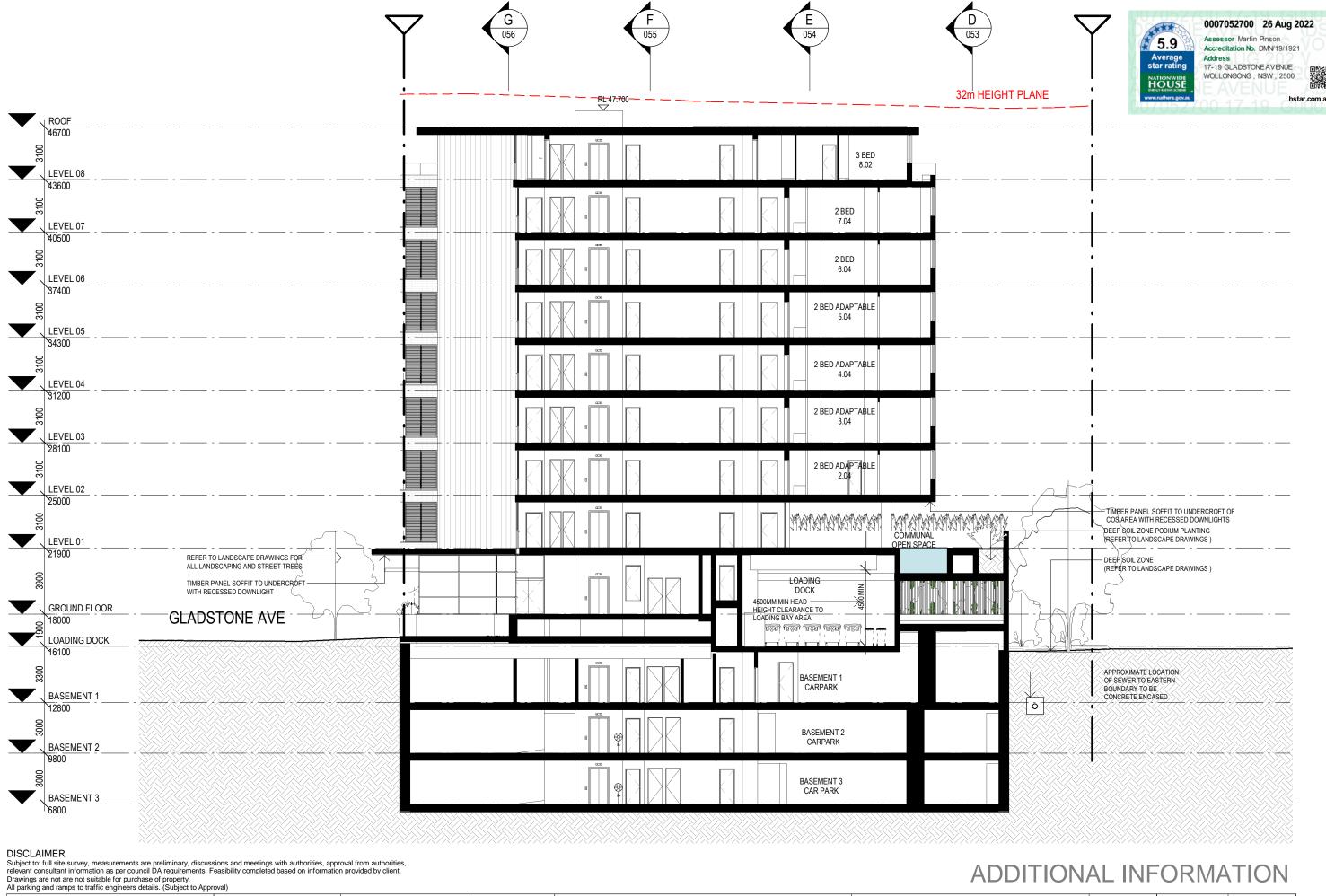
KINETIC WOLLONGONG PTY LTD CLIENT: UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: SECTION A

SCALE BAR: 2.5 7.5 10m

ADDITIONAL INFORMATION ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM SCALE: 1:200

> QA: RG

DWG No. Rev. 050 G А3



AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.202.
DISCLAIMER
All dimensions are in ...... DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

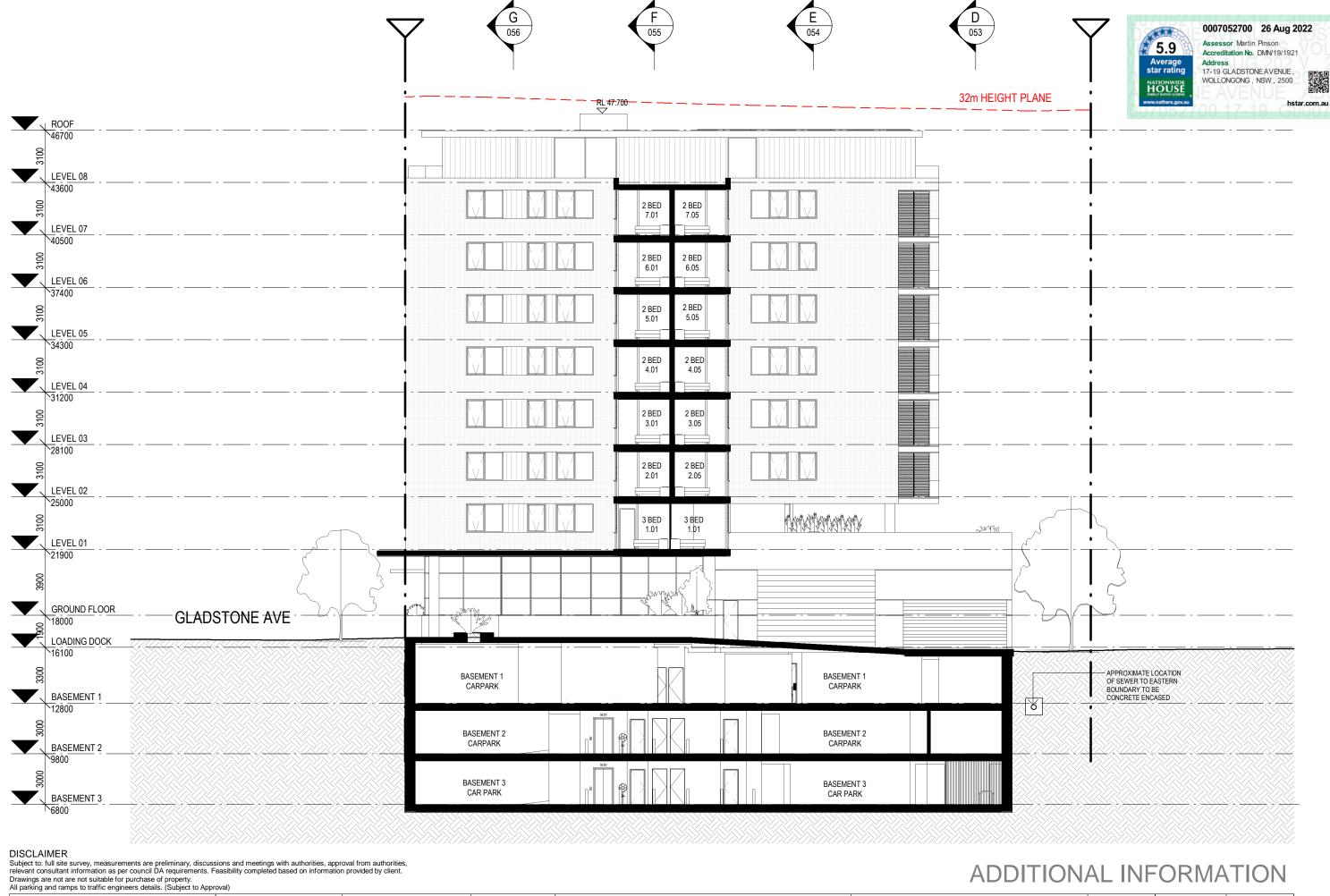
Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: SECTION B

SCALE BAR: 2.5 7.5 10m

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 051 G QA: RG



AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022

DISCLAIMER
All dimensions are in millimeters. Verify all dime DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au

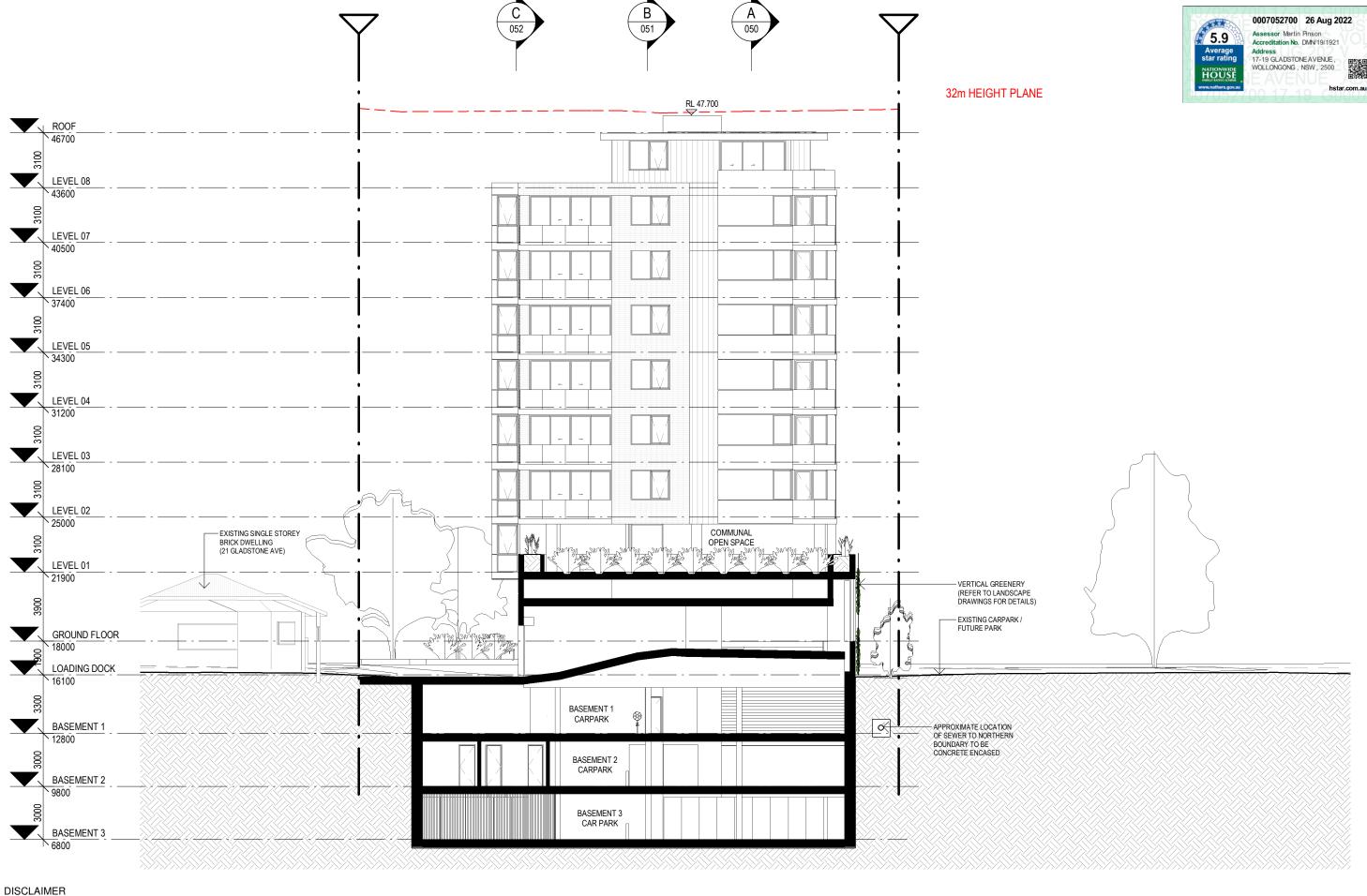
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: SECTION C

SCALE BAR: 2.5 7.5 10m ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 052 G

RG



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REF.	DATE	AMENDMENT	
В	25.01.2022	CONSULTANT COORDINATION	
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE	
D	16.08.2022	CONSULTANT ISSUE	
E	22.08.2022	TO HERITAGE CONSULTANT	
G	26.08.2022	ADDITIONAL INFORMATION	
DISCLAI			
All dimension	s are in millimeters. Verify a	all dimensions on site prior to commencement of any work.	DESIGN WORKSHOP AUSTRAL

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

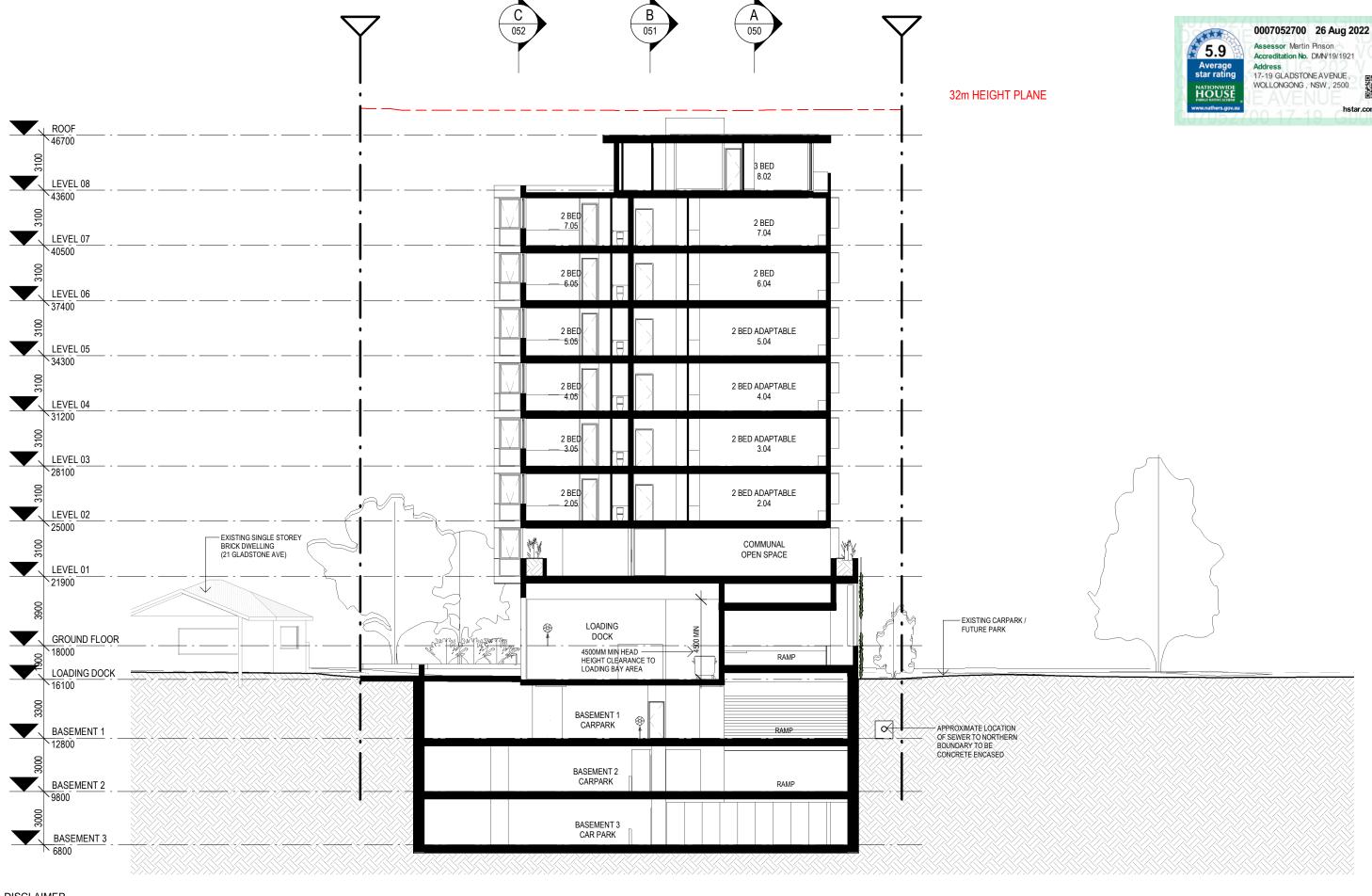
Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG ADDRESS: DRAWING NAME: SECTION D

SCALE BAR 0 2.5 7.5 10m

ADDITIONAL INFORMATION PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:200 053 G QA: RG



iii parkirig	in parking and ramps to trame engineers details. (Oubject to Approval)			
REF.	DATE	AMENDMENT		
В	25.01.2022	CONSULTANT COORDINATION		
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE		
D	16.08.2022	CONSULTANT ISSUE		
E	22.08.2022	TO HERITAGE CONSULTANT		
G	26.08.2022	ADDITIONAL INFORMATION		
DISCLAIN All dimensions		Ill dimensions on site prior to commencement of any work.	DESIGN WORKSHOP AUSTRALIA	

Wollongong Tel: (02) 4227 1661

Sydney 81a Princes Highway, Fairy Meadow NSW 2519 Email: info@designworkshop.com.au IA Web: www.designworkshop.com.au

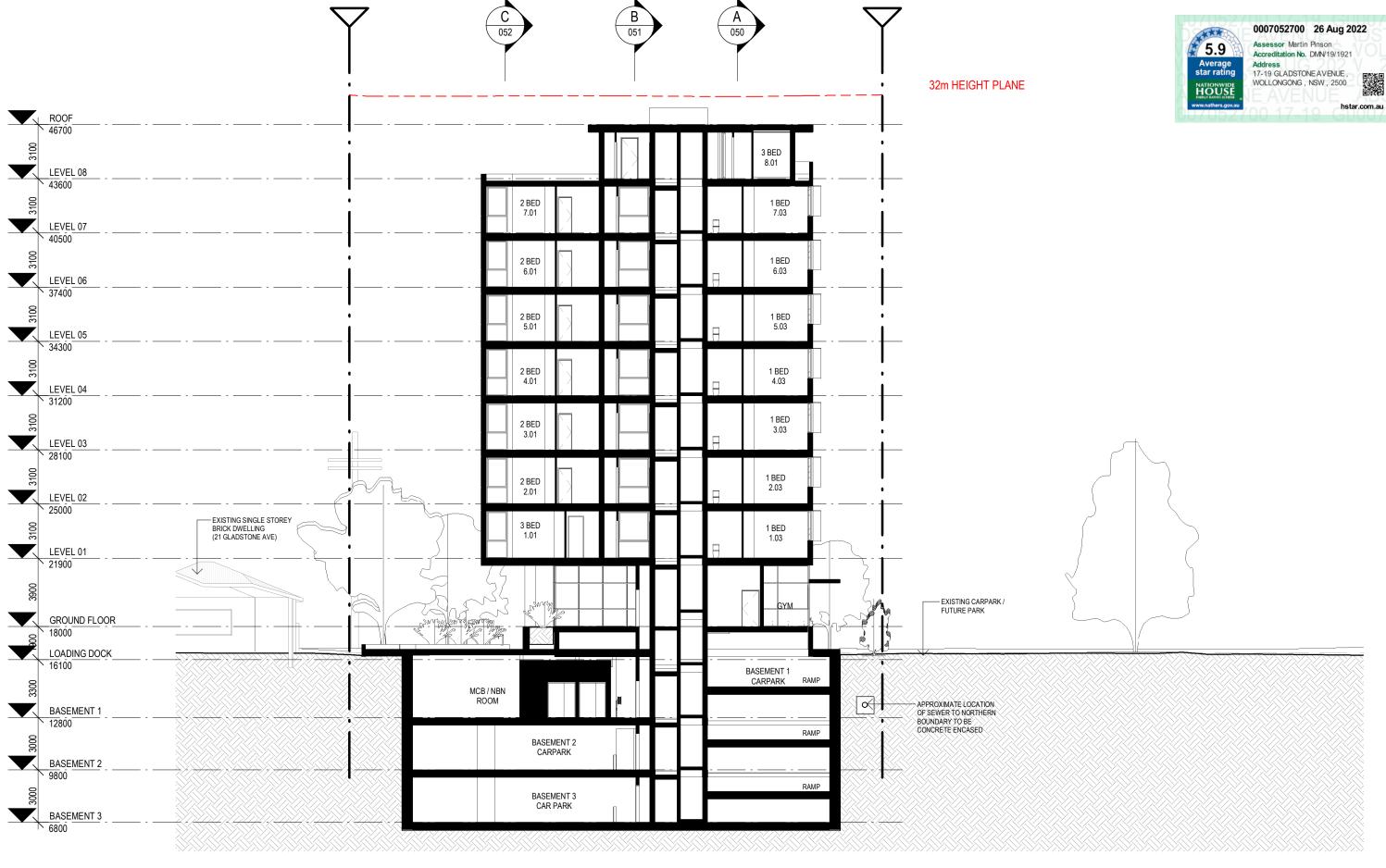
Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG ADDRESS: DRAWING NAME: SECTION E

SCALE BAR: 2.5 5 7.5 10m

ADDITIONAL INFORMATION PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM

DWG No. Rev. SCALE: 1:200 054 G QA: RG



AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022

DISCLAIMER
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Web: www.designworkshop.com.au

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG

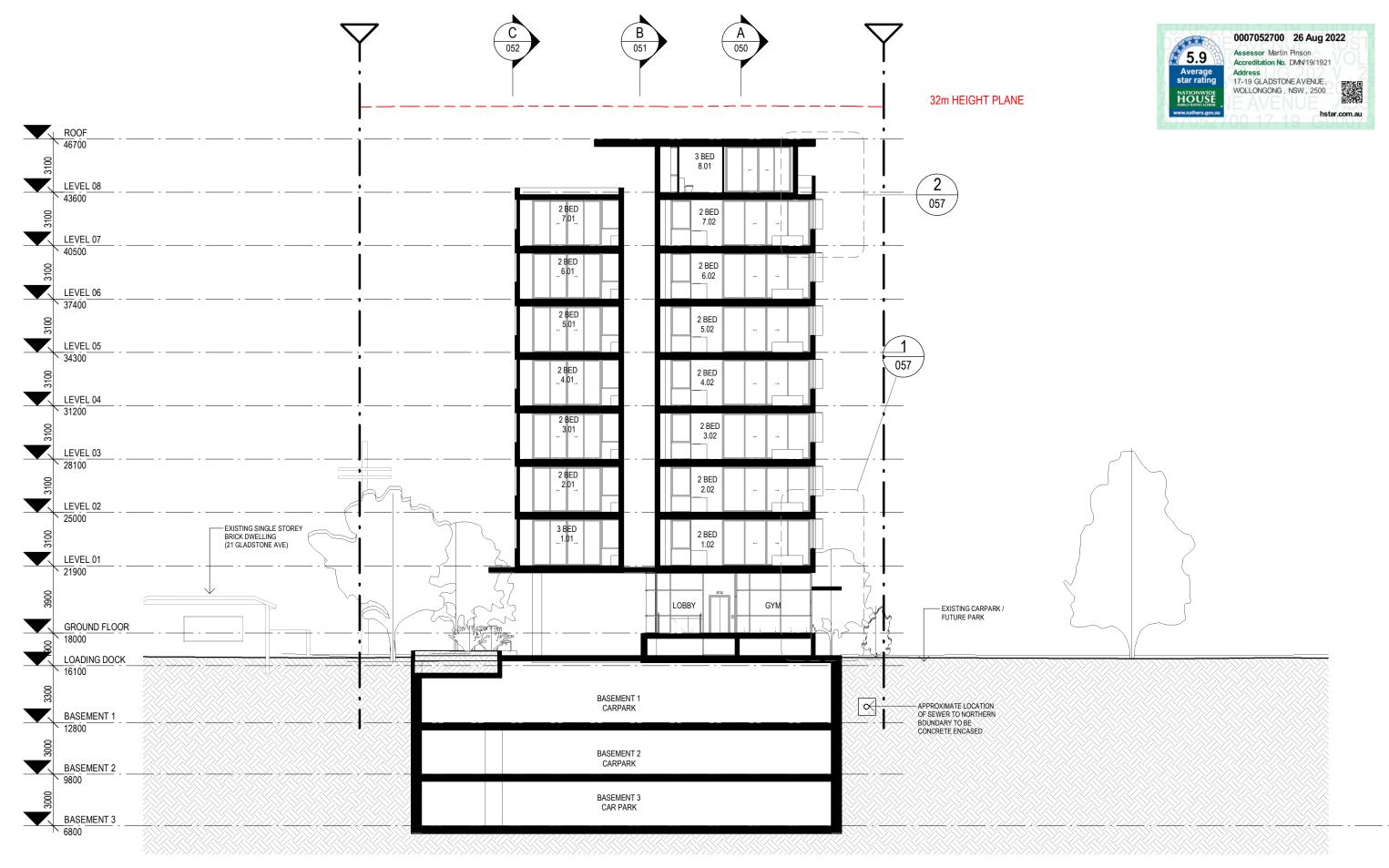
DRAWING NAME: SECTION F

SCALE BAR:

2.5 5 7.5 10m

ADDITIONAL INFORMATION PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. SCALE: 1:200 055 QA: RG

Rev.



iii pai kii ig	in parking and ramps to trame engineers details. (Subject to Approval)				
REF.	DATE	AMENDMENT			
В	25.01.2022	CONSULTANT COORDINATION			
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE			
D	16.08.2022	CONSULTANT ISSUE			
E	22.08.2022	TO HERITAGE CONSULTANT			
G	26.08.2022	ADDITIONAL INFORMATION			
DISCLAIMER All dimensions are in millimeters. Verify all dimensions on site prior to commencement of any work.			DESIGN WORKSHOP AUSTRALIA		

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Web: www.designworkshop.com.au Robert Gizzi (Reg. 8286)

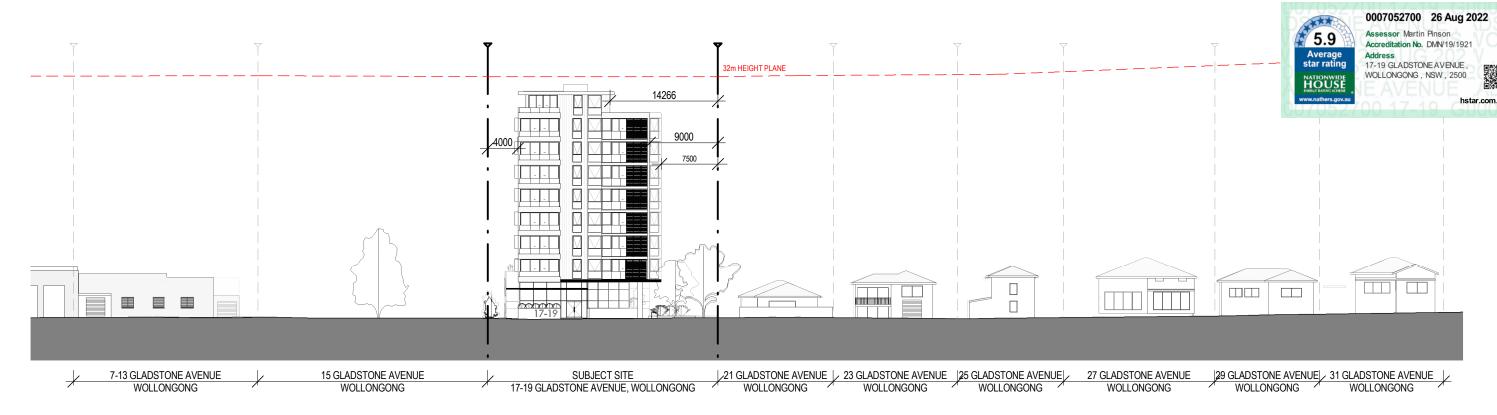
CLIENT: ADDRESS: DRAWING NAME: SECTION G

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG SCALE BAR: 2.5 7.5 10m

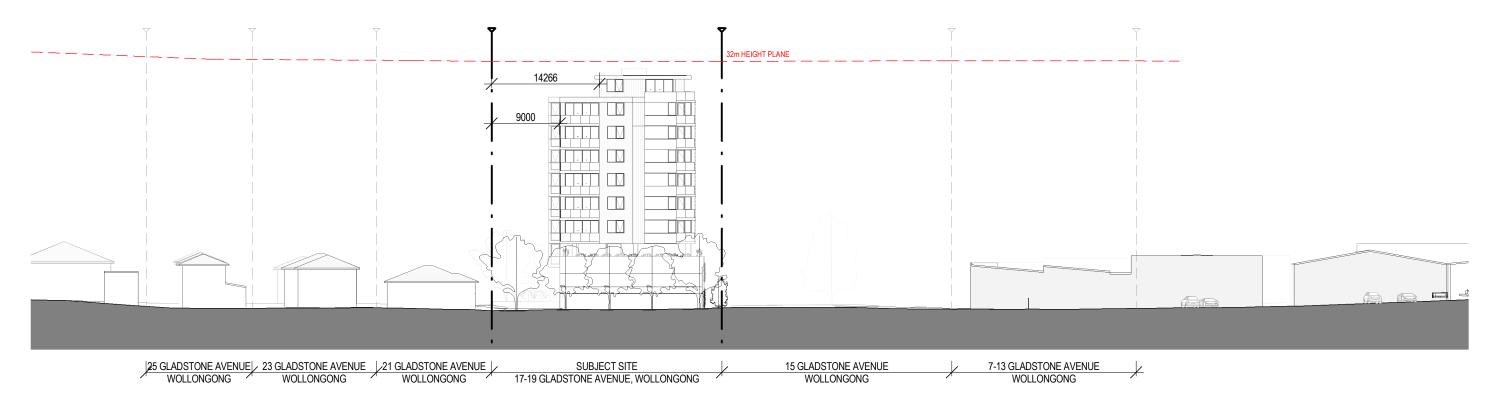
ADDITIONAL INFORMATION ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM

QA:

DWG No. Rev. SCALE: 1:200 056 G RG А3



### PROPOSED ELEVATION - WEST



### PROPOSED ELEVATION - EAST

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

Drawings are not are not suitable for purchase of property.

All parking and ramps to traffic engineers details. (Subject to Approval)

DATE AMENDMENT

В	25.01.2022	CONSULTANT COORDINATION			
С	16.02.2022	DEVELOPMENT APPLICATION ISSUE			
D	16.08.2022	CONSULTANT ISSUE			
E	22.08.2022	TO HERITAGE CONSULTANT			
G	26.08.2022	ADDITIONAL INFORMATION			
DISCLAIMER All dimensions are in millimeters. Verify all dimensions on site prior to commencement of Copyright of DWA.					

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

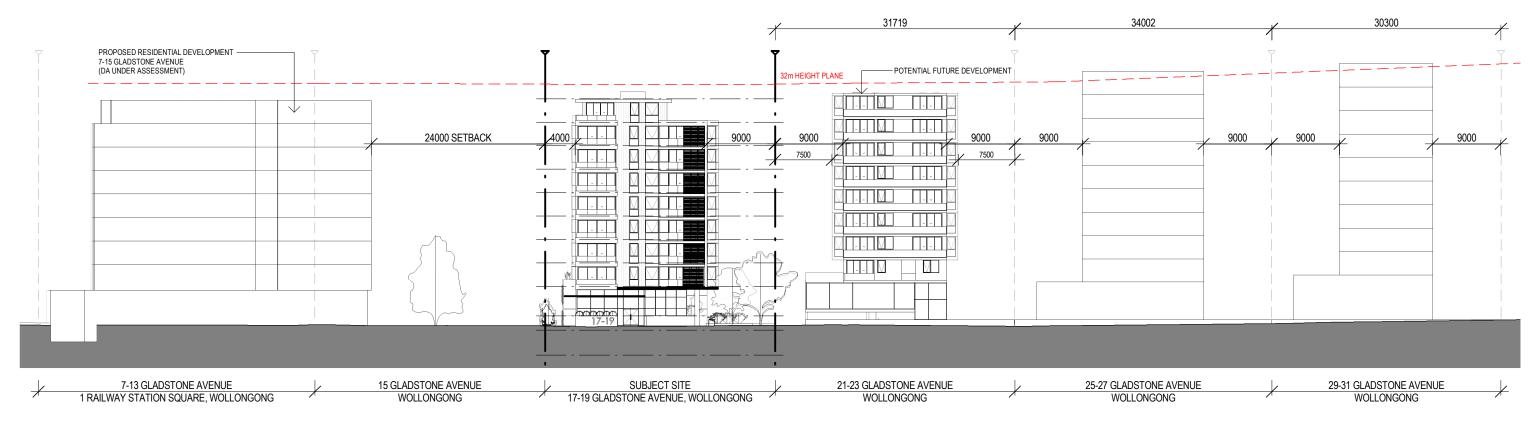
Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: PROPOSED STREETSCAPE ELEVATIONS

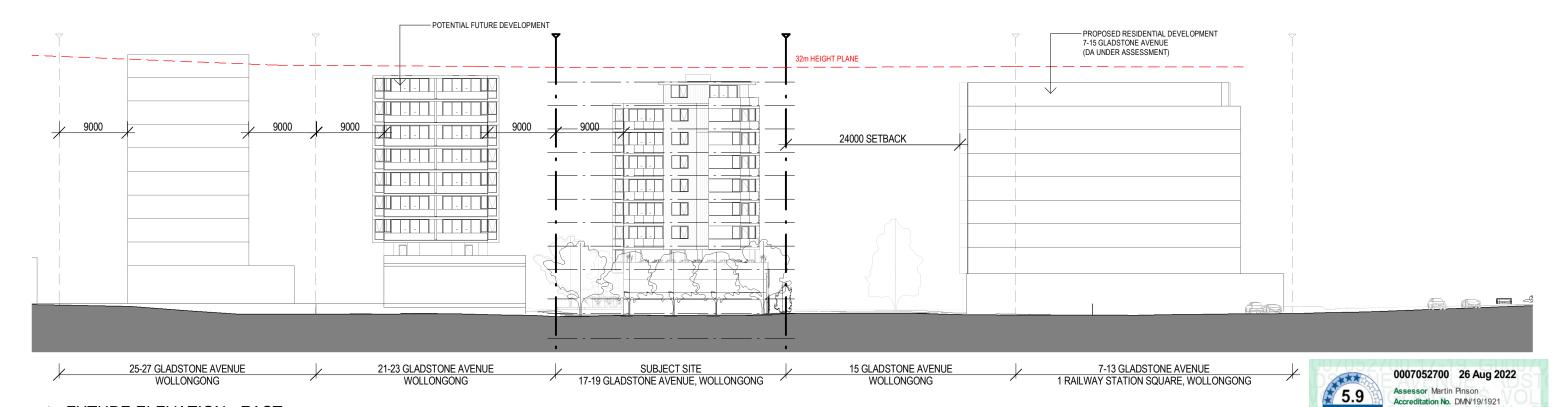
SCALE BAR: 10 15 20

ADDITIONAL INFORMATION PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:500 040 G QA: RG



### **FUTURE ELEVATION - WEST**

1:500



### **FUTURE ELEVATION - EAST**

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

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All parking and ramps to traffic engineers details. (Subject to Approval)

AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.202.

DISCLAIMER
All dimensions are 1

DESIGN WORKSHOP AUSTRALIA Web: www.designworkshop.com.au

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS: DRAWING NAME: FUTURE STREETSCAPE ELEVATIONS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG SCALE BAR: 10 15 20

ADDITIONAL INFORMATION ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM

SCALE: 1:500

RG

QA:

HOUSE INTERCY BATTING SCHEM

G А3

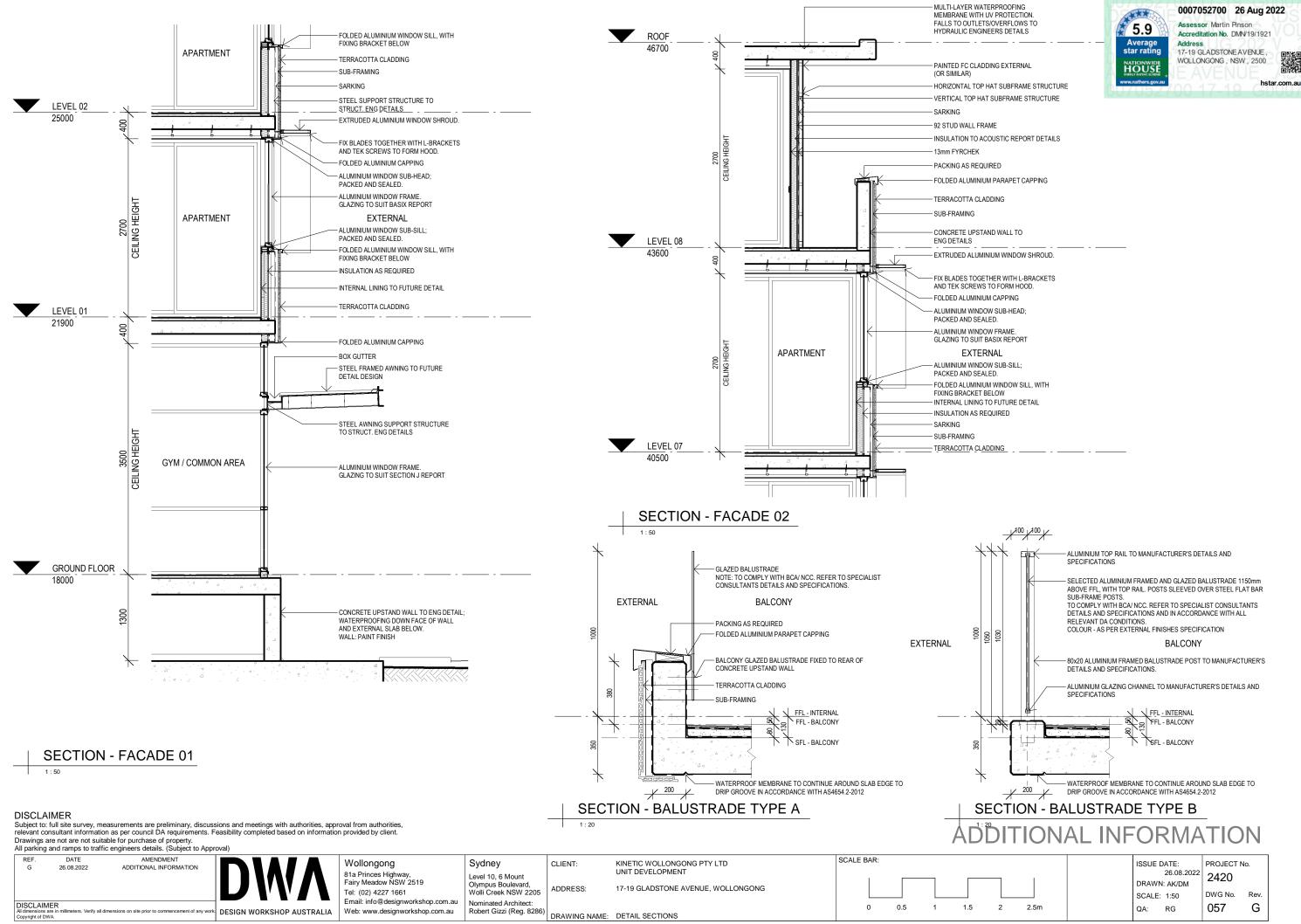
Rev.

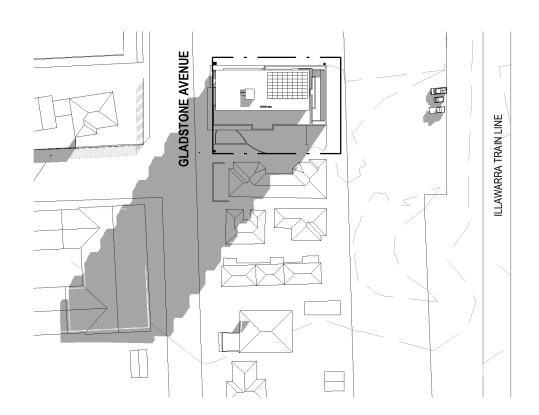
hstar.com.au

17-19 GLADSTONE AVENUE WOLLONGONG, NSW, 2500

DWG No.

041





## JUNE 9 AM SHADOW



### JUNE 11 AM SHADOW 1:1200

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

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25.01.2022 16.02.2022 16.08.2022 26.08.2022

AMENDMENT CONSULTANT COORDINATION DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE ADDITIONAL INFORMATION

ment of any work DESIGN WORKSHOP AUSTRALIA

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

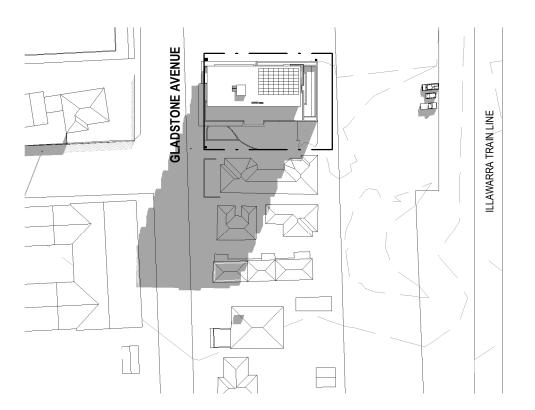
CLIENT: ADDRESS:

DRAWING NAME: JUNE - 9AM-12PM SHADOW DIAGRAMS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

# ADDITIONAL INFORMATION





JUNE 10 AM SHADOW

JUNE 12 PM SHADOW

5.9

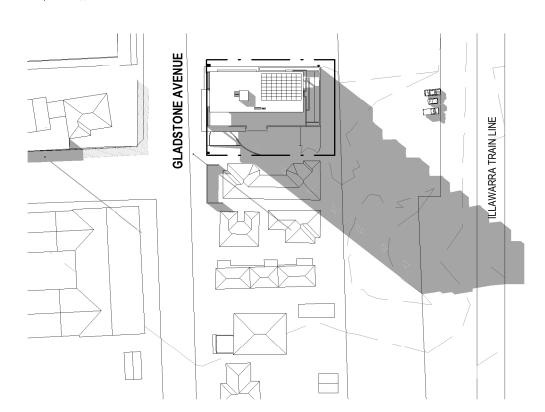
0007052700 26 Aug 2022 Assessor Martin Pinson Accreditation No. DMN/19/1921 Address 17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

060

Rev.



