WLPP No.	Item No.1
DA No.	DA-2020/1466
Proposal	Residential - demolition of existing buildings and structures, construction of a five (5) storey residential flat building comprising 22 apartments with basement parking, associated landscaping, tree removal/retention and stormwater drainage.
Property	42 Bourke Street North Wollongong Lot 1 DP 526597
Applicant	MMJ Wollongong
Responsible Team	Development Assessment and Certification - City Centre Major Development Team (AS)
Prior WLPP meeting	None

ASSESSMENT REPORT AND RECOMMENDATION

Executive Summary

Reason for consideration by Local Planning Panel - Determination

The proposal has been referred to Local Planning Panel for determination pursuant to clause 2.19(1)(a) of the Environmental Planning and Assessment Act 1979. In accordance with Schedule 1 4 (b) of the Local Planning Panels Direction of 30 June 2020, the proposal is sensitive development being that to which SEPP 65 applies.

Proposal

The proposal is for demolition of an existing aged care facility and construction of a 5 storey residential flat building.

Permissibility

The site is zoned R1 General Residential pursuant to Wollongong Local Environmental Planning Policy 2009. The proposal is categorised as a 'residential flat building' and is permissible in the zone with development consent.

Consultation

The proposal was notified in accordance with Council's Community Participation Plan and received three submissions which are discussed at section 1.5 of the assessment report.

Main Issue

The main issue is protection of a heritage listed magnolia tree. The arboricultural report indicates the proposed basement construction is at a sufficient distance from the tree to allow retention.

RECOMMENDATION

It is recommended that the application is approved subject to conditions detailed in Attachment 6.

1 APPLICATION OVERVIEW

1.1 PLANNING CONTROLS

The following planning controls apply to the development:

State Environmental Planning Policies:

- SEPP No. 55 – Remediation of Land
- SEPP (Infrastructure) 2007
- SEPP (Coastal Management) 2018
- SEPP (Koala Habitat Protection) 2021
- SEPP 65 Design Quality of Residential Development.
- SEPP BASIX

Local Environmental Planning Policies:

- Wollongong Local Environmental Plan (WLEP) 2009

Development Control Plans:

- Wollongong Development Control Plan (WDCP) 2009

Other policies

- Wollongong City Wide Development Contributions Plan 2020
- Wollongong Community Participation Plan

1.2 DETAILED DESCRIPTION OF PROPOSAL

Revised architectural, landscape and engineering plans were submitted 25 June 2021. The revised scheme was prepared in response to the Design Review Panel comments and matters raised by Council's planning, landscape and engineering staff.

The proposal comprises the following:

Site preparation

- Demolition of all structures.
- Retention of heritage-listed magnolia tree. Removal of four other trees.

Works / Construction / building details

- Construction of a 5 storey residential flat building containing 22 apartments
  - 1 x 1 bed
  - 15 x 2 bed
  - 6 x 3 bed
  - Inc. 3 x adaptable units (1 x 1 bed and 2 x 2 bed)
- Street tree planting Virginia Street and Bourke Street

Traffic, parking and servicing

- 1 x basement level, with driveway on Virginia Street
  - 29 x resident car parking spaces plus 5 visitor spaces
  - 2 x motorcycle spaces
  - 10 x bicycle spaces
- Waste storage room in basement, waste bins to be collected on Virginia Street

The development is not integrated or designated development.

1.3 BACKGROUND

Council's records indicate the following applications have been made for development on the land.

Application Number	Description	Decision	Decision Date
DA-1965/316	Young Men's Hostel (Rec 45)	Approved	08-Nov-1965
BA-1966/289	Alterations	Approved	07-Mar-1966
BA-1968/2451	Conversion Of Hostel To Rest Home (Rec 38)	Approved	23-Dec-1968
DA-1974/324	Drug Counselling & Rehabilitation Service	Approved	23-Sep-1974
BA-1975/2920	Alterations To Operating Theatre	Approved	17-Dec-1975
DA-1976/8	Use Of Existing Building As A Nursing Home	Approved	12-Feb-1976
BA-1976/498	Amended Application For New Entry & Matron S Quarters	Approved	12-Apr-1976
BA-1976/2773	Alterations To Nursing Home	Approved	11-Feb-1977
DA-1988/1210	Alterations & Additions To Nursing Home **See Amended Consent - See 9210/88**	Approved	03-May-1989
DA-1988/210/A	Amended Consent - Additions & Alterations To Existing Building	Approved	01-Sep-1989
BA-1989/1889	Brick Additions & Alterations To Existing Nursing Home	Approved	12-Sep-1989
BA-1991/2413	Pergola Addition	Approved	19-Nov-1991
DA-1992/434	Additions & Alterations To Existing Nursing Home	Approved	19-Aug-1992
BA-1992/1836	Lounge Additions & Alterations To Existing Nursing Home.	Approved	15-Sep-1992
BA-1995/1423	Storeroom Addition To Nursing Home	Approved	10-Aug-1995
DA-1999/719	Alterations And Additions To Existing Nursing Home	Approved	21-Jan-2000
CC-2000/246	Additions & Alterations To Nursing Home	Approved	22-Feb-2000
DA-2004/50	Alterations and additions to existing nursing home	Approved	15-Mar-2004
PC-2004/30593	Alterations and additions to existing nursing home	Approved	19-Aug-2004
DA-2013/692	Commercial - installation of sprinkler system to aged care facility	Approved	06-Aug-2013
PC-2013/1021	Commercial - installation of sprinkler system to aged care facility	Approved	20-Aug-2013
DE-2020/71	Residential - Demolition of existing structures and construction of a residential flat building containing 23 apartments over two (2) levels of basement parking	Design Review Panel meeting	28-Sep-2020

No pre-lodgement meeting was held for the proposal. A pre-lodgement Design Review Panel meeting DE-2020/71 was voluntarily requested by the current developer.

Customer service actions

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

1.4 SITE DESCRIPTION

The 1770m^2 site is known as 42 Bourke Street North Wollongong, and located on the corner of Bourke and Virginia Streets. The title reference is Lot 1 DP 526597.

The site is irregular in shape and with a fall of approximately 3.5m from south to north. The land contains a former aged care facility which is proposed to be demolished and a heritage-listed magnolia tree, which would be retained.

The magnolia is listed as an item of local heritage significance under WLEP 2009 (item 6384). The NSW State Heritage Inventory includes a description and statement of significance of the tree (SHI item 2700784):

> *Significance*
>
> *'The Magnolia is located the grounds of the former "Carlton" Guesthouse at 42 Bourke Street. The planting is visible in 1938 aerial photography and the planting is likely associated with the operation of the Guesthouse and part of the historic "garden surroundings" (South Coast Times and Wollongong Argus, 29 September 1939). The tree is a notable specimen, locally known as rare for its size.'*
>
> *Description*
>
> *'This specimen is likely to be a hundred years old, being typical and common domestic planting of the turn of the 20th Century. Magnolias are flowering plants that belongs to the family Magnoliaceae. There are around 210 species of magnolia that differ in size, shape, color of the flower and type of habitat. Magnolia trees originate from Southeast Asia and North America, but they have been naturalised to almost all continents in the world. Magnolias usually grows on acidic soils that are rich in nutrients, in areas that provide enough moisture and direct sunlight. It is often planted in parks and on the golf courses because of its ornamental morphology and ability to provide shade.'*
>
> *History*
>
> *'The Magnolia Tree is on the grounds of the former "Carlton" Guesthouse operating from at least 1925 according to historic newspaper records. "The Carlton" Guesthouse had a tennis court, bowling green and "garden setting". Mr & Mrs Endean were the Guest House proprietors.*
>
> *It seems that sometime in the 1930's the Guesthouse ceased to operate and Mr Endean operated his "well known" Real Estate Agency from the property. Mr John Arthur Endean, previously town clerk of the North Illawarra municipality passed away at his residence in Bourke Street July 1939.*
>
> *In September 1939 the South Coast Times and Wollongong Argus reported that "The Carlton" Guesthouse was reopening with a Mrs Giles as proprietor. The Magnolia Tree is visible in the 1938 aerial photograph.*
>
> *By 1961, the bowling green and tennis court to the east and north of the Guesthouse respectively, had been subdivided off and residential flat buildings constructed on each lot. In 1965 the use of the site as a Young Mens Hostel was approved. In 1976 the building was converted to "Olunda" Nursing Home. In 1988 the nursing home underwent significant*

alterations and additions and operated as a retirement village until a proposal for redevelopment 2020.'

Adjoining development is as follows:

- North: 2 storey residential flat building (35 Virginia) and single storey dwelling house (33 Virginia)
- East: 4 storey residential flat building (46 Bourke)
- South: 3 storey shop top housing and residential flat buildings (southern side of Bourke Street)
- West: 3 storey residential flat buildings (34 and 36 Bourke)

The locality is characterised by medium and high density development in which residential flat buildings predominate, together with some older dwelling houses. The site is located within walking distance of North Wollongong train station, North Wollongong beach and Stuart Park recreation area.

Property constraints

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

- Acid sulfate soils class 5
- Flooding: The site is identified as being located within an uncategorised flood risk precinct.
- Heritage: A magnolia tree is located in the south-western corner of the site and is identified as an item of local heritage significance in WLEP 2009.

There are no restrictions on the title.

1.5 SUBMISSIONS

The application was exhibited 2-18 February 2021 in accordance with Council's Community Participation Plan. Three submissions were received (2 objections and 1 statement of support) and the issues identified are discussed below. Amended plans submitted 25 June 2021 were not required to be readvertised.

Figure 1: Notification map

Table 1: Submissions – in response to plans at lodgement

Support	Comment
One submission stated the application was supported. No reasons were provided.	Noted.
Concern	**Comment**
<u>Retention of Magnolia tree</u> Protection during excavation, construction and after occupation is important. Recommend a condition of consent requiring planting of replacement tree if magnolia does not survive the development. Recommend a condition of consent requiring developer to contribute to revegetation of public domain to contribute to greening and tree coverage in North Wollongong. Recommend future owners corporation have responsibility for the tree.	Council's landscape officer has reviewed the architectural plans and revised Aboricultural report. Council's landscape officer is satisfied retention of the tree is possible. The proposed basement footprint and upper level setback will accommodate the tree's roots and canopy, including anticipated growth. The tree remains heritage listed and any proposed work on the site that is not exempt development would require development consent. In that event, WLEP 2009 and WDCP 2009 heritage provisions would apply. The recommended conditions include a requirement for public domain works, incorporating street tree planting.
<u>Building scale</u> Bulk and massing of 5 storey development will dominate this prominent corner, limiting escarpment views from properties to the east.	The proposed development generally complies with height and setback controls in WLEP 2009 and SEPP 65 Apartment Design Guide. Views to the escarpment will be interrupted for those properties directly south of the site, however broader escarpment views would be available.
<u>Community access and participation</u> Community may not be aware of applications as no longer published in Illawarra Mercury. Covid-19 procedures of Neighbourhood Forum meetings may restrict involvement by people without computer access.	Council's notification procedures are undertaken in accordance with the requirements of the Environmental Planning and Assessment Regulation 2000. Newspaper notification is not required by this type of development. The neighbourhood forums are independent groups, supported by Council and operating under Council's Neighbourhood Forum Charter. Meeting procedures are outlined in the Charter. A submission by the relevant neighbourhood forum has been received and considered in Council's assessment.
<u>Loss of nursing home</u> Photographic record should be required.	Council's heritage officer inspected the building interior and exterior and has noted that the building has been highly modified so that it is beyond any heritage significance and very few original details remain. A photographic archival recording of the existing building is recommended to record these remaining details.

1.6 CONSULTATION

1.6.1 INTERNAL CONSULTATION

Design Expert

Council's design expert reviewed the amended plans submitted 25 June 2021 and analysed whether the plans adequately responded to matters raised by the Design Review Panel at their meeting 1 February 2021. Council's design expert has recommended several areas where the proposal could more fully meet the recommendations of the Design Review Panel, and these are addressed via conditions of consent. The matters are:

- The communal open space deck hasn't been pulled to the north as requested, leaving remnant grassed areas around the garden beds that will be hard to maintain. Council's landscape designer has included a requirement that a revised landscape plan show the decking to be extended to the northern boundary.
- No weather protection is provided to the stairway to Bourke Street on the eastern side. An awning or similar is required.
- The change in Virginia Street façade materials on the top floor is not supported. All materials and cladding on the façade should be unchanged, with the top floor matching lower levels.

Environment Officer

Council's environment officer has reviewed the Hazardous Building Materials Survey, Traffic Noise Intrusion Assessment and Water Sensitive Urban Design reports. Council's environment officer has no objection to the development and recommend conditions of consent, which are included in Attachment 6.

Geotechnical Engineer

Council's geotechnical engineer reviewed the geotechnical report prepared by Construction Sciences dated 16 June 2020, and noted that the report demonstrates geotechnical feasibility. Council's engineer recommends further geotechnical advice is obtained for the design and supervision of site preparation works. A condition requiring the applicant obtains this advice is included in Attachment 6.

Heritage Officer

Council's heritage officer has reviewed the Historical Heritage Assessment, Arboricultural Development Assessment Report, and inspected the building interior and exterior. Council's heritage officer notes that an archaeological research design report is required prior to construction. An excavation permit under the NSW Heritage Act 1977 is required prior to any work commencing. These matters are detailed in conditions of consent in Attachment 6.

Landscape Designer

Council's landscape designer has reviewed the revised landscape plans and Arboricultural Development Assessment Report and has indicated they have no objection. Conditions of consent are recommended, including requiring retention of the heritage listed tree (tree 1), planting of new street trees and allowing removal of trees 2-5.

Stormwater Engineer

Council's stormwater engineer has reviewed the revised stormwater concept plans and has indicated they have no objection. Conditions of consent are included in Attachment 6.

Traffic Engineer

Council's traffic engineer has reviewed the application and advised that the traffic generated by the development can be accommodated within the local road network, which is a consideration under

State Environmental Planning Policy (Infrastructure) 2007. They note that Transport For NSW are currently planning an upgrade to the Bourke and Virginia Streets intersection. Preliminary designs provided by Transport for NSW do not appear to conflict with the development's retention of the heritage tree, driveway location or street tree planting.

Conditions of consent are included in Attachment 6.

1.6.2 EXTERNAL CONSULTATION

Design Review Panel

Prior to lodgement of the development application, the applicant participated in a voluntary Design Review Panel meeting which was held on 28 September 2020 (DE-2020/71).

The development application was assessed by the Design Review Panel (DRP) under the requirements of the SEPP 65 post lodgement on 1 February 2021. Notes of the meeting are provided at Attachment 4. Council's Design Expert has reviewed the amended plans. A re-referral to the DRP was not deemed necessary.

Transport for NSW

Council consulted with Transport for NSW (TfNSW) in relation to its intended intersection upgrade of Bourke, Virginia and Keira Streets, to ensure the application was compatible with TfNSW plans. The upgrade will include installation of traffic lights at Bourke, Virginia and Keira Streets.

The application was not formally required to be referred to TfNSW under clause 104 of State Environmental Planning Policy (Infrastructure) 2007.

Endeavour Energy

The application was referred to Endeavour Energy as required by State Environmental Planning Policy (Infrastructure) 2007. Endeavour Energy has an advisory role and provided comment as to future servicing requirements. This advice was referred to the applicant.

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

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.

Clause 7.2 of the Biodiversity Conservation Regulation 2017 provides the minimum lot size and area threshold criteria for when the clearing of native vegetation triggers entry of a proposed development into the NSW Biodiversity offsets scheme. The proposal does not trigger the requirement for a biodiversity offset scheme.

The site is not identified as being of high biodiversity value on the Biodiversity Values Map. None of the trees on the site proposed for removal have been identified as containing hollows. The development would therefore not be considered to result in adverse impacts on biodiversity and is consistent with the provisions of the Biodiversity Conservation Act 2016.

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

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

The site is not known to be contaminated or potentially contaminated. The land is not registered under the Contaminated Land Management Act 1997. A detailed site investigation is not required.

Council's environment officer has not raised any concerns regarding contamination. Matters for consideration under clause 7 are considered satisfactory. The land is considered suitable for the proposed residential use.

2.1.2 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The application was referred to Endeavour Energy in accordance with clause 45 of the SEPP. Endeavour Energy has advised on connection requirements.

Clause 101 is relevant as Bourke Street is a classified road. Matters for consideration under clause 101 are satisfactory. Vehicle access is provided from Virginia Street, and the driveway is in a location which is compatible with future signalisation of the intersection. Traffic modelling indicates no adverse impacts on the local road network.

Clause 102 relates to sensitive development located near certain classified roads. A 'Traffic Noise Intrusion Assessment' prepared by Harwood Acoustics dated December 2020 has been submitted, referencing the Department of Planning, Industry and Environment's 'Development Near Rail Corridors and Busy Road – Interim Guidelines' 2008. The report concludes that some measures are required to ensure noise levels within the proposed apartments comply with the maximum levels set in the SEPP. A condition of consent is recommended.

The application was not formally required to be referred to Transport for NSW (TfNSW) under clause 104 traffic generating development.

2.1.3 STATE ENVIRONMENTAL PLANNING POLICY (COASTAL MANAGEMENT) 2018

The land is identified as being located in the coastal environment area and coastal use area.

5 Land to which Policy applies

This Policy applies to land within the coastal zone.

Part 2 Development controls for coastal management areas

Division 3 Coastal environment area

13 Development on land within the coastal environment area

Matters for consideration under subclauses 1 and 2 are satisfactory. The development is not expected to adversely impact upon coastal processes, vegetation, Aboriginal heritage, the surf zone, or groundwater.

Division 4 Coastal use area

14 Development on land within the coastal use area

Matters for consideration under subclauses 1 and 2 are satisfactory. The site is not located in the coastal foreshore or other public place. No aboriginal heritage has been identified on the site. The heritage listed magnolia tree is appropriately protected and will be retained.

Division 5 General

15 Development in coastal zone generally—development not to increase risk of coastal hazards

No increased risk of coastal hazards is expected.

16 Development in coastal zone generally—coastal management programs to be considered

The development is consistent with provisions of Council's Wollongong Coastal Zone Management Plan 2017.

2.1.4 STATE ENVIRONMENTAL PLANNING POLICY (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 experience 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.

2.1.5 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.

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.

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

Principle 1: Context and neighbourhood character

The predominant character of development in the locality is 2-5 storey residential flat buildings. The site is located on a reasonably prominent corner of Virginia and Bourke Streets. Bourke Street is a classified road. Permitted building height on the northern side of Bourke Street, between Virginia and Kembla Street, is 16m. This increases to 32m directly opposite the site, on the southern side of Bourke Street. The land zoning prioritises residential development and there is limited commercial development west of Kembla Street. This development reflects the desired future character for the area as defined by the planning controls.

Principle 2: Built form and scale

The bulk and scale of the development is consistent with existing development and the applicable planning controls for the area. Remaining dwelling houses and older residential flat buildings are expected to transition over time and be redeveloped into higher density residential development. The development would not create an isolated allotment.

The development is in context with regard to the desired future character of the area and the R1 zone. The potential impacts of the development on the locality and adjoining development are considered to have been addressed through a number of redesigns of the proposal in response to concerns raised by the DRP and staff. Primarily, the building height and number of apartments has been reduced in the revised plans and the floor level of corridors connecting the lower and higher parts of the site are now aligned.

The revised plans have relocated the Virginia Street entry further south, which allows a line of sight through the entrance to rear landscaping and expanded residential foyer.

The design of the development is considered to positively contribute to the public domain and provide amenity for the occupants by way of landscaped areas, private open space, communal open space and dwelling layout.

Principle 3: Density

The density of the development complies with the floor space ratio permitted for the land. The development is not of a scale that is expected to place unreasonable pressure on local infrastructure. Endeavour Energy was consulted during the assessment process with regard to the proposed servicing.

The site is well situated with regard to existing public transport and services. Adequate parking facilities have been provided on site to cater for the number of apartments proposed.

Developer contributions generated by the development will contribute to local infrastructure and facilities.

Principle 4: Sustainability

The proposal is considered acceptable with regard to sustainable design as follows:

- BASIX Certificate provided detailing development application stage commitments.
- A Site Waste Management and Minimisation Plan have been provided indicating recycling of materials from the demolished structure.
- The proposal retains the heritage listed magnolia tree.
- Apartments are provided with natural cross ventilation and internal layouts have been designed to provide for good solar access to primary living areas and private open space areas.
- A photovoltaic system is proposed on the roof.

Principle 5: Landscape

The proposal provides suitable landscaped areas and communal open space that will provide for appropriate amenity to the occupants.

Deep soil planting is located at the rear of the site and surrounding the magnolia. Planters initially proposed adjacent to the magnolia tree have been removed, as requested by the DRP.

New street tree planting is recommended in Virginia and Bourke Streets.

Principle 6: Amenity

Internal amenity has been addressed in response to concerns raised by the DRP and staff. The proposal meets the minimum requirements for solar access, private and communal open space, storage, visual and acoustic privacy and access.

The communal open space has been further detailed, and a kitchenette and toilet are now provided.

Waste storage occurs in eth basement level and bins are taken to Virginia Street for collection via a purpose built trolley, which can be attached to a car or smaller vehicle. The trolley has a storage bay in the basement.

Principle 7: Safety

The proposal is satisfactory with regard to safety and security. A defined pedestrian entry has been provided on Virginia Street, with an additional private entry gate and stair into apartment 204 on Bourke Street. It is recommended that an awning or other cover is provided to the Bourke Street eastern fire stair.

Ground floor apartments have a living room window and /or balcony orientated to the street to assist in casual surveillance.

Principle 8: Housing diversity and social interaction

One, two and three bedroom apartments are proposed. Three apartments are certified adaptable and a further 3 apartments are silver level liveable.

Principle 9: Aesthetics

Improvements have been made in response to previous DRP meetings and the revised design is satisfactory. A substantial improvement has been made from the first DRP meeting (prior to lodgement) with further refinement following post lodgement.

The revised plans demonstrate the site's slope has been accounted for with the Bourke Street wing now raised to the level of Bourke Street. This has allowed direct entry for apartment 204 and removal of internal ramping in lift corridors.

Fire egress stairs have been setback behind the building alignment.

A mixture of materials and finishes is provided. It is recommended that a condition of consent is applied requiring continuation of wall cladding and materials all the way up the Virginia Street façade.

Apartment Design Guide (ADG)

An assessment of the application against the Apartment Design Guide (ADG) is contained at Attachment 5.

2.1.6 STATE ENVIRONMENTAL PLANNING POLICY (BUILDING SUSTAINBILITY 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.

2.1.7 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 or multi dwelling housing.

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 R1 General Residential.

Clause 2.3 – Zone objectives and land use table

The objectives of the zone are as follows:

- *To provide for the housing needs of the community.*
- *To provide for a variety of housing types and densities.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

The proposal is satisfactory regarding the above objectives in that it provides a new housing type at a higher density.

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

Attached dwellings; Bed and breakfast accommodation; Boarding houses; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Environmental

facilities; Exhibition homes; Group homes; Hostels; Multi dwelling housing; Neighbourhood shops; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; ***Residential flat buildings****; Respite day care centres; Roads; Semi-detached dwellings; Seniors housing; Serviced apartments; Shop top housing; Signage; Tank-based aquaculture*

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

Clause 2.7 Demolition requires development consent

Demolition of existing structures is proposed. A hazardous building materials survey and demolition plan have been provided. Conditions of consent are recommended addressing asbestos disposal.

Part 4 Principal development standards

Clause 4.3 Height of buildings

The maximum permitted building height is 16m. The proposed height is approximately 15.8m.

Clause 4.4 Floor space ratio

The maximum permitted floor space ratio (FSR) is 1.5:1 (maximum gross floor area 2655m^2). The proposed gross floor area is 2652.47 m^2, which results in a 1.49:1 FSR. Surplus car parking spaces are included in the proposed gross floor area.

Part 5 Miscellaneous provisions

Clause 5.10 Heritage conservation

The land contains a magnolia tree (item 6384), which is listed an item of local heritage significance. Council's heritage officer has conducted a site visit and reviewed the Historical Heritage Assessment and Arboricultural Development Assessment Report. Photographic archival recording and an interpretation plan are recommended, reflecting the site history and relationship between the magnolia and previous hostel and aged care land uses.

Clause 5.21 Flood planning

The land is identified a flood affected (uncategorised flood risk). Council's stormwater engineer has reviewed the application and available flood studies and advised they have no objection. Matters for consideration under subclause 2 are satisfactory.

Part 7 Local provisions – general

Clause 7.1 Public utility infrastructure

The land is located in an established urban area. It is recommended that a condition of consent is applied requiring approval from the relevant authorities for the connection of electricity, water and sewage to service the site.

Clause 7.5 Acid Sulfate Soils

The proposal is identified as being affected by class 5 acid sulphate soils. An acid sulphate soils management plan is not required.

Clause 7.6 Earthworks

The proposal comprises excavation for one basement level. Council's geotechnical engineer has reviewed the applicant's geotechnical report and concluded that the site is capable of development. A condition of consent is recommended requiring further geotechnical advice prior to completion of detailed construction design.

Clause 7.14 Minimum site width

The survey plan shows 36.19m frontage to Virginia Street and 22.45m frontage to Bourke Street.

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

The proposal is considered to be consistent with the provisions for design excellence as follows:

- The site is suitable for the development;
- The use is compatible with the existing and likely future uses in the locality;
- There are no heritage impacts have been ameliorated through retention of the magnolia tree and provision of an adequate tree protection zone;
- The proposal is not expected to result in any adverse environmental impacts;
- The proposal is satisfactory with regard to access, servicing and parking;
- No adverse impacts are expected on the public domain.

The Design Review Panel assessed the development prior to lodgement and then again in February 2021. Matters of concern raised by the DRP have overwhelmingly been addressed in the revised plans submitted 25 June 2021. Three minor matters noted by Council's Design Expert can be resolved via conditions of consent.

Part 8 Local provisions—Wollongong city centre

Clause 8.1 Objectives for development in Wollongong city centre

The proposal would contribute to a residential apartment mix through the provision of additional housing and employment opportunities during construction. It is considered that the development provides for a standard of design, materials and detailing appropriate for the building type and its location and zoning. The proposal provides a mixture of 1, 2 and 3 bedroom apartments including adaptable and silver level liveable.

The proposed residential flat building is an efficient use of space in an accessible location that is serviced by existing public transport.

The proposal is not expected to adversely impact on natural or cultural heritage values.

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

The proposal involves a variation to the applicable development controls in the DCP s discussed below. A full compliance table is contained at Attachment 5.

CHAPTER A1 – INTRODUCTION

8 Variations to development controls in the DCP

Variation to Level 5 units 501, 502 and 503 setbacks are proposed (Chapter D13 clause 2.5). At this height, habitable setbacks of 9m are required and non-habitable 4.5m. Unit 501 faces the northern boundary and has a balcony setback of 6m (where 9m is required) and non-habitable wall without openings at 4.48m (where 4.5m is required). Unit 502 has balcony of approximately 7m setback (where 9m is required) and non-habitable wall without openings at 4.48m (where 4.5m is required).

Unit 503 side setbacks relate to the eastern boundary and are 7.2m balcony setback (where 9m is required) and 3m to a non-habitable wall without openings (where 4.5m is required).

The non-complying setbacks occur above the roof level of adjoining buildings and either are buffered by screening or planters or have no openings. No adverse impact of the setbacks is anticipated and the proposed setbacks are supported.

2.3.2 WOLLONGONG CITY WIDE DEVELOPMENT CONTRIBUTIONS PLAN

Contributions are applied for development exceeding $100,000. A 1% levy is payable.

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)

92 What additional matters must a consent authority take into consideration in determining a development application?

Conditions of consent are recommended with regard to demolition.

93 Fire safety and other considerations

Not applicable.

94 Consent authority may require buildings to be upgraded

Not applicable.

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

The proposal is considered acceptable with regard to the likely impacts.

Context and Setting:

The immediate neighbourhood has largely been redeveloped, with only a few dwelling houses yet to be absorbed into larger apartment developments. The proposed height, floor space and setbacks are consistent with planning controls and more recent development in the vicinity.

The design accounts for frontage to Bourke Street which is a classified road and locates the basement on Virginia Street. The development does not create an isolated allotment.

Context and neighbourhood character have been addressed above in relation to SEPP 65 and the development is considered to be acceptable in this regard. The development has responded to matters raised by the DRP.

Access, Transport and Traffic:

Car parking is provided in one basement level accessed from Virginia Street.

Public Domain:

Footpath and street tree works are required as a condition of consent.

Utilities:

The proposal is not envisaged to place an unreasonable demand on utilities supply. Existing utilities are adequate to service the proposal.

Heritage:

A heritage listed magnolia tree is adequately protected and will eb retained. Council's heritage officer has recommended archival recording and a heritage interpretation plan, reflecting the past uses on the site.

Other land resources:

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

Water:

The site is presently serviced by Sydney Water, which can be readily extended to meet the requirements of the proposed development. The proposal is not envisaged to have unreasonable water consumption.

Soils:

Council records identify the site as containing class 5 acid sulfate soils. Geotechnical aspects of the development are satisfactory, subject to further geotechnical advice prior to completion detailed designs.

Air and Microclimate:

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

Flora and Fauna:

Select vegetation removal is supported by Council's landscape designer. Retention of the magnolia tree is a condition of consent.

Waste:

A waste management plan has been provided. Waste bins will be stored in the basement and moved to Virginia Street for collection.

It is recommended that a condition of consent is applied requiring a receptacle be in place for any waste generated during the construction.

Energy:

The proposal is not envisaged to have unreasonable energy consumption.

Noise and vibration:

It is recommended that a condition of consent is applied construction noise to comply with Environment Protection Authority guidelines.

Natural hazards:

Council records list the site as flood affected (uncategorised flood risk). Council's stormwater engineer has advised the proposed building footprint and floor levels are satisfactory.

Technological hazards:

There are no technological hazards affecting the site that would prevent the proposal. Conditions of consent are recommended addressing demolition and disposal of any hazardous building materials.

Safety, Security and Crime Prevention:

This application does not result in any opportunities for criminal or antisocial behaviour. The development provides active frontage on both Bourke and Virginia Streets, with fencing delineating common and private areas.

Social Impact:

No adverse impacts have been identified.

Economic Impact:

The proposal is not expected to produce adverse economic impact.

Site Design and Internal Design:

The application does not result in any departures from development standards. Site slope, tree retention, flooding and proximity to the intersection have been accommodated in the revised plans.

The plans are compatible with preliminary design plans for the intersection upgrade.

It is recommended that a condition of consent is applied requiring all works follow the Building Code of Australia.

Construction:

Conditions of consent are recommended in relation to construction impacts such as hours of work, erosion and sedimentation controls, works in the road reserve, excavation, demolition and use of any crane, hoist, plant or scaffolding.

Cumulative Impacts:

The proposal is not expected to have result in adverse cumulative impacts.

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

Does the proposal fit in the locality?

The proposal is considered appropriate with regard to the zoning of the site and is not expected to result in adverse impacts on the amenity of the locality or adjoining developments.

Are the site attributes conducive to development?

There are no site constraints that would prevent the proposal. Site slope has been satisfactorily resolved in the revised plans, with the raising of the Bourke Street wing and elimination of internal ramping.

The significant magnolia tree located in the front setback has been retained, and protected with an adequate tree protection zone.

Flooding has been addressed and the proposed floor levels including driveway crest are satisfactory.

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

Three submissions have been received (2 objections and 1 statement of support) as discussed at section 1.5.

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

The application is not expected to result in significant adverse impacts on the environment or the amenity of the locality. It is considered appropriate with consideration to the zoning and the character of the area is satisfactory with regard to the applicable planning controls. Submissions raised following notification do not warrant any redesign and internal and external referrals are satisfactory subject to appropriate conditions of consent. Approval of the proposal is consistent with the public interest.

3 CONCLUSION

This application has been assessed as having regard to the Heads of Consideration under Section 4.15 (1) of the Environmental Planning and Assessment Act 1979 including the provisions of Wollongong LEP 2009 and relevant SEPPs, DCPs, Codes and Policies

The proposed development is permissible with consent and has regard to the objectives of the zone. Variation requests in regard to Level 5 side setbacks have been made under WDCP2009.These variations have been assessed in this report as satisfactory.

Whilst the changes recommended by the DRP have not been fully implemented, conditions have been proposed to resolve minor issues. The design is still considered to demonstrate design excellence and is supportable in its current form. Internal referrals are satisfactory, and submissions are considered to have been addressed.

It is considered that the proposed development has been designed appropriately given the nature and characteristics of the site.

4 RECOMMENDATION

It is recommended that the development application be approved subject to appropriate conditions of consent detailed in Attachment 6.

5 ATTACHMENTS

1 Aerial photograph

2 WLEP zoning and heritage map

3 Plans

4 Design Review Panel meeting notes 1 February 2021

5 ADG and WDCP 2009 compliance table

6 Draft conditions of consent

Attachment 1: Aerial photograph

Figure 1: Aerial photograph *(source WCC 2020)*

Attachment 2: WLEP 2009 Zoning and Heritage maps

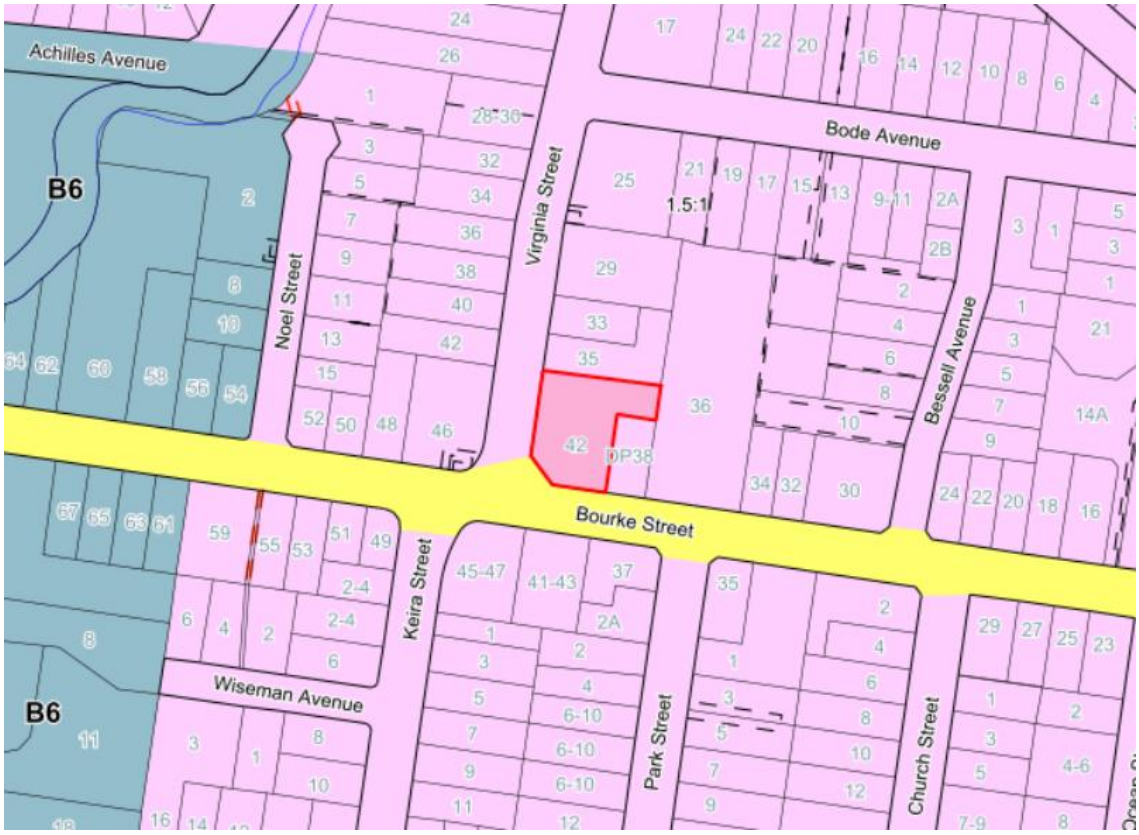

Figure 2: WLEP 2009 Zoning Map – Zone R1 General Residential *(source WCC)*

Figure 3: WLEP 2009 heritage item 6384 magnolia tree *(source WCC)*

LEGEND

- ADJOINING ZONES OF PRIVATE OPEN SPACE
- ADJOINING ZONES OF COMMUNAL OPEN SPACE
- CONTOURS TO A.H.D AT 1M OR 2M INTERVAL
- SIGNIFICANT EXISTING AND ADJOINING VEGETATION

NTH EASTERLY/SOUTHERLY BREEZES

SUNRISE SUMMER SOLSTICE

SUNRISE WINTER SOLSTICE

HIGH LEVEL

SWEEPING

WATER

POTENTIAL

VIEWS

500m TO WOLLONGONG NORTH BEACH

PARK ST

No 36
3 TO 4 STOREY METAL ROOFED BRICK FLATS

No 37
3 STOREY TILE ROOFED BRICK FLATS

No
2 STOREY ROOFED FLATS

No 38
3 STOREY TILE ROOFED BRICK FLATS

BRICK SHED

SHED

B'DRY

EXISTING METAL ROOFED BRICK BUILDING TO BE DEMOLISHED

SUBJECT SITE
No 42 BOURKE ST
LOT 1 D.P.526597
AREA: 1770m2 BY PLAN

BUS STOP

POWER POLE

ST

BOURKE

EXISTING PEDESTRIAN ACCESS

EXISTING BUILDING SETBACK LINE

BALCONY SETBACK LINE

MIN LANDSCAPE SETBACK LINE

EXISTING DPZ & LANDSCAPE ZONE CROSS HATCHED

EXISTING HERITAGE LISTED NUMBER 6384 MAGNOLIA TREE

R 12m TPZ

R 9.5m SRZ

TOPOGRAPHY GIVE PARTIAL PROTECTION FROM SOUTHERLIES

No 41-43
3 STOREY TILE ROOFED BRICK FLATS

No 45-47
3 STOREY TILE ROOFED BRICK FLATS

No 29-31
5 STOREY APARTMENTS UNDER CONSTRUCTION

No 33
1 STOREY TILE ROOFED BRICK DWELLING

No 35
2 STOREY METAL ROOFED BRICK FLATS

No 40
3 STOREY TILE ROOFED BRICK FLATS

No 42
1 STOREY TILE ROOFED BRICK DWELLING

No 46
5 STOREY METAL ROOFED CONCRETE & BRICK APARTMENTS

ELEC SUB-STATION

EXISTING & PROPOSED VEHICLE ACCESS

PROPOSED PEDESTRIAN ACCESS

VIRIGINIA ST

500m TO STUART PARK & FAIRY CREEK

< 500m TO PRINCES HWY & TRAIN STATION

1.5km TO WOLLONGONG C.B.D

SUNSET SUMMER SOLSTICE

SUNSET WINTER SOLSTICE

HOT WITH WESTERLIES

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NSW 2500

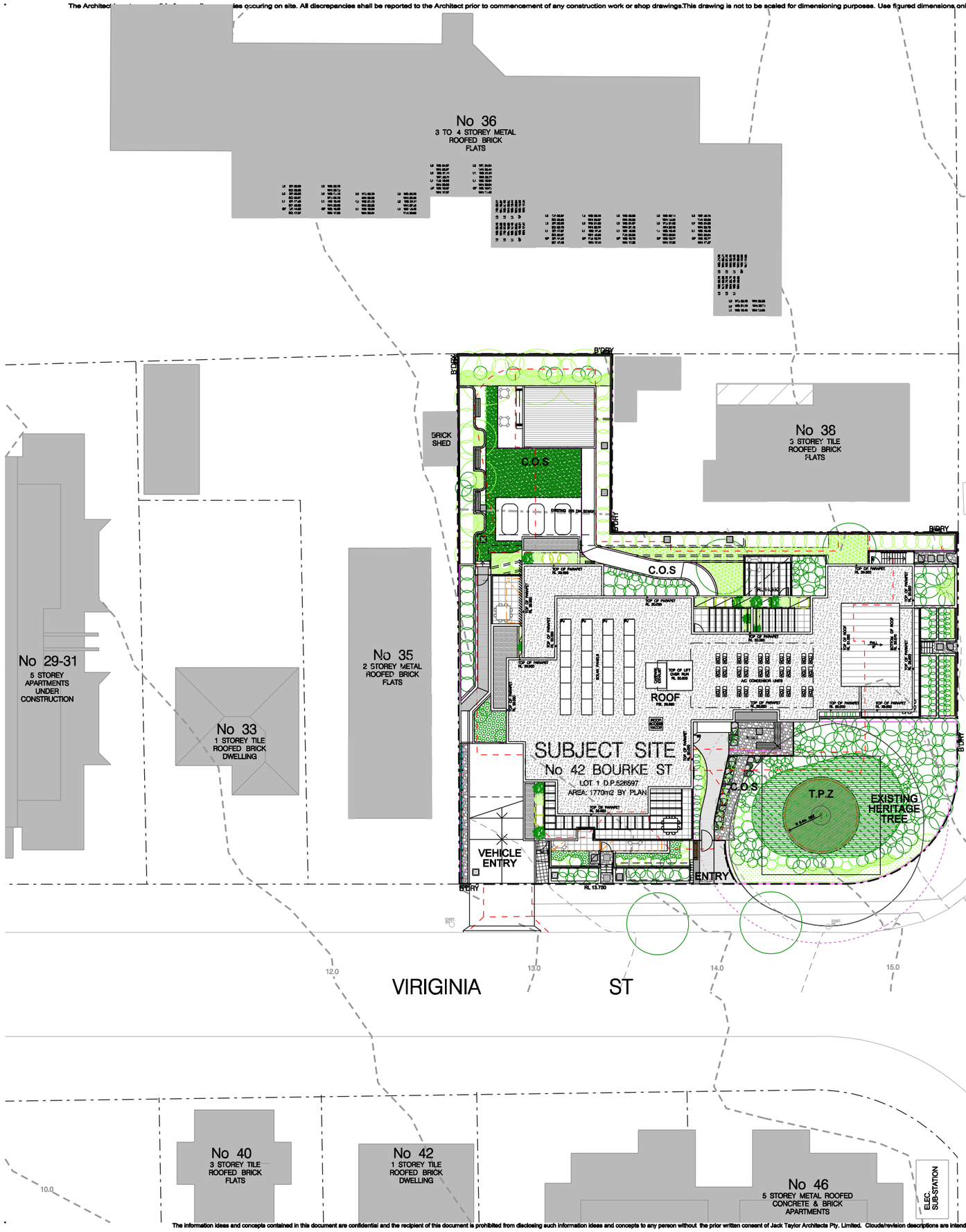
REVISION

NO.	DATE	AMENDMENT
01	12.06.20	ISSUED TO CONSULTANTS
02	03.07.20	ISSUED TO CONSULTANTS
03	04.08.20	ISSUED TO MMJ
04	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
SITE ANALYSIS

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	
DRAWING NUMBER	REVISION	
AR 0001	A	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)			
RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT
WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW	CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION		
ROOF			
UNITS WITH EXPOSED ROOF	CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION		
ENERGY: PASS - 33% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS		
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON		
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY AND EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION		
DWELLINGS			
HOT WATER	6 STAR GAS INSTANTANEOUS		
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING		
LIGHTING	DEDICATED LED THROUGHOUT		
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE		
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR		
BUILDING MANAGEMENT SYSTEM (BMS)	NO		
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.		

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING FOR EXAMPLE HARDIES SCYON LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED SLIDING AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
3. AN EXAMPLE GLAZING SPECIFICATION IS GIVEN IN TABLE 2, HOWEVER AN ALTERNATIVE CONSTRUCTION MAY BE USED PROVIDING THE MINIMUM RW RATING IS ACHIEVED.

TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING /DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING /DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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REVISION NO.	DATE	AMENDMENT
01	17.11.20	ISSUED TO CONSULTANTS
02	20.11.20	LEVELS REVISED
03	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

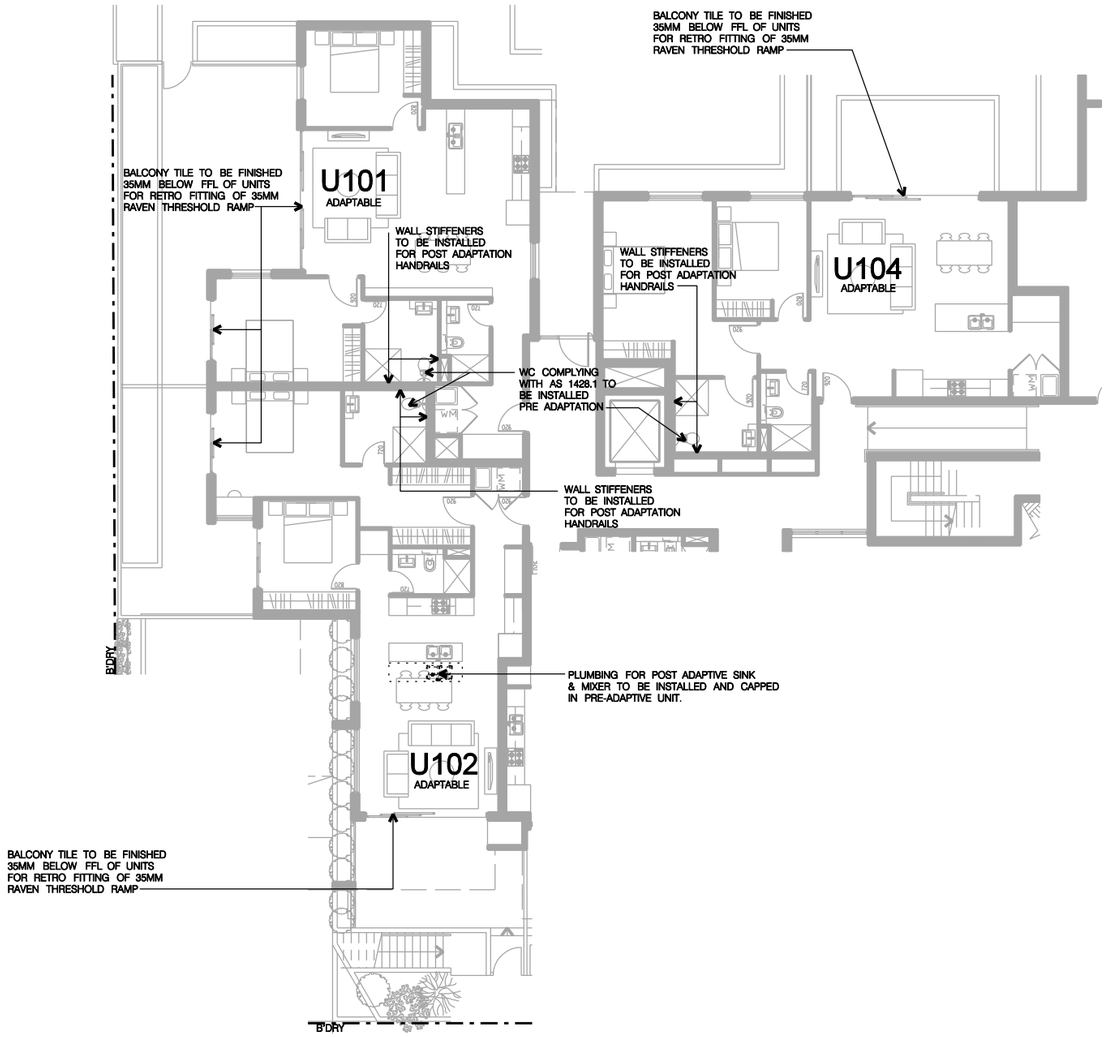
DRAWING NAME
SITE PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	
DRAWING NUMBER	REVISION	
AR 0200	B	

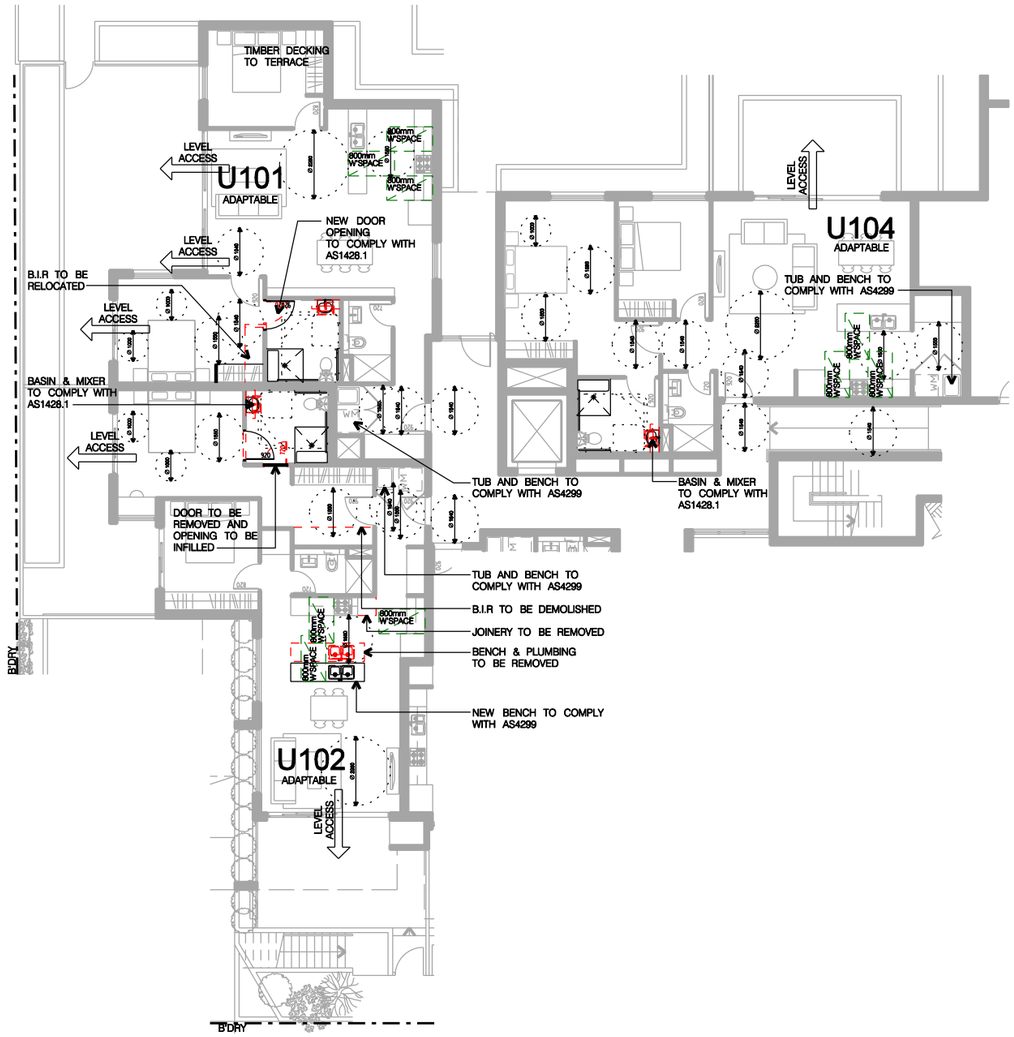
LEGEND

- PRE ADAPTIVE WORKS TO REMAIN
- PRE ADAPTIVE WORKS TO BE REMOVED
- NEW POST ADAPTIVE WORKS



LEVEL 1 PRE ADAPTIVE LAYOUT PLAN: UNITS 101. 102 & 104

NOTE: ALL SWITCHES & GPOS IN PRE ADAPTATIVE LAYOUT TO BE INSTALLED TO COMPLY WITH AS 1428.1



LEVEL 1 POST ADAPTIVE LAYOUT PLAN: UNITS 101. 102 & 104

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REVISION

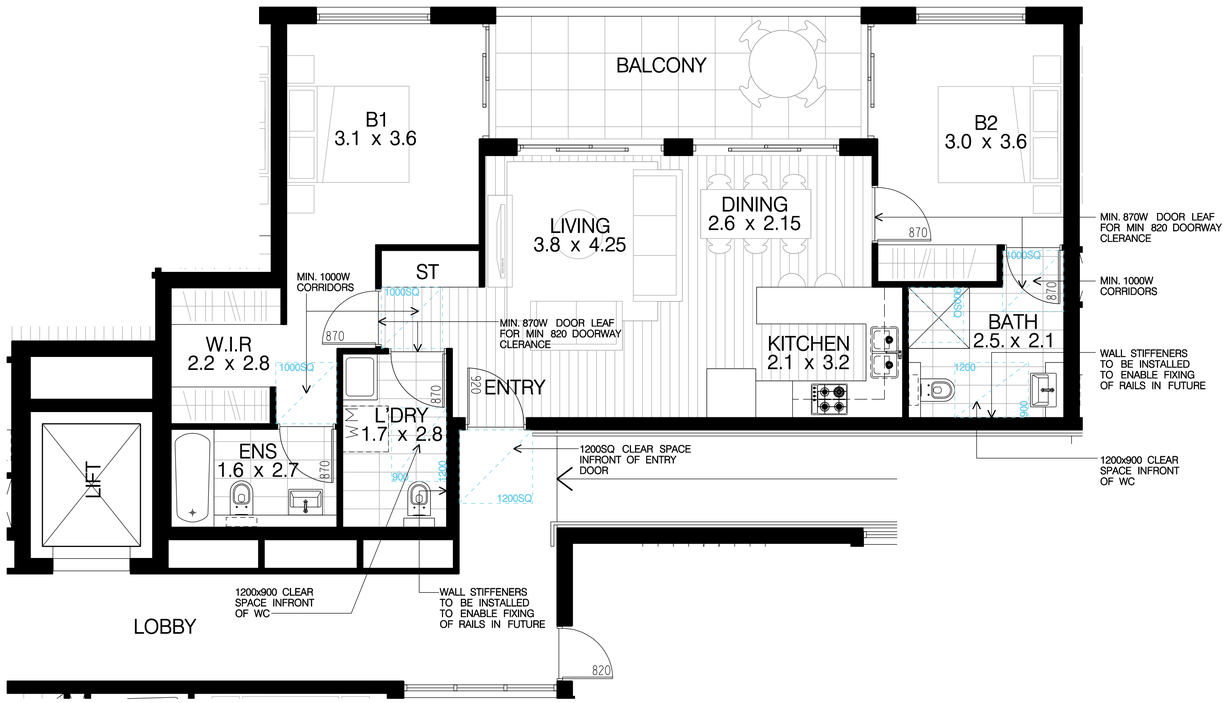
NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

PRE & POST ADAPTIVE
UNIT LAYOUTS
UNITS 101,102 & 104

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 0211	A	



UNIT 305 (LEVEL 3) & UNIT 405 (LEVEL 4) PLAN

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REVISION

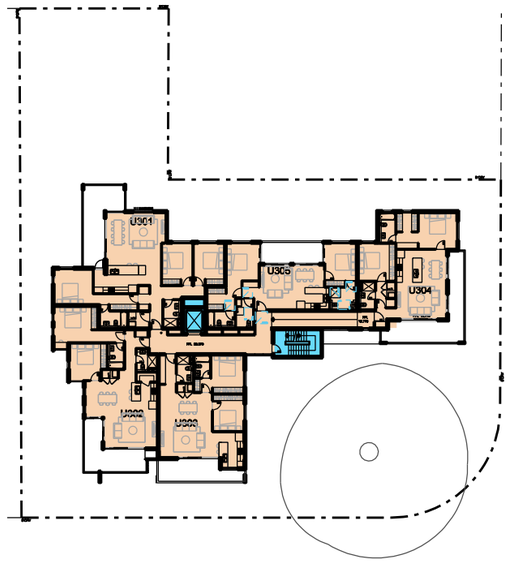
NO.	DATE	AMENDMENT
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SILVER LEVEL SLLHAA
COMPLIANT UNITS
UNITS 305 & 405

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:50 @ A1 1:100 @ A3	N
DRAWING NUMBER	REVISION	
AR 0212	A	



LEVEL 3 - GFA

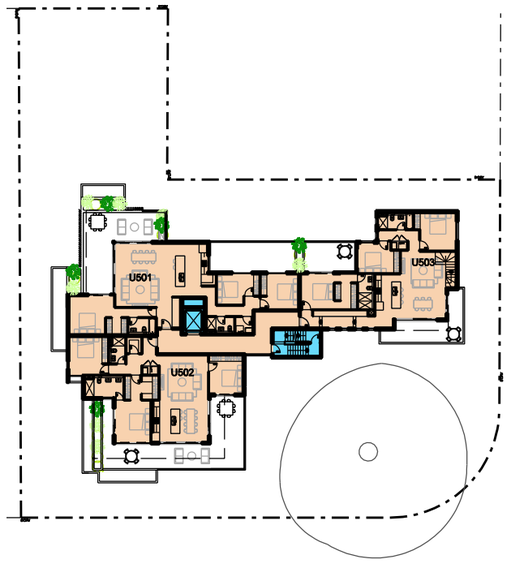
AREAS INCLUDED IN GFA: 540.00 m^2

AREAS EXCLUDED IN GFA: 17.97 m^2

LEVEL 4 - GFA

AREAS INCLUDED IN GFA: 540.00 m^2

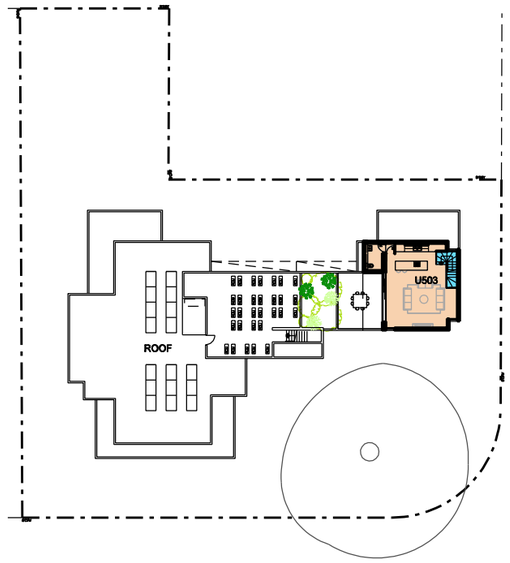
AREAS EXCLUDED IN GFA: 17.97 m^2



LEVEL 5 - GFA

AREAS INCLUDED IN GFA: 411.04 m^2

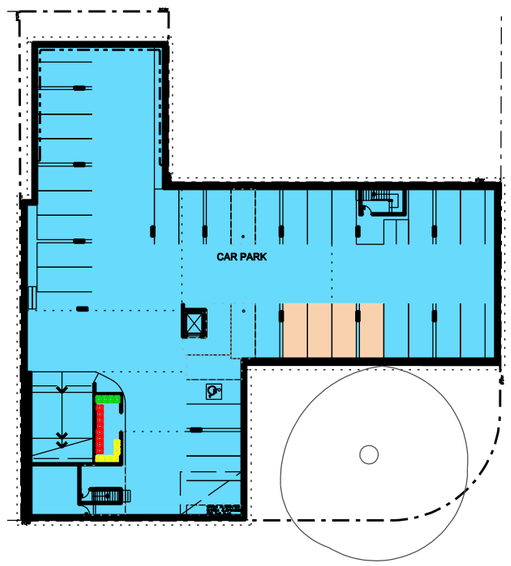
AREAS EXCLUDED IN GFA: 17.97 m^2



ROOF - GFA

AREAS INCLUDED IN GFA: 55.78 m^2

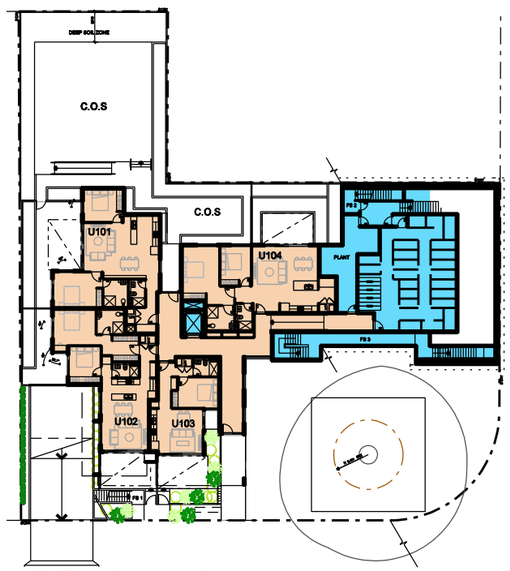
AREAS EXCLUDED IN GFA: 4.75 m^2



BASEMENT 1 PLAN - GFA

AREAS INCLUDED IN GFA: 51.84 m^2
(NO AREA OVER 1.2m ABOVE EGL)

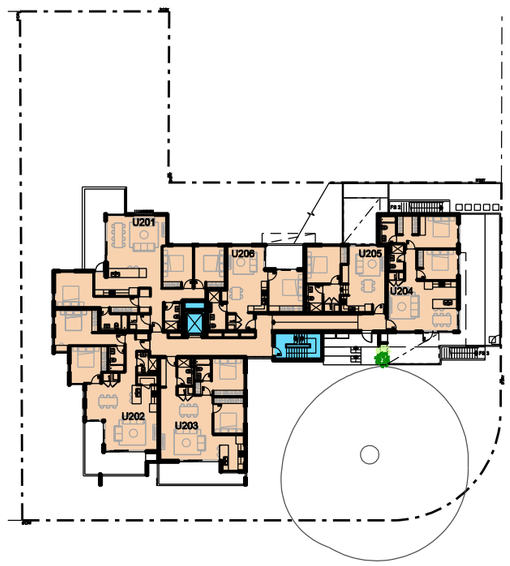
AREAS EXCLUDED IN GFA: 1197.92 m^2



LEVEL 1 PLAN - GFA

AREAS INCLUDED IN GFA: 418.63 m^2

AREAS EXCLUDED IN GFA: 181.65 m^2



LEVEL 2 PLAN - GFA

AREAS INCLUDED IN GFA: 540.19 m^2

AREAS EXCLUDED IN GFA: 17.97 m^2

TOTAL GFA

TOTAL GFA:
51.84 (B1) + 418.63 (L1) + 540.19(L2) +
540.00 (L3) + 540.00 (L4) + 411.04 (L5)
55.78 (RF) = 2557.48 m^2

FSR

SITE AREA ON SURVEY: 1770.00m^2
TOTAL GFA: 2557.48m^2
FSR: 2557.48(GFA) / 1770.00(SITE AREA)
=1.4449039
=<1.5 (MAX. PERMISSABLE FSR)

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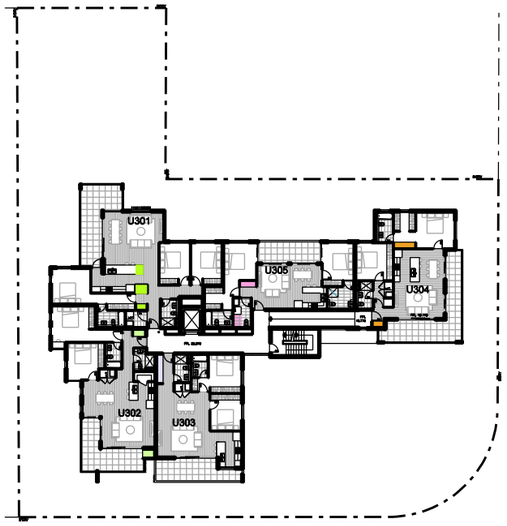
REVISION

NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
04	23.11.20	POST REVIEW PANEL REVISION
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
GFA CALCULATION

DEVELOPMENT APPLICATION

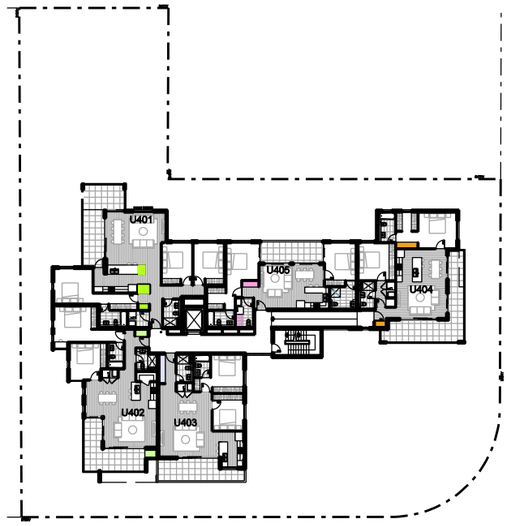
PROJECT NUMBER	SCALE	NORTH
20107	1:300 @ A1 1:600 @ A3	
DRAWING NUMBER	REVISION	
AR 0701	A	



LEVEL 3 - RESIDENT STORAGE

[VOLUME=STORGAE AREA x 2.4m(MIN. HEIGHT UNDER SERVICES)]

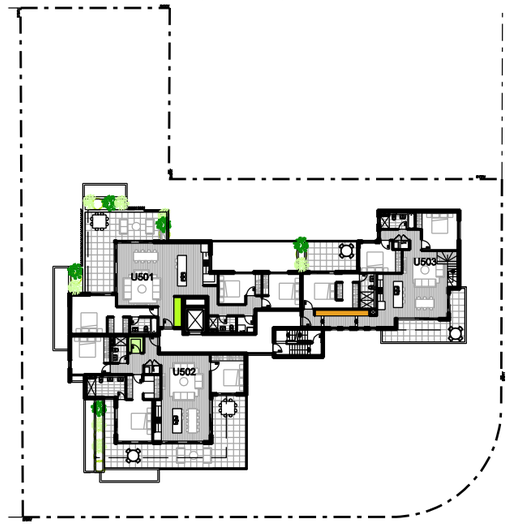
ALLOCATED U301 STORAGE AREA:	2.1	m^2
ALLOCATED U301 STORAGE VOLUME:	5.04	m^3
ALLOCATED U302 STORAGE AREA:	1.69	m^2
ALLOCATED U302 STORAGE VOLUME:	4.05	m^3
ALLOCATED U303 STORAGE AREA:	1.67	m^2
ALLOCATED U303 STORAGE VOLUME:	4.01	m^3
ALLOCATED U304 STORAGE AREA:	1.86	m^2
ALLOCATED U304 STORAGE VOLUME:	4.46	m^3
ALLOCATED U305 STORAGE AREA:	1.81	m^2
ALLOCATED U305 STORAGE VOLUME:	4.34	m^3



LEVEL 4 - RESIDENT STORAGE

[VOLUME=STORGAE AREA x 2.4m(MIN. HEIGHT UNDER SERVICES)]

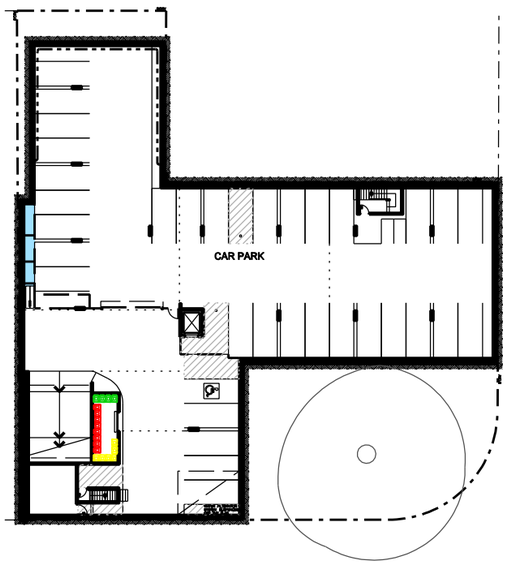
ALLOCATED U401 STORAGE AREA:	2.1	m^2
ALLOCATED U401 STORAGE VOLUME:	5.04	m^3
ALLOCATED U402 STORAGE AREA:	1.69	m^2
ALLOCATED U402 STORAGE VOLUME:	4.05	m^3
ALLOCATED U403 STORAGE AREA:	1.67	m^2
ALLOCATED U403 STORAGE VOLUME:	4.01	m^3
ALLOCATED U404 STORAGE AREA:	1.86	m^2
ALLOCATED U404 STORAGE VOLUME:	4.46	m^3
ALLOCATED U405 STORAGE AREA:	1.81	m^2
ALLOCATED U405 STORAGE VOLUME:	4.34	m^3



LEVEL 5 - RESIDENT STORAGE

[VOLUME=STORGAE AREA x 2.4m(MIN. HEIGHT UNDER SERVICES)]

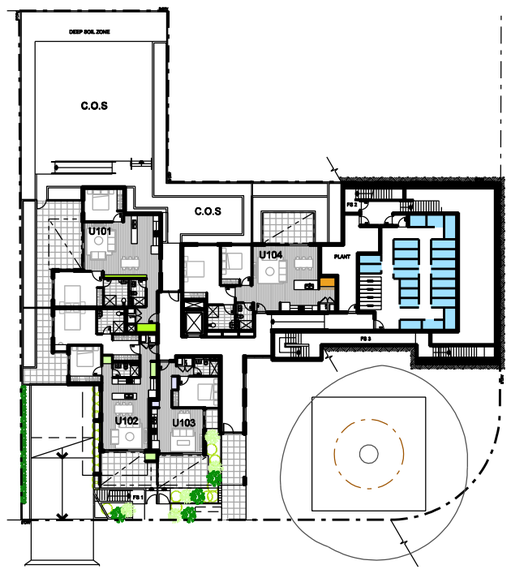
ALLOCATED U501 STORAGE AREA:	2.36	m^2
ALLOCATED U501 STORAGE VOLUME:	5.66	m^3
ALLOCATED U502 STORAGE AREA:	2.41	m^2
ALLOCATED U502 STORAGE VOLUME:	5.78	m^3
ALLOCATED U503 STORAGE AREA:	3.22	m^2
ALLOCATED U503 STORAGE VOLUME:	7.72	m^3



BASEMENT 1 PLAN - RESIDENT STORAGE

[VOLUME=STORGAE AREA x 2.2m(MIN. HEIGHT UNDER SERVICES)]

ALLOCATED STORAGE AREA:	8.1	m^2
ALLOCATED STORAGE VOLUME:	17.82	m^3



LEVEL 1 PLAN - RESIDENT STORAGE

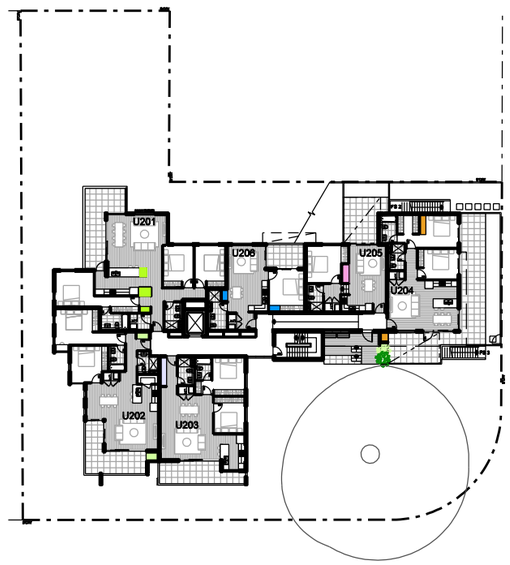
[VOLUME=STORGAE AREA x 2.4m(MIN. HEIGHT UNDER SERVICES)]

ALLOCATED U101 STORAGE AREA:	2.88	m^2
ALLOCATED U101 STORAGE VOLUME:	6.91	m^3
ALLOCATED U102 STORAGE AREA:	2.58	m^2
ALLOCATED U102 STORAGE VOLUME:	6.19	m^3
ALLOCATED U103 STORAGE AREA:	1.26	m^2
ALLOCATED U103 STORAGE VOLUME:	3.02	m^3
ALLOCATED U104 STORAGE AREA:	1.91	m^2
ALLOCATED U104 STORAGE VOLUME:	4.58	m^3

LEVEL 1 - COMMON RESIDENT STORAGE

[VOLUME=STORGAE AREA x 2.2m(MIN. HEIGHT UNDER SERVICES)]

ALLOCATED STORAGE AREA:	49.32	m^2
ALLOCATED STORAGE VOLUME:	108.5	m^3



LEVEL 2 PLAN - RESIDENT STORAGE

[VOLUME=STORGAE AREA x 2.4m(MIN. HEIGHT UNDER SERVICES)]

ALLOCATED U201 STORAGE AREA:	2.1	m^2
ALLOCATED U201 STORAGE VOLUME:	5.04	m^3
ALLOCATED U202 STORAGE AREA:	1.69	m^2
ALLOCATED U202 STORAGE VOLUME:	4.05	m^3
ALLOCATED U203 STORAGE AREA:	1.67	m^2
ALLOCATED U203 STORAGE VOLUME:	4.01	m^3
ALLOCATED U204 STORAGE AREA:	1.79	m^2
ALLOCATED U204 STORAGE VOLUME:	4.19	m^3
ALLOCATED U205 STORAGE AREA:	1.27	m^2
ALLOCATED U205 STORAGE VOLUME:	3.04	m^3
ALLOCATED U206 STORAGE AREA:	1.29	m^2
ALLOCATED U206 STORAGE VOLUME:	3.09	m^3

STORAGE AREA SUMMARY

UNIT NO.	UNIT MIX TYPE	AREA (m^2)	VOL. (m^3)	REQ. (m^3)	ADDITIONAL BASEMENT STORAGE REQ. (MAX. 50%) (m^3)
L1					
101	2BED	2.88	6.91	8	1.09
102	2BED	2.58	6.19	8	1.81
103	1BED	1.26	3.02	6	2.98
104	2BED	1.91	4.58	8	3.42
L2					
201	3BED	2.1	5.04	10	4.96
202	2BED	1.69	4.05	8	3.95
203	2BED	1.67	4.01	8	3.99
204	2BED	1.79	4.19	8	3.81
205	1BED	1.27	3.04	6	2.96
206	1BED	1.29	3.09	6	2.91
L3					
301	3BED	2.1	5.04	10	4.96
302	2BED	1.69	4.05	8	3.95
303	2BED	1.67	4.01	8	3.99
304	2BED	1.86	4.46	8	3.54
305	2BED	1.81	4.34	8	3.66
L4					
401	3BED	2.1	5.04	10	4.96
402	2BED	1.69	4.05	8	3.95
403	2BED	1.67	4.01	8	3.99
404	2BED	1.86	4.46	8	3.54
405	2BED	1.81	4.34	8	3.66
L5					
501	3BED	2.36	5.66	10	4.44
502	3BED	2.41	5.78	10	4.22
503	3BED	3.22	7.72	10	2.28
TOTAL B.MENT STORAGE REQ					83.02
TOTAL B.MENT STORAGE PROV					126.32

TOTAL BASEMTNY STORAGE REQ. IS LESS THAN PROVIDED, THEREFORE COMPLIES WITH SEPP 65

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drawing and content within are copyright to JACK TAYLOR ARCHITECTS Pty Ltd

FOR:

42 BOURKE STREET PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

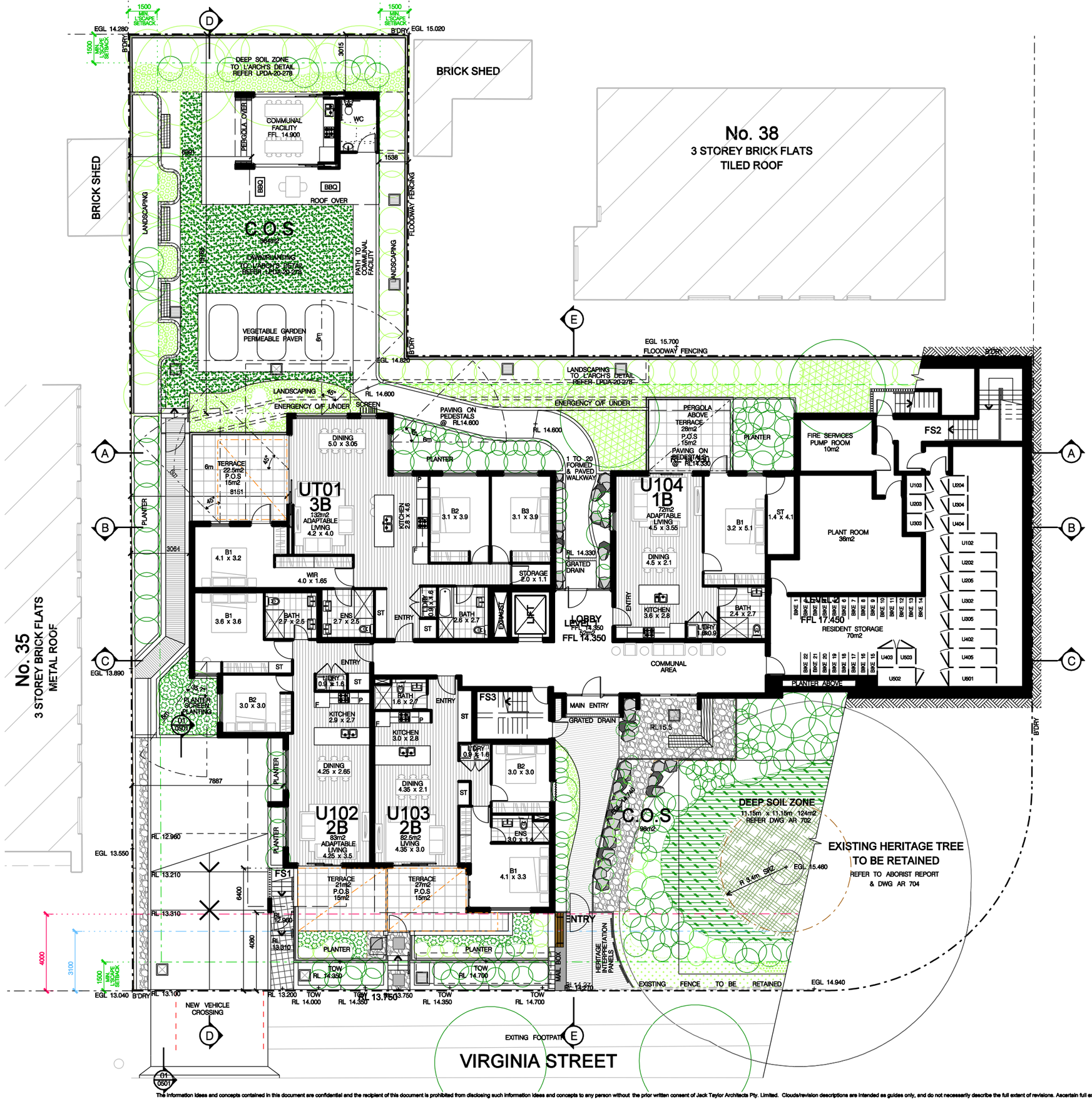
NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

REQUIRED STORAGE CALCULATIONS

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:300 @ A1 1:600 @ A3	N
DRAWING NUMBER	REVISION	
AR 0703	A	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)

RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER

THERMAL COMFORT: PASS - 6.3 STAR AVERAGE

GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)

UNITS	ALL OTHERS	503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL	MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED

FLOORS	
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW	CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION
ROOF	
UNITS WITH EXPOSED ROOF	CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION
ENERGY: PASS - 33% (25% REQUIRED TO PASS)	
COMMON AREA	
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY AND EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION
DWELLINGS	
HOT WATER	6 STAR GAS INSTANTANEOUS
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING
LIGHTING	DEDICATED LED THROUGHOUT
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR
BUILDING MANAGEMENT SYSTEM (BMS)	NO
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING, FOR EXAMPLE HARDIES SCYON, LINEA, STRIA AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
3. AN EXAMPLE GLAZING SPECIFICATION IS GIVEN IN TABLE 2 HOWEVER AN ALTERNATIVE CONSTRUCTION MAY BE USED PROVIDING THE MINIMUM RW RATING IS ACHIEVED.

TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING / DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING / DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

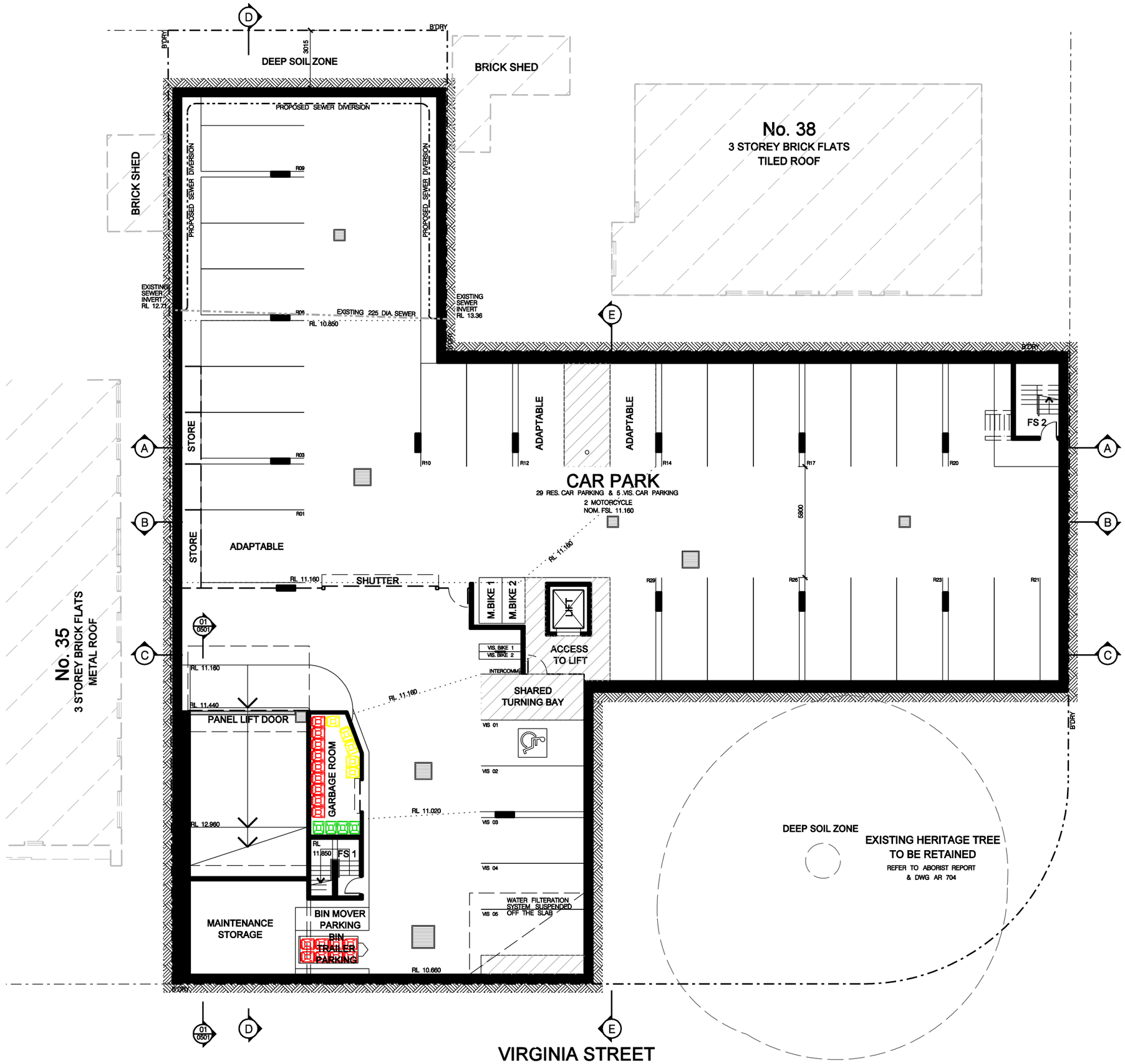
REVISION

NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	26.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
03	28.05.20	MAIN ENTRY REVISED
04	28.05.20	MAIN ENTRY REVERTED
05	02.06.20	ISSUED TO LANDSCAPE
06	11.06.20	ISSUED TO LANDSCAPE ARCHITECT
07	17.06.20	ISSUED FOR MEETING
08	19.06.20	ISSUED FOR MEETING
09	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
10	03.07.20	ISSUED TO CONSULTANTS
11	09.07.20	PATH REVISED
12	04.08.20	ISSUED TO MMJ
13	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
14	02.10.20	AMENDED AS CLOUDED
15	29.10.20	POST PANEL REVIEW AMENDMENTS
16	05.11.20	ENTRY REVISED
17	09.11.20	CONSULTANT ISSUE
18	10.11.20	UNIT 104 REVISED
19	19.11.20	UNIT 101 & 102 REVISED
20	17.11.20	LEVELS REVISED
21	20.11.20	LEVELS REVISED
22	24.11.20	FS2 REVISED TO BCA REVIEW
23	26.11.20	REAR DEEP SOIL ZONE INCREASED TO 3m
24	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
LEVEL 1 PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 202	B	



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FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT
WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW	CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION		
ROOF			
UNITS WITH EXPOSED ROOF	CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION		
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DWELLINGS			
HOT WATER	6 STAR GAS INSTANTANEOUS		
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING		
LIGHTING	DEDICATED LED THROUGHOUT		
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE		
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR		
BUILDING MANAGEMENT SYSTEM (BMS)	NO		
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.		

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING, FOR EXAMPLE HARDIES SCYON' LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
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TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING /DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING /DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THE HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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urban design masterplanning architecture
JACK TAYLOR
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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

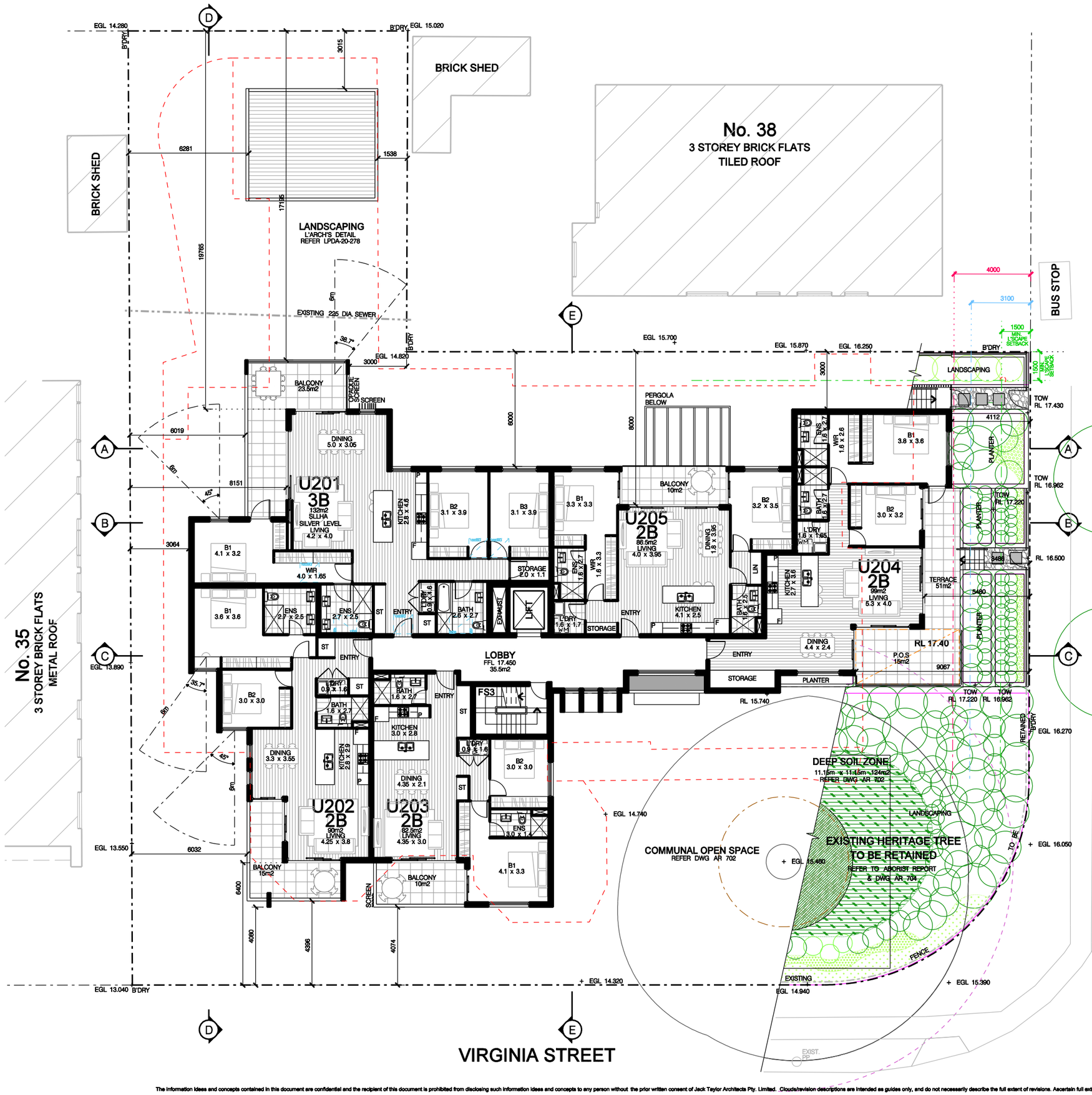
REVISION

NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	25.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
03	11.06.20	ISSUED TO LANDSCAPE ARCHITECT
04	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
05	03.07.20	ISSUED TO CONSULTANTS
06	04.08.20	ISSUED TO MNJ
07	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
08	02.10.20	AMENDED AS CLOUDED
09	29.10.20	POST PANEL REVIEW AMENDMENTS
10	05.11.20	FS LOCATION REVISED
11	20.11.20	LEVELS REVISED
12	24.11.20	FS2 REVISED TO BCA REVIEW
13	26.11.20	REAR DEEP SOIL ZONE INCRESED TO 3m
14	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
BASMENT 1 PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	N
DRAWING NUMBER	REVISION	
AR 201	B	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)			
RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT
WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION	
ENERGY: PASS - 33% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS		
LIFT	GEARLESS TRACTION W VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON		
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY AND EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION		
DWELLINGS			
HOT WATER	6 STAR GAS INSTANTANEOUS		
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING		
LIGHTING	DEDICATED LED THROUGHOUT		
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE		
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR		
BUILDING MANAGEMENT SYSTEM (BMS)	NO		
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.		

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING FOR EXAMPLE HARDIES SCYON, LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
3. AN EXAMPLE GLAZING SPECIFICATION IS GIVEN IN TABLE 2 HOWEVER AN ALTERNATIVE CONSTRUCTION MAY BE USED PROVIDING THE MINIMUM RW RATING IS ACHIEVED.

TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING /DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING /DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. G-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:
42 BOURKE STREET PTY. LTD.

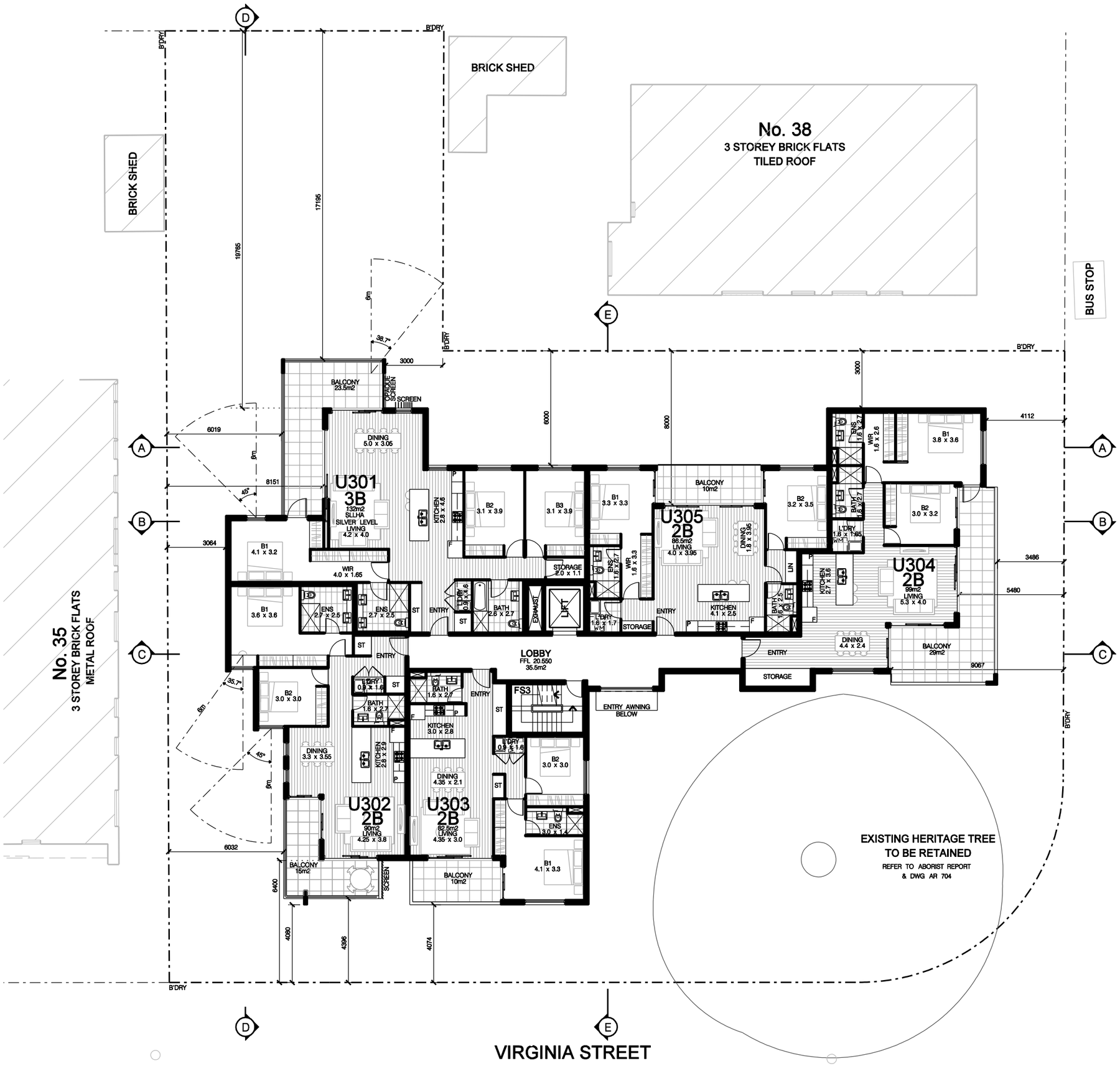
PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	25.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
03	02.06.20	ISSUED TO LANDSCAPE
04	12.06.20	ISSUED TO CONSULTANTS
05	17.06.20	ISSUED FOR MEETING
06	19.06.20	ISSUED FOR MEETING
07	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
08	03.07.20	ISSUED TO CONSULTANTS
09	04.08.20	ISSUED TO MMJ
10	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
11	02.10.20	REVISED AS CLOUDED
12	29.10.20	POST PANEL REVIEW AMENDMENTS
13	03.11.20	UNIT 202 REVISED
14	05.11.20	STAIRS REVISED
15	06.11.20	UNIT 206 REVISED
16	09.11.20	CONSULTANT ISSUE
17	10.11.20	WINDOWS ADDED AS CLOUDED
18	13.11.20	UNIT 201 & 203 REVISED
19	13.11.20	LEVELS REVISED
20	17.11.20	LEVELS REVISED
21	20.11.20	LEVELS REVISED
22	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.08.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
LEVEL 2 PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 203	B	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)			
RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT
WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW	CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION		
ROOF			
UNITS WITH EXPOSED ROOF	CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION		
ENERGY: PASS - 33% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS		
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON		
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY AND EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION		
DWELLINGS			
HOT WATER	6 STAR GAS INSTANTANEOUS		
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING		
LIGHTING	DEDICATED LED THROUGHOUT		
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE		
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR		
BUILDING MANAGEMENT SYSTEM (BMS)	NO		
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.		

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING, FOR EXAMPLE HARDIES SCYON LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
3. AN EXAMPLE GLAZING SPECIFICATION IS GIVEN IN TABLE 2, HOWEVER AN ALTERNATIVE CONSTRUCTION MAY BE USED PROVIDING THE MINIMUM RW RATING IS ACHIEVED.

TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING /DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING /DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. G-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:
42 BOURKE STREET PTY. LTD.

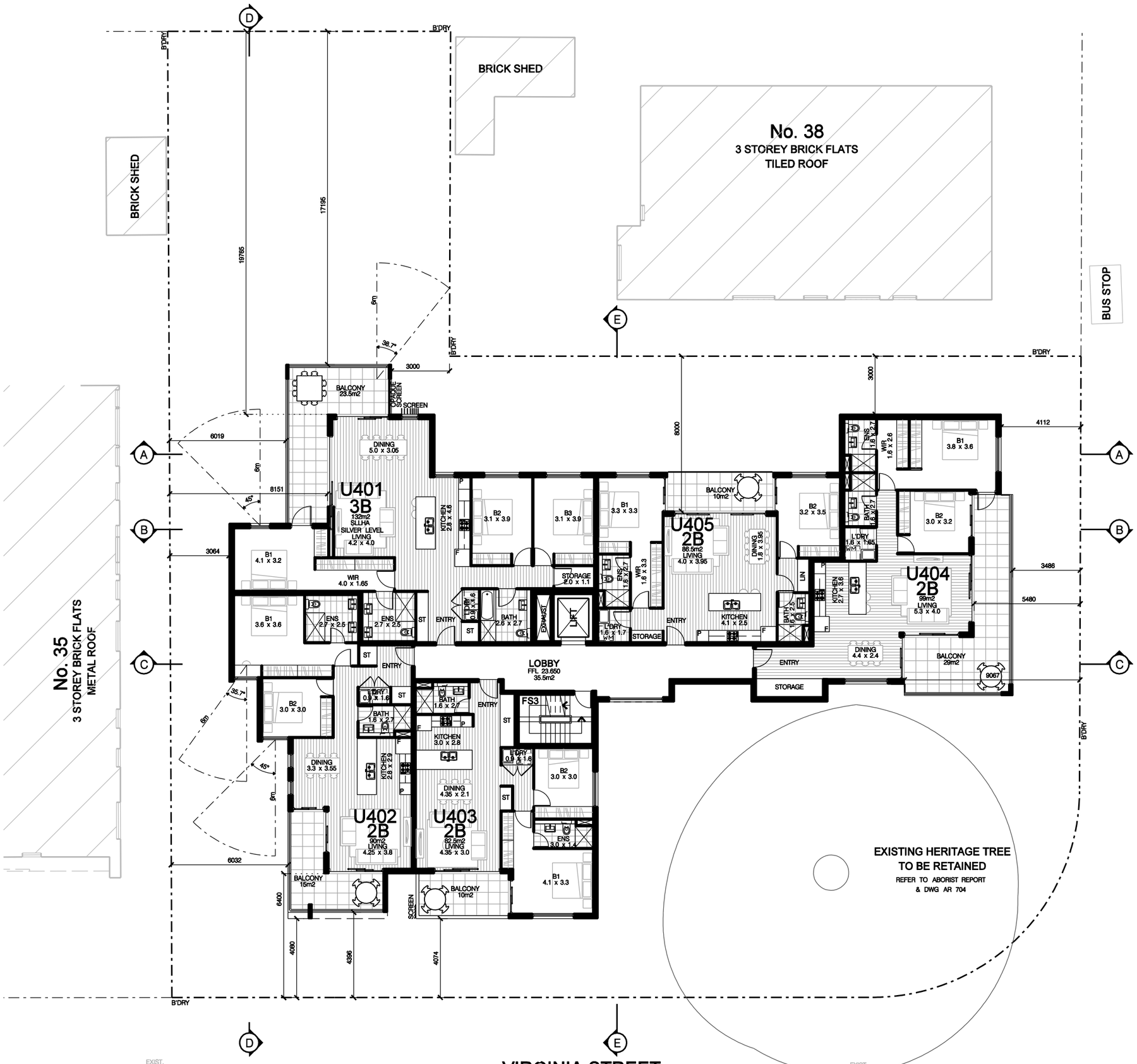
PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	25.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
03	02.06.20	ISSUED TO LANDSCAPE
04	12.06.20	ISSUED TO CONSULTANTS
05	17.06.20	ISSUED FOR MEETING
06	19.06.20	ISSUED FOR MEETING
07	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
08	03.07.20	ISSUED TO CONSULTANTS
09	04.08.20	ISSUED TO MMJ
10	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
11	02.10.20	REVISED AS CLOUDED
12	29.10.20	POST PANEL REVIEW AMENDMENTS
13	03.11.20	UNIT 302 REVISED
14	09.11.20	CONSULTANT ISSUE
15	10.11.20	WINDOWS ADDED AS CLOUDED
16	13.11.20	UNIT 301 & 303 REVISED
17	13.11.20	LEVELS REVISED
18	17.11.20	LEVELS REVISED
19	20.11.20	LEVELS REVISED
20	24.11.20	U305 CONEVERTED TO SILVER LEVEL LIVEABLE UNIT
21	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
LEVEL 3 PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 204	B	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)			
RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
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PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT
WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW	CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION		
ROOF			
UNITS WITH EXPOSED ROOF	CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION		
ENERGY: PASS - 33% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS		
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON		
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DWELLINGS			
HOT WATER	6 STAR GAS INSTANTANEOUS		
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING		
LIGHTING	DEDICATED LED THROUGHOUT		
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APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR		
BUILDING MANAGEMENT SYSTEM (BMS)	NO		
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.		

ACOUSTIC RECOMMENDATIONS

WALLS

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4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
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WINDOWS AND GLAZED DOORS

GLAZING

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TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

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ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. G-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:
42 BOURKE STREET PTY. LTD.

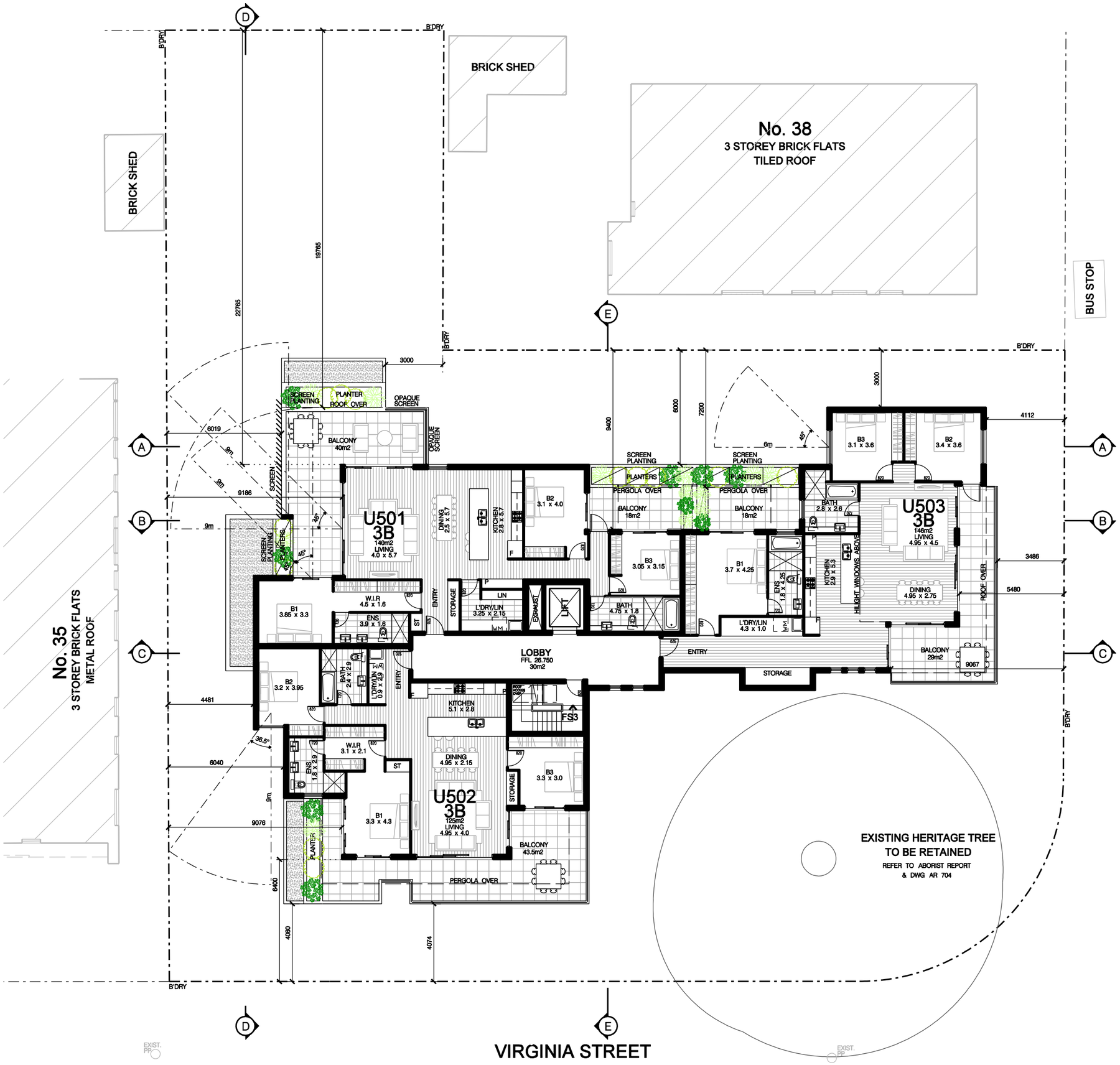
PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	25.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
03	02.06.20	ISSUED TO LANDSCAPE
04	12.06.20	ISSUED TO CONSULTANTS
05	17.06.20	ISSUED FOR MEETING
06	19.06.20	ISSUED FOR MEETING
07	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
08	03.07.20	ISSUED TO CONSULTANTS
09	04.08.20	ISSUED TO MNJ
10	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
11	02.10.20	REVISED AS CLOUDED
12	29.10.20	POST PANEL REVIEW AMENDMENTS
13	03.11.20	UNIT 402 REVISED
14	09.11.20	CONSULTANT ISSUE
15	10.11.20	WINDOWS ADDED AS CLOUDED
16	13.11.20	UNIT 401 & 403 REVISED
17	13.11.20	LEVELS REVISED
18	17.11.20	LEVELS REVISED
19	20.11.20	LEVELS REVISED
20	24.11.20	U305 CONEVERTED TO SILVER LEVEL LIVEABLE UNIT
21	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
LEVEL 4 PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 205	B	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)			
RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT
WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION	
ENERGY: PASS - 33% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS		
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON		
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY AND EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION		
DWELLINGS			
HOT WATER	6 STAR GAS INSTANTANEOUS		
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING		
LIGHTING	DEDICATED LED THROUGHOUT		
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE		
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR		
BUILDING MANAGEMENT SYSTEM (BMS)	NO		
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.		

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING FOR EXAMPLE HARDIES SCYON LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
3. AN EXAMPLE GLAZING SPECIFICATION IS GIVEN IN TABLE 2, HOWEVER AN ALTERNATIVE CONSTRUCTION MAY BE USED PROVIDING THE MINIMUM RW RATING IS ACHIEVED.

TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING /DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING /DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. G-LON FROM SCHLEGEL OR SIMILAR).

NB.

IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

ARCHITECT:
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FOR:

42 BOURKE STREET
PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

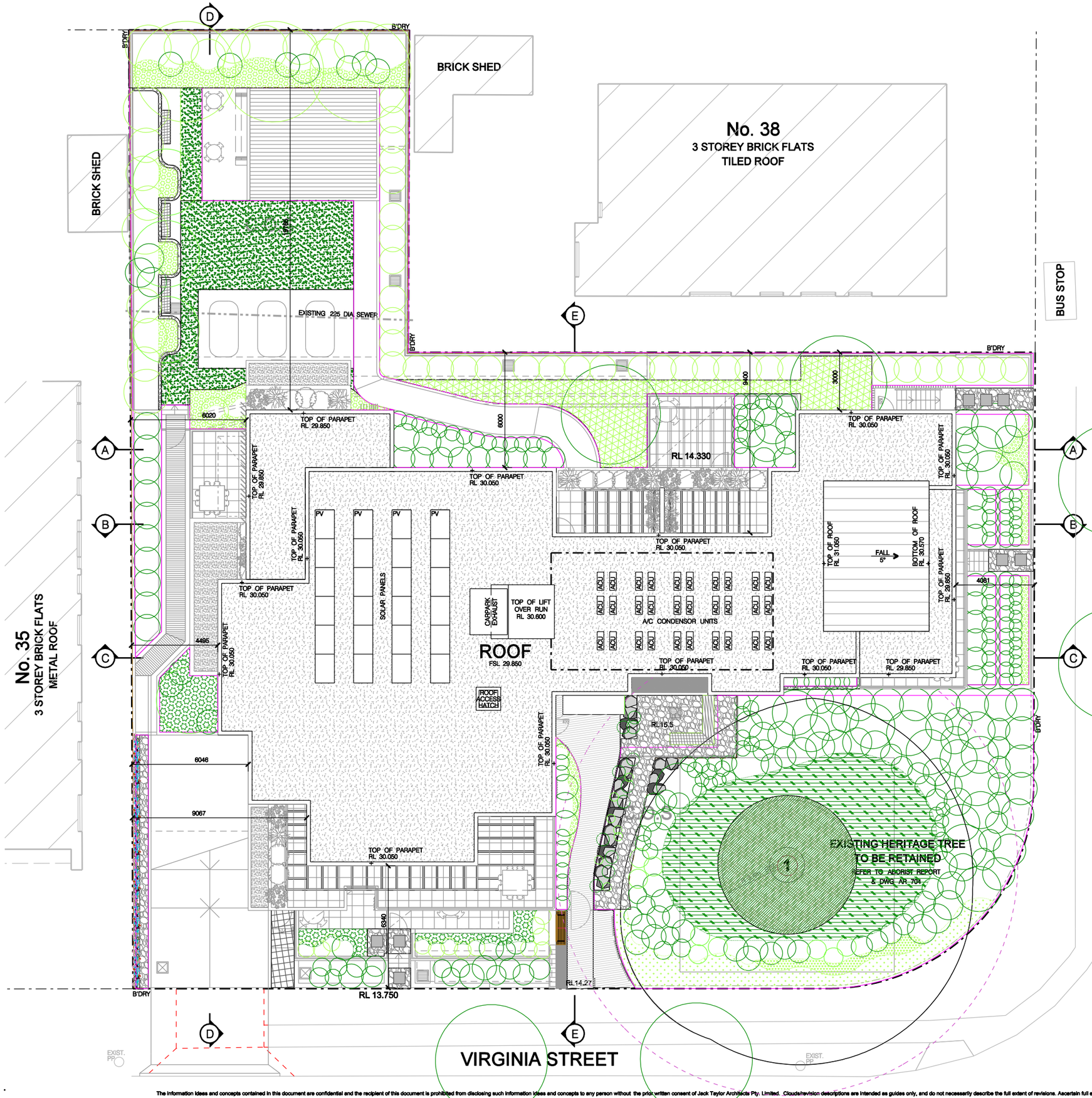
REVISION NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	25.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
03	02.06.20	ISSUED TO LANDSCAPE
04	12.06.20	ISSUED TO CONSULTANTS
05	17.06.20	ISSUED FOR MEETING
06	19.06.20	ISSUED FOR MEETING
07	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
08	03.07.20	ISSUED TO CONSULTANTS
09	04.08.20	ISSUED TO MMJ
10	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
11	02.10.20	REVISED AS CLOUDED
12	29.10.20	POST PANEL REVIEW AMENDMENTS
13	03.11.20	UNIT 503 REVISED
14	09.11.20	CONSULTANT ISSUE
15	10.11.20	WINDOWS ADDED AS CLOUDED
16	16.11.20	UNIT 501 & 502 REVISED
17	13.11.20	LEVELS REVISED
18	17.11.20	LEVELS REVISED
19	20.11.20	LEVELS REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

LEVEL 5 PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 206	B	



BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)

RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER

THERMAL COMFORT: PASS - 6.3 STAR AVERAGE

GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)

UNITS	ALL OTHERS	503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL	MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED

FLOORS	
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW	CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION
ROOF	
UNITS WITH EXPOSED ROOF	CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARD INSULATION
ENERGY: PASS - 33% (25% REQUIRED TO PASS)	
COMMON AREA	
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY AND EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION
DWELLINGS	
HOT WATER	6 STAR GAS INSTANTANEOUS
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING
LIGHTING	DEDICATED LED THROUGHOUT
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH WELL VENTILATED FRIDGE SPACE
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR
BUILDING MANAGEMENT SYSTEM (BMS)	NO
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING, FOR EXAMPLE HARDIES SCYON, LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2):-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 50 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
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TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING / DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING / DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	12.06.20	ISSUED TO CLIENT
02	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
03	03.07.20	ISSUED TO CONSULTANTS
04	09.07.20	PATHS AMENDED
05	04.08.20	ISSUED TO MMJ
06	07.08.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
07	29.10.20	POST PANEL REVIEW AMENDMENTS
08	09.11.20	CONSULTANT ISSUE
09	10.11.20	UNIT 503 REVISED ADDITIONAL INFO ADDED
10	13.11.20	UNIT 503 REVISED ADDITIONAL INFO ADDED
11	13.11.20	LEVELS REVISED
12	17.11.20	LEVELS REVISED
13	19.11.20	ISSUED TO MMJ
14	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.08.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
ROOF PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 207	B	

NORTH ELEVATION

EAST ELEVATION

BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)

RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER

THERMAL COMFORT: PASS - 8.3 STAR AVERAGE

GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)

UNITS	ALL OTHERS	503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL	MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARDINSULATION	
ENERGY: PASS - 31% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS		

LIGHTING	GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY & EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION
DWELLINGS	
HOT WATER	6 STAR GAS INSTANTANEOUS
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING DAY NIGHT
LIGHTING	DEDICATED LED THROUGHOUT
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH

VENTILATION	WELL VENTILATED FRIDGE SPACE
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR
BUILDING MANAGEMENT SYSTEM (BMS)	NO
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING, FOR EXAMPLE HARDIES SCYON, LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2)-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 60 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
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TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
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UNITS 205 1B, 304 2B & 404 2B LIVING / DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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urban design masterplanning architecture
JACK TAYLOR
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Board of Architects QLD Registration # 3571
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North Sydney NSW 2060
AUSTRALIA
T +61 2 7910 8563
E jack@jtas.com.au

FOR:
42 BOURKE STREET PTY. LTD.

EXTERNAL FINISHES

FB1	FACE BRICK TYPE 1. AUSTRAL BOWRAL BLUE
FB2	FACE BRICK TYPE 1. AUSTRAL METALUX CHILLING WHITE
SC1	SCREEN TYPE 1 ALUMINIUM VERTICAL & ANGLED BLADES P'DERCOATED TO MATCH TIMBER
SC2	SCREEN TYPE 2 ALUMINIUM VERTICAL BLADES P'DERCOATED TO MATCH TIMBER
CL1	CLADDING TYPE 1. STANDING SEAM METAL CLADDING GREY
CL2	CLADDING TYPE 2. POWDERCOATED METAL CLADDING P'DERCOATED TO MATCH TIMBER
ALW1	ALUM. FRAMED WINDOW CLEAR GLAZING - GREY TINT P'DERCOAT BLACK
ALW2	ALUM. FRAMED WINDOW OPAQUE GLAZING - GREY TINT P'DERCOAT BLCAK
BL1	BALUSTRADE TYPE 1 SAFETY FRAMELESS GLASS BALUSTRADE. DARK FLINT
FN1	FENCE TYPE 1. - STREET FRONTAGE P'DERCOATED METAL PICKET FENCE. P'DERCOATED MATCH CHARCOAL
FN2	FENCE TYPE 2. P'DERCOATED METAL VERTICAL FLATS. P'DERCOATED GREY
FN3	FENCE TYPE 3. SIDE & REAR BOUNDARY FENCING FLOODWAY FENCING TO ENG'S DETAILS
P01	PAINT TYPE 1. DULUX TEXTURED PAINT OFF WHITE
P02	PAINT TYPE 2. DULUX TEXTURED PAINT MID. GREY
P03	PAINT TYPE 3. DULUX TEXTURED PAINT CHARCOAL
PER1	PERGOLA TYPE 1. P'DERCOATED ALUMINIUM R.H.S. P'DERCOATED TO MATCH METAL CLADDING

PROJECT
42 BOURKE STREET NORTH WOLLONGONG NSW 2500

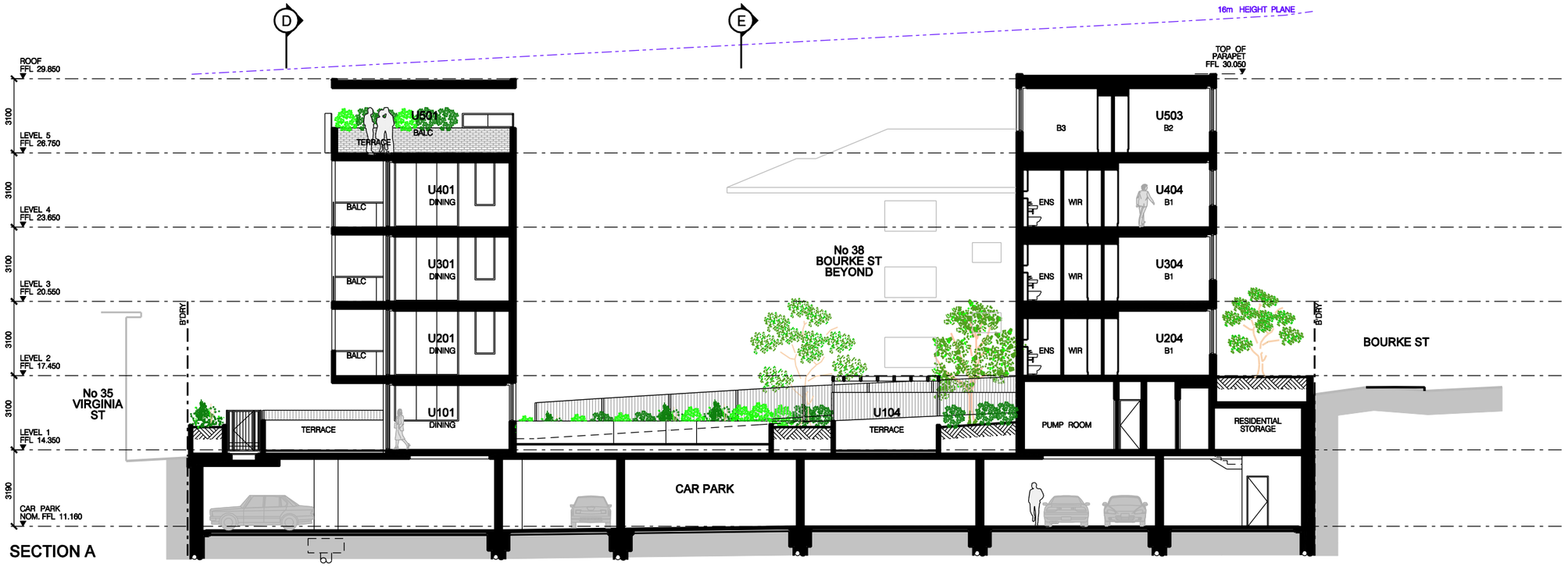
REVISION

NO.	DATE	AMENDMENT
01	12.06.20	ISSUED TO CLIENT
02	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
03	03.07.20	ISSUED TO CONSULTANTS
04	04.08.20	ISSUED TO MMJ
05	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
06	20.11.20	POST REVIEW PANEL REVISION
07	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
NORTH & EAST ELEVATIONS

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 0402	B	



SECTION A

SECTION B

BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)

RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER

THERMAL COMFORT: PASS - 6.3 STAR AVERAGE

GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)

UNITS	ALL OTHERS	503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL	MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARDINSULATION	

ENERGY: PASS - 31% (25% REQUIRED TO PASS)

COMMON AREA		
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS	PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS

LIGHTING	GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY & EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION
DWELLINGS	
HOT WATER	6 STAR GAS INSTANTANEOUS
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING DAY NIGHT
LIGHTING	DEDICATED LED THROUGHOUT
VENTILATION	BATHROOM - DUCTED W/ MANUAL SWITCH KITCHEN - DUCTED W/ MANUAL SWITCH LAUNDRY - DUCTED W/ MANUAL SWITCH

VENTILATION	WELL VENTILATED FRIDGE SPACE
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR
BUILDING MANAGEMENT SYSTEM (BMS)	NO
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
2. CEMENT COMPOSITE EXTERNAL CLADDING, FOR EXAMPLE HARDIES SCYON, LINEA, STRIA, AXON OR CSR CEMINTEL OR APPROVED EQUIVALENT WITH SIMILAR MINIMUM MASS (MIN 12.5 KG/M2)-
3. INTERNAL PLASTERBOARD WALL LINING MAY BE OF 10 MM THICK (MINIMUM) STANDARD PLASTERBOARD CONSTRUCTION,
4. MINIMUM 80 MM THICK GLASSWOOL OR POLYESTER INSULATION IN ALL EXTERNAL WALL CAVITIES (MIN DENSITY 11 KG/ M3).

CEILING AND ROOF SYSTEM

1. CONCRETE TILE OR METAL DECK ROOF WITH 10 MM THICK STANDARD PLASTERBOARD CEILING BELOW,
2. AND MINIMUM 50 MM THICK GLASSWOOL INSULATION (MINIMUM 11 KG/M3) IN THE CEILING CAVITY WILL BE ACCEPTABLE

WINDOWS AND GLAZED DOORS

GLAZING

1. WINDOWS AND GLAZED DOORS MAY BE FIXED, SLIDING, AWNING OR DOUBLE HUNG STYLE IN ALUMINIUM OR TIMBER FRAMES,
2. TABLE 2 BELOW SPECIFIES MINIMUM SOUND REDUCTION INDEX (RW) RATINGS REQUIRED FOR VARIOUS WINDOWS AND GLAZED DOORS. GLAZING OTHER THAN THOSE SPECIFIED IN TABLE 2 MAY BE OF STANDARD THICKNESS WITH A MINIMUM RW 25.
3. AN EXAMPLE GLAZING SPECIFICATION IS GIVEN IN TABLE 2, HOWEVER AN ALTERNATIVE CONSTRUCTION MAY BE USED PROVIDING THE MINIMUM RW RATING IS ACHIEVED.

TABLE 2 RECOMMENDED WINDOW SCHEDULE - RESIDENTIAL UNITS

BLOCK/ UNIT/ GLAZING	MIN Rw	EXAMPLE GLAZING SPECIFICATION
UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING / DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING / DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
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NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
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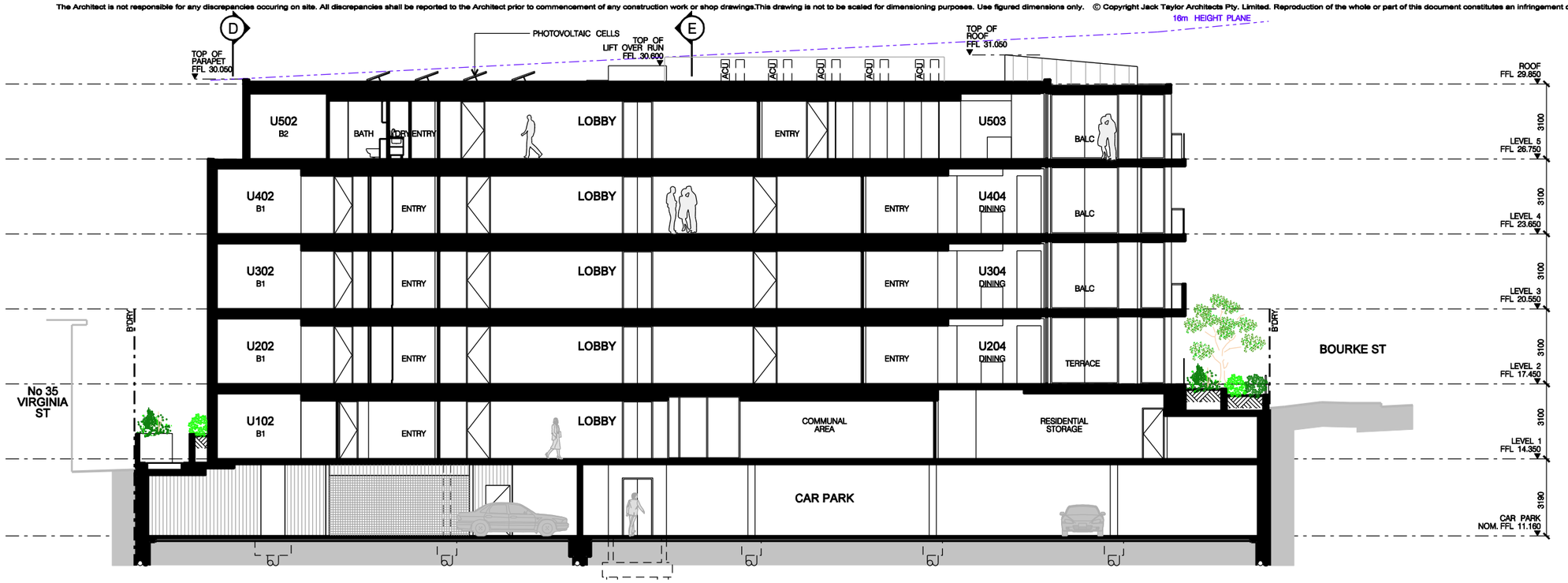
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
SECTIONS A & B

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	N
DRAWING NUMBER	REVISION	
AR 0301	B	



SECTIONS C

SECTIONS D

BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)			
RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-8L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER
THERMAL COMFORT: PASS - 6.3 STAR AVERAGE			
GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)			
UNITS	ALL OTHERS		503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.80 SHGC 0.60 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL		MAX U-VALUE 4.90 SHGC 0.28 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARDINSULATION	
ENERGY: PASS - 31% (25% REQUIRED TO PASS)			
COMMON AREA			
LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS		

LIGHTING	GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS
LIFT	GEARLESS TRACTION W/ VVVF MOTOR - LED LIGHTING W/ LINK TO CALL BUTTON
VENTILATION	BASEMENT LEVELS - SUPPLY AND EXHAUST W/ CO MONITOR + VSD FAN PUMP/PLANT ROOMS - SUPPLY & EXHAUST W/ INTERLOCK TO LIGHT GARBAGE ROOMS - EXHAUST ONLY STORAGE - SUPPLY CONTINUOUS COMMON CORRIDORS - NATURAL VENTILATION
DWELLINGS	
HOT WATER	6 STAR GAS INSTANTANEOUS
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING DAY NIGHT
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VENTILATION	WELL VENTILATED FRIDGE SPACE
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR
BUILDING MANAGEMENT SYSTEM (BMS)	NO
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.

ACOUSTIC RECOMMENDATIONS

WALLS

1. EXTERNAL WALLS OF BRICK VENEER OR OTHER MASONRY CONSTRUCTION WILL BE ACCEPTABLE, AND
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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
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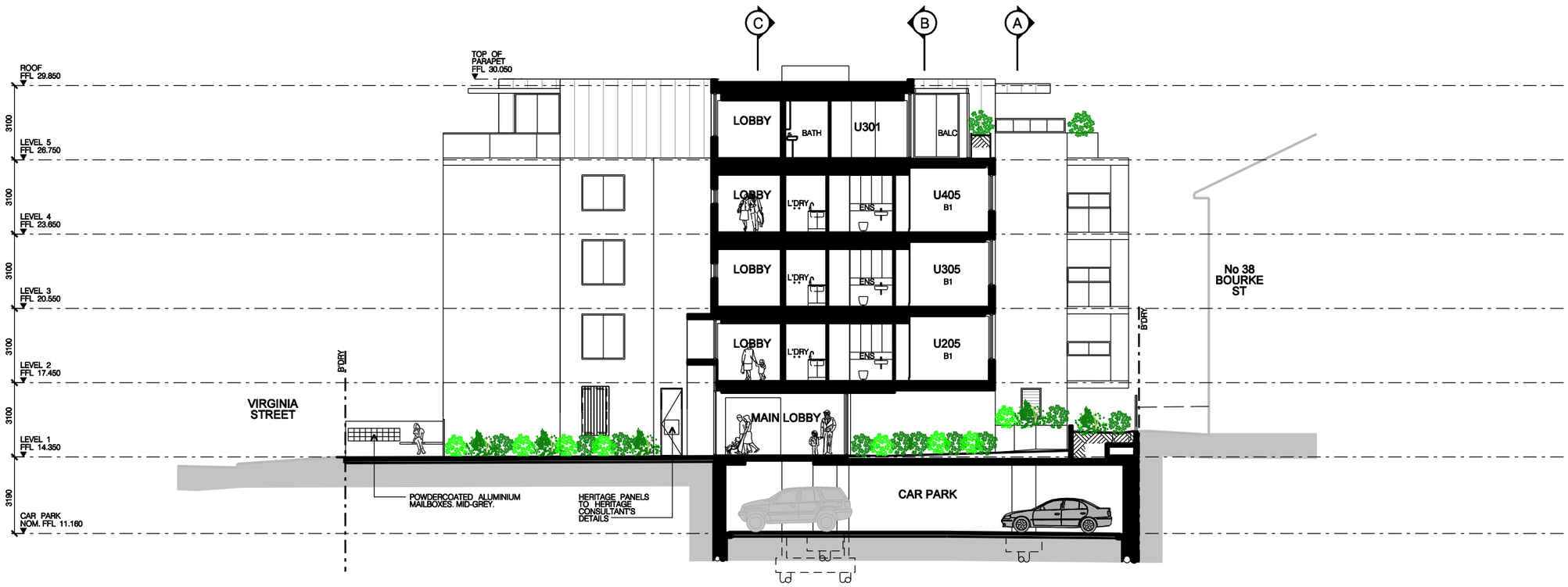
DRAWING NAME
SECTIONS C & D

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 0302	B	



SECTIONS E

BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)

RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER

THERMAL COMFORT: PASS - 6.3 STAR AVERAGE

GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)

UNITS	ALL OTHERS	503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL	MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARDINSULATION	
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LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS		

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DWELLINGS	
HOT WATER	6 STAR GAS INSTANTANEOUS
HEATING /COOLING	INDIVIDUAL SYSTEMS - AC 3.5 STAR HEATING AND COOLING DAY NIGHT
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VENTILATION	WELL VENTILATED FRIDGE SPACE
APPLIANCES	ELECTRIC OVEN W/ GAS COOKTOP DISHWASHER - 3 STAR ENERGY CLOTHES DRYER - 2 STAR
BUILDING MANAGEMENT SYSTEM (BMS)	NO
PHOTOVOLTAIC SYSTEM	5PKW SYSTEM - CONNECTED TO COMMON AREA AND CENTRAL SYSTEMS.

ACOUSTIC RECOMMENDATIONS

WALLS

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CEILING AND ROOF SYSTEM

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WINDOWS AND GLAZED DOORS

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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
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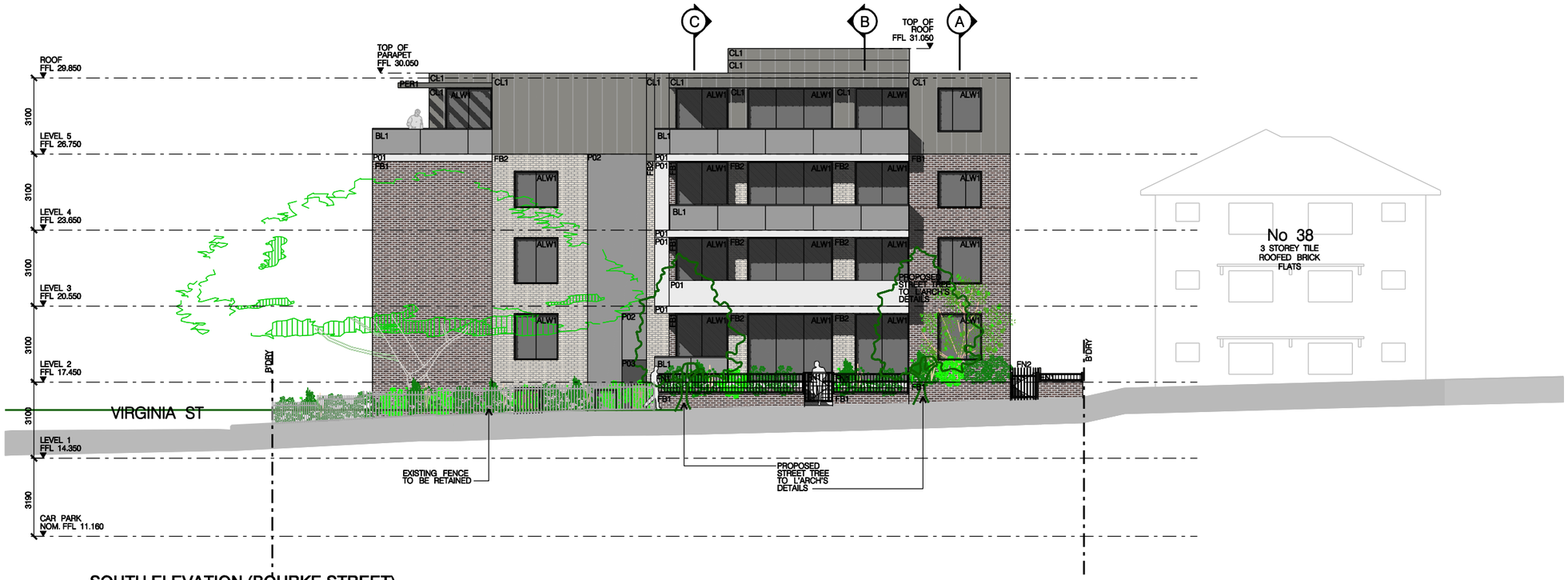
DRAWING NAME
SECTIONS E

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 0303	A	



SOUTH ELEVATION (BOURKE STREET)

WEST ELEVATION (VIRGINIA STREET)

BASIX COMMITMENTS

WATER: PASS - 42% (40% REQUIRED TO PASS)

RAINWATER TANK	NOT REQUIRED FOR BASIX	KITCHEN AND BATHROOM TAPS	5 STAR
COMMON LANDSCAPE	AS PER BASIX CERTIFICATE	ALL SHOWERHEADS	4 STAR (4.5-6L/MIN)
PRIVATE LANDSCAPE	AS PER BASIX CERTIFICATE	ALL TOILET FLUSHERS	4 STAR
FIRE SPRINKLER SYSTEM	CLOSED LOOP TEST SYSTEM	DISHWASHER	4 STAR WATER

THERMAL COMFORT: PASS - 8.3 STAR AVERAGE

GLAZING (ALUMINIUM NON-THERMALLY BROKEN FRAMES)

UNITS	ALL OTHERS	503 (SLIDING DOORS DUE TO SUN EXPOSURE)
	MAX U-VALUE 4.60 SHGC 0.50 (± 10%) SINGLE GLAZED, LOW-E NEUTRAL	MAX U-VALUE 4.90 SHGC 0.26 (±10%) SINGLE GLAZED, LOW-E TINT

WALLS			
EXTERNAL WALLS	BRICK VENEER ADDITIONAL R2.5 INSULATION	WALLS TO CORRIDORS /LIFT/STAIRS	PRONTO PANEL 185MM. ADDITIONAL R2.5 INSULATION
INTER-TENANCY WALLS	PRONTO PANEL 185MM. NO INSULATION MODELLED	INTERNAL WALLS IN UNITS	STUD WALLS. NO INSULATION MODELLED
FLOORS			
SUSPENDED FLOORS TO BASEMENT, PLANT, AND STORAGE AREAS BELOW		CONCRETE - ADDITIONAL R1.3 REFLECTIVE BOARD INSULATION	
ROOF			
UNITS WITH EXPOSED ROOF		CONCRETE - ADDITIONAL R2.50 REFLECTIVE BOARDINSULATION	
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LIGHTING	BASEMENT LEVEL - FLUORESCENT W/ MOTION SENSORS PUMP/PLANT ROOMS - FLUORESCENT W/ MOTION SENSORS		

LIGHTING	GARBAGE ROOMS - FLUORESCENT W/ MOTION SENSORS STORAGE - FLUORESCENT W/ MOTION SENSORS COMMON CORRIDORS - LED W/ MOTION SENSORS
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ACOUSTIC RECOMMENDATIONS

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UNITS 204 2B, 305 2B, 405 2B & 503 3B LIVING / DINING / KITCHEN (ALL)	30	6.38 MM LAMINATED GLASS
UNITS 205 1B, 304 2B & 404 2B LIVING / DINING / KITCHEN (ALL)	29	5 MM FLOAT GLASS

ALL WINDOWS AND GLAZED DOORS IN TABLE 2 SHOULD BE FITTED WITH ACOUSTIC SEALS COMPRISING FOAM WEATHER SEALS (E.G. Q-LON FROM SCHLEGEL OR SIMILAR).

NB.
IT IS REPORTED THAT ALL WINDOWS IN THE DEVELOPMENT WILL BE DOUBLE GLAZED FOR THERMAL OR BASIX COMPLIANCE AND IT IS LIKELY THAT THE ACOUSTICAL PERFORMANCE OF THESE WINDOWS WILL BE MORE THAN ADEQUATE TO SATISFY THE ACOUSTICAL REQUIREMENTS SHOWN IN TABLE 2. NOTWITHSTANDING THIS HOWEVER, CERTIFICATION THAT THE REQUIRED ACOUSTICAL RATINGS WILL BE ACHIEVED FROM THE DOUBLE GLAZED SYSTEMS WILL BE REQUIRED PRIOR TO THE ISSUE OF A CONSTRUCTION CERTIFICATE.

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FOR:

42 BOURKE STREET PTY. LTD.

EXTERNAL FINISHES

FB1	FACE BRICK TYPE 1. AUSTRAL BOWRAL BLUE
FB2	FACE BRICK TYPE 1. AUSTRAL METALUX CHILLING WHITE
SC1	SCREEN TYPE 1 ALUMINIUM VERTICAL & ANGLED BLADES P'DERCOATED TO MATCH TIMBER
SC2	SCREEN TYPE 2 ALUMINIUM VERTICAL BLADES P'DERCOATED TO MATCH TIMBER
CL1	CLADDING TYPE 1. STANDING SEAM METAL CLADDING GREY
CL2	CLADDING TYPE 2. POWDERCOATED METAL CLADDING P'DERCOATED TO MATCH TIMBER
ALW1	ALUM. FRAMED WINDOW CLEAR GLAZING - GREY TINT P'DERCOAT BLACK
ALW2	ALUM. FRAMED WINDOW OPAQUE GLAZING - GREY TINT P'DERCOAT BLCAK
BL1	BALUSTRADE TYPE 1 SAFETY FRAMELESS GLASS BALUSTRADE. DARK FLINT
FN1	FENCE TYPE 1. - STREET FRONTAGE P'DERCOATED METAL PICKET FENCE. P'DERCOATED MATCH CHARCOAL
FN2	FENCE TYPE 2. P'DERCOATED METAL VERTICAL FLATS. P'DERCOATED GREY
FN3	FENCE TYPE 3. SIDE & REAR BOUNDARY FENCING FLOODWAY FENCING TO ENG'S DETAILS
P01	PAINT TYPE 1. DULUX TEXTURED PAINT OFF WHITE
P02	PAINT TYPE 2. DULUX TEXTURED PAINT MID. GREY
P03	PAINT TYPE 3. DULUX TEXTURED PAINT CHARCOAL
PER1	PERGOLA TYPE 1. P'DERCOATED ALUMINIUM R.H.S P'DERCOATED TO MATCH METAL CLADDING

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

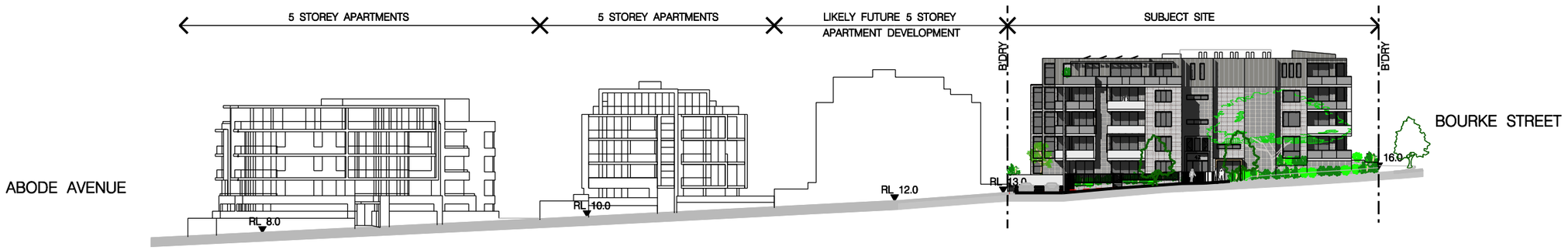
NO.	DATE	AMENDMENT
01	12.06.20	ISSUED TO CLIENT
02	01.07.20	FOR REVIEW COMMENTS AND CO-ORDINATION
03	03.07.20	ISSUED TO CONSULTANTS
04	09.07.20	SCREEN COLOUR REVISED
05	04.08.20	ISSUED TO MMJ
06	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
07	20.11.20	POST REVIEW PANEL ISSUE
08	27.11.20	FINAL CONSULTANT ISSUE
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

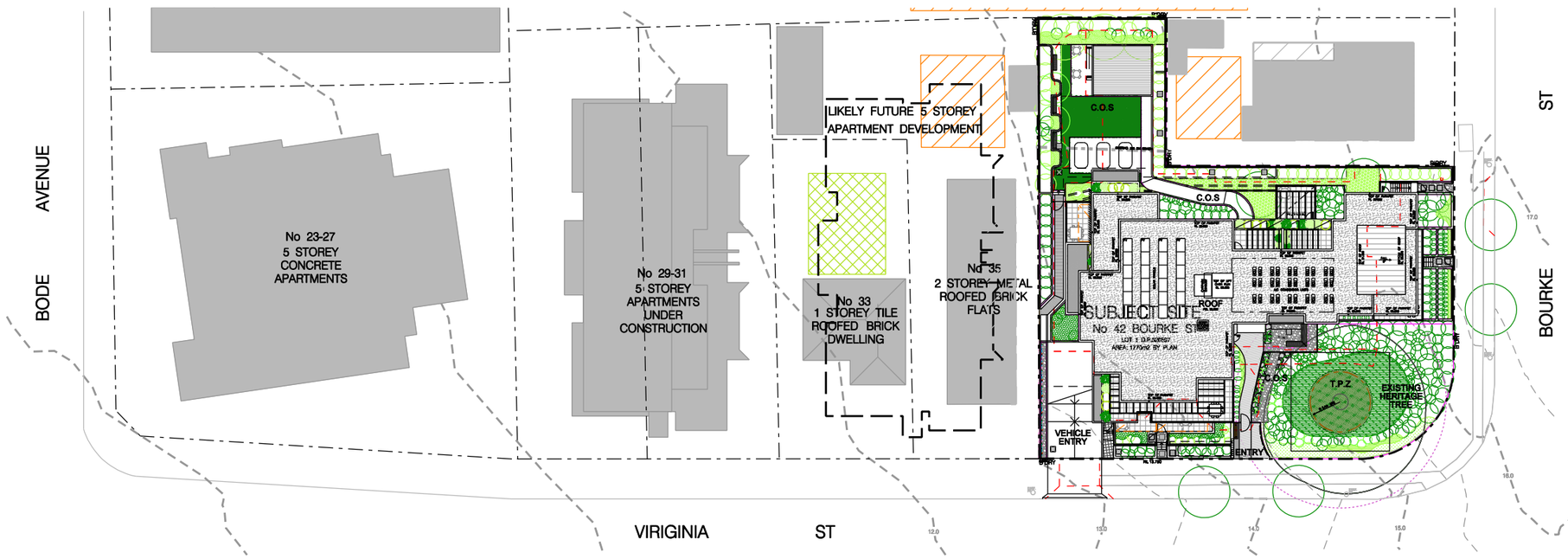
SOUTH & WEST ELEVATIONS

DEVELOPMENT APPLICATION

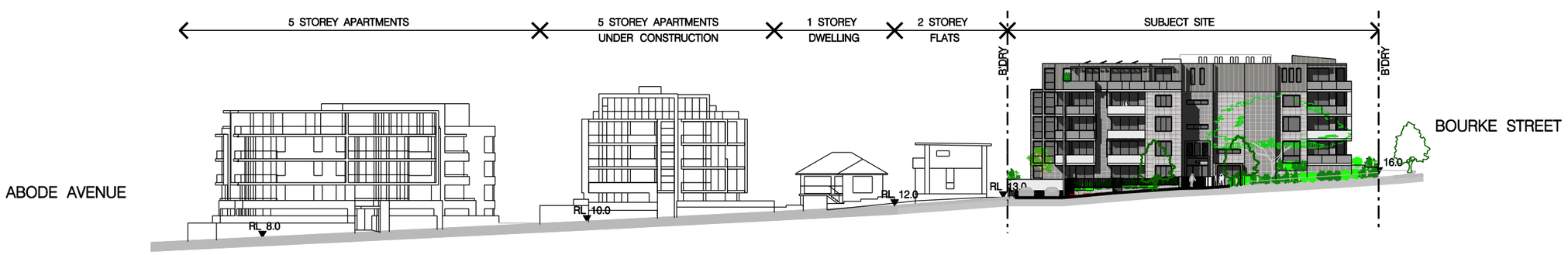
PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 0401	B	



STREETSCAPE ELEVATION 02



STREETSCAPE PLAN - VIRGINIA STREET



STREETSCAPE ELEVATION 01

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FOR:
42 BOURKE STREET PTY. LTD.