JUNE 1 PM SHADOW



JUNE 3 PM SHADOW

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

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25.01.2022

AMENDMENT CONSULTANT COORDINATION 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE ADDITIONAL INFORMATION 26.08.2022



Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT:

ADDRESS:

DRAWING NAME: JUNE - 1PM - 3PM SHADOW DIAGRAMS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG **GLADSTONE AVENUE** 

JUNE 2 PM SHADOW

0007052700 26 Aug 2022 Assessor Martin Pinson 5.9 Accreditation No. DMN/19/1921 Address 17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

ILLAWARRA TRAIN LINE

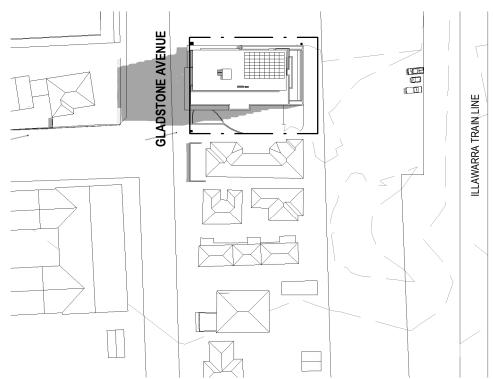
## ADDITIONAL INFORMATION

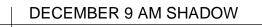


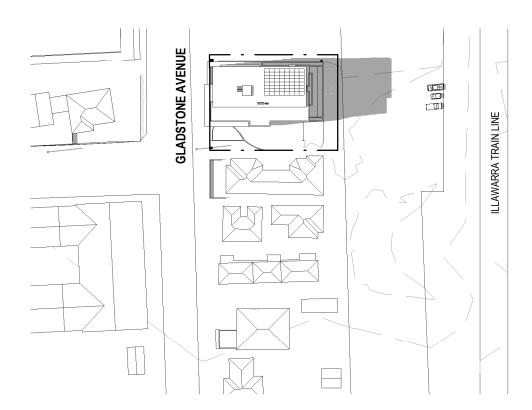
ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: QA:

PROJECT No. 2420 DWG No. Rev. 061 G

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### **DECEMBER 3 PM SHADOW**

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

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25.01.2022 16.02.2022 16.08.2022 26.08.2022

AMENDMENT CONSULTANT COORDINATION DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE ADDITIONAL INFORMATION

cement of any work DESIGN WORKSHOP AUSTRALIA

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

DRAWING NAME: DECEMBER - 9AM - 3PM SHADOW DIAGRAMS

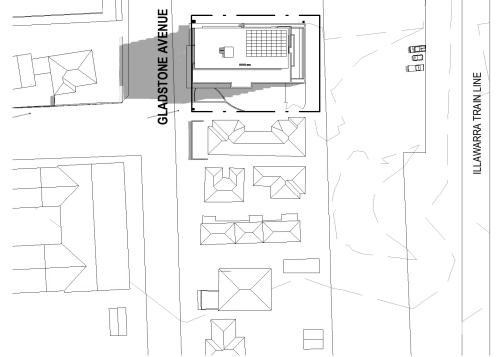
17-19 GLADSTONE AVENUE, WOLLONGONG

ILLAWARRA TRAIN LINE

SCALE:

ADDITIONAL INFORMATION ISSUE DATE: 26.08.2022 DRAWN: AK/DM

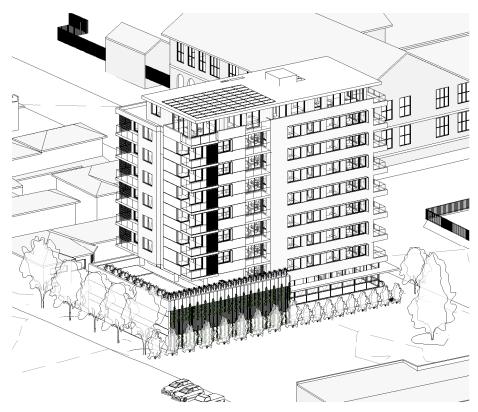
PROJECT No. 2420 DWG No. Rev. 062 G QA:



**DECEMBER 12 PM SHADOW** 

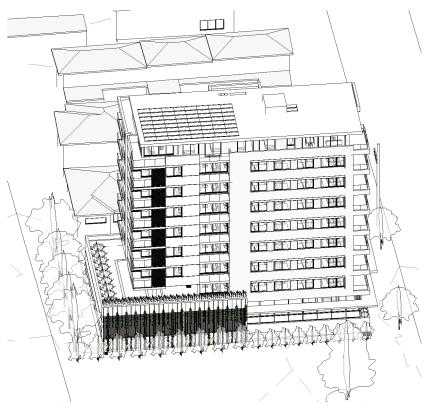
**GLADSTONE AVENUE** 

# 0007052700 26 Aug 2022 Accreditation No. DMN/19/1921 Address 17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

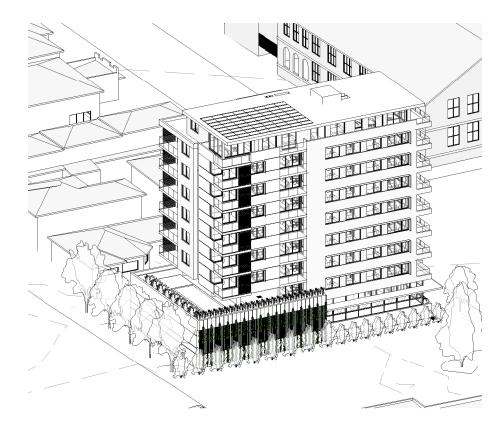


SOLAR ACCESS - 21/06/2020-9.00





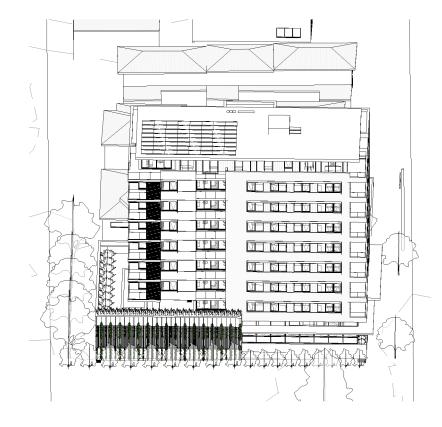
SOLAR ACCESS - 21/06/2020-11.00



SOLAR ACCESS - 21/06/2020-9.30



SOLAR ACCESS - 21/06/2020-10.30



SOLAR ACCESS - 21/06/2020-11.30

### DISCLAIMER

relevant consultant information as per council DA requirements. Feasibility compl Drawings are not are not suitable for purchase of property. All parking and ramps to traffic engineers details. (Subject to Approval)

AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 DEVELOPMENT APPLICATION ISSUE 26.08.2022

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661

Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

DRAWING NAME: SOLAR VIEWS

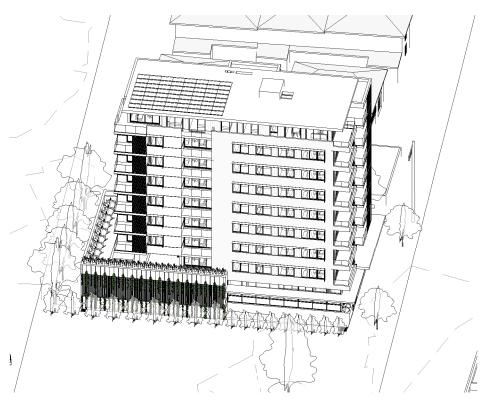
KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

17-19 GLADSTONE AVENUE, WOLLONGONG

0007052700 26 Aug 2022 Assessor Martin Pinson Accreditation No. DMN/19/1921 5.9 Address 17-19 GLADSTONE AVENUE , WOLLONGONG , NSW , 2500 HOUSE

## ADDITIONAL INFORMATION

ISSUE DATE: 26.08.2022 DRAWN: AK/DM		PROJECT No. <b>2420</b>	
SCALE:		DWG No.	Rev.
QA:	RG	070	G

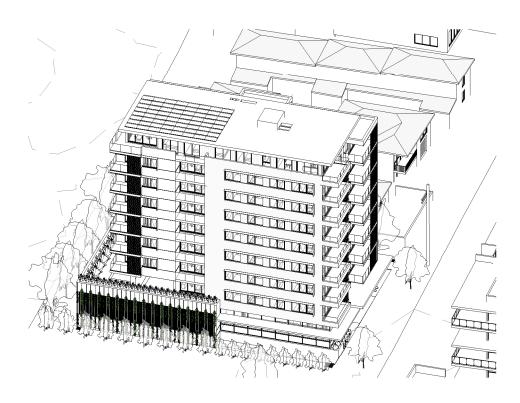


THE PLANTS HIMITED WILLIAM K MINIMA K 

SOLAR ACCESS - 21/06/2020-12.00

SOLAR ACCESS - 21/06/2020-13.00

SOLAR ACCESS - 21/06/2020-14.00





SOLAR ACCESS - 21/06/2020-12.30

SOLAR ACCESS - 21/06/2020-13.30

SOLAR ACCESS - 21/06/2020-14.30

AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 DEVELOPMENT APPLICATION ISSUE ADDITIONAL INFORMATION 26.08.2022

Wollongong 81a Princes Highway Tel: (02) 4227 1661

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Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Email: info@designworkshop.com.au Nominated Architect:

CLIENT: ADDRESS:

Robert Gizzi (Reg. 8286)

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

DRAWING NAME: SOLAR VIEWS

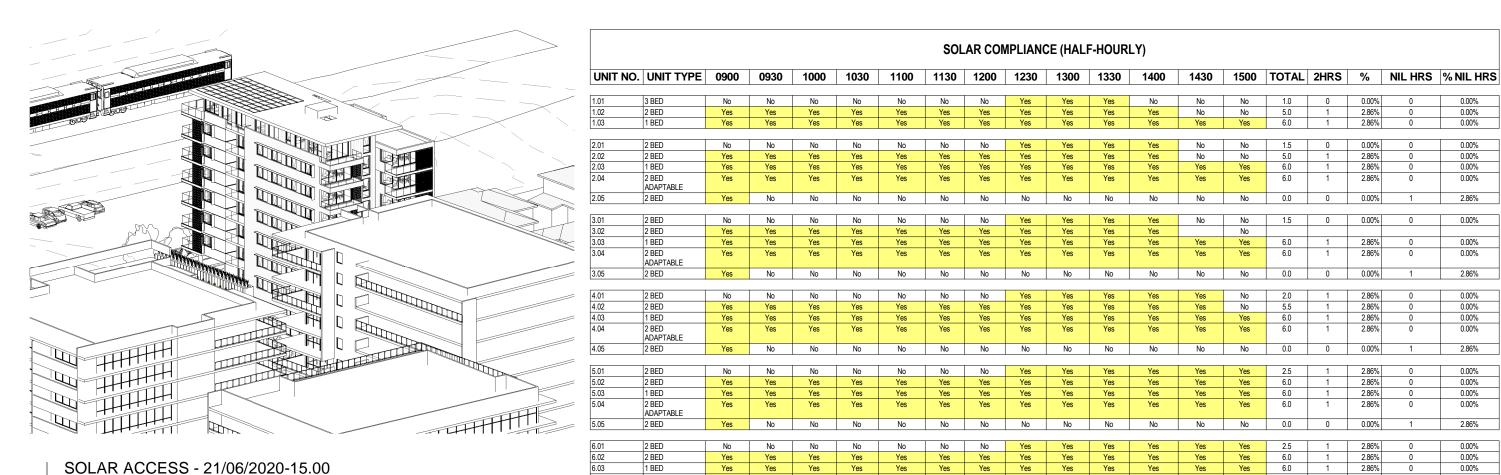
17-19 GLADSTONE AVENUE, WOLLONGONG

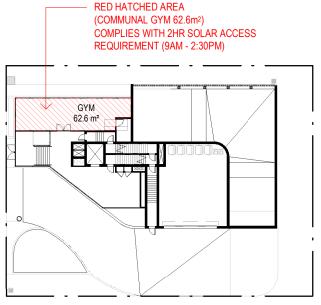
ADDITIONAL INFORMATION 0007052700 26 Aug 2022 Address 17-19 GLADSTONE AVENUE , WOLLONGONG , NSW , 2500

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ISSUE DATE: PROJECT No. 2420 DWG No. Rev. SCALE: 071 G

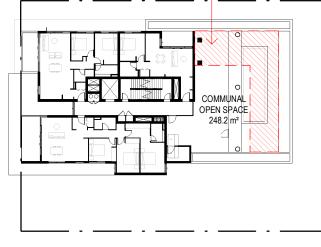
Document Set ID: 22963592 Version: 1, Version Date: 30/08/2022





**COS KEY PLAN - GROUND** 

RED HATCHED AREA (COMMUNAL OUTDOOR POOL & COS 92.8m<sup>2</sup>) **COMPLIES WITH 2HR SOLAR ACCESS** REQUIREMENT (9AM - 11AM)



COS KEY PLAN - LEVEL 1

1.01	3 BED	No	Yes	Yes	Yes	No	No	No	1.0	0	0.00%	0	0.00%						
1.02	2 BED	Yes	No	No	5.0	1	2.86%	0	0.00%										
1.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
2.01	2 BED	No	Yes	Yes	Yes	Yes	No	No	1.5	0	0.00%	0	0.00%						
2.02	2 BED	Yes	No	No	5.0	1	2.86%	0	0.00%										
2.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
2.04	2 BED ADAPTABLE	Yes	6.0	1	2.86%	0	0.00%												
2.05	2 BED	Yes	No	0.0	0	0.00%	1	2.86%											
3.01	2 BED	No	Yes	Yes	Yes	Yes	No	No	1.5	0	0.00%	0	0.00%						
3.02	2 BED	Yes		No															
3.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
3.04	2 BED ADAPTABLE	Yes	6.0	1	2.86%	0	0.00%												
3.05	2 BED	Yes	No	0.0	0	0.00%	1	2.86%											
4.01	2 BED	No	Yes	Yes	Yes	Yes	Yes	No	2.0	1	2.86%	0	0.00%						
4.02	2 BED	Yes	No	5.5	1	2.86%	0	0.00%											
4.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
4.04	2 BED ADAPTABLE	Yes	6.0	1	2.86%	0	0.00%												
4.05	2 BED	Yes	No	0.0	0	0.00%	1	2.86%											
	•	•	•	•	•			•			•		•		•	•			
5.01	2 BED	No	Yes	Yes	Yes	Yes	Yes	Yes	2.5	1	2.86%	0	0.00%						
5.02	2 BED	Yes	6.0	1	2.86%	0	0.00%												
5.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
5.04	2 BED ADAPTABLE	Yes	6.0	1	2.86%	0	0.00%												
5.05	2 BED	Yes	No	0.0	0	0.00%	1	2.86%											
6.01	2 BED	No	Yes	Yes	Yes	Yes	Yes	Yes	2.5	1	2.86%	0	0.00%						
6.02	2 BED	Yes	6.0	1	2.86%	0	0.00%												
6.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
6.04	2 BED	Yes	6.0	1	2.86%	0	0.00%												
6.05	2 BED	Yes	No	0.0	0	0.00%	1	2.86%											
7.01	2 BED	No	Yes	Yes	Yes	Yes	Yes	Yes	2.5	1	2.86%	0	0.00%						
7.02	2 BED	Yes	6.0	1	2.86%	0	0.00%												
7.03	1 BED	Yes	6.0	1	2.86%	0	0.00%												
7.04	2 BED	Yes	6.0	1	2.86%	0	0.00%												
7.05	2 BED	Yes	No	0.0	0	0.00%	1	2.86%											
8.01	3 BED	Yes	6.0	1	2.86%	0	0.00%												
8.02	3 BED	Yes	6.0	1	2.86%	0	0.00%												
TOTAL: 35																25	71.43%	6	17.14%

**SOLAR COMPLIANCE (HALF-HOURLY)** 

	SOLAR COMPLIANCE (HALF-HOURLY) COS														
LEVEL	UNIT TYPE	0900	0930	1000	1030	1100	1130	1200	1230	1300	1330	1400	1430	1500	TOTAL
GROUND FLOOR	GYM	Yes	No	5.5											
LEVEL 01	COMMUNAL OPEN SPACE	Yes	Yes	Yes	Yes	Yes	No	2.0							
TOTAL: 2															

### COMMON OPEN SPACE SOLAR ANALYSIS

TOTAL SITE AREA = 1237.18m<sup>2</sup>

TOTAL COS REQUIRED = 309.30m<sup>2</sup> TOTAL COS PROVIDED = 310.80m<sup>2</sup>

TOTAL AREA OF COS REQUIRED TO ACHIEVE 2 HOURS = 155.40m<sup>2</sup> (50% OF TOTAL COS)

(GROUND FLOOR) TOTAL AREA OF COS THAT ACHIEVES 2 HOURS  $= 62.60 \text{m}^2$ (LEVEL 1) = 92.80m<sup>2</sup>

= 155.40m<sup>2</sup> (TOTAL)



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AMENDMENT CONSULTANT COORDINATION 25.01.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 16.02.2022 16.08.2022 26.08.2022 ADDITIONAL INFORMATION DISCLAIMER

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

DRAWING NAME: SOLAR VIEWS + SCHEDULE

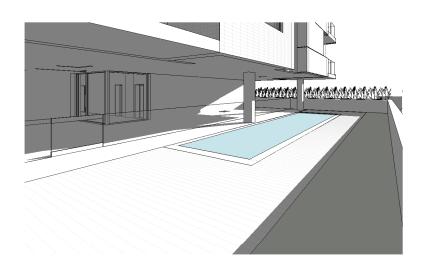
CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

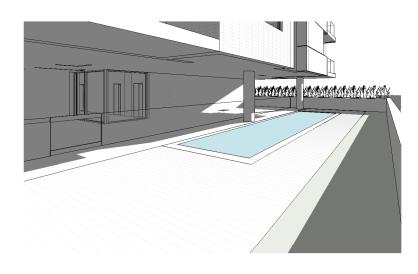
ADDITIONAL INFORMATION

ISSUE DATE: SCALE:

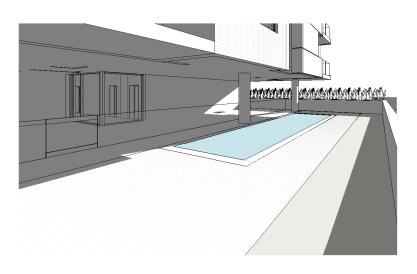
PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. 072 G



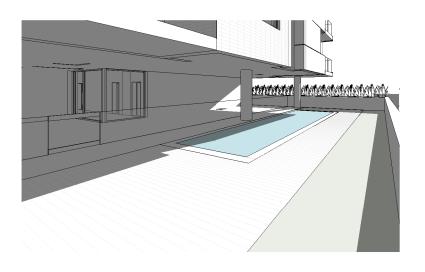
COS SOLAR ANALYSIS - VIEW 1 - WINTER 9.00am



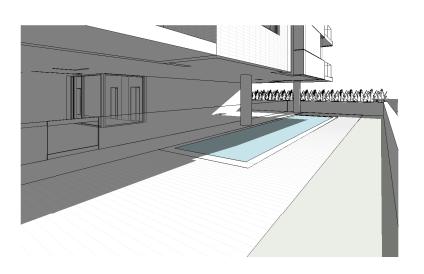
COS SOLAR ANALYSIS - VIEW 2 - WINTER 9.30am



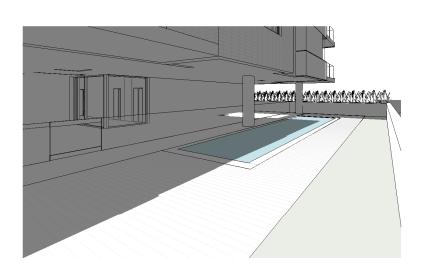
COS SOLAR ANALYSIS - VIEW 3 - WINTER 10.00am



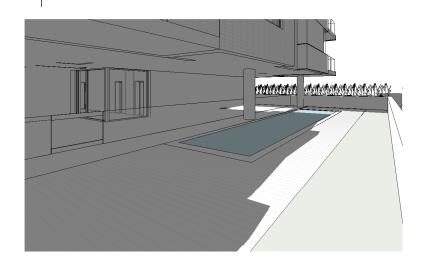
COS SOLAR ANALYSIS - VIEW 4 - WINTER 10.30 am



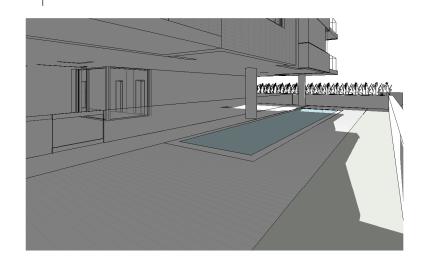
COS SOLAR ANALYSIS - VIEW 5 - WINTER 11.00 am



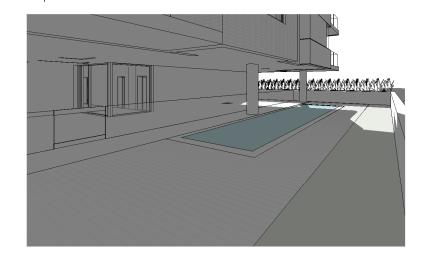
COS SOLAR ANALYSIS - VIEW 6 - WINTER 11.30 am



COS SOLAR ANALYSIS - VIEW 7 - WINTER 12.00 am



COS SOLAR ANALYSIS - VIEW 8 - WINTER 12.30 am



COS SOLAR ANALYSIS - VIEW 9 - WINTER 01.00 am

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AMENDMENT CONSULTANT ISSUE DATE 16.08.2022 26.08.2022 ADDITIONAL INFORMATION DISCLAIMER

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

ADDRESS:

CLIENT: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

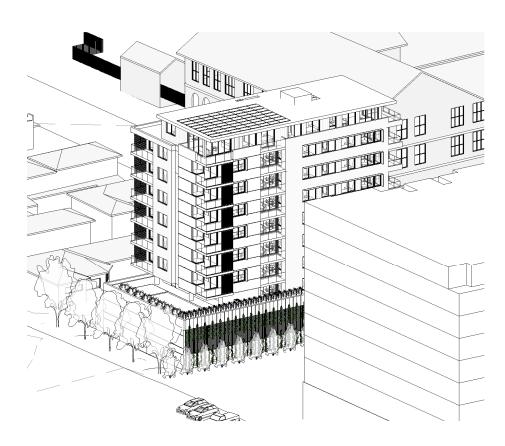
DRAWING NAME: SOLAR VIEWS (COS)

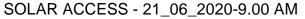
17-19 GLADSTONE AVENUE, WOLLONGONG

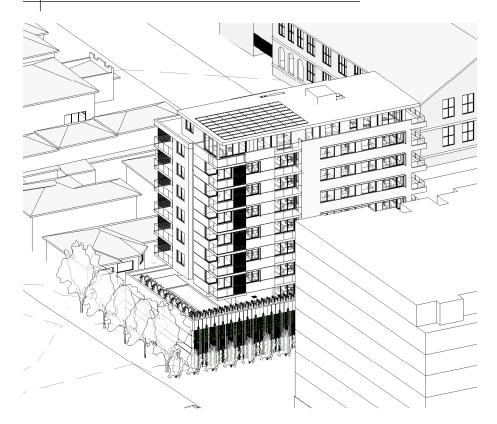
0007052700 26 Aug 2022 5.9 Accreditation No. DMN/19/1921 WOLLONGONG, NSW, 2500 HOUSE

PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 073 G

Document Set ID: 22963592 Version: 1, Version Date: 30/08/2022







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Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities relevant consultant information as per council DA requirements. Feasibility compl Drawings are not are not suitable for purchase of property. All parking and ramps to traffic engineers details. (Subject to Approval)

26.08.2022

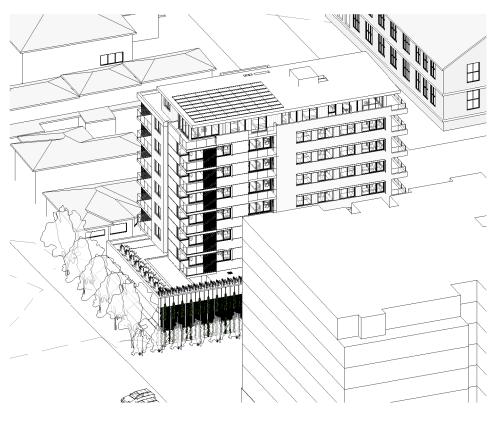
Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Web: www.designworkshop.com.au Robert Gizzi (Reg. 8286)

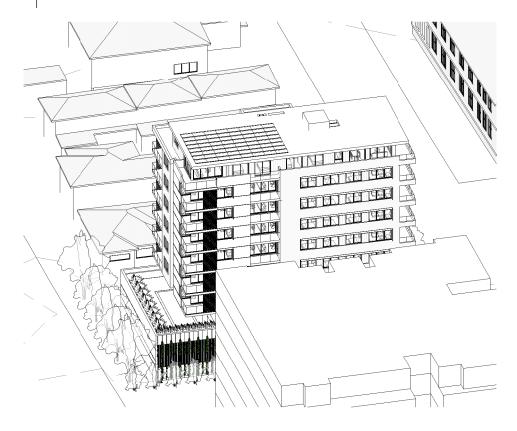
CLIENT: KINETIC WOLLONGONG PTY LTD

UNIT DEVELOPMENT

17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: SOLAR VIEWS - FUTURE CONTEXT (NORTH)

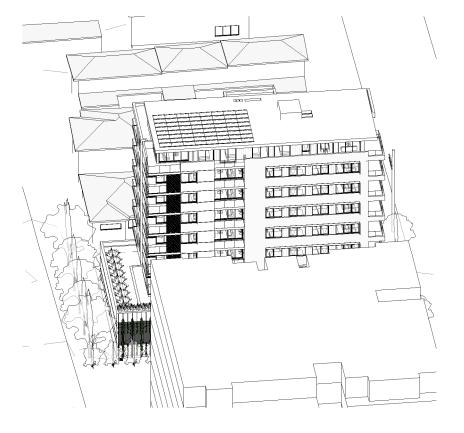


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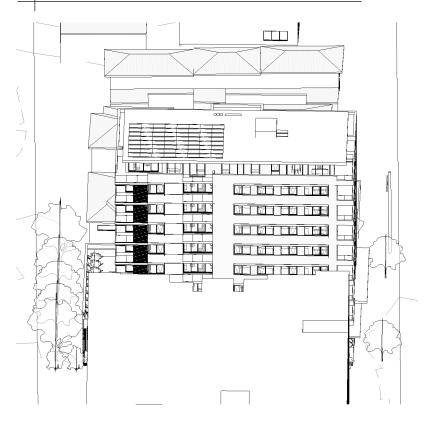


SOLAR ACCESS - 21\_06\_2020-10.30 AM

NOTE: POTENTIAL FUTURE DEVELOPMENT SHOWN TO THE NORTH AS PER DEVELOPMENT APPLICATION SUBMITTED. PLANS SUBJECT TO CHANGE AS NSW LEC PROCEEDINGS CURRENTLY UNDERWAY



SOLAR ACCESS - 21\_06\_2020-11.00 AM



SOLAR ACCESS - 21 06 2020-11.30 AM

### ADDITIONAL INFORMATION



PROJECT No.

DWG No. Rev.

2420

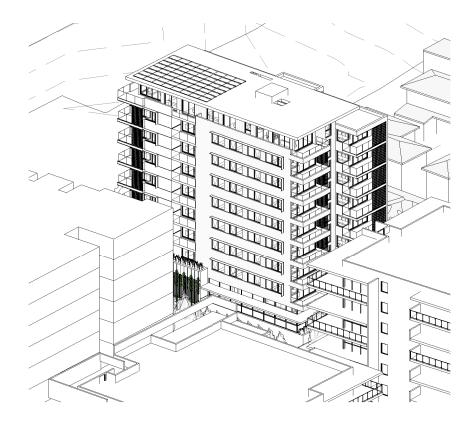
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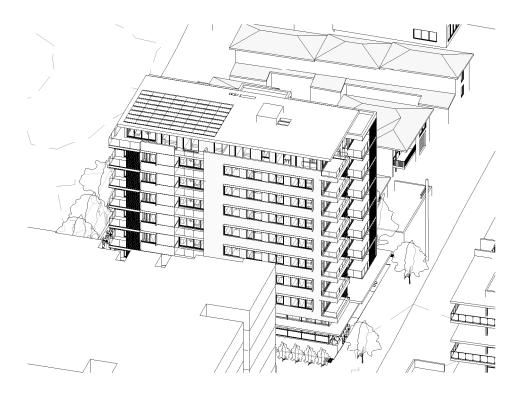
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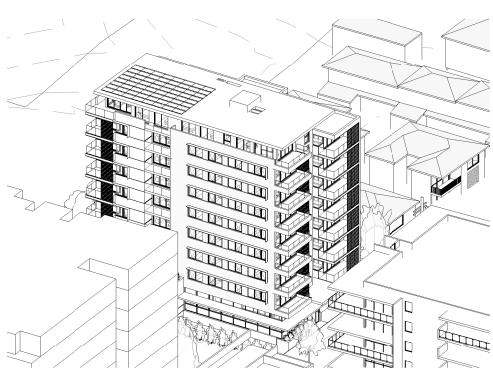
SOLAR ACCESS - 21\_06\_2020-13.00 PM



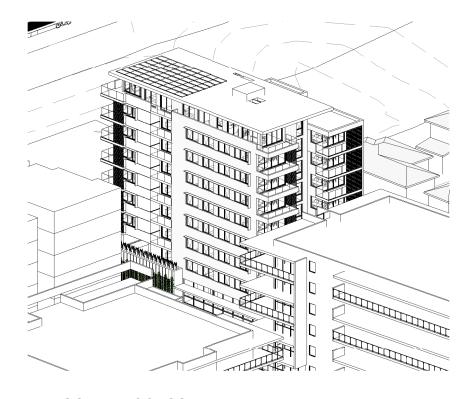
SOLAR ACCESS - 21\_06\_2020-14.00 PM



SOLAR ACCESS - 21\_06\_2020-12.30 PM



SOLAR ACCESS - 21\_06\_2020-13.30 PM



SOLAR ACCESS - 21\_06\_2020-14.30 PM

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All parking and ramps to traffic engineers details. (Subject to Approva

ADDITIONAL INFORMATION 26.08.2022

Wollongong 81a Princes Highway Tel: (02) 4227 1661 Email: info@designworkshop.com.au

Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

NOTE: POTENTIAL FUTURE DEVELOPMENT SHOWN TO THE NORTH AS PER

DEVELOPMENT APPLICATION SUBMITTED. PLANS SUBJECT TO CHANGE AS NSW

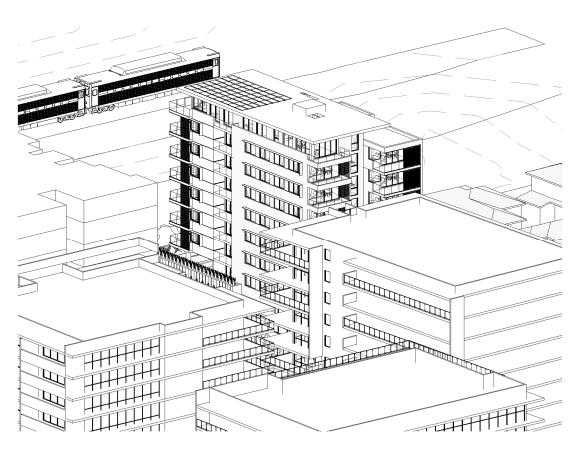
LEC PROCEEDINGS CURRENTLY UNDERWAY

DRAWING NAME: SOLAR VIEWS - FUTURE CONTEXT(NORTH)

### ADDITIONAL INFORMATION



ISSUE D	26.08.2022	PROJECT N 2420	0.
SCALE: QA:	RG	DWG No. <b>076</b>	Re



SOLAR ACCESS - 21/06/2020-15.00 PM



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All partings and ramps to traffic engineers details. (Subject to Approval)

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# ADDITIONAL INFORMATION

II parking	and ramps to traffi	c engineers details. (Subject to App	roval)
REF.	DATE	AMENDMENT	
G	26.08.2022	ADDITIONAL INFORMATION	DWM
ISCLAIN Il dimensions a	are in millimeters. Verify all d	limensions on site prior to commencement of any work	DESIGN WORKSHOP AUSTRALI

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286) DRAWING NAME: SOLAR VIEWS - FUTURE CONTEXT (NORTH)

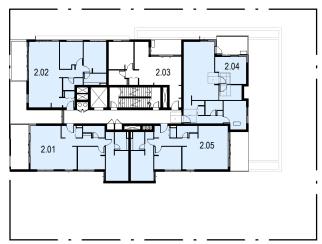
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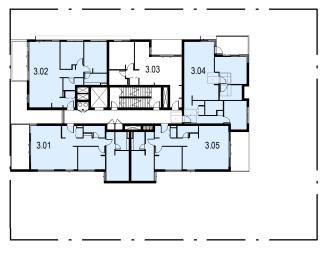
KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

	ISSUE DATE: 26.08.202
	DRAWN: AK/DM
	SCALE:
	OA: RG

PROJECT No. 2420 DWG No. Rev. 077 G



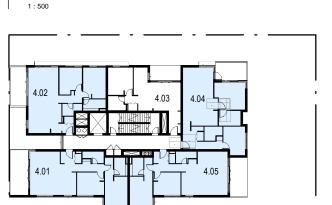


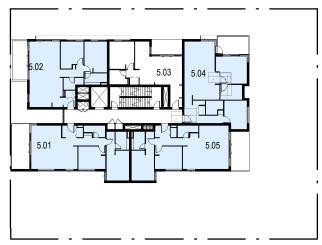


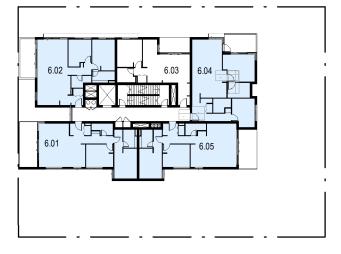
### CROSS VENT LEVEL 01

CROSS VENT LEVEL 02

### **CROSS VENT LEVEL 03**





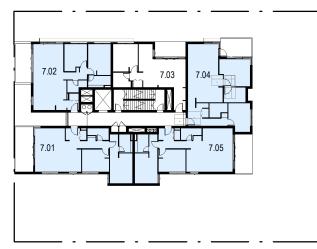


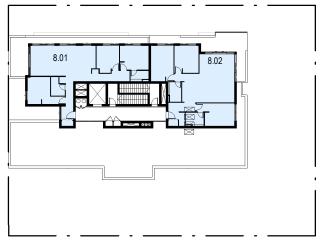
### **CROSS VENT LEVEL 04**

1:500

### **CROSS VENT LEVEL 05**

### **CROSS VENT LEVEL 06**





**CROSS VENT LEVEL 07** 

### **CROSS VENT LEVEL 08**

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AMENDMENT CONSULTANT COORDINATION DATE 25.01.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE 16.02.2022 16.08.2022 ADDITIONAL INFORMATION 26.08.2022 DISCLAIMER

ncement of any work DESIGN WORKSHOP AUSTRALIA

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

DRAWING NAME: CROSS VENT + SCHEDULE

SCALE BAR: 10 15 20 25m



0007052700 26 Aug 2022 Assessor Martin Pinson

Accreditation No. DMN/19/1921

Address

### ADDITIONAL INFORMATION

5.9

**CROSS VENTILATION** 

CROSS VENT (YES/NO) QTY

No

Yes

No

Yes

Yes

Yes

Yes

Yes

Yes

No

Yes

Yes

Yes

Yes

No

Yes

Yes

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UNIT NO:

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7.01 7.02 7.03

7.04 7.05

8.02

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2 BED ADAPTABLE

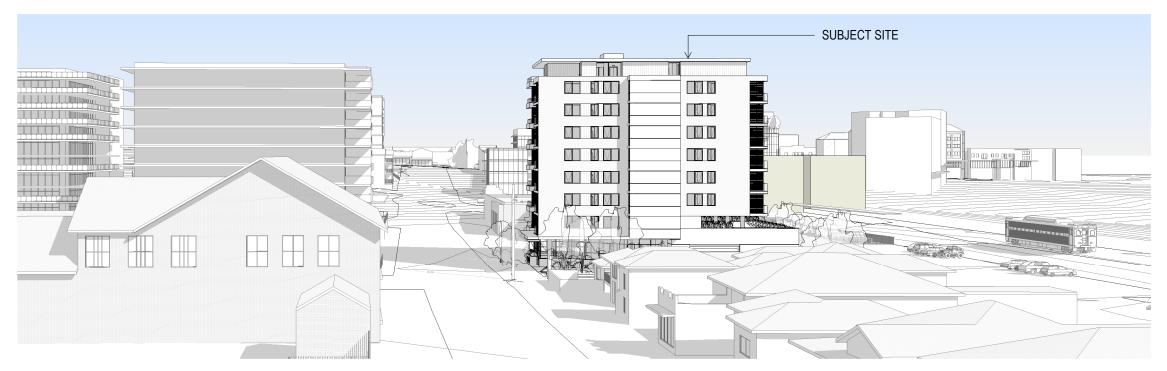
2 BED ADAPTABLE

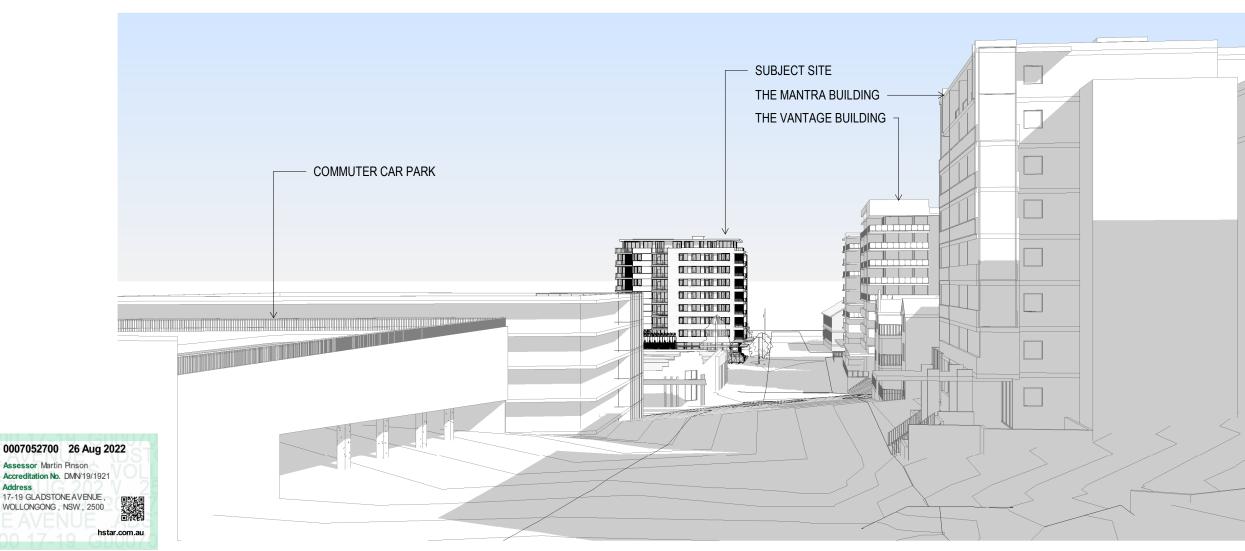
2 BED ADAPTABLE

2 BED ADAPTABLE

UNIT TYPE

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 1:500 074 QA: RG





5.9

HOUS

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AMENDMENT CONSULTANT COORDINATION 25.01.2022 16.02.2022 16.08.2022 DEVELOPMENT APPLICATION ISSUE CONSULTANT ISSUE TO HERITAGE CONSULTANT 22.08.2022 G 26.08.2022 ADDITIONAL INFO
DISCLAIMER
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Assessor Martin Pinson

WOLLONGONG, NSW, 2500

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ement of any work DESIGN WORKSHOP AUSTRALIA

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

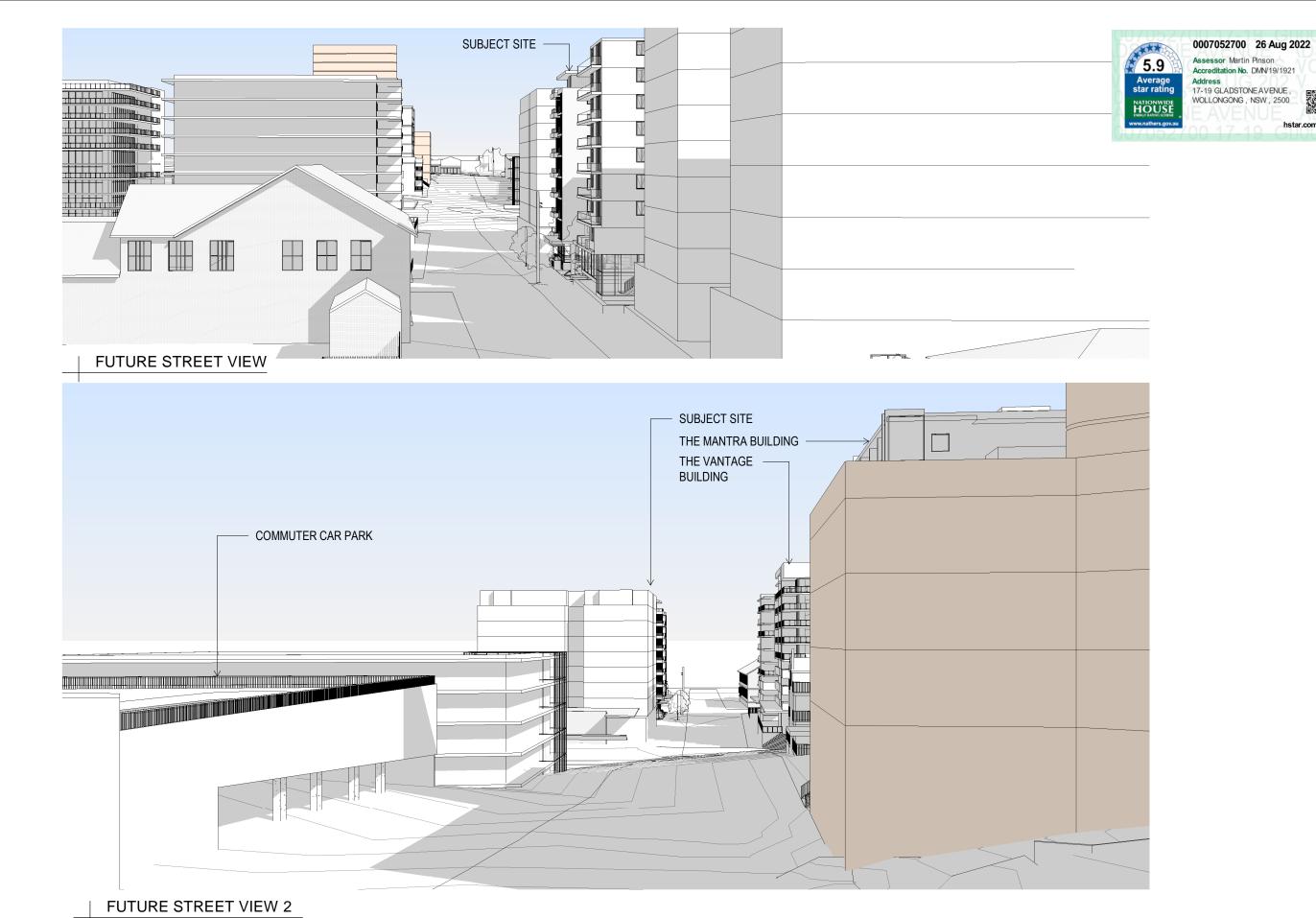
KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: PROPOSED 3D VIEWS

### ADDITIONAL INFORMATION



ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: QA:

PROJECT No. 2420 DWG No. Rev. 080 G



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DISCLAIMER
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ement of any work DESIGN WORKSHOP AUSTRALIA

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Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS: DRAWING NAME: FUTURE 3D VIEWS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

### ADDITIONAL INFORMATION



PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 081 G QA:

hstar.com.au







3D VIEW - (SOUTH-WEST)



3D VIEW - GLADSTONE AVE (WEST)



CLADDING TYPE 03 PANELS (EXPRESSED JOINTS)









3D VIEW - (SOUTH-EAST)



3D VIEW - (NORTH-WEST)



3D VIEW - CARPARK (EAST)

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AMENDMENT
DEVELOPMENT APPLICATION ISSUE 16.02.2022 16.08.2022 22.08.2022 CONSULTANT ISSUE TO HERITAGE CONSULTANT 25.08.2022 TO BASIX CONSULTANT

ment of any work. DESIGN WORKSHOP AUSTRALIA

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CLIENT:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

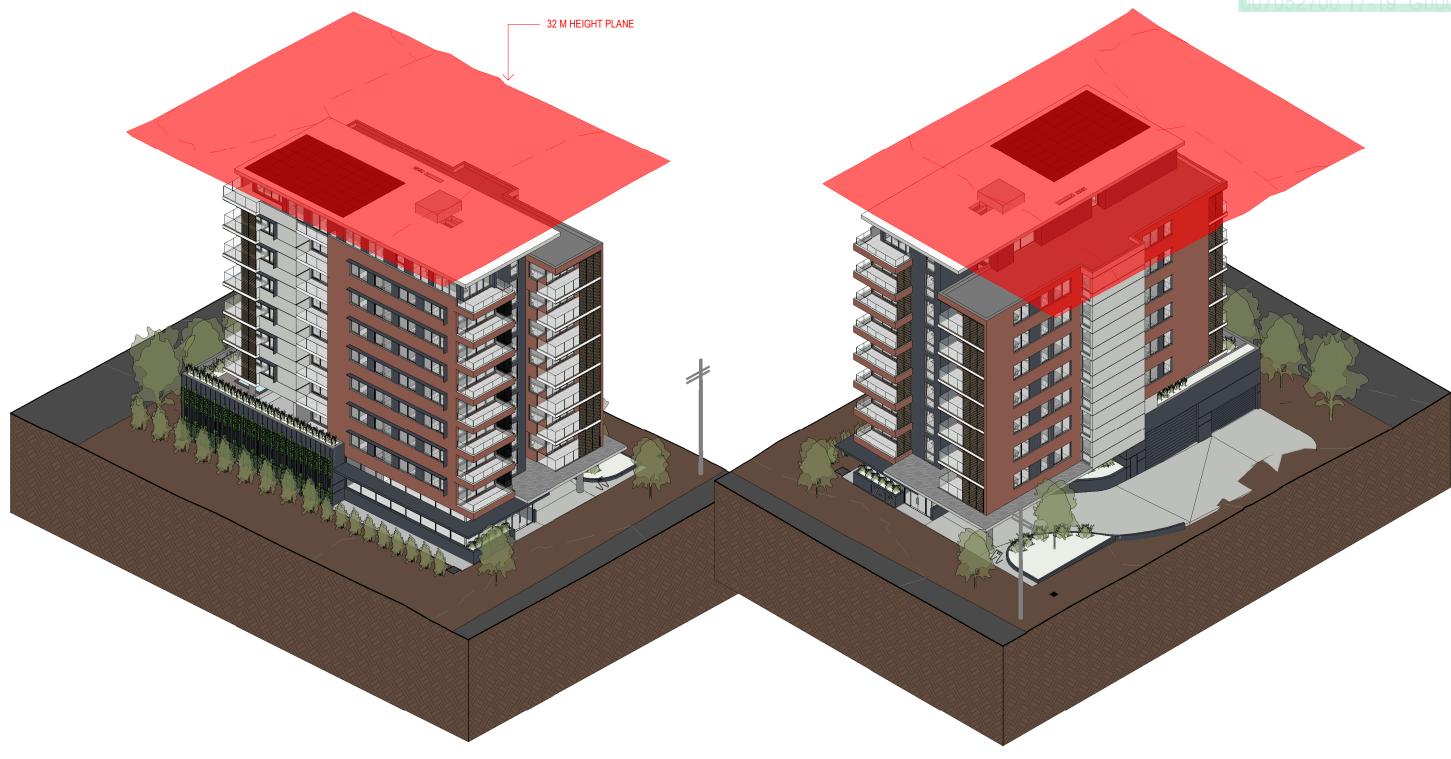
DRAWING NAME: PROPOSED BUILDING 3D VIEWS

ADDRESS: 17-19 GLADSTONE AVENUE, WOLLONGONG ADDITIONAL INFORMATION

PROJECT No. ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 082 G QA: RG



Assessor Martin Pinson Accreditation No. DMN/19/1921 Address 17-19 GLADSTONE AVENUE,



3D HEIGHT PLANE (NORTH WEST)

3D HEIGHT PLANE (SOUTH EAST)

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AMENDMENT
CONSULTANT ISSUE
TO HERITAGE CONSULTANT
ADDITIONAL INFORMATION 16.08.2022 22.08.2022 26.08.2022

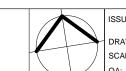
Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au

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Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG DRAWING NAME: 3D HEIGHT PLANE



ADDITIONAL INFORMATION

ISSUE DATE: SCALE:

PROJECT No. 26.08.2022 2420 DWG No. Rev. 083 G









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AMENDMENT ADDITIONAL INFORMATION 26.08.2022

neters. Verify all dimensions on site prior to commencement of any work

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CLIENT: ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

DRAWING NAME: CONTEXT 3D VIEWS

17-19 GLADSTONE AVENUE, WOLLONGONG

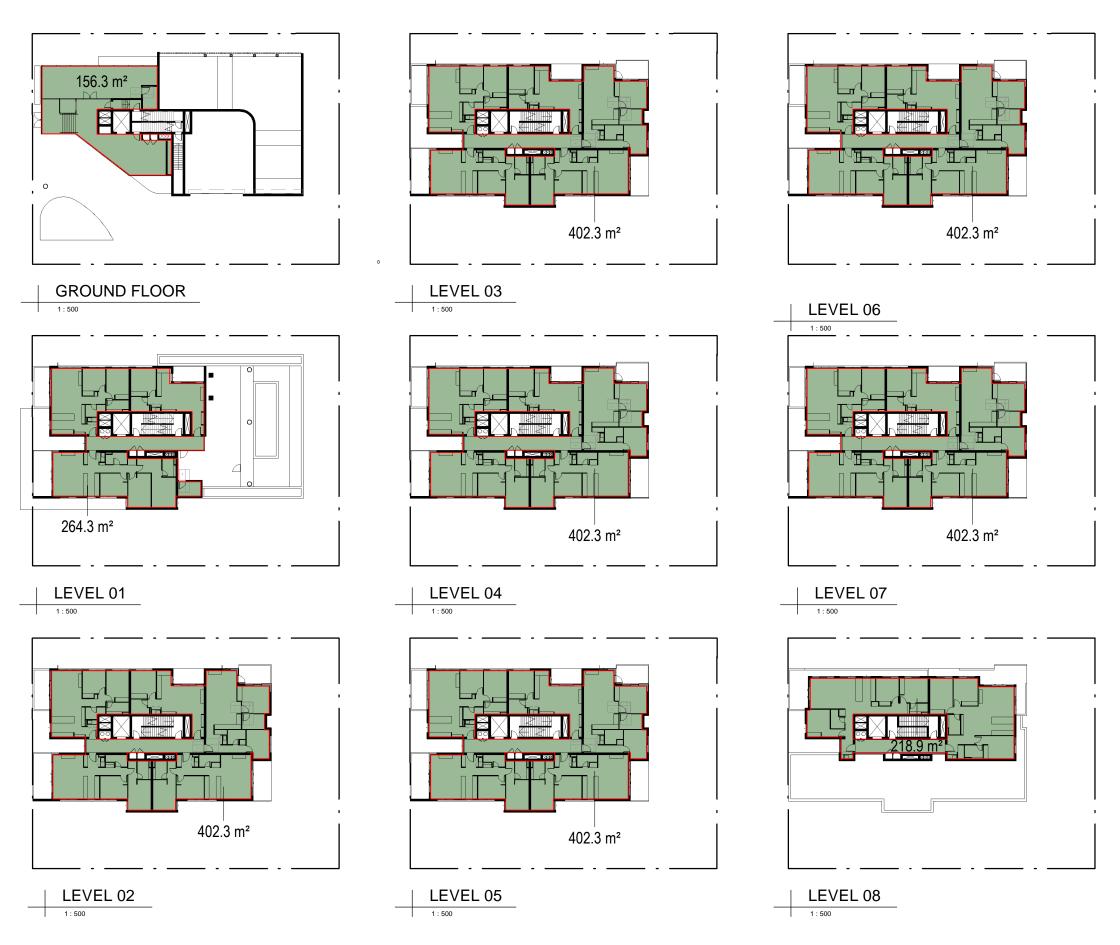
**ADDITIONAL INFORMATION** 

ISSUE DATE: PROJECT No. 26.08.2022 2420 DRAWN: AK/DM DWG No. Rev. SCALE: 084 G QA: RG

0007052700 26 Aug 2022 Assessor Martin Pinson Accreditation No. DMN/19/1921

17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500

Address





AREA SCHEDULE (GFA)						
LEVEL	AREA	FSR				
GROUND FLOOR	156.26 m²	0.13				
LEVEL 01	264.31 m²	0.21				
LEVEL 02	402.31 m²	0.33				
LEVEL 03	402.31 m²	0.33				
LEVEL 04	402.31 m²	0.33				
LEVEL 05	402.31 m²	0.33				
LEVEL 06	402.31 m²	0.33				
LEVEL 07	402.31 m²	0.33				
LEVEL 08	218.91 m²	0.18				
	3053.36 m²	2.47				

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AMENDMENT CLIENT ISSUE DATE 10.11.2021 25.01.2022 16.02.2022 CONSULTANT COORDINATION
DEVELOPMENT APPLICATION ISSUE 16.08.2022 CONSULTANT ISSUE G 26.08.202:
DISCLAIMER
All dimensions are in crim

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Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286) DRAWING NAME: GFA (GROSS FLOOR AREA) PLANS

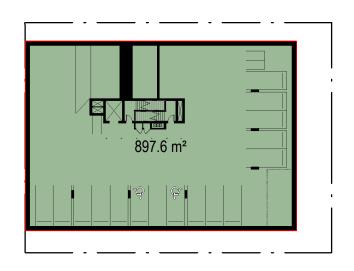
CLIENT: ADDRESS: KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG

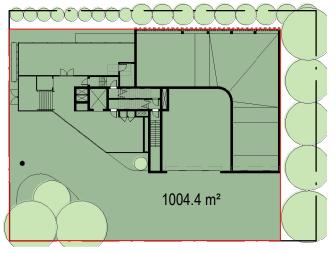
ADDITIONAL INFORMATION SCALE BAR: 15 20



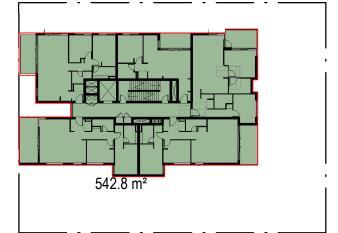
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)	SCALE: QA:		DWG No.