REFER TO PHOTOGRAPHIC SITE ANALYSIS

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

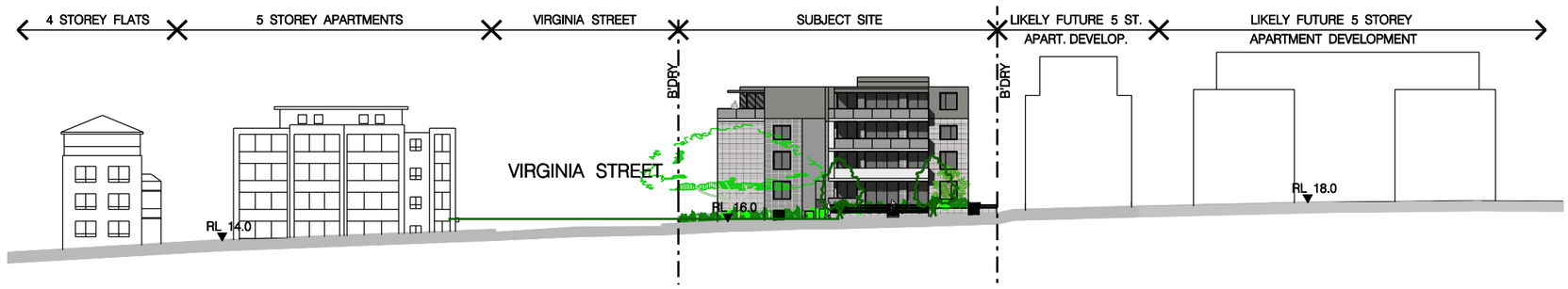
REVISION

NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.08.21	ISSUED FOR DEVELOPMENT APPLICATION

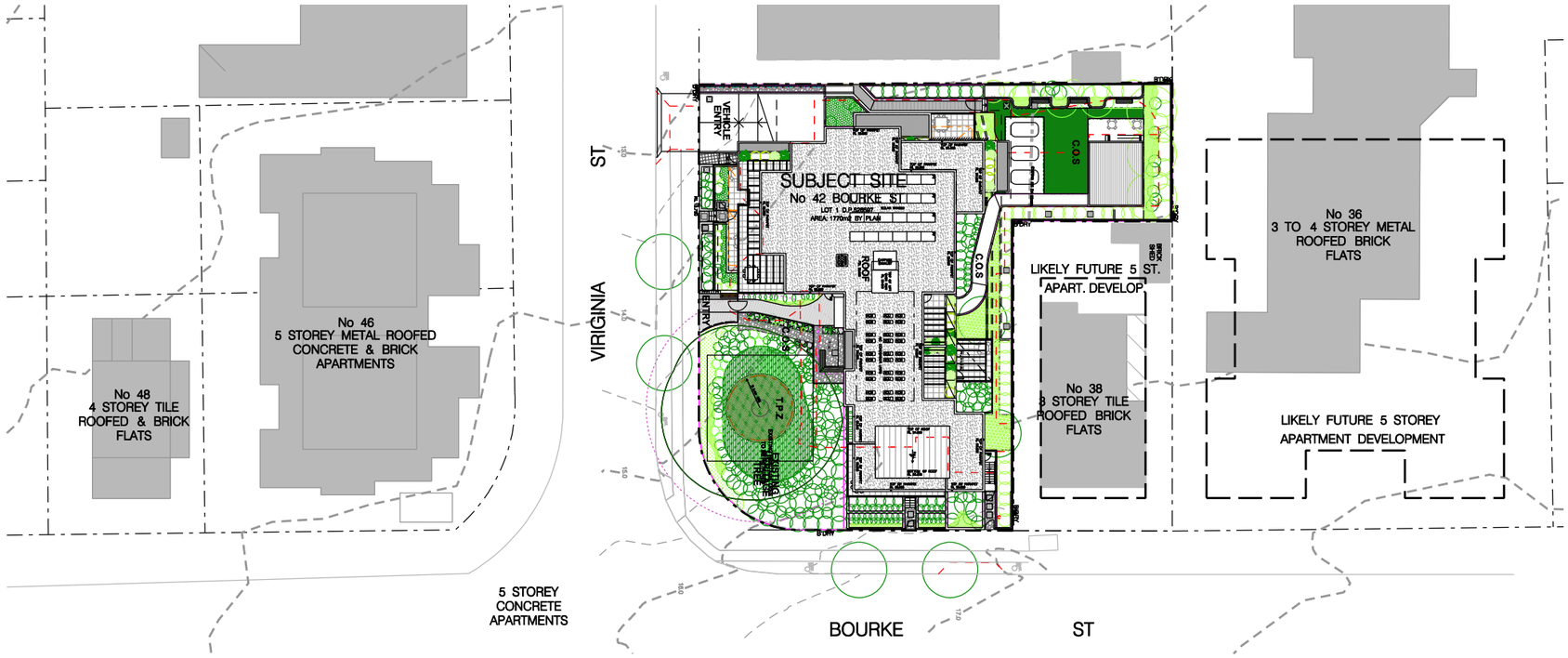
DRAWING NAME
STREETSCAPE ELEVATIONS 01 VIRGINIA STREET

DEVELOPMENT APPLICATION

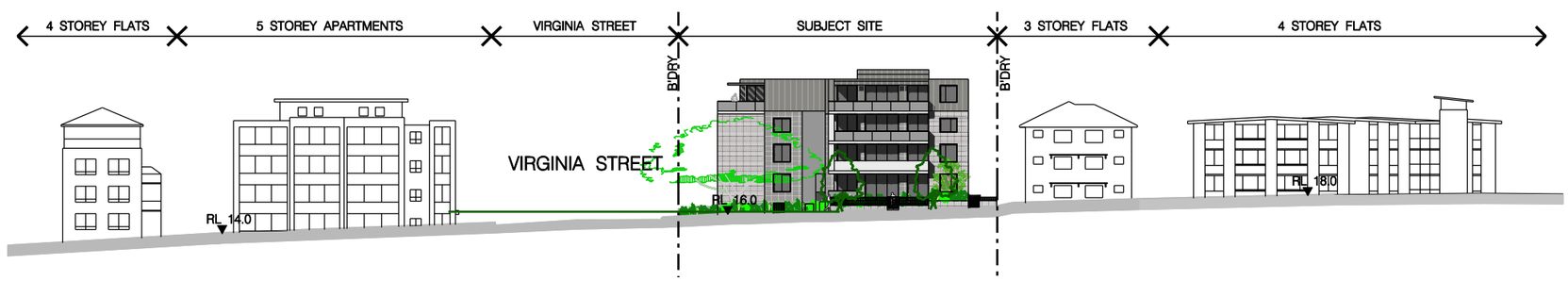
PROJECT NUMBER	SCALE	NORTH
20107	1:300 @ A1 1:600 @ A3	N
DRAWING NUMBER	REVISION	
AR 0011	B	



STREETSCAPE ELEVATION 02



STREETSCAPE PLAN - BOURKE STREET



STREETSCAPE ELEVATION 01

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FOR:
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REFER TO PHOTOGRAPHIC SITE ANALYSIS

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

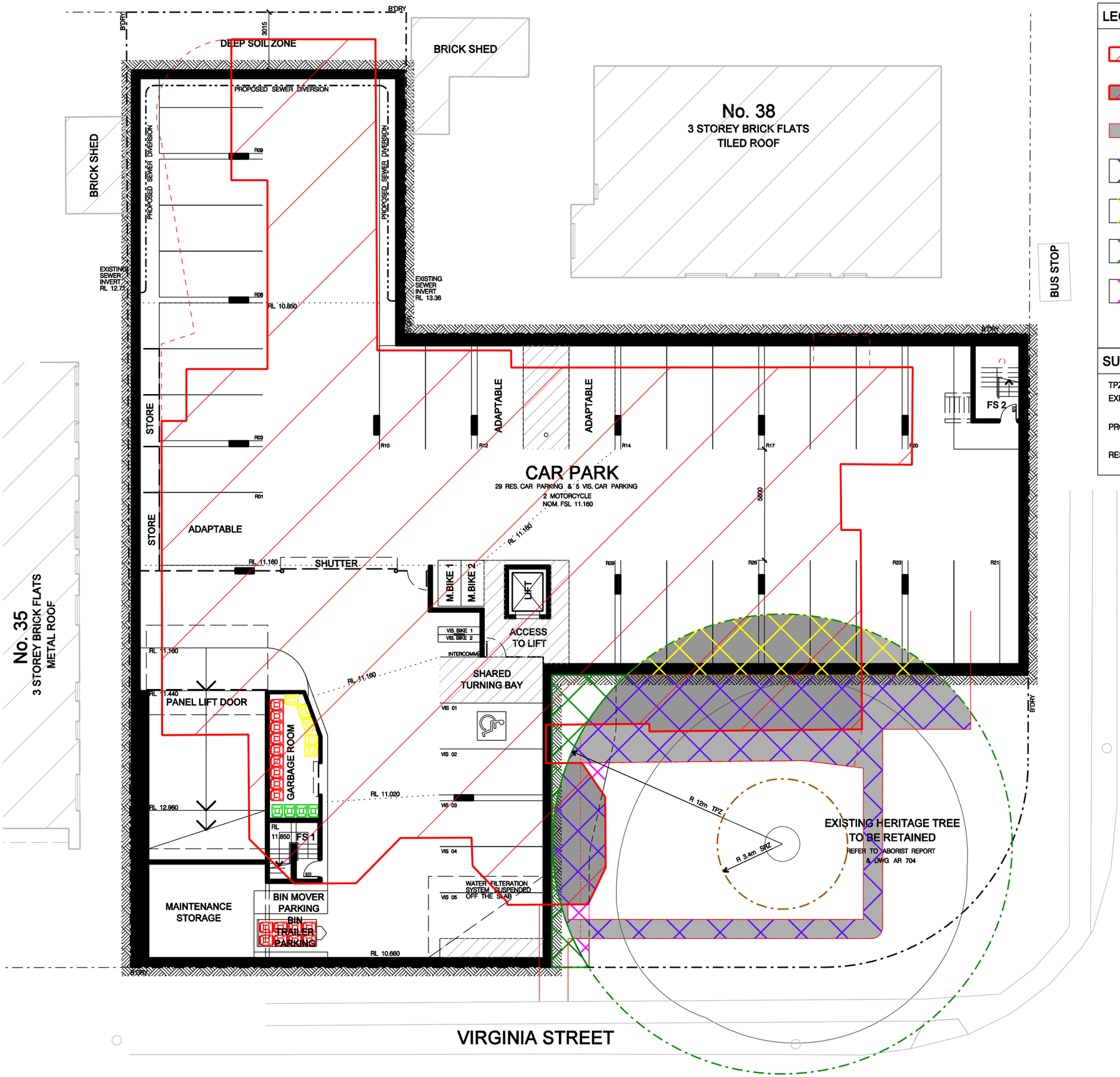
REVISION

NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
STREETSCAPE ELEVATIONS 02
BOURKE STREET

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:300 @ A1 1:600 @ A3	N
DRAWING NUMBER	REVISION	
AR 0012	B	



LEGEND

- OUTLINE OF EXISTING BUILDING TO BE DEMOLISHED
- OUTLINE OF EXISTING BUILDING TO BE DEMOLISHED WITHIN TPZ
  84.72 m^2
- OUTLINE OF EXISTING RAMP, AND HARD PAVING TO BE DEMOLISHED WITHIN TPZ
  72.97 m^2
- EXISTING TPZ ENCROACHMENT TO BE REMOVED
  122.04 m^2
- EXISTING TPZ ENCROACHMENT TO BE RETAINED
  35.65 m^2
- POTENTIAL FUTURE ROOT GROWTH ZONE WITHOUT ENCROACHMENT
  15.01 m^2
- ADDITIONAL TPZ ENCROACHMENT PROPOSED
  2.67 m^2

SUMMARY

TPZ AREA :	452.38 m^2
EXISTING TPZ ENCROACHMENT :	157.69 m^2 OR 35% OF TPZ
PROPOSED TPZ ENCROACHMENT :	38.32 m^2 OR 8.4% OF TPZ
RESULTANT TPZ RESTORATION :	119.37 m^2 OR 26% OF TPZ

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PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	13.07.20	ISSUED FOR REVIEW, CO-ORDINATION AND INFO
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	15.01.21	DRAWING NAME REVISED
C	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

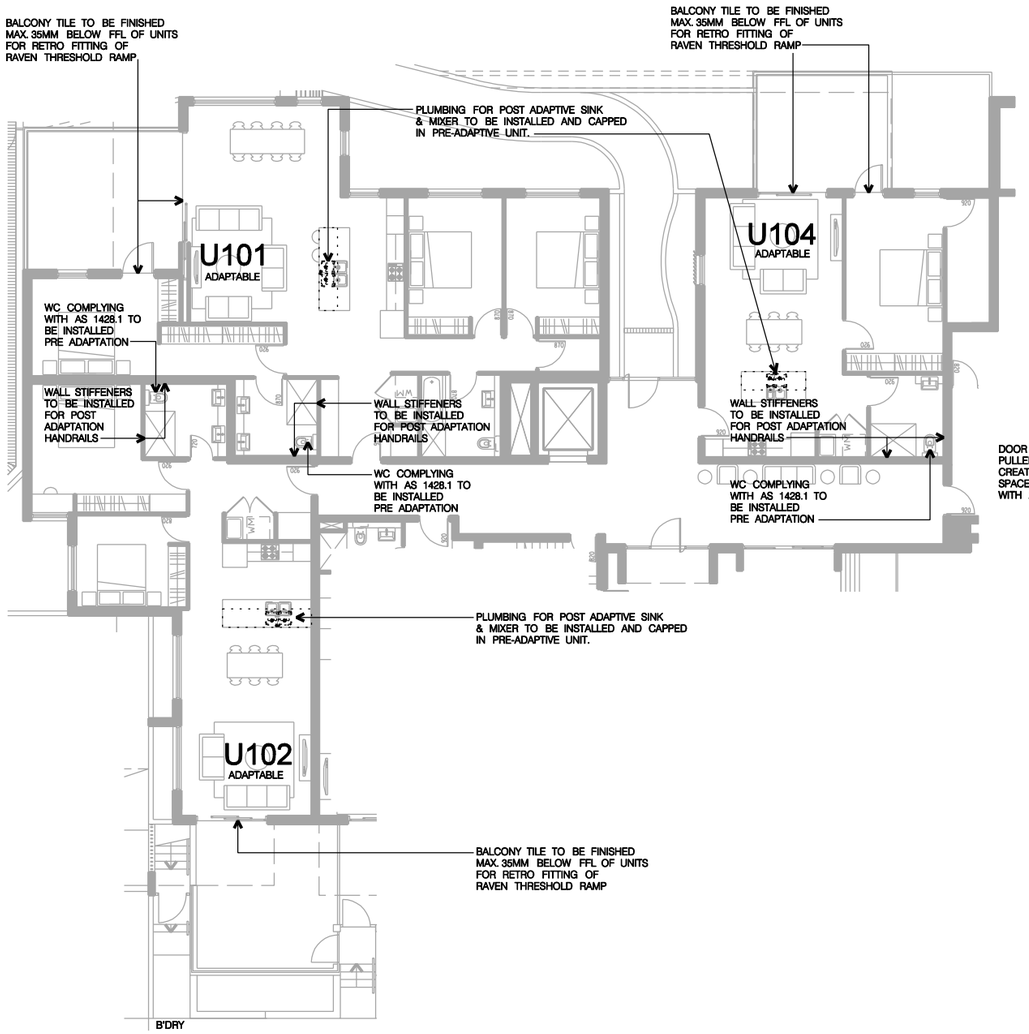
DRAWING NAME
TREE PROTECTION ZONE
ENCROACHMENT
CACULATION

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	
DRAWING NUMBER	REVISION	
AR 0704	C	

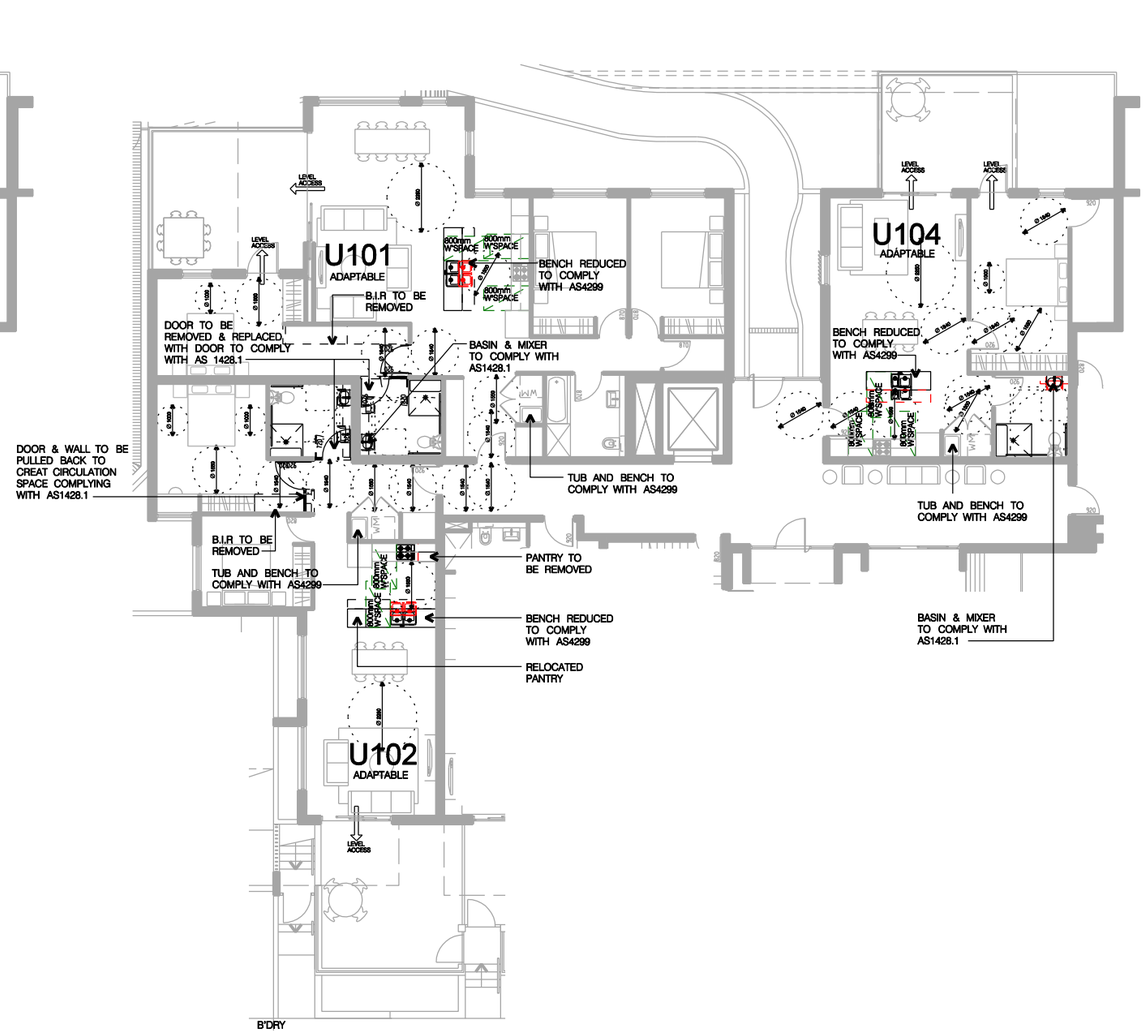
LEGEND

- PRE ADAPTIVE WORKS TO REMAIN
- PRE ADAPTIVE WORKS TO BE REMOVED
- NEW POST ADAPTIVE WORKS



LEVEL 1 PRE ADAPTIVE LAYOUT PLAN: UNITS 101. 102 & 104

NOTE: ALL SWITCHES & GPOS IN PRE ADAPTATIVE LAYOUT TO BE INSTALLED TO COMPLY WITH AS 1428.1



LEVEL 1 POST ADAPTIVE LAYOUT PLAN: UNITS 101. 102 & 104

ARCHITECT:
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FOR:
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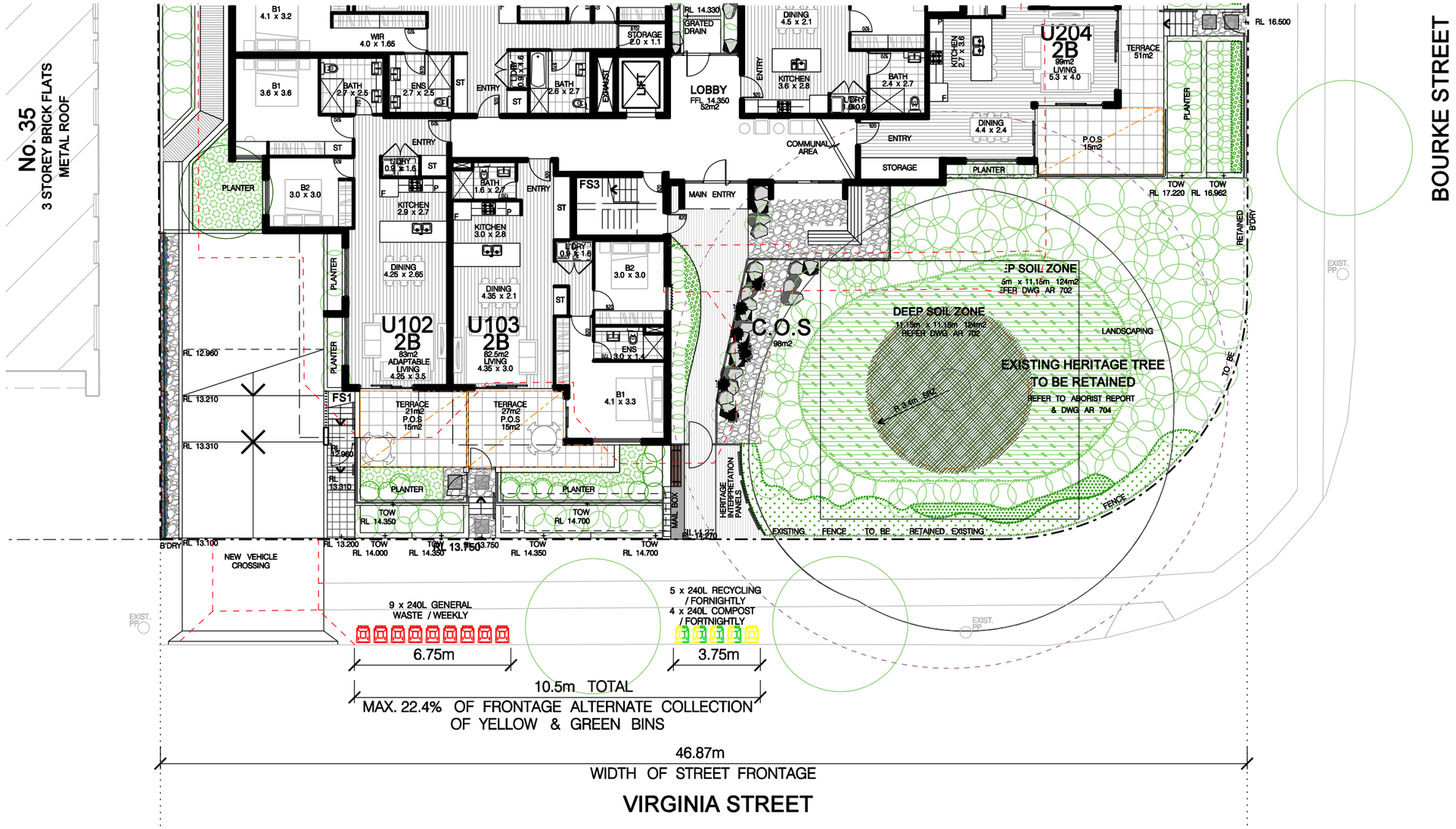
PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
PRE & POST ADAPTIVE
UNIT LAYOUTS
UNITS 101,102 & 104

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	N
DRAWING NUMBER	REVISION	
AR 0211	B	



WASTE MANAGEMENT PLAN - VIRGINIA STREET
ALL UNITS

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FOR:
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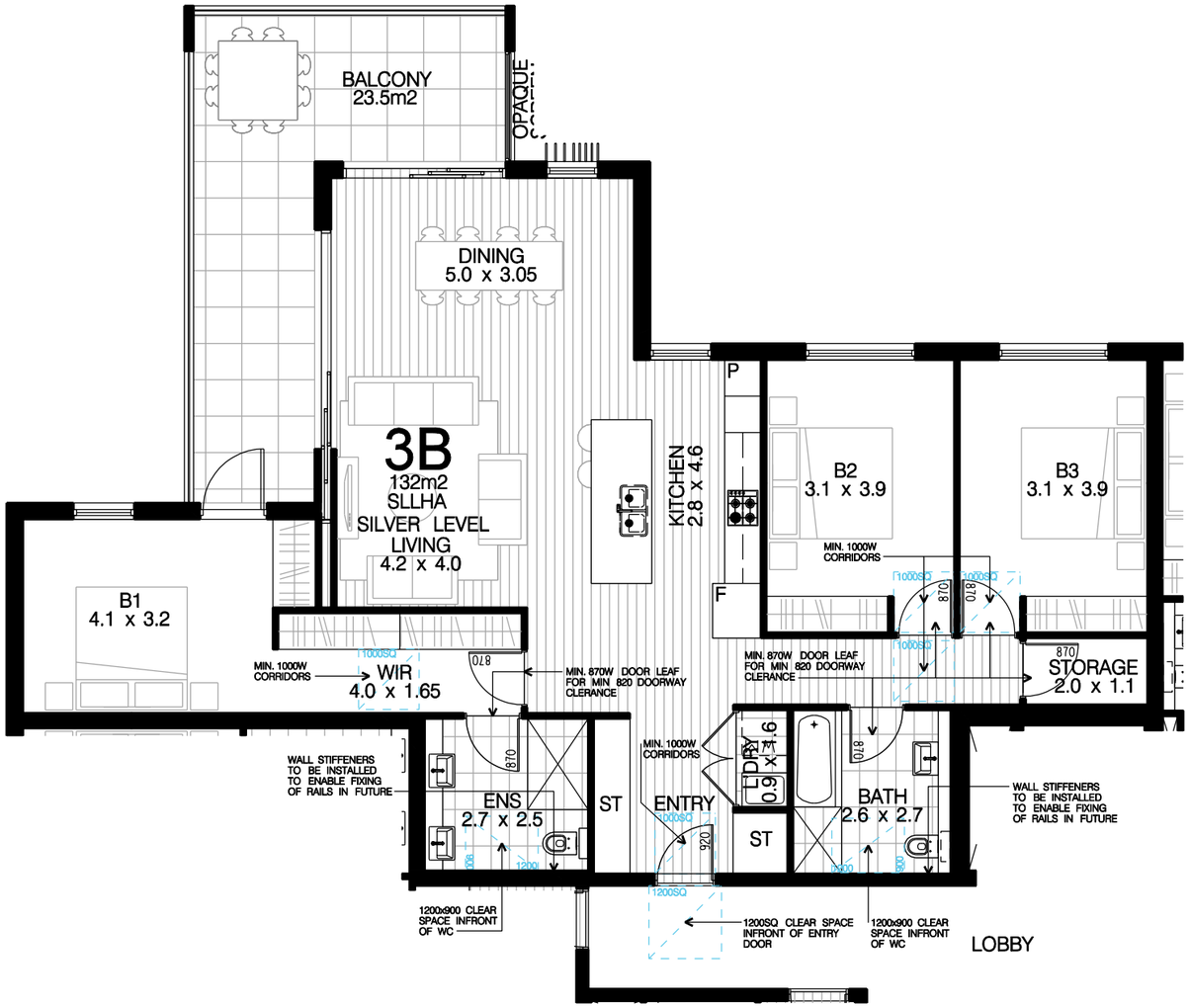
PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION NO.	DATE	AMENDMENT
01	08.05.20	ISSUED TO CLIENT
02	25.05.20	ISSUED FOR INFO, REVIEW & COMMENTS
A	09.08.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
ONGOING WASTE MANAGEMENT PLAN

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	N
DRAWING NUMBER	REVISION	
AR 0705	A	



UNIT 201 (LEVEL 2), UNIT 301 (LEVEL 2) & UNIT 401 (LEVEL 4) PLAN

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FOR:
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PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

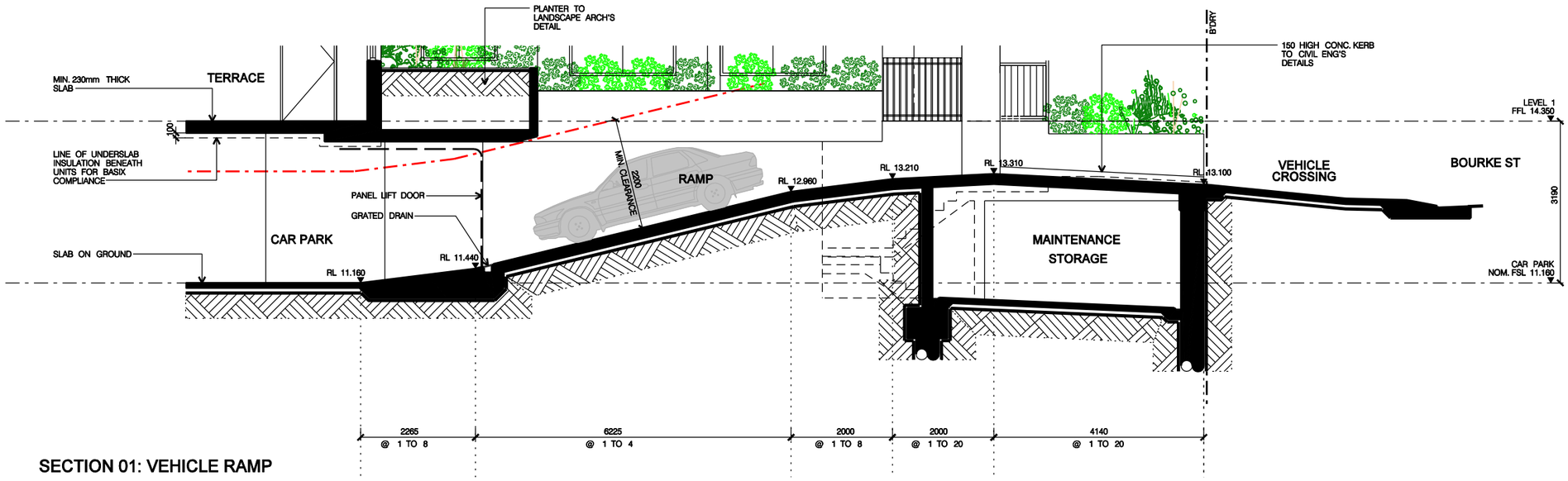
REVISION

NO.	DATE	AMENDMENT
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
SILVER LEVEL SLLHAA
COMPLIANT UNITS
UNITS 201, 301 & 401

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:50 @ A1 1:100 @ A3	
DRAWING NUMBER	REVISION	
AR 0212	B	



SECTION 01: VEHICLE RAMP

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FOR:
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PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	03.09.20	ISSUED FOR INFO
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
VEHICLE RAMP DETAIL

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:50 @ A1 1:100 @ A3	N
DRAWING NUMBER	REVISION	
AR 0501	B	

ARCHITECT:
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FOR:

42 BOURKE STREET
PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SHADOW DIAGRAM 01
WINTER SOLSTICE
9AM

DEVELOPMENT APPLICATION

PROJECT NUMBER
20107

SCALE
1:200 @ A1
1:400 @ A3

NORTH

DRAWING NUMBER
AR 0601

REVISION
B

9AM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

1PM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

10AM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

2PM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

11AM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

3PM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

12PM NW PESPECTIVE VIEW

PLAN VIEW

* SUBJECT TREE IS REPRESENTED AS AN ABSTRACT OBJECT WITH HEIGHT, WIDTH AND POSITION INDICATED ON THE SURVEY AND IS NOT AN ACCURATE DEPICTION OF THE ACTUAL TREE EXCEPT FOR THE PARAMETERS AS INDICATED ON THE SURVEY.

HERITAGE TREE DIRECT SUNLIGHT ACCESS IMPACT SUMMARY

SUBJECT TREE HAS ACCESS TO SOME DIRECT SUNLIGHT AT ALL TIMES DURING 9AM TO 3PM ON WINTER SOLSTICE.

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FOR:

42 BOURKE STREET PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

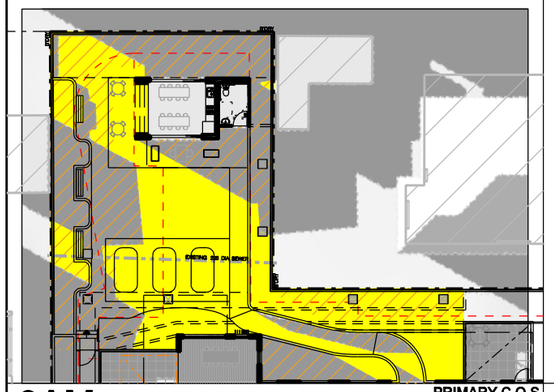
NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

DIRECT SUNLIGHT ACCESS
STUDY 03
IMPACT ON HERITAGE TREE
WINTER SOLSTICE

DEVELOPMENT APPLICATION

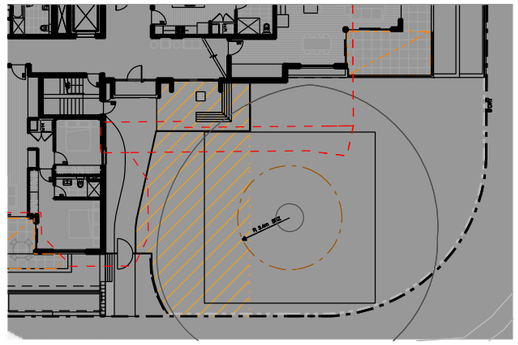
PROJECT NUMBER	SCALE	NORTH
20107	NTS @ A1 NTS @ A3	N
DRAWING NUMBER	REVISION	
AR 0613	B	



9AM

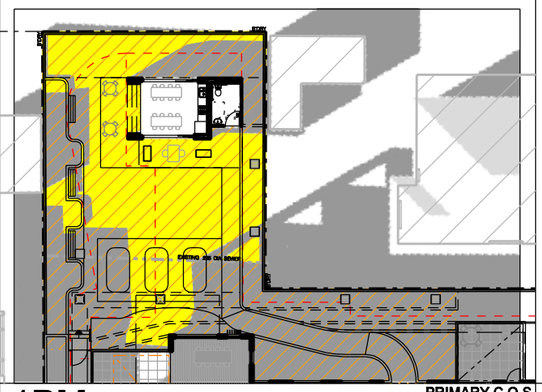
PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

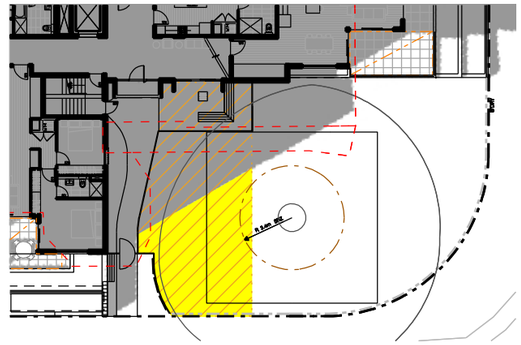
EXTENT OF C.O.S DIRECT SUNLIGHT



1PM

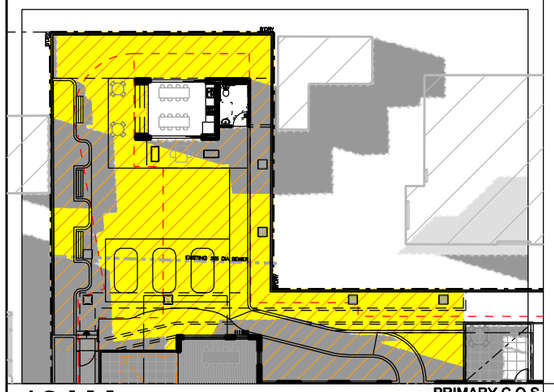
PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

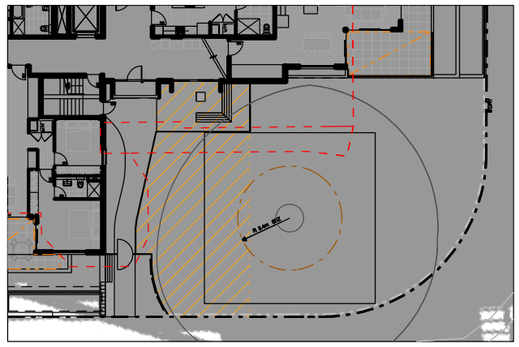
EXTENT OF C.O.S DIRECT SUNLIGHT



10AM

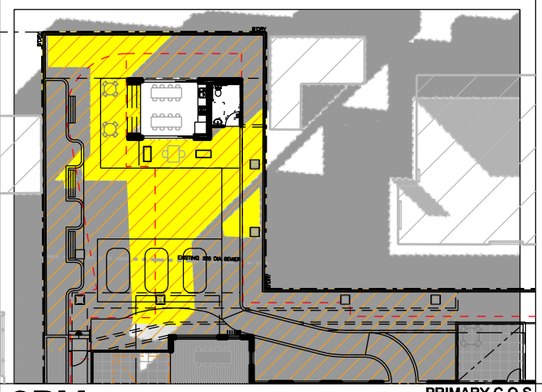
PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

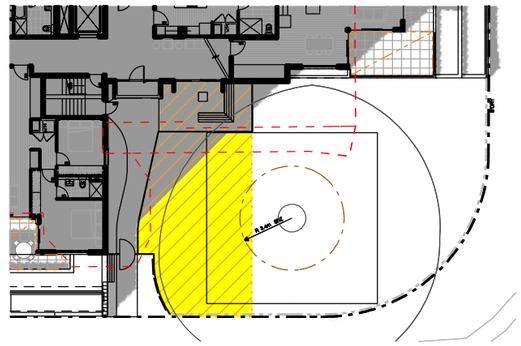
EXTENT OF C.O.S DIRECT SUNLIGHT



2PM

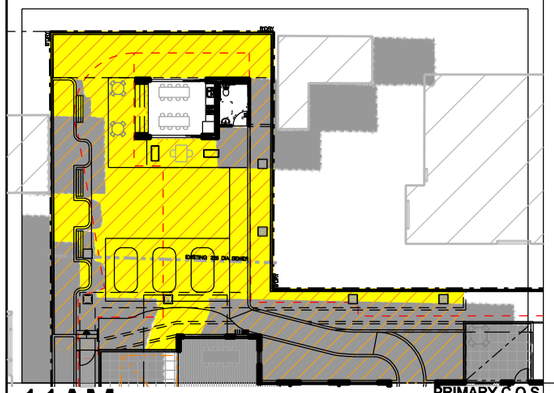
PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

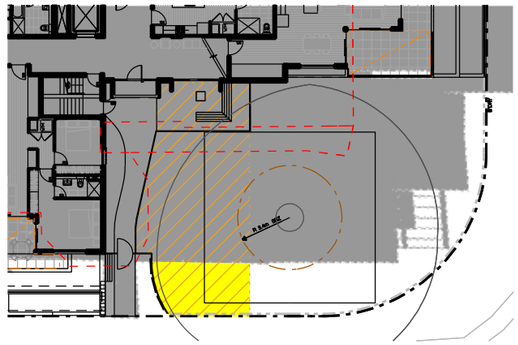
EXTENT OF C.O.S DIRECT SUNLIGHT



11AM

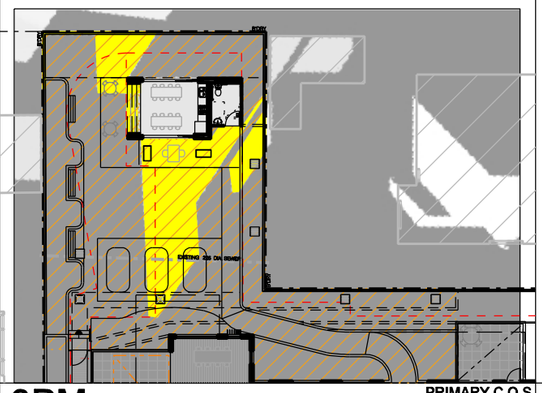
PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

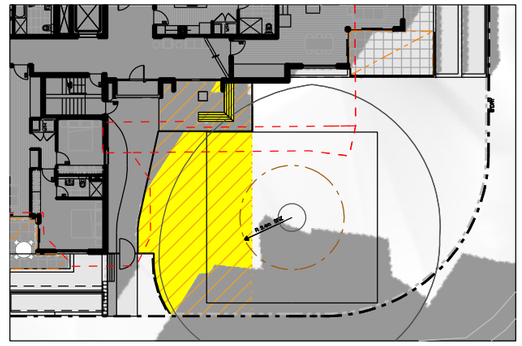
EXTENT OF C.O.S DIRECT SUNLIGHT



3PM

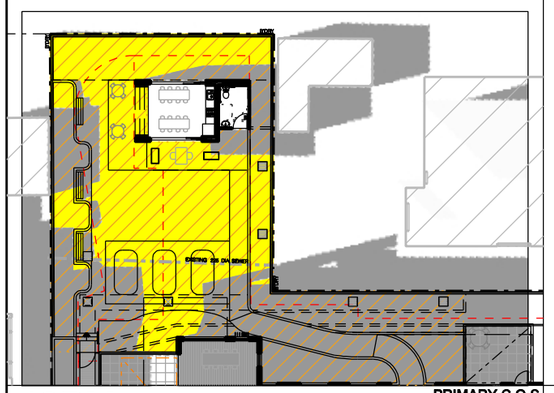
PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

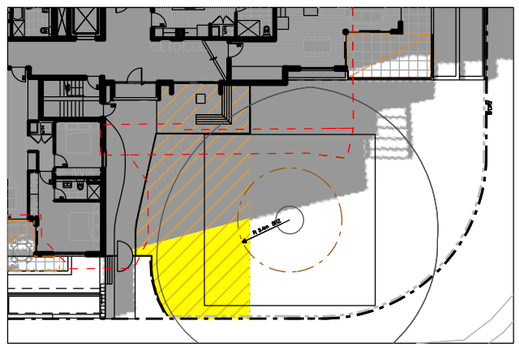
EXTENT OF C.O.S DIRECT SUNLIGHT



12PM

PRIMARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT



SECONDARY C.O.S

EXTENT OF C.O.S DIRECT SUNLIGHT

COMMUNAL OPEN SPACE DIRECT SUNLIGHT ACCESS SUMMARY

	PRIMARY C.O.S (364.32m2)		SECONDARY C.O.S (98.87m2)	
TIME	AREA (m2)	%	AREA (m2)	%
09AM	196.49	53.9	0	0
10AM	226.75	62.2	0	0
11AM	200.23	54.9	20.79	21.0
12PM	173.21	47.5	35.50	35.9
01PM	148.56	40.7	49.78	50.34
02PM	113.95	31.2	66.15	66.9
03PM	79.60	21.8	63.54	64.2

PRIMARY C.O.S GETS >50% DIRECT SUNLIGHT BETWEEN 9AM TO 11PM.
SECONDARY C.O.S GETS >50% DIRECT SUNLIGHT BETWEEN 1PM TO 3PM.
BOTH PRIMARY & SECONDARY COMMUNAL OPEN SPACES HAVE ACCESS TO TWO OR MORE HOURS OF DIRECT SUNLIGHT ON 50% OF IT'S AREA OR MORE DURING WINTER SOLSCTICE. COMPLIES WITH SEPP 65

ARCHITECT:
urban design masterplanning architecture
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FOR:

42 BOURKE STREET PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	04.06.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

DIRECT SUNLIGHT ACCESS
STUDY 04
COMMUNAL OPEN SPACE
WINTER SOLSTICE

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	NTS @ A1 NTS @ A3	N
DRAWING NUMBER	REVISION	
AR 0614	B	

ARCHITECT:
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architecture

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FOR:

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PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SHADOW DIAGRAM 02
WINTER SOLSTICE
10AM

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	

DRAWING NUMBER	REVISION
AR 0602	B

ARCHITECT:
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FOR:

42 BOURKE STREET
PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SHADOW DIAGRAM 03
WINTER SOLSTICE
11AM

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	
DRAWING NUMBER	REVISION	
AR 0603	B	

ARCHITECT:
urban design
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architecture

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FOR:

42 BOURKE STREET
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PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