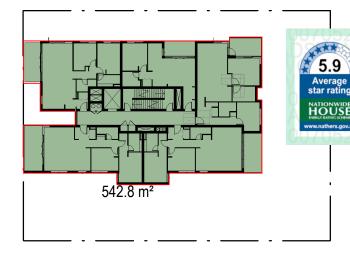
Rev.





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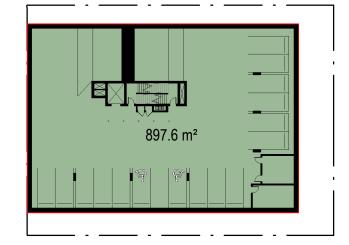






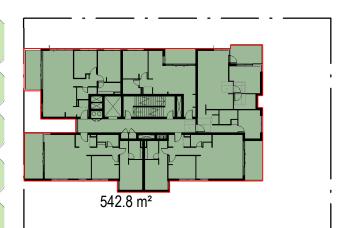
### BASEMENT 3

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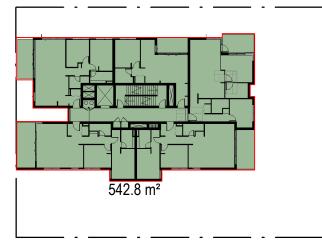




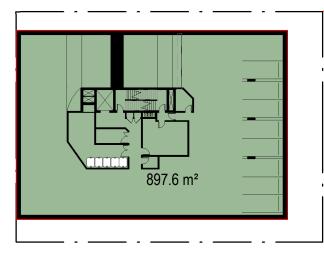
LEVEL 03



LEVEL 06

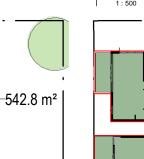


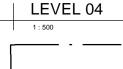
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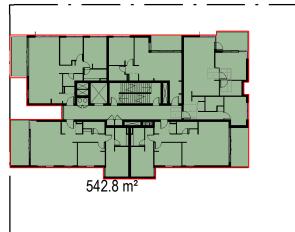




LEVEL 02



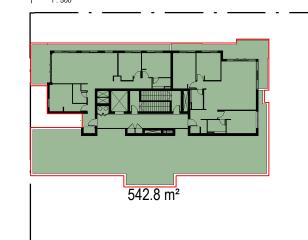




### LEVEL 07

LEVEL 08

SCALE BAR:



20

AREA SCHEDULE (GBA)						
Level	Area					
BASEMENT 3	897.6 m					
BASEMENT 2	897.6 m					
BASEMENT 1	897.6 m					
GROUND FLOOR	1004.4 m					
LEVEL 01	646.9 m					
LEVEL 02	542.8 m					
LEVEL 03	542.8 m					
LEVEL 04	542.8 m					
LEVEL 05	542.8 m					
LEVEL 06	542.8 m					
LEVEL 07	542.8 m					
LEVEL 08	542.8 m					
	8143.6 m					
	Level BASEMENT 3 BASEMENT 2 BASEMENT 1 GROUND FLOOR LEVEL 01 LEVEL 02 LEVEL 03 LEVEL 04 LEVEL 05 LEVEL 06 LEVEL 07					

### BASEMENT 1

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AMENDMENT CONSULTANT COORDINATION 25.01.2022 DEVELOPMENT APPLICATION ISSUE

CONSULTANT ISSUE

ADDITIONAL INFORMATION 16.02.2022 16.08.2022 26.08.2022 DISCLAIMER

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81a Princes Highway, Fairy Meadow NSW 2519
Tel: (02) 4227 1661
Email: info@designworkshop

Sydney
Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205
Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS: DRAWING NAME: GBA (GROSS BUILDING AREA) PLANS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT

LEVEL 05

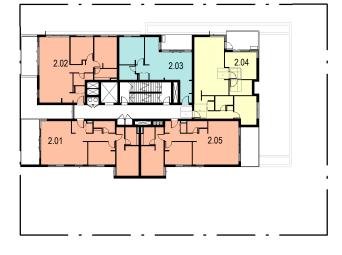
17-19 GLADSTONE AVENUE, WOLLONGONG

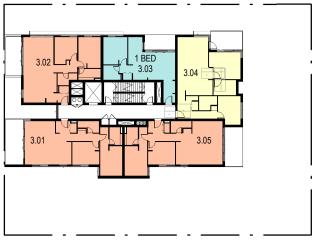
## ADDITIONAL INFORMATION

ISSUE DATE: DRAWN: AK/DM SCALE: 1:500

PROJECT No. 26.08.2022 2420 DWG No. Rev. 091 G

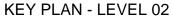


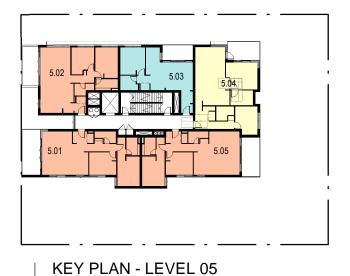




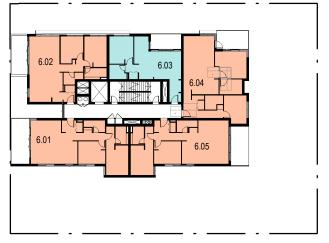






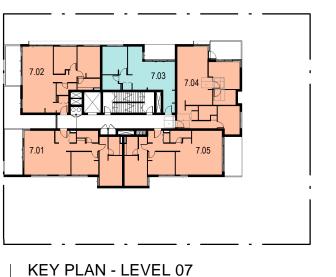


**KEY PLAN - LEVEL 03** 



**KEY PLAN - LEVEL 06** 

### **KEY PLAN - LEVEL 04**



8.02	 
	'

**KEY PLAN - LEVEL 08** 

APARTMENT TYPE	SCHEDULE
NAME	QTY
1 BED	7

0007052700 26 Aug 2022 Assessor Martin Pinson 5.9 Accreditation No. DMN/19/1921 Address 17-19 GLADSTONE AVENUE, WOLLONGONG, NSW, 2500 HOUSE ENERGY RATING SCHEM

2 BED ADAPTABLE

3 BED

UNIT#	NAME	AREA
LEVEL 01	<u>'</u>	•
1.01	3 BED	96.7 m²
1.02	2 BED	76.0 m²
1.03	1 BED	50.6 m <sup>2</sup>
LEVEL 02		•
2.01	2 BED	75.5 m²
2.02	2 BED	76.0 m²
2.03	1 BED	50.7 m <sup>2</sup>
2.04	2 BED ADAPTABLE	81.2 m <sup>2</sup>
2.05	2 BED	75.7 m²
LEVEL 03		-
3.01	2 BED	75.5 m <sup>2</sup>
3.02	2 BED	76.0 m <sup>2</sup>
3.03	1 BED	50.7 m <sup>2</sup>
3.04	2 BED ADAPTABLE	81.2 m <sup>2</sup>
3.05	2 BED	75.7 m²
LEVEL 04		
4.01	2 BED	75.5 m <sup>2</sup>
4.02	2 BED	76.0 m <sup>2</sup>
4.03	1 BED	50.7 m <sup>2</sup>
4.04	2 BED ADAPTABLE	81.2 m²
4.05	2 BED	75.7 m²
LEVEL 05		
5.01	2 BED	75.5 m <sup>2</sup>
5.02	2 BED	76.0 m <sup>2</sup>
5.03	1 BED	50.7 m <sup>2</sup>
5.04	2 BED ADAPTABLE	81.2 m²
5.05	2 BED	75.7 m²
LEVEL 06		1
6.01	2 BED	75.5 m <sup>2</sup>
6.02	2 BED	76.0 m <sup>2</sup>
6.03	1 BED	50.7 m <sup>2</sup>
6.04	2 BED	81.2 m <sup>2</sup>
6.05	2 BED	75.7 m <sup>2</sup>
LEVEL 07	1	1
7.01	2 BED	75.5 m²
7.02	2 BED	76.0 m <sup>2</sup>
7.03	1 BED	50.7 m <sup>2</sup>
7.04	2 BED	81.2 m²
7.05	2 BED	75.7 m <sup>2</sup>
LEVEL 08		1
8.01	3 BED	95.0 m²

**APARTMENT SCHEDULE** 

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client.

Drawings are not are not suitable for purchase of property.

All parking and ramps to traffic engineers details. (Subject to Approval)

AMENDMENT CLIENT ISSUE DATE 10.11.2021 25.01.2022 16.02.2022 CONSULTANT COORDINATION
DEVELOPMENT APPLICATION ISSUE 16.08.2022 CONSULTANT ISSUE G 26.08.2022

DISCLAIMER

All dimensions are 1

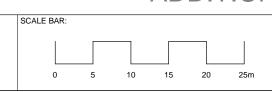
nent of any work DESIGN WORKSHOP AUSTRALIA Web: www.designworkshop.com.au

Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286)

CLIENT: ADDRESS:

DRAWING NAME: UNIT TYPE KEY PLANS

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG



4

### ADDITIONAL INFORMATION ISSUE DATE: 26.08.2022 2420 DRAWN: AK/DM

98.4 m<sup>2</sup>

3 BED

	STORAGE SO	CHEDUL	E		
LOCATION	TYPE	D	W	Н	VOL
	•				•
1.01					
3 BED BASEMENT 3	STORE (BASEMENT)	2140	1000	2400	5.14 m³
LEVEL 01	STORE (INTERNAL)	866	1100	2700	2.57 m <sup>3</sup>
LEVEL 01	STORE (INTERNAL)	500	1566	2700	2.11 m <sup>3</sup>
LEVEL 01	STORE (INTERNAL)	316	750	2700	0.64 m <sup>3</sup>
	( /				10.46 m³
1.02					
2 BED					
BASEMENT 3	STORE (BASEMENT)	700	2400	2400	4.03 m³
LEVEL 01	STORE (INTERNAL)	400	2500	2700	2.70 m <sup>3</sup>
LEVEL 01	STORE (INTERNAL)	600	350	2700	0.57 m <sup>3</sup>
LEVEL 01	STORE (INTERNAL)	300	1400	2700	1.13 m <sup>3</sup>
					8.43 m³
1.03 1 BED					
BASEMENT 3	STORE (BASEMENT)	1300	1000	2400	3.12 m³
LEVEL 01	STORE (INTERNAL)	360	1600	2700	1.56 m³
LEVEL 01	STORE (INTERNAL)	300	1910	2700	1.55 m³
					6.22 m³
2.01					
2 BED					
BASEMENT 3	STORE (BASEMENT)	1700	1000	2400	4.08 m³
LEVEL 02	STORE (INTERNAL)	666	1100	2700	1.98 m³
LEVEL 02	STORE (INTERNAL)	500	1566	2700	2.11 m <sup>3</sup>
2.02					8.17 m <sup>3</sup>
2.02 2 BED					
BASEMENT 3	STORE (BASEMENT)	700	2400	2400	4.03 m <sup>3</sup>
LEVEL 02	STORE (INTERNAL)	400	2500	2700	2.70 m <sup>3</sup>
LEVEL 02	STORE (INTERNAL)	600	350	2700	0.57 m <sup>3</sup>
LEVEL 02	STORE (INTERNAL)	300	1400	2700	1.13 m <sup>3</sup>
	OTOTAL (INTERNOLL)	1000	11100	2.00	8.43 m <sup>3</sup>
2.03					
1 BED					
BASEMENT 3	STORE (BASEMENT)	1711	1000	2400	4.11 m³
LEVEL 02	STORE (INTERNAL)	360	1600	2700	1.56 m³
LEVEL 02	STORE (INTERNAL)	300	1910	2700	1.55 m³
	· · · · · · · · · · · · · · · · · · ·	•	-	1	7.21 m³
2.04					
2 BED					
BASEMENT 2	STORE (BASEMENT)	1000	1800	2400	4.32 m³
LEVEL 02	STORE (INTERNAL)	600	1650	2700	2.67 m <sup>3</sup>
LEVEL 02	STORE (INTERNAL)	700	800	2700	1.51 m³
					8.51 m³
2.05					
2 BED		I=a-	101	la	1
BASEMENT 2	STORE (BASEMENT)	700	2400	2400	4.03 m³
LEVEL 02	STORE (INTERNAL)	666	1100	2700	1.98 m³
LEVEL 02	STORE (INTERNAL)	600	1566	2700	2.54 m³
					8.55 m <sup>3</sup>

LOCATION	TYPE	D	W	Н	VOL
3.01					
2 BED	OTODE (DAGENENIT)	4700	4000	0400	4.003
BASEMENT 3	STORE (BASEMENT)	1700	1000	2400	4.08 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	666	1100	2700	1.98 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	500	1566	2700	2.11 m <sup>3</sup> 8.17 m <sup>3</sup>
3.02					0.17 111
2 BED		1	10.00	1	1
BASEMENT 3	STORE (BASEMENT)	700	2400	2400	4.03 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	400	2500	2700	2.70 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	600	350	2700	0.57 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	300	1400	2700	1.13 m <sup>3</sup> 8.43 m <sup>3</sup>
3.03					0.43111
1 BED BASEMENT 3	STORE (BASEMENT)	1711	1000	2400	4.11 m <sup>3</sup>
LEVEL 03	STORE (BASEMENT)	360	1600	2700	1.56 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	300	1910	2700	1.55 m <sup>3</sup>
	OTOTAL (INTERNAL)	1000	1010	2700	7.21 m <sup>3</sup>
3.04 2 BED					
BASEMENT 2	STORE (BASEMENT)	940	1800	2400	4.06 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	600	1650	2700	2.67 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	700	800	2700	1.51 m <sup>3</sup>
LLVLL 00	OTOTAL (INTERNAL)	100	000	2700	8.25 m <sup>3</sup>
3.05					
2 BED					
BASEMENT 2	STORE (BASEMENT)	700	2400	2400	4.03 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	666	1100	2700	1.98 m <sup>3</sup>
LEVEL 03	STORE (INTERNAL)	600	1566	2700	2.54 m <sup>3</sup>
4.04					8.55 m <sup>3</sup>
4.01 2 BED					
BASEMENT 2	STORE (BASEMENT)	1000	1800	2400	4.32 m <sup>3</sup>
LEVEL 04	STORE (BASEMENT)	666	1100	2700	1.98 m <sup>3</sup>
LEVEL 04 LEVEL 04	STORE (INTERNAL)	500	1566	2700	2.11 m <sup>3</sup>
LLVLL 04	STORE (INTERNAL)	300	1500	2700	8.41 m <sup>3</sup>
4.02					0.11111
2 BED	_				
BASEMENT 3	STORE (BASEMENT)	700	2400	2400	4.03 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	400	2500	2700	2.70 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	600	350	2700	0.57 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	300	1400	2700	1.13 m <sup>3</sup>
4.03					8.43 m <sup>3</sup>
4.03 1 BED					
BASEMENT 3	STORE (BASEMENT)	1711	1000	2400	4.11 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	360	1600	2700	1.56 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	300	1910	2700	1.55 m <sup>3</sup>
	,	1	1	1	7.21 m <sup>3</sup>
4.04 2 BED					
BASEMENT 3	STORE (BASEMENT)	1700	1000	2400	4.08 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	600	1650	2700	2.67 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	700	800	2700	1.51 m <sup>3</sup>
					8.27 m <sup>3</sup>

LOCATION	TYPE	D	W	Н	VOL
4.05					
2 BED	STORE (BASEMENT)	700	2400	0400	4.023
BASEMENT 2 LEVEL 04	STORE (BASEMENT) STORE (INTERNAL)	700 666	2400 1100	2400	4.03 m <sup>3</sup> 1.98 m <sup>3</sup>
LEVEL 04	STORE (INTERNAL)	600	1566	2700	2.54 m <sup>3</sup>
LLVLL 04	310KL (INTLKNAL)	000	1300	2700	8.55 m <sup>3</sup>
5.01					0.00 111
2 BED					
BASEMENT 3	STORE (BASEMENT)	1711	1000	2400	4.11 m³
LEVEL 05	STORE (INTERNAL)	666	1100	2700	1.98 m³
LEVEL 05	STORE (INTERNAL)	500	1566	2700	2.11 m <sup>3</sup>
					8.20 m <sup>3</sup>
5.02					
2 BED	T	1	1	1	1
BASEMENT 3	STORE (BASEMENT)	700	2400	2400	4.03 m <sup>3</sup>
LEVEL 05	STORE (INTERNAL)	400	2500	2700	2.70 m <sup>3</sup>
LEVEL 05 LEVEL 05	STORE (INTERNAL)	600	350	2700	0.57 m <sup>3</sup>
LEVEL UD	STORE (INTERNAL)	300	1400	2700	1.13 m <sup>3</sup> 8.43 m <sup>3</sup>
5.03					0.43 111
5.03 1 BED					
BASEMENT 3	STORE (BASEMENT)	1711	1000	2400	4.11 m³
LEVEL 05	STORE (INTERNAL)	360	1600	2700	1.56 m <sup>3</sup>
LEVEL 05	STORE (INTERNAL)	300	1910	2700	1.55 m <sup>3</sup>
	,				7.21 m³
5.04					
2 BED					
BASEMENT 3	STORE (BASEMENT)	1700	1000	2400	4.08 m³
LEVEL 05	STORE (INTERNAL)	600	1650	2700	2.67 m <sup>3</sup>
LEVEL 05	STORE (INTERNAL)	700	800	2700	1.51 m³
					8.27 m <sup>3</sup>
5.05					
2 BED	T	1	1	1	1
BASEMENT 2	STORE (BASEMENT)	700	2400	2400	4.03 m <sup>3</sup>
LEVEL 05	STORE (INTERNAL)	666	1100	2700	1.98 m <sup>3</sup>
LEVEL 05	STORE (INTERNAL)	600	1566	2700	2.54 m³
6.01					8.55 m <sup>3</sup>
U.U I					
2 RED			4000	2400	4.08 m <sup>3</sup>
	STORE (RASEMENT)	1700	7 (1(1(1)	12 <del>7</del> 00	T.UU III
BASEMENT 3	STORE (BASEMENT)	1700 666	1000	2700	_
BASEMENT 3 LEVEL 06	STORE (INTERNAL)	666	1100	2700 2700	1.98 m³
BASEMENT 3 LEVEL 06				2700 2700	_
BASEMENT 3 LEVEL 06 LEVEL 06	STORE (INTERNAL)	666	1100		1.98 m <sup>3</sup> 2.11 m <sup>3</sup>
BASEMENT 3 LEVEL 06 LEVEL 06	STORE (INTERNAL)	666	1100		1.98 m <sup>3</sup> 2.11 m <sup>3</sup>
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED	STORE (INTERNAL)	666	1100		1.98 m <sup>3</sup> 2.11 m <sup>3</sup>
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3	STORE (INTERNAL) STORE (INTERNAL)	666 500	1100 1566	2700	1.98 m³ 2.11 m³ 8.17 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06	STORE (INTERNAL) STORE (INTERNAL) STORE (BASEMENT)	666 500	1100 1566 1700	2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06	STORE (INTERNAL) STORE (INTERNAL)  STORE (BASEMENT) STORE (INTERNAL)	666 500 1000 400	1100 1566 1700 2500	2700 2400 2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³ 2.70 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)	1000 400 600	1100 1566 1700 2500 350	2400 2700 2700 2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³ 2.70 m³ 0.57 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06 LEVEL 06	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)	1000 400 600	1100 1566 1700 2500 350	2400 2700 2700 2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³ 2.70 m³ 0.57 m³ 1.13 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06 LEVEL 06	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)	1000 400 600	1100 1566 1700 2500 350	2400 2700 2700 2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³ 2.70 m³ 0.57 m³ 1.13 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06 LEVEL 06 6.03 1 BED	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	1000 400 600 300	1100 1566 1700 2500 350 1400	2400 2700 2700 2700 2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³ 2.70 m³ 0.57 m³ 1.13 m³ 8.48 m³
BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06 LEVEL 06 BASEMENT 3 LEVEL 06 LEVEL 06	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	1000 400 600 300 1700 360	1100 1566 1700 2500 350 1400 949 1600	2400 2700 2700 2700 2700 2400 2700	1.98 m³ 2.11 m³ 8.17 m³ 2.70 m³ 0.57 m³ 1.13 m³ 8.48 m³ 3.87 m³
2 BED BASEMENT 3 LEVEL 06 LEVEL 06 6.02 2 BED BASEMENT 3 LEVEL 06 LEVEL 06 LEVEL 06 LEVEL 06 LEVEL 06 BASEMENT 3 LEVEL 06 LEVEL 06 LEVEL 06 LEVEL 06	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	1000 400 600 300	1100 1566 1700 2500 350 1400	2400 2700 2700 2700 2700	1.98 m³ 2.11 m³ 8.17 m³ 4.08 m³ 2.70 m³ 0.57 m³ 1.13 m³ 8.48 m³

		CHEDUL			
LOCATION	TYPE	D	W	Н	V
6.04					
2 BED					
BASEMENT 3	STORE (BASEMENT)	1000	1700	2400	4.08
LEVEL 06	STORE (INTERNAL)	600	1650	2700	2.67
LEVEL 06	STORE (INTERNAL)	700	800	2700	1.51
0.05					8.27
6.05					
2 BED BASEMENT 3	STORE (BASEMENT)	1700	1000	2400	4.08
LEVEL 06	STORE (INTERNAL)	666	1100	2700	1.98
LEVEL 06	STORE (INTERNAL)	600	1566	2700	2.54
		1	1		8.59
7.01					
2 BED					
BASEMENT 3	STORE (BASEMENT)	1700	1000	2400	4.08
LEVEL 07	STORE (INTERNAL)	666	1100	2700	1.98
LEVEL 07	STORE (INTERNAL)	500	1566	2700	2.11
7.00					8.17
7.02					
2 BED BASEMENT 3	STORE (BASEMENT)	1711	1000	2400	4.11
LEVEL 07	STORE (INTERNAL)	400	2500	2700	2.70
LEVEL 07	STORE (INTERNAL)	600	350	2700	0.57
LEVEL 07	STORE (INTERNAL)	300	1400	2700	1.13
	3 . 3 (II T I I I I I I I I I I I	1000	100	1=1.00	8.51
7.03					• 1
1 BED					
BASEMENT 3	STORE (BASEMENT)	1300	1000	2400	3.12
LEVEL 07	STORE (INTERNAL)	360	1600	2700	1.56
LEVEL 07	STORE (INTERNAL)	300	1910	2700	1.55
					6.22
7.04					
2 BED	OTODE (D : 2 : :	1000	4=00	0.455	4.5-
BASEMENT 3	STORE (BASEMENT)	1000	1700	2400	4.08
LEVEL 07	STORE (INTERNAL)	600	1650	2700	2.67
LEVEL 07	STORE (INTERNAL)	700	800	2700	1.51
7.05					8.27
2 BED					4.00
2 BED BASEMENT 2	STORE (BASEMENT)	700	2400	2400	4.03
	STORE (INTERNAL)	700 666	2400 1100	2400 2700	1.98
BASEMENT 2	<u> </u>				1.98 2.54
BASEMENT 2 LEVEL 07 LEVEL 07	STORE (INTERNAL)	666	1100	2700	1.98 2.54
BASEMENT 2 LEVEL 07 LEVEL 07 8.01	STORE (INTERNAL)	666	1100	2700	1.98 2.54
BASEMENT 2 LEVEL 07 LEVEL 07 8.01 3 BED	STORE (INTERNAL)	666 600	1100 1566	2700 2700	1.98 2.54 8.55
BASEMENT 2 LEVEL 07 LEVEL 07 8.01 3 BED BASEMENT 3	STORE (INTERNAL) STORE (INTERNAL) STORE (BASEMENT)	666 600 2140	1100 1566 1000	2700 2700 2400	1.98 2.54 8.55
BASEMENT 2 LEVEL 07 LEVEL 07 8.01 3 BED BASEMENT 3 LEVEL 08	STORE (INTERNAL)  STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)	666 600 2140 300	1100 1566 1000 1400	2700 2700 2400 2700	1.98 2.54 8.55 5.14 1.13
BASEMENT 2 LEVEL 07 LEVEL 07 8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831	1100 1566 1000 1400 850	2700 2700 2400 2700 2700	1.98 2.54 8.55 5.14 1.13 1.91
BASEMENT 2 LEVEL 07 LEVEL 07 8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08 LEVEL 08	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831 600	1100 1566 1000 1400 850 900	2700 2700 2400 2700 2700 2700 2700	1.98 2.54 8.55 5.14 1.13 1.91 1.46
BASEMENT 2 LEVEL 07 LEVEL 07 8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831	1100 1566 1000 1400 850	2700 2700 2400 2700 2700	1.98 2.54 8.55 5.14 1.13 1.91 1.46 0.57
BASEMENT 2 LEVEL 07 LEVEL 07  8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08 LEVEL 08 LEVEL 08	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831 600	1100 1566 1000 1400 850 900	2700 2700 2400 2700 2700 2700 2700	1.98 2.54 8.55 5.14 1.13 1.91 1.46 0.57
BASEMENT 2 LEVEL 07 LEVEL 07  8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08 LEVEL 08 LEVEL 08 8.02	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831 600	1100 1566 1000 1400 850 900	2700 2700 2400 2700 2700 2700 2700	1.98 2.54 8.55 5.14 1.13 1.91 1.46 0.57
BASEMENT 2 LEVEL 07 LEVEL 07  8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08 LEVEL 08 LEVEL 08	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831 600	1100 1566 1000 1400 850 900	2700 2700 2400 2700 2700 2700 2700	1.98 2.54 8.55 5.14 1.13 1.91 1.46 0.57 10.2
BASEMENT 2 LEVEL 07 LEVEL 07  8.01 3 BED BASEMENT 3 LEVEL 08 LEVEL 08 LEVEL 08 LEVEL 08 8.02 3 BED	STORE (INTERNAL)  STORE (BASEMENT)  STORE (INTERNAL)  STORE (INTERNAL)  STORE (INTERNAL)	2140 300 831 600	1100 1566 1000 1400 850 900 350	2700 2700 2700 2700 2700 2700 2700 2700	4.03   1.98   2.54   8.55   5.14   1.13   1.91   1.46   0.57   10.2

DISCLAIMER
Subject to: full site survey, measurements are preliminary, discussions and meetings with authorities, approval from authorities, relevant consultant information as per council DA requirements. Feasibility completed based on information provided by client. Drawings are not are not suitable for purchase of property.

All parking and ramps to traffic engineers details. (Subject to Approval)

REF.	DATE
В	25.01.2022
С	16.02.2022
D	16.08.2022
G	26.08.2022

AMENDMENT
CONSULTANT COORDINATION
DEVELOPMENT APPLICATION ISSUE
CONSULTANT ISSUE ADDITIONAL INFORMATION



Wollongong 81a Princes Highway, Fairy Meadow NSW 2519 Tel: (02) 4227 1661 Email: info@designworkshop.com.au Web: www.designworkshop.com.au

Sydney Level 10, 6 Mount Olympus Boulevard, Wolli Creek NSW 2205 Nominated Architect: Robert Gizzi (Reg. 8286) DRAWING NAME: STORAGE CALCULATIONS

ADDRESS:

KINETIC WOLLONGONG PTY LTD UNIT DEVELOPMENT CLIENT:

17-19 GLADSTONE AVENUE, WOLLONGONG

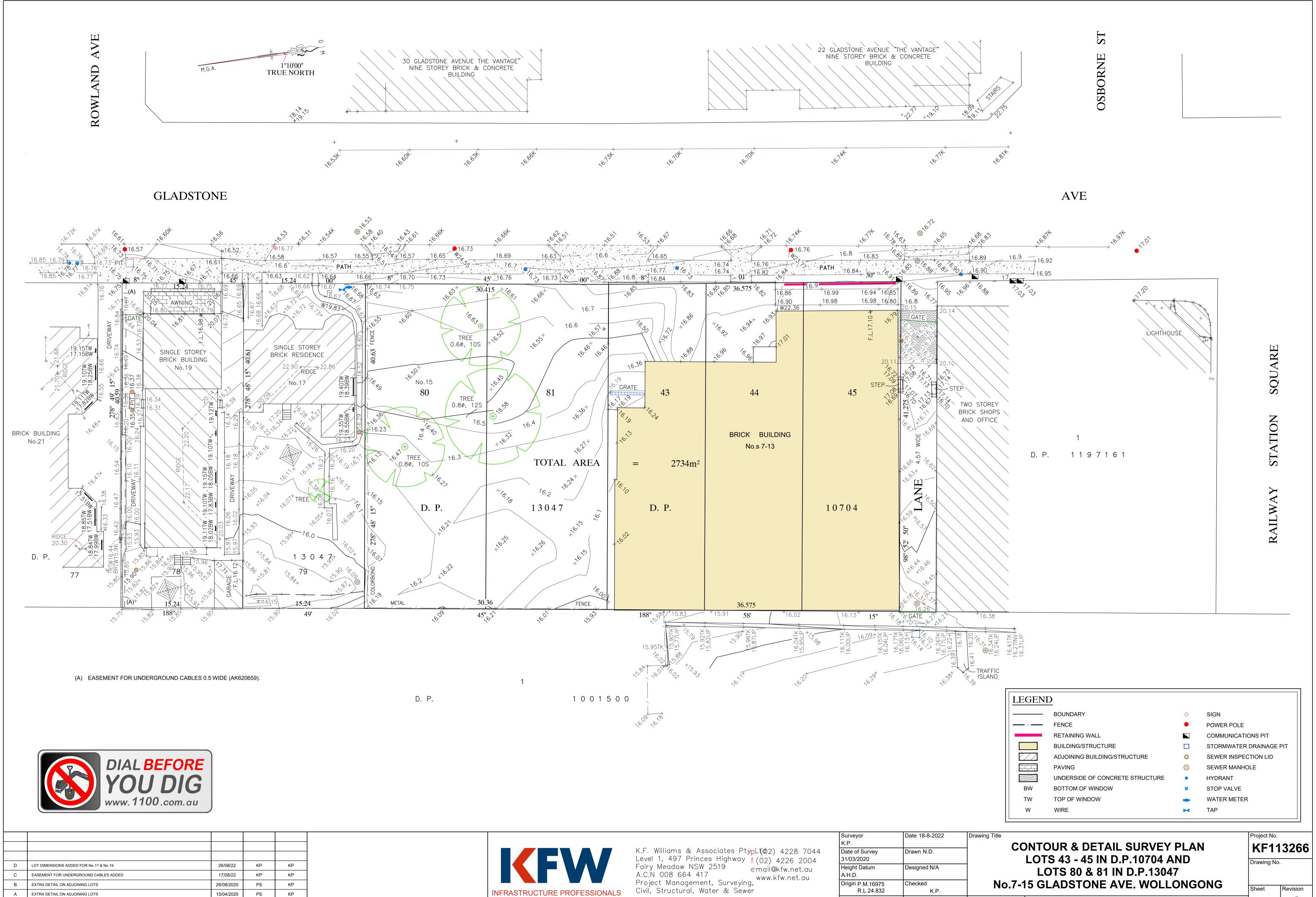






ISSUE DATE: 26.08.2022 DRAWN: AK/DM SCALE: QA: RG

PROJECT No. 2420 DWG No. Rev. 093 G



Horiz. Datum

Approved K.P.

Registered Surveyor

Version: 1, Version Date: 30/08/2022

Amendment or reason for issue

Issue date

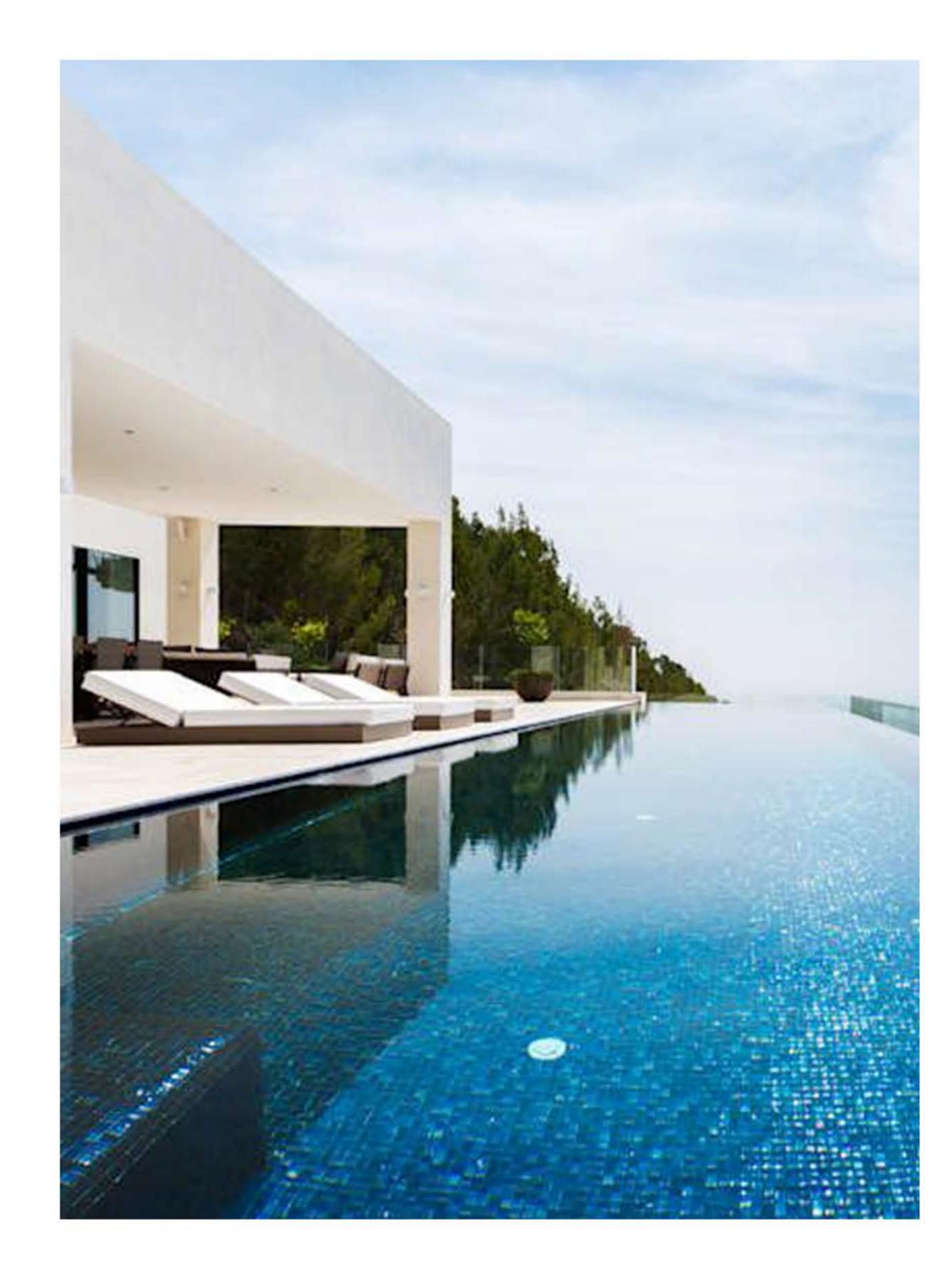
Authorised

Document Set ID: 22963565

1 Of 1

# 17-19 GLADSTONE AVE, WOLLONGONG, NSW LANDSCAPE ARCHITECTURE

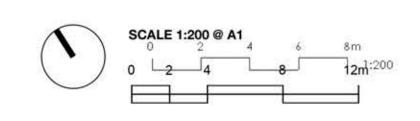
DWG	DRAWING TITLE	SCALE
LA01	COVER SHEET	N/A
LA02	SITE PLAN	N/A
LA03	LANDSCAPE CONCEPT PLAN -GROUND FLOOR	1:100
LA04	LANDSCAPE CONCEPT PLAN - LEVEL 01	1:100
LA05	PLANTING SCHEDULE	N/A
LA06	SECTIONS	1:100
LA07	LANDSCAPE DETAILS	AS SHOWN
LA08	MAINTENANCE SCHEDULE	N/A



checked: MT



# SITE PLAN



LEGEND

| SITE BOUNDARY

PROPOSED TREE

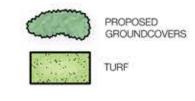
20.0 EXISTING CONTOUR

18.5 PROPOSED NEW CONTOUR

× EX 18.25 EXISTING SPOT LEVEL

+RL 20.0 PROPOSED SPOT LEVEL

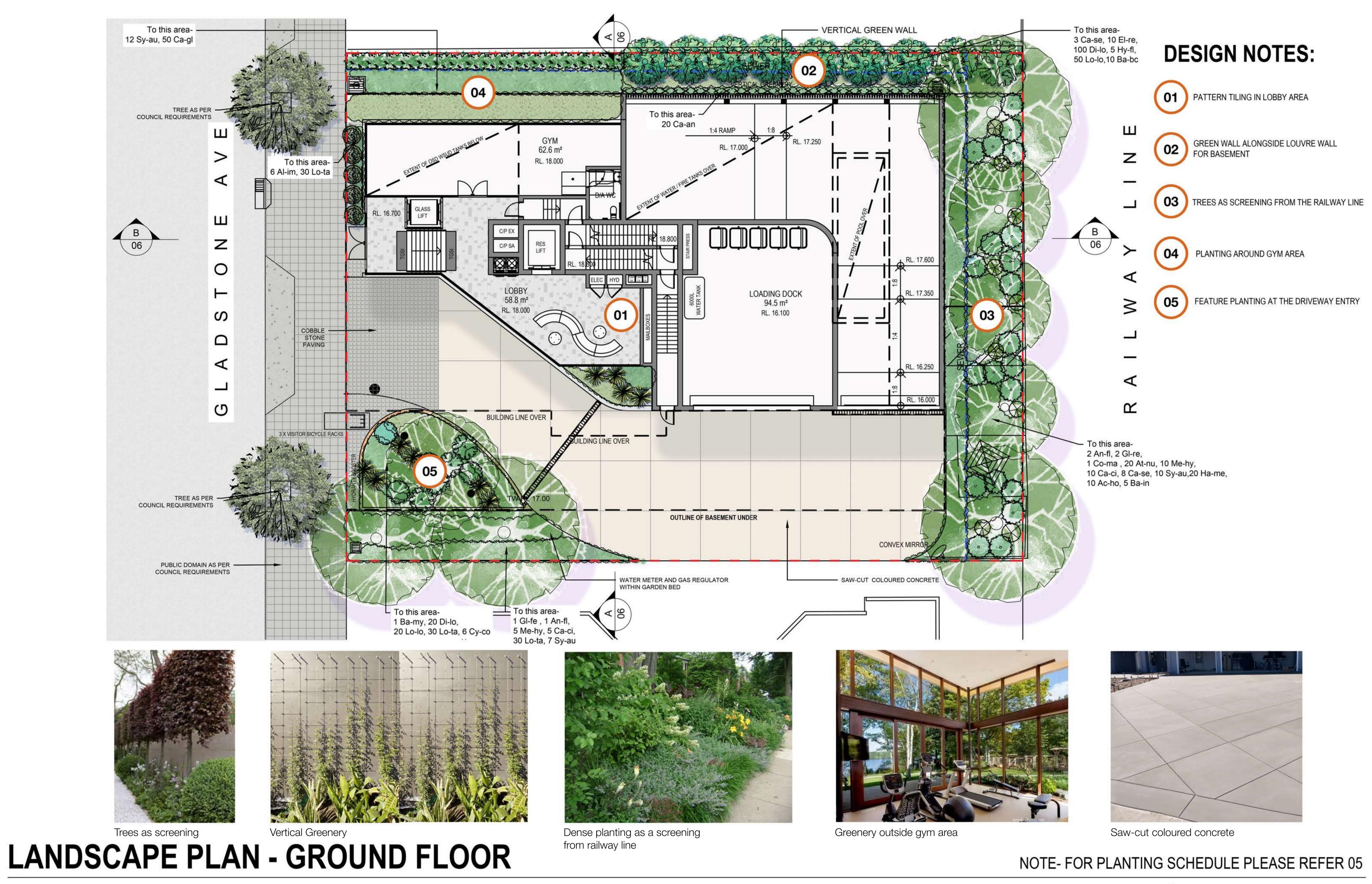






project: 17-19 Gladstone Ave, Wollongong client: Design Workhop Group date 26.08.2022 revision: E drawn: RS checked: MT





SCALE 1:100 @ A1
0 1 2 4

LEGEND

SITE BOUNDARY

PROPOSED TRE

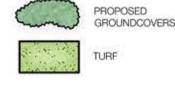
20.0 EXISTING CONTOUR

18.5 PROPOSED NEW CONTOUR

× EX 18.25 EXISTING SPOT LEVEL

+RL 20.0 PROPOSED SPOT LEVEL



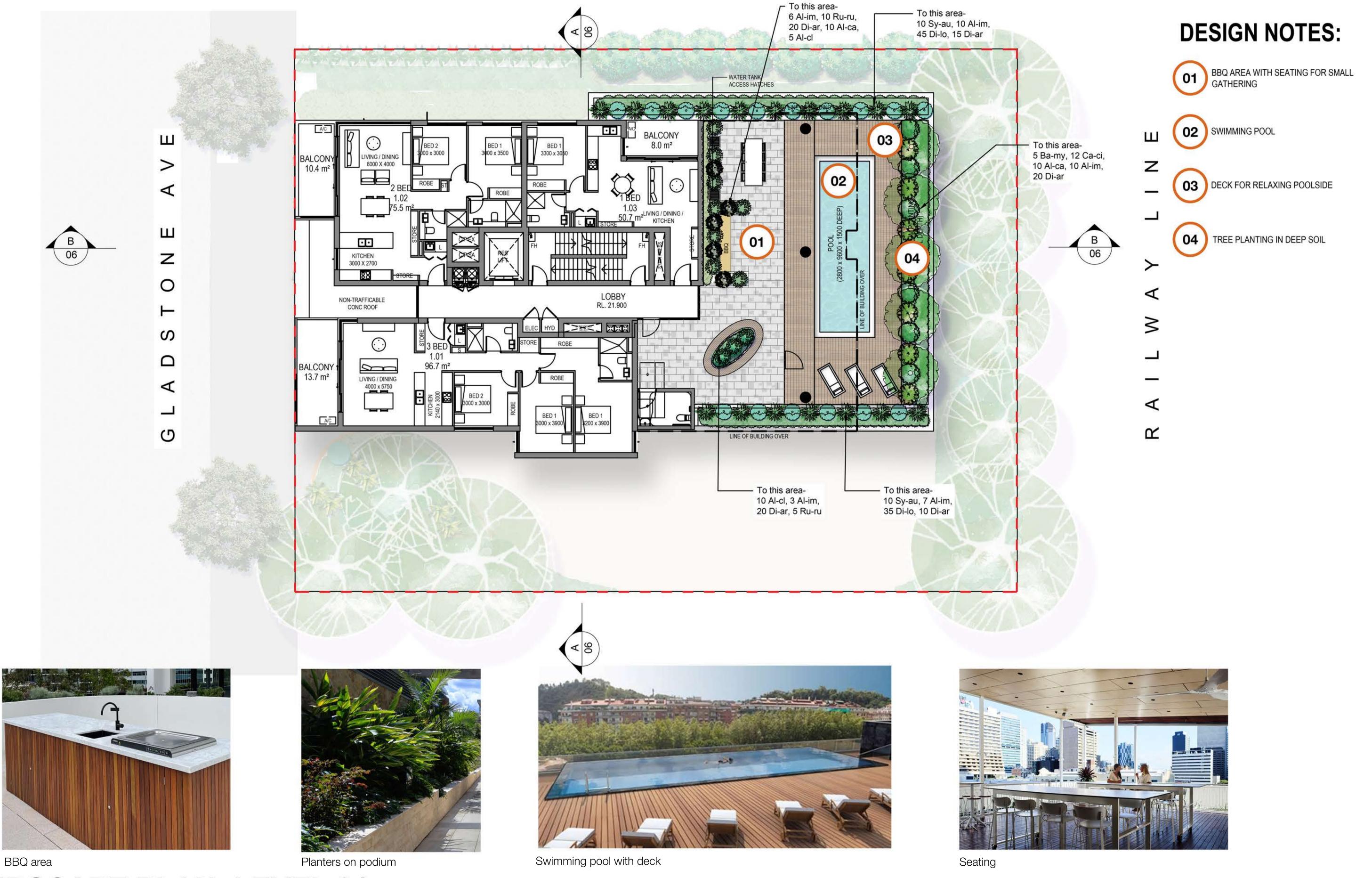


SEWER LINE

project: 17-19 Gladstone Ave, Wollongong client: Design Workhop Group date 26.08.2022 revision: E drawn: RS

checked: MT

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# LANDSCAPE PLAN- LEVEL 01

## NOTE- FOR PLANTING SCHEDULE PLEASE REFER 05



LEGEND

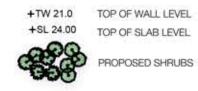
|
SITE BOUNDARY
PROPOSED TRE

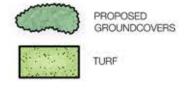
20.0 EXISTING CONTOUR

18.5 PROPOSED NEW CONTOUR

\* EX 18.25 EXISTING SPOT LEVEL

+RL 20.0 PROPOSED SPOT LEVEL

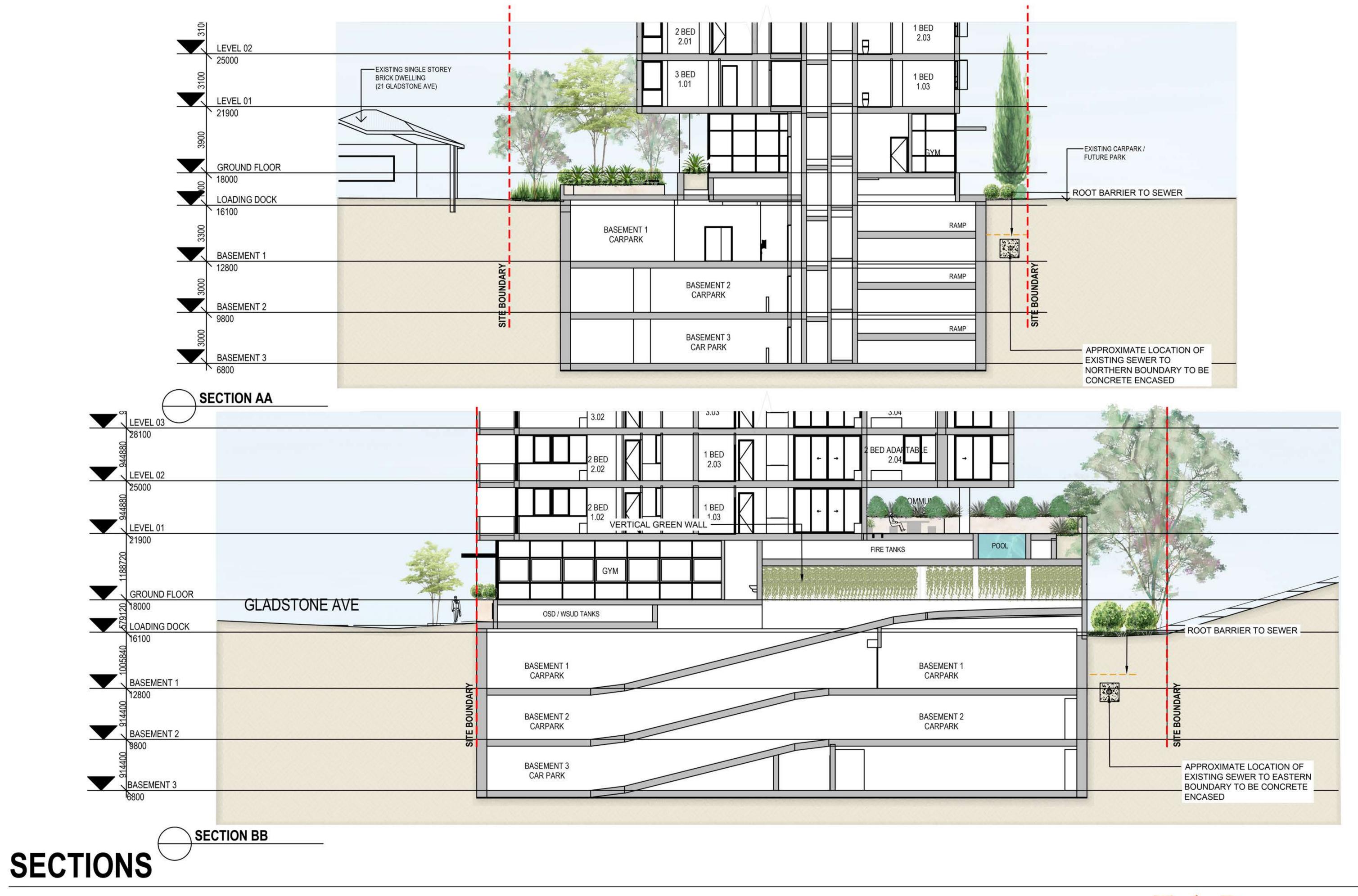




checked: MT

ID	BOTANICAL NAME	COMMON NAME	HEIGHT (m)	SIZE	QUANTITY	NATIVE
TREES					•	
 An-fl	Angophora floribunda	Rough Barked Apple	30m	200L	3	Y
Ba-my	Backhusia myrtle	Grey Myrtle	8m	100lt	6	Υ
Ba-in	Banksia integrifolia	Coast banksia	8m	100lt	5	Y
Co-ma	Corymbia maculata	Spotted Gum	25m	200L	1	Y
Ca-se	Callicoma serratifolia	Black wattle	8m	100lt	11	Y
El-re	Elaeocarpus reticulatus	Blueberry Ash	6-10	100lt	10	Y
GI-fe	Glochidion ferdinandi	Cheese tree	8m	100lt	3	Y
Hy-fl	Hymenosporum flavum	Native Frangipani	10-12m	200lt	5	Y
SHRUBS						
 Ас- Но	Acacia howittii 'Honey Bun'	Honey Bun wattle	1.2m	300mm	10	Y
Al-ca	Alpinia caerulea 'Red Back'	Native Ginger	2m	300mm	20	Y
Al-cl	Alocasia micholitziana 'Calidora'	Elephant Ear Plant	3m	300mm	15	N
Al-im	Alcantarea imperialis	Giant Bromeliad	2.5m	45L	42	N
At-nu	Atriplex nummularia	Old Man Saltbush	2m	300mm	20	Y
Ca-ci	Callistemon citrinus	Crimson Bottlebrush	2m	300mm	27	Y
Су-со	Cyathea cooperii	Soft tree fern	6m	1.5m Trunk	6	Y
Me-hy	Melaleuca hypericifolia	Red Flowered paperbank	3m	300mm	15	Y
Ru-ru	Russelia ruby falls	Firecracker Plant	1m	300mm	15	N
Sy-au	Syzygium australe	Brush cherry	5m	300mm	49	Y
GROUNDCOVERS	<u> </u>					
Ca-gl	Carpobrotus glaucescens	Pigface	0.3m	150mm	50	Υ
Di-ar	Dichondra argentea	Silver falls	0.8m	150mm	110	Y
Di-lo	Dianella longifolia	Blueberry lily	0.8m	150mm	175	Y
Ha-me	Hardenbergia 'Meema'	Native Sasparilla	0.3-0.45m	200mm	20	Y
Lo-lo	Lomandra longifolia	Spiny-head mat-rush	0.6m	150mm	70	Y
Lo-ta	Lomandra 'Tanika'	Lomandra	0.5m	150mm	90	Y
Ba-bc	Banksia 'Birthday Candles'	Dwarf Banksia	0.6m	150mm	10	Y
GREEN WALL						
Ca-an	Cissus antarctica	Kangaroo Vine	9.144 m	Spread-2438.4 mm	20	N

# PLANTING SCHEDULE



SCALE 1:100 @ A1
0 1 2 4 6n

project: 17-19 Gladstone Ave, Wollongong client: Design Workshop Group date 25.08.2022

revision: D
drawn: RS
checked: MT

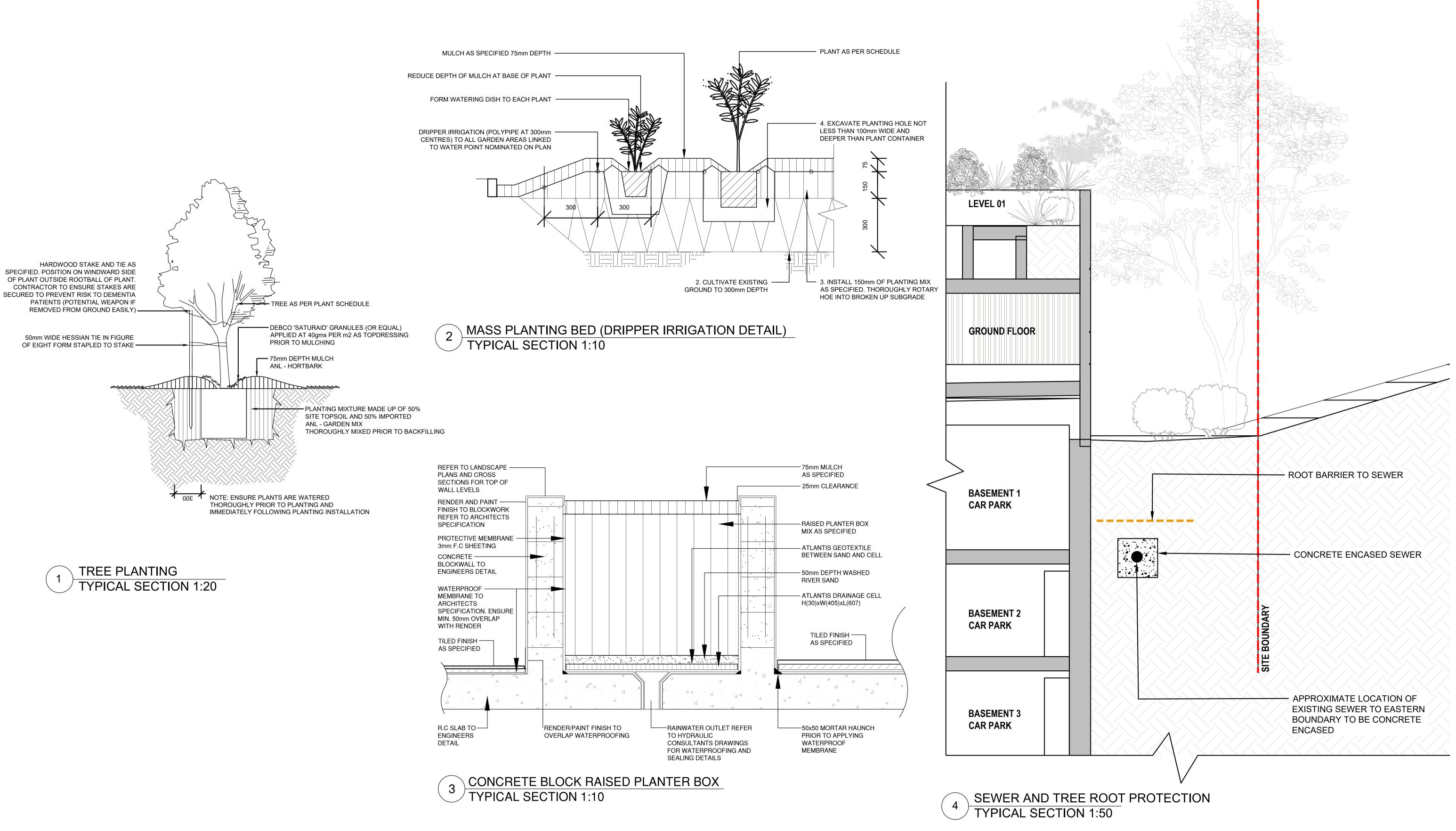
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# LANDSCAPE DETAILS

project: 17-19 Gladstone Ave, Wollongongclient: Design Workshop Groupdate 26.08.2022revision: E

drawn: RS

checked: MT



## PLANTING PROCUREMENT- NATSPEC

### 1.1 Responsibilities

Requirement: Provide plants as documented.

Tree stock supply: Conform to the recommendations of AS 2303.

### 1.3 Interpretation

General: For the purposes of this worksection the definitions given in AS 2303 and the following below apply:

- Destructive inspection (of trees): The washing away of all soil from a rootball to allow inspection of rootball development.

- Investigative inspection: Any method of root inspection that involves the washing away of all or portions of the soil from the rootball to expose a section or all the roots.

- Known history: Supplier documentation, demonstrating and enabling verification that the product was grown by essentially the same processes and under essentially the same system of control.

- Large tree: A tree grown in a container not less than 20 L or ex-ground with a minimum rootball diameter of 400 mm. - Partial inspection (of trees): A method of exposing a section of a root system to enable inspection of root development by washing the soil away in a wedge-shaped section from the stem to the

extremity of the rootball. This soil can be gently replaced so the tree is not damaged.

- Shrub: A woody perennial plant smaller than a tree, usually having permanent stems branching from or near the ground.

- Small trees: Tree or shrub grown in a container less than 20 L (other than tubes or plant cells) or ex-ground trees of size index less than 35.

### 1.4 Submissions Photographic examples

Requirement: Submit photographic examples as follows:

- 100, 200, 400 L plant species.

- Specimen plant species.

Program: Within fourteen (14) days of the date of contract.

Clarity: Sufficient to be able to ascertain the species, size and quality of a single specimen of the subject plant.

Identification: Provide photographs as follows:

- With a clearly identifiable scale reference located in the same plane as the plant stem or trunk.

- Labelled with plant species name.

2 PRODUCTS

### 2.1 Plants - General assessment criteria

Requirement: Supply trees to AS 2303 and with the following properties:

- Stress: Free from stress resulting from inadequate watering, excessive shade or excessive sunlight experienced at any time during their development.

- Site environment: Grown and hardened off to suit anticipated site conditions at the time of delivery.

- Native species with a history of attack by native pests: Restrict plant supply to those with evidence of previous attack to less than 15% of the foliage and make sure of the absence of actively

feeding insects.

Labelling General: To AS 2303 clause 2.2.1.

Label type: To withstand transit without erasure or misplacement.

2.2 Above-ground assessment criteria - trees

Requirement: Supply trees to AS 2303 clause 2.2 and with the following properties:

- Clean stem height: < 40% of total tree height.

- Trunk position: Variation in distance from the centre of the trunk to the extremity of the rootball:

- Tree stock in containers less than 45 L: Self-supporting at dispatch.

- Pest and diseases: No evidence of active pests and diseases.

- Indication of north: Trees in containers greater than 100 L or of Size Index greater than 140:

. Label the northerly aspect during growth in the nursery and maintain during transit.

### 2.3 Below-ground assessment criteria - trees

Requirement: Supply trees to AS 2303 clause 2.3 and with the following properties:

- Rootball occupancy: Soil retention:

. On shaking or handling the unsupported rootball, at least 90% of the soil volume is to remain intact.

- Rootball diameter:

Containers less than or equal to 45 L and ex-ground stock: ≥ to rootball depth.

Bare-rooted tree stock with size index less than or equal to 57: ≥ 10 x calliper

- Pest, diseases and weeds: No evidence of active pests, diseases and weeds. 2.4 Below-ground qualities - shrubs

Requirement: Supply plant material with a root system as follows:

- Well-proportioned in relation to the size of the plant material.

- Conducive to successful transplantation.

- Free of any indication of having been restricted or damaged. Root inspection: If inspection is by the removal of soil test such as destructive inspection, sample as follows:

- For > 100 samples: Inspect 1%.

- For < 100 samples: Inspect 1 sample. Sample plants: Replace plants used in inspection.

Rejection: Do not provide root bound stock.

3 EXECUTION

3.1 Pre-completion tests Production tests

Sampling: Select sample trees, of known history, at evenly distributed intervals within each batch.

Above ground tree inspection: - Frequency: Inspect trees at dispatch.

- Sampling strategy: To AS 2303 Appendix A Table A1.

- Inspector: Supplier.

Investigative tree inspection:

- Frequency: Inspect trees before dispatch.

- Inspector: Qualified person authorised by the contract administrator.

- Destructive inspection: Use for trees with rootballs/containers not more than 200 mm.

- Allowance: Allow for sample trees in addition to quantity ordered - Partial inspection: Use for trees with rootballs/containers more than 200 mm.

3.2 Warranties

True-to-species Parties: Supplier(s) to the principal.

Form: All the plants supplied under these works are true-to-species and type, and free of disease, fungal infection and/or any other impediment to their future growth and that they have been fully acclimatised for the conditions of the site.

Submission of warranty: At the time of each delivery.

 ALL NEW TREES TO BE GROWN TO AUSTRALIAN STANDARD 2303:2015 'TREE STOCK FOR LANDSCAPE USE' AT TIME OF PLANTING ALL NEW TREES TO BE PLANTED BY QUALIFIED

HORTICULTURALIST OR LEVEL 3 ARBORIST (AQF)

 NEW PLANTING WITHIN TPZ OF EXISTING TREE TO BE TUBE STOCK ONLY

NO NEW PLANTING WITHIN SRZ

ALL WORKS WITHIN TPZ AREA ARE UNDERTAKEN

UNDER ARBORICULTURAL SUPERVISION

## IRRIGATION PERFORMANCE SPEC.- NATSPEC

Provide irrigation systems as a design and construct portion of the landscape works. Works to be completed by specialised irrigation contractor.

General: Provide automatically controlled fixed irrigation systems as follows.

- Automatically irrigate all planters on slab and gardens on grade by means of subsurface drip irrigation

- Automatically irrigate all turf areas by means of pop up sprinklers - Achieve the documented flow rates over the irrigated area.

- Meet statutory requirements for backflow prevention. 2 SHOP DRAWINGS

General: Submit drawings and schedules showing the layout and details of the system, including the following:

- Sub surface dripper pipe layout. - Irrigation controller locations and valve box locations and types.

### 3 PRODUCTS

Automatic control valves

Type: 24 V solenoid actuated hydraulic valves with flow control and a maximum operating pressure rating of at least 1 MPa.

Construction: Stainless steel bonnet holding down bolts and internal metal parts of stainless steel, able to be serviced without removal from the line.

Isolating valve: Provide a gate valve of the same size immediately upstream of each automatic control valve. Fixed location systems

Performance: Provide heads which conform to the following:

- Maintain a preset arc of throw

- Adjustable for radius during watering operations - Vandal-resistant.

- Protected from damage in normal operation.

Pop-up type heads: - Type: Designed to rise at least 50 mm out of their housings under supply pressure and return to flush position on removal of pressure.

- Construction: Provide wiper seals, stainless steel return springs and removable internal filters.

Check valves: If a rotating head is more than 300 mm below the highest head on the same automatic valve, fit an internal or external anti-drain check valve to prevent low head drainage.

Pressure regulating valves: Provide pressure regulating valves at off-take points as follows: - Adjustable between 100 and 700 kPa.

- Complete with 800 µm filter sized to suit the flow and installed immediately upstream from the pressure regulating valve.

- Installed with isolating valves upstream from the filter and downstream from the pressure regulating valve. - Fitted for backflow prevention

- Mount the assembly in an accessible position in a valve box, access pit or adjacent building. Soil moisture sensors

Type: Fixed ceramic moisture sensors.

Connection: Fit to the irrigation controller via moisture control units.

Construction: Provide automatic controllers that are easily programmed and include the following:

- Manual cycle and individual control valve operation

- Manual on/off operation of irrigation without loss of program.

- ≥ 4 on/off cycles per day.

- 240 V input and 24 V output capable of operating 2 control valves simultaneously. - ≥ 24 hour battery program backup.

- Power surge protection.

- Cabinet: In external locations mount in a lockable cabinet minimum IP 54 to AS 60529. - Electrical connection: Where connected to wall outlets, provide 3 core 10 A, 240 V flexible cord and plug. Provide an isolating switch at the controller.

Integrated drip line systems

Construction: Tubing with integral drippers inserted into the tube during manufacture.

Type: Barbed fittings rated for the pressure class of the pipe, fastened with ratchet type clamps.

Requirement: Provide the following in each valve box:

- Automatic control valve. - Isolating valve.

- Pressure-reducing valve with 170 kPa outlet pressure

2.4 Valve boxes General

Construction: UV-resistant high impact plastic with high impact snap lock plastic cover. Location: Support on bricks at each side. Install with top, as follows:

- At finished ground level.

### MAINTENANCE SPECIFICATION

Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice including rectifying any defects that become apparent in the landscape works under normal use. Maintenance shall include, but shall not be limited to watering, mowing, fertilising, re-seeding, re-turfing, weeding, pest and disease control, staking and tying, replanting and plant replacement, cultivation, pruning, aerating, renovating, top dressing and maintaining the site in a neat and tidy condition: The following is required:

### 1.0 GENERAL

The Landscape Contractor shall maintain the landscape works for the term of the maintenance period to the satisfaction of the Landscape Architect and Client. The Landscape Contractor shall attend to the site on a weekly basis. The maintenance period shall commence at practical completion

### 2.0 IRRIGATION / WATERING

All subsurface drip irrigation and pop up sprinkler heads to be flushed and tested on a monthly basis. Irrigation filters, valves and zones to be reviewed and adjusted onsite to suit localised growing conditions of plant material. In excess of automatic irrigation on periodic anomalies of high temperatures, hand watering of plants may be required to ensure continuous health growth. Watering of street trees shall be carried out on a weekly basis throughout the maintenance period and modified based on weekly rainfall.

### 3.0 RUBBISH REMOVAL

During the term of the maintenance period the Landscape Contractor shall remove all rubbish and green waste that may accumulate through the intended use of the area and or maintenance works. This work shall be carried out at regular weekly intervals in order for the area to be observed in a completely clean and tidy

### 4.0 REPLACEMENTS

The Landscape Contractor shall replace all plants that are missing, unhealthy or dead at the Landscape Contractor's cost. Replacements shall be of the same size, quality and species as the plant that has failed unless otherwise directed by the Landscape Architect. Replacements shall be made on a continuing basis not exceeding two (2) weeks after the plant has died or is seen to be missing. The landscape contractor is to report any evidence of theft or vandalism to the Landscape Architect within three (3) days of them occurring.

### 5.0 MULCHED SURFACES

All mulched surfaces shall be maintained in a clean and tide condition and be reinstated if necessary to ensure the specified depth outlined in the construction details is maintained. Ensure mulch is kept clear of plant stems at all times.

### 6.0 PEST AND DISEASE CONTROL

The Landscape Contractor shall spray against insect and fungus infestation and all spraying shall be carried out in accordance with the manufacturer's directions. Report all instances of pests and diseases (immediately on detection) to the Landscape Architect prior to spraying.

### 7.0 WEED ERADICATION

Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide suitable for use in residential areas, at the recommended maximum rate. Regularly remove by hand, weed growth that may occur or recur throughout grassed, planted and mulched areas. Remove weed growth from an area 1000mm diameter around the base of trees in grassed areas. Continue eradication throughout the course of the works and during the maintenance period.

### 8.0 SOIL SUBSIDENCE

Any soil subsidence or erosion which may occur after the soil filling and preparation operations shall be made good by the Landscape Contractor at no cost to the

### 9.0 COMPLETION Notwithstanding anything to the contrary in the Contract, The Landscape Architect may instruct the Landscape Contractor to perform urgent maintenance works. Should the Landscape Contractor fail to carry out these works within seven (7) days of such a notice, the Principal reserves the right to employ others to carry out

10.0 SAFETY

When working at heights, the contractors are to utilise the safety anchor points located at the leading edge of raised planters. The installation, maintenance and

11.0 WARRANTY

use of these anchors is to be undertaken in accordance with relevant Australian Standards, Safety in Design Reports, SWMS and WH&S regulations.

- Laminated copies of the "As built" drawings are to remain on site at all times by the contractors. This documentation is to include the following: Copies of warranties and guarantees relating to all materials and plant used in construction;
- Manufacturer's contact details and copies of manufacturers' typical details and specification;

Decommissioning procedures relating to the scope of landscape works.

such works and charges costs of these works to the Landscape Contractor

MAINTENANCE SCHEDULE

project: 17-19 Gladstone Ave, Wollongong **client:** Design Workshop Group **date** 26.08.2022 revision: E drawn: RS

checked: MT



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# PROPOSED DEVELOPMENT

# 17-19 GLADSTONE AVENUE, WOLLONGONG

# STORMWATER PLANS

### **GENERAL NOTES**

- G1. THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
- G2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS. REFER
- ARCHITECTS DRAWINGS FOR ALL DIMENSIONS. G3. REFER ANY DISCREPANCY TO THE ENGINEER/ARCHITECT.
- G4. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE APPROPRIATE SAA SPECIFICATIONS OR CODE AND WITH THE REQUIREMENTS OF THE RELEVANT LOCAL
- G5. THE ALIGNMENT AND LEVEL OF ALL SERVICES SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM THE POSITION AND LEVEL OF ALL SERVICES PRIOR TO
- THE CONTRACTORS EXPENSE. G6. NO WORKS ARE TO COMMENCE UNTIL THE REQUIRED TREE REMOVAL PERMITS HAVE BEEN GRANTED BY RELEVANT LOCAL AUTHORITY, AND THE APPROPRIATE NOTICE OF INTENTION

COMMENCEMENT OF CONSTRUCTION. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED AT

- G7. ALL SERVICES, OR CONDUITS FOR SERVICING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF PAVEMENT CONSTRUCTION.
- G8. SUBSOIL DRAINAGE, COMPRISING 100 AGRICULTURE PIPE IN GEO-STOCKING TO BE PLACED AS SHOWN AND AS MAY BE DIRECTED BY THE SUPERINTENDENT. SUBSOIL DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY
- CONSTRUCTION SPECIFICATION. G9. NO WORK IS PERMITTED WITHIN ADJOINING PROPERTIES WITHOUT WRITTEN PERMISSION FROM THE OWNERS OR RESPONSIBLE AUTHORITY.

### DRAINAGE NOTES

- D1. ALL DRAINAGE OUTLET LEVELS SHALL BE CONFIRMED ON SITE, PRIOR TO CONSTRUCTION
- D2. ALL PIPES WITHIN THE PROPERTY TO BE MIN. 100 DIA UPVC @ 1% MIN. GRADE, UNO. D3. ALL PITS WITHIN THE PROPERTY ARE TO BE FITTED WITH "WELDLOK" OR APPROVED
- **EQUIVALENT GRATES:** - LIGHT DUTY FOR LANDSCAPED AREAS
- HEAVY DUTY WHERE SUBJECTED TO VEHICULAR TRAFFIC
- D4. PITS WITHIN THE PROPERTY MAY BE CONSTRUCTED AS: 1) PRECAST STORMWATER PITS
- 2) CAST INSITU MASS CONCRETE
- 3) CEMENT RENDERED 230mm BRICKWORK SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
- D5. ENSURE ALL GRATES TO PITS ARE SET BELOW FINISHED SURFACE LEVEL WITHIN THE PROPERTY. TOP OF PIT RL'S ARE APPROXIMATE ONLY AND MAY BE VARIED SUBJECT TO
- APPROVAL OF THE ENGINEER. ALL INVERT LEVELS ARE TO BE ACHIEVED. D6. ANY PIPES BENEATH RELEVANT LOCAL AUTHORITY ROAD TO BE RUBBER RING JOINTED
- RCP, UNO. D7. ALL PITS IN ROADWAYS ARE TO BE FITTED WITH HEAVY DUTY GRATES WITH LOCKING
- BOLTS AND CONTINUOUS HINGE.
- D8. PROVIDE STEP IRONS TO STORMWATER PITS GREATER THAN 1200 IN DEPTH.
- D9. TRENCH BACK FILL IN ROADWAYS SHALL COMPRISE SHARP, CLEAN GRANULAR BACK FILL IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION TO NON-TRAFFICABLE AREAS TO BE COMPACTED BY RODDING AND TAMPING USING A FLAT PLATE VIBRATOR.
- D10. WHERE A HIGH EARLY DISCHARGE (HED) PIT IS PROVIDED ALL PIPES ARE TO BE
- CONNECTED TO THE HED PIT, UNO. D11. DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100
- COLORBOND/ZINCALUME STEEL, UNO. D12. COLORBOND OR ZINCALUME STEEL BOX GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150
- D13. EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA)
- COLORBOND OR ZINCALUME STEEL, UNO.
- D14. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM, UNO.

### EARTHWORKS NOTES

- E1. THE EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
- E2. THE SITE OF THE WORKS SHALL BE PREPARED BY STRIPPING ALL EXISTING TOPSOIL, FILL AND VEGETATION.
- E3. SUBGRADE SHALL BE COMPACTED UNTIL A DRY DENSITY HAS BEEN ACHIEVED OF NOT LESS THAN 100% OF THE STANDARD MAXIMUM DRY DENSITY WHEN TESTED IN
- ACCORDANCE WITH AS 1289 TESTS E.1.1. OR E.1.2. E4. THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED TO DETECT ANY SOFT OR WET AREAS WHICH SHOULD BE LOCALLY EXCAVATED AND BACK FILLED WITH SELECTED
- E5. THE BACK FILLING MATERIAL SHALL BE IMPORTED GRANULAR FILL OF LOW PLASTICITY, PREFERABLY CRUSHED SANDSTONE, AND TO BE PLACED IN LAYERS NOT EXCEEDING 150 LOOSE THICKNESS AND COMPACTED TO 98% OF STANDARD DRY DENSITY AT A MOISTURE
- E6. SITE WORKS ARE TO BE BATTERED TO ADJACENT PROPERTY LEVELS.
- E7. STORMWATER MUST NOT BE CONCENTRATED ON TO AN ADJACENT PROPERTY. E8. AT NO TIME DURING OR AFTER CONSTRUCTION IS STORMWATER TO BE PONDED ON
- E9. THE SITE SHALL BE GRADED AND DRAINED SO THAT STORMWATER WILL BE DIRECTED
- AWAY FROM THE BUILDING PLATFORM. E10. STORMWATER DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION. ALL STORMWATER RUNOFF SHALL BE GRADED AWAY FROM
- THE SITE WORKS AND DISPOSED OF VIA SURFACE CATCHDRAINS AND STORMWATER COLLECTION PITS. E11. ALL SURFACE CATCH DRAINS SHALL BE GRADED AT 1% (1 IN 100) MINIMUM. THE GROUND
- SHALL GRADE AWAY FROM ANY DWELLING AT 5% (1 IN 20) FOR THE FIRST METRE THEN AT E12. WHERE A CUT FILL PLATFORM IS USED THERE SHALL BE A MINIMUM BERM 1000 WIDE TO

THE PERIMETER OF THE SITE WORKS WHICH SHALL BE SUPPORTED BY BATTERS OF 3:1 IN

- E13. ANY VERTICAL OR NEAR VERTICAL PERMANENT EXCAVATION (CUT) DEEPER THAN 600 IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED AT A
- MINIMUM OF 3:1. E14. WHERE BATTERS CANNOT BE PROVIDED TO SUPPORT THE CUT OR FILL, THEY SHALL BE
- E15. RETAINING WALLS ARE TO BE CONSTRUCTED WITH ADEQUATE SUBSOIL DRAINAGE.

### CONCRETE PAVEMENT

25MPa, UNO.

- C1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- C2. PROVIDE JOINTING AT MINIMUM 6000 MAX. INTERVALS OR AS OTHERWISE SPECIFIED IN THE
- C3. CONCRETE SHALL COMPRISE A MIN. COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION, UNO.
- C4. ANY SUB-BASE MATERIAL SHALL BE COMPACTED AS OUTLINED IN EARTHWORKS. C5. CONCRETE KERB AND GUTTER SHALL COMPRISE A MINIMUM COMPRESSIVE STRENGTH OF
- C6. CONCRETE WORKS ARE TO BE CURED BY ONE OF THE FOLLOWING MEANS: i) WETTING TWICE DAILY FOR THE FIRST THREE DAYS; ii) USING AN APPROVED CURING COMPOUNDED FOR A MINIMUM OF 7 DAYS COMMENCING IMMEDIATELY AFTER POURING.

### FLEXIBLE PAVEMENT NOTES

- F1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- F2. PAVEMENT MATERIAL SHALL CONSIST OF APPROVED OR RIPPED SANDSTONE, NATURAL GRAVEL OR FINE CRUSH ROCK AS PER THE RELEVANT COUNCIL AUTHORITY SPECIFICATION.
- F3. PAVEMENT MATERIALS SHALL BE SPREAD IN LAYERS NOT EXCEEDING 150 AND NOT LESS 75 COMPACTED THICKNESS.
- F4. PAVEMENT MATERIALS SHALL BE SIZED AND OF A STANDARD OUTLINED IN AS1141. F5. CRUSHED OR RIPPED SANDSTONE SHALL BE MINUS 75 NOMINAL SIZE DERIVED FROM

SOUND, CLEAN SANDSTONE FREE FROM OVERBURDEN, CLAY SEAMS, SHALE AND OTHER

DELETERIOUS MATERIAL. F6. PAVEMENT MATERIALS SHALL BE COMPACTED BY SUITABLE MEANS TO SATISFY THE FOLLOWING MINIMUM SPECIFICATIONS (AS PER AS1289.2)

> DESCRIPTION MEDIUM DENSITY RATIO SUB-BASE 98% MOD BASE COURSE 98% MOD ASPHALTIC CONCRETE 97% MOD

AND SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.

F7. TESTING FOR EACH LAYER SHALL BE UNDERTAKEN BY A N.A.T.A. REGISTERED LABORATORY IN ACCORDANCE WITH AS1289, AT NOT MORE THAN 50m INTERVALS AND A MINIMUM OF TWO PER LAYER. FURTHER FREQUENCY OF TESTING SHALL BE NO LESS THAN THAT REQUIRED BY AS3978.

### PAVED AREAS NOTES

- A1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
- A2. ALL PAVERS ARE TO BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
- A3. TRAFFICABLE AREAS:
  - SUB-BASE TO BE 150 COMPACTED THICKNESS DGS75.
- SUB-BASE TO BE SUITABLY COMPACTED TO MEDIUM DENSITY 98% MOD. SUB-BASE TO EXTEND AT LEAST 200 BEYOND PAVED SURFACE.
- PAVERS TO BE 80 THICK INTERLOCKING PAVERS ON 50 SAND BEDDING. A4. NON TRAFFICABLE AREAS: SUB BASE AS PER TRAFFICABLE AREAS

### PAVERS TO BE 60 INTERLOCKING PAVERS ON 50 SAND BEDDING (UNO).

- **EROSION AND SEDIMENT NOTES** B1. THIS PLAN TO BE READ IN CONJUNCTION WITH EROSION AND SEDIMENT CONTROL DETAILS
- B2. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY AND TO THE SATISFACTION OF THE RELEVANT LOCAL AUTHORITY PRIOR TO THE COMMENCEMENT OF AND DURING CONSTRUCTION. NO DISTURBANCE TO THE SITE SHALL BE PERMITTED OTHER THAN IN THE IMMEDIATE AREA OF THE WORKS AND NO MATERIAL SHALL BE REMOVED FROM THE SITE WITHOUT THE RELEVANT LOCAL AUTHORITY APPROVAL. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH STANDARDS OUTLINED IN NSW DEPARTMENT OF HOUSING'S "MANAGING URBAN STORMWATER - SOILS AND
- CONSTRUCTIONS". B3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED OUTSIDE HAZARD AREAS SUCH AS DRAINAGE LINES. THIS TOPSOIL SHALL BE RESPREAD LATER ON AREAS TO BE REVEGETATED AND STABILISED ONLY, (I.E. ALL FOOTPATHS, BATTERS, SITE REGARDING AREAS, BASINS AND CATCHDRAINS). TOPSOIL SHALL NOT BE RESPREAD ON ANY OTHER AREAS UNLESS SPECIFICALLY INSTRUCTED BY THE SUPERINTENDENT. IF THEY ARE TO REMAIN FOR LONGER THAN ONE MONTH STOCKPILES SHALL BE PROTECTED FROM EROSION BY COVERING THEM WITH A MULCH AND HYDROSEEDING AND, IF NECESSARY, BY LOCATING BANKS OR DRAINS DOWNSTREAM OF A STOCKPILE TO RETARD SILT LADEN
- B4. THE CONTRACTOR SHALL REGULARLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVE ACCUMULATED SILT FROM SUCH DEVICES SUCH THAT MORE THAN 60% OF THEIR CAPACITY IS LOST. ALL THE SILT IS TO BE PLACED OUTSIDE THE LIMIT OF WORKS. THE PERIOD FOR MAINTAINING THESE DEVICES SHALL BE AT LEAST UNTIL ALL DISTURBED AREAS ARE REVEGETATED AND FURTHER AS MAY BE DIRECTED BY THE
- SUPERINTENDENT OR COUNCIL. LAY TURF STRIP (MIN 300 WIDE) ON 100 TOPSOIL BEHIND ALL KERB WITH 1000 LONG RETURNS EVERY 6000 AND AROUND STRUCTURES IMMEDIATELY AFTER BACKFILLING AS
- PER THE RELEVANT LOCAL AUTHORITY SPECIFICATION. B6. THE CONTRACTOR SHALL GRASS SEED ALL DISTURBED AREAS WITH AN APPROVED MIX AS SOON AS PRACTICABLE AFTER COMPLETION OF EARTHWORKS AND REGRADING.
- B7. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING CONSTRUCTION CONFINING ACCESS WHERE POSSIBLE TO NOMINATED STABILISED ACCESS POINTS. B8. WHEN ANY DEVICES ARE TO BE HANDED OVER TO COUNCIL THEY SHALL BE IN CLEAN AND
- STABLE CONDITION. B9. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL BY REGULAR WETTING DOWN (BUT
- NOT SATURATING) DISTURBED AREA. B10. PROVIDE AND MAINTAIN SILT TRAPS AROUND ALL SURFACE INLET PITS UNTIL CATCHMENT IS REVEGETATED OR PAVED.
- REVEGETATE ALL TRENCHES IMMEDIATELY UPON COMPLETION OF BACKFILLING. B12. ALL DRAINAGE PIPE INLETS TO BE CAPPED UNTIL:
- DOWNPIPES CONNECTED - PITS CONSTRUCTED AND PROTECTED WITH SILT BARRIER

### MINIMUM PIPE COVER SHALL BE AS FOLLOWS

LOCATION	MINIMUM COVER
NO SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTAL
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	750mm
	73011111
PAVED DRIVEWAY	100mm PLUS DEPTH OF CONCRETE
SEE AS2032 INSTALLATION OF UPVC I	PIPES FOR FURTHER INFORMATION.

CONCRETE PIPE COVER SHALL BE IN ACCORDANCE WITH AS3725-1989 LOADS ON BURIED CONCRETE PIPES, HOWEVER A MINIMUM COVER OF 450mm WILL APPLY.

WHERE INSUFFICIENT COVER IS PROVIDED, THE PIPE SHALL BE COVERED AT LEAST 50mm THICK OVERLAY AND SHALL BE PAVED WITH AT LEAST: 150mm REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICLE TRAFFIC

75mm THICKNESS OF BRICK OR 100mm OF CONCRETE PAVING WHERE SUBJECT

TO LIGHT VEHICLE TRAFFIC; OR 50mm THICK BRICK OR CONCRETE PAVING WHERE NOT SUBJECT TO VEHICLE.