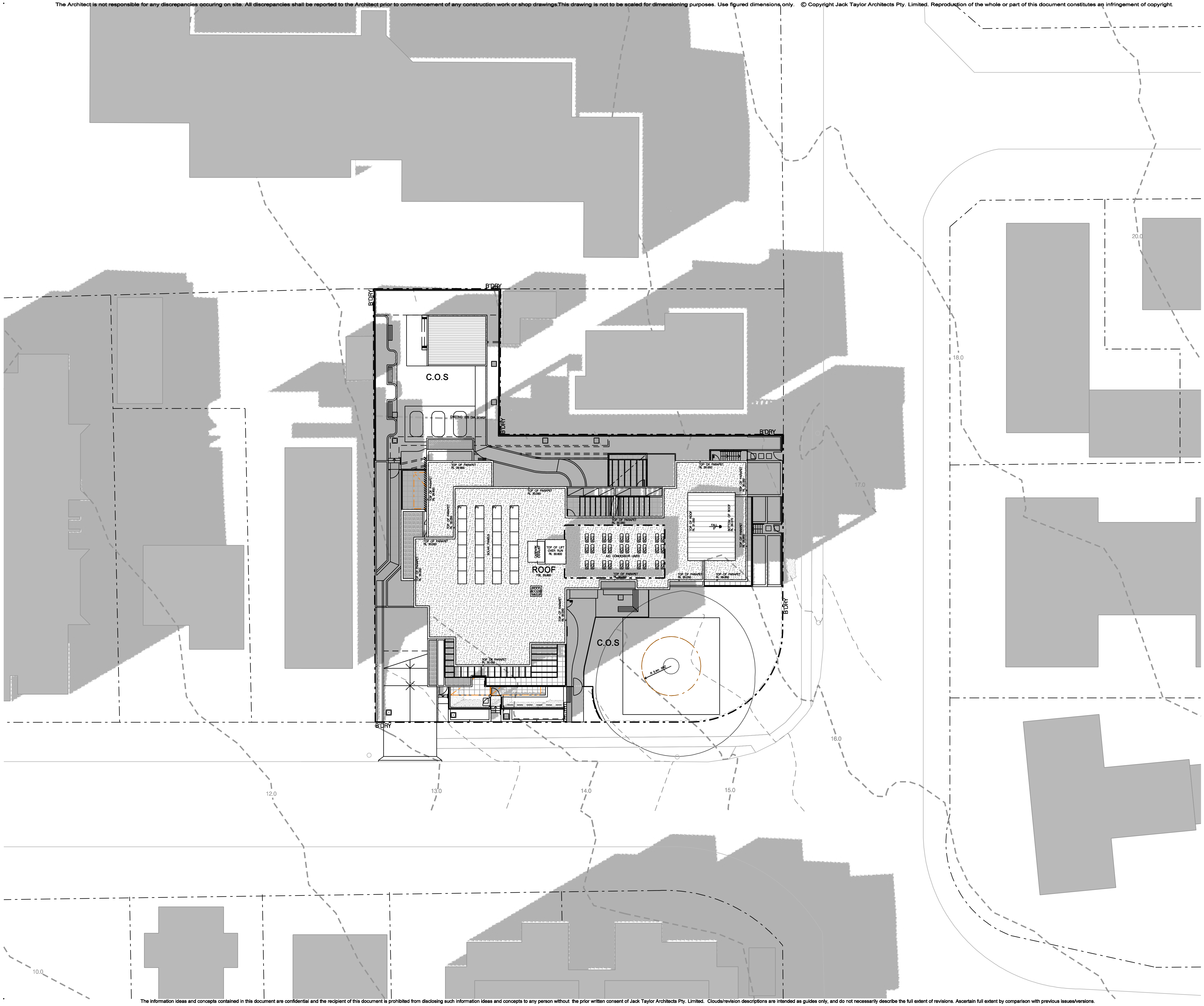
NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SHADOW DIAGRAM 04
WINTER SOLSTICE
12PM

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	
DRAWING NUMBER	**REVISION**	
AR 0604	B	



ARCHITECT:
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FOR:

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PROJECT

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NORTH WOLLONGONG
NSW 2500

REVISION

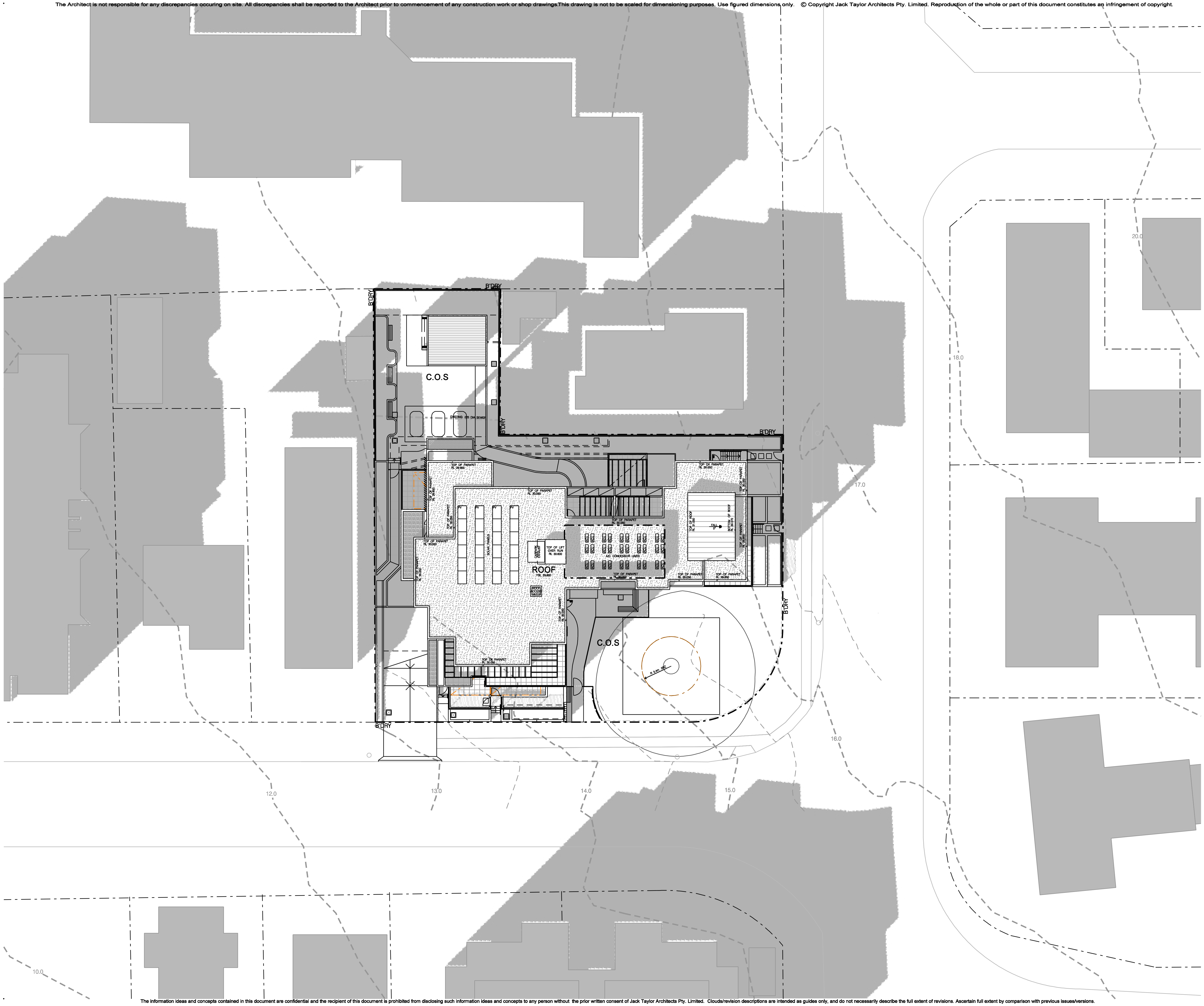
NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SHADOW DIAGRAM 05
WINTER SOLSTICE
1PM

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	N
DRAWING NUMBER	REVISION	
AR 0605	B	



ARCHITECT:
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FOR:

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PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

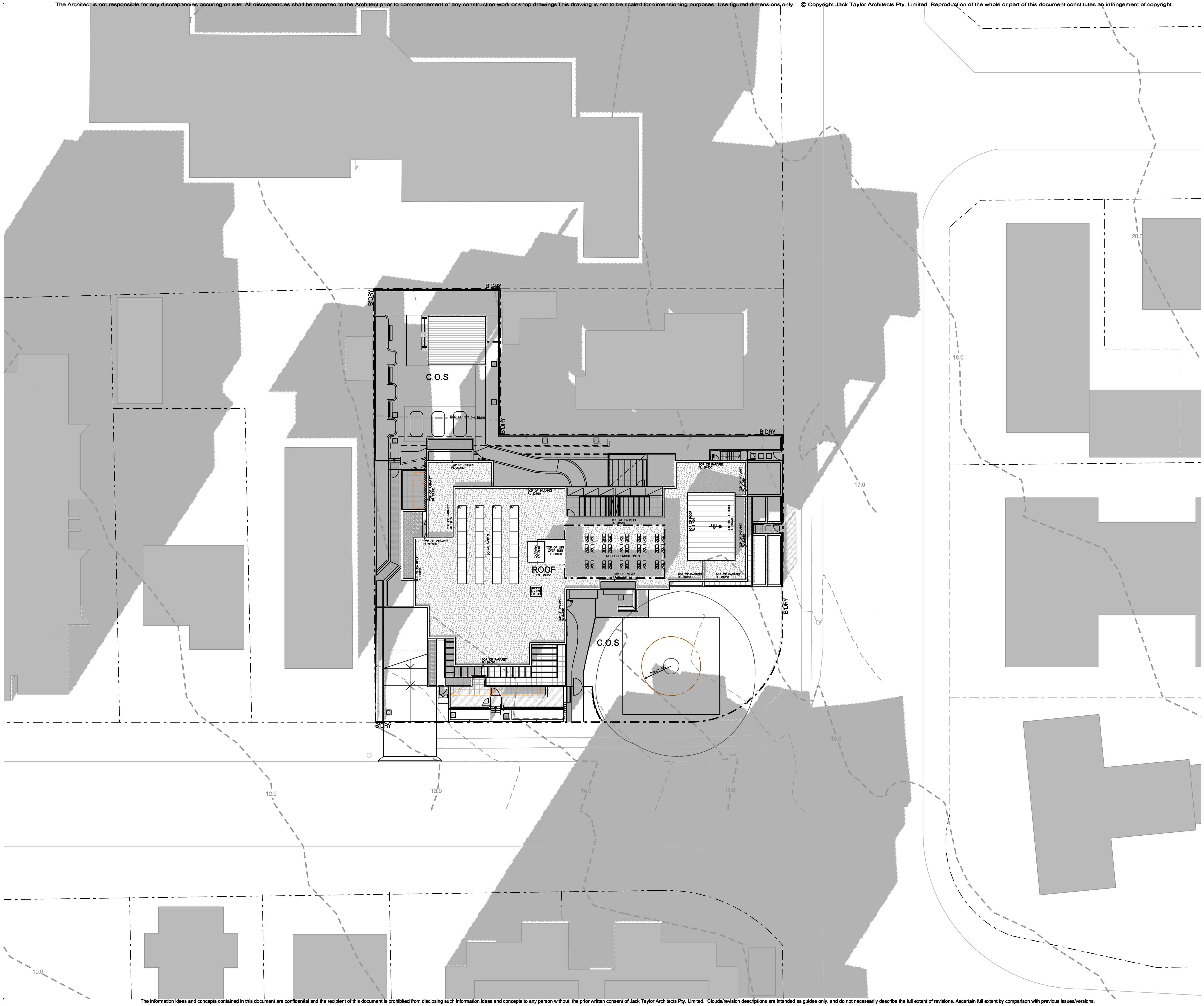
NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

SHADOW DIAGRAM 06
WINTER SOLSTICE
2PM

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	N
DRAWING NUMBER	REVISION	
AR 0606	B	



ARCHITECT:
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FOR:

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PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

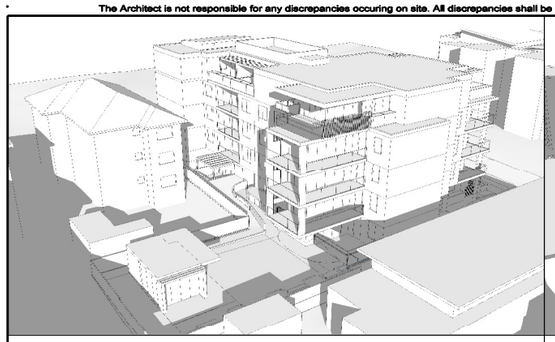
NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

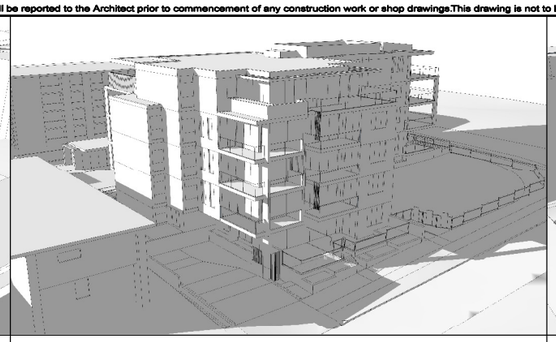
SHADOW DIAGRAM 07
WINTER SOLSTICE
3PM

DEVELOPMENT APPLICATION

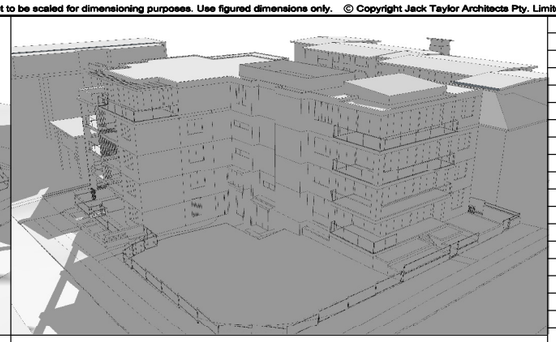
PROJECT NUMBER	SCALE	NORTH
20107	1:200 @ A1 1:400 @ A3	
DRAWING NUMBER	REVISION	
AR 0607	B	



09AM NORTH EAST

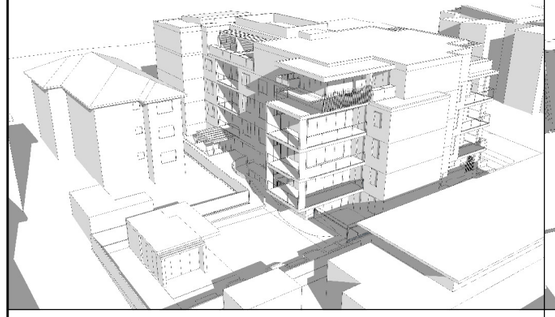


09AM NORTH WEST

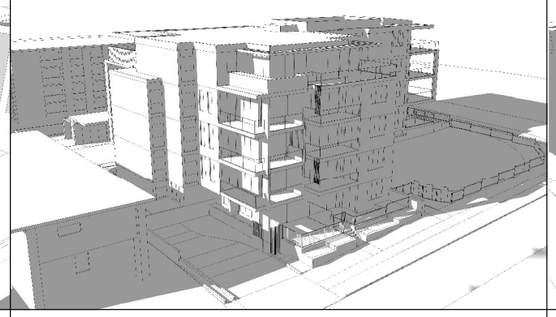


09AM SOUTH WEST

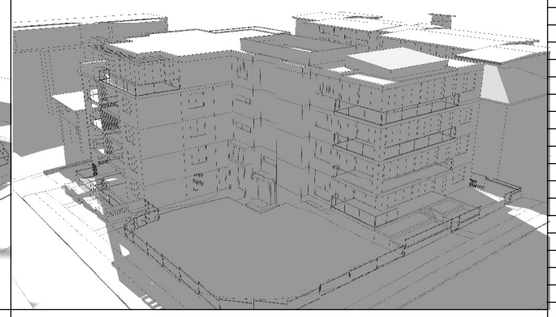
9AM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	✓	✓
102	×	×
103	×	×
104	✓	✓
201	✓	✓
202	✓	✓
203	×	×
204	×	×
205	✓	✓
301	✓	✓
302	✓	✓
303	×	×
304	×	×
305	✓	✓
401	✓	✓
402	✓	✓
403	×	×
404	×	×
405	✓	✓
501	✓	✓
502	×	×
503	×	✓



10AM NORTH EAST



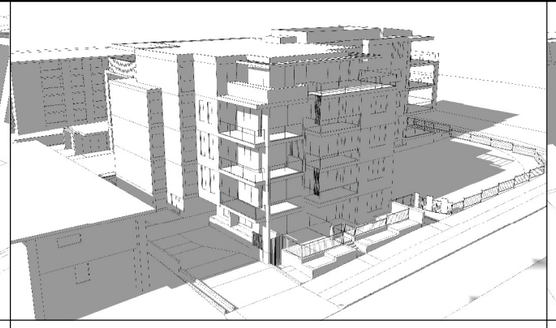
10AM NORTH WEST



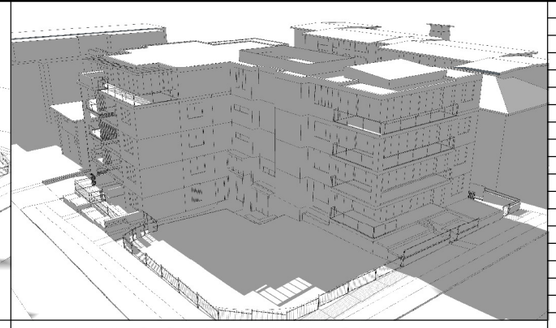
10AM SOUTH WEST

10AM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	×	✓
102	✓	✓
103	×	×
104	✓	×
201	✓	✓
202	✓	✓
203	×	×
204	×	×
205	✓	×
301	✓	✓
302	✓	✓
303	×	×
304	×	×
305	✓	×
401	✓	✓
402	✓	✓
403	×	×
404	×	×
405	✓	×
501	✓	✓
502	✓	×
503	×	✓

11AM NORTH EAST



11AM NORTH WEST

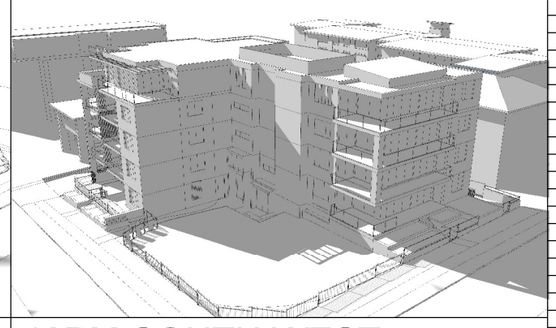


11AM SOUTH WEST

11AM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	✓	✓
102	✓	✓
103	✓	×
104	×	×
201	✓	✓
202	✓	✓
203	×	×
204	✓	×
205	×	×
301	✓	✓
302	✓	✓
303	×	×
304	×	×
305	×	×
401	✓	✓
402	✓	✓
403	×	×
404	×	×
405	×	×
501	✓	✓
502	✓	×
503	✓	✓

12PM NORTH EAST

12PM NORTH WEST



12PM SOUTH WEST

12PM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	✓	✓
102	✓	✓
103	✓	×
104	×	×
201	✓	✓
202	✓	✓
203	✓	×
204	✓	×
205	×	×
301	✓	✓
302	✓	✓
303	✓	×
304	✓	×
305	×	×
401	✓	✓
402	✓	✓
403	✓	×
404	✓	×
405	×	×
501	✓	✓
502	✓	✓
503	✓	✓

ARCHITECT:
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FOR:

42 BOURKE STREET PTY. LTD.

PROJECT

42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

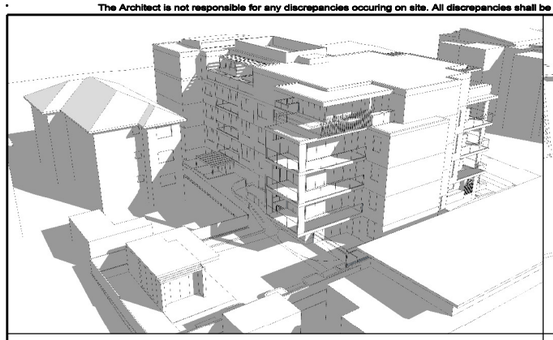
NO.	DATE	AMENDMENT
01	04.06.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME

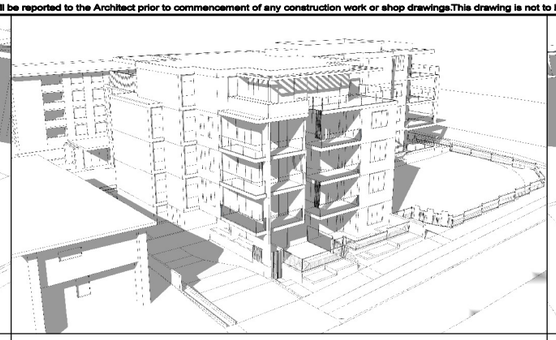
DIRECT SUNLIGHT ACCESS
STUDY 01
WINTER SOLSTICE
9AM TO 12PM

DEVELOPMENT APPLICATION

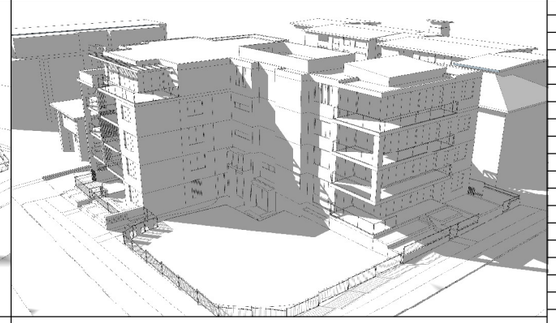
PROJECT NUMBER	SCALE	NORTH
20107	NTS @ A1 NTS @ A3	
DRAWING NUMBER	REVISION	
AR 0611	B	



01PM NORTH EAST

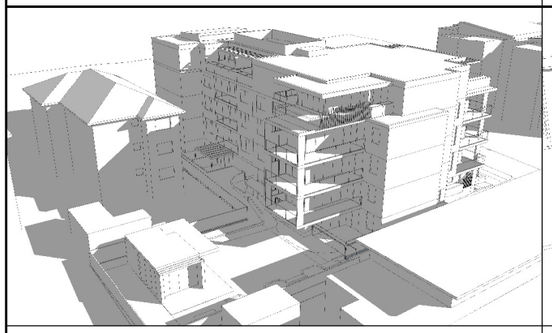


01PM NORTH WEST

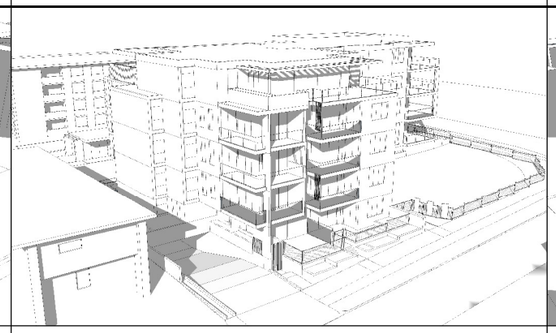


01PM SOUTH WEST

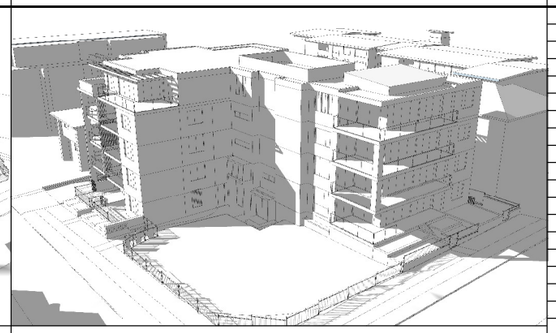
01PM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	✓	✓
102	✓	✓
103	✓	✓
104	✗	✗
201	✓	✓
202	✓	✓
203	✓	✓
204	✓	✓
205	✗	✗
301	✓	✓
302	✓	✓
303	✓	✓
304	✓	✓
305	✗	✗
401	✓	✓
402	✓	✓
403	✓	✓
404	✓	✓
405	✗	✗
501	✓	✓
502	✓	✓
503	✓	✓



02PM NORTH EAST

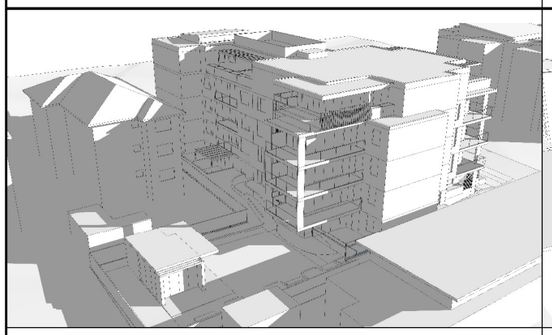


02PM NORTH WEST

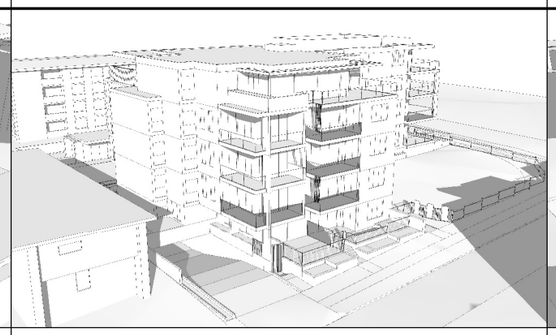


02PM SOUTH WEST

02PM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	✓	✗
102	✓	✓
103	✓	✓
104	✗	✗
201	✓	✗
202	✓	✓
203	✓	✓
204	✓	✓
205	✗	✗
301	✓	✗
302	✓	✓
303	✓	✓
304	✓	✓
305	✗	✗
401	✓	✓
402	✓	✓
403	✓	✓
404	✓	✓
405	✗	✗
501	✓	✓
502	✓	✓
503	✓	✓



03PM NORTH EAST



03PM NORTH WEST

03PM SOUTH WEST

03PM DIRECT SUNLIGHT ACCESS SUMMARY		
UNIT NUMBER	BALCONY/TERRACE	LIVING AREA
101	✗	✗
102	✓	✓
103	✓	✓
104	✗	✗
201	✓	✗
202	✓	✗
203	✗	✓
204	✓	✓
205	✗	✗
301	✓	✗
302	✓	✓
303	✗	✓
304	✓	✓
305	✗	✗
401	✓	✗
402	✓	✓
403	✗	✓
404	✓	✓
405	✗	✗
501	✓	✗
502	✓	✓
503	✓	✓

BALCONY/TERRACE WINTER SOLSTICE DIRECT SUNLIGHT ACCESS SUMMARY

UNIT NO.	09AM	10AM	11AM	12PM	01PM	02PM	03PM	DURATION	SEPP 65
101	✓	✗	✓	✓	✓	✓	✗	>2HRS	COMPLIANT
102	✗	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
103	✗	✗	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
104	✓	✓	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
201	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
202	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
203	✗	✗	✗	✓	✓	✓	✗	2HRS	COMPLIANT
204	✗	✗	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
205	✓	✓	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
301	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
302	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
303	✗	✗	✗	✓	✓	✓	✗	2HRS	COMPLIANT
304	✗	✗	✗	✓	✓	✓	✓	>2HRS	COMPLIANT
305	✓	✓	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
401	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
402	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
403	✗	✗	✗	✓	✓	✓	✗	2HRS	COMPLIANT
404	✗	✗	✗	✓	✓	✓	✓	>2HRS	COMPLIANT
405	✓	✓	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
501	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
502	✗	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
503	✗	✗	✓	✓	✓	✓	✓	>2HRS	COMPLIANT

18/22 OR 81.8% OF UNITS GETS 2 OR MORE HOURS OF SUNLIGHT & 0/23 OR 0.00% OF UNITS GETS NO SUNLIGHT. COMPLIES WITH SEPP 65

LIVING AREA WINTER SOLSTICE DIRECT SUNLIGHT ACCESS SUMMARY

UNIT NO.	09AM	10AM	11AM	12PM	01PM	02PM	03PM	DURATION	SEPP 65
101	✓	✓	✓	✓	✓	✗	✗	>2HRS	COMPLIANT
102	✗	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
103	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
104	✓	✗	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
201	✓	✓	✓	✓	✓	✗	✗	>2HRS	COMPLIANT
202	✓	✓	✓	✓	✓	✓	✗	>2HRS	COMPLIANT
203	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
204	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
205	✓	✗	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
301	✓	✓	✓	✓	✓	✗	✗	>2HRS	COMPLIANT
302	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
303	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
304	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
305	✓	✗	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
401	✓	✓	✓	✓	✓	✓	✗	>2HRS	COMPLIANT
402	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT
403	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
404	✗	✗	✗	✗	✓	✓	✓	2HRS	COMPLIANT
405	✓	✗	✗	✗	✗	✗	✗	<2HRS	N. COMPLIANT
501	✓	✓	✓	✓	✓	✓	✗	>2HRS	COMPLIANT
502	✗	✗	✗	✓	✓	✓	✓	>2HRS	COMPLIANT
503	✓	✓	✓	✓	✓	✓	✓	>2HRS	COMPLIANT

18/22 OR 81.8% OF UNITS GETS 2 OR MORE HOURS OF SUNLIGHT & 0/23 OR 0.00% OF UNITS GETS NO SUNLIGHT. COMPLIES WITH SEPP 65

ARCHITECT:
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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION

NO.	DATE	AMENDMENT
01	04.08.20	ISSUED TO MMJ
02	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
DIRECT SUNLIGHT ACCESS
STUDY 02
WINTER SOLSTICE
1PM TO 3PM

DEVELOPMENT APPLICATION

PROJECT NUMBER
20107

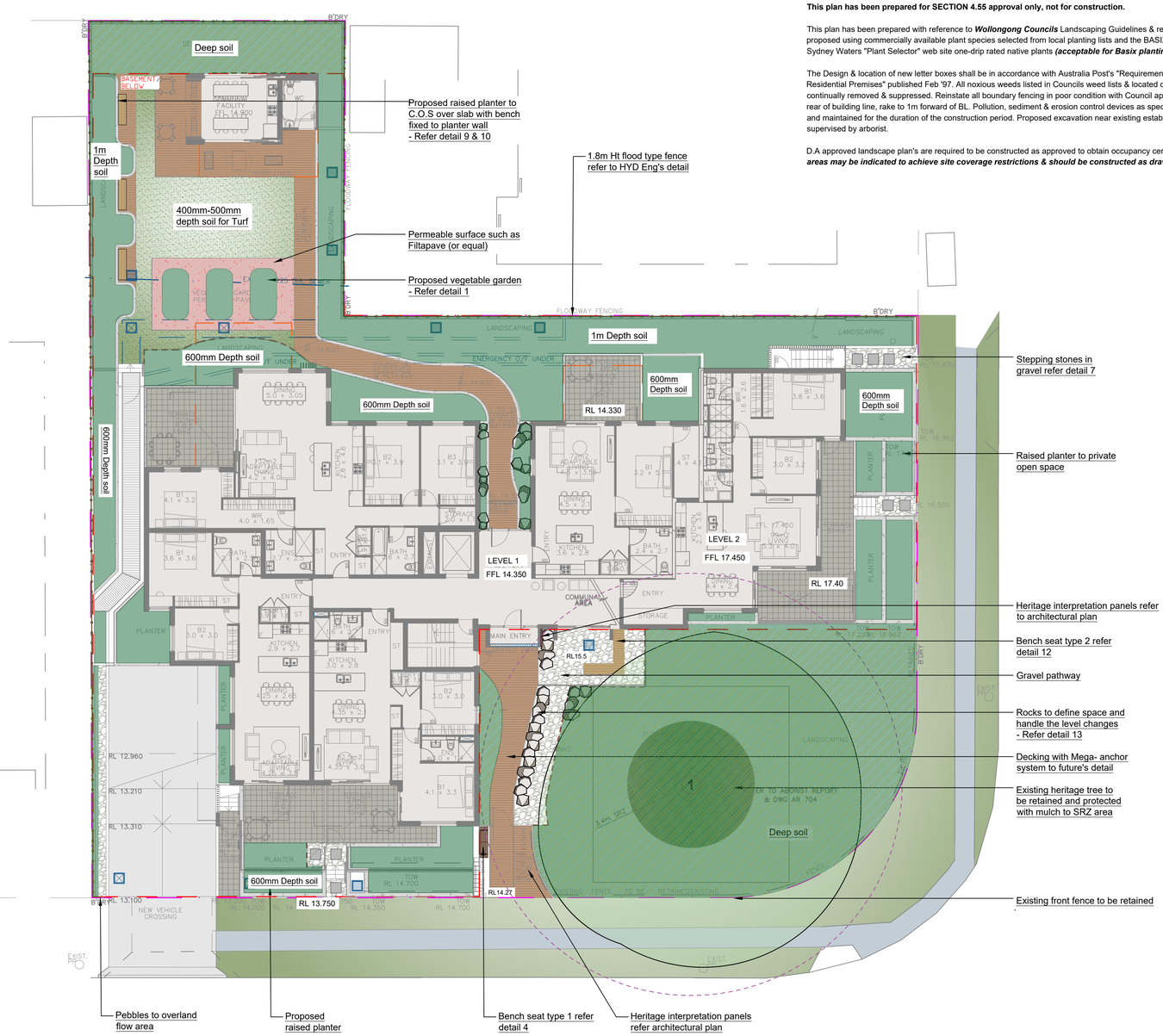
SCALE
NTS @ A1
NTS @ A3

NORTH

DRAWING NUMBER
AR 0612

REVISION
B


42



LANDSCAPE PLAN NOTES

This plan should be read in conjunction with the architectural and hydraulics plans. Work specific to these plans should be prepared in accordance to these plans, including specification and details prior to the installation of landscaping, and should not be altered or compromised during landscape construction. **Retaining wall details to engineers design.**
Elements such as drainage swales may be incorporated in garden bed areas (using non-floatable mulch) without compromising the capacity or form.

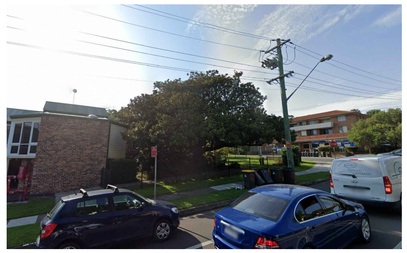
This plan has been prepared for SECTION 4.55 approval only, not for construction.

This plan has been prepared with reference to ***Wollongong Councils*** Landscaping Guidelines & requirements. Planting proposed using commercially available plant species selected from local planting lists and the BASIX local plant list and from Sydney Waters "Plant Selector" web site one-drip rated native plants ***(acceptable for Basix planting)***.

The Design & location of new letter boxes shall be in accordance with Australia Post's "Requirements for Delivery of Mail to Residential Premises" published Feb '97. All noxious weeds listed in Councils weed lists & located on the site shall be continually removed & suppressed. Reinstate all boundary fencing in poor condition with Council approved 1.8m fencing to rear of building line, rake to 1m forward of BL. Pollution, sediment & erosion control devices as specified shall be in place, and maintained for the duration of the construction period. Proposed excavation near existing established trees to be supervised by arborist.

D.A approved landscape plan's are required to be constructed as approved to obtain occupancy certificate. ***Permeable areas may be indicated to achieve site coverage restrictions & should be constructed as drawn on this plan.***

STREET VIEW



SAMPLE IMAGES

RAISED PLANTER

BENCH FIX TO WALL

LOCATION PLAN

Scale: NTS

OTHER LANDSCAPE ITEMS

- Retaining / raised planter wall - refer detail 9
- Existing trees proposed to be retained and protected
- Trees Protection zone
- Structural root zone
- Permeable surface such as Filtapave (or equal)
- Mulch area
- 1.8m Gate and fence - colour and style to be nom. by client
- Decking with Mega- anchor system to future detail
- Paved area to be nom. by client
- Turf area - refer detail 3
- Bench seat type 1 - refer detail 4
- Bench seat type 2 - refer detail 12
- Proposed landscape area
- Proposed deep soil area
- Stepping stones with pebbles in gaps - refer detail 7
- Brick Edging - refer detail 9

NOT FOR CONSTRUCTION

LANDSCAPE CALCULATIONS

SITE AREA:	**1770.00m²**
REQUIRED LANDSCAPE AREA:	**531m² (30%)**
PROPOSED LANDSCAPE AREA:	**814.63m² (46%)**
REQUIRED DEEP SOIL AREA:	**265.5m² (15%)**
PROPOSED DEEP SOIL AREA:	**338.91m² (19.1%)**
REFER ARCHITECTURAL DRAWING NO.	**AR0702**

TREE SURVEY

Existing Trees based on Arborists Report by Moore Trees Cousulting Arboriste *prepared on 18 Nov 2019*

No.#	Species	Size (Ht x Sp)	Condition	Action
1	Magnolia grandiflora	10x17	Fair	Retain

REV	DATE	NOTATION/AMENDMENT
A	15.06.20	Preliminary DA prepared for review
B	23.07.20	Co-ordinated with revised architectural plan
C	30.11.20	Co-ordinated with revised architectural plan
-		-
G	07.05.21	Co-ordinated with revised architectural plan
H	17.05.21	Co-ordinated with client's comments
I	15.06.21	Co-ordinated with revised architectural plan and comments

DRAWING SCHEDULE

SHEET #	DRAWING TITLE	REV.
/1	HARDSCAPE PLAN	I
/2	L1 LANDSCAPE PLAN	I
/3	L5 LANDSCAPE PLAN	I
/4	DETAIL + SPECIFICATION	F
/5	DETAILS	F

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HARDSCAPE PLAN

SCALE: 1:150

PROPOSED RESIDENTIAL DEVELOPMENT

42 BOURKE STREET, NORTH WOLLONGONG

SECTION 4.55

LEGEND & SCHEDULE

NOTES:
1. ALL FINAL PLANT QUANTITIES INDICATED ON PLANS SHALL BE CHECKED AND VERIFIED BY SUCCESSFUL LANDSCAPE CONTRACTOR.
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3. WORKS CERTIFIED FOR FINAL OCCUPANCY CERTIFICATE ARE TO MATCH APPROVED LANDSCAPE PLANS.
4. LANDSCAPE CONTRACTOR SHALL LOCATE AND AVOID SITE STORM WATER & DRAINAGE SERVICES. LOCATE TREES A MINIMUM 1.25M FROM PITS
5. ALL PLANTING AROUND EXISTING TREES SHALL BE ADJUSTED TO AVOID DAMAGE AND CLASHING WITH SURFACE ROOTS
6. THE NATURE STRIP (STREET FRONTAGE) FOR THE SITE IS PUBLIC LAND, AND ONLY AUTHORIZED WORKS MAY OCCUR HERE. EXISTING CONDITIONS SUCH AS STREET TREES, COUNCIL PLANTING ETC SHALL BE RETAINED AND PROTECTED DURING CONSTRUCTION, UNLESS SPECIFIC APPROVAL HAS BEEN GRANTED FOR NEW WORK IN THIS AREA.

(*) LOCAL NATIVE PLANT SPECIES RECOMMENDED BY WOLLONGONG DCP 2009

AN AUTOMATED COMMERCIAL GRADE IRRIGATION SYSTEM SHALL BE PROFESSIONALLY INSTALLED TO ALL GARDEN AREAS, INCLUDING RAISED PLANTERS, UPPER FLOOR PLANTERS AND GARDENS IN NATURAL GROUND. THE SYSTEM SHALL BE DESIGNED AND INSTALLED IN LINE WITH THE IRRIGATION PERFORMANCE SPECIFICATION, BY A LICENCED CONTRACTOR OR LANDSCAPER. THE LICENCED CONTRACTOR SHALL PREPARE AN 'AS BUILT' PLAN OF THE SYSTEM TO THE SUPERINTENDENT FOR STRATA RECORDS, FOR FUTURE MAINTENANCE.

STREET TREES

Botanical Name: **Tristaniopsis laurina*
Common Name: Watergum (Native)
Pot size: 75Lt
Mature H x S: 5-8m x 3-5m
Qty Required: 4

TREES

Botanical Name: **Elaeocarpus reticulatus*
Common Name: Blueberry Ash (Native)
Pot size: 75Lt
Mature H x S: 8-10m x 6-7m
Qty Required: 4

Botanical Name: **Syzygium paniculatum*
Common Name: Magenta Cherry (Native)
Pot size: 75Lt
Mature H x S: 10m x 4-5m
Qty Required: 3

Botanical Name: **Backhousia citriodora*
Common Name: Lemon Scented Myrtle (Native)
Pot size: 45Lt
Mature H x S: 6-10m x 4-5m
Qty Required: 1

Botanical Name: *Elaeocarpus eumundi*
Common Name: Eumundi Quandong (Native)
Pot size: 45Lt
Mature H x S: 11m x 5m
Qty Required: 1

SHRUBS AND HEDGES

Botanical Name: **Backhousia myrtifolia*
Common Name: Grey Myrtle (Native)
Pot size: 200mm
Mature H x S: 4-6m x 2-4m
Qty Required: 6

Botanical Name: **Prostanthera incisa*
Common Name: Prostanthera incisa (Native)
Pot size: 300mm
Mature H x S: 3m x 2m
Qty Required: 12

Botanical Name: **Westringia fruticosa*
Common Name: Native Rosemary (Native)
Pot size: 300mm
Mature H x S: 1.3m x 1.1m
Qty Required: 9

Botanical Name: **Correa alba*
Common Name: White Correa (Native)
Pot size: 200mm
Mature H x S: 1.5m x 1m
Qty Required: 13

Botanical Name: **Syzygium australe*
Common Name: Brush Cherry (Native)
Pot size: 300mm
Mature H x S: 6m x 3m
Qty Required: 10

Botanical Name: *Callistemon 'Great Balls of Fire'*
Common Name: GBOF Bottlebrush (Native)
Pot size: 200mm
Mature H x S: 1.8m x 1.5m
Qty Required: 35

Botanical Name: **Melaleuca hypericifolia*
Common Name: Hillock Honey Myrtle (Native)
Pot size: 300mm
Mature H x S: 2-3m x 2-3m
Qty Required: 9

Botanical Name: *Callistemon 'Better John'*
Common Name: Better John Bottlebrush (Native)
Pot size: 200mm
Mature H x S: 1m x 0.9m
Qty Required: 15

Botanical Name: *Viburnum odoratissimum*
Common Name: Sweet Viburnum (Exotic)
Pot size: 300mm
Mature H x S: 3m x 2m
Qty Required: 13

Botanical Name: *Syzygium 'Tiny Trev'*
Common Name: Dwarf Lilly Pilly (Native)
Pot size: 200mm
Mature H x S: 1m x 1m
Qty Required: 8

Botanical Name: *Zamia furfuracea*
Common Name: Cardboard Palm (Exotic)
Pot size: 200mm
Mature H x S: 1m x 1.25m
Qty Required: 32

Botanical Name: *Rhaphis excelsa*
Common Name: Rhaphis Palm (Exotic)
Pot size: 300mm
Mature H x S: 3m x 1.5m
Qty Required: 7

ACCENT PLANTS

Botanical Name: **Dicksonia antarctica*
Common Name: Soft Tree Fern (Native)
Pot size: 1m trunks
Mature H x S: 1.5-10m x 1-2m
Qty Required: 11

Botanical Name: **Cyathea australis*
Common Name: Rough Tree Fern (Native)
Pot size: 45L
Mature H x S: 2.5-5m x 3m
Qty Required: 11

Botanical Name: **Asplenium australasicum*
Common Name: Birds Nest Fern (Native)
Pot size: 200mm
Mature H x S: 1m x 1.4m
Qty Required: 26

Botanical Name: **Doryanthes excelsa*
Common Name: Gymea Lily (Native)
Pot size: 45L
Mature H x S: 1.1m x 1m
Qty Required: 27

Botanical Name: *Cycas revoluta*
Common Name: Sago Palm (Native)
Pot size: 200mm
Mature H x S: 1-2m x 3
Qty Required: 9

GRASSES + GROUNDCOVERS

Botanical Name: *Philodendron 'Xanadu'*
Common Name: Xanadu Plant (Exotic)
Pot size: 200mm
Mature H x S: 0.7m x 0.7m
Qty Required: 85

Botanical Name: **Doodia aspera*
Common Name: Prickly Rasp Fern (Native)
Pot size: 200mm
Mature H x S: 0.4m x 0.5m
Qty Required: 12

Botanical Name: *Calochlaena dubia*
Common Name: Rainbow Fern (Native)
Pot size: 200mm
Mature H x S: 1-1.5m x 1-1.5m
Qty Required: 20

Botanical Name: *Pteridium esculentum*
Common Name: Bracken(Native)
Pot size: 200mm
Mature H x S: 1 - 3 m
Qty Required: 8

Botanical Name: *Liriope muscari 'Evergreen Giant'*
Common Name: *Giant Lily Turf (Exotic)*
Pot size: 150mm
Mature H x S: 0.7m x 0.65m
Qty Required: 29

Botanical Name: *Aloe 'Pink Blush'*
Common Name: Pink Blush Aloe (Exotic)
Pot size: 300mm
Mature H x S: 0.3m x 0.3m
Qty Required: 7

Botanical Name: **Lomandra longifollia*
Common Name: Mat Rush (Native)
Pot size: 200mm
Mature H x S: 0.8m x 0.8m
Qty Required: 3/m2 **(32.8m2 total)**

Botanical Name: *Trachelospermum 'Tricolour'*
Common Name: Tricolour Jasmine (Exotic)
Pot size: 140mm
Mature H x S: 0.2m x spreading
Qty Required: 5/m2 **(7.2m2 total)**

Botanical Name: *Dichondra repens*
Common Name: Kidney Weed (Native)
Pot size: 140
Mature H x S: 0.15m x spreading
Qty Required: 9/m2 **(9.1m2 total)**

Botanical Name: *Dianella 'Lucia'*
Pot size: 140mm
Mature H x S: 0.4m x 0.4m
Qty Required: 3/m2 **(5m2 total)**

Botanical Name: *Myoporum parvifolium 'Yareena'*
Common Name: Creeping Boobialla (Native)
Pot size: 140mm
Mature H x S: 0.15m x spreading
Qty Required: 7/m2 **(24.2m2 total)**

Native Fern Mix:
**Adiantum aethiopicum, *Blechnum *cartilagineum, Doodia aspera, Calochlaena dubia*
Pot size: 140mm
Mature H x S: < .8m
Qty Required: 5/m2 **(71.5m2 total)**

Bio-retention groundcover Mix:
Carex appressa
Juncus amabilis
Isolepis nodosa
Lomandra 'Shara'
Pot size: Tubestock
Mature H x S: < 0.6m
Qty Required: 7-9/m2 **(39.6m2 total)**

GREEN WALL TO BE SELECTED BY CLIENT

GENERAL NOTE: Figured dimensions take preference to scale readings. Verify all dimensions on site. FDYI plans may vary slightly in Scale for that indicated on plans. Report any discrepancies to the Landscape Architect before proceeding with the work. © Copyright Sulphurcrest Enterprises Pty Ltd Trading as CONZEPT (ABN: 75 623 405 630) This drawing is protected by copyright. All rights are reserved. Unless permitted under the Copyright Act 1968, no part of this drawing may in any form or by any means be reproduced, published, broadcast or transmitted without the prior written permission of the copyright owner. If the Status of this drawing is not signed off For Construction it may be subject to change, alteration or amendment at the discretion of our office. If so, Conzept is not liable for any loss, damage, harm or injury whether special, consequential, direct or indirect, suffered by you or any other person as a result of your use of this drawing for construction purposes. These plans and associated IP remain the property of Sulphurcrest Enterprises (T/A Conzept) until such time as all agreed payments are made in full. We retain the right to withdraw this information from the assessment process if such payments are not made following the notification period.	Australian Institute of Landscape Architects AILA Associate	www.dialbeforeyoudig.com.au DIAL 1100 BEFORE YOU DIG	NOT FOR CONSTRUCTION Bar Scale 0 2 4 6 8 10m	ARCHITECT: JACK TAYLOR ARCHITECTS	LANDSCAPE ARCHITECT: Conzept Landscape Architects — Suit 101, 506 Miller Street, CAMMERAY NSW 2062 — Phone: 9922 5312 Fax: 8209 4982 Mob: 0413 861 351 — www.conzept.net.au enquiries@conzept.net.au
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COUNCIL: WOLLONGONG
CLIENT: MR BRIAN WEINERT

REV	DATE	NOTATION/AMENDMENT
A	15.06.2020	Preliminary DA prepared for review
B	23.07.2020	Co-ordinated with revised architectural plan
C	30.11.2020	Co-ordinated with revised architectural plan
-	-	-
G	07.05.21	Co-ordinated with revised architectural plan
H	17.05.21	Co-ordinated with client's comments
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PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
42 BOURKE STREET, NORTH WOLLONGONG

TITLE: L1 LANDSCAPE PLAN

STATUS: SECTION 4.55
SCALE: 1:100 @ A1
DATE: June 21
DWG.No: LPDA 20 - 278
PAGE NUMBER: 2
DRAWN: C.D
CHECKED: R.F

LEGEND & SCHEDULE

NOTES:
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SHRUBS AND HEDGES

Botanical Name: *Metrosideros* 'Tahiti'
Common Name: NZ Christmas Bush (Exotic)
Pot size: 150mm
Mature H x S: 1m x 1m
Qty Required: 20

Botanical Name: *Westringia fruticosa*
Common Name: Native Rosemary (Native)
Pot size: 300mm
Mature H x S: 1.3m x 1.1m
Qty Required: 10

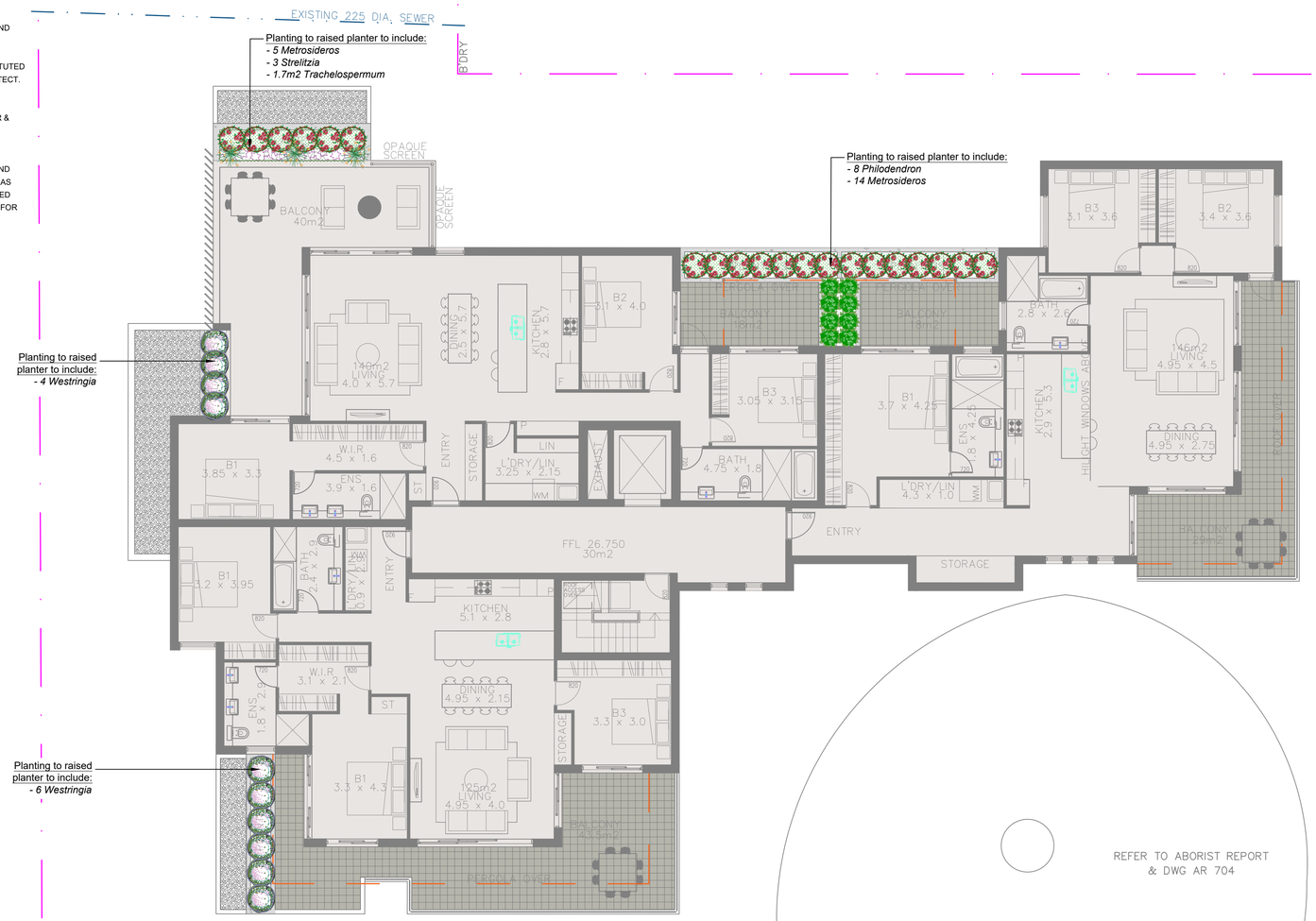
Botanical Name: *Philodendron 'Xanadu'*
Common Name: Xanadu Plant (Exotic)
Pot size: 200mm
Mature H x S: 0.7m x 0.7m
Qty Required: 8

ACCENT PLANTS

Botanical Name: *Strelitzia juncea*
Common Name: Rush-leaved Strelitzia (Exotic)
Pot size: 200mm
Mature H x S: 1.5m x 1m
Qty Required: 3

GRASSES + GROUNDCOVERS

Botanical Name: *Trachelospermum 'Tricolour'*
Common Name: Tricolour Jasmine (Exotic)
Pot size: 140mm
Mature H x S: 0.2m x spreading
Qty Required: 5/m2 **(1.7m2 total)**



LEVEL 5 PLAN
SCALE: 1:100

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LANDSCAPE PLAN NOTES

This plan should be read in conjunction with the architectural and hydraulics plans. Work specific to these plans should be prepared in accordance to these plans, including specification and details prior to the installation of landscaping, and should not be altered or compromised during landscape construction. **Retaining wall details to engineers design.**
Elements such as drainage swales may be incorporated in garden bed areas (using non-floatable mulch) without compromising the capacity or form.