### PIT SIZES AND DESIGN

DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 600mm	450 x 450
600mm TO 900mm	600 x 600 U.N.O
900mm TO 1200mm	900 x 900
90011111 10 120011111	900 X 900
1200mm +	900 x 900 (WITH STEP IRON)

### **SYMBOLS**

	DESCRIPTION
	DENOTE ON-SITE DETENTION TANK OR PUMP OUT TANK
	DENOTE ON-SITE DETENTION BASIN
	DENOTE ABSORPTION TRENCH
<b>o</b> DP	DENOTES DOWNPIPE
Ø100	DENOTES 100mm DIA PVC (SEWER GRADE) AT 1% MIN. GRADE U.N.O
Ø100	DENOTES 100mm DIA PVC TO BE CONNECTED DIRECTLY TO RAINWATER TANK
Ø225 \\ //	DENOTES 225mm DIA PVC (SEWER GRADE) AT 0.5% MIN GRADE U.N.O
	DENOTES AGG LINE
_	DENOTES SEDIMENT FENCE
IP <sub>o</sub>	DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISH SURFACE LEVEL
<b>©</b>	DENOTES CLEANING EYE
	STORMWATER PIT - GRATED INLET
	STORMWATER PIT - SOLID COVER
×	MAINTENANCE PIT
$\bowtie$	NON RETURN VALVE
FD	DENOTE ROUND FLOOR DRAINS
FD	DENOTE SQUARE FLOOR DRAINS
РВ	DENOTE PLANTER BOX DRAINS
	DENOTE GRATED DRAIN
RL 6.20	PROPOSED FINISH FLOOR LEVEL
<b>&gt;&gt;&gt;</b>	DENOTE EXISTING OVERLAND FLOW PATH
<b>6</b>	DENOTE RAINWATER TANK
O/F	DENOTE WATER OUTLET
RL	REDUCED LEVEL/SURFACE LEVELL
IL	INVERT LEVEL
TK	TOP OF KERB

### SCHEDULE OF DRAWINGS

SHEET No	DESCRIPTION
COVER	GENERAL NOTES
SW01	SEDIMENT AND EROSION CONTROL PLAN
SW02	BASEMENT 02 DRAINAGE PLAN
SW03	BASEMENT 01 DRAINAGE PLAN
SW04	GROUND FLOOR DRAINAGE PLAN
SW05	LEVEL 01 AND LEVEL 02 - LEVEL 07 DRAINAGE PLAN
SW06	LEVEL 08 AND ROOF DRAINAGE PLAN
SW07	STORMWATER SECTIONS AND DETAILS (SHEET 1 OF 2)
SW08	STORMWATER SECTIONS AND DETAILS (SHEET 2 OF 2)

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### CONCEPT PLAN 02-09-2022 D CONCEPT PLAN 23-08-2022 Amendment Issue date Issue Issued to



SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153 ALL CORRESPONDENCE TO:

P.O. BOX 6080 BAULKHAM HILLS BC BAULKHAM HILLS NSW 2153 PH. 8814 6191 FAX 8814 5301 MOB. 0425 270 333 EMAIL andrew@camconsulting.com.au

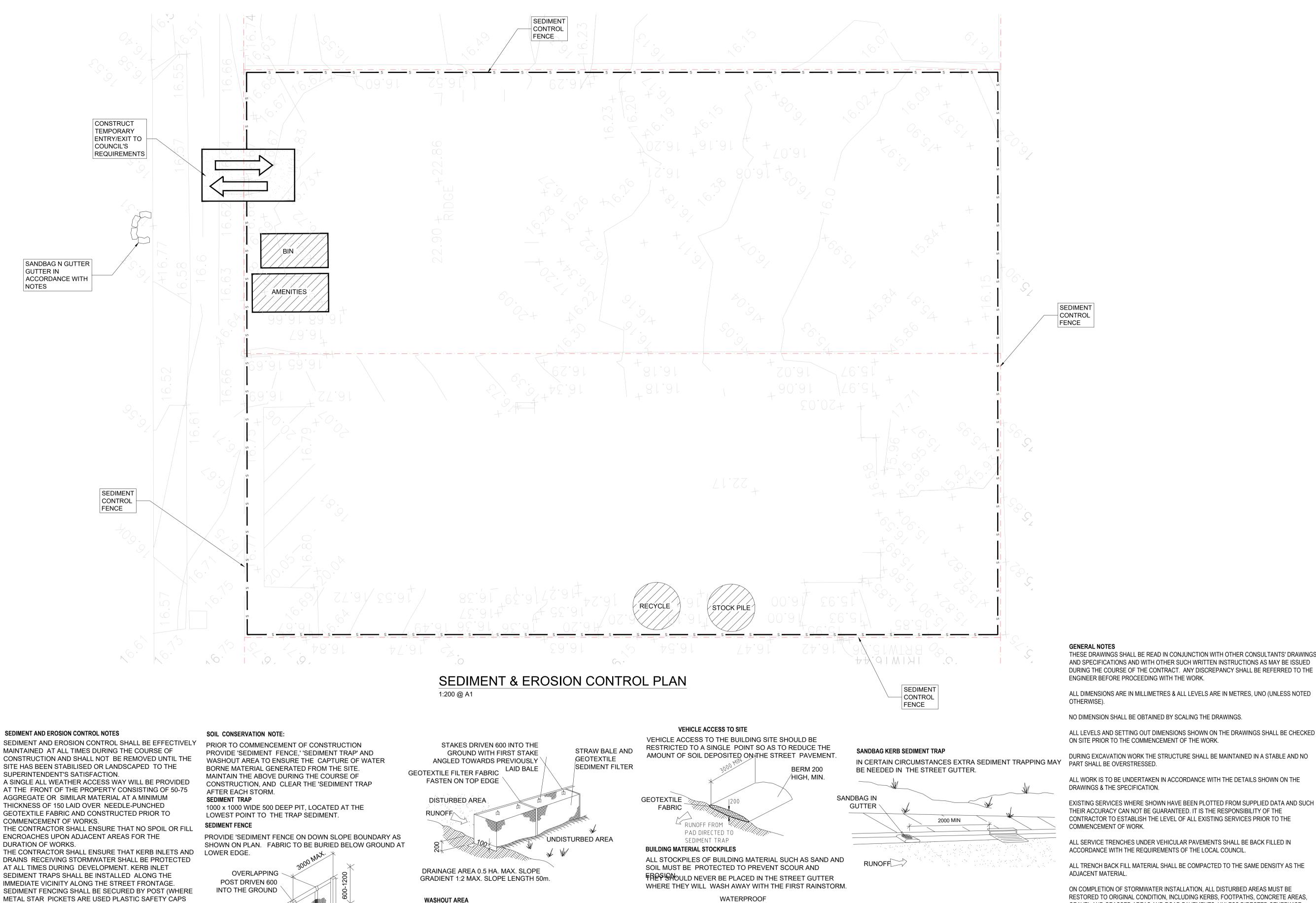
PROPOSED DEVELOPMENT 17-19 GLADSTONE AVENUE. WOLLONGONG NSW 2065 KINETIC WOLLONGONG PTY LTD Architect / Project Manager

DWA

GENERAL NOTE

**CONCEPT PLAN** 

A1 - 1:100 J.S. C22009 - COVER



TO BE 1800 x 1800 ALLOCATED FOR THE WASHING OF TOOL

250 x 50

GEOTEXTILE FABRIC

**FILTERING** 

SAND 100

SHALL BE USED) AT 2000 INTERVALS WITH GEOTEXTILE

STOCKPILED DOES NOT INTERFERE WITH DRAINAGE

SUITABLY COVERED WITH AN IMPERVIOUS MEMBRANE MATERIAL AND SCREENED BY SEDIMENT FENCING.

ALL TOPSOIL STRIPPED FROM THE SITE AND

LINES AND STORMWATER INLETS AND WILL BE

FABRIC EMBEDDED 200 IN SOIL.

**GENERAL NOTES** THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE

ALL DIMENSIONS ARE IN MILLIMETRES & ALL LEVELS ARE IN METRES, UNO (UNLESS NOTED OTHERWISE).

NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS.

ALL LEVELS AND SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORK.

DURING EXCAVATION WORK THE STRUCTURE SHALL BE MAINTAINED IN A STABLE AND NO PART SHALL BE OVERSTRESSED.

ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE

DRAWINGS & THE SPECIFICATION.

THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACK FILLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL COUNCIL.

ALL TRENCH BACK FILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.

ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS UNLESS DIRECTED OTHERWISE.

THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3 - 1990 "STORMWATER DRAINAGE" & AS/NZS 3500.3.2-1998 "STORMWATER DRAINAGE - ACCEPTABLE SOLUTIONS".

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

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

DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100 COLORBOND/ZINCALUME STEEL, UNO.

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

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

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

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J.S.

# **CONCEPT PLAN**



COVERING

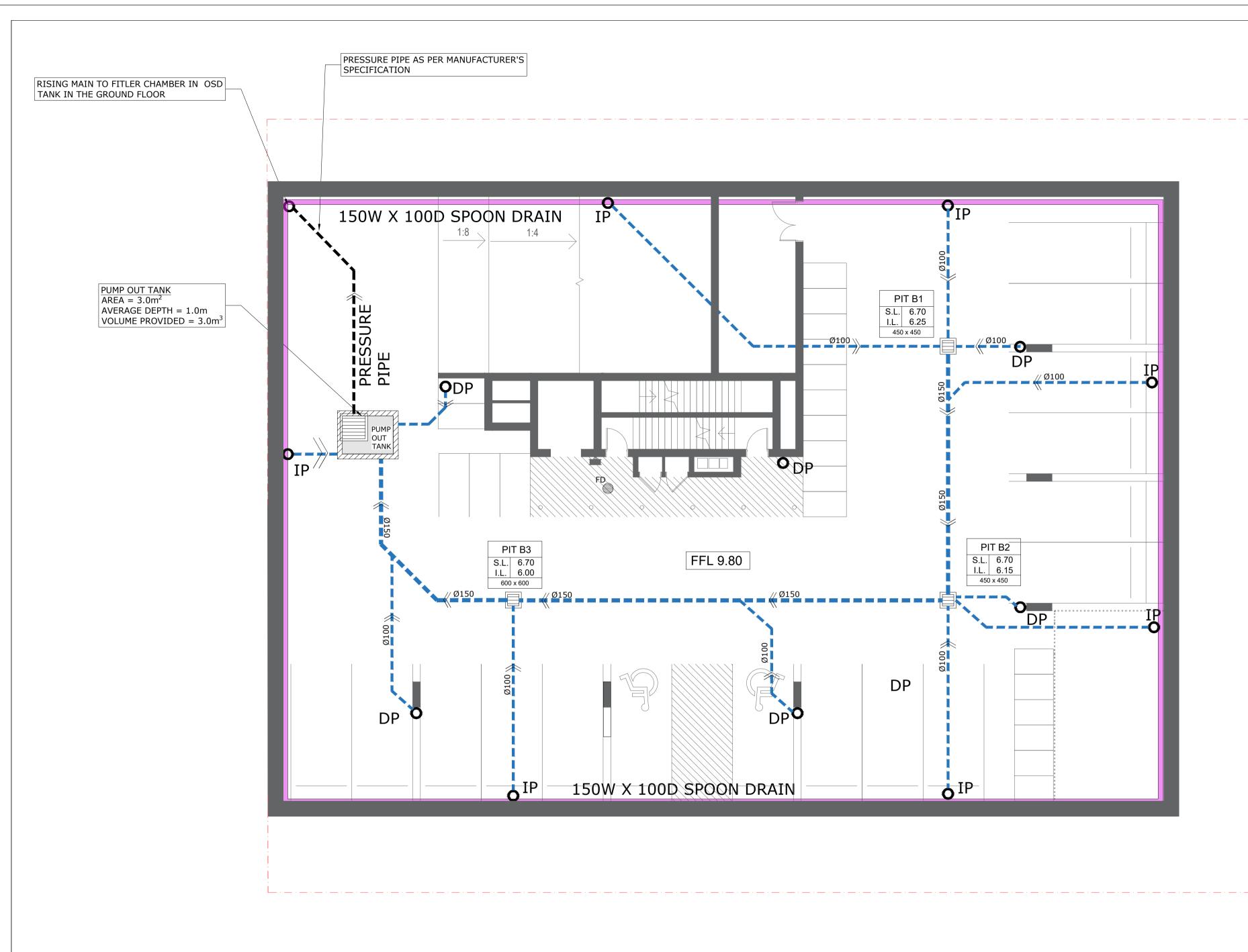
EARTH BANK TO

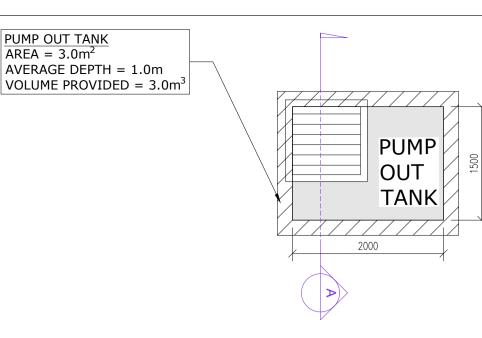
OF STOCKPILE

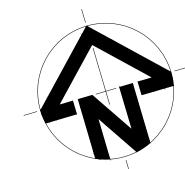
PREVENT SCOUR

SEDIMENT

**FENCE** 





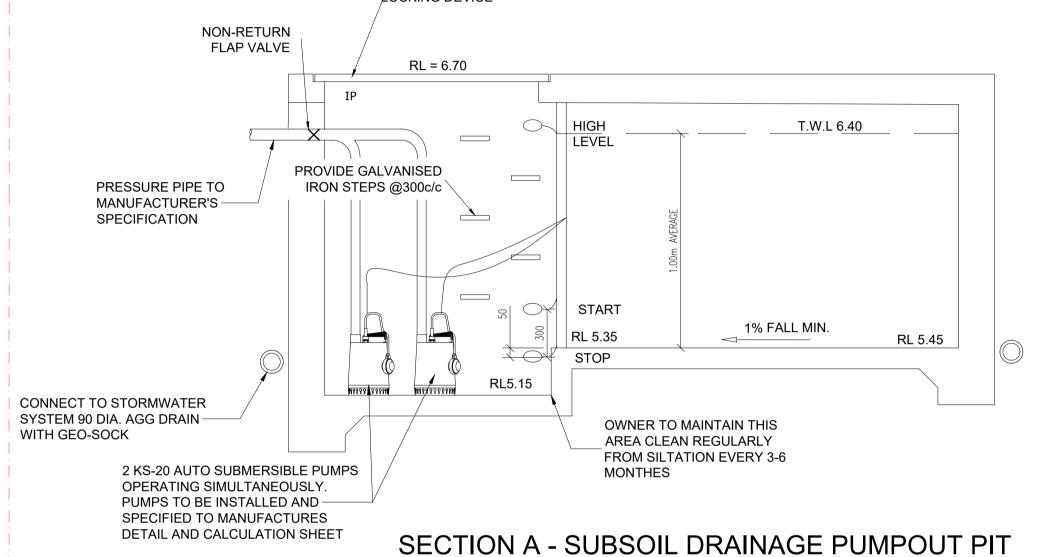


## BASEMENT PUMP **OUT TANK PLAN**

1:50 @ A1

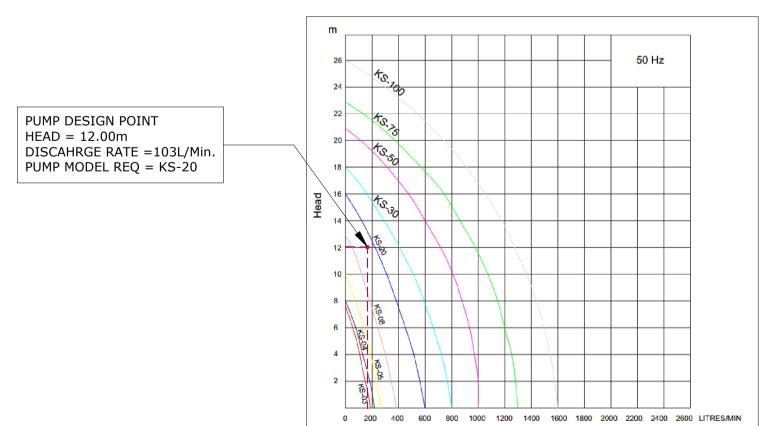
 $\frac{\text{PUMP OUT TANK}}{\text{AREA} = 3.0 \text{m}^2}$ 

900x900 CLASS B (HEAVY DUTY) HINGED GALVANISED MILD STEEL GRATE & FRAME, PROVIDE **LOCKING DEVICE** 



	OUT	OUTDUT DISCUSSES		RATED		MAXIMUM		WEIGHT	DIMENSION	
MODEL NO.		DISCHARGE		HEAD	CAPACITY	HEAD	CAPACITY	WEIGHT	DIMENSION	
	HP	kW	mm	INCH	m	LPM	m	LPM	kg	LXWXH (mm)
KS-03	1/3	0.25	40	1 1/2"	3	130	8	180	9	188 X 141 X 305
KS-04	1/2	0.4	50	2"	5	150	8	220	11	208 X 140 X 359
KS-05	1/2	0.4	50	2"	5	160	10	260	14	230 X 156 X 375
KS-10	1	0.75	50 (80)	2"(3")	6	240	13	380	21	290 X 180 X 425
KS-20	2	1.5	80	3"	10	300	16	600	31	278 X 182 X 475
KS-30	3	2.2	80	3"	10	500	18	800	42	390 X 250 X 450
KS-50	5	3.7	100	4"	10	800	21	1100	48	450 X 240 X 530
KS-75	7.5	5.6	100	4"	15	800	23	1300	60	550 X 310 X 590
KS-100	10	7.5	150	6"	18	900	26	1600	70	550 X 310 X 610

### SABRE PUMP GRAPH & SPECIFICATION







BACK-UP IN CASE OF POWER FAILURE.

STANDARD PUMP OUT DESIGN NOTES

REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

DRAIN THE TANK TO THE LEVEL OF THE LOW-LEVEL FLOAT.

PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:-

> A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER

> THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH

LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS

ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND

> A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm

> 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

> AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP

THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY

FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO

SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153

ALL CORRESPONDENCE TO: P.O. BOX 6080 BAULKHAM HILLS BC BAULKHAM HILLS NSW 2153

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# **CONCEPT PLAN**

Architect / Project Manager

DWA

Project
PROPOSED DEVELOPMENT
17-19 GLADSTONE AVENUE, WOLLONGONG
NSW 2065
Client
KINETIC WOLLONGONG PTY LTD

BASEMENT 03 DRAINAGE PLAN

A1 - 1:100 J.S. C22009 - SW02 J.M.

CONCEPT PLAN 02-09-2022 CONCEPT PLAN 23-08-2022 D Amendment Issue Revision Issue date Issued to Issue date

**BASEMENT 03 DRAINAGE PLAN** 

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

FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES

TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

FD = FLOOR OUTLET, REFER TO DETAIL

SIP = SURFACE INLET PIT (NO LINTEL)

RWO = RAIN WATER OUTLET (300 x 300)

= RAINWATER SPREADER RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

100Ø = Ø100 CHARGED LINE

FG = FLOOR GULLY Ø150

IP = Ø150 INSPECTION POINT RWH = RAIN WATER HEAD

STORMWATER DRAINAGE PIPE, UNO.

DP =  $\emptyset$ 100, UNO.

1:100 @ A1

SIZE = 6700 mm<sup>2</sup>

PUMP DESIGN SUMMARY

100 YEAR ARI 2 HOUR STORM = 33.9 mm/hr

TOTAL WATER = 2 x 33.9 mm = 67.80 mm

SEEPAGE = 2.5ML/YEAR/Ha = 6.85 m<sup>3</sup>/Ha

STORM DURATION 5 MINUTE = 309 mm/h

(NO ANY DRIVEWAY AREA IS DRAINED TO BASEMENT PUMP. THEREFORE,

MIINIMUM AREA IS CONSIDERED FOR CALCULATION) = 20 m<sup>2</sup>

TOTAL STORAGE VOLUME REQUIRED = 0.067 x 20 = 1.34m<sup>3</sup>

SEEPAGE = AREA x  $6.85 \text{m}^3$ /Ha =  $0.1237 \text{ x } 6.85 = 0.85 \text{ m}^3$ 

PUMP OUT TANK VOLUME PROVIDED = 3m<sup>3</sup>(MIN. 3m<sup>3</sup>)

TOTAL PUMP-OUT TANK REQUIRED = 1.34 + 0.85= 2.13 m<sup>3</sup>

RAINFALL INTENSITY FOR CALCULATIONS = 100 YEAR ARI

PUMP RATE REQUIRED =309 x 20 / 3600 = 1.71 l/s = 103l/min

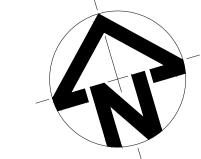
2 x SABER KS-20 SUBMERSIBLE PUMPS (OR APPROVED EQUIVALENT) PUMPS TO BE USED

CATCHMENT AREA

PUMP HEAD = 12.00 m

STRUCTURAL & CIVIL ENGINEERS

RISING MAIN FROM LEVEL BELOW 1:8 1:4 1:4 1:8 



### BASEMENT 02 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO. FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm<sup>2</sup>

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP =  $\emptyset$ 100, UNO.

FD = FLOOR OUTLET, REFER TO DETAIL SIP = SURFACE INLET PIT (NO LINTEL) 100Ø = Ø100 CHARGED LINE

IP = Ø150 INSPECTION POINT

RWH = RAIN WATER HEAD

RWO = RAIN WATER OUTLET (300 x 300) FG = FLOOR GULLY Ø150

s PP = RAINWATER SPREADER

RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

LEGEND

----- UPVC AERIAL DRAINAGE

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J.M.

# CONCEPT PLAN

# PROPOSED DEVELOPMENT

NSW 2065

DWA

KINETIC WOLLONGONG PTY LTD

Architect / Project Manager

17-19 GLADSTONE AVENUE, WOLLONGONG

Scales A1 - 1:100 J.S. C22009 - SW03

BASEMENT 02 DRAINAGE PLAN

CONCEPT PLAN 02-09-2022 D 23-08-2022 CONCEPT PLAN Amendment Issue Issue date Issued to Issue date

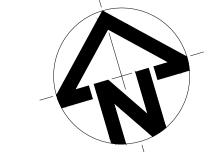


SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153 ALL CORRESPONDENCE TO: P.O. BOX 6080 BAULKHAM HILLS BC BAULKHAM HILLS NSW 2153

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APPROXIMATE LOCATION



### BASEMENT 01 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO. FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER  $SIZE = 6700 \text{ mm}^2$ 

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP =  $\emptyset$ 100, UNO.

FD = FLOOR OUTLET, REFER TO DETAIL SIP = SURFACE INLET PIT (NO LINTEL)

100Ø = Ø100 CHARGED LINE IP = Ø150 INSPECTION POINT

RWH = RAIN WATER HEAD

RWO = RAIN WATER OUTLET (300 x 300) FG = FLOOR GULLY Ø150

s PP = RAINWATER SPREADER

RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

APPROXIMATE LOCATION OF 300mm VCP SEWER TO EASTERN BOUNDARY

LEGEND

----- UPVC AERIAL DRAINAGE

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J.M.

# CONCEPT PLAN

E	CONCEPT PLAN	02-09-2022			
D	CONCEPT PLAN	23-08-2022			
Revision	Amendment	Issue date	Issue	Issued to	Issue date



SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153 ALL CORRESPONDENCE TO:

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PROPOSED DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG NSW 2065

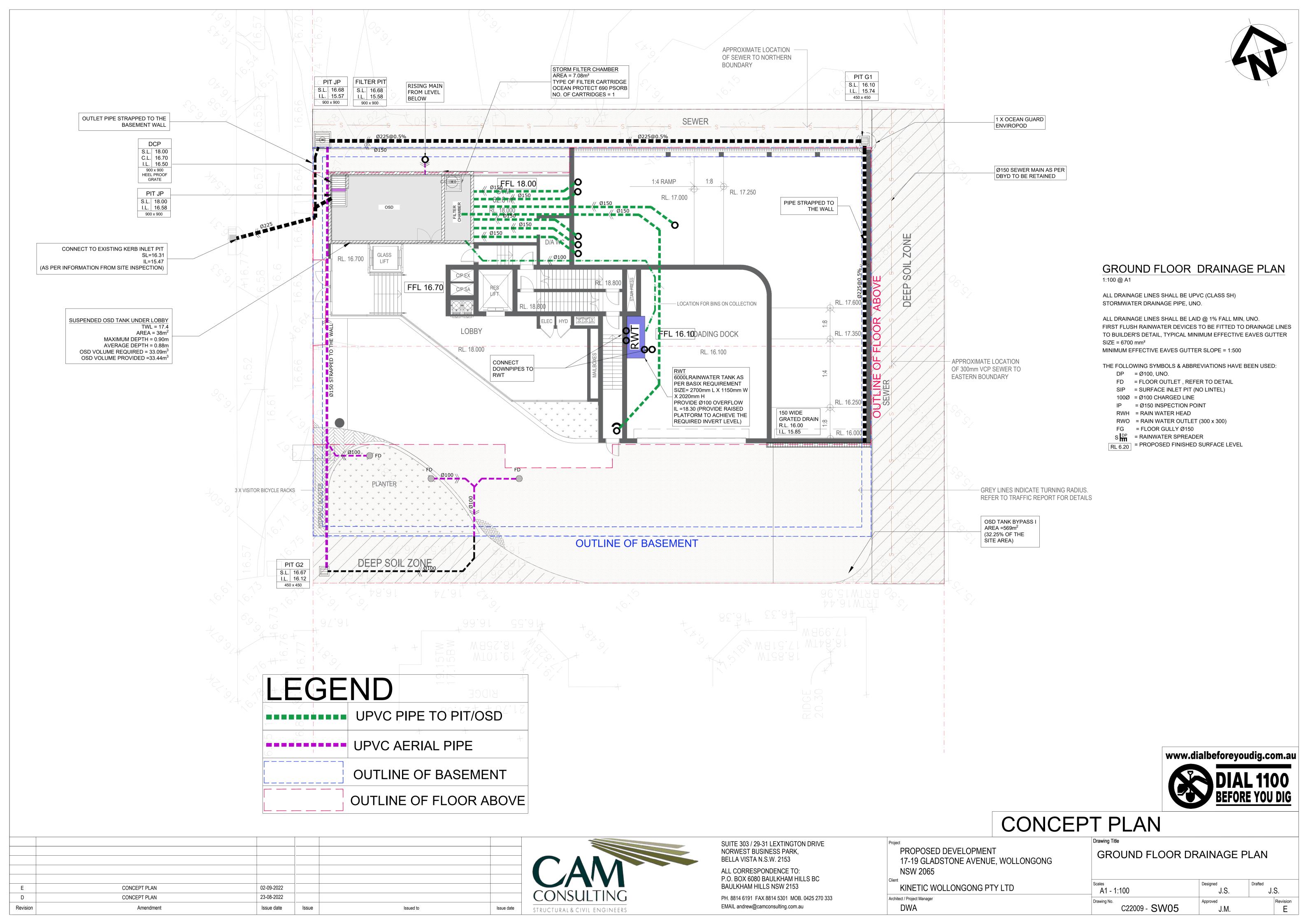
Architect / Project Manager

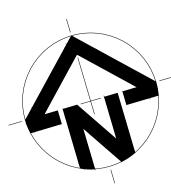
DWA

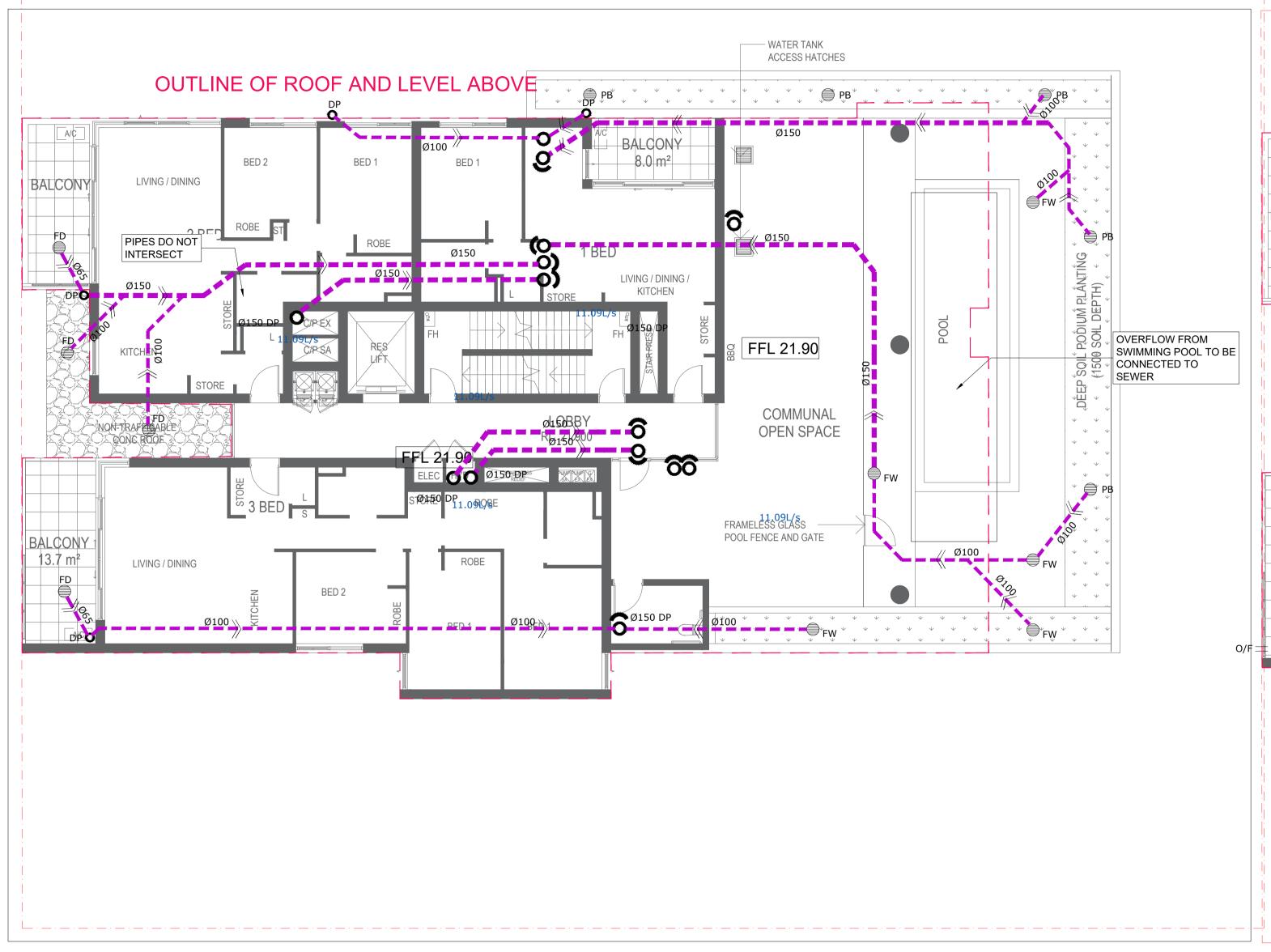
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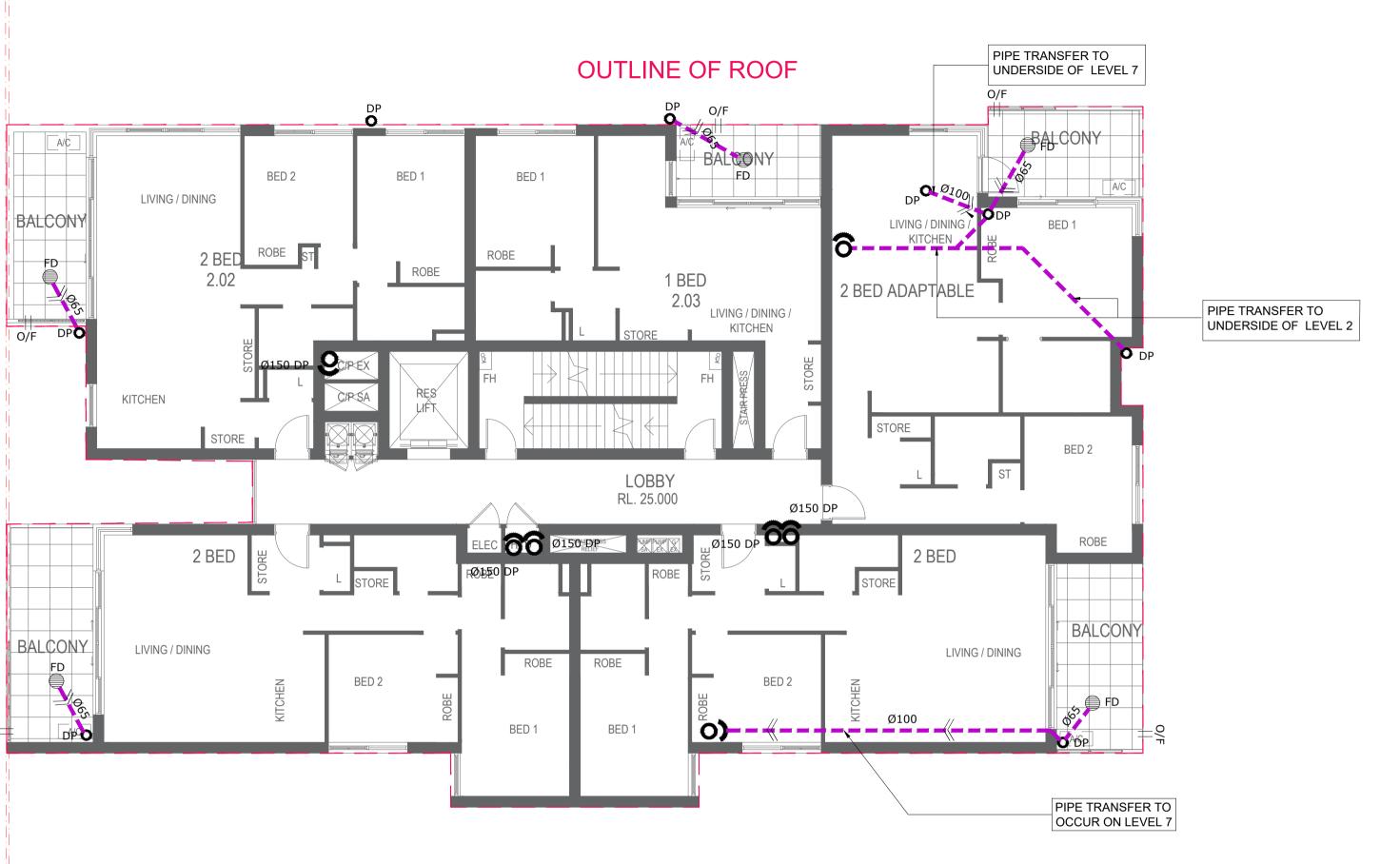
Scales A1 - 1:100 J.S. C22009 - SW04

BASEMENT 01 DRAINAGE PLAN









## LEVEL 01 DRAINAGE PLAN

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH)

STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO. FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER

 $SIZE = 6700 \text{ mm}^2$ MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP =  $\emptyset$ 150, UNO.

1:100 @ A1

- FD = FLOOR OUTLET, REFER TO DETAIL
- SIP = SURFACE INLET PIT (NO LINTEL)
- 100Ø = Ø100 CHARGED LINE
- IP = Ø150 INSPECTION POINT
- RWH = RAIN WATER HEAD RWO = RAIN WATER OUTLET (300 x 300)
- FG = FLOOR GULLY Ø150
- s PP = RAINWATER SPREADER

RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

# LEGEND UPVC PIPE DROP TO LEVEL **BELOW** UPVC AERIAL PIPE OUTLINE OF FLOOR ABOVE

### LEVEL 02-07 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO. FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER  $SIZE = 6700 \text{ mm}^2$ 

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP =  $\emptyset$ 150, UNO.

FD = FLOOR OUTLET, REFER TO DETAIL SIP = SURFACE INLET PIT (NO LINTEL)

100Ø = Ø100 CHARGED LINE

IP = Ø150 INSPECTION POINT RWH = RAIN WATER HEAD

RWO = RAIN WATER OUTLET (300 x 300)

= FLOOR GULLY Ø150

s PP = RAINWATER SPREADER RL 6.20 = PROPOSED FINISHED SURFACE LEVEL

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# **CONCEPT PLAN**

Architect / Project Manager

DWA

SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153

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PROPOSED DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG NSW 2065

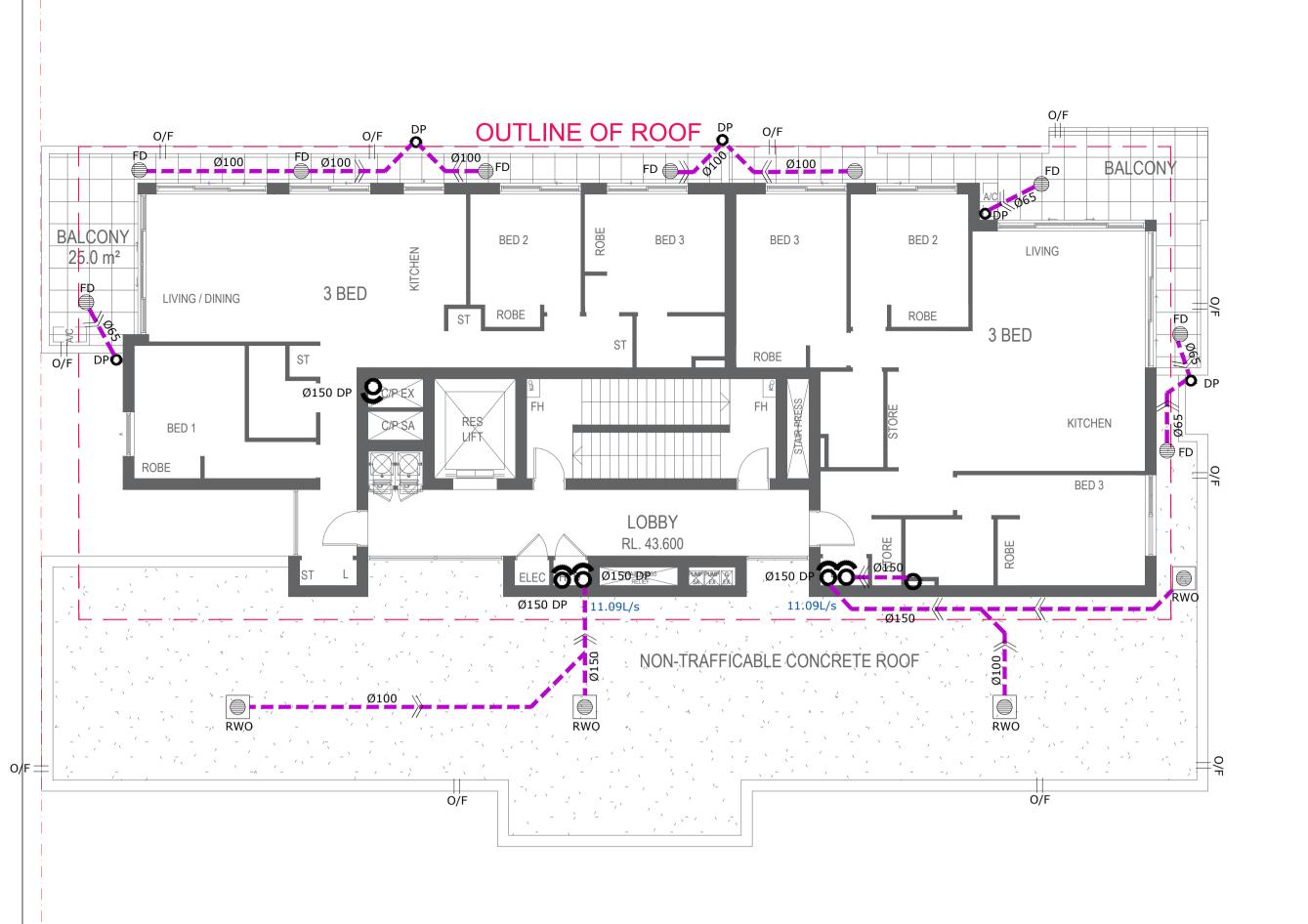
LEVEL 01 AND LEVEL 02 - LEVEL 07 DRAINAGE PLAN

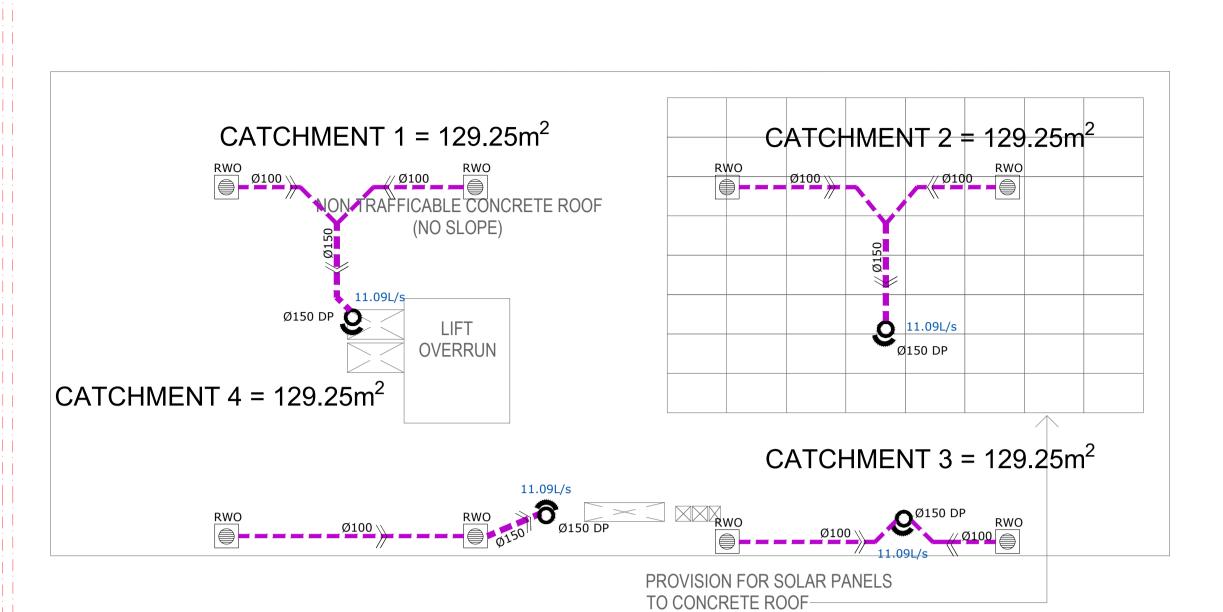
KINETIC WOLLONGONG PTY LTD

A1 - 1:100 J.S. C22009 - SW06 J.M.

n	Amendment	Issue date	Issue	Issued to	Issue date
	CONCEPT PLAN	23-08-2022			
	CONCEPT PLAN	02-09-2022			

CONSULTING STRUCTURAL & CIVIL ENGINEERS







## LEVEL 08 DRAINAGE PLAN

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO. FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER  $SIZE = 6700 \text{ mm}^2$ 

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

DP =  $\emptyset$ 100, UNO. FD = FLOOR OUTLET, REFER TO DETAIL

SIP = SURFACE INLET PIT (NO LINTEL) 100Ø = Ø100 CHARGED LINE

IP = Ø150 INSPECTION POINT

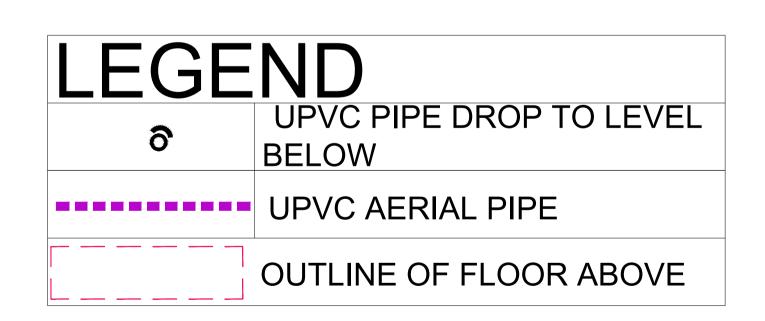
RWH = RAIN WATER HEAD

RWO = RAIN WATER OUTLET (300 x 300)

FG = FLOOR GULLY Ø150

= RAINWATER SPREADER

= PROPOSED FINISHED SURFACE LEVEL RL 6.20



### **ROOF DRAINAGE PLAN**

1:100 @ A1

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.

ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO. FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL MINIMUM EFFECTIVE EAVES GUTTER SIZE = 6700 mm<sup>2</sup>

MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500

THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED: DP =  $\emptyset$ 100, UNO.

FD = FLOOR OUTLET, REFER TO DETAIL SIP = SURFACE INLET PIT (NO LINTEL)

100Ø = Ø100 CHARGED LINE

IP = Ø150 INSPECTION POINT RWH = RAIN WATER HEAD

RWO = RAIN WATER OUTLET  $(300 \times 300)$ 

FG = FLOOR GULLY Ø150

S DP = RAINWATER SPREADER = PROPOSED FINISHED SURFACE LEVEL



Е	CONCEPT PLAN	02-09-2022				
D	CONCEPT PLAN	23-08-2022				
Revision	Amendment	Issue date	Issue	Issued to	Issue date	



SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153 ALL CORRESPONDENCE TO:

P.O. BOX 6080 BAULKHAM HILLS BC BAULKHAM HILLS NSW 2153

PH. 8814 6191 FAX 8814 5301 MOB. 0425 270 333 EMAIL andrew@camconsulting.com.au

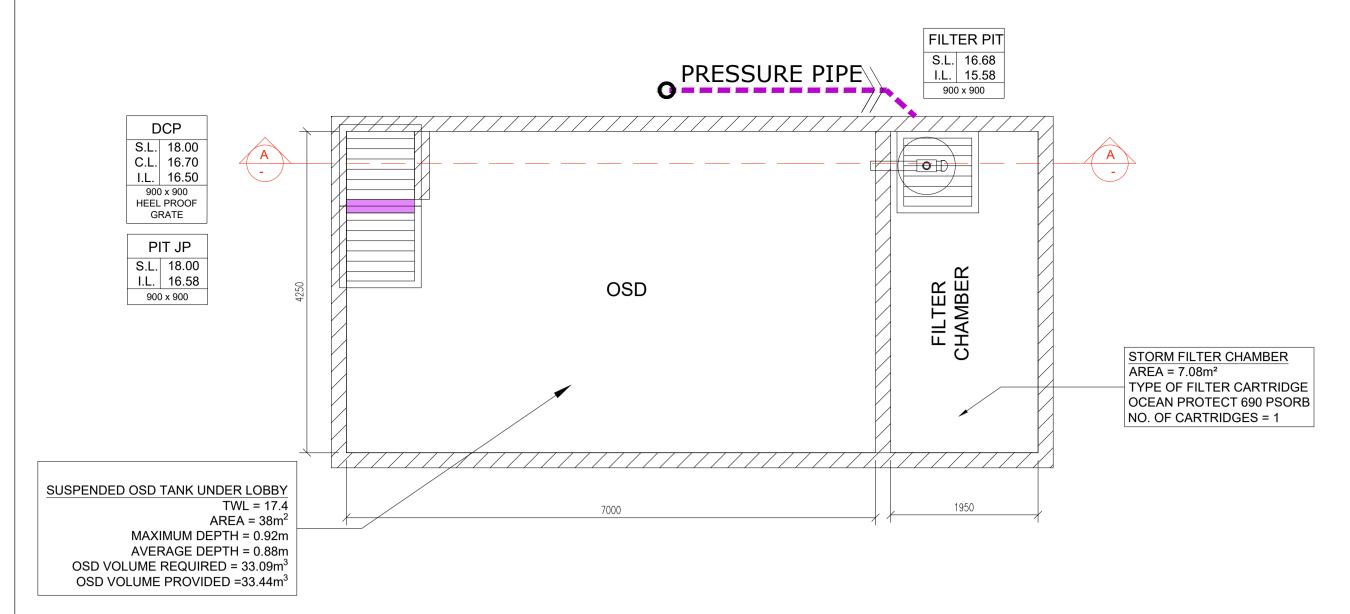
Project	
PROPOSED DEVELOPMEN	Т
17-19 GLADSTONE AVENUI	E, WOLLONGONG
NSW 2065	
Client	

LEVEL 08 AND ROOF DRAINAGE PLAN

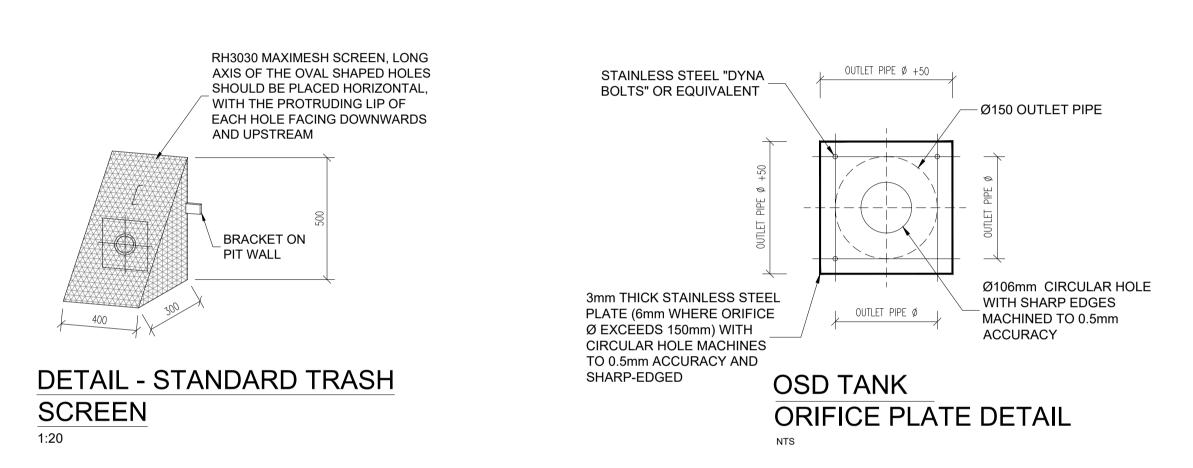
KINETIC WOLLONGONG PTY LTD Architect / Project Manager

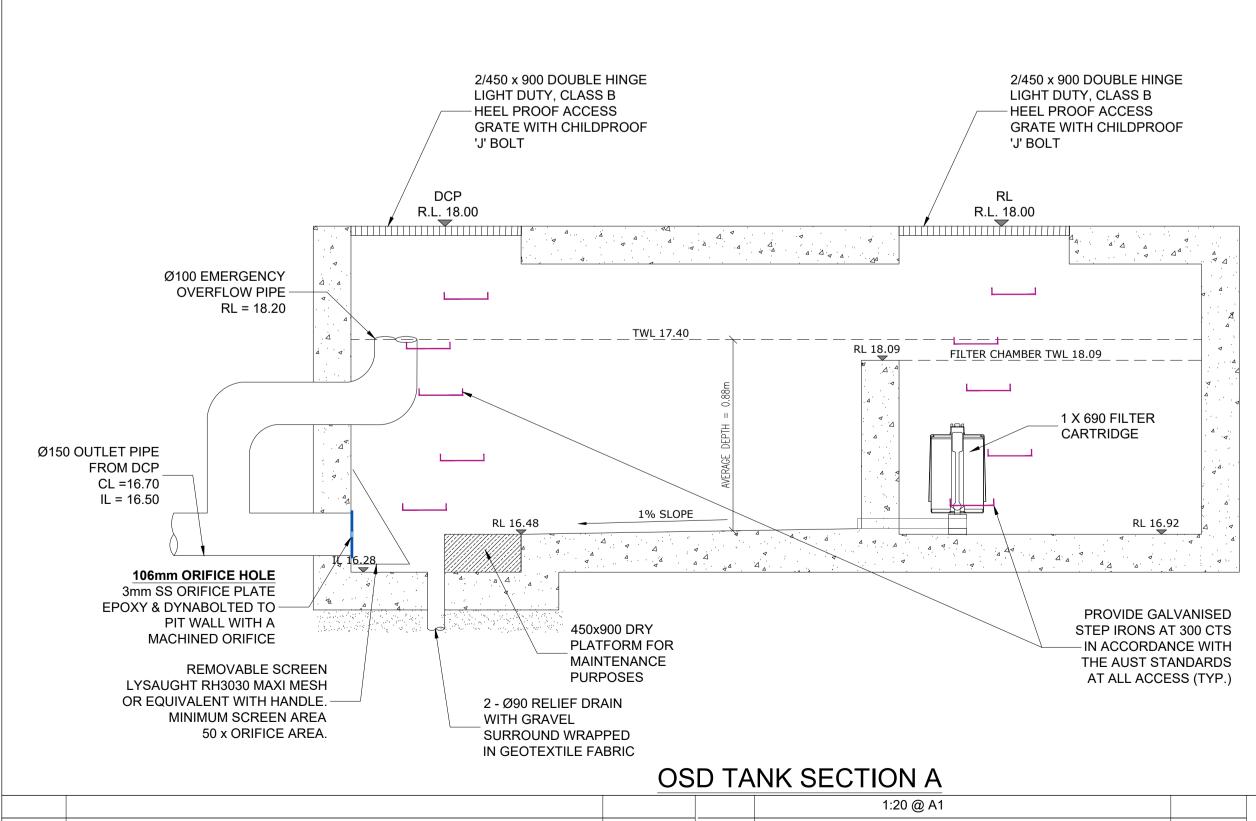
DWA

A1 - 1:100 J.S. Revision Approved C22009 - SW07 J.M.



# OSD TANK PLAN 1:50 @ A1





02-09-2022

23-08-2022

Issue date

Issue

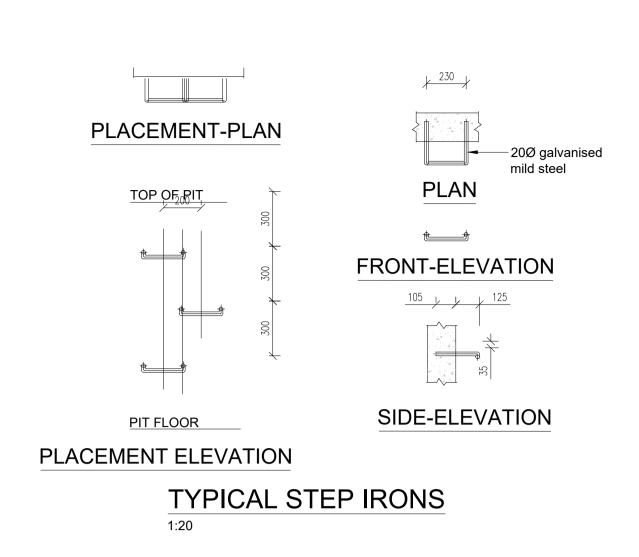
Issued to

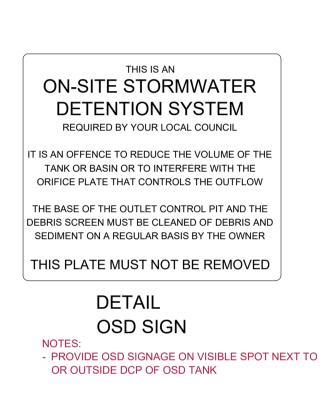
CONCEPT PLAN

CONCEPT PLAN

Amendment

D

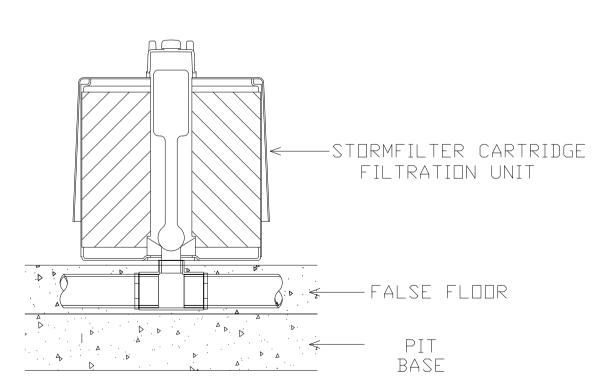




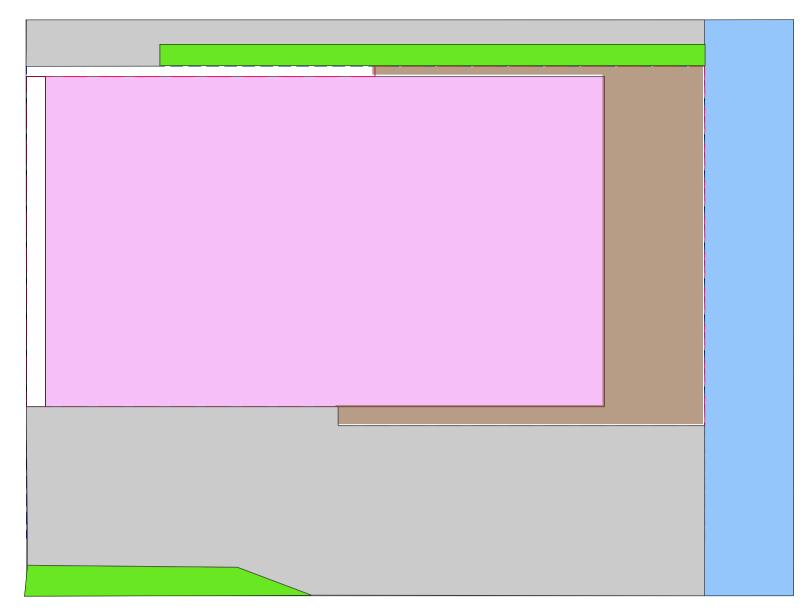


# DETAIL - CONFINED SPACE SIGN NOTE: CONFINED SPACE SIGN TO BE AFFIXED UNDER EACH ACCESS GRATE AT

VISIBLE SPOT



# STORMFILTER CARTRIDGE DETAIL

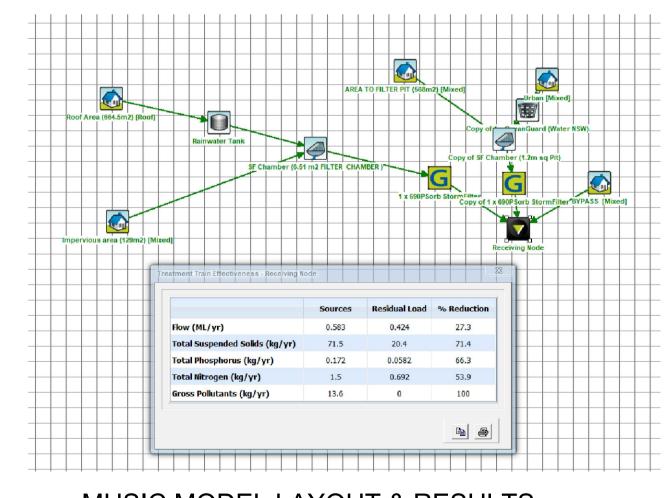


MUSIC - SITE CATCHMENT PLAN

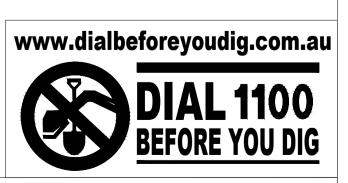
## STORMWATER QUALITY REQUIREMENT FROM MUSIC MODEL LINK

POLLUTANT	PERFORMANCE REQUIREMENTS	TARGET ACHIEVED
GROSS POLLUTANTS	90%	100%
TOTAL SUSPENDED SOLIDS	80%	81.8%
TOTAL PHOSPHORUS	55%	75.6%
TOTAL NITROGEN	40%	63.4%

PROVIDE 6.51m<sup>2</sup> FILTER CHAMBER WITH 1 X 690 PSORB FILTER FROM OCEAN PROTECT



MUSIC MODEL LAYOUT & RESULTS



## CONCEPT PLAN



SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153 ALL CORRESPONDENCE TO: P.O. BOX 6080 BAULKHAM HILLS BC BAULKHAM HILLS NSW 2153 PH. 8814 6191 FAX 8814 5301 MOB. 0425 270 333

EMAIL andrew@camconsulting.com.au

Project
PROPOSED DEVELOPMENT
17-19 GLADSTONE AVENUE, WOLLONGONG
NSW 2005
Client
KINETIC WOLLONGONG PTY LTD

Drawing Title

STORMWATER SECTIONS AND DETAILS (SHEEET 1 OF 2)

Scales

Designed

Client KINETIC WOLLONGONG PTY LTD

Architect / Project Manager DWA

C22009 - SW08

DETAILS (SHEELT 1 OF 2)

Scales A1 - 1:100

Designed J.S.

Approved Approved J.M.

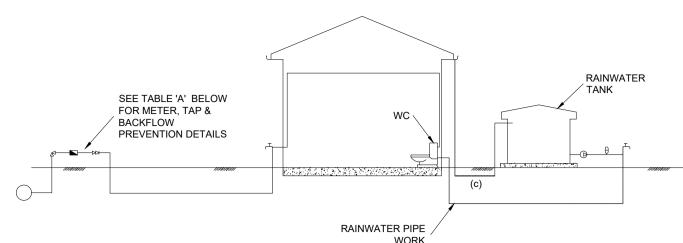


TABLE A			
RAINWATER	METER	TYPE	TYPE OF
TANK LOCATION	SIZE (mm)	OF TAP	BACKFLOW PREVENTION
ABOVE GROUND	20	BALL VALVE	DUAL CHECK VALVE
			(COMBINED WITH METER)
	25	BALL VALVE	DUAL CHECK VALVE
	≥ 32	BALL VALVE	DUAL CHECK VALVE
BELOW GROUND	20	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	25	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	≥ 32	BALL VALVE	TESTABLE DOUBLE CHECK VALVE

### LEGEND <u>θ</u> PRESSURE VESSEL ■ METER BALL VALVE RIGHT ANGLE TYPE DUAL CHECK VALVE PUMP ⊥ GARDEN TAP DRINKING WATER SUPPLY PIPES RAINWATER SUPPLY PIPES - DOWN PIPES

- DIAGRAM NOTES: DRAWING TO BE READ IN CONJUNCTION WITH SYDNEY WATER PLUMBING REQUIREMENTS FOR TANKS 10,000 LITRES OR LESS, COUNCIL DEVELOPMENT CONSENT IS NOT REQUIRED. IF THEIR CONDITIONS FOR INSTALLATION ARE FOLLOWED.
- FOR TANKS GREATER THAN 10,000 LITRES 3. COUNCIL DEVELOPMENT CONSENT IS GENERALLY REQUIRED. 4. FOR TANKS MORE THAN 10,000 LITRES APPROVAL IS REQUIRED FOR BUILDING OVER SEWERS.
  SYDNEY WATER'S APPROVAL IS REQUIRED FOR
- ANY TOP UP FROM DRINKING WATER SUPPLY, REGARDLESS OF TANK SIZE. NO DIRECT CONNECTION IS ALLOWED BETWEEN THE DRINKING WATER SUPPLY AND THE RAINWATER TANK SUPPLY.

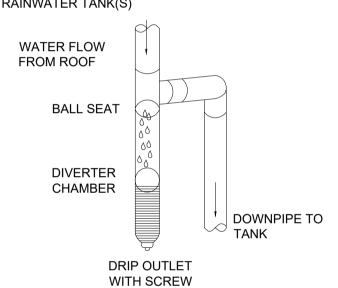
RAINWATER PIPEWORK IS SHOWN ON THE

- DIAGRAM AS SUPPLYING INTERNAL RAINWATER 8. ANY DESIGNED ACCESS LID INTO RAINWATER IS TO HAVE A LOCKABLE LID. IF THE LID IS
- DESIGNED TO BE ACCESSED BY A MAINTENANCE PERSON, IT MUST BE AT LEAST 600 mm x 900 mm IN SIZE. MAINS WATER TO BYPASS TO TANK (BY PLUMBER) FOR LOW TANK STORAGE.

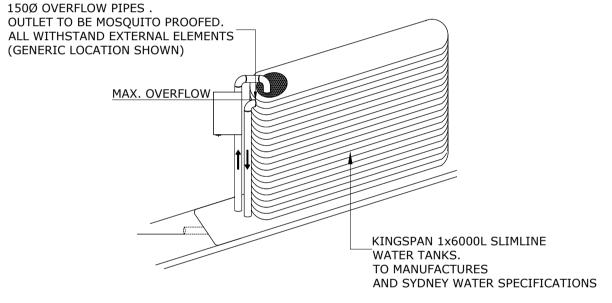
## N.T.S. THE RAINWATER TANK SHALL BE INSTALLED WITH A FIRST FLUSH DEVICE TO SUPPLIERS DETAILS

**DUAL WATER & RAINWATER SUPPLY DIAGRAM** 

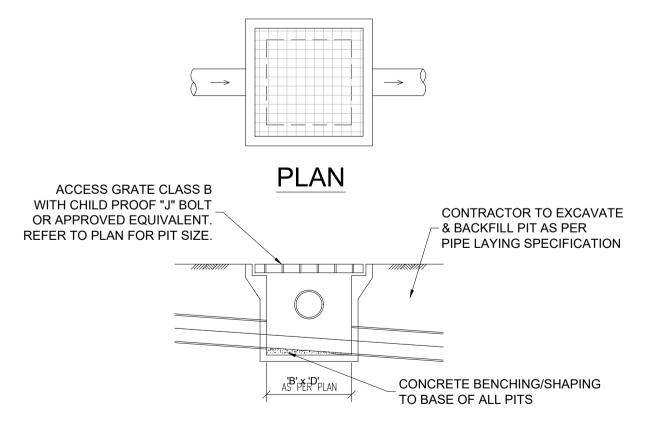
FIRST FLUSH OF CONTAMINATED WATER IS DIVERTED INTO CHAMBER. DIVERTER DESIGNED TO CAUSE MINIMUM OF 1mm OF INITIAL RUNOFF FROM ROOF AREA TO BYPASS RAINWATER TANK(S)



PROPRIETARY FIRST FLUSH DIVERTER SCALE N.T.S.



TANK PLAN





D

Revision

1:5 @ A1 TYPICAL FOR ALL PITS IN NON-TRAFFIC AREAS



RAINWATER SIGN

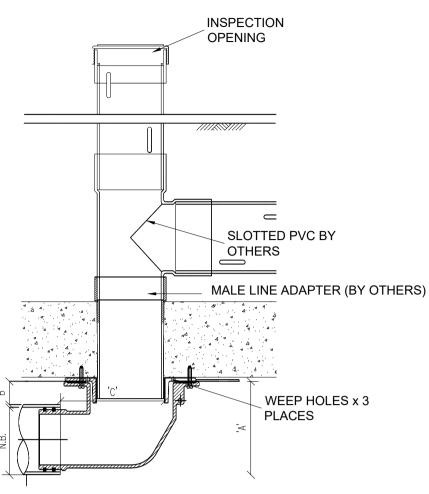


# Issue date STRUCTURAL & CIVIL ENGINEERS

SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153

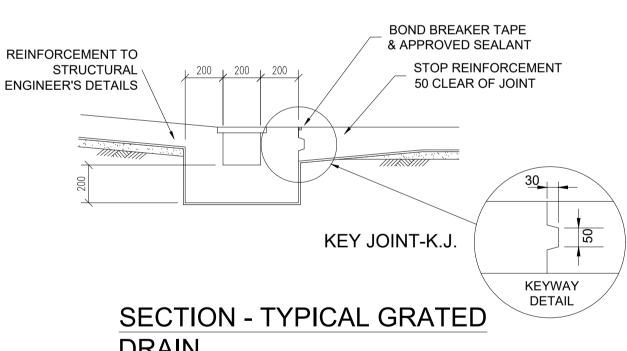
ALL CORRESPONDENCE TO: BAULKHAM HILLS NSW 2153

### **PLAN**



**SECTION - SPS TRUFLO** 100SQ OR EQUIVALENT PLANTER BOX DRAIN

SPECIFICATION CODE: C100/90 A 100mm SIDE OUTLET



# DRAIN 1:20

www.dialbeforeyoudig.com.au



## **CONCEPT PLAN**

PROPOSED DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG NSW 2065

Architect / Project Manager

DWA

STORMWATER SECTIONS AND DETAILS (SHEEET 2 OF 2)

A1 - 1:100 J.S.

CONSULTING

C 100 A

SPECIFICATION CODE:

R150 G/C (BRONZE GRATE, CI LOWER BODY)

R150N/C (NICKEL - BRONZE GRATE, CI LOWER BODY)

R150 S/C (316 STAINLESS STEEL GRATE, CI LOWER BODY)

SECTION - SPS TRUFLO Ø150 OR

EQUIVALENT FLOOR DRAIN (FD) INLET

PLAN

**'B' x 'D'** AS PER PLAN

1:5 @ A1

**SECTION - TYPICAL** 

SURFACE INLET PIT

TYPICAL FOR ALL PITS IN DRIVEWAY/CARPARK AREAS

HEAVY DUTY ACCESS GRATE

OR APPROVED EQUIVALENT.

REFER TO PLAN FOR PIT SIZE.

CLASS C WITH CHILD PROOF "J" BOLT

CI LOWER BODY

P.O. BOX 6080 BAULKHAM HILLS BC PH. 8814 6191 FAX 8814 5301 MOB. 0425 270 333

CONTRACTOR TO EXCAVATE

& BACKFILL PIT AS PER

PIPE LAYING SPECIFICATION

SL72 MESH CENTRAL

OF PIT EXCEEDS 1000

TO BASE OF ALL PITS

PROVIDE STEP IRONS IF DEPTH

CONCRETE BENCHING/SHAPING

EMAIL andrew@camconsulting.com.au

KINETIC WOLLONGONG PTY LTD Approved C22009 - SW09 J.M.

02-09-2022 CONCEPT PLAN CONCEPT PLAN 23-08-2022 Amendment Issue Issue date Issued to

## **DESIGN SUMMARY**

TOTAL SITE AREA = 1240 m<sup>2</sup>

DRAINS MODEL HAS BEEN PREPARED FOR CALCULATION OF PRE & POST DEVELOPMENT FLOWS, USING ILSAX

PRE - DEVELOPMENT

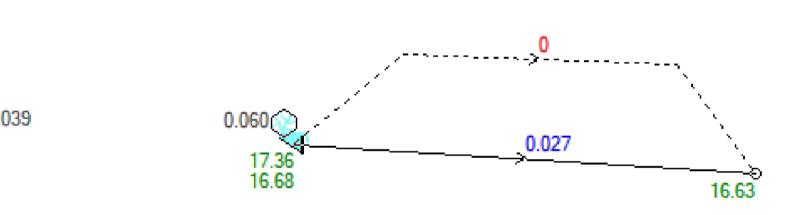
CATCHMENT AREA TO GLADSTONE AVENUE = 451m<sup>2</sup> (74% IMPERVIOUS)

### POST - DEVELOPMENT

• CATCMENT TO OSD = 669m<sup>2</sup> (100% IMPERVIOUS)

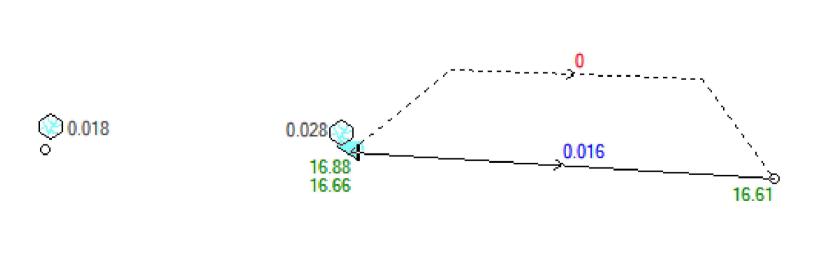
	PRE DEVELOPMENT	POST DEVELOPMENT
ARI	Q <sub>PRE</sub> (STREET) (I/s)	Q <sub>POST</sub> (STREET) (I/s)
2	18	16
5	23	19
10	26	21
100	39	27

OSD SUMMARY OSD VOLUME IN RWT REQUIRED = 25.17m<sup>3</sup> OSD VOLUME PROVIDED IN OSD = 33.44 m<sup>3</sup> ORIFICE = Ø125mm





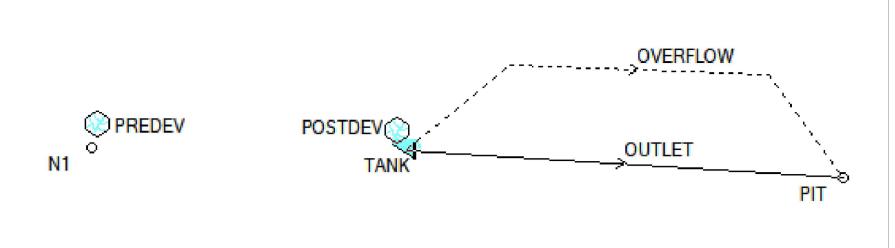
## DRAINS MODEL - 100 YEAR ARI

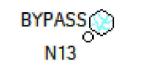




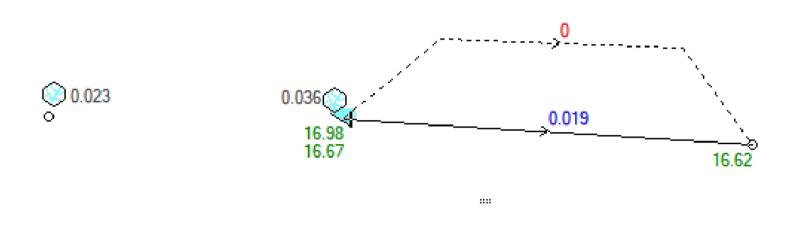
0.022

CONCEPT PLAN CONCEPT PLAN 23-08-2022 Revision Amendment Issue date Issue Issued to



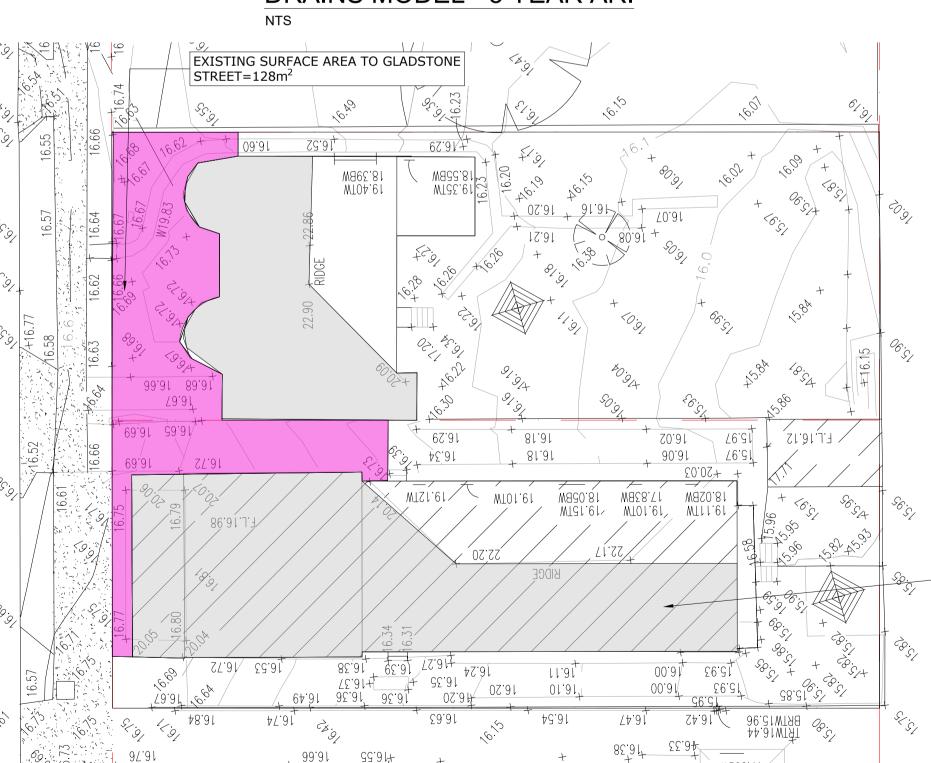


## **DRAINS MODEL - LAYOUT**



0.029

## DRAINS MODEL - 5 YEAR ARI



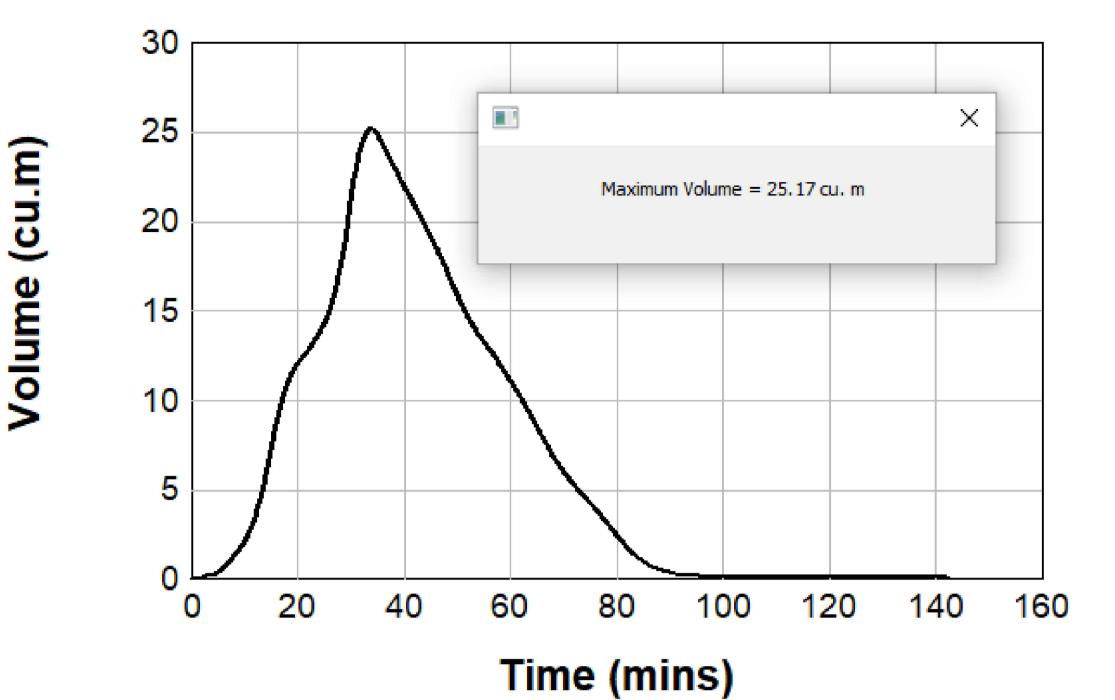
PRE DEVELOPMENT CATCHMENT PLAN 1:200 @ A1

STRUCTURAL & CIVIL ENGINEERS

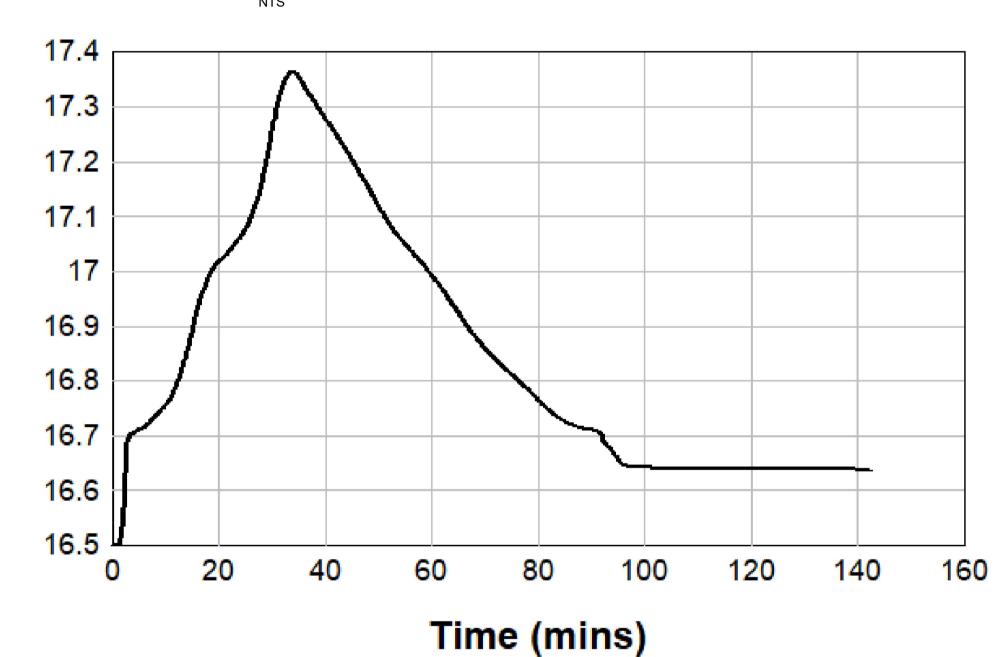
CONSULTING

SUITE 303 / 29-31 LEXTINGTON DRIVE NORWEST BUSINESS PARK, BELLA VISTA N.S.W. 2153

**BAULKHAM HILLS NSW 2153** EMAIL andrew@camconsulting.com.au



## INFLOW VOLUME INTO TANK OSD



WATER LEVEL VS TIME GRAPH FOR RWT TANK



J.M.

J.S.

# CONCEPT PLAN

PROPOSED DEVELOPMENT 17-19 GLADSTONE AVENUE, WOLLONGONG NSW 2065

EXISTING ROOF AREA TO GLADSTONE

DWA

STREET=324m<sup>2</sup>

DRAINS MODEL & DETAILS

C22009 - SW10

Scales A1 - 1:100 KINETIC WOLLONGONG PTY LTD J.S. Architect / Project Manager

ALL CORRESPONDENCE TO: P.O. BOX 6080 BAULKHAM HILLS BC

PH. 8814 6191 FAX 8814 5301 MOB. 0425 270 333

### Wollongong Design Review Panel – MS Team Meeting Meeting minutes and recommendations

Dete	16 May 2022
Date	16 May 2022
Meeting location	Wollongong City Council Administration Offices
Panel members	(Chair) David Jarvis
	(Member) Tony Quinn
	(Member) Sue Hobley
Apologies	none
Council staff	Pier Panozzo – City Centre & Major Development Manager
	Rebecca Welsh - Senior Development Project Officer
Guests/ representatives of	Robert Gizzi - Design Workshop Australia
the applicant	Amanda Kotovski Design Workshop Australia
	Luke Rollinson – MMJ Town Planner
	Goran Ugrinovski – ATB Consulting
	Matthew Taylor – Taylor Branner Landscape Architects
	Anthony Barthelmess
	Charlie Semaan
	Andrew Cutuk
Declarations of Interest	None
Item number	2
DA number	DA-2022/320
Reason for consideration by DRP	SEPP 65, Clause 7.18 WLEP 2009
Determination pathway	Wollongong Local Planning Panel
Property address	17-19 Gladstone Avenue Wollongong
Proposal	Demolition of existing structures, construction of 10 storey building
•	consisting of 36 units, basement parking, swimming pool and
	associated communal spaces
Applicant or applicant's	The meeting was conducted by video link between the panel
representative address to	(Council offices) and the applicant's team (Remote)
the design review panel	, , , , , , , , , , , , , , , , , , , ,
Background	The Panel previously inspected the site under DE-2021/30 on 30
5	March 2021.
	· ······· · ·
Design quality principals SEI	PP 65
Operations of National Services and	

### Context and Neighbourhood Character

Located close to the City Centre and Wollongong Rail Station, the context for this proposal is highly amenable and convenient to retail, commercial, educational and hospital facilities. As such, it is ideally located for a residential project of this scale. Gladstone Avenue could be described as transitional, with a mixture of building types and scales providing an eclectic urban character and a recently completed nine storey mixed-use development on the opposite side of the road indicating future scale and built form.

The subject site is located within a B4 zone and allows for development of up to nine storeys. Directly west of the Wollongong Rail Station, its rear boundary faces an existing commuter car park, which forms the western interface to the train platforms. The future development of this station land may potentially have major implications for the site and the current proposal. It is not currently apparent as to what form this development may take. However, the proposal has provided reasonable setbacks to the eastern boundary to facilitate future development on the neighbouring site.

The site is located very close to the intersection of Rawlinson Avenue and Gladstone Avenue, both of which are busy local roads. This imposes a major constraint on the site with regard to vehicular access.

The site and several of its neighbours are mapped as flood prone. There is a requirement for the provision of an overland flow path on the site.

A proposal for a mixed-use building is currently being considered by Council on the adjoining site to the north. The nighbouring site is also flood affected, which is likely to drive a built form response that is consolidated on the northern portion of the site and utilises the southern portion of the site (adjoining the subject site) as an area of communal open space. This creates a condition in which consideration may be given to relaxing the boundary setback to the north. However, the northern setback must still be sufficient to accommodate a landscape buffer (containing trees of scale) that protects the privacy of the COS of the neighbouring site. Ideally the northern setback should also be adequate to accommodate a sunny area of COS to service the subject site. A minimum setback of 4 to 4.5m is recommended.

Sites to the south are not currently developed to realise their full potential as envisaged by the current planning controls. This proposal will set in place a pattern of development that will impact the development potential of the sites to the south and establish the character of the street.

Contextual built form studies should be expanded to establish that ADG compliant solar access can be provided to a future tower form on the neighbouring site to the south. Sun's eye views should be developed to show the impact upon future-built forms (note: the extent of solar access to the existing neighbour must also be demonstrated). This exercise should be used to inform the siting and footprint of the tower on the subject site.

Council's current controls do not encourage the creation of a street wall as depicted in drawing 041 (Future Streetscape Elevations). It is envisaged that buildings to the south of the proposal will consist of a series of towers that sit in a landscaped setting. Landscaping will wrap the full perimeter of each building allowing each tower to read as a building in the round, within a landscaped setting. The contextual built form study should reflect this typology of building.

#### **Built Form and Scale**

The basic form of the tower is considered to be an understandable response to the immediate context of the site. However, it is yet to be tested in its future context, some refinement may be necessary pending a more detailed contextual analysis as outlined above.

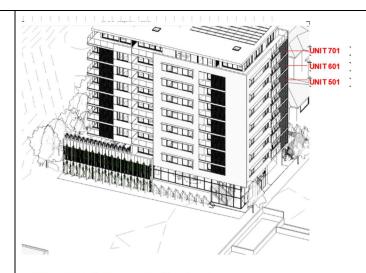
In response to the Panel's previous comments the driveway has been relocated to the south of the site. The intent of this development was to provide a better connection to the northern aspect of the site and an improved interface with the street. Unfortunately, the revised design does not achieve either of these goals. Discussion with the applicant identified a number of constraints that were driving the current design response:

- Overland flow in the southern portion of the site, requires natural ground levels in southern portion of site to be maintained.
- Bunding to basement to address flooding issues, restricts developing a design that will allow a garbage vehicle to enter the basement.
- Requirements for onsite garbage collection, requires large areas of hard paving for vehicular manoeuvering, which

restricts the potential for soft landscaping in the southern portion of the site. Elevated lobby area to accommodate the basement ramp, (which is elevated in response to flood levels) reduces the potential to relate the lobby to street level and ground floor areas of private open space. Vehicle access is setback from the southern boundary to avoid conflict with adjacent crossroad, creating a kinked / offset driveway. The Panel acknowledges that this is an extremely constrained site that limits the potential for a design response that would relate better to the street / natural ground level and generally provide more amenable space at ground level. However, within the constraints of the site, further development should still be undertaken to improve amenity and provide an improved presentation to the street. Provide an increased setback to the northern boundary (minimum 4m-4.5m) to accommodate trees of scale and ideally accommodate an area of communal open space in the northeastern corner of the site. Increase the extent of the lobby area that sits at natural ground level. To achieve this goal the OSD tank may need to be relocated. Provide a direct connection from the lobby to the ground floor communal open space. Opportunities to provide more soft landscaping within the southern courtyard space should be investigated. All materials and finishes visible from the street should be of high quality / suitable for presentation to the public domain. The space to the south of the building must not present as a utilitarian service area. Refer to Aesthetics for further detail. The potential to utilize a substation from a neighbouring development should be investigated. Density The proposal is yet to be tested in its future context. Without this information it cannot be determined if the proposal will contribute to a cohesive pattern of development or present as an over development of the site. Sustainability The proposal is capable of providing cross ventilation to more than 60% of its units. ADG compliance can be achieved.

open position should be provided.

The proposal also appears capable of providing a minimum of 2 hours solar access (mid-winter between 9am and 3pm) to more than 70% of units. However, it is unclear from the information provide if units 501, 601 and 701 are receiving solar access as claimed. The provision of sun's eye diagrams with screens in the



#### 3OLAR ACCESS - 21/06/2020-13.00

Opportunities to harvest rainwater for use in maintaining any plantings established on the building or the site should be explored. Other water minimization measures (reuse of rainwater for toilet flushing and washing machines) should also be considered.

The use of photovoltaic cells and solar panels is also encouraged. Landscape plantings should address aims for biodiversity protection, weed minimisation and low water use.

#### Landscape

The Panel is not yet persuaded that the landscape outcomes of the proposal are acceptable for either the streetscape, ground level (as noted above) or the communal open space (COS). The relocation of the rooftop COS (to achieve height standard compliance) to level 1 results in most of the new space being under the building, raising concerns about compliance with ADG solar access requirements, amenity of the space and viability of the proposed landscape plantings.

The applicant stated that the sewer line constrains the planting of trees in the northern setback. This constraint does not appear to have affected the design of the eastern setback which also contains the sewer line.

#### **Streetscape**

The following concerns should be addressed:

- See list under Built Form and Scale.
  - The north-western corner of the landscape and building should be designed together to relate positively to the street and take advantage of the excellent aspect and outlook.
  - The driveway should be configured so as to minimise its extent and enable soft landscaping wherever possible (this would likely result in curved edges along its south-western and south-eastern sides). Visually amenable measures to protect the landscape from damage by vehicles should be included.
  - The area of hardscape between the sub-station and the south-western corner of the building should be replaced with soft landscaping if permissible (noting that the increased building setback may eliminate much of this space, obviating this requirement).

- The treatment of the driveway undercroft should be of a high quality and contribute positively to the visual amenity of the streetscape. It should present as a courtyard entry.
- Street tree plantings should be developed in consultation with Council and take into account sightline requirements, particularly in relation to the Rawlinson Avenue intersection.
- The option to combine the substation requirements with the property to the north should be investigated (noting that the proposed sub-station for the northern neighbour may be located in their south-western corner).