This plan has been prepared for SECTION 4.55 approval only, not for construction.

This plan has been prepared with reference to ***Wollongong Councils*** Landscaping Guidelines & requirements. Planting proposed using commercially available plant species selected from local planting lists and the BASIX local plant list and from Sydney Waters "Plant Selector" web site one-drip rated native plants ***(acceptable for Basix planting)***.

The Design & location of new letter boxes shall be in accordance with Australia Post's "Requirements for Delivery of Mail to Residential Premises" published Feb '97. All noxious weeds listed in Councils weed lists & located on the site shall be continually removed & suppressed. Reinstate all boundary fencing in poor condition with Council approved 1.8m fencing to rear of building line, rake to 1m forward of BL. Pollution, sediment & erosion control devices as specified shall be in place, and maintained for the duration of the construction period. Proposed excavation near existing established trees to be supervised by arborist.

D.A approved landscape plan's are required to be constructed as approved to obtain occupancy certificate. ***Permeable areas may be indicated to achieve site coverage restrictions & should be constructed as drawn on this plan.***

FIXED OUTDOOR FURNITURE FOR ROOFTOP COMMUNAL OPEN SPACE SHALL BE LOCATED A MINIMUM 1M AWAY FROM PLANTER WALL, WHEREVER EXTERNAL HANDRAIL IS OMITTED. WHERE BENCHES OR FURNITURE IS FIXED OR LOCATED ADJACENT THE ROOFTOP PLANTER WALL, AN EXTERNAL BALUSTRADE MUST BE INSTALLED TO COMPLY WITH BCA AND AUSTRALIAN STANDARDS.

NON-FIXED FURNITURE ADDED BY STRATA SHALL BE LOCATED A MINIMUM 1M AWAY FROM PLANTER WALL, AND SHALL BE THE RESPONSIBILITY OF THE BODY CORPORATE.

'FOR ADVANCED TREE PLANTING IN HIGH WIND AND ROOFTOP LOCATIONS, IT IS RECOMMENDED THAT AN APPROVED ROOT BALL ANCHORING SYSTEM EQUAL TO 'PLATIPUS ANCHORS' SHALL BE USED. INSTALL AS PER THE MANUFACTURERS SPECIFICATION'

SAMPLE IMAGES

Images are diagrammatic only, and final planting species may vary, as determined by Council Approval


Philodendron 'Xanadu'

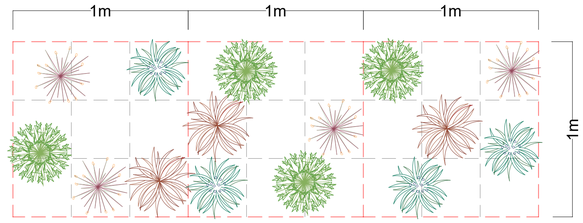

Metrosideros 'Tahiti'


Westringia 'Aussie Box'


Strelitzia juncea


Trachelospermum 'Tricolour'

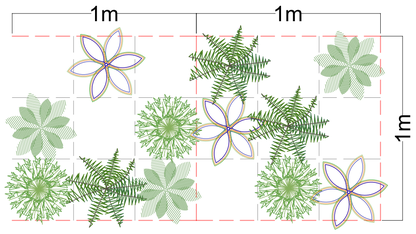
Groundcover Mix (Bio-retention)



Note: ALL SPECIES IN TUBE STOCK SIZE

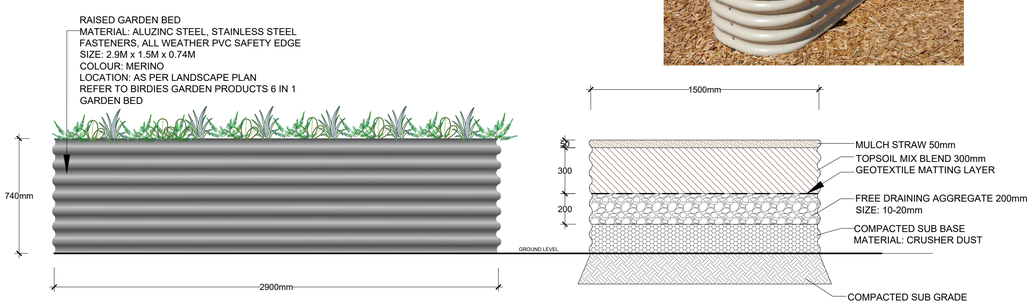
KEY	Botanical Name	Common Name
	Carex appressa	Tall Sedge
	Juncus amabilis	Hollow Rush
	Isolepis nodosa	Knobby Club Rush
	Lomandra 'Shara'	Mat Rush

Native Fern Mix



Note: ALL SPECIES IN TUBE STOCK SIZE

KEY	Botanical Name	Common Name	Qty
	Adiantum aethiopicum	Maidenhair fern	214
	Blechnum cartilagineum	*Gristle Fern*	214
	Calochlaena dubia	Bracken Fern	214
	Doodia aspera	Rasp Fern	214



DETAIL 1: RAISED VEGETABLE GARDEN BED
SCALE: 1:20

GENERAL NOTE:
Figured dimensions take preference to scale readings. Verify all dimensions on site. PDF'd plans may vary slightly in Scale for that indicated on plans. Report any discrepancies to the Landscape Architect before proceeding with the work.

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Bar Scale
0 2 4 6 8 10m

ARCHITECT:
JACK TAYLOR ARCHITECTS

LANDSCAPE ARCHITECT:
Conzept Landscape Architects
Suit 101, 506 Miller Street, CAMMERAY NSW 2062
Phone: 9922 5312
Fax: 8209 4982
Mob: 0413 861 351
www.conzept.net.au
enquiries@conzept.net.au

COUNCIL
WOLLONGONG

CLIENT
MR BRIAN WEINERT

REV	DATE	NOTATION/AMENDMENT
A	15.06.2020	Preliminary DA prepared for review
B	23.07.2020	Co-ordinated with revised architectural plan
C	30.11.2020	Co-ordinated with revised architectural plan
-	-	-
G	07.05.21	Co-ordinated with revised architectural plan
H	17.05.21	Co-ordinated with client's comments
I	15.06.21	Co-ordinated with revised architectural plan and comments

PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT
42 BOURKE STREET,
NORTH WOLLONGONG

TITLE:
L5 LANDSCAPE PLAN

DWG No: LPDA 20 - 278
PAGE NUMBER: 3

STATUS: SECTION 4.55
SCALE: 1:100 @ A1
DATE: June 21
DRAWN: C.D
CHECKED: R.F

LANDSCAPE WORK SPECIFICATION

PRELIMINARIES

1.01 GENERAL

The following general conditions should be considered prior to the commencement of landscape works:

- The landscape plans should be read in conjunction with the architectural plans, project arborist's assessment, hydraulic plans, service plans and survey prepared for the proposed development.
- All services including existing drainage should be accurately located prior to the commencement of landscape installation. Any proposed tree planting which falls close to services will be relocated on site under the instruction of the landscape architect.
- Installation of conduit for required irrigation, electrical and other services shall be completed prior to the commencement of hardscape works and hardstand pours.
- All outdoor lighting specified by architect or client to be installed by qualified electrician
- Anomalies that occur in these plans should be brought to our immediate attention.
- Where an Australian Standard applies for any landscape material testing or installation technique, that standard shall be followed.

1.02 PROTECTION OF ADJACENT FINISHES

The Contractor shall take all precautions to prevent damage to all or any adjacent finishes by providing adequate protection to these areas / surfaces prior to the commencement of the Works

1.03 PROTECTION OF EXISTING TREES

Existing trees identified to be retained shall be done in accordance with **(AS)4970-Protection of trees on development sites** as well as in accordance with the tree protection measures prepared by project arborist.

Where general works are occurring around such trees, or pruning is required, a qualified Arborist shall be engaged to oversee such works and manage tree health.
Existing trees designated on the drawing for retention shall be protected at all times during the construction period. Any soil within the drip-line of existing trees shall be excavated and removed by hand only. No stockpiling shall occur within the root zone of existing trees to be retained.

Any roots larger in diameter than 50mm shall only be severed under instruction by a qualified arborist. Roots smaller than 50mm diameter shall be cut cleanly with a saw.

Temporary fencing shall be installed around the base of all trees to be retained prior to the commencement of landscape works. Where possible this fencing will be located around the drip line of these trees, or a minimum of 3m from the trunk. The fencing shall be maintained for the full construction period.

1.04 EROSION & POLLUTION CONTROL

The Contractor shall take all proper precautions to prevent the erosion of soil from the subject site. The contractor shall install erosion & sediment control barriers and as required by council, and maintain these barriers throughout the construction period. Note that the sediment control measures adopted should reflect the soil type and erosion characteristics of the site.

Erosion & pollution control measures shall incorporate the following:
- Construction of a sediment trap at the vehicle access point to the subject site.
- Sediment fencing using a geotextile filter fabric in the location indicated on the erosion control plan or as instructed on site by the landscape architect.
- Earth banks to prevent scour of stockpiles
- Sandbag kerb sediment traps
- Straw bale & geotextile sediment filter.
- Exposed banks shall be pegged with an approved Jute matting in preparation for mass planting

Refer to "Sitewise Reference Kit" as prepared by DLWC & WSROC (1997) for construction techniques

SOIL WORKS

2.01 MATERIALS

Specified Soil Conditioner (Generally to improve site soil)
The specified soil conditioner for site top-soil improvement shall be an organic mix, equal to "Botany Humus", as supplied by ANL. Note that for sites where soil testing indicates toxins or extremes in pH, or soils that are extremely poor, allow to excavate and supply 300mm of imported soil mix.

New gardens & proposed Planting
New garden and planting areas shall consist of a 50/50 mix of clean site soil (refer d) below) and imported "Organic Garden Mix" as supplied by ANL or approved equal. All mixes are to comply with AS 4419 Soils for landscaping & garden use, & AS 4454 Composts, Soil conditioners & mulches.

Specified Soil Mix - Turf
The specified soil mix for all turf areas shall be a min 75mm layer of imported soil mix consisting of 80% washed river sand (reasonably coarse), and 20% composted organic matter equivalent to mushroom compost or soil conditioner, or other approved lawn top dress.

Site Topsoil
Site topsoil is to be clean and free of unwanted matter such as gravel, clay lumps, grass, weeds, tree roots, sticks, rubbish and plastics, and any deleterious materials and materials toxic to plants. The topsoil must have a pH of between 5.5 and 7. Use 100% imported soil mix when site when site topsoil runs out.

2.02 INSTALLATION (TO GARDEN OUTSIDE OF TREE PROTECTION ZONES OF TREES RECOMMENDED TO BY RETAINED)
Note: No level changes (Cut or Fill), soil ripping within the Tree Protection Zones of trees to be retained
a) Testing
All testing is to be conducted in accordance with AS 1289 Methods for testing soils for engineering purposes. Site soil shall be given a pH test prior to modifying to ensure conditions are appropriate for planting as stated above. Tests shall be taken in several areas where planting is proposed, and the pH shall be adjusted accordingly with sulphur or lime to suit.

Note that a soil test conducted by the "Sydney Soil Lab" or approved equal shall be prepared for all commercial, industrial and multi-unit residential sites. The successful landscape contractor shall implement the recommendations of this test.

b) Set Out of Individual Trees & Mass Planting Areas
All individual tree planting positions and areas designated for mass planting shall be set out with stakes or another form of marking, ready for inspection and approval. Locate all services.

c) Establishing Subgrade Levels outside of tree protection zones of trees to be retained
Subgrade levels are defined as the finished base levels prior to the placement of the specified material (i.e. soil conditioner). The following subgrade levels shall apply:
- Mass Planting Beds - 300mm below existing levels with specified imported soil mix.
- Turf areas - 100mm below finished surface level.

Note that all subgrades shall consist of a relatively free draining natural material, consisting of site topsoil placed previously by the Civil Contractor. No builders waste material shall be acceptable.

d) Subgrade Cultivation
Cultivate all subgrades to a minimum depth of 100mm in all planting beds and all turf areas, ensuring a thorough breakup of the subgrade into a reasonably coarse tilth. Grade subgrades to provide falls to surface and subsurface drains, prior to the placement of the final specified soil mix.

e) Drainage Works
Install surface and subsurface drainage where required and as detailed on the drawing. Drain subsurface drains to outlets provided, with a minimum fall of 1:100 to outlets and / or service pits.

f) Placement and Preparation of Specified Soil Conditioner & Mixes.
- Trees in turf & beds - Holes shall be twice as wide as root ball and minimum 100mm deeper - backfill hole with 50/50 mix of clean site soil and imported "Organic Garden Mix" as supplied by ANL or approved equal.
- Mass Planting Beds - Install specified soil conditioner to a compacted depth of 100mm

Place the specified soil conditioner to the required compacted depth and use a rotary hoe to thoroughly mix the conditioner into the top 300mm of garden bed soil. Ensure thorough mixing and the preparation of a reasonably fine tilth and good growing medium in preparation for planting.
- Turf Areas - Install specified soil mix to a minimum compacted depth of 75mm.

Place the specified soil mix to the required compacted depth and grade to required finished soil levels, in preparation for planting and turfing.

PLANTING

3.01 MATERIALS

a) Quality and Size of Plant Material
All trees supplied above a 25L container size must be grown and planted in accordance with **AS 2303:2018 'TREE STOCK FOR LANDSCAPE USE'** Certification that trees have been grown to AS 2303:2018 is to be provided upon request of Council's Tree Management Officer.
Above - Ground Assessment:
The following plant quality assessment criteria should be followed:
Plant true to type, Good vigour and health, free from pest & disease, free from injury, self-supporting, good stem taper, has been pruned correctly, is apically dominant, has even crown symmetry, free from included bark & stem junctions, even trunk position in pot, good stem structure
Below - Ground Assessment:
Good root division & direction, rootball occupancy, rootball depth, height of crown, non-suckering For further explanation and description of these assessment criteria, refer to Ross Clark's book.
All Plant material shall be to the type and size specified. No substitutions of plant material shall be permitted without written prior approval by the Landscape Architect. No plant shall be accepted which does not conform to the standards listed above.

b) Stakes and Ties
Provide min. 3 No. Stakes and ties to all plants identified as trees in the plant schedule. Stakes shall be sound, unpainted, straight hardwood, free of knots and pointed at one end. They shall be 2200mm x 50mm x 50mm Hardwood, or approved alternative. Ties shall be 50mm wide hessian webbing material.

c) Fertilisers
Fertilisers shall be approved slow release fertilisers suitable for the proposed planting types. Note that for native plants, specifically Proteaceae family plants including Grevillea species, low phosphorus fertilizers shall be used.

d) Mulch
Mulch for general planter bed shall be an approved equal to "Forest Blend" as supplied by ANL. Mulch shall be completely free from any soil, weeds, rubbish or other debris. Mulch for bio-retention/rain garden area where is required shall be non-floatable materials that could include crushed rock, gravel, coarse river sand, scoria or river pebbles. 4-7mm screenings or similar.

e) Turf
Turf for project site shall be soft leaf Buffalo or Zoysia macrantha 'Nana` or equivalent unless stated otherwise), free from any weeds and other grasses, and be in a healthy growing condition. Re-turfing to nature strip where is required shall use species that match existing on street.

3.02 INSTALLATION

a) Setting Out
All planting set out shall be in strict accordance with the drawings, or as directed. Note that proposed tree planting located near services should be adjusted at this stage. Notify Landscape Architect for inspection for approval prior to planting.

b) Planting
All plant material shall be planted as soon after delivery as possible. Planting holes for trees shall be excavated as detailed and specified. Plant containers shall be removed and discarded, and the outer roots gently teased from the soil mass. Immediately set plant in hole and backfill with specified soil mix, incorporating the approved quantity of fertiliser for each plant type. Ensure that plants are set plumb vertically and root balls set to the consolidated finished grades detailed on the drawings. Compact the backfilled soil and saturate by hand watering to expel any remaining air pockets immediately after planting.

c) Staking and Tying
Staking and tying shall be in strict accordance with the drawings and shall occur immediately following plant placement and soil backfilling. All plants identified as "Trees" on the planting schedule shall be staked with a min. 3 stakes.

d) Mulching
Mulch for general planter bed shall be an approved equal to "Forest Blend" as supplied by ANL. Mulch shall be completely free from any soil, weeds, rubbish or other debris. Mulch for bio-retention/rain garden area where is required shall be non-floatable materials that could include crushed rock, gravel, scoria or river pebbles. 4-7mm screenings or similar.

e) Turfing
Moisten soil prior to the turf being laid. Turf shall be neatly butt jointed and true to grade to finish flush with adjacent surfaces. Incorporate a lawn fertilizer and thoroughly water in. Keep turf moist until roots have taken and sods/rolls cannot be lifted. Keep all traffic off turf until this has occurred. Allow for top dressing of all turf areas. All turf shall be rolled immediately following installation.

f) Brick Edging
Where is required, the Contractor shall install brick edge as detailed on the drawings, to all mass planting beds adjoining turf or gravel mulched areas, and where required. The resultant edge shall be true to line and flush with adjacent surfaces. **However, no edging shall be used within the Structural Root Zone (SRZ) of trees to be retained.**

g) Earth retaining structure
All walls which form part of drainage works must be built as detailed by the hydraulic engineer. All walls exceeding 800mm shall be of **not** timber construction materials, construction details to be provided by a qualified engineer. Install wall to suit site levels and to manufacture's specification.

HARDSCAPE WORKS

4.01 GENERAL

The Contractor shall undertake the installation of all hardscape works as detailed on the drawing, or where not detailed, by manufacturers specification.
- Paving - refer to typical details provided, and applicable Australian Standards. *Permeable paving may be used as a suitable means of satisfying Council permeable surface requirements, while providing a useable, hardwearing, practical surface.* In most instances, the client shall nominate the appropriate paving material to be used.

Australian Standards shall be adhered to in relation to all concrete, masonry & metal work. Some details are typical and may vary on site. All hardscape works shall be setout as per the drawings, and inspected and approved by the Landscape Architect prior to installation. All workmanship shall be of the highest standard. Any queries or problems that arise from hardscape variations should be bought to the attention of the Landscape Architect.
Your attention is directed to any obligations or responsibilities under the Dividing Fences Act, 1991 in respect of adjoining property owner/s which may arise from this application. Any enquiries in this regard may be made to the Crown Lands Division on (02) 8836 5332.

IRRIGATION WORKS

5.01 GENERAL (PERFORMANCE SPECIFICATION)

New irrigation systems to planting areas shall be a Commercial Grade Irrigation System conforming to all relevant Australian standards, including AS 3500 & the Electrical Safety Act 2002, Workplace Health & Safety Act 1995, & the latest Sydney Water Code

An automated drip-irrigation system is to be installed to all gardens, planters and lawn areas in accordance with the approved Irrigation Design.
This system shall be designed and installed by a qualified and licensed irrigation specialist, to the highest industry standards and to maximise the efficient usage of water.
The Installer is required to obtain all approvals necessary for the completion of works in accordance with the Laws of Australia, Laws of the State of NSW, WOLLONGONG Council By-Laws and Ordinances.

Drawings:
- The Landscape Contractor nominated Licensed Irrigation Specialist shall provide irrigation drawings for approval upon engagement.

Design Requirements:
- The irrigation system shall be installed prior to all planting works. It shall incorporate a commercially available irrigation system, with sub-surface dripper lines to irrigate all gardens, planters and lawn areas.
- It shall incorporate a suitable back flow prevention device for the scale of works, an in-line filter, check valves, and suitable high and low density poly hose fittings and PVC piping to achieve flow rates suitable for specified planting.
- The irrigation application rate shall not exceed the infiltration rate of the soil or creates run-off.
- The landscape contractor shall check the existing pressure available from the ring mains and size irrigation piping to suit. Supply shall be from local hose cock where available.
- All piping and fittings shall be buried 50mm below the finished soil levels in garden and lawn areas, and secured in position at 500mm centres with galv wire pins.
- Size of pipes shall be selected to ensure the working pressure at the end of the line does not decrease by more than 5%.

Services Co-ordination:
- Co-ordination required by Landscape Contractor or Project Manager to provide required conduit, pipe work and penetration through slabs and planter walls for water and power provisions.
- The Landscape Contractor shall be engaged with the Irrigation Specialist to co-ordinate with the Project Manager to identify the preferred service and conduit locations.
- Project Manager and Landscape Contractor to establish area suitable for irrigation control system with required area, power provision and water supply.

Testing & Defects:
Upon completion of installation, the system shall be tested, including:
- Main Line Pressure Test: The main line is pressurised to test for leaks. All valves are shut and the pressure is taken over a determined length of time.
- Dripper Pressure Test: Measurement at flushing valves are taken and the pressure gauged to make sure it conforms to the manufacturer recommendations. The inlet pressure is then tested under the same conditions to check it does not exceed 300Kpa.
- All components are to be satisfactorily functional and operational prior to approval. Should any defect develop, or the capacity or efficiency of the system decline during the agreed maintenance system, then these faults shall be immediately rectified.

Warranty :
- A full 12 month warranty shall be included to cover labour and all parts.

Further Documentation:
- On request, a detailed irrigation performance specification report can be issued.

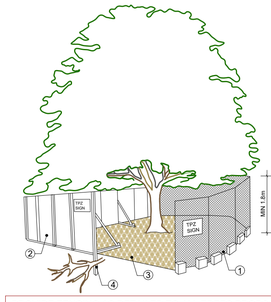
CONSOLIDATION AND MAINTENANCE

6.01 GENERAL

The consolidation and maintenance period shall be 12 months beginning from the approved completion of the specified construction work (Practical Completion). A qualified landscape maintenance contractor shall undertake the required landscape maintenance works. Consolidation and maintenance shall mean the care and maintenance of Contracted works by accepted landscaping or horticultural practices, ensuring that all plants are in optimum growing conditions and appearance at all times, as well as rectifying any defects that become apparent in the contracted works.

This shall include, but not be limited to, the following items where and as required:
- Watering all planting and lawn areas / irrigation maintenance.
- Clearing litter and other debris from landscaped areas.
- Removing weeds, pruning and general plant maintenance.
- Replacement of damaged, stolen or unhealthy plants.
- Make good areas of soil subsidence or erosion.
- Topping up of mulched areas.
- Spray / treatment for Insect and disease control.
- Fertilizing with approved fertilizers at correct rates.
- Mowing lawns & trimming edges each 14 days in summer or 18 days in winter
- Adjusting ties to Stakes
- Maintenance of all paving, retaining and hardscape elements.

On the completion of the maintenance period, the landscape works shall be inspected and at the satisfaction of the superintendent or landscape architect, the responsibility will be signed over to the client.



1. CHAIN WIRE MESH PANELS WITH SHADE CLOTH (IF REQUIRED) ATTACHED, HELD IN PLACE WITH CONCRETE FEET

2. ALTERNATIVE PLYWOOD OR WOODEN PALING FENCE PANELS. THE FENCING MATERIAL ALSO PREVENTS BUILDING MATERIALS OR SOIL ENTERING THE TPZ

3. MULCH INSTALLATION ACROSS SURFACE OF TPZ (AT THE DISCRETION OF THE PROJECT ARBORIST). NO EXCAVATION, CONSTRUCTION ACTIVITY, GRADE CHANGES, SURFACE TREATMENT OR STORAGE OF MATERIALS OF ANY KIND IS PERMITTED WITHIN THE TPZ

4. BRACING IS PERMISSIBLE WITHIN THE TPZ. INSTALLATION OF SUPPORTS TO AVOID DAMAGING ROOTS

5. PRUNING & MAINTENANCE TO TREE REFER TO AS 4373-2007 PRUNING OF AMENITY TREES

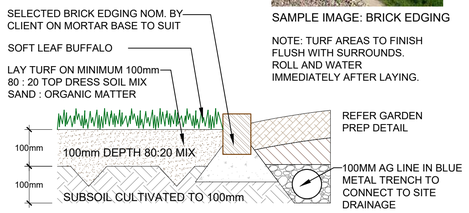
PROVIDE FENCING AS DETAILED TO ALL TREES PROPOSED TO BE RETAINED ON THE SUBJECT SITE. FENCING TO BE LOCATED TO THE DRIP LINE OF TREES OR AS INDICATED ON PLANS OR DIRECTED ON-SITE BY ARBORIST. NO STOCKPILING WITHIN FENCE PERIMETERS.

DETAIL 2: TREE PROTECTION ZONE

N.T.S

SAMPLE IMAGE: BRICK EDGING

NOTE: TURF AREAS TO FINISH FLUSH WITH SURROUNDS. ROLL AND WATER IMMEDIATELY AFTER LAYING.



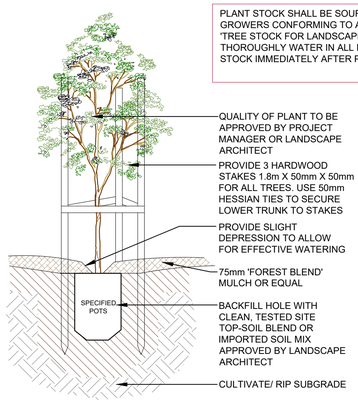
DETAIL 3: TYPICAL TURF AND BRICK EDGE DETAIL

SCALE: 1:10

NOTE: DRAWING IS INDICATIVE ONLY. PRODUCT BY COMMERCIAL SYSTEMS AUSTRALIA. REFER MANUFACTURER'S SPECIFICATIONS & INSTRUCTIONS FOR INSTALLATION

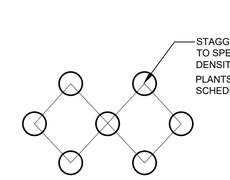
DETAIL 4:BENCH TYPE 1-VERTICAL SLAT SEAT WITH ARMS BY CSA - PRODUCT CODE: TM4035

SCALE 1:20



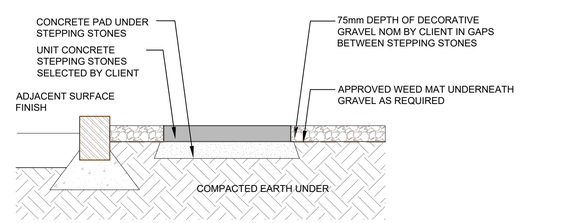
DETAIL 5: TREE PLANTING DETAIL

SCALE: 1:10
(ONLY APPLICABLE FOR PLANTING AREA OUTSIDE TREE PROTECTION ZONE OF TREES TO BE RETAINED. NO CHANGES ARE TO OCCUR TO EXISTING LEVELS, INCLUDING RIPPING/CULTIVATING OF THE SOIL WITHIN THE TPZ OF TREES TO BE RETAINED ON SITE)



DETAIL 6: MASS PLANTING SETOUT

N.T.S



DETAIL 7: STEPPING STONES IN GRAVEL

SCALE 1:10

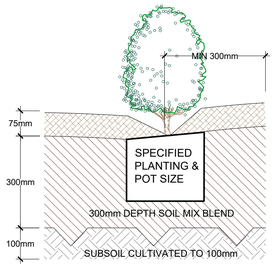
OVERFLOW (TO SUPPLIER'S SPECIFICATION)

NOTE (BCA COMPLIANCE), WHERE NO EXTERNAL BALUSTRADE IS PROPOSED.
THE INTERNAL PLANTER WALL FACE MUST BE NON-CLIMBABLE TO A HEIGHT TO MEET AS & BCA COMPLIANCE.

NOTE.(DRAINAGE & WATER PROOFING). DRAINAGE PITS AND LAYOUT TO BE NOMINATED BY HYDRAULIC ENGINEER TO WORK WITH STRUCTURAL DESIGN AND LANDSCAPE.

THE WATERPROOFING, APPROVED DRAINAGE CELL AND SPECIFIED GEOFABRIC LAYER IN THIS DETAIL ARE INDICATIVE ONLY AND SHOULD BE DETAILED BY THE RELEVANT PROFESSIONAL ENGINEER 'FOR CONSTRUCTION'.

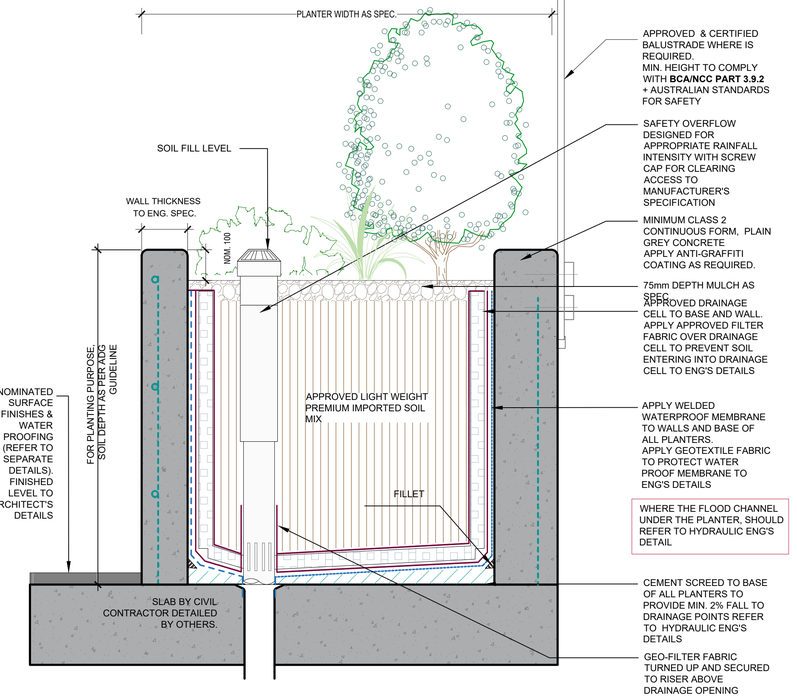
UNDER THE CONSTRUCTION PRACTITIONER BILL, STRUCTURAL WATERPROOFING SHALL BE DOCUMENTED BY A HYDRAULIC ENGINEER



SOIL MIX:
50% OF STOCKPILED SITE TOPSOIL FREE FROM ALL BUILDER'S RUBBISH AND DELETERIOUS MATERIALS. TOPSOIL TO BE AMELIORATED, MIXED WITH MINIMUM 50% IMPORTED GARDEN MIX OR SOIL CONDITIONER/ COMPOSTED ORGANIC MATTER - SEE SPEC.
USE 100% IMPORTED SOIL MIX WHEN SITE TOPSOIL RUNS OUT.

DETAIL 8: TYPICAL GARDEN PREPARATION DETAIL

SCALE 1:10
(ONLY APPLICABLE FOR PLANTING AREA OUTSIDE TREE PROTECTION ZONE OF TREES TO BE RETAINED. NO CHANGES ARE TO OCCUR TO EXISTING LEVELS, INCLUDING RIPPING/CULTIVATING OF THE SOIL WITHIN THE TPZ OF TREES TO BE RETAINED ON SITE)



DETAIL 9: INSITU CONCRETE PLANTER ON SLAB DETAIL

SCALE: 1:10

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COUNCIL
WOLLONGONG

CLIENT:
MR BRIAN WEINERT

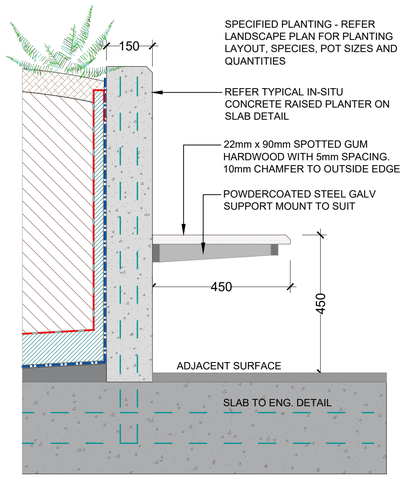
REV	DATE	NOTATION/AMENDMENT
A	15.06.2020	Preliminary DA prepared for review
B	30.11.2020	Co-ordinated with revised architectural plan
C	10.12.20	Co-ordinated with revised architectural plan and comments
D	07.05.21	Co-ordinated with revised architectural plan
E	17.05.21	Co-ordinated with client's comments
F	15.06.21	Co-ordinated with revised architectural plan and comments

PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT
42 BOURKE STREET,
NORTH WOLLONGONG

TITLE:
SPECIFICATION & DETAIL

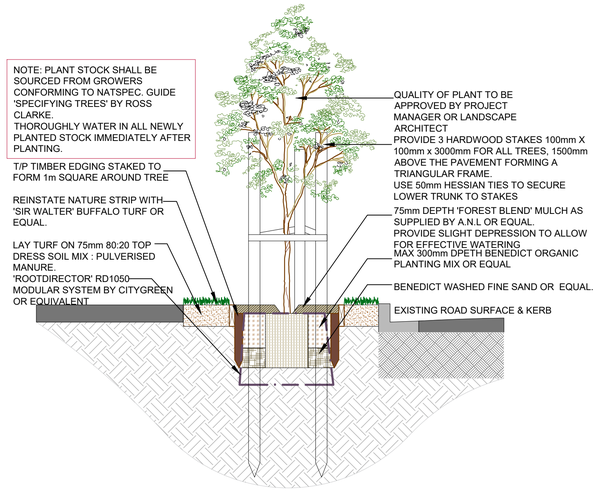
DWG.No: LPDA 20 - 278
PAGE NUMBER: 4

STATUS: SECTION 4.55
SCALE: AS SHOWN @ A1
DATE: June 21
DRAWN: C.D
CHECKED: R.F



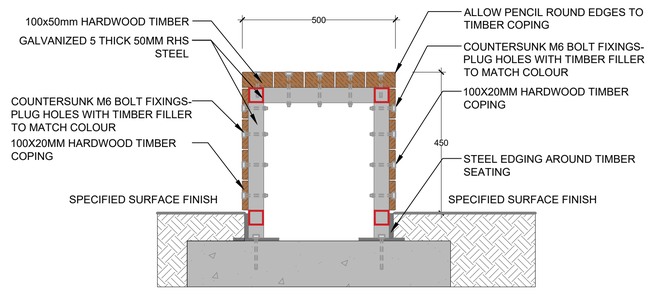
DETAIL 10: TIMBER BENCH SEATING FIXED TO WALL DETAIL

SCALE: 1:10



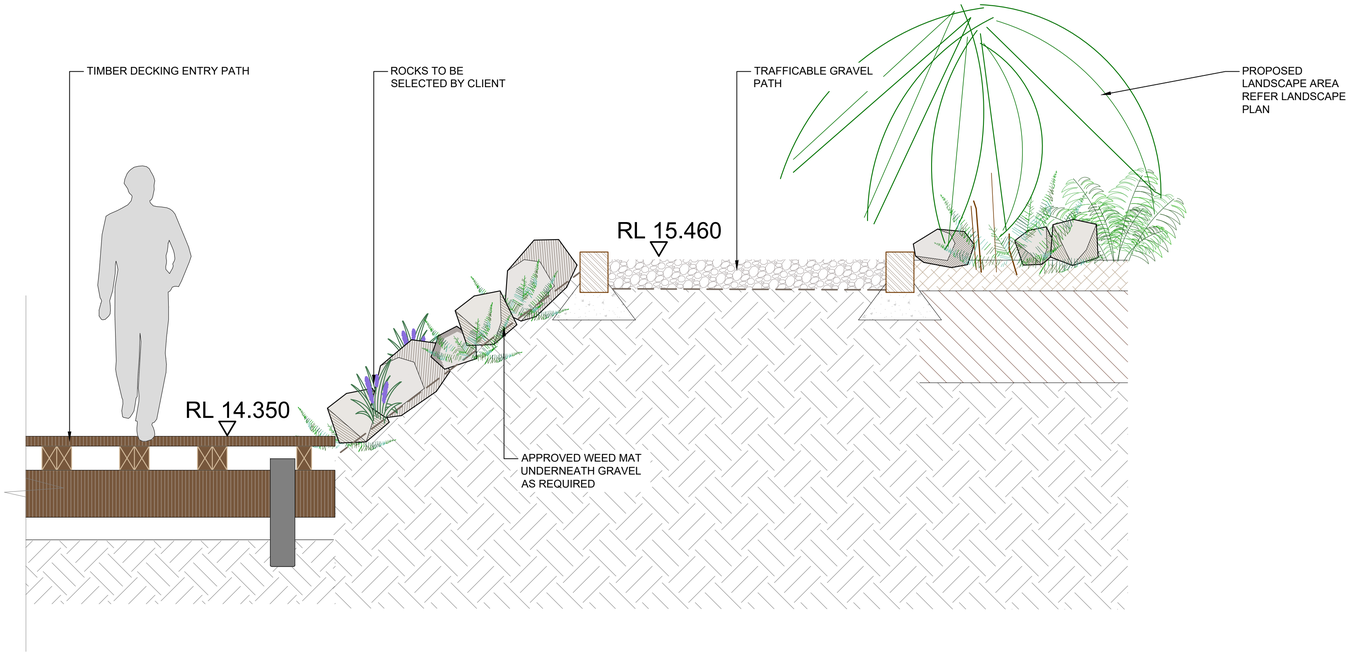
DETAIL 11: STREET TREE PLANTING

SCALE: 1:20



DETAIL 12: BENCH TYPE 2- HARDWOOD TIMBER SEATING

SCALE: 1:20



DETAIL 13: TYPICAL ROCKS AND GRAVEL PATH DETAIL

SCALE 1:20

NOT FOR CONSTRUCTION

ARCHITECT:
JACK TAYLOR ARCHITECTS

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PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT
42 BOURKE STREET,
NORTH WOLLONGONG

TITLE:
DETAIL

DWG.No: LPDA 20 - 278
PAGE NUMBER: 5

STATUS: SECTION 4.55
SCALE: AS SHOWN @ A1
DATE: June 21
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CHECKED: R.F

LEGEND

- GENERAL LANDSCAPING AREA 814.63 m^2
- COMMUMNAL OPEN SPACE 383.53 m^2
- DEEP PLANTING ZONE (MIN. 7% OF SITE) 250.68 m^2
- CONSOLIDATED C.O.S & D.P.Z 79.66 m^2

SUMMARY

SITE AREA : 1770.00 m^2 (ON SURVEY)
LANDSCAPING : 814.63 m^2 OR 46.0% OF SITE
ADDITIONAL LANDSCAPING ABOVE GROUND : 33.3 m^2
TOTAL D.P.Z : D.P.Z + CONSOLIDATED D.P.Z 338.91 m^2 OR 19.1% OF SITE
TOTAL C.O.S : C.O.S + CONSOLIDATED C.O.S 463.19 m^2 OR 26.1% OF SITE

ARCHITECT:
urban design masterplanning architecture
JACK TAYLOR
ARCHITECTS Pty Ltd
ACN 076 874 489
NSW Architects Board Registration # 7042
Board of Architects QLD Registration # 3571
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North Sydney NSW 2060
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FOR:
42 BOURKE STREET PTY. LTD.

PROJECT
42 BOURKE STREET
NORTH WOLLONGONG
NSW 2500

REVISION NO.	DATE	AMENDMENT
01	03.07.20	ISSUED TO CONSULTANTS
02	04.08.20	ISSUED TO MMJ
03	07.09.20	LEVELS & FLOOR TO FLOOR HEIGHT REVISED
A	07.12.20	ISSUED FOR DEVELOPMENT APPLICATION
B	09.06.21	ISSUED FOR DEVELOPMENT APPLICATION

DRAWING NAME
LANDSCAPE, DEEP SOIL PLANTING & COMMUNAL OPEN SPACE CALCULATION

DEVELOPMENT APPLICATION

PROJECT NUMBER	SCALE	NORTH
20107	1:100 @ A1 1:200 @ A3	N
DRAWING NUMBER	REVISION	
AR 0702	B	

LEGEND & SCHEDULE

NOTES:
1. ALL FINAL PLANT QUANTITIES INDICATED ON PLANS SHALL BE CHECKED AND VERIFIED BY SUCCESSFUL LANDSCAPE CONTRACTOR.
2. ANY PLANT SUBSTITUTES REQUIRED DUE TO UNAVAILABILITY SHALL BE RECOMMENDED BY THE LANDSCAPE CONTRACTOR TO BEST MATCH SUBSTITUTED PLANTS AND APPROVED PRIOR TO PURCHASING BY THE LANDSCAPE ARCHITECT.
3. WORKS CERTIFIED FOR FINAL OCCUPANCY CERTIFICATE ARE TO MATCH APPROVED LANDSCAPE PLANS.
4. LANDSCAPE CONTRACTOR SHALL LOCATE AND AVOID SITE STORM WATER & DRAINAGE SERVICES. LOCATE TREES A MINIMUM 1.25M FROM PITS
5. ALL PLANTING AROUND EXISTING TREES SHALL BE ADJUSTED TO AVOID DAMAGE AND CLASHING WITH SURFACE ROOTS
6. THE NATURE STRIP (STREET FRONTAGE) FOR THE SITE IS PUBLIC LAND, AND ONLY AUTHORIZED WORKS MAY OCCUR HERE. EXISTING CONDITIONS SUCH AS STREET TREES, COUNCIL PLANTING ETC SHALL BE RETAINED AND PROTECTED DURING CONSTRUCTION, UNLESS SPECIFIC APPROVAL HAS BEEN GRANTED FOR NEW WORK IN THIS AREA.