#### **Ground Level**

- After setting the building back further from the northern boundary (as proposed above under Built Form and Scale) develop a design for the ground floor open space that includes facilities for outdoor recreation to complement the COS on level 1. The design should integrate the northern and eastern landscapes to achieve something more functional and appealing than linear plantings of trees and shrubs. The north-western corner landscape should contribute strongly and positively to the entry experience and link the entry to the ground floor COS.
- Investigate options to cap all or part of the sewer line to enable tree planting in parts of the northern setback (unless the increased setback solves this problem).
- Relocate the visitor bicycle storage to be less visually prominent.
- Access to the bulk waste room should be provided on-site

## Level 1 COS

- It should be demonstrated that the COS achieves compliance with the ADG's solar access requirements.
   Options to achieve solar access compliance may include the provision of a functional space at ground level and / or a rooftop area for additional COS.
- The amenity of this undercroft COS will depend heavily on the materials, finishes, fixtures, lighting and furniture used in its construction and detailing. Sufficient information in this regard should be provided to satisfy the Panel (or Council) that a high level of amenity will be achieved and that its maintenance will not be excessively difficult of expensive.
- The proposed ground cover plantings are not considered suitable for an undercover space on the southern side of the building where physical activities are proposed. The Panel does not support the use of artificial turf. The applicant should document proposed materials for this space.

#### Amenity

Many of the typical living room layouts are square in proportion. Of particular concern are units 202, 205, 302, 305, 402, 405, 502, 505, 602, 605, 702 and 705. Living spaces of these units are awkward to furnish and serviced by galley kitchens. Further development of the building form should seek to provide better proportioned living spaces. This may be achieved by extending the central portion of the building closer to the southern boundary and orientating

habitable rooms in an east or western direction. This strategy can be developed without impacting the solar access or privacy of the neighbour to the south.

For example, if the bathroom of the southeast corner units were to be located on the northern side of the bedroom and the living space narrowed a more rectangular living space could be created. This space would accommodate a traditional kitchen, a more amenable furniture layout and increase the extent of solar access to the future building to the south.

Consideration could also be given to extending the lobby to the west and providing an opening to the street. This would allow the northwestern corner units to be accessed closer the western edge of the building, allowing the living room to be relocated to the northwestern corner.

To accommodate the street facing-lobby opening, the southwestern corner units could be developed to utilise more of the southern boundary setback, elongating the living room and repositioning the kitchen to the east of the dining room.

Balcony dimensions should be provided to demonstrate ADG compliance.

The level 1 communal open space provides an amenable area that can facilitate a variety of activities. However, it appears to lack good solar access. The provision of an additional area of communal open space with good solar access at ground level, or rooftop is encouraged.

#### Safety

It is recommended a NCC BCA Report accompany all applications to ensure critical access, egress and fire protection/ fighting measures are reasonably incorporated in planning and design

# Housing Diversity Social Interaction

and

The proposal will provide an appropriate housing option for this neighbourhood. However, further development is required to provide a positive interface with the street / public domain and an inviting COS that supports social interactions among the residents.

#### **Aesthetics**

It is envisaged that the form of this proposal may develop further in response to issues raised in this report. Material selection documented in drawing 082, Proposed Building 3D views, documents an appropriate pallet of materials for this context.

The ground plane must also be developed to provide a less utilitarian response that engages with the street. The quality of all materials visible to the public domain must be of a high quality. The southern driveway must present as a landscaped courtyard and not a utility space:

- Flooring, perhaps a vehicular trafficable paver.
- Walls, not to be painted concrete, the expressed joint cladding fronting the street should be wrapped around the southern elevation of the building. Alternatively, a glazed tile could be considered to express the base of the building.
- Soffit, services should not be exposed, lighting should be integrated, and a quality finish applied (perhaps timber).

Detail sections (1:20 or 1:50) through the building should be provided, to clearly demonstrate the architect's design intent. Sections should show balustrade detail / specification, concealment

	of services, lighting, drainage, soft treatments, details of screens and louvres etc.
	Servicing of the building must be considered at this stage of the design process. The location of service risers, AC condensers, down pipes, fire hydrant boosters etc. should be accommodated.
Design Excellence WLEP2009	
Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved	Further information /development required.
Whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain,	Further development required.
Whether the proposed development detrimentally impacts on view corridors,	Further information required
Whether the proposed development detrimentally overshadows an area shown distinctively coloured and numbered on the Sun Plane Protection Map,	Further information required
How the development addresses the following:	
the suitability of the land for development,	The site is well proportioned and situated for a residential development of this scale. However, numerous constraints associated with traffic, flooding, utilities and servicing make this a challenging site to develop.
existing and proposed uses and use mix	The proposed use is consistent with council's current vision for this precinct.
heritage issues and streetscape constraints,	The proposal is located in proximity of Wollongong TAFE's West Building. The proposal is detached from the heritage item and will have little impact upon how the heritage item is perceived and enjoyed from the surrounding public domain.
the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,	Further analysis is required.
bulk, massing and modulation of buildings	Further refinement recommended.
street frontage heights	Basic strategy is appropriate. However, further refinement is recommended to provide a building that reads as a building that sits within a landscaped setting.

environmental impacts such as sustainable design, overshadowing, wind and reflectivity	Further refinement recommended.
the achievement of the principles of ecologically sustainable development	Further refinement recommended.
pedestrian, cycle, vehicular and service access, circulation and requirements	Further development is required to lessen the visual impact of the vehicular access / servicing area.
impact on, and any proposed improvements to, the public domain	Council should be consulted in relation to any proposed plantings in the public domain in front of the property.
Key issues, further Comments & Recommendations	The Panel acknowledges that this is an extremely constrained site that limits the potential for a design response that would relate better to the street / natural ground level and generally provide more amenable space at ground level. However, if the proposal is to be developed to provide an acceptable interface with ground plane, further refinement to improve materiality and maximize soft landscaping is essential.
	The basic form of the tower is considered to be an understandable response to the immediate context of the site. However, the form is yet to be tested in its future context, some refinement may be necessary pending a more detailed contextual analysis.
	Further development of unit planning should also be undertaken to provide better proportioned living rooms and improved amenity.

Overshadowing of neighbouring

winter

**Design Guidance** 

properties is minimised during mid-

Attachment 5 – Apartment Design Guide (ADG) Assessment Standards/controls Comment Compliance Part 3 Siting the development 3A Site analysis The siting of the building does not Unsatisfactory Site analysis uses the following key respond to the flooding constraints of elements to demonstrate that design the site. decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context: - Site location plan Aerial photograph Local context plan Site context and survey plan Streetscape elevations and sections **Analysis** A written statement explaining how the design of the proposed development has responded to the site analysis must accompany the development application. **3B Orientation** Objective 3B-1: The building layout is constrained by Satisfactory flooding and driveway location. Building types and layouts respond to the streetscape and site while optimising A minimal setback to the northern solar access within the development boundary is proposed given the adjoining site to the north is a floodway Design Guidance and has been approved with a large Buildings should define the street by communal open space area directly facing it and providing direct access. adjoining the subject site. Three units per floor are oriented north to take advantage of the building separation distance with the approved shop top housing development to the north at 7-15 Gladstone Ave. However, an increased setback is required to provide an improved landscaped interface and can meet the solar access requirements. Objective 3B-2

The adjoining site to the south at 21

occupancy, with private open space

areas located at the front and rear of

Gladstone Avenue is a single storey dual

Satisfactory

## Standards/controls

#### Comment

## Compliance

- Overshadowing should be minimised to the south or down hill by increased upper level setbacks
- Refer sections 3D & 4A below for solar access requirements
- A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings

the site. This site is vulnerable to overshadowing impacts given the orientation of lots (i.e. south of the subject site). The submitted shadow diagrams indicate that 2-3 hours of sunlight access will be received to the private open spaces in midwinter, however any north facing windows will be overshadowed from the development. In the context of the applicable planning controls, this impact is not unreasonable.

## **3C Public domain interface**

## Objective 3C-1:

Transition between private and public domain is achieved without compromising safety and security

## **Design Guidance**

- Terraces, balconies and courtyards should have direct street entry, where appropriate
- Changes in level between private terraces etc above street level provide surveillance and improved visual privacy for ground level dwellings.
- Front fences and walls along street frontages should use visually permeable materials and treatments.
   The height of solid fences or walls should be limited to 1m.
- Opportunities should be provided casual interaction between residents and the public domain eg seating at building entries, near letterboxes etc

## Objective 3C-2:

Amenity of the public domain is retained and enhanced

## **Design Guidance**

 Planting softens the edges of any raised terraces to the street (eg basement podium) The streetscape interface is compromised by the need for an elevated floor level to address flooding and the location of the driveway which needs to be pushed north away from the intersection with Rowland Avenue.

The building has internalised stair/chair lift access and provided glazing to the lobby. In the context of the constraints, a reasonable streetscape outcome may be achievable.

The applicant has noted they will investigate shared substation arrangements with the adjoining site to the north, which is supported. However, no further detail has been provided demonstrating this is achievable.

Unclear

Standards/controls Comment Compliance

- Mailboxes should be located in lobbies perpendicular to street alignment or integrated into front fences.
- Garbage storage areas, substations, pump rooms and other service requirements should be located in basement car parks.
- Durable, graffiti resistant materials should be used
- Where development adjoins public parks or open space the design should address this interface.

## 3D Communal and public open space

## Objective 3D-1

An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping

## **Design Criteria**

- 1.Communal open space has a minimum area of 25% of the site area
- 50% direct sunlight provided to principal usable part of communal open space for a minimum of 2 hours between 9am and 3pm on 21 June

#### **Design Guidance**

- Communal open space should be consolidated into a well designed, usable area.
- Minimum dimension of 3m
- Should be co-located with deep soil areas
- Direct & equitable access required
- Where not possible at ground floor it should be located at podium or roof level.
- Where developments are unable to achieve the design criteria, such as on small lots, sites within business zones, or in a dense urban area, they should:

Site area = 1237m<sup>2</sup> 25% = 309m<sup>2</sup>

Numerically complies - COS with area of 248m² located on Level 1, inclusive of deep soil podium planting. A communal gym at ground level (62.6m²) is also proposed = 310m² However, greater northern setbacks present an opportunity for additional landscaping at ground level that could

be directly accessed by residents.

155m² of the COS is required to receive 2 hours direct sunlight access.
93m² of the Level 1 COS/pool area receives solar access between 9-11am and the north facing gym receives solar access between 9am-2.30pm, although this is not outdoor space and it is questionable whether solar access to a gym is of as much benefit compared to principal usable communal open space.

Unsatisfactory

Standards/controls	Comment	Compliance
<ul> <li>provide communal spaces         elsewhere such as a landscaped         roof top terrace or a common         room</li> <li>provide larger balconies or         increased private open space for         apartments</li> </ul>		
<ul> <li>demonstrate good proximity to public open space and facilities and/or provide contributions to public open space</li> </ul>		
Objective3D-2	Communal areas include a neel and	Unsatisfactory
Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	Communal areas include a pool and gym. A large portion of the level 1 COS is an undercroft area which will not be attractive and inviting in all conditions. There are limited opportunities for	Cilibration 4
<u>Design guidance</u>	residents to sit or gather somewhere sunny noting that the solar access is	
<ul> <li>Facilities to be provided in communal open spaces for a range of age groups, and may incorporate seating, barbeque areas, play equipment, swimming pools</li> </ul>	predominantly within the pool enclosure.	
Objective 3D-3		
Communal open space is designed to maximise safety		
Design guidance		
<ul> <li>Communal open space should be visible from habitable rooms and POS areas and should be well lit.</li> </ul>		
Objective 3D-4		
Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood (N/A in most cases)	N/A	N/A
3E Deep soil zones		
Objective 3E-1	1237.18m <sup>2</sup> site area	
3E-1 Deep soil zones provide areas on the site that allow for and support healthy	Minimum dimension of 3m required, with minimum area of 86.5m <sup>2</sup> (7%)	Unclear
plant and tree growth. They improve residential amenity and promote management of water and air quality.	A DSZ at ground level is proposed. It is 4.7m wide, however intersected by a 3000mm sewer pipe. As the minimum width for a DSZ for sites 650-1500m <sup>2</sup> is	

## Standards/controls

#### Comment

## Compliance

## Design Criteria:

Deep soil zones are to meet the following minimum requirements:

Site area	Minimum dimensions	Deep soil zone (% of site area)	
less than 650m <sup>2</sup>	-		
650m² - 1,500m²	3m		
greater than 1,500m <sup>2</sup>	6m	7%	
greater than 1,500m² with significant existing tree cover	6m		

3m, a compliant 3.4m DSZ width is shown, abutting the pipe. Further information is required showing how the deep soil zone can be sustained given the adjacent sewer location.

## Design guidance:

 Deep soil zones should be located to retain existing significant trees.

#### **3F Visual privacy**

## Objective 3F-1

Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual amenity.

#### Design Criteria:

 Minimum required separation distances from buildings to the side and rear boundaries are as follows:

Building height	Habitable rooms and balconies	Non- habitable rooms
up to 12m (4 storeys)	6m	3m
up to 25m (5-8 storeys)	9m	4.5m
over 25m (9+ storeys)	12m	6m

## **Design Guidance**

- Apartment buildings should have an increased separation distance of 3m (in addition to the above requirements) when adjacent to a different zone that permits lower density residential development to provide for a transition in scale.
- Direct lines of sight should be avoided
- No separation is required between blank walls

## North

Up to 12m (L1-2)

Between 3.5-4m balconies at all levels – does not comply

## South

Up to 12m (L1-2)
Ground level
9m – complies
L1 &2
7.5m to blank walls – complies
9m to habitable - complies

*Up to 25m (L3-6)*7.5m to blank walls – complies
9m to habitable - complies

Over 25m (L7-8)

17

7.5m to blank walls – complies 9m to habitable – complies L8

14.3m - complies

#### East

Up to 12m (L1-2) Gnd & L1 - 4.7m to edge of podium L2 - 9m (H) - complies

Up to 25m (L3-6)

Unsatisfactory

Standards/controls Compliance Comment 9m (H) - complies Over 25m (L7-8) Objective 3F-2: L7 - 9m (H) - does not comply Site and building design elements increase privacy without compromising The reduced setback to the northern access to light and air and balance boundary should be increased to allow outlook and views from habitable rooms for landscaping and improve solar and private open space access outcomes. This would also provide more certainty for amenity impacts in relation to the built form of the northern site being redeveloped. **3G Pedestrian access and entries** Objective 3G-1 Building entries and pedestrian access The entry to the residential lobby is Satisfactory connects to and addresses the public elevated ~1m above natural ground domain level, however has internalised ramp /stairs and provides a glazed interface Design Guidance with the street. - Multiple entries should be provided to activate the street edge. Buildings entries should be clearly identifiable and communal entries should be clearly distinguishable from private entries. Objective 3G-2 Access, entries and pathways are accessible and easy to identify **Design Guidance** - Building access areas should be clearly visible from the public domain and communal spaces Steps and ramps should be integrated into the overall building and landscape design. Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to

#### 3H Vehicle access

## Objective 3H-1

destinations

Satisfactory

Standards/controls Comment Compliance

Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes

## **Design Guidance**

- Car park entries should be located behind the building line
- Access point locations should avoid headlight glare to habitable rooms
- service areas should be screened
- be clearly separated to improve safety.
- Where possible, vehicle access points should not dominate the streetscape and be limited to the minimum width

35 units are proposed and the unit mix

The driveway design is angled but the

visual wall of services internal to the

Waste collection is proposed at the

ground level, behind the lobby area.

manoeuvrability is provided to service

No opportunity for screening to loading dock (no landscape buffer) which has

potential to impact the southern

Adequate waste storage and

site has been improved.

the development.

neighbours.

7 x 1B units

25 x 2B units

3 x 3B units

The rates under the GTGD are:

- 0.6 spaces per 1B unit = 4.2
- 0.9 spaces per 2B unit = 22.5
- 1.4 spaces per 3B unit = 4.2

Total residential = 31 spaces

1 space per 5 for visitors = 7

So, 38 car spaces are required under the GTGD.

39 residential car spaces are provided comprising 31 residential spaces and 8 visitor spaces (as stated in the Traffic report). This represents a surplus of 1 visitor car space.

Note: The traffic report has adopted the car parking rates under Chapter E3 of WDCP, whereas the lesser rate under the GTGD applies.

Garbage collection, loading and

Vehicle and pedestrian access should

possible.

3J Bicycle and car parking

## Objective 3J-1

Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas

## **Design Criteria**

1. On land zoned B3 or B4 and located within 400m of land zoned B3 and B4, the minimum car parking requirement for residents and visitors is set out in the Guide for Traffic Generating Development (GTGD), or Council's car parking requirement, whichever is less.

The carparking needs for a development must be provided off street.

Satisfactory (surplus)

Standards/controls	Comment	Compliance
	Notes:  the car parking rates for the city centre under the DCP are 41 spaces as per Traffic referral, therefore lesser rates of GTGD apply:	
	0.75 car parking space per dwelling <70sqm, 1 space per dwelling (70-110sqm) and 1.25 spaces per dwelling >110sqm(110m2), plus 0.2 car parking spaces per dwelling for visitors.	
Objective 3J-2		
Parking and facilities are provided for other modes of transport	Motorcycle and bicycle parking has	Satisfactory
<u>Design Guidance</u>	been provided.	
<ul> <li>Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters</li> </ul>		
<ul> <li>Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas.</li> </ul>		
Objective 3J-3		
Car park design and access is safe and secure	Pedestrian access to the lift at Basement 1 for residential visitors is	Unsatisfactory
<u>Design Guidance</u>	unclear and concealed.	
<ul> <li>Supporting facilities within car parks (garbage rooms, storage areas, car wash bays) can be accessed without crossing parking spaces</li> </ul>		
<ul> <li>A clearly defined and visible lobby or waiting area should be provided to lifts and stairs.</li> </ul>		
<ul> <li>Permeable roller doors allow for natural ventilation and improve the safety of car parking areas by enabling passive surveillance.</li> </ul>		
Objective 3J-4		
Visual and environmental impact of underground car parking are minimised	Ramp access on northern elevation is prominent (~6m in height) and relies on	Unclear
<u>Design Guidance</u>	vertical greenery to conceal it. This will	

Standards/controls	Comment	Compliance
<ul> <li>Excavation should be minimised through efficient carpark layouts and ramp design.</li> </ul>	be visible from the north given the communal open space. Further information demonstrating the viability	
<ul> <li>Protrusion of carparks should not exceed 1.0m above ground level.</li> </ul>	of the green wall is required.	
<ul> <li>Natural ventilation should be provided to basement and sub-basement car parking areas.</li> </ul>		
<ul> <li>Ventilation grills or screening devices should be integrated into the façade and landscape design.</li> </ul>		
Objective 3J-5		
Visual and environmental impacts of ongrade car parking are minimised	No at grade parking	N/A
<ul> <li>On grade car parking should be avoided</li> </ul>		
<ul> <li>Design guidelines provided where it's unavoidable</li> </ul>		
Objective 3J-6		
Visual and environmental impacts of ground enclosed car parking are minimised	See previous comments regarding vertical garden however acceptable regarding street frontage	Satisfactory
<ul> <li>Exposed parking should not be located along primary street frontages</li> </ul>		
<ul> <li>Positive street address and active street frontages should be provided at ground level.</li> </ul>		
Part 4 – Designing the building - Amenity		
4A Solar and daylight access		
Objective 4A-1	Applicant states 24 units achieve solar	Unsatisfactory
To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	access = 70%  The sun-eye diagrams indicate 2 hours	
Design Criteria	sunlight access is received to both living	
1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of two (2) hours direct sunlight between 9am and 3pm in mid-winter in Wollongong LGA.	areas and balconies for units #01 at levels 6-7, but not for the lower levels (NB - solar access achieved to balconies but not living areas at 12.30pm - refer Dwg 071-G). 22 out of 35 units receive the 2 hours (69%) which is marginally non-compliant based on the information available.	

Standards/controls	Comment	Compliance
2. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid winter	Additionally, U1.03 and U2.03 are indicated as receiving 2 hours however the future context sun-eye diagrams	
Objective 4A-2	(Dwg 075-077-G) indicate a future building will compromise compliant	
Daylight access is maximised where sunlight is limited	solar access to these units. Removing these units, a total of 22 units would comply = 63%	
Objective 4A-3		
Design incorporates shading and glare control, particularly for warmer months	North-western units appear not to have shading devices to regulate heat and	
<u>Design Guidance</u>	glare in the summer months.	
Design features can include:		
- Balconies		
- Shading devices or planting		
- Operable shading		
- High performance glass that minimises external glare		
4B natural ventilation		
Objective 4B-1		
All habitable rooms are naturally ventilated.	Compliant natural cross ventilation	Satisfactory
Design Guidance	appears to be achieved.	,
<ul> <li>A building's orientation should maximise the prevailing winds for natural ventilation in habitable rooms</li> </ul>		
<ul> <li>The area of unobstructed window openings should be equal to at least</li> <li>5% of the floor area served.</li> </ul>		
<ul> <li>Doors and openable windows should have large openable areas to maximise ventilation.</li> </ul>		
Objective 4B-2		
The layout and design of single aspect apartments maximises natural ventilation	One single aspect apartment is proposed per floor and has limited	
<u>Design Guidance</u>	depth.	
<ul> <li>Single aspect apartments should use design solutions to maximise natural ventilation.</li> </ul>		

Standards/controls	Comment	Compliance
Objective 4B-3		
The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents		
Design Criteria:		
60% of apartments are naturally cross ventilated in the first nine storeys	80% of apartments achieve natural cross ventilation (4 units per floor on Levels 1-7)	
<ol> <li>Overall depth of a cross-over or cross- through apartment does not exceed 18m, measured glass line to glass line.</li> </ol>	,	
4C Ceiling heights		
Objective 4C-1		
Ceiling height achieves sufficient natural ventilation and daylight access	2.7m habitable ceiling heights appears achievable with 3.1m floor to floor	Satisfactory
Design Criteria	height.	
Minimum 2.7m for habitable rooms     and 2.4m for non-habitable rooms	Ground level proposes 3.9m floor to floor height however first floor is a	
If located in mixed use areas 3.3m for ground and first floor to provide future flexibility of use	standard 2.7m floor to ceiling.	
Objective 4C-2		
Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms	Achieves minimum requirements	
Objective 4C-3		
Ceiling height contribute to the flexibility of building use over the life of the building	No increase in ceiling height on L1	
<u>Design Guidance</u>	beyond minimum residential 2.7m requirement.	
<ul> <li>Ceiling heights of lower level apartments in centres should be greater than the minimum required by the design criteria allowing flexibility and conversion to non-residential uses.</li> </ul>		
4D Apartment size and layout		
Objective 4D-1		
The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	Minimum apartment sizes are met	Satisfactory

Standards/controls	Comment	Compliance
Design Criteria:		
1. Minimum internal areas:		
Studio – 35m²		
$1\ bed-50m^2$		
$2\ bed-70m^2$		
3 bed – 90m²		
The minimum internal areas include only 1 bathroom. Additional bathrooms increase the minimum internal areas by 5m <sup>2</sup> each.		
<ol><li>Every habitable room must have a window in an external wall with a total minimum glass area of at least 10% of the floor area of the room</li></ol>		
Objective 4D-2		
Environmental performance of the apartment is maximised		
Design Criteria:		
<ol> <li>Habitable room depths are limited to a maximum of 2.5 x ceiling height</li> </ol>		
<ol><li>In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.</li></ol>		
Objective 4D-3		
Apartment layouts are designed to accommodate a variety of household activities and needs		
Design Criteria:		
<ol> <li>Master bedrooms have a minimum area of 10m<sup>2</sup> and other bedrooms 9m<sup>2</sup> (excl wardrobe space)</li> </ol>		
Bedrooms have minimum dimension of 3m (excl wardrobe)		
3. Living rooms have minimum width of:		
<ul> <li>- 3.6m for studio and 1 bed apartments and</li> </ul>		
- 4m for 2+ beds.		
4. The width of the crossover or cross through apartments are at least 4m		

Standards/controls			Comment	Compliance
internally to avoid deep narrow apartment layouts.				
4E Private open space	ce and balc	<u>onies</u>		
Objective 4E-1			1 bed – min 8m²	Satisfactory
Apartments provide appropriately sized private open space and balconies to enhance residential amenity		es to	2 bed – min 10m <sup>2</sup> 3 bed – min 12m <sup>2</sup>	
Minimum balcony			Minimum balcony areas/depths are achieved.	
Dwelling type	Minimum area	Minimum depth		
Studio apartments	4m²	-		
1 bedroom apartments	8m²	2m		
2 bedroom apartments	10m²	2m		
3+ bedroom apartments The minimum bal	12m²	2.4m		
area is 1m. <u>Objective 4E-2</u> Primary private oper are appropriately locality for residen	ated to enh		Balconies are located off living areas	Satisfactory
Design Guidance				
<ul> <li>Primary private o balconies should to the living room kitchen to extend</li> </ul>	be located and dining room	adjacent om or		
<ul> <li>POS &amp; Balconies s with the longer si to optimise daylig adjacent rooms.</li> </ul>	de facing o	utwards		
Objective 4E-3				
Primary private oper design is integrated i to the overall archite detail of the building	into and cor ectural form	ntributes		Satisfactory
Objective 4E-4				
Private open space a maximises safety	nd balcony	design		Satisfactory
Design Guidance				

Standards/controls	Comment	Compliance
<ul> <li>Changes in ground levels or landscaping are minimised.</li> </ul>		
4F Common circulation and spaces		
Objective 4F-1		
Common circulation spaces achieve good amenity and properly service the number of apartments.	There are a max. of 5 units off each floor of Levels 1-7 35 units share 1 lift.	Satisfactory
<u>Design Criteria</u>		
The maximum number of apartments off a circulation core on a single level is eight		
2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.		
<u>Design Guidance</u>		
<ul> <li>Long corridors greater than 12m in length should be articulated through the use of windows or seating.</li> </ul>		
<ul> <li>Primary living rooms or bedroom windows should not open directly onto common circulation spaces, whether open or enclosed. Visual and acoustic privacy from common circulation spaces should be controlled.</li> </ul>		
Objective 4F-2		
Common circulation spaces promote safety and provide for social interaction between residents	Straight narrow corridors provide limited opportunity for social interaction/seating however enable	Satisfactory
Design Guidance:	direct sight lines.	
<ul> <li>Incidental spaces can be used to provide seating opportunities for residents, and promotes opportunities for social interaction.</li> </ul>		
4G Storage		
Objective 4G-1	Storage is provided at basement car	Satisfactory
Adequate, well designed storage is provided in each apartment	parking levels & within floor layouts.	

Standards/controls		Comment	Compliance
In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided			
Dwelling type	Storage size volume		
Studio apartments	4m³		
1 bedroom apartments	6m³		
2 bedroom apartments	8m³		
3+ bedroom apartments	10m³		
	he required storage is thin the apartment		
Objective 4G-2		Storage collocated with parking are	Unclear
Additional storage is conveniently located, accessible and nominated for individual apartments		supported and convenient for residents to access, however Basement 2 appears not to show storage areas for each car space provided.	
4H Acoustic privacy	!		
Objective 4H-1			
Noise transfer is minimised through the siting of buildings and building layout		Acoustic report provided due to proximity to rail corridor which has	Satisfactory
Objective 4H-2		been assessed as satisfactory subject to conditions.	
Noise impacts are mapartments through treatments	nitigated within I layout and acoustic	conditions.	
4J Noise and polluti	<u>ion</u>	The site adjoins the rail corridor.	Satisfactory
Objective 4J-1		See previous comments	
In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings			
Design Guidance			
Objective 4J-2			
Appropriate noise shattenuation techniq design, construction materials are used tansmission	ues for the building and choice of		

Standards/controls	Comment	Compliance
Part 4 – Designing the building - Configuration		
4K Apartment mix		
Objective 4K-1		
A range of apartment types and sizes is provided to cater for different household types now and into the future	A mix of apartment types is proposed, however could increase the number of 3 bed apartments to 4 (10%) to improve the range of types and sizes in line with DCP minimums. Also a range of adaptable units should be provided to improve housing options.	Unsatisfactory
Objective 4K-2		
The apartment mix is distributed to suitable locations within the building		
	3 bedroom units located on the top level with none located close to the communal open space areas.	
4L Ground floor apartments	N/A – no ground floor apartments proposed.	N/A
4M Facades		
Objective 4M-1		
Building facades provide visual interest along the street while respecting the character of the local area	The proposed façade has improved through the submission of revised plans and reasonably responds to the	Satisfactory
Design guidance	constraints of the site.	
<ul> <li>To ensure that building elements are integrated into the overall building form and façade design</li> </ul>		
<ul> <li>The front building facades should include a composition of varied building elements, textures, materials, detail and colour and a defined base, middle and top of building.</li> </ul>		
- Building services should be integrated within the overall facade		
<ul> <li>Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale.</li> </ul>		
<ul> <li>To ensure that new developments have facades which define and enhance the public domain and desired street character.</li> </ul>		

Standards/controls	Comment	Compliance
Objective 4M-2	The residential building entry is clearly	
Building functions are expressed by the facade	defined. more visible from the street.	
Design guidance		
<ul> <li>Building entries should be clearly defined</li> </ul>		
4N Roof design		
Objective 4N-1		
Roof treatments are integrated into the building design and positively respond to the street	The roof plan shows solar panels.	Satisfactory
Objective 4N-2	Solar access to communal areas could	
Opportunities to use roof space for residential accommodation and open space are maximised	be improved by providing roof top communal open space.	
Objective 4N-3		
Roof design incorporates sustainability features		
40 Landscape design		
Objective 40-1	The landscaping will require further	Unsatisfactory
Landscape design is viable and sustainable	resolution to address both the flooding constraints and to provide adequate amenity to the residents.	
Design guidance	amenty to the residents.	
<ul> <li>Landscape design should be environmentally sustainable and can enhance environmental performance</li> </ul>	The landscape design is compromised by the sewer line which may inhibit substantial tree growth along the	
- Ongoing maintenance plans should be	northern and eastern boundaries.	
prepared		
prepared  Objective 40-2	The removal of the substation from the southwestern corner of the site	
• •	The removal of the substation from the southwestern corner of the site improves landscape opportunities, however it has not been demonstrated	
Objective 40-2 Landscape design contributes to the	The removal of the substation from the southwestern corner of the site improves landscape opportunities,	
Objective 40-2  Landscape design contributes to the streetscape and amenity	The removal of the substation from the southwestern corner of the site improves landscape opportunities, however it has not been demonstrated that this can be achieved. Without	
Objective 40-2 Landscape design contributes to the streetscape and amenity  Design guidance - Landscape design responds to the	The removal of the substation from the southwestern corner of the site improves landscape opportunities, however it has not been demonstrated that this can be achieved. Without certainty of shared arrangements, this landscaped area may be compromised	
Objective 40-2  Landscape design contributes to the streetscape and amenity  Design guidance  - Landscape design responds to the existing site conditions including:	The removal of the substation from the southwestern corner of the site improves landscape opportunities, however it has not been demonstrated that this can be achieved. Without certainty of shared arrangements, this landscaped area may be compromised	

Standards/controls	Comment	Compliance
4P Planting on Structures		
Objective 4P-1	Some deep soil planting on structures is	Satisfactory
Appropriate soil profiles are provided	proposed.	
Objective 4P-2		
Plant growth is optimised with appropriate selection and maintenance		
Objective 4P-3		
Planting on structures contributes to the quality and amenity of communal and public open spaces		
4Q Universal design		
Objective 4Q-1		
Universal design features are included in apartment design to promote flexible housing for all community members	Accessible and liveable silver standard units are all 2 bedroom with the same layout	Satisfactory
Design guidance		
<ul> <li>20% of apartments incorporate the Livable Housing guidelines silver level universal design features</li> </ul>		
Objective 4Q-2		
A variety of apartments with adaptable designs are provided	Wollongong DCP requires 10% of units to be adaptable (4) which the development provides (U2.04-7.04)	
Design guidance	,	
<ul> <li>Adaptable housing should be provided in accordance with the relevant council policy</li> </ul>		
Objective 4Q-3	4 adaptable units are proposed	
Apartment layouts are flexible and accommodate a range of lifestyle needs	however they are all 2 bedroom with the same layout. Some different sizes and/or layouts would improve flexible	
Design guidance	housing options.	
- Apartment design incorporates flexible design solutions		
4R Adaptive reuse	N/A	N/A
4S Mixed use		
Objective 4S-1	N/A	N/A

Standards/controls	Comment	Compliance
Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement		
Objective 4S-2		
Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents		
-		
4T Awnings and signage		
Objective 4T-1	An awning is proposed	Satisfactory
Awnings are well located and complement and integrate with the building design		
Design guidance		
<ul> <li>Awnings should be located along streets with high pedestrian activity and active frontages</li> </ul>		
Objective 4T-2		
Signage responds to the context and desired streetscape character		
Design guidance		
<ul> <li>Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development</li> </ul>		
4U Energy efficiency		
Objective 4U-1		Satisfactory
Development incorporates passive environmental design		
Design guidance		
<ul> <li>Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access)</li> </ul>		
Objective 4U-2		
Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer		

Standards/controls	Comment	Compliance
Design Guidance		
<ul> <li>Provision of consolidated heating and cooling infrastructure should be located in a centralised location</li> </ul>		
Objective 4U-3		
Adequate natural ventilation minimises the need for mechanical ventilation		
4V Water management and conservation		
Objective 4V-1		
Potable water use is minimised	WSUD and OSD is proposed.	Satisfactory
Objective 4V-2		
Urban stormwater is treated on site before being discharged to receiving waters	The design of the OSD has been found unsatisfactory by Council's Stormwater Engineer.	Unsatisfactory
Design guidance		
<ul> <li>Water sensitive urban design systems are designed by a suitably qualified professional</li> </ul>		
Objective 4V-3		
Flood management systems are integrated into site design		
Design guidance		
- Detention tanks should be located under paved areas, driveways or in basement car parks		
4W Waste management		
Objective 4W-1		
Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	Waste storage areas are located on Basement 1 including a bulky waste storage area.	Satisfactory, subject to conditions
Design guidance	A general waste and recycling chute are	
<ul> <li>Common waste and recycling areas should be screened from view and well ventilated</li> </ul>	provided at each level with a carousel in the basement.  It appears some provision for FOGO	
Objective 4W-2	(food organics garden organics) is	
Domestic waste is minimised by providing safe and convenient source separation and recycling	provided at Basement 1 (2 bins).	

Standards/controls	Comment	Compliance
Design guidance		
<ul> <li>Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core</li> </ul>		
<ul> <li>For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses</li> </ul>		
<ul> <li>Alternative waste disposal, such as composting, can be incorporated into the design of communal open space areas</li> </ul>		
4X Building maintenance		
Objective 4X-1		
Building design detail provides protection from weathering	Yes	Satisfactory
Objective 4X-2		
Systems and access enable ease of maintenance		
Objective 4X-3		
Material selection reduces ongoing maintenance costs easily cleaned surfaces that are graffiti resistant		
	1	

## Appendix A – LEP Variations

## Introduction

This Clause 4.6 Variation Request has been prepared to support a development application under Division 4.3 of the Environmental Planning and Assessment (EP&A) Act 1979, for a multi story residential flat building development at Lot 78 and 79 DP 13047, 17-19 Gladstone Avenue. This request satisfies the requirements of Clause 4.6 of the Wollongong Local Environmental Plan 2009 in demonstrating that:

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

This Variation Request is seeking to vary Clause 8.6 Building Separation within Zone B3 Commercial Core or Zone B4 Mixed Use of Wollongong Local Environmental Plan 2009 (WLEP 2009) and should be read in conjunction with the Statement of Environmental Effects and architectural plans provided with the Development Application.

This variation has been prepared in accordance with the NSW Department of Planning Infrastructure (DPI) guideline "Varying Development Standards: A Guide" dated August 2011 and addresses the 'five-part test' established by the NSW Land and Environment Court (LEC) to determine whether the objection is well founded.

## Subject land and proposal

The subject site is located southwest of the Wollongong City Centre area, on the eastern side of Gladstone Avenue near the intersection to Rowland Avenue (south). The area to be redeveloped includes Lot 78 and 79 DP 13047. The site is rectangular allotment of 1237.18m<sup>2</sup>, with a frontage to Gladstone Avenue in the order of 30.59 metres.

The site is located close to the commercial core and Wollongong Train Station, so the context for this proposal is highly amenable and convenient to retail, commercial, educational and hospital facilities. As such, it is ideally located for a residential project of this scale. Gladstone Avenue could be described as transitional, with a mixture of building types and scales providing an eclectic urban character. The Vantage is a completed nine storey mixed-use development on the opposite side of the road, indicating future scale and built form strategic context and character. The eastern rear boundary of the property is bordered by the South Coast Rail line.

The site currently contains a single storey brick residential dwelling and single storey commercial building with regular setbacks. All structures and surfaces are proposed to be demolished to support the new development.

The subject site is burdened by easements and infrastructure adjacent to the northern boundary, the eastern boundary, and the southern boundary.

Key development details include:

- Demolition of all existing buildings/structures
- Construction of a new 9 storey residential flat building consisting of thirty-five (35) residential apartments
- Basement level parking for 39 cars, with additional bike (17) and motorbike (3) parking
- Associated communal spaces, swimming pool, landscaping and stormwater drainage.

## Applicable Environmental Planning Instrument

The applicable Environmental Planning Instrument subject to this Variation Request is the Wollongong Local Environmental Plan 2009.

## Wollongong Local Environmental Plan 2009

Wollongong Local Environmental Plan 2009 (WLEP 2009) provides the key development standards applicable to the development and includes the aims and objectives for the development within the Wollongong Local Government Area.

## Objectives of the B4 Mixed Use Zone

The objectives of the B4 Mixed Use zone are:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To support nearby or adjacent commercial centres without adversely impacting on the viability of those centres.

The proposed development is considered to be consistent with the zone objectives in that it is for a residential flat building, a permissible land use, that is compatible with the existing development within the vicinity of the site.

The proposed development is enviably located within 110 metres, or 150 metres walking distance from Wollongong Train Station, 660 metres from Crown Street Mall, and 440 metres from Wollongong Public Hospital. Its close proximity to key public infrastructure and other services to satisfy the day to day need of future occupants of the residential flat building fulfils the accessibility criteria of the zone objective, and will consequently encourage and ensure use of public and active transport available within walking distance of the subject site.

The proposed development will support the nearby Wollongong commercial centre and other nearby commercial centres through the provision of thirty-five (35) new dwellings in a highly accessible area. The proposed residential flat building does not incorporate any mixed uses (commercial uses) which would typically provide competition for existing commercial centres.

#### Objectives of the Development Standard

To satisfy the requirements of Clause 4.6 and demonstrate that compliance with the standard is unreasonable or unnecessary, it is important to understand the intent and objectives of the development standard being varied.

The objectives of this clause are as follows—

(a) to provide an appropriate degree of flexibility in applying certain development Page 51 of 99

standards to particular development,

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

The expression 'development standards' is defined in section 4(1) of the EPA Act as follows:

'development standards' means 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,
- (i) drainage,
- (k) the carrying out of earthworks,
- (I) 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 key elements of a development standard are as follows: i. It must be a provision of an EPI or the regulations made under the EPA Act (thus excluding, among other things, a DCP). ii. The provision must be one 'in relation to' the carrying out of development. iii. The provision must be one by or under which one or more requirements are specified, or one or more standards are fixed, in respect of any aspect of that development. In this regard, the minimum site area requirement pursuant to cl. 4.1E(4) is a development standard as it prescribes a specified minimum site area standard for the erection of a dual occupancy.

In Wehbe v Pittwater Council [2007] NSWLEC 827 (Wehbe), Chief Justice Preston stated that

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

This Clause 4.6 Variation Request demonstrates how the proposed development achieves the ends (environmental or planning objectives), despite its departure from the means (development standard).

## Justification of Variation

This Variation Request is seeking to vary Clause 8.6 Building Separation within Zone B3 Commercial Core or Zone B4 Mixed Use.

The Clause seeks to ensure sufficient separation of buildings for visual appearance, privacy and solar access reasons and establishes a development standard to achieve its objective.

In accordance with sub-clause 2 and 3, buildings on land within Zone B3 Commercial Core or B4 Mixed Use must be erected so that:

- "...(a) there is no separation between neighbouring buildings up to the street frontage height of the relevant building or up to 24 metres above ground level whichever is the lesser, and
- (b) there is a distance of at least 12 metres from any other building above the street frontage height and less than 45 metres above ground level, and
- (c) there is a distance of at least 28 metres from any other building at 45 metres or higher above ground level.
- (3) Despite subclause (2), if a building contains a dwelling, all habitable parts of the dwelling including any balcony must not be less than:
- (a) 20 metres from any habitable part of a dwelling contained in any other building, and
- (b) 16 metres from any other part of any other building..."

Effectively this clause requires that any development levels incorporating habitable parts of a dwelling or balcony, must be setback a minimum of 10 metres from the corresponding side boundaries (i.e. half the requirement to achieve the 20 metre building separation between buildings), or 8 metres from the corresponding side boundary where there is any other part of a building (half the requirement of 16 metre building separation between buildings). These setbacks ensure that the building separation distances are equitably shared between development sites.

The shortest building setback to the northern boundary from the development is 3.506 metres from habitable parts of dwellings. The shortest building setback to the southern boundary from the development is 7.5 metres from habitable areas that are devoid of any windows or balconies and 9 metres from habitable areas of dwellings with windows. The development to the south is a single storey residential development, therefore the 9m building setback to the south appears to comply with sub-clause (3)(b), however assuming future development of the site, the upper storey building separation has been considered. As such, the proposed development does not strictly comply with the building separation criteria for the northern elevation for all levels.

Therefore, the development falls short of the minimum building separation requirement contained in *Clause 8.6(3)(a)* to which this *Clause 4.6* variation is requested.

The variation exceedance equates to:

- 64.94% shortfall for the northern boundary (based on boundary to building setback);

and

- 10% shortfall for the southern boundary (based on boundary to building setback where the building includes windows in habitable parts of dwellings).

Essentially the contextual reasoning for this encroachment close to the northern boundary is based on the current site conditions and future development context to the north. We understand this site immediately north is under NSW LEC appeal proceedings in relation to a recent DA refused for a multi-storey mixed use redevelopment – DA-2021/890. The proposed development concept shows no built form within 24 metres of the subject site's northern boundary, which will result in a building separation in the order of 27.506 metres for all levels. Whilst this application is before the courts and still undetermined, we believe this area is likely to remain as open space with any redevelopment of the subject site to the north regardless due to the existing flood conditions of the area. As a result, this future building separation will be notably in excess of the 20 metre requirement under this clause, and hence, it is contended that sufficient planning grounds are available to enable this reduced northern setback accordingly.

The setback, and potential building separation to the south is considered to be minor in nature as the shortfall is 10% or 1 metre less than the required 10 metres (being an equitable distribution of 20 metres shared across two development sites). The existing development to the south (21 Gladstone Avenue) is a single storey dual occupancy development. Based on the application of the clause, there is no non-compliance as the ground floor of the proposed development does not incorporate any habitable part of a dwelling and is setback 9m, which is greater than the equal split of the total 16m building separation required by sub-clause (3)(b). Irrespective of the current compliance with development standard, it is further justified that the single storey nature of the development provides ample opportunities to minimise visual and privacy impact on the occupants of the development.

Despite the variation with Clause 8.6, the building has been designed in accordance with the Apartment Design Guide (ADG), as per State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development. The ADG requires building separation as per the following:

Buildings up to 12m (4 storeys):

Habitable rooms and balconies: 6m

Non-habitable rooms: 3m

Buildings up to 25m (5-8 storeys): Habitable rooms and balconies: 9m Non-habitable rooms: 4.5m

Buildings over 25m (9 storeys):

Habitable rooms and balconies: 12m

Non-habitable rooms: 6m

The building separation to the south can be adequately met and complied with as detailed above. A minor variation is maintained to the northern boundary (based on the equal split approach), however for the reasons described above pertaining to the development footprint of DA2021/890 subject to LEC proceedings, coupled with the flood affectation of 15 Gladstone Avenue, the building separation of the ADG can be adequately achieved.

How is compliance with the development standard is unreasonable or unnecessary in the circumstances of the case?

In Wehbe v Pittwater Council [2007] NSWLEC827 (Wehbe), Preston CJ identified five (5) ways in which an applicant might establish that compliance with a development standard is unreasonable or unnecessary. While Wehbe related to objections pursuant to State Environmental Planning Policy No. 1 – Development Standards (SEPP 1), the analysis can be of assistance to variations made under clause 4.6 because subclause 4.6(3)(a) uses the same language as clause 6 of SEPP 1 (see Four2Five at [61] and [62]).

The five (5) ways outlined in Wehbe include:

- 1. The objectives of the standard are achieved notwithstanding noncompliance with the standard (First Way)
- 2. The underlying objective of purpose of the standard is not relevant to the development and therefore compliance is unnecessary (Second Way)
- 3. The underlying object or purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable (Third Way)
- 4. The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable (Fourth Way)
- 5. The zoning of the particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning is also unreasonable and unnecessary as it applies to the land and compliance with the standard would be unreasonable or unnecessary. That is, the particular parcel of land should not have been included in the particular zone (Fifth Way).

Additionally, of note, in the judgment in Randwick City Council v Micaul Holdings Pty Ltd [2016] NSWLEC 7 the Chief Judge upheld the Commissioner's approval of large variations to height and FSR controls on appeal. He noted that under Clause 4.6, the consent authority (in that case, the Court) did not have to be directly satisfied that compliance with the standard was unreasonable or unnecessary, rather that the applicant's written request adequately addresses the matters in Clause 4.6(3)(a) that compliance with each development standard is unreasonable or unnecessary.