SHRUBS AND HEDGES

Botanical Name: *Viburnum odoratissimum*
Common Name: Sweet Viburnum (Exotic)
Pot size: 300mm
Mature H x S: 3m x 2m
Qty Required: 25

Botanical Name: *Syzygium 'Resilience'*
Common Name: Resilience Lilly Pilly (Native)
Pot size: 200mm
Mature H x S: 3m x 2m
Qty Required: 5

Botanical Name: *Westringia 'Blue Gem'*
Common Name: B. Gem Coastal Rosemary (Native)
Pot size: 300mm
Mature H x S: 1.5m x 1.3m
Qty Required: 12

Botanical Name: *Callistemon 'Better John'*
Common Name: Better John Bottlebrush (Native)
Pot size: 200mm
Mature H x S: 1m x 0.9m
Qty Required: 11

Botanical Name: *Syzygium 'Tiny Trev'*
Common Name: Dwarf Lilly Pilly (Native)
Pot size: 200mm
Mature H x S: 1m x 1m
Qty Required: 34

Botanical Name: *Philodendron 'Xanadu'*
Common Name: Xanadu Plant (Exotic)
Pot size: 200mm
Mature H x S: 0.7m x 0.7m
Qty Required: 44

Botanical Name: *Rhaphis excelsa*
Common Name: Rhaphis Palm (Exotic)
Pot size: 300mm
Mature H x S: 3m x 1.5m
Qty Required: 13

Botanical Name: *Pteridium esculentum*
Common Name: Bracken(Native)
Pot size: 200mm
Mature H x S: 1 - 3 m
Qty Required: 11

ACCENT PLANTS

Botanical Name: *Cyathea australis*
Common Name: Rough Tree Fern (Native)
Pot size: 45L
Mature H x S: 2.5-5m x 3m
Qty Required: 18

Botanical Name: *Asplenium australasicum*
Common Name: Birds Nest Fern (Native)
Pot size: 200mm
Mature H x S: 1m x 1.4m
Qty Required: 26

Botanical Name: *Dicksonia antarctica*
Common Name: Soft Tree Fern (Native)
Pot size: 1m trunks
Mature H x S: 1.5-10m x 1-2m
Qty Required: 9

Botanical Name: *Doryanthes excelsa*
Common Name: Gymea Lily (Native)
Pot size: 45L
Mature H x S: 1.1m x 1m
Qty Required: 6

GRASSES + GROUNDCOVERS

Botanical Name: *Doodia aspera*
Common Name: Prickly Rasp Fern (Native)
Pot size: 200mm
Mature H x S: 0.4m x 0.5m
Qty Required: 19

Botanical Name: *Calochlaena dubia*
Common Name: Rainbow Fern (Native)
Pot size: 200mm
Mature H x S: 1-1.5m x 1-1.5m
Qty Required: 23

Botanical Name: *Trachelospermum 'Tricolour'*
Common Name: Tricolour Jasmine (Exotic)
Pot size: 140mm
Mature H x S: 0.2m x spreading
Qty Required: 5/m2 **(7m2 total)**

Native Fern Mix:
Adiantum aethiopicum, Blechnum cartilagineum, Doodia aspera, Calochlaena dubia
Pot size: 140mm
Mature H x S: < .8m
Qty Required: 5/m2 **(71.5m2 total)**

GREEN WALL TO BE SELECTED BY CLIENT
- REFER TO SAMPLE IMAGES

SAMPLE IMAGES

Images are diagrammatic only, and final planting species may vary, as determined by Council Approval


Photinia 'Red Robin'


Viburnum odoratissimum


Doryanthes excelsa


Westringia 'Blue Gem'


Callistemon 'BetterJohn'


Trachelospermum 'Tricolour'


Rhaphis excelsa

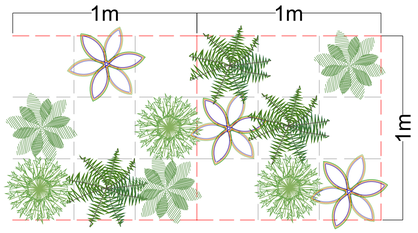

Alcantarea imperialis 'Rubra'


Zamia furfuracea


Syzygium 'Resilience'


Green wall to driveway

Native Fern Mix



Note: ALL SPECIES IN TUBE STOCK SIZE

KEY	Botanical Name	Common Name	Qty
	Adiantum aethiopicum	Maidenhair fern	214
	Blechnum cartilagineum	*Gristle Fern*	214
	Calochlaena dubia	Bracken Fern	214
	Doodia aspera	Rasp Fern	214

LANDSCAPE PLAN NOTES

This plan should be read in conjunction with the architectural and hydraulics plans. Work specific to these plans should be prepared in accordance to these plans, including specification and details prior to the installation of landscaping, and should not be altered or compromised during landscape construction.
Retaining wall details to engineers design.
Elements such as drainage swales may be incorporated in garden bed areas (using non-floatable mulch) without compromising the capacity or form.

This plan has been prepared for SECTION 4.55 approval only, not for construction.

This plan has been prepared with reference to ***Wollongong Councils*** Landscaping Guidelines & requirements. Planting proposed using commercially available plant species selected from local planting lists and the BASIX local plant list and from Sydney Waters "Plant Selector" web site one-drip rated native plants ***(acceptable for Basix planting)***.

The Design & location of new letter boxes shall be in accordance with Australia Post's "Requirements for Delivery of Mail to Residential Premises" published Feb '97. All noxious weeds listed in Councils weed lists & located on the site shall be continually removed & suppressed. Reinstate all boundary fencing in poor condition with Council approved 1.8m fencing to rear of building line, rake to 1m forward of BL. Pollution, sediment & erosion control devices as specified shall be in place, and maintained for the duration of the construction period. Proposed excavation near existing established trees to be supervised by arborist.

D.A approved landscape plan's are required to be constructed as approved to obtain occupancy certificate. ***Permeable areas may be indicated to achieve site coverage restrictions & should be constructed as drawn on this plan.***

NOT FOR CONSTRUCTION

Bar Scale
0 2 4 6 8 10m

ARCHITECT:
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F	10.12.20	Co-ordinated with revised architectural plan and comments

PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT
42 BOURKE STREET,
NORTH WOLLONGONG

TITLE:
L1 LANDSCAPE PLAN 2

STATUS:
SECTION 4.55

SCALE:
1:100 @ A1

DATE:
December 20

DWG.No:
LPDA 20 - 278

PAGE NUMBER:
3

DRAWN:
C.D

CHECKED:
R.F

Moore Trees
Arboricultural Services

ABN 90887347745

Arboricultural Development Assessment Report

42 Bourke Street
North Wollongong NSW 2500

December 2020
FINAL
Updated 21st June 2021

Prepared for: Jack Taylor Architects Pty Limited

Prepared by: Paul Vezgoff
Consulting Arborist
ISA, AA
Arboriculture Australia Registered Consultant

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Summary

This report has been compiled for Jack Taylor Architects Pty Limited, 10/281 Pacific Highway, North Sydney N.S.W.2060. The report concerns a proposed Development Application for 42 Bourke Street, North Wollongong. This Arborist Report refers to seven (7) trees.

This report contains the following information required in Wollongong City Council Development guidelines:-

1) All trees were assessed for Safe Useful Life Expectancy (SULE).
2) Genus and species of each tree.
3) Impact of the proposed development on each tree.
4) Impact of retaining tree on the proposed development.
5) The Tree Protection Zone (TPZ) for each tree to be retained.
6) Any branch or root pruning that may be required for trees.
7) List trees within fifteen (15) metres of the site boundary.

Plan 1 in Appendix 1 (TPZ Incursion Plan) shows a detailed assessment of the impacts to the TPZ of Tree 1. As can be seen the proposed structure will be set further away from the tree than the existing building however the basement excavation will technically breach the TPZ. It is my opinion that this eastern portion of the TPZ has already been compromised over the years of various additions to the existing building.

The Australian Standard *Protection of trees on development sites*, (AS 4970) recommends no more than 10% encroachment unless the TPZ can be compensated elsewhere and contiguous with the TPZ. The proposed plan shows an 8% encroachment with an additional compensated improvement of the TPZ of 27%, for Tree 1. As such, the proposed works in relation to Tree 1 allow the development to comply with AS4970 and the basement incursion is considered minimal (<10%). Trees 2-5 are not significant trees to the site and are proposed to be removed for the purpose of the development. Tree 1 will be retained and protected. This fencing will be located around the drip line of the tree prior to demolition works commencing. Following the excavation of the basement the fence shall be extended to match the location shown on the Tree Protection Plan. The specifications for a TPZ are in Section 5.3 of this report.

Table of Contents

VERSION CONTROL

Date of Issue	Details
25 August 2020	Draft 1 issued
2 September 2020	Draft 2 issued
3 September 2020	Final version issued
4 December 2020	Final version issued with updated plans
21 June 2021	Base plans updated.

1 INTRODUCTION

1.1 This report has been conducted to assess the health and condition of seven (7) trees located at 42 Bourke Street, North Wollongong NSW 2500. This report has been prepared for Jack Taylor Architects Pty Limited as required for a Development Application with Wollongong City Council at this site.

The purpose of this report is to collect the appropriate tree related data on the subject trees and to provide advice and recommendations to the design and possible construction alternatives to aid against any adverse impacts on the health of the subject trees' to be retained.

The subject trees were assessed for their health and condition. Also included in this report are tree protection measures that will help retain and ensure that the long term health of the trees to be retained are not adversely affected by the proposed development in the future.

As specified in the Wollongong City Council Development Application guidelines the following data was collected for each tree:

1) A site plan locating all trees over three (3) metres in height, including all street trees.
2) All trees were assessed for Safe Useful Life Expectancy (SULE), health and amenity value.
3) Genus and species identification of each tree.
4) Impact of the proposed development on each tree.
5) The Tree Protection Zone (TPZ) for each tree to be retained.
6) Any branch or root pruning that may be required for trees.

Also noted for the purpose of this report were:

- Health and Vigour; using foliage colour and size, extension growth, presence of deadwood, dieback and epicormic growth throughout the tree.
- Structural condition using visible evidence of bulges, cracks, leans and previous pruning.
- The suitability of the tree taking into consideration the proposed development.
- Age rating; Over-mature (>80% life expectancy), Mature (20-80% life expectancy), Young, Sapling (<20% life expectancy).

1.2 Documents and information provided: For this Arboricultural Report I was given a site plan of the location, by Jack Taylor Architects Pty Limited marked project 20107 AR001 Site Analysis Rev 03 dated 4/8/2020. The plan showed the proposed building and existing trees on the site.

1.3 Location: The proposed development site is located at 42 Bourke Street, Wollongong NSW 2500. The proposed development site from herein will be referred to as "the Site".

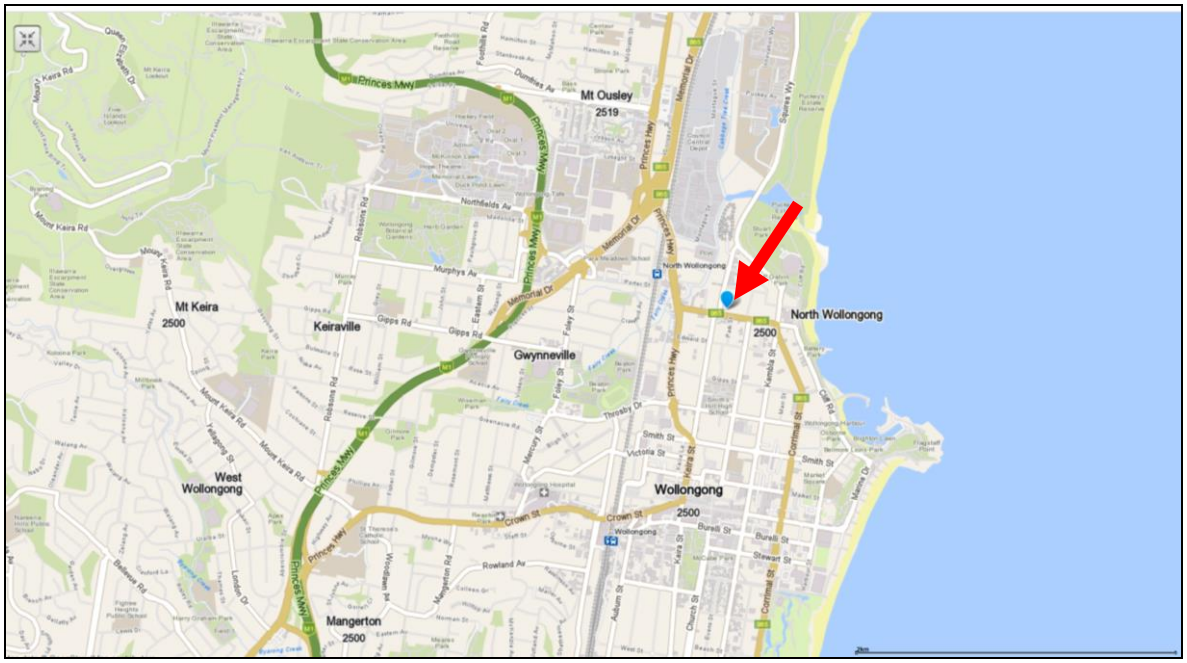


Diagram 1: Location of subject site, 42 Bourke Street, North Wollongong NSW 2500 (Red arrow) (whereis.com.au, 2020)

2 METHODOLOGY

2.1 To record the health and condition of the trees, a Visual Tree Assessment (VTA) was undertaken on the subject trees on 3rd July 2020. This method of tree evaluation is adapted from Matheny and Clark, 1994 and is recognised by The International Society of Arboriculture. Individual tree assessments are listed in Appendix 2 of this report. All inspections were undertaken from the ground. No diagnostic devices were used on these trees.

2.2 This report is only concerned with trees on the site that come under the Tree management permit policy that is part of the Wollongong City Council Development Control Plan, 2009 (Chapter E17 Preservation and management of Trees and vegetation). Under this Chapter (E17), a person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any prescribed tree or other vegetation, without development consent or a permit being granted by Council. Refer to Part 3 (Chapter E17) Definitions for the meaning of 'prescribed tree' and 'prescribed other vegetation'. Two application processes have been established to deal with the assessment and approval for prescribed trees:

a) Tree Management Permit (generally for individual/small scale tree removal and pruning in urban areas) - refer to Council's website for the Tree Management Permit Policy;

b) Development consent via either Complying Development or Development Application. This Chapter of the DCP should be read in conjunction with clauses 5.10 Heritage conservation, 5.11 Bush fire hazard reduction work and 7.2 Natural resource sensitivity – biodiversity of Wollongong Local Environmental Plan 2009.

This Report is required as per clause (b) via a Development Application for the site. This report takes no account of any tree or shrub under three (3) metres in height.

2.3 **Height:** The heights and distances within this report have been measured with a Bosch DLE 50 laser measure.

2.4 **Tree Protection Zone (TPZ):** The TPZ is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. TPZ's have been calculated for each tree to determine construction impacts. The TPZ calculation is based on the Australian Standard *Protection of trees on development sites*, AS 4970, 2009. The main Tree Protection Zone for this project is for Tree 1. Detailed TPZ incursion calculations have been shown in the TPZ Incursion Plan (Appendix 1).

2.5 **Structural Root Zone (SRZ)**: The SRZ is a specified distance measured from the trunk that is set aside for the protection of tree roots, both structural and fibrous. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The TPZ and SRZ are measured as a radial measurement from the trunk. No roots should be severed within the SRZ area. A detailed methodology on the TPZ and SRZ calculations can be found in Appendix 4.

2.6 **Safe Useful Life Expectancy (SULE)**: The subject trees were assessed for a Safe Useful Life Expectancy (SULE). The SULE rating for each tree can be seen in the Tree Assessment Schedule (Appendix 2). A detailed explanation of SULE can be found in Appendix 3.

2.7 **Plans provided**: Architectural set by Jack Taylor Architects Pty Limited marked project 20107 AR001 Site Analysis Rev B dated 9/6/2021; and plans by Conzept Landscape Architects marked DWG 20-278 Rev I Sheets 1-6 dated 15/6/2021.

2.8 Impact Assessment: An impact assessment was conducted on the site trees. This was conducted by assessing the site survey and plans provided by Jack Taylor Architects Pty Limited. The plans provided were assessed for the following:

- Reduced Level (R.L.) at base of tree.
- Incursions into the Tree Protection Zone (TPZ).
- Assessment of the likely impact of the works.
- Location of sediment controls in relation to TPZ areas
- Location of stockpile areas in relation to TPZ areas
- Canopy clearance for scaffolding Australian Standard (Scaffolding) 1576.1, 2010 and Scaffolding Code of Practice 2009-Safe work Australia.

3 RELEVANT BACKGROUND INFORMATION

3.1 The site is located on the corner of Bourke and Virginia Streets, North Wollongong NSW 2500. The subject trees are located within the former grounds of the Presbyterian Aged Care known as Olunda Nursing Home at 42 Bourke Street, North Wollongong. This is now vacated. Trees 1-5 are located within the site. Trees 6 and 7 are located on the adjoining property to the east of the site.

3.2 **Environmental Significance**: All trees in the Wollongong Local Government Area are protected and cannot be removed without the adequate requirements being met. Specifications relating to what can and cannot be removed are detailed in the Wollongong City Council Development Control Plan (DCP), 2009 in Chapter E17 *'Preservation of trees & management of trees and vegetation'*. This DCP protects all trees above three (3) metres in height with a girth of twenty (20) centimetres or more, measured at a distance of one hundred (100) centimetres above the ground.

3.3 Tree 1, the Bull Bay Magnolia *(Magnolia grandiflora)* is listed as a local item of heritage significance, as Heritage item 6384 within the WCC LEP (2009).

3.4 **Illegal tree removal:** Damaging or removing trees can result in heavy fines. Local Government does have the authority to issue on the spot fines known as penalty infringement notices (PINS) starting from $3,000 or can elect to have a potential tree damaging incident addressed in the Local Court. Recent cases, for example, include two (2) mature trees removed for development (Sutherland Shire Council (SSC) v Palamara, 2008) costing $4,500 in fines and $5,000 in court costs. SSC v El-Hage, 2010 concerning illegal tree removal of a single tree costing $31,500 in fines and $5,000 in costs. Poisoning trees can also incur substantial fines (SSC v Hill) resulted in a single tree fine that totalled $14,000 plus a $10,000 bond for a replacement tree. All of the above cases resulted in a criminal conviction for the guilty parties.

3.5 **The Site Trees:** The site was inspected on 3rd July 2020. Each tree has been given a unique number for this site and can be viewed on the Tree Protection Plan (Appendix 1). This plan is based on the plan provided by Jack Taylor Architects Pty Limited.

3.6 The most significant tree on site is Tree 1, a large mature Bull Bay Magnolia *(Magnolia grandiflora)*. The tree is a large mature specimen that dates to possibly around 100 years old based on aerial photographs from 1943 (Diagram 2). It is likely to pre-date the existing structure and be related to the original house that was on site. This species of tree was a common feature tree planted 100 years ago. The Magnolia is commonly known as the Southern Magnolia or the Bull Bay Magnolia. It is native to the south eastern United States of America, from south eastern North Carolina to central Florida and to east Texas. Although endemic to the lowland sub-tropical forests of the gulf and south Atlantic coastal plain, Magnolia Grandiflora is widely cultivated in warm areas around the world. It has large showy flowers that are fragrant, and emerge in late spring and continue into early summer.

Diagram 2: Image showing the tree in approximately 1943. (WCC Mapping 2020).

3.7 Tree 1 is approximately ten (10) metres in height. It is growing in a very confined space of the site and is surrounded on the northern and eastern sides by an existing building. The canopy spread is 9 metres to the north, 8 metres east, 8.5m west and 8 metres south. The diameter at breast height (DBH) is one thousand and ninety (1090) millimetres. This calculates as a Tree Protection Zone (TPZ) of twelve (12) metres and a Structural Root Zone (SRZ) of 3.4 metres, both measured from the centre of the trunk. The distance between the trunk and the boundary fence to the west is 5.8 metres and 13 metres to the south.

Plate 1: Image showing Tree 1. P. Vezgoff

3.8 A walkway is located under the western and southern canopies allowing access to the building (Plate 2). The tree has clearly been trained and formatively pruned to allow this pedestrian access. There is much surface woody root growth that has been confined by footpaths that is evidenced by the woody roots that are visually present, particularly on the southern side of the tree through the exposed soil.

Plate 2: Image showing the footpath under the western canopy. P. Vezgoff

3.9 Tree 1 is in good health and condition. The main trunk, first and second order branches are free of any cracks, splits or fruiting bodies (Plate 3). Old pruning wounds are showing good occlusion, a sign that the tree is photosynthesizing effectively. New extension growth was noted with leaf colour showing good vitality. The tree would be considered to have a 95% live canopy. The basal area and woody root zone were free of any ground heaving, or lifting. One lower eastern lateral limb has some upper side wounding however no decay was noted and the wound wood development around this wound is excellent. There is a section of stem on the southern canopy that does exhibit bad borer damage however this could readily be remediated with pruning and is not detrimental to the overall tree health.

3.10 An investigation under the existing building showed the remnants of the existing garden such as stumps are still present under the building indicating that the recent additions are most likely to have severed roots east of the existing entry ramp.

Plate 3: Image showing the main stem and first order lateral branches. P. Vezgoff

3.11 The building to the east is 6 metres and the building to the north is 8.5 metres distance from the Tree 1 (Plate 4). The canopy slightly overhangs the existing building. Although a mature specimen, and it has likely reached its maximum dimensions, it will continue to grow for some time however much slower than a younger tree. There are some reports in America that this tree can reach heights of thirty seven (37) metres however the current size, shape and width of the subject tree is more consistent with Australian growing conditions on the east coast of New South Wales.

3.12 Ultimately, Tree 1 would have a SULE rating of 2a; Trees that may only live for 15-40 years. Due to the SULE rating and Heritage listing this tree has been incorporated into the development and designed around to be retained.

3.13 Trees 2-5 consist of two Golden cane palm *(Dypsis lutescens)* and two (2) Weeping bottle brush *(Callistemon viminalis).* This vegetation is not considered significant.

Plate 4: Image showing the eastern canopy clearance to the building. P. Vezgoff

Plate 5: Image showing Trees 2-5. P. Vezgoff

3.14 Tree 6, 7 and 8 are located along the eastern boundary fence (Plate 6). These trees are a *Camelia sp.* and a Mulberry tree *(Morus spp.) and a* Date Palm. These trees will not be impacted by the proposed works.

Plate 6: Image showing Tree 7. P. Vezgoff

3.15 **Impacts:** Based on the diameter at breast height (DBH) of Tree 1, it has a calculated TPZ of twelve (12) metres. The TPZ of twelve (12) metres would appear to be acceptable as this would protect the canopy on the north and eastern sides. The canopy on the western and southern sides is clear of the road and clear of any power lines. It is not envisaged that any works will occur within the southern and western portions of the TPZ. Any works such as trenching lines for services would generally not be recommended along these sections of the canopy being west and south. The proposed building is set back far enough to not require canopy pruning required for scaffolding clearance.

3.16 Plan 1 in Appendix 1 (TPZ Incursion Plan) shows a detailed assessment of the impacts to the TPZ of Tree 1. As can be seen the proposed structure will be set further away from the tree than the existing building however the basement excavation will technically breach the TPZ. It is my opinion that this eastern portion of the TPZ has already been compromised over the years of various additions to the existing building.

3.17 The Australian Standard *Protection of trees on development sites,* (AS 4970) recommends no more than 10% encroachment unless the TPZ can be compensated elsewhere and contiguous with the TPZ. The proposed plan shows an 8% encroachment with an additional compensated improvement of the TPZ of 27% for Tree 1. As such the proposed works in relation to Tree 1 allow the development to comply with AS4970 and the basement incursion is considered minimal (<10%). Ultimately, this will result in less incursion into the TPZ/SRZ of Tree 1 that presently exists, providing a positive outcome for this tree's health in the longer term.

3.18 Additional shading will occur from the north however modelling based on shadow patterns in June show that the tree will still receive a good quantity of midday to afternoon sun (Diagrams 3-5). I have seen this species grow in very shady conditions near a property in Glastonbury Gardens, Austinmer (Plate 7) and the dark green leaves of this species are an indication that it can withstand high levels of shade.

Plate 7: Image showing a mature Bull Bay Magnolia *(Magnolia grandiflora)* growing within a shaded area. P. Vezgoff

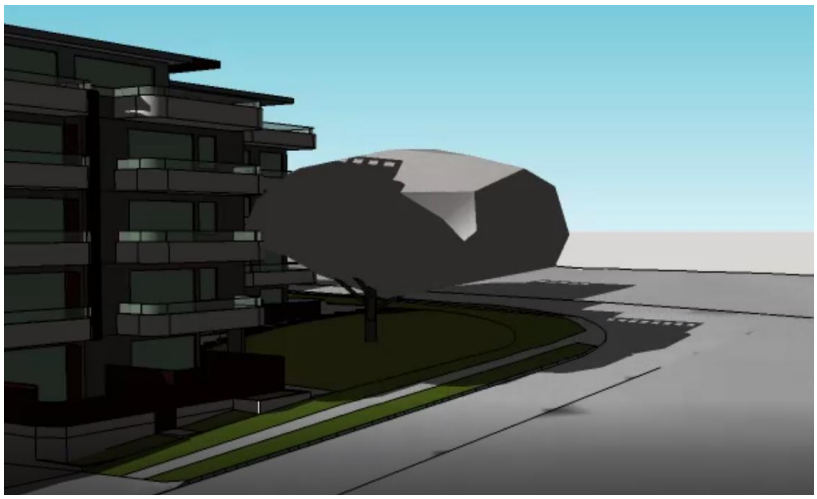


Diagram 3: Image showing the sun on Tree 1 at 10.00hrs

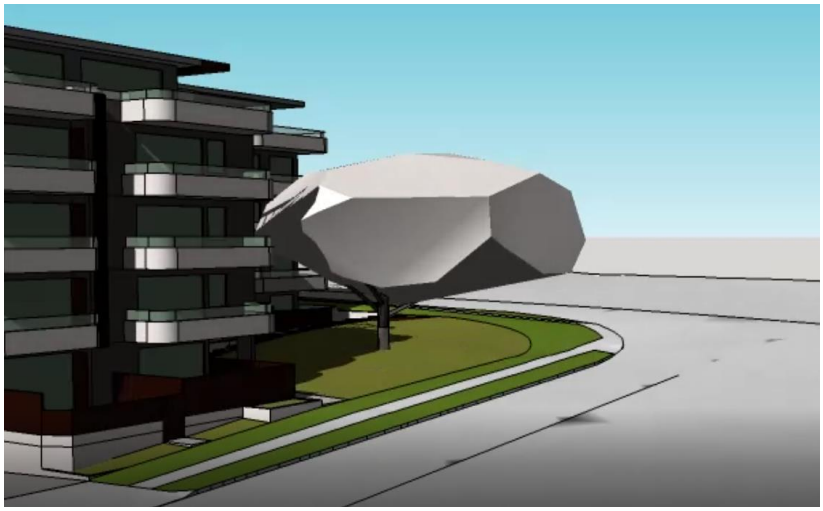


Diagram 4: Image showing the sun on the Tree 1 at 12.00hrs

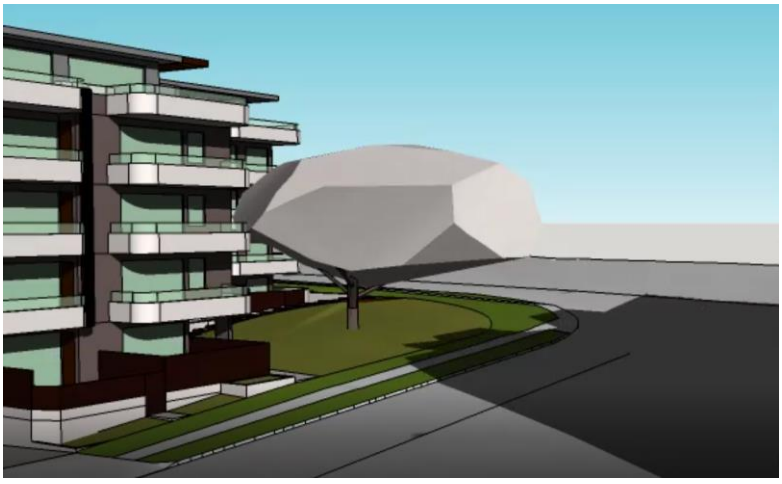


Diagram 5: Image showing the sun on Tree 1 at 15.00hrs

3.19 The Mega Anchor footing system is proposed to be used for the decking along the northern and eastern sections of the TPZ. The Mega Anchors configuration makes it superior to conventional footing systems with the three (3) piles locking into the ground providing un matched bearing capacity and pull out capacity of other footings in its class (Plate 8). Site disturbance is minimal and the use of chemicals for the treatment of white ants and termites is reduced considerably. Rated at 3 tonne, load test conducted on a single Mega Anchor driven to refusal has the capacity in excess of 3 tonnes with no settlement. No drill rigs are required and the method produces no spoil and no concrete is required (Plate 9).

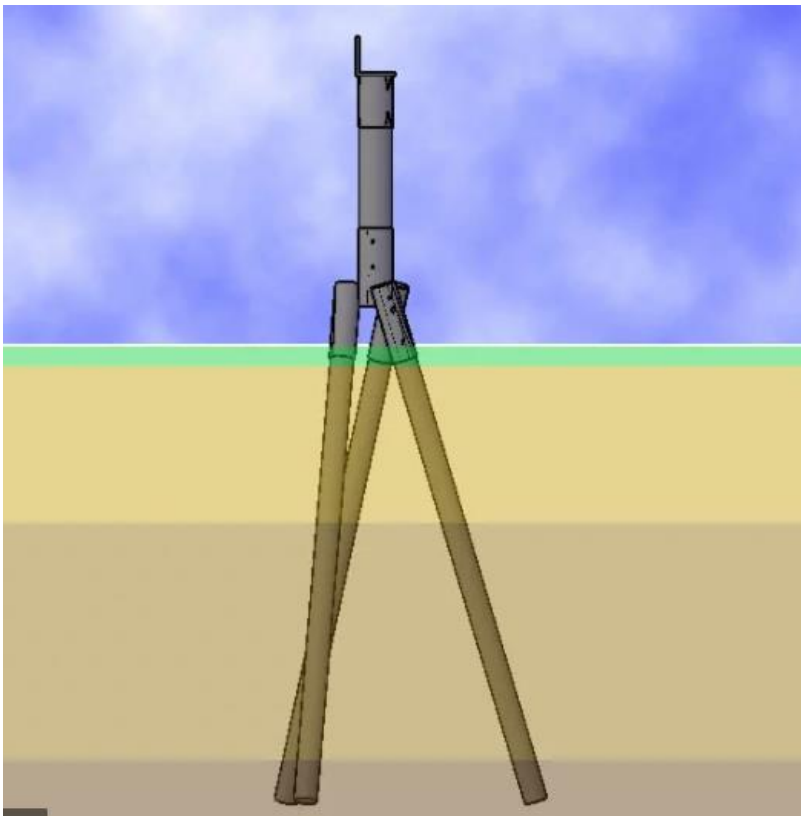


Plate 8: Image showing the unique tripod structure underground. P. Vezgoff.

Plate 9: Image showing installed mega anchors with no spoil or ground level disturbance. P. Vezgoff.

3.20 The landscape plans show the entire TPZ area to be planted with tube stock and mulched. The improvements to the soil condition and increase to the TPZ area for this tree will be beneficial to the trees long term health and sustainability.

4 RECOMMENDATIONS

4.1 A Project Arborist should be appointed to oversee the arboricultural related works for the project. The Project Arborist should be used for arboricultural certification services and also used as a point of contact should any questions arise during the project. As specified in AS 4970, 2009, a Project Arborist is a person with a minimum Australian Qualification Framework (AQF) level 5 Diploma of Arboriculture or Horticulture qualification.

4.2 Trees 2-5 are not significant trees to the site and are proposed to be removed for the purpose of the development. Tree 1 will be retained and protected.

4.3 **Tree 1** will require tree protection fencing as specified in Section 5.2 of this report. This fencing will be located around the drip line of the tree prior to demolition works commencing. Following the excavation of the basement the fence shall be extended to match the location shown on the Tree Protection Plan. The specifications for a TPZ are in Section 5.3 of this report.

4.4 The root zones of Tree 1 will require protection from compaction. Compaction of the root zone reduces oxygen and moisture exchange of the roots. This will lead to premature death of the tree. To reduce compaction of the root zone mulch is recommended to be spread around the base of the tree. The mulch for **Tree 1** shall be spread within the TPZ area to the extent of the TPZ fencing for the duration of the works.

4.5 It is noted that the Landscape plans show the majority of the area below the drip line to be planted out as garden area which will be an improvement on the current situation.

5 TREE PROTECTION

5.1 Trees to be protected: Tree 1 will be required to be fenced for protection. All fencing shall be installed as specified in Section 5.2 (Tree Protection – Implementation of Tree Protection Zone). Indicative locations of the fencing are shown in the Tree Protection Plan (Appendix 1).

5.2 Implementation of Tree Protection Zone: All tree protection works should be carried out before the start of demolition or building work. It is recommended that chain mesh fencing with a minimum height of 1.8 metres be erected as shown in the Tree Protection Plan (Appendix 1). Specifications for this fencing are shown in Tree Protection Fencing Specifications (Appendix 5).

5.3 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ): The TPZ is implemented to ensure the protection of the trunk and branches of the subject tree. The TPZ is based on the Diameter at Breast Height (DBH) of the tree. The SRZ is also a radial measurement from the trunk used to protect and restrict damage to the roots of the tree.

The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been measured from the centre of the trunk. TPZ and SRZ distances are all listed in the Tree Schedule (Appendix 2). The following activities shall be avoided within the TPZ and SRZ of Tree 1;

- Erecting site sheds or portable toilets.
- Trenching, ripping or cultivation of soil (with the exception of approved foundations and underground services).
- Soil level changes or fill material (pier and beam or suspended slab construction are acceptable).
- Storage of building materials.
- Disposal of waste materials, solid or liquid.

5.4 **Tree Damage:** If the retained trees are damaged a qualified Arborist should be contacted as soon as possible. The Arborist will recommend remedial action so as to reduce any long term adverse effect on the tree's health.

5.5 **Signage:** Wollongong City Council requires that signage is attached to the tree protection fencing. A sample sign has been attached in Appendix 6. This sign may be copied and laminated then attached to any TPZ fencing.

5.6 **Root Pruning:** If excavations are required within a TPZ this excavation shall be done by hand to expose any roots. Any roots under fifty (50) millimetres in diameter may be pruned cleanly with a sharp saw. Tree root systems are essential for the health and stability of the tree. Severed roots shall be treated with Steriprune®, available at most large Hardware Stores.

5.7 **Soil compaction:** Mulch has been recommended to be placed within the TPZ areas. This is to help reduce soil compaction and moisture retention for the trees that are to be retained. The area for mulch can be seen in the Tree Protection Plan (Appendix 1). Mulch is to be no thicker than 100mm in depth and spread evenly across the TPZ area.

5.8 **Arborist Certification:** Wollongong City Council requires the developer to supply Council or the Principal Certifying Authority with certification from the Project Arborist three (3) times during the construction phase of the development (as outlined in Council's Development Control Plan, 2009), in order to verify that retained trees have been correctly retained and protected as per the conditions of consent and Arborist's recommendations. The certification is to be conducted by a Qualified Consulting Arborist with AQF level 5 qualifications that has current membership with either Arboriculture Australia (AA) or Institute of Australian Consulting Arboriculturists (IACA). Arborist certification is recommended:

(1) Before the commencement of demolition or construction to confirm the application of mulch and fencing has been installed;

(2) At mid point of the construction phase;

(3) At completion of the construction phase.

If you have any questions in relation to this report please contact me.

Paul Vezgoff
Consulting Arborist
Dip Arb (Dist), Arb III, Hort cert, AA, ISA

2 September 2020

www.mooretrees.com.au

Appendix 1

Plan 1

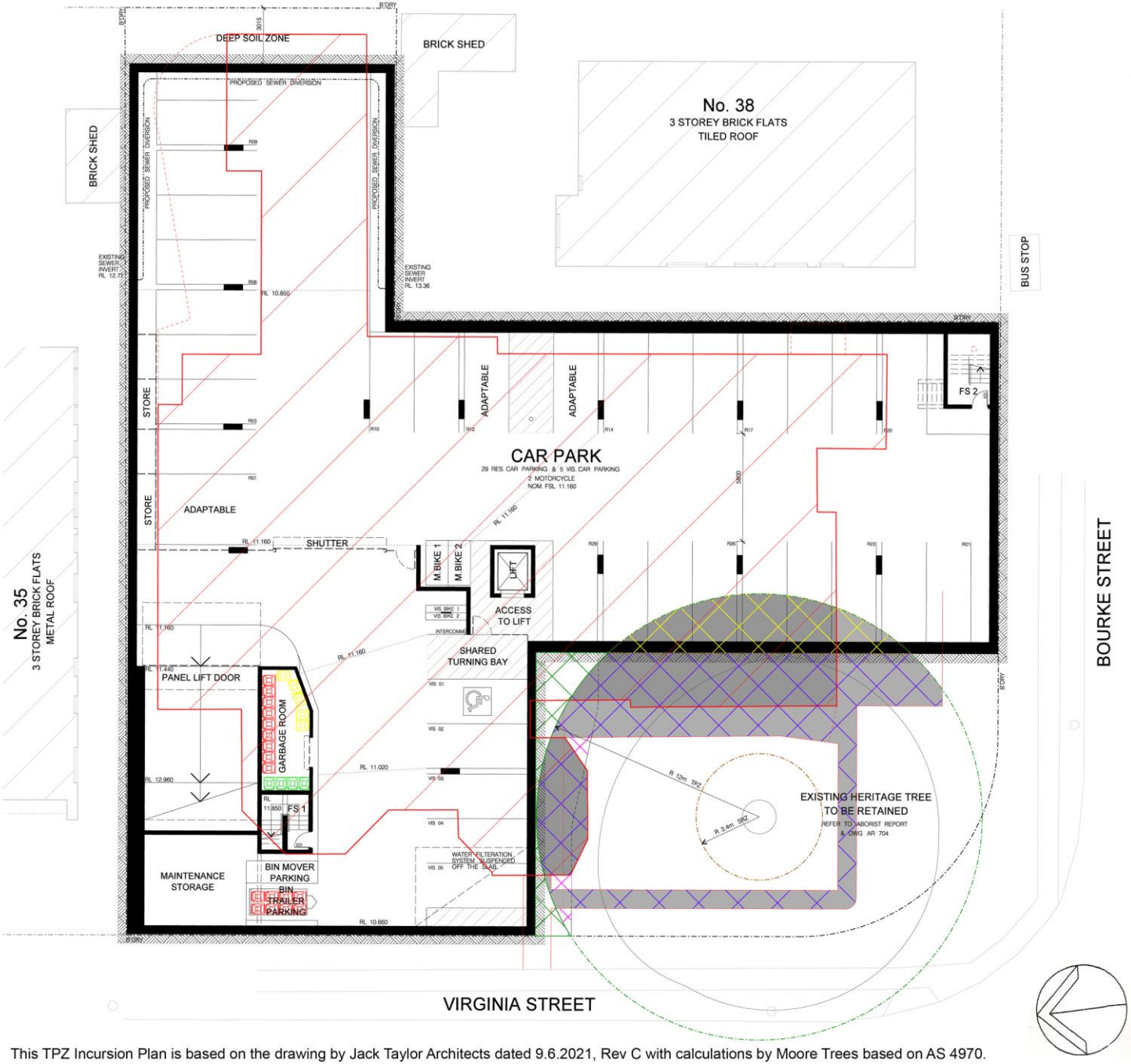
TPZ Incursion Calculation

Plan 2

Tree Protection Plan

TPZ Incursion Plan

Moore Trees



LEGEND

- OUTLINE OF EXISTING BUILDING TO BE DEMOLISHED
- OUTLINE OF EXISTING BUILDING TO BE DEMOLISHED WITHIN TPZ 84.72 m^2
- OUTLINE OF EXISTING RAMP, AND HARD PAVING TO BE DEMOLISHED WITHIN TPZ 72.97 m^2
- EXISTING TPZ ENCROACHMENT TO BE REMOVED 122.04 m^2
- EXISTING TPZ ENCROACHMENT TO BE RETAINED 35.65 m^2
- POTENTIAL FUTURE ROOT GROWTH ZONE WITHOUT ENCROACHMENT 15.01 m^2
- ADDITIONAL TPZ ENCROACHMENT PROPOSED 2.67 m^2

SUMMARY

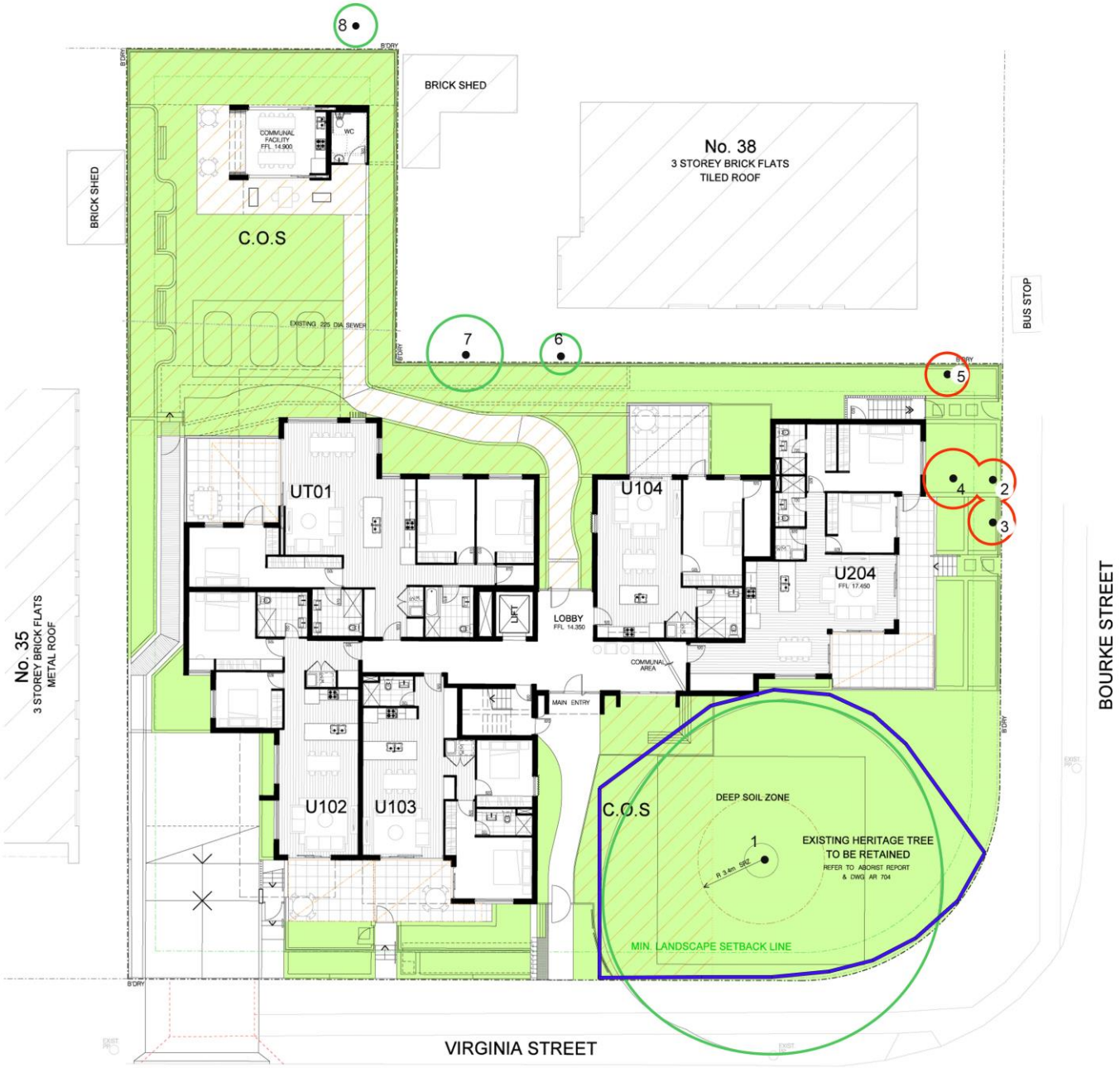
TPZ AREA :	452.38 m^2
EXISTING TPZ ENCROACHMENT :	157.69 m^2 OR 35% OF TPZ
PROPOSED TPZ ENCROACHMENT :	38.32 m^2 OR 8.4% OF TPZ
RESULTANT TPZ RESTORATION :	119.37 m^2 OR 26% OF TPZ

This TPZ Incursion Plan is based on the drawing by Jack Taylor Architects dated 9.6.2021, Rev C with calculations by Moore Trees based on AS 4970.

Date: 22.6.2021
Drawn: P.Vezgoff
Site Address: 42 Bourke St, North Wollongong
Presbyterian Aged Care

Tree protection plan

Moore Trees



Tree to be retained

Tree to be removed

Fence. Implementation of tree protection zone (TPZ). All tree protection works should be carried out before the start of demolition or building works. It is recommended that chain mesh fencing with a minimum height of 1.8 metres be errected

Date:	21.6.2021
Drawn:	P.Vezgoff
Site Address:	42 Bourke St, North Wollongong Presbyterian Aged Care

Appendix 2

Tree health & condition assessment schedule

TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE – 42 Bourke Street, Wollongong

Tree	Species	Height (m)	Spread (m)	DBH (m)	SRZ basal	Live canopy %	Defects	SULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
1	Bull Bay Magnolia (Magnolia grandiflora)	10	9	1.1	1.2	95	No visual defects	2a May only live for 15-40 years	Good	Mature		12	3.4
2	Weeping bottle brush (Callistemon viminalis)	2.5	1.5	0.15	0.25	95	No visual defects	5a Small tree <5 m in height.	Fair	Mature		1.8	1.8
3	Weeping bottle brush (Callistemon viminalis)	2.5	1.5	0.15	0.25	95	No visual defects	5a Small tree <5 m in height.	Fair	Mature		1.8	1.8
4	Golden cane palm (Dypsis lutescens)	3	2	0.12	0.22	100	No visual defects	2c removed for more suitable planting	Good	Mature		1.4	1.7
5	Golden cane palm (Dypsis lutescens)	3	2	0.12	0.22	100	No visual defects	2c removed for more suitable planting	Good	Mature		1.4	1.7
6	Camellia sp.	4.5	1	0.08	0.1	100	No visual defects	1a >40 years	Good	Mature		1	1.2
7	Mulberry tree (Morus spp.)	6.5	3	0.13	0.23	90	No visual defects	2a May only live for 15-40 years	Good	Mature	Exempt species	1.6	1.7
8	Date Palm	4.5	2.5	0.5	0.5	100	No visual defects	2a May only live for 15-40 years	Good	Mature	Exempt species	1.6	1.7

KEY

Tree No: Relates to the number allocated to each tree for the Tree Plan.

Height: Height of the tree to the nearest metre.

Spread: The average spread of the canopy measured from the trunk.

DBH: Diameter at breast height. An industry standard for measuring trees at 1.4 metres above ground level, this measurement is used to help calculate Tree Protection Zones.

Live Crown Ratio: Percentage of foliage cover for a particular species.

Age Class:	Young:	Recently planted tree	Semi-mature:< 20% of life expectancy
	Mature:	20-90% of life expectancy	Over-mature:>90% of life expectancy

SULE: See SULE methodology in the Appendix 3

Tree Protection Zone (TPZ): The minimum area set aside for the protection of the trees trunk, canopy and root system throughout the construction process. Breaches of the TPZ will be specified in the recommendations section of the report.

Structural Root Zone (SRZ): The SRZ is a specified distance measured from the trunk that is set aside for the protection of the trees roots both structural and fibrous.

Appendix 3

SULE categories (after Barrell, 2001)[1]

SULE Category	Description
Long	*Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.*
1a	Structurally sound trees located in positions that can accommodate for future growth
1b	Trees that could be made suitable for retention in the long term by remedial tree care.
1c	Trees of special significance that would warrant extraordinary efforts to secure their long term retention.
Medium	*Trees that appeared to be retainable at the time of assessment for 15-40 years with an acceptable level of risk.*
2a	Trees that may only live for 15-40 years
2b	Trees that could live for more than 40 years but may be removed for safety or nuisance reasons
2c	Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide for new planting.
2d	Trees that could be made suitable for retention in the medium term by remedial tree care.
Short	*Trees that appeared to be retainable at the time of assessment for 5-15 years with an acceptable level of risk.*
3a	Trees that may only live for another 5-15 years
3b	Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
3c	Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
3d	Trees that require substantial remedial tree care and are only suitable for retention in the short term.
Remove	*Trees that should be removed within the next five years.*
4a	Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
4b	Dangerous trees because of instability or loss of adjacent trees
4c	Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
4d	Damaged trees that are clearly not safe to retain.
4e	Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
4f	Trees that are damaging or may cause damage to existing structures within 5 years.
4g	Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
4h	Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.
Small	*Small or young trees that can be reliably moved or replaced.*
5a	Small trees less than 5m in height.
5b	Young trees less than 15 years old but over 5m in height.
5c	Formal hedges and trees intended for regular pruning to artificially control growth.

updated 01/04/01)

1 (Barrell, J. (2001) "SULE: Its use and status into the new millennium" in *Management of mature trees*, Proceedings of the 4th NAAA Tree Management Seminar, NAAA, Sydney.

Appendix 4

TPZ and SRZ methodology

Determining the Tree Protection Zone (TPZ)

The radium of the TPZ is calculated for each tree by multiplying its DBH x 12.