In this regard, this written request establishes and adequately addresses the matters in clause 4.6(3)(a) that compliance with each development standard is unreasonable or unnecessary because the objectives of the standard are achieved irrespective of the non-compliance and accordingly justifies the variation pursuant to the **First Way** and **Forth Way** outlined in Wehbe, as follows.

## **Objective of the Development Standard:**

Under WLEP 2009, Clause 8.6 has the following objectives in relation to the building separation within Zone B3 Commercial Core or Zone B4 Mixed Use development standard:

(1) The objective of this clause is to ensure sufficient separation of buildings for reasons of

## **Visual Appearance**

The proposal incorporates attractive and well-considered architectural design, materials and details which reflect the proposed high-quality mixed use development. The visual appearance of the proposed development responds to the existing and future local context, particularly in desirable elements and repetitions of the streetscape.

The building facade to Gladstone Avenue emphasises and accentuate parts of the elevation through the use of a similar language to achieve a cohesive building outcome and understand the theory and principles behind the design. Changes in colour and façade materials help to articulate the podium and addresses street frontage with appropriate proportions.

The theory and principles to the aesthetics of the building design have arrived from a multiple of stimulants and ideas culminating in a focused and narrowed theory gathered from the development of the building and the surrounding context.

Developing the constraints and opportunities of the site has allowed the building to move and transform from the active to a sense of the building's simplicity and nature. The language of the building's facades has been carried through responding to the site forces, orientation and constrains posed by the site. The use of materials and colours has also been carried through to help express this language.

The overall envelope is an appropriate design and scale which reflects the site's constraints and permissible yield in terms of GFA and building height enabled by WLEP 2009 (which is compliant). The breakdown of the transparent podium and bricked tower help to create an aesthetic quality which will sit comfortably in its surrounding scale and context, as well respond to the developments exiting and newly constructed.

Consideration has been made to all façades where walls are articulated with texture and pattern to mitigate any blank walls (through the use of balconies, windows and materials). Various window elements have been used to each elevation to create visual interest to these edges, when viewed from various angles surrounding.

Selected quality, modern, durable and environmentally sustainable external finishes ensure the proposed development enhances the amenity of the local area. Carefully selected colours sympathetic to the visual composition of neighbouring developments maintains and responds appropriately to the current and desired future character of the precinct. The materials selected such as several of types of glazing, textured feature walls have provided the building with a high quality, low maintenance external façade that contributes positively to the visual presentation of the development.

The site itself, and the adjoining sites to the north, permits flexibility in the application of the clause in the sense that No. 15 Gladstone Avenue is flood affected and unlikely to be developed to the boundary. It is noted that the development subject to LEC proceedings earmarks this site for future public park. Irrespective of whether the refusal is overturned or upheld, the undevelopable nature of that site for high density development due to flood,

warrants the use of that site for building separation for this proposed development.

The elevations prepared by DWA below illustrate the current and future context of Gladstone Avenue, and how reasonable building separations can be achieved. The building separation to the north, can be achieved. A minor variation (10%) to the south is maintained, however it is considered that through design excellence and architectural features, mitigation of any visual or privacy impact can be minimised or avoided. The proposed development, however is designed to generally comply with the building separation between residential flat as per the ADG which are substantially less than clause 8.6. In this instance, the proposed building setbacks and therefore building separation would be compliant.

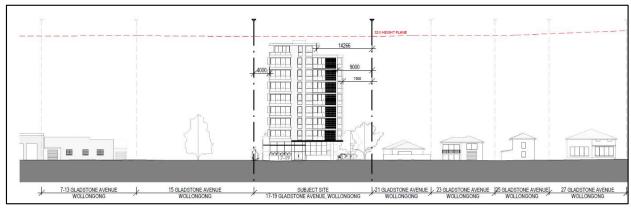


Figure 13 - Current Gladstone Avenue Streetscape including Proposed Development (DWA)

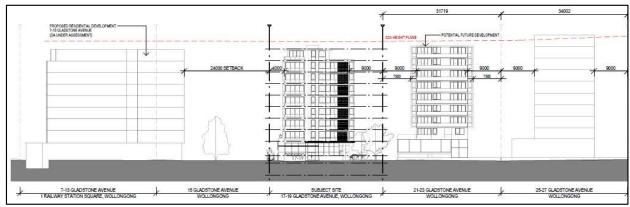


Figure 14 - Future Gladstone Avenue Streetscape including Proposed Development (DWA)

## **Privacy**

Privacy has been considered specifically in the design response shown in the architectural interface treatment to the northern boundary elevation and the separation distance. Again, whilst the building separation distance from the northern boundary and the position of the proposed residential flat building tower is pushed closer to the north, the existing floodway conditions adjacent mean that adequate distance attenuation for any future building on the northern property will be adequate with regards to privacy.

The northern elevation adjoins an open space area, with no development expected in the near future as a result of the flood affectations of the site. The proposed development application under consideration for this northern property shows a 24 metre setback to the boundary,

meaning a future 27.506 metres building separation distance attenuation between the proposed development and the proposed adjoining development (if approved). This distance attenuation is well in excess of ADG requirements for visual privacy.

Therefore, whilst the internal layout of the rooms at this northern edge will be directly overlooking the property to the north and any potential future development to the south, the future distance attenuation is considered sufficient to enable this design response.

To the south, the current development is a single storey dual occupancy development, where the building separation with the ground floor of the proposed development complies with the 16m building separation required by sub-clause (3)(b) based on an equal split of the development standard (i.e. 8m on the subject site). Future development of that site, for a mixed use or residential flat building would warrant the application of the 20 metre building separation as per sub-clause (3)(a), in which Figure 14 illustrates how a 18m building separation between the two developments can be achieved. In this respect, a minor variation (10%) to the south is maintained, however it is considered that through design excellence and architectural features, mitigation of any visual or privacy impact can be minimised or avoided.

The setback, and potential building separation to the south is considered to be minor in nature as the shortfall is 10% or 1 metre less than the required 10 metres (being an equitable distribution of 20 metres shared across two development sites). The existing development to the south (21 Gladstone Avenue) is a single storey dual occupancy development. Based on the application of the clause, there is no non-compliance as the ground floor of the proposed development does not incorporate any habitable part of a dwelling and is setback 9m, which is greater than the equal split of the total Irrespective of the current compliance with development standard, it is further justified that the single storey nature of the development provides ample opportunities to minimise visual and privacy impact on the occupants of the development.

Privacy impact to future development to the southern side of the site is minimised through the placement of windows on the building that measures 7.5m from the boundary and the placement of windows on the eastern and western elevation to limit privacy interface issues. Moveable privacy screens/shutters on balcony areas, and internal blinds as privacy treatments will be create additional attenuation from any potential privacy impacts between the proposed and future development to the south.

Acoustic privacy for future visitors and neighbouring land uses has also been taken into account, with the proposed development being designed to limit noise intrusion into adjoining properties through the use of appropriate building materials and associated noise control treatments.

With regards to existing site conditions, if the subject site to the north was to remain in situ, there is some 35 metres distance between the northern façade of the proposed development and the existing commercial/industrial warehouse located on this adjacent property. As such, visual privacy and residential amenity will not be negatively affected by either the current or future context at this location.

The proposal is generally consistent with the separation distances outlined in the ADG, which prevail pursuant to SEPP 65.

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#### Solar access

The layout and panned design are a direct response to the site's orientation. The apartments aspects being used for primary living spaces are orientated north, east and west where possible to maximise the main solar collectors during morning and afternoon and main outlook for the development.

The layouts demonstrate grouping of the services and circulation space and living areas throughout. encompassing a northern edge that is treated architecturally with high-level and pop-out windows of smaller proportion to gain advantage of the solar access (but at the same time limit privacy interface issues).

A SEPP 65 Compliance table has been provided by DWA Architecture and is attached to the DA submission package for Council's consideration.

A total of 71.43% (25 apartments) of the residential apartments receive a minimum of 2 hours sun to living area glazing and private open space in midwinter. The State Environmental Planning Policy No. 65 - Design Quality of Residential Apartment Development, ADG design criteria nominates 70% as a minimum and therefore the ADG design criteria for solar access are fully satisfied.

By pushing the building envelope for the proposed development further to the north, appropriate building separation setbacks are provided to the lower scale residential neighbours to the south. This will mean solar access in part is still available for these properties to the south during different times of the morning and afternoon periods. Reference should be made to the architectural drawings prepared by DWA illustrate shadow analysis and solar views, which demonstrate the suitable provision of solar access to the dwellings within the proposed development, and the adjoining sites.

On this basis, the proposed development has been assessed against each objective contained in Clause 8.6 of WLEP 2009. Thus, deeming strict compliance with these building separation values is unwarranted in the circumstances of this particular case.

#### <u>Development Standard Abandoned:</u>

In relation to the Fourth Way – "The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable (Fourth Way)" – it is noted that the following DAs did proposed variations to the building separation development standards, and were approved by Council accordingly:

DA-2016/969: 48 Bank Street WOLLONGONG NSW 2500

Demolition of existing structures and construction of shop top housing comprising ground floor commercial and six residential levels with basement parking

DA-2017/1462: 47 Burelli Street WOLLONGONG NSW 2500

Demolition of all structures, and the construction of a seven (7) storey office building for IMB bank with two basement car parking levels for 89 car parking spaces

DA-2017/493: Langs Building 95-109 Crown Street WOLLONGONG NSW 2500 Commercial - demolition of existing building and construction of new commercial premises comprising of offices and retail tenancies

DA-2017/730: 131-135 Keira Street WOLLONGONG NSW 2500

Demolition of existing buildings and ancillary structures and the construction of a mixed use development above basement parking

DA-2018/1638: 71-77 Kembla Street WOLLONGONG

Mixed use development - fourteen (14) storey building comprising of one hundred and two (102) residential units and eight (8) commercial tenancies over two (2) levels of basement parking

DA-2018/973: 28 Young Street WOLLONGONG

Residential - demolition of existing structures and construction of a 15 storey mixed use development comprising seven (7) commercial tenancies, 64 residential apartments and car parking for 90 vehicles

DA-2019/1122: 20-26 Young Street WOLLONGONG

Demolition of existing structures and construction of a 15 storey mixed use development comprising 60 residential units, six (6) commercial tenancies and parking for 89 vehicles

DA-2019/779: 80 Market Street WOLLONGONG

Commercial - demolition of existing structures and construction of a six (6) storey development

DA-2019/1123: 35 Atchison Street WOLLONGONG

Demolition of existing structures and construction of a 14 storey mixed use development comprising 50 residential units, one (1) ground floor commercial tenancy and two levels of basement parking

DA-2020/1465: 15-19 Crown Street WOLLONGONG

Mixed use development - construction of a 13 storey residential flat building over a ground level commercial premise and one (1) level of basement parking

DA-2020/1292: 46 Crown Street WOLLONGONG

Demolition of existing structures and construction of a mixed use development

DA-2020/80: 290-294 Keira Street WOLLONGONG

Demolition of existing structures and construction of a seven (7) storey mixed use development comprising 34 residential units and two (2) commercial tenancies with 50 parking spaces

DA-2019/1231: 111-113 Crown Street WOLLONGONG

Demolition of existing structures and construction of A-Grade office building above retail and basement parking

These are only some of the DAs on Council's register to which a Clause 4.6 variation to the building separation requirements under clause 8.6 have been supported by Council. It is reasonable to suggest that the above DAs were considered on merit and specific to the circumstances of the particular case, without Council totally abandoning the development standard altogether.

However, it must also be acknowledged that this development standard, by virtue of how often it has been varied, could also be considered discarded or less critical from a planning Page 60 of 99

consideration perspective. Thus, deeming strict compliance with the minimum building separation is unwarranted (Forth Way) in the circumstances of this particular case.

# Are there sufficient environmental planning grounds to justify contravening the development standard?

Yes, there are sufficient environmental planning grounds in the circumstances of the case to justify contravening the development standard. These include:

# The unique circumstances at the site which warrant the provision of reduced setback:

The unique circumstances that apply to the site to warrant the provision of a reduced setback to the north are the existing environmental conditions. It is understood that a large part of the site to the north adjacent to the subject common boundary is deemed a floodway by Wollongong City Council, and any development in this part of the site would be deemed to be high risk. Adopting building separation requirements to the north would mean that a reasonable redevelopment of the subject site would not be possible.

With the existing and future development of the adjoining property to the north restricted in terms of its built form positioning capabilities, it means that a notable building separation will be available in perpetuity regardless. Thus, strict compliance with the building separation criteria in the circumstances is unwarranted.

The building footprint has been pushed as far north as possible in order to minimise the impact on the development to the south, and therefore reduce any potential impact on visual privacy and solar access. A minor variation is still maintained to the south with any future potential development for a mixed use / residential flat building, however it is considered that through design excellence and architectural features, mitigation of any visual or privacy impact can be minimised or avoided.

Despite the variation with Clause 8.6, the building separation of the ADG can be achieved when comparing it to the potential future development of 21 Gladstone Avenue to the south, and to the north, the development footprint of DA2021/890 subject to LEC proceedings, coupled with the flood affectation of 15 Gladstone Avenue.

# The proposed building form does not result in any significant adverse impacts and achieves a good urban development outcome for the site:

The building intrusions into the side setback is a direct design response with the intent to allow the site to respond to the demand for housing in the area, whilst supporting Wollongong Councils objectives for built form within the B4 zoned Mixed Use.

The proposed bulk and scale of this building is considered appropriate for this location and will not detrimentally affect the visual appearance of the area (in fact it will substantially improve an aged part of the city, which is undergoing change with other similar scale redevelopments occurring nearby). The overall height and form of the development is consistent with expected future desired character strategies for the area as demonstrated by the compliant building height and FSR.

The proposal incorporates attractive and well-considered architectural design, materials and Page 61 of 99

details which reflect the proposed high-quality residential development. The proposal involves well-articulated façades with the incorporation of a single tower building envelope featuring defined building lines to minimise bulk (and avoid a 'wedding cake' look). The proposal will deliver good internal amenity for prospective residents occupants.

Again, the adjoining site is still able to achieve their maximum permitted FSR building forms and at the same time still achieve reasonable building separation.

The maintenance of design excellence through the proposed alternate strategy, which has been designed to be a core element of the delivery of the integrated station development outcome:

- "In considering whether development to which this clause applies exhibits design excellence, the consent authority must have regard to the following matters:
- (a) whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved,
- (b) whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain,
- (c) whether the proposed development detrimentally impacts on view corridors,
- (d) whether the proposed development detrimentally overshadows an area shown distinctively coloured and numbered on the Sun Plane Protection Map,
- (e) how the proposed development addresses the following matters:
- (i) the suitability of the land for development,
- (ii) existing and proposed uses and use mix,
- (iii) heritage issues and streetscape constraints,
- (iv) the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,
- (v) bulk, massing and modulation of buildings,
- (vi) street frontage heights,
- (vii) environmental impacts such as sustainable design, overshadowing, wind and reflectivity,
- (viii) the achievement of the principles of ecologically sustainable development,
- (ix) pedestrian, cycle, vehicular and service access, circulation and requirements,
- (x) impact on, and any proposed improvements to, the public domain."

The urban design has been developed in accordance with the relevant design excellence provisions of the WLEP 2009, as well as other strategic and statutory considerations relevant to the proposed shop top housing development. 'Design Excellence' has been the cornerstone of the design process for the design team and has been achieved through a rigorous design development process in collaboration with a team of specialist consultants.

The architectural design, materials and detailing are of a high standard that is appropriate to the building type and location. The form and external appearance of the development will improve the quality and amenity of the public domain in the immediate vicinity of the site, particularly as the site is situated in a visually prominent location along Gladstone Avenue.

The external details have been carefully considered with the designer of the development undertaking a comprehensive site analysis not only in terms of built form but also materials to ensure that the development, will integrate with the existing setting but also provide a benchmark for future development in the area.

The proposal will impact on existing view corridors given that the proposal involves the construction of a 9 storey development in place of the existing development. However, these impacts are essentially unavoidable due to the orientation and location of adjoining development, without effectively sterilising the site.

The proposal has been designed to comply with key planning controls considering the constraints of the site and the adjoining sites.

The land is suitable for the proposed development and is compatible with the surrounding commercial and residential uses. The proposal will not have a detrimental impact on any environmental heritage items and will make a positive contribution to the streetscape.

The proposed bulk, massing and modulation of the building is acceptable and does not result in any unreasonable loss of amenity to any of the adjoining properties. The proposed street frontage heights are considered appropriate having regard to the surrounding context and scale of development.

The proposal will have no significant adverse environmental impacts in terms of sustainability, wind and/or reflectivity. Overshadowing and solar access has been addressed in detail by the designers of the development and relevant details have been provided in this regard to enable a full assessment (i.e., shadow diagrams, BASIX, etc).

Access to the site has been carefully considered in a variety of forms (i.e., for pedestrians, motorists, and cyclists alike), to ensure suitable provisions for service access and circulation. The proposed development will have a positive impact on the public domain.

# The delivery of a development outcome which does not result in any adverse environmental impacts

Environmentally sustainable measures incorporated in the development include:

- Building orientates to maximise solar gain;
- Design solution provides effective benefices to cross flow ventilation;
- · Maximised planting within the communal open space;
- Ethically source long lifecycle products and materials;
- Dual flush toilets;
- Rainwater to be used for garden irrigation;
- Taps fitted with water efficient fittings;
- Insulation and sisalation under roof;
- Proposed visitor and residential bicycle parking in compliance with Wollongong Council's Development Control Plan

We acknowledge the proposed development will bring some overshadowing impact upon the neighbouring properties to the south, however, the development to the south will still receive part solar access as shown in the shadow analysis and solar views diagrams. Overshadowing given the current planning controls and transition taking place in this area is largely unavoidable in this instance, yet the impacts are considered reasonable given partial solar access will be available to those properties to the south in the early morning and mid Page 63 of 99

afternoon periods regardless.

The reduced building separation is deemed reasonable and acceptable due to the reduced impacts to privacy and overlooking, created specifically by responsive architectural interface treatment to these boundaries.

The development has been specifically designed to provide a suitable environment for all future inhabitants of the dwellings, whilst respecting the considerations of adjoining land uses. The internal layout of the rooms attempts to optimise outlook, without creating environmental impacts associated with overlooking, privacy and residential amenity.

Overall, it is evident from the above commentary if there are sufficient planning grounds to justify contravening the building separation development standards identified. To this end, strict compliance with the numerical development standards is both unwarranted and unnecessary in this instance.

Is the proposed development in the public interest because it is consistent with the underlying intent of the development standard and the objectives for development in the zone

Yes, the proposal will provide additional floor space within a residential flat building to meet the housing needs, in turn meeting the needs of the local community. The development is generally compliant with the nine (9) design quality principles of SEPP 65 – Design Quality of Residential Apartments and the design principles and numerical requirements of the Wollongong Development Control Plan 2009 (WDCP 2009) and is therefore compatible with its location. Again, the resulting building form is a direct result of easements and environmental constraints on the site.

Does contravening the development standard raise any matters of significance for the State or regional environmental planning?

No, contravening the development standard in this case does not raise any matters of State or Regional planning significance.

### Is the objection well founded?

For the reasons outlined in the previous sections above, the objection is considered to be well founded in this particular instance. Granting an exception to the development standard can therefore be supported in the circumstances of the case.

The proposed development will be consistent with the outcomes envisaged in the zoning and policy framework. The development is also compatible with the relevant objectives specified in Section 1.3 of the EPAA 1979.

#### Conclusion

This Clause 4.6 Variation Request has been prepared to support a development application for a Residential Flat Building at Lot 78 and 79 DP 13047, 17-19 Gladstone Avenue, Wollongong. This request satisfies the requirements of Clause 4.6 of the Wollongong Local Environmental Plan 2009 (WLEP 2009) and demonstrates that compliance with the standard is both unreasonable and unnecessary, and that there are sufficient environmental planning grounds to justify varying the standard in this instance.

# Attachment 7 - Wollongong DCP 2009 Assessment

#### **CHAPTER A2 – ECOLOGICALLY SUSTAINABLE DEVELOPMENT**

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

#### **CHAPTER B4 – DEVELOPMENT IN BUSINESS ZONES**

The development is located in a business zone and as such this chapter is applicable to the development. An assessment against the relevant sections is outlined below.

#### 2 Objectives

The development is considered consistent with the objectives of development in business zones.

#### 3. Retail and business centre hierarchy strategy

This section is not considered applicable to the proposal as the development relates to a residential flat building with a gymnasium at ground level (intended for residents).

# 4 Economic impact assessment - retail hierarchy

Not applicable.

#### 5 Planning requirements for development in the regional city and major regional centres

#### 5.1 Wollongong City Centre

1. The specific planning requirements for development upon any land within the Wollongong City Centre are contained in Part D (Locality Based/ Precinct Plan) of this DCP.

#### **CHAPTER D1 – CHARACTER STATEMENTS**

#### **Wollongong City Centre**

As of relevance to the proposal, the existing and desired future character as identified in this chapter are outlined below:

#### Existing character

Adjacent to the retail and commercial core is the mixed use (City edge) zone which provides for a mix of compatible land uses, including retail and commercial uses, cultural and entertainment uses, tourism, leisure and recreation, social, educational and health and high density residential apartment building or mixed use developments.

....

The city centre provides a mix of dwelling types and sizes to cater for a range of household types. The general residential zone is ideally located within easy walking distance of both the commercial core and the major recreational areas along the foreshore. The CBD features medium and high density living.

### Desired Future character

The Centre will accommodate an increased range of mixed use developments, including commercial and retail developments complemented by residential, cultural, community and entertainment uses. Increased opportunities for higher density housing, both within the CBD and North Wollongong area, will provide greater housing choice for a diversity of age and income groups. The regeneration of retailing in the city centre is a high priority. Wollongong is also well positioned to capture new opportunities for backoffices, professional suites and other businesses requiring efficient access to Sydney.

Special attention will be given to the Railway Station and Crown Street Mall to enliven these areas and improve safety. The form of the city will reflect Wollongong's unique setting by buildings

exhibiting greater height around Wollongong Railway Station, reducing towards the coast. An emphasis will be to enhance public spaces and ensure good amenity and solar access. Design excellence provisions will ensure quality future building outcomes.

### Comment

The proposed development contributed to the desired future character by providing higher density housing close to public transport and services. Inclusion of some commercial use would further respond to the desired character for appropriately located mixed use developments.

#### **CHAPTER D13 – WOLLONGONG CITY CENTRE**

# 2 Building form

Objectives/controls Comment Compliance

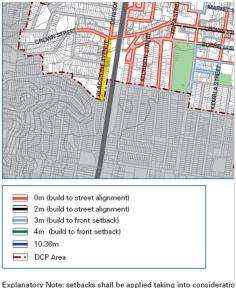
# 2.2 Building to street alignment and street setbacks

Generally a 3m front setback is required in A 1m setback is proposed at ground Yes the B4 Mixed use zone however a 0m/zero street setback is identified for Gladstone Ave under Table 2.2



A zero/0m setback to balconies at levels 1-7

A 2m setback to front façade at levels



Explanatory Note: setbacks shall be applied taking into consideratio i.e. setbacks shall be from the edge of the road widening, not the ex

2.3 Street frontage heights in commercial N/A – only required in the commercial N/A core

core

2.4 Building depth and bulk

900sqm floor plate and 18m building depth

Level 2-7 have floorplates ~400sqm Yes which does not exceed this requirement.

Maximum building depth 19m

No

# 2.5 Side and rear building setbacks and building separation

Up to 12m

6m Habitable

3m side non-habitable/blank

4.5m rear non-habitable/blank

12m-24m

9m (hab)

4.5 (non-hab)

Above 24m

12m (hab)

6m (non-hab)

# 2.6 Mixed used buildings

# 2.7 Deep soil zone

15% of site area = 185.5m<sup>2</sup>

e) No structures, works or excavations that may restrict vegetation growth permitted in this zone (including but not limited to basements, car parking, hard paving, patios, decks and drying areas).

A 3.5-4m setback to northern No boundary is proposed - variation sought.

A greater setback is likely to be required to provide an improved landscape interface with adjoining northern site.

In addition to the northern setbacks, the proposal has the following noncompliant setbacks:

Above 24m (L7 and 8)

Rear (east) – 9m hab. setback

South - min. 9m hab setback

Refer further comments under Part 3F Visual privacy under ADG

Proposal is for a residential building. N/A Further clarification of whether gymnasium is intended to be open to the public or for resident use only is required.

DSZ proposed at rear however sewer No line excludes this area being included in the deep soil zone requirements.

Stormwater pipes also proposed in area noted as DSZ in south-western corner of the site which cannot be included in DSZ area.

 $3.4m \times 30m = 102m^2$  which achieves 8%

#### Notes:

No direct access or visual connection to the rear area of DSZ at ground level, however provides a visual buffer to the adjoining rail corridor.

Opportunity for more deep soil planting where substation is currently located?

Variation, noting area of DSZ meets **ADG** numerical requirement of 7% and 3m width

	Area identified as deep soil planting adjacent to pool on level 1 is likely to		
	increase maintenance issues.		
2.8 Landscape design			
a) The following documents must be	A landscape plan has been provided.	Unclear	
considered for site planning and landscape design: i) Chapter E6 – Landscaping in the DCP. ii) Wollongong City Centre Public Domain Technical Manual. (Appendix 2 to this DCP).	No landscaping is provided along the southern boundary to screen the loading dock from the adjoining property.		
b) Remnant vegetation must be maintained throughout the site wherever practicable, particularly significant trees.	It has not been demonstrated that the deep soil zone is capable of supporting the soil volumes to support trees with the proposal to encase the sewer		
c) A long-term landscape management plan must be provided for all landscaped areas, in particular the deep soil landscape zone.	(noting the depth of sewer and encasement are now known).		
d) The plan must outline how landscaped areas are to be maintained for the life of the development.			
e) Chapter E17 Preservation and Management of Trees and Other Vegetation in this DCP provides for the protection of all trees with a girth greater than 200mm or a height over three metres, or a spread over			
three metres.			
2.9 Green roofs, green walls and planting on structures	Vertical greenery is proposed to screen the driveway as viewed from the north, however further detail on soil depths, irrigation, ongoing maintenance would be required to ensure success.	being	
2.10 Sun access planes	N/A	N/A	
2.11 Development on classified roads	N/A	N/A	

# 3 Pedestrian amenity

Objectives/controls	Comment	Compliance
3.2 Permeability	N/A	N/A
	No existing or proposed links / lanes identified	

# 3.3 Active street frontages

An active frontage is required under Fig 3.4:



f) Residential developments are to provide a clear street address and direct pedestrian access off the primary street front, and allow for residents to overlook all surrounding streets.

The residential lobby is directly Satisfactory accessed from Gladstone Avenue, glazed with internalised stairs and lift access to the raised floor level. A gym facing the street provides an active frontage.

Acceptable given the site constraints

# 3.4 Safety and security

Avoid creating blind corners and dark alcoves No safety or security issues at No that provide concealment opportunities in pathways, stairwells, hallways and carparks.

ground level however Basement 1 access to the residential lift for concealment visitors presents opportunities and does not promote wayfinding.

# 3.5 Awnings

An awning is required as identified in Figure 3.6: Awning provided



#### 3.6 Vehicular footpath crossings

**Location of Vehicle Access** 

a) No additional vehicle entry points will be N/A. The site is not identified in permitted into the parking or service areas of Figure 3.7 development along those streets identified as

Satisfactory

Satisfactory

significant pedestrian circulation routes in A single driveway access point is Figure 3.7.

- b) In all other areas, one vehicle access point only (including the access for service vehicles and parking for non-residential uses within mixed use developments) will be generally permitted.
- c) Where practicable, vehicle access is to be from lanes and minor streets rather than primary street fronts or streets with major As above. pedestrian and cyclist activity.
- d) Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment is to be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date.
- e) Vehicle access may not be required or may be denied to some heritage buildings.

Design of Vehicle Access

- a) Wherever practicable, vehicle access is to be a single lane crossing with a maximum width of 2.7 metres over the footpath, and perpendicular to the kerb alignment. In exceptional circumstances, a double lane crossing with a maximum width of 5.4 metres may be permitted for safety reasons (refer Figure 3.8).
- b) Vehicle access ramps parallel to the street frontage will not be permitted.
- c) Doors to vehicle access points are to be roller shutters or tilting doors fitted behind the building façade.
- d) Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.
- 3.7 Pedestrian overpasses, underpasses and N/A encroachments

3.8 Building exteriors

proposed from Gladstone Avenue. Although the driveway is angled, the position of the access point has been pushed away from the southern boundary of the site so it does not conflict with intersection of Rowland Ave.

N/A. The site is not a heritage item.

A single access point is proposed from Gladstone Avenue providing two way access.

Complies

Complies

The proposal has been revised to remove the dominance of services that was evident in the original

No concerns raised regarding Satisfactory exterior materials and treatment

N/A

3.9 Advertising and signage		
	No signage proposed.	N/A
3.10 Views and view corridors		Call factor
	The site is outside the distant panoramic views identified in Figure 3.12 and is not identified as a framed view along streets under this part.	Satisfactory
4 Access, parking and servicing		
Objectives/controls	Comment	Compliance
4.2 Pedestrian access and mobility		
Objectives a) To provide safe and easy access to	Main entry will be accessible with an internalised chair lift	Satisfactory
buildings to enable better use and enjoyment by people regardless of age and physical condition, whilst also contributing to the vitality and vibrancy of the public domain.  b) To ensure buildings and places are accessible to people with a disability. 4.2.2	The main entry building point is visible from the street, however direct level access is difficult due to the flooding constraints.	
4.3 Vehicular driveways and manoeuvring areas		
Objectives a) To minimise the impact of vehicle access points and driveway crossovers on streetscape amenity, pedestrian safety and the quality of the public domain by: i) Designing vehicle access to required safety and traffic management standards; ii) Integrating vehicle access with site planning, streetscape requirements, traffic patterns; and iii) Minimising potential conflict with pedestrians.	Driveway is centrally located within the site to minimise conflicts with the intersection with Rowland Ave Satisfactory Traffic referral.	Satisfactory
4.4 On-site parking		
	Basement parking provided which has been found satisfactory by Council's Traffic Engineer with regard to number of car spaces and vehicle access.	Satisfactory
	Refer Chapter E3	

# 4.5 Site facilities and services

The building is serviced by the major utilities and Appears capable of complying Unclear the proposal is not expected to result in any however no certainty whether the need to augment these services.

substation can be shared with the adjoining development to the north.

The loading dock will be visible from the adjoining property as no landscape screening is proposed.

# **5 Environmental management**

Objectives/controls	Comment	Compliance
5.2 Energy efficiency and conservation		Satisfactory
Objectives a) To reduce the necessity for mechanical heating and cooling. b) To minimise greenhouse gas emissions. c) To use natural climatic advantages of the coastal location such as cooling summer breezes, and exposure to unobstructed winter sun.	BASIX Certificate provided.	
5.3 Water conservation		
Objectives a) To reduce per-capita mains consumption of potable water. b) To harvest rainwater and urban stormwater runoff for use. c) To reduce wastewater discharge. d) To capture, treat and reuse wastewater where appropriate. e) To safeguard the environment by improving the quality of water run-off. f) To ensure infrastructure design is complementary to current and future water	BASIX Certificate provided. WSUD is proposed	Satisfactory
use. 5.4 Reflectivity	Conditions could be imposed requiring reflectivity not to exceed 20%, no excessive glazing proposed.	Satisfactory
5.5 Wind mitigation	No wind effects report is required (<35m building height)	N/A

#### 5.6 Waste and recycling

A site management plan has been submitted for construction works. A SWMMP has been submitted for the demolition/ construction works and for the ongoing use of the development.

Satisfactory , aside from where mobile bin towing device is stored.

Suitable waste storage and disposal is proposed, with garbage and recycling chutes provided on each floor (noting chutes for recyclables is prone to glass breakages and therefore higher likelihood for contamination of this waste stream, preference is for recycling bins at each level).

A bulk waste storage area is provided at Basement 1.

There appears to be provision for 2 green waste bins at basement 1 level.

The SWMMP identifies that a Mobile Bin Towing Device will move bins throughout the site however it is unclear where this will be stored.

# 6 Residential development standards

Objectives/ Controls

6.1 SEPP 65

6.2 Housing choice and mix

a) Where residential units are proposed at ground level within the Mixed Use (City Edge) and Special Activities zone, a report must be provided with the development application demonstrating how future commercial uses can be accommodated within the ground level design. The report must address:

- i) Access requirements including access for persons with a disability (Compliance with Disability Discrimination Act 1992),
- ii) Any upgrading works necessary for compliance with the Building Code of Australia, and
- iii) Appropriate floor to ceiling heights.
- b) To achieve a mix of living styles, sizes and layouts within residential development, comply with the following mix and size:

Comment

Refer SEPP 65/ADG assessment

No residential units are proposed at | Satisfactory ground level. A gym is provided at ground floor which could be capable of commercial use (proposed as COS)

Compliance

The development provides 20% x 1 Bed units & 8% x 3 bed units

**No** re. provision of 3 bedroom Units

- i) Studio and one bedroom units must not be less than 10% of the total mix of units within each development,
- ii) Three or more bedroom units must not be less than 10% of the total mix of units within each development, and
- iii) For smaller developments (less than six dwellings) achieve a mix appropriate to locality.
- d) For residential apartment buildings and multi-unit housing, 10% of all dwellings (or at least one dwelling) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes "pre-adaptation" design details to ensure visitability is achieved.
- e) Where possible, adaptable dwellings shall be located on the ground floor, for ease of access.

Dwellings located above the ground level of a building may only be provided as adaptable dwellings where lift access is available within the building. The lift access must provide access from the basement to allow access for people with disabilities.

- f) The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Adaptable Housing Standard (AS 4299-1995).
- g) Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard for disabled parking spaces.
- h) For all residential apartment / flat buildings, 10% of all dwellings (or at least 1 dwelling) must be designed to achieve the Silver Standards of the Livable Housing Design Guideline (Livable Housing Australia 2015). All proposed livable dwellings must be clearly identified on the submitted DA plans.

# 6.6 Basement Carparks

6.7 Communal open space

Over 10% adaptable and 9 (25%) liveable units are proposed.

must be An access report has been provided.

Satisfactory

6.8 Private open space

6.9 Overshadowing

Objective

Minimise the extent of loss of sunlight to living areas and private open space areas of adjacent dwellings.

Refer ADG

Refer ADG

The building is pushed towards the northern portion of the site in response to the approved development to the north and flooding constraints. The building has a 7.5m-9m setback from the southern boundary.

Overshadowing to the south will occur as the lot orientation means they are vulnerable to any increase in height/bulk given the current planning controls anticipating a higher density form than currently exists.

The adjoining site at 21 Gladstone Avenue is a dual occupancy which will retain sunlight access to the private open space areas at the front and rear of the site

6.10 Solar access

6.11 Natural ventilation

6.12 Visual privacy

6.13 Acoustic Privacy

6.14 Storage

Refer ADG

Refer ADG

Refer ADG

Refer ADG

Refer ADG

#### 7 Planning controls for special areas

The site is not located within a special area.

#### 8 Works in the public domain

Works such as footpath upgrades and street tree planting is capable of being conditioned where approved.

# **CHAPTER E1: ACCESS FOR PEOPLE WITH A DISABILITY**

An Access Report has been provided indicating the development can achieve the requirements for equitable and dignified access to the building, adaptable units, liveable units in relation to the relevant standards, national Construction Code and ADG requirements.

# **CHAPTER E2: CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN**

The provisions of this chapter have been considered. The ground floor and upper levels do not present any safety and security issues, however the access to the lift for visitors at Basement 1 level is not direct and presents concealment and wayfinding issues.

Satisfactory

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

# 6 Traffic impact assessment and public transport studies

# 6.1 Car Parking and Traffic Impact Assessment Study

A traffic impact assessment was submitted with the proposal which has been reviewed by Council's Traffic Officer who has not raised any concerns.

#### 6.2 Preliminary Construction Traffic Management Plan

Not provided.

#### 7 Parking demand and servicing requirements

### 7.1 Car Parking, Motor Cycle, Bicycle Requirements and Delivery / Servicing Vehicle Requirements

Car parking, motorcycle and bicycle parking has been provided in accordance with the NSW RTA Guide to Traffic Generating Developments 2002. The car parking rate is less than the DCP requirements, therefore the lesser number of spaces is required under the Apartment Design Guide (i.e. 41 spaces under the DCP compared to 38 under the RTA guide). One (1) surplus residential visitor space is provided.

The calculated car parking taken from the Traffic report is shown below:

Use	Number of Units	Car Parking Rate per dwelling	Car Spaces Required	Car Spaces Provided
One Bedroom	7	0.6	4.2	31
Two Bedroom	25	0.9	22.5	
Three-Bedroom	3	1.4	4.2	
Visitor Parking	35	0.2	7	8
	Total		38	39

Table 4b: Summary of NSW RTA Guide to Traffic Generating Developments 2002 Car Parking Requirements

#### 7.2 Disabled Access and Parking

Four (4) adaptable spaces have been provided to meet the four (4) adaptable units required. It is noted that Unit #.04 is shown as adaptable and has the same layout on levels 2-7 (therefore also capable of adaption), however the minimum umber of adaptable units has been provided.

#### 7.3 Bicycle Parking / Storage Facilities and Shower and Change Facilities

The minimum required number of bicycle parking is provided (12).

#### 7.4 Waiver or Reduction of Parking Spaces

No waiver sought.

# 7.5 Car Parking Credits for Existing Development

N/A

#### 8 Vehicular access

Driveway grades and sight distances comply.

# 9 Loading / unloading facilities and service vehicle manoeuvring

The development complies with AS 2890.2.

Waste servicing will occur from within the site.

#### 10 Pedestrian access

The proposal is satisfactory with regard to pedestrian access into the site and along the frontage.

# 11 Safety & security (Crime Prevention through Environmental Design) measures for car parking areas

The proposal is generally satisfactory with regard to the principles of CPTED, with the exception of Basement 1 and access to the lift.

#### **CHAPTER E6: LANDSCAPING**

A landscape plan has been provided in accordance with this chapter however there remain some concerns with the lack of landscaping to the southern boundary and the conflict between the sewer lines and the deep soil zone areas.

#### **CHAPTER E7: WASTE MANAGEMENT**

A Site Waste Minimisation and Management Plan (SWMMP) has been provided in accordance with this chapter.

The proposal involves demolition of all existing structures and a estimated volumes of demolition waste is included in the SWMMP.

The operational waste arrangements have been outlined in the SWMMP. Garbage chutes are proposed for general and recyclable waste. Storage for bulky waste has been provided.

#### **CHAPTER E11 HERITAGE CONSERVATION**

The site is not a listed heritage item however is in proximity of a local heritage item (TAFE) to the south-west and a state listed item to the north-east (Wollongong Railway Station Group). The application was supported by a Heritage Impact Statement prepared by GBA Heritage.

The application has been reviewed by Council's heritage officer who has noted the revised design better responds to the TAFE building (local heritage item) by stepping the southern portion of the building down to better relate to the TAFE building. The site is also in the vicinity of a state listed heritage item where comments from Heritage NSW have been sought. At the time of writing this report, their comments have not been received.

# **CHAPTER E12 GEOTECHNICAL ASSESSMENT**

A Geotechnical Report prepared by Fortify Geotech accompanied the application. The proposal has been reviewed by Council's Geotechnical Engineer in relation to site stability and the suitability of the site for the development. Appropriate conditions have been recommended.

#### **CHAPTER E13 FLOODPLAIN MANAGEMENT**

The site is identified as being located within a high flood risk uncategorised precinct. A flood study prepared by Reinco Consulting has been provided. Council's stormwater engineer has reviewed the proposal with respect to the provisions of this chapter and found the proposal unsatisfactory. The proposal includes filling and residential development within a High Flood Risk Precinct, which does not satisfy the controls, objectives, and performance criteria in Chapter E13 of the Wollongong DCP2009

### **CHAPTER E14 STORMWATER MANAGEMENT**

Stormwater is proposed to be disposed of to the street, with an onsite detention system (OSD) proposed under the gym area. Council's stormwater engineer has reviewed the proposal with respect to the provisions of this chapter and found the proposed stormwater design unsatisfactory.

Stormwater must be drained in the same direction as the pre-developed state. The site falls away from the road and therefore an easement through downstream or adjacent properties would be required or alternatively, it must be demonstrated that the development will drain an equivalent stormwater flow rate to the street as the pre-development scenario. Based on the current information, it is

uncertain whether adequate stormwater management and OSD can be catered for within the proposed built form.

#### **CHAPTER E15 WATER SENSITIVE URBAN DESIGN**

A WSUD Report has been provided and is satisfactory, however would likely require amendment to address stormwater design issues as discussed under Chapter E14.

#### **CHAPTER E17 PRESERVATION AND MANAGEMENT OF TREES AND VEGETATION**

No trees are proposed for removal as part of the development. An Arborist report prepared by Allied Tree Consultancy has been provided in relation to the impacts on the existing trees at 7-15 Gladstone Avenue adjoining to the north of the site. This Report has been considered by Council's Landscape Architect and no concerns raised.

# **CHAPTER E19 EARTHWORKS (LAND RESHAPING WORKS)**

The earthworks are satisfactory with regard to this chapter subject to the imposition of suitable conditions.

#### **CHAPTER E20 CONTAMINATED LAND MANAGEMENT**

The proposal has been supported by a Preliminary and Detailed Site Investigation prepared by Reditus which concludes the site is suitable for the proposed residential development. Council's Environment Officer has considered this information and recommended conditions including requirements for an unexpected finds protocol, and waste classification of excavated material.

#### **CHAPTER E21 DEMOLITION AND HAZARDOUS BUILDING MATERIALS MANAGEMENT**

Conditions of consent could be imposed on any consent granted requiring appropriate measures for the management of demolition works and hazardous building materials during works.

#### **CHAPTER E22 SOIL EROSION AND SEDIMENT CONTROL**

Conditions of consent could be imposed on any consent granted requiring appropriate measures for the management of demolition works and hazardous building materials during works.

#### Attachment 8 - Reasons for Refusal

The reasons for the refusal of the proposed development are:

- In accordance with Section 4.15(1)(a)(i) of the Environmental Planning & Assessment Act 1979, the development is not acceptable when evaluated having regard to the design quality principles outlined in Schedule 1 of State Environmental Planning Policy No.65 Design Quality of Residential Apartment Development (SEPP 65).
- In accordance with Section 4.15(1)(a)(i) of the Environmental Planning & Assessment Act 1979, the proposal does not satisfy the relevant design criteria objectives of the Apartment Design Guide, particularly in regard to site analysis, public domain interface, communal open space, deep soil zone, visual privacy, solar and daylight access, natural ventilation, apartment mix, landscape design, and water management and conservation.
- In accordance with Section 4.15(1)(a)(i) of the Environmental Planning & Assessment Act 1979, in the opinion of Council, the proposed development does not exhibit design excellence and therefore consent cannot be granted pursuant to Clause 7.18 of Wollongong Local Environmental Plan 2009.
- In accordance with Section 4.15(1)(a)(i) of the Environmental Planning & Assessment Act 1979, the proposed development does not comply with the building separation under Clause 8.6 of Wollongong Local Environmental Plan 2009. The applicant has not provided a written request adequately addressing the matters required to be demonstrated by Clause 4.6(3), and consent cannot be granted.
- In accordance with Section 4.15(1)(a)(i) of the Environmental Planning & Assessment Act 1979, Council cannot be satisfied of the various matters required to be considered, as prescribed by Clause 5.21 Flood Planning of Wollongong Local Environmental Plan 2009.
- In accordance with Section 4.15(1)(a)(iii) of the Environmental Planning & Assessment Act 1979, the proposed development does not comply with the provisions of Wollongong Development Control Plan 2009 in a number of areas:
  - a Chapter D13 Wollongong City Centre
    - i Clause 2.4 (Building depth and bulk) due to the building depth exceeding 18m.
    - ii Clause 2.5 (Side and rear building setbacks and building separation) due to the reduced setback to the northern boundary.
    - iii. Clause 3.4 (Safety and Security) due to the access to the lift for visitors at Basement 1 level presenting concealment and wayfinding issues.
    - iv Clause 4.5 (Site facilities and services) due to the uncertainties regarding shared arrangements and location for a substation.
    - v Clause 6.2 (Housing choice and mix) due to the 10% of the units not being three or more bedrooms.
  - The development fails to demonstrate compliance with the provisions within Chapter E13
     Floodplain Management, including the proposal for filling and residential development within a High Flood Risk Precinct.
  - The development fails to demonstrate compliance with the provisions of Chapter E14 Stormwater Management, including that adequate stormwater management and onsite detention system can be catered for within the proposed built form.
  - d The development fails to demonstrate compliance with the provisions within Chapter E6
     Landscaping with regard to the conflicts between the deep soil zone areas and the sewer lines.
- 7 In accordance with Section 4.15(1)€ of the Environmental Planning & Assessment Act 1979, having regard to the above matters, it is considered that in the circumstances of the case, approval of the development would set an undesirable precedent for similar inappropriate development and is therefore not in the public interest.