TPZ = DBH x 12

Where

DBH = trunk diameter measured at 1.4 metres above ground

Radius is measured from the centre of the stem at ground level.

A TPZ should not be less than 2 metres no greater than 15 metres (except where crown protection is required.). Some instances may require variations to the TPZ.

The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1 metre outside the crown projection.

Determining the Structural Root Zone (SRZ)

The SRZ is the area required for tree stability. A larger area is required to maintain a viable tree.

The SRZ only needs to be calculated when major encroachment into a TPZ is proposed.

There are many factors that affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture). The SRZ may also be influenced by natural or built structures, such as rocks and footings. An indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula or Figure 1. Root investigation may provide more information on the extent of these roots.

SRZ radius = $(D \times 50)^{0.42} \times 0.64$

Where

D = trunk diameter, in m, measured above the root buttress

NOTE: The SRZ for trees with trunk diameters less than 0.15m will be 1.5m (see Figure 1).

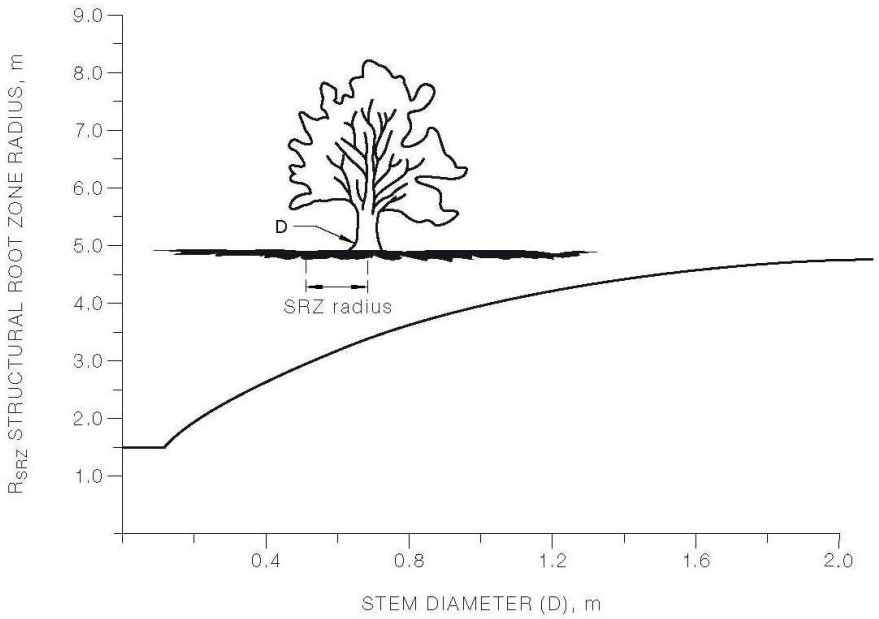


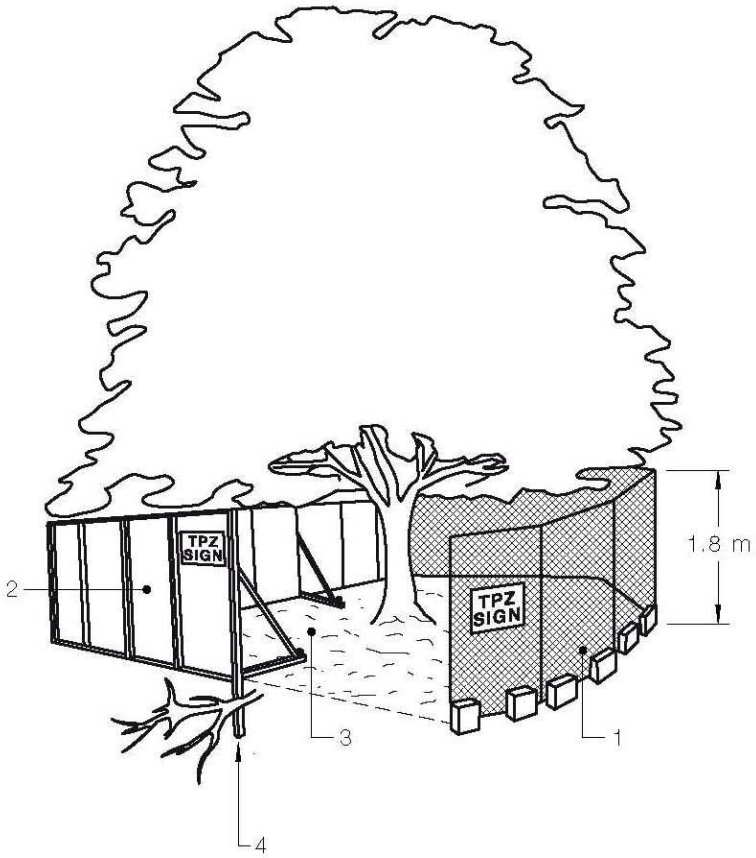
FIGURE 1 - STRUCTURAL ROOT ZONE

Notes:

1 R_{SRZ} is the structural root zone radius.
2 *D* is the stem diameter measured immediately above root buttress.
3 The SRZ for trees less than o.15 metres diameter is 1.5 metres.
4 The SRZ formula and graph do not apply to palms, other monocots, cycads and tree ferns.
5 This does not apply to trees with an asymmetrical root plate.

Appendix 5

Tree protection fencing specifications



LEGEND:

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

Figure 1: Protective fencing as specified in AS 4970, 2009.

Appendix 6

Tree protection sign

sign sample

Moore Trees
Tree Consultancy
0411 712 887

Tree Protection Zone

Fence not to be moved without approval from Arborist

Within this fence there is to be

NO

Storage of materials

Trenching or excavation

Washing of tools or equipment

Appendix 7

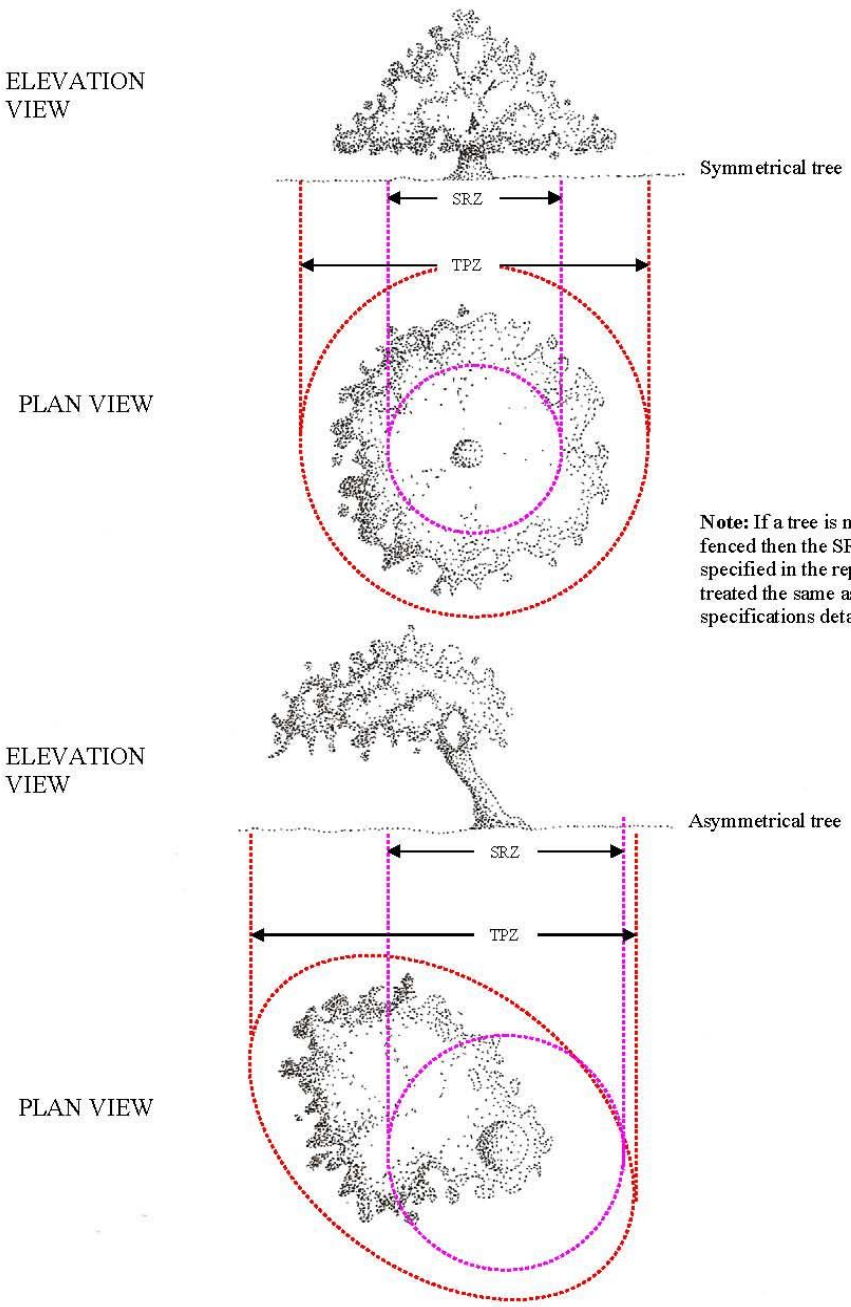


Figure 1: Indicative Tree Protection Zone (TPZ) and Root Protection Zone (SRZ)
Drawn: P. Vezgoff ©

Appendix 8

Tree structure information diagram

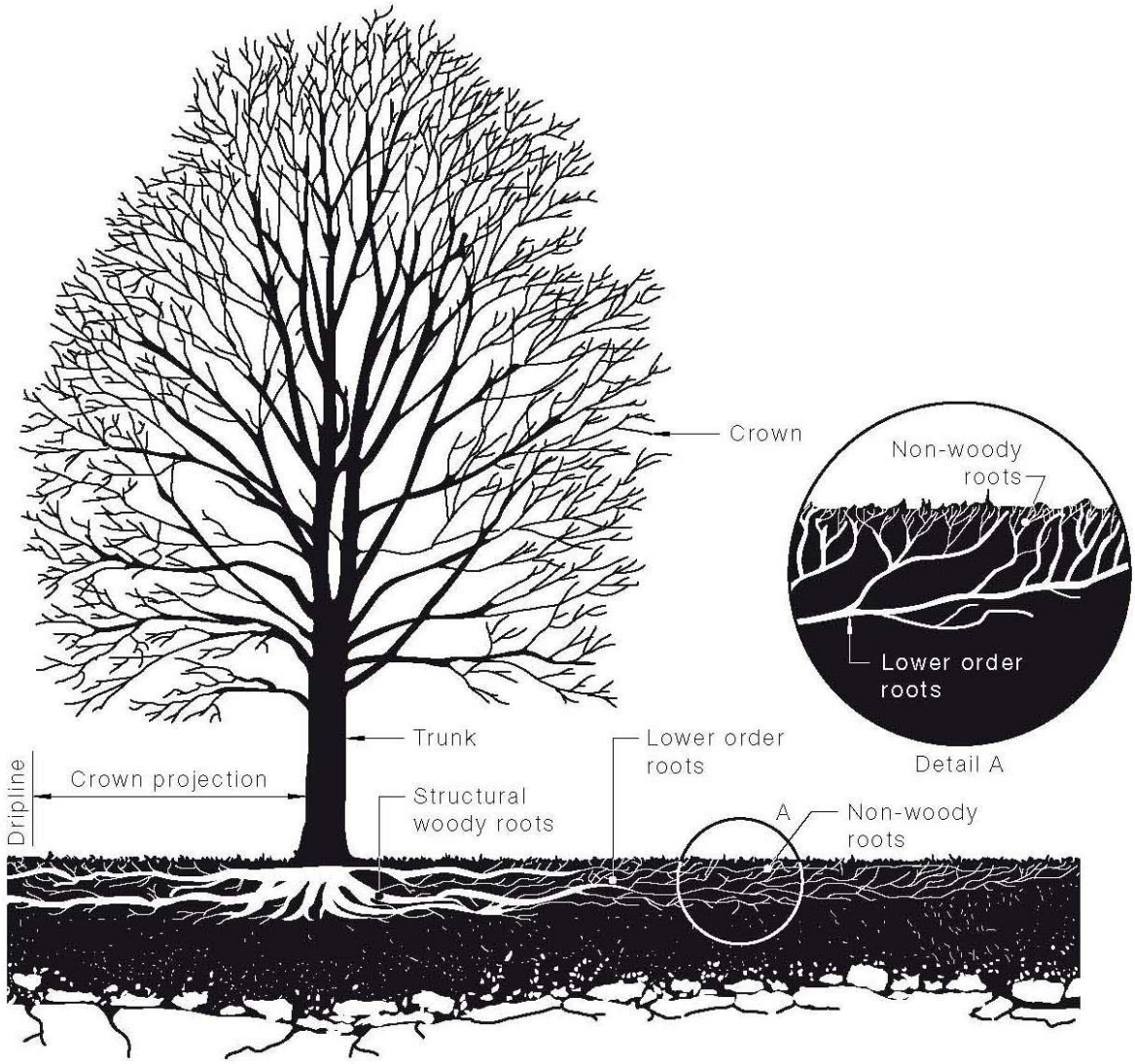


Figure 2: Structure of a tree in a normal growing environment (AS 4970, 2009.).

Appendix 9

Explanatory Notes

- **Mathematical abbreviations:** > = Greater than; < = Less than.

- **Measurements/estimates:** All dimensions are estimates unless otherwise indicated. Less reliable estimated dimensions are indicated with a '?'.

- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated with a '?' after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.

- **Height:** Height is estimated to the nearest metre.

- **Spread:** The maximum crown spread is visually estimated to the nearest metre from the centre of the trunk to the tips of the live lateral branches.

- **Diameter:** These figures relate to 1.4m above ground level and are recorded in centimetres. If appropriate, diameter is measure with a diameter tape. 'M' indicates trees or shrubs with multiple stems.

- **Estimated Age:** Age is estimated from visual indicators and it should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records or local knowledge.

- **Distance to Structures:** This is estimated to the nearest metre and intended as an indication rather than a precise measurement.

Appendix 10

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Sydney

Curriculum Vitae

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EDUCATION and QUALIFICATIONS

- 2013 / 2018 – ISA TRAQ qualification
- 2007 – Diploma of Arboriculture (AQF Cert V) Ryde TAFE. (Distinction)
- 1997 – Completed Certificate in Crane and Plant Electrical Safety
- 1996 – Attained Tree Surgeon Certificate (AQF Cert II) at Ryde TAFE
- 1990 – Completed two month intensive course on garden design at the Inchbald School of Design, London, United Kingdom
- 1990 – Completed patio, window box and balcony garden design course at Brighton College of Technology, United Kingdom
- 1989 – Awarded the Big Brother Movement Award for Horticulture (a grant by Lady Peggy Pagan to enable horticulture training in the United Kingdom)
- 1989 – Attained Certificate of Horticulture (AQF Cert IV) at Wollongong TAFE

INDUSTRY EXPERIENCE

Moore Trees Arboricultural Services **January 2006 to date**
Tree Consultancy and tree ultrasound. Tree hazard and risk assessment, Arborist development application reports
Tree management plans.

Woollahra Municipal Council **Oct 1995 to February 2008**
ARBORICULTURE TECHNICAL OFFICER
August 2005 – February 2008
ACTING COORDINATOR OF TREES MAINTENANCE
June – July 2005, 2006
Responsible for all duties concerning park and street trees. Prioritising work duties, delegation of work and staff supervision.
TEAM LEADER
January 2003 – June 2005
September 2000 – January 2003
HORTICULTURALIST
October 1995 – September 2000

Northern Landscape Services **July to Oct 1995**
Tradesman for Landscape Construction business

Paul Vezgoff Garden Maintenance (London, UK) **Sept 1991 to April 1995**

CONFERENCES AND WORKSHOPS ATTENDED

- International Society of Arboriculture Conference (Canberra May 2017)
- QTRA Conference, Sydney Australia (November 2016)
- TRAQ Conference, Auckland NZ / Sydney (2013/2018)
- International Society of Arboriculture Conference (Brisbane 2008)
- Tree related hazards: recognition and assessment by Dr David Londsdale (Brisbane 2008)
- Tree risk management: requirements for a defensible system by Dr David Londsdale (Brisbane 2008)
- Tree dynamics and wind forces by Ken James (Brisbane 2008)
- Wood decay and fungal strategies by Dr F.W.M.R. Schwarze (Brisbane 2008)
- Tree Disputes in the Land & Environment Court – The Law Society (Sydney 2007)
- Barrell Tree Care Workshop- Trees on construction sites (Sydney 2005).
- Tree Logic Seminar- Urban tree risk management (Sydney 2005)
- Tree Pathology and Wood Decay Seminar presented by Dr F.W.M.R. Schwarze (Sydney 2004)
- Inaugural National Arborist Association of Australia (NAAA) tree management workshop- Assessing hazardous trees and their Safe Useful Life Expectancy (SULE) (Sydney 1997).

Attachment 4

Wollongong Design Review Panel (Via MS Teams)
Meeting minutes and recommendations

Date	1 February 2021
Meeting location	Wollongong City Council Administration Offices
Panel members	Brendan Randles
	David Jarvis
	Sue Hobley
Apologies	Nil
Council staff	Pier Panozzo – City Centre & Major Development Manager Anne Starr – Senior Development Project Officer
Guests/ representatives of the applicant	Luke Rollinson – MMJ Wollongong Ken Tugrul – Project Manager/Building Contractor Jack Taylor – JTAS Adam Russell – JTAS Angelmo Chun – JTAS Goran Ugrinovski – ATB Consulting
Declarations of Interest	Nil
Item number	2
DA number	DA-2020/1466
Reason for consideration by DRP	SEPP 65, Clause 7.18 Design Excellence WLEP 2009
Determination pathway	Wollongong Local Environmental Plan 2009
Property address	42 Bourke Street, Wollongong NSW 2500
Proposal	Demolition of existing buildings and structures, construction of a five (5) storey residential flat building comprising 23 apartments with basement parking, associated landscaping, tree removal/retention and stormwater drainage
Applicant or applicant's representative address to the design review panel	The applicant addressed the Panel
Background	The site was previously inspected by the Panel on 28 September 2020 under DE-2020/71 and again 1 February 2021 under the subject application. The Panel has seen the proposal before, when a number of design options were presented and discussed.
Design quality principals SEPP 65	
Context and Neighbourhood Character	As noted previously, the context is a highly desirable North Wollongong precinct, chiefly because of its tree-lined streets, access to beaches and vistas to the escarpment. Formerly occupied by detached residential homes, the area now is occupied by residential flat buildings of various scales and styles. Located within R1 general Residential zone, the site is located on the edge of the Wollongong City Centre; its zoning allows for a building of 16m in height and a maximum density of 1.5 : 1. The context has been well described in the documentation, with an informative site analysis at site and precinct scale, street elevation studies and photographic analysis. The site is located on the north side of the intersection with Virginia and Bourke Streets. With its corner dominated by a very large heritage listed Magnolia tree, the site has a dramatic fall of 3.5m from south to north. It has a curious shape with an extended narrow portion of the site extending to the east. The site has housed an aged care facility for a number of decades.
Built Form and Scale	The Panel has been advised that the site is flood affected. Until the Applicant has obtained a finalized flood report, any requirements

	with regard to levels cannot be determined. The comments provided here relate to the current proposal, on the understanding that the levels currently proposed may need to be altered once flooding information is known. As this may require substantial alterations to the built form and potential impacts on adjoining properties and the public domain, further review for updated comments by the Panel may also be necessary. In accordance with previous Panel advice, an L shaped scheme has been developed and returned to the Panel as a DA proposal. Numerous changes have been made to the built form in response to panel comments, including: - the entry path has been relocated to Virginia Street only - the retained tree has been given more space - levels must be adjusted to replace lower Bourke Street unit with storage. There is still a level difference of 600mm, thereby requiring ramp within circulation space. - path along eastern boundary has been removed - car park efficiency improved - modified access to rear garden from lobby - smaller balconies replacing protruding elements - simpler northern massing - simpler elevational treatment - landscape decking around tree - COS on upper level While the Applicant has taken the Panel's advice and removed the subterranean level, a change in level of approximately 600mm has been kept. This appears to have been proposed to ensure that the proposal sits under the height plane. This leads to an extension of the circulation and awkward relationships between the two wings of the building. The Panel recommends that the change of level be removed. A more rational scheme with compacted circulation may take out the need for an upper level entirely, which would solve issues of height. Rather than aligning the lobby with the entry (to allow unobstructed views through to the garden to the east), the entry remains compromised with service cupboards comprising the chief feature of the space. However, if the lobbies on ground and levels above were to be aligned as suggested, circulation space would be reduced and two units/plan could face Bourke Street. This would replace the side boundary facing units, thereby improving internal amenity and reduce privacy impact on the adjoining property to the east. The Panel recommends that rather than creating a long entry corridor, the entry be located further south to sit between the building and the tree. This will allow unit 103 to be developed as a larger unit, similar to the unit directly above (unit 203). However, care must be taken with the detail resolution of this unit to ensure that its proximity to the entry path does not compromise the privacy of the unit. Unit 104 could be reconfigured to utilise some of the space currently dedicated to plant room and underground storage. By locating the wet areas in the area currently dedicated to the plant room, a one-bedroom unit could be created to the south of the entry. This will allow the entry to the communal open space to align

	with the building entry, allowing a view through the building into the communal open space upon entry. The current entry to the COS (to the north of the lift) will then no longer be required. This amendment would create additional space behind the lift for an additional one-bedroom unit at ground floor level. Also at ground floor, a communal room should be provided to face the eastern communal area; this could replace some of the space currently dedicated to Unit 101. This room should be provided with a WC and kitchenette to ensure that it can positively serve the rear communal open space. The compact and efficient built form that is required for the site – as previously advised – is still dominated by awkward circulation, with excessively long corridors in common areas and award routes to bedrooms within units. B2 in U202 (and above) for example is off the dining space and the kitchen in U203 (and above) requires walking right through dining and living areas. It is noted the two egress stairs are still located in the building's two front setbacks, which is unacceptable; as previously advised, these stairs must be relocated. It is not clear how waste is collected; if it is kerbside, how will the bins be taken to the street (the ramp appears to be very steep at about 1:4). Where will the bins be aligned on the street? Who will move them out – and back?
Density	The density proposed appears to be achievable on the site. However, numerous adjustments and refinements to the built form are required to achieve Design Excellence.
Sustainability	As noted previously, the Panel commends the retention of the heritage listed Magnolia tree; the proposed solar panels and the ADG's high natural ventilation compliance. Until the built form is resolved however, mid winter solar access compliance cannot be verified.
Landscape	As previously recommended, the Panel is of the opinion that a visual link between the rear COS, the entry lobby and, the front landscape would contribute to amenity, wayfinding and, potentially, activation of the COS. An option for achieving this has been outlined above. Alternative approaches to the fenestration or detailing of the building entrance should also be explored to enhance the role of the Magnolia tree's landscape in the arrival and circulation experience for residents and visitors. The Panel acknowledges the applicant's efforts to respond to the previous recommendation that options to include a portion of the street frontage corner landscape as passive useable COS be explored. However, the Panel is of the opinion that the amended design is unlikely to achieve the desired outcome of increasing outdoor recreational opportunities for residents. The deck areas are small, heavily shaded and lack any outlook due to being overwhelmingly enclosed by the tree's canopy and the building. Additionally, access and wayfinding are complicated. Access is off a corridor serving two ground level units or from the front path while the terrace connecting them zig-zigs around the tree and proposed planter boxes and includes a ramp to deal with level changes. Relocation of the fire stairs would enable a much simpler, more

	functional and more easily accessible outdoor space with greater amenity that could form part of the entry experience to the building and clearer delineation of the public usage zones and the spaces serving units U203 and U204. The inclusion of planter boxes in the Magnolia landscape should be treated with strong restraint: they clutter the space and plantings will be difficult to establish and unlikely to thrive in the shaded, constrained conditions unless species are carefully selected and receive a high level of maintenance (watering, fertilising, etc). More sustainable options that take advantage of the amenity of the tree should be explored. The relationships between the private outdoor space of unit U204 2B, the COS containing the Magnolia tree and the Bourke Street streetscape are poor. The proposed location of the fire stairs severely limits the potential to develop the important links between U204 and both the Magnolia landscape and the streetscape. It further impacts unacceptably on the Bourke Street streetscape. Alternative siting of the fire stairs should be explored. The Panel recommends that a much simpler approach to the corner landscape and residential outdoor space be adopted. Delineation of private open space, communal open space and the public domain needs to be improved. Is the Magnolia landscape to be fenced off from the public domain? If so, details should be provided; a simple, open style approach is recommended. The use of planter boxes in heavy shade to delineate POS and COS is problematic. In terms of spatial complexity, generosity and amenity. The Panel acknowledges the consideration given to previous comments in the development of the amended design but remains concerned about aspects of the proposed COS. The following issues should be addressed: - The design should provide for a number of different activities that would serve the anticipated demographic of the residents (e.g barbecue, communal food garden, exercise, children's play area). A communal room with toilet and kitchen facilities should be provided and well-connected to the outdoor space so as to support indoor-outdoor activities. - The small space at the lobby entry should not be entirely taken up by planter boxes (with seating unlikely to be used) containing trees. Careful consideration should be given to the potential functions of this space and how they could be supported without adversely impacting on the outdoor amenity of adjoining units. - Once the building levels are finalized (in accordance with recommendations made elsewhere in this report), access to the COS should be reviewed to ensure that the path to the seating area does not lead to excessive wear and tear of any turfed surfaces. - While the Panel supports the planting of trees on developments of this nature, it is concerned that the proposed locations of the two trees between the outdoor seating and the turf may be poorly located with regard to spatial impacts and turf management. What will the turf be used for and by whom? How will the trees benefit turf users or the seating area? Perhaps a clump planting to the north-

	west or north-east would allow a better balance of sun and shade in the spaces and a more generous sense of space overall. - In such a small space, the formal, linear plantings will reduce the sense of 'nature' such an area could provide and do not necessarily maximise the amenity (shelter from wind, sunshine, shade, etc.) that less formal plantings may provide. The Panel has the following concerns with regard to the proposed approach to landscape plantings: - The use of planter boxes should be avoided where they provide little benefit. They require high levels of maintenance (with adverse sustainability implications) and reduce usable dimensions of, and/or clutter, spaces. To be successful, they need to be of sufficient dimensions to accommodate the plantings they are intended to support for purposes such as privacy screening. - Narrow linear planting beds alongside driveways are highly problematic: they need to be of sufficient width to support plants without the risks of damage resulting from interactions between vehicles of plants. They often also need a high level of maintenance.
Amenity	See comments above in-Built Form regarding: - impacts of flooding issues still not known - excessive circulation at all levels exacerbated by level change (necessitating an accessible ramp) - corridor like entry leading to service cupboards - lack of activation and poor wayfinding to rear communal open space - possibility to remove inferior side facing unit (to the east) and face two units to Bourke Street - awkward circulation paths in many units with bedrooms off dining areas etc. - egress stairs in setbacks See Landscape for concerns regarding further amenity issues.
Safety	For such a large development, it seems a bit odd to be recommending the retention of an existing fence. Is it of great quality? Does it work with levels? Are gates in the right location? It is still not clear how the basement is secured. Is there a roller shutter? Where is it located?
Housing Diversity and Social Interaction	With an improved relationship with the lobby and the front garden, the rear communal open space would be more likely to be used and cherished by the residents. See recommendations above regarding a new communal room and better integration with Lobby.
Aesthetics	The perspectives provided look promising. The Panel supports the L shape form (especially to retain the tree) and appreciates the complexity an inverted L shaped form needs to resolve.

	The Panel supports the use of brick, which is appropriate in this location. Complemented by rendered surfaces and metal elements it may produce an interesting expression that ties in with its streetscape. Generally, the composition and materiality is supported - although it is liable to change with future amendments. The Panel questions the retention of the existing fence; it is not clear what condition it is in or whether it will work with adjusted levels or a totally new built form proposal. Also the timber screen fences shown in perspectives appear quite heavy – high and overly dominant; it may be better to replace with planter and palings – and extend the palings around the boundary
Design Excellence WLEP2009	
Whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved	Generally yes, but amendments to built form will alter final resolution.
Whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain,	As above. However: - the egress stairs in street frontages are not supported - the retention of the existing boundary fence is queried.
Whether the proposed development detrimentally impacts on view corridors,	No
Whether the proposed development detrimentally overshadows an area shown distinctively coloured and numbered on the Sun Plane Protection Map,	No
How the development addresses the following:	
the suitability of the land for development,	Suitable
existing and proposed uses and use mix	Suitable
heritage issues and streetscape constraints,	Retention of tree is very positive The fire stairs should not occupy landscape areas visible from the 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,	No tower proposed
bulk, massing and	Generally acceptable, however internal planning and layout will

modulation of buildings	require changes that could alter building massing.
street frontage heights	Acceptable – top level may be removed.
environmental impacts such as sustainable design, overshadowing, wind and reflectivity	Acceptable
the achievement of the principles of ecologically sustainable development	Acceptable in terms of solar access and ventilation. The Panel promotes the use of locally indigenous plant species that contribute to council's biodiversity goals and reduce problems such as weeds and high water use. The number of planter boxes should be reduced.
pedestrian, cycle, vehicular and service access, circulation and requirements	Basement includes egress that stairs the adversely impact on the public domain
impact on, and any proposed improvements to, the public domain	See comments above regarding boundary fencing and screening.
Recommendations	Incorporate above comments into DA documentation. Gain a thorough understanding of flooding issues and their impacts on the proposal; incorporate all required changes into DA documentation. Return to the Panel for discussion.

SEPP 65 Apartment Design Guide

Standards/controls	*Comment*	*Complies*
Part 3 Siting the development <u>3A Site analysis</u> Site analysis uses the following key elements to demonstrate that design 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.	Detailed site analysis plans has been provided with the DA material and presented to the Design Review Panel.	Yes
<u>3B Orientation</u> Buildings must be oriented to maximise norther orientation, response to desired character, promote amenity for the occupant and adjoining properties, retain trees and open spaces and respond to contextual constraints such as overshadowing and noise. <u>*Objective 3B-1:*</u> *Building types and layouts respond to the streetscape and site while optimising solar access within the development* <u>Design Guidance</u> - Buildings should define the street by facing it and providing direct access. <u>*Objective 3B-2*</u> *Overshadowing of neighbouring properties is minimised during mid- winter*	Building faces Bourke and Virginia Streets; apartments above are oriented toward the street, offering some opportunities for casual surveillance of the street. The majority of apartments enjoy good solar access. Access from the street frontage to the primary lobby is well resolved. The entrance is very legible and provides for some activation of the frontage. The scale of the building responds to the desired future character for the precinct as defined by the planning controls (floor space ratio and building height) The strategic local character and future desired character of the site is set by	Yes

Standards/controls	*Comment*	*Complies*
Design Guidance - Overshadowing should be minimised to the south or downhill 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	Wollongong LEP 2009 (R1 zone, Clause 8.1 Objectives for development in Wollongong City Centre) and Chapter D13 of Wollongong DCP 2009 (Wollongong City Centre). Both LEP and DCP clauses are assessed in detail in the assessment report. The shadow diagrams indicate overshadowing of the neighbouring residential flat building during mid-winter, however minimum 3 hours of sunlight is obtained.	
3C Public domain interface Key components to consider when designing the interface include entries, private terraces or balconies, fences and walls, changes in level, services locations and planting. The design of these elements can influence the real or perceived safety and security of residents, opportunities for social interaction and the identity of the development when viewed from the public domain *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 e.g. seating at building entries, near letterboxes etc *Objective 3C-2:*	Appropriate street frontage treatment provided given nature of use. Public domain to be treated with footpath paving and street tree planting in accordance with Council's City Centre Public Domain Technical Manual. Conditions are recommended in this regard. Residential balconies and ground level courtyards face the street frontage, providing some opportunities for natural surveillance. Fencing is proposed to ensure the privacy of the ground floor apartments. Garbage storage areas, mail boxes and fire services are to be accommodated within the building in a manner which will not detract from its design quality. Mailboxes are located adjacent to the primary entry. Durable materials are proposed.	Yes

Standards/controls	*Comment*	*Complies*
Amenity of the public domain is retained and enhanced Design Guidance - Planting softens the edges of any raised terraces to the street (e.g. basement podium) - 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 (442.5m^2) 2. 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. *Objective3D-2* *Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting* Design guidance - Facilities to be provided in communal open spaces for a range of age groups, and may incorporate	The principal communal open space is located on level 1 to the east/rear of the building. Communal open space achieves 25% and is accessible for residents from the front building entry. The landscape plan makes provision for casual seating, along with possible locations for outdoor dining and passive recreation. A kitchenette and toilet is now provided. The communal open space areas will receive between sunlight between 9am and 3pm as required. Some shade will be offered to sections of the COS via planting and structures. The communal open space area achieves the minimum area required for the site and satisfy the required dimension requirements. The design and treatment	Yes

Standards/controls	*Comment*	*Complies*
seating, barbeque areas, play equipment, swimming pools *Objective 3D-3* *Communal open space is designed to maximise safety* Design guidance - Communal open space should be visible from habitable rooms and POS areas and should be well lit.	will provide for well designed, usable areas. The principal useable part of the communal open space will be visible from apartments located above and nearby individual private open space areas.	
3E Deep soil zones *Objective 3E-1* *3E-1 Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality.* Design Criteria: 1. Deep soil zones are to meet the following minimum requirements:  Design guidance: - Deep soil zones should be located to retain existing significant trees.	DSZ is proposed adjacent to the eastern boundary at the rear of the building and immediately adjoining the magnolia tree. The area of the total DSZ is 338.91m^2 (19.1%) and the rear boundary area has a minimum dimension of 6m.	Yes
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: 1. Minimum required separation distances from buildings to the side and rear boundaries are as follows:	Building setbacks comply with the exception of northern side setback to Level 5 POS (unit 501, 6m proposed where 9m required), and eastern side setbacks units 501 and 503 where vegetated balconies are within 6m of the boundary (where 9m required). Where the non-compliances occur, screening is proposed. The eastern neighbour is a 3 storey building and the roof	No

Site area	Minimum dimensions	Deep soil zone (% of site area)
less than 650m^2	-	7%
650m^2 - 1,500m^2	3m	
greater than 1,500m^2	6m	
greater than 1,500m^2 with significant existing tree cover	6m	

Standards/controls	*Comment*	*Complies*
<table><tr><th>Building height</th><th>Habitable rooms and balconies</th><th>Non-habitable rooms</th></tr><tr><td>up to 12m (4 storeys)</td><td>6m</td><td>3m</td></tr><tr><td>up to 25m (5-8 storeys)</td><td>9m</td><td>4.5m</td></tr><tr><td>over 25m (9+ storeys)</td><td>12m</td><td>6m</td></tr></table> separation is required between blank walls No *Objective 3F-2:* *Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space* Design Guidance - Communal open space, common areas and access paths should be separated from private open space and windows to apartments. Design solutions include: · Setbacks, · Solid or partly solid balustrades to balconies · Fencing or vegetation to separate spaces · Screening devices · Raising apartments/private open space above the public domain · Planter boxes incorporated into walls and balustrades to increase visual separation · Pergolas or shading devices to limit overlooking · Only on constrained sites where it's demonstrated that building layout opportunities are limited – fixed louvres or screen panels - Windows should be offset from the windows of adjoining buildings	sits below proposed Level 5. The privacy impacts of the departures will be negligible and the proposed setbacks are supported. Planting to be provided to the edges of the podium level principal COS and private courtyard areas to provide screening of these spaces from the adjoining boundaries.	
3G Pedestrian access and entries *Objective 3G-1* *Building entries and pedestrian access connects to and addresses the public domain* Design Guidance	The residential lobby is located on Virginia Street. Direct entry to apartment 204 is provided on Bourke Street. The revised plans have enlarged the lobby and	Yes

Standards/controls	*Comment*	*Complies*
- 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 destinations*	provided views through to landscaping at the rear. Entry is clearly identifiable. Proposed entry addresses the public domain. Ground floor level is accessible from the street frontage via compliant ramps/ paths. Lift and stair access is provided to all dwellings from the basement and ground floor level. Access points are clearly visible. No through-site link is required.	
3H Vehicle access *Objective 3H-1* *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 - Garbage collection, loading and service areas should be screened - Vehicle and pedestrian access should be clearly separated to improve safety. - Where possible, vehicle access points should not dominate the streetscape and be limited to the minimum width possible.	Proposed car park entry is behind the building line on Virginia Street. Headlight glare is not expected to be an issue. Proposed driveway location is removed from the nearest intersection. Garbage storage within the basement with bins to be collected from the street. Vehicle and pedestrian access separated. Driveway and vehicular entry width is acceptable.	Yes
3J Bicycle and car parking *Objective 3J-2* *Parking and facilities are provided for other modes of transport* Design Guidance	Adequate vehicle, motor bike and bicycle parking provided meeting the requirements of the Metropolitan Sub Regional car parking rates in the RTA Guide to Traffic Generating Development.	Yes

Standards/controls	*Comment*	*Complies*
- Conveniently located and sufficient numbers of parking spaces should be provided for motorbikes and scooters - Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas.	Parking to be provided within the basement car park. Appropriate resident bicycle security arrangements are proposed.	
Objective 3J-3 *Car park design and access is safe and secure* Design Guidance - Supporting facilities within car parks (garbage rooms, storage areas, car wash bays) can be accessed without crossing parking spaces - A clearly defined and visible lobby or waiting area should be provided to lifts and stairs. - Permeable roller doors allow for natural ventilation and improve the safety of car parking areas by enabling passive surveillance.	Supporting facilities generally adequately located. Basement layout is appropriate with regard to safety and security. Basement is mechanically ventilated. Car park layout appears to be reasonably efficient. No on-grade parking proposed.	Yes
Objective 3J-4 *Visual and environmental impact of underground car parking are minimised* Design Guidance - Excavation should be minimised through efficient carpark layouts and ramp design. - Protrusion of carparks should not exceed 1.0m above ground level. - Natural ventilation should be provided to basement and sub-basement car parking areas. - Ventilation grills or screening devices should be integrated into the façade and landscape design.		
Objective 3J-5 *Visual and environmental impact of on-grade car parking are minimised* Design Guidance - On-grade car parking should be avoided; - Where unavoidable, the following design solutions should be used – parking is located on the side or rear of the lot away from the primary street frontage - Cars are screened from view of streets, buildings, communal and private open space areas		

Standards/controls	*Comment*	*Complies*
- Safe and direct access to building entry points is provided - Parking is incorporated into the landscaping design of the site - Stormwater run-off is appropriately managed - Light coloured paving materials or permeable paving systems are used and shade trees are planted to reduce increased surface temperatures from large areas of paving		
Part 4 – Designing the building - Amenity		
4A Solar and daylight access *Objective 4A-1* *To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space* Design Criteria 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. 1. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at mid-winter Design Guidance - The design maximises north aspect and the number of single aspect south facing apartments is minimised - To optimise the direct sunlight to habitable rooms and balconies, the following design features are used: Dual aspect, Shallow apartment layouts Bay windows - To maximise the benefit to residents, a minimum of $1m^2$ of direct sunlight measured at 1m above floor level, is achieved for at least 15 minutes. *Objective 4A-2* *Daylight access is maximised where sunlight is limited* Design Guidance	At least 80% of the apartments can achieve appropriate solar access (living rooms and private open spaces receive a minimum of 2 hours sunlight between 9am-3pm mid-Winter.) . All apartments receive direct sunlight between 9am and 3pm at midwinter. Glare control on the western elevation is provided in the form of deep balconies which provides shading of west-facing windows.	Yes

Standards/controls	*Comment*	*Complies*
- Courtyards, skylights and high level windows (sill heights of 1500m or greater) are used only as secondary light sources in habitable rooms *Objective 4A-3* *Design incorporates shading and glare control, particularly for warmer months* Design Guidance 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.* Design Guidance - A building's orientation should maximise the prevailing winds for natural ventilation in habitable rooms - The area of unobstructed window openings should be equal to at least 5% of the floor area served. - Doors and openable windows should have large openable areas to maximise ventilation. *Objective 4B-2* *The layout and design of single aspect apartments maximises natural ventilation* Design Guidance - Single aspect apartments should use design solutions to maximise natural ventilation. *Objective 4B-3* *The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents* Design Criteria: 1. 60% of apartments are naturally cross ventilated in the first nine storeys	Over 70% of apartments are naturally cross ventilated. All habitable rooms are naturally ventilated There are no cross-over or cross-through apartments.	Yes

Standards/controls	*Comment*	*Complies*
2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line.		
4C Ceiling heights *Objective 4C-1* *Ceiling height achieves sufficient natural ventilation and daylight access* Design Criteria 1. Minimum 2.7m for habitable rooms and 2.4m for non-habitable rooms *Objective 4C-2* *Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms* *Objective 4C-3* *Ceiling height contribute to the flexibility of building use over the life of the building* Design Guidance - 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.	The development has 3.1m floor to floor heights, resulting in minimum ceiling height of 2.7m to habitable (all) rooms and 2.4 to non-habitable.	Yes
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* Design Criteria: 1. Minimum internal areas: 2 bed – 70m^2 3 bed – 90m^2 The minimum internal areas include only 1 bathroom. Additional bathrooms increase the minimum internal areas by 5m^2 each. A fourth bedroom and further additional bedrooms increase the minimum internal by 12m^2. 2. 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 *Objective 4D-2*	Apartment size and layout is generally functional, well organised and provides a reasonable standard of amenity for future residents. The apartment layout has been considered by the Design Review Panel and Council's design expert and is be acceptable. The revised plans have improved some apartment layouts. All apartments achieve compliance with the minimum internal areas specified. All habitable rooms have adequate windows. Habitable room depths comply.	Yes

Standards/controls	*Comment*	*Complies*
Environmental performance of the apartment is maximised Design Criteria: 1. Habitable room depths are limited to a maximum of 2.5 x ceiling height 2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window. Design Guidance: - Greater than the minimum ceiling heights can allow proportionate increases in room depths. - Where possible, bathrooms and laundries should have an external openable window. - Main living spaces should be oriented towards the primary outlook. *Objective 4D-3* *Apartment layouts are designed to accommodate a variety of household activities and needs* Design Criteria: 1. Master bedrooms have a minimum area of 10m^2 and other bedrooms 9m^2 (excl wardrobe space) 2. Bedrooms have minimum dimension of 3m (excl wardrobe) 3. Living rooms have minimum width of: - 3.6m for studio and 1 bed apartments and - 4m for 2+ beds. 4. The width of the crossover or cross through apartments are at least 4m internally to avoid deep narrow apartment layouts. Design Guidance: - Access to bedrooms, bathrooms and laundries is separated from living areas - Minimum 1.5m length for bedroom wardrobes - Main bedroom apartment: minimum 1.8m long x 0.6m deep x 2.1m high wardrobe - Apartment layouts allow for flexibility over time, including furniture removal, spaces for a range of activities and privacy levels within the apartments.	2.7m ceiling heights proposed. Living spaces are oriented towards the west, north and east to take advantage of outlook, views to the magnolia trees and escarpment and optimise solar access. Bedroom and living room dimensions are adequate.	

Standards/controls	*Comment*	*Complies*
4E Private open space and balconies *Objective 4E-1* *Apartments provide appropriately sized private open space and balconies to enhance residential amenity* 1. Minimum balcony depths are: The minimum balcony depth to be counted as contributing to the balcony area is 1m. 2. Ground level apartment POS must have minimum area of 15m^2 and min. depth of 3m *Objective 4E-2* *Primary private open space and balconies are appropriately located to enhance liveability for residents* Design Guidance - Primary private open space and balconies should be located adjacent to the living room, dining room or kitchen to extend the living space. - POS & Balconies should be oriented with the longer side facing outwards to optimise daylight access into adjacent rooms. *Objective 4E-3* *Primary private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building* Design Guidance - A combination of solid and transparent materials balances the need for privacy with surveillance of the public domain - Full width glass balustrades alone are not desirable - Operable screens etc are used to control sunlight and wind, and provide increased privacy for occupancy while allowing for storage and external clothes drying. *Objective 4E-4* *Private open space and balcony design maximises safety*	All balcony areas achieve the minimum area and depth requirements Ground level terraces are minimum 3m wide and 15m^2. POS of all apartments is located adjoining and accessible from living/dining areas. Adequate solar access is available to the balconies and terraces. Balconies designed to articulate the façade. A variety of materials are proposed.	Yes

Dwelling type	Minimum area	Minimum depth
Studio apartments	4m^2	-
1 bedroom apartments	8m^2	2m
2 bedroom apartments	10m^2	2m
3+ bedroom apartments	12m^2	2.4m

Standards/controls	*Comment*	*Complies*
Design Guidance - Changes in ground levels or landscaping are minimised.		
4F Common circulation and spaces *Objective 4F-1* *Common circulation spaces achieve good amenity and properly service the number of apartments.* Design Criteria 1. 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. Design Guidance - Long corridors greater than 12m in length should be articulated through the use of windows or seating. - 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. *Objective 4F-2* *Common circulation spaces promote safety and provide for social interaction between residents* Design Guidance: - Incidental spaces can be used to provide seating opportunities for residents, and promotes opportunities for social interaction.	22 apartments proposed. Maximum 5 apartments on each level; serviced by 1 lift. Corridors have access to natural light and ventilation. Apartment entries are appropriately located with regard to circulation spaces. No living or bedroom window openings to common circulation spaces. Some opportunities for social interaction on the ground floor within the lobby and outdoor spaces. Common circulation areas are proposed to be well lit with natural light.	Yes
4G Storage *Objective 4G-1* *Adequate, well designed storage is provided in each apartment* 1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided At least 50% of the required storage is to be located	All apartments exceed the minimum required storage – refer to storage schedule. Minimum 50% is provided within each apartment, with the remainder located in the basement.	Yes

Dwelling type	Storage size volume
Studio apartments	4m³
1 bedroom apartments	6m³
2 bedroom apartments	8m³
3+ bedroom apartments	10m³

Standards/controls	*Comment*	*Complies*
within the apartment *Objective 4G-2* *Additional storage is conveniently located, accessible and nominated for individual apartments* Design Guidance: - Storage not located within apartments should be allocated to specific apartments.		
4H Acoustic privacy *Objective 4H-1* *Noise transfer is minimised through the siting of buildings and building layout* Design Guidance - Adequate building separation is required (see also section 3F above). - Noisy areas within buildings should be located next to or above each other and quieter areas next to or above quieter areas. - Storage, circulation areas and non-habitable rooms should be located to buffer noise from external sources. - Noise sources such as garage doors, plant rooms, active communal open spaces and circulation areas should be located at least 3m away from bedrooms. *Objective 4H-2* *Noise impacts are mitigated within apartments through layout and acoustic treatments* Design Guidance - In addition to mindful siting and orientation of the building, acoustic seals and double or triple glazing are effective methods to further reduce noise transmission.	Internally the building is designed to minimise noise transfer between apartments. Adequate building separation is provided between the proposed and neighbouring buildings. Internal layout provides for appropriate internal acoustic amenity within individual apartments.	Yes
4J Noise and pollution *Objective 4J-1* *In noisy or hostile environments, the impacts of external noise and pollution are minimised through the careful siting and layout of buildings* Design Guidance	The main source of external noise intrusion is Bourke Street, which is a classified road. The Harwood Acoustics noise intrusion report recommends building measures to reduce noise within apartments.	Yes

Standards/controls	*Comment*	*Complies*
- Minimise impacts through design solutions such as physical separation from the noise or pollution source, <u>*Objective 4J-2*</u> *Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission* <u>Design guidance:</u> - Design solutions include limiting openings to noise sources & providing seals to prevent noise transfer. *Part 4 – Designing the building - Configuration*		
<u>4K Apartment mix</u> <u>*Objective 4K-1*</u> *A range of apartment types and sizes is provided to cater for different household types now and into the future* <u>Design guidance</u> - A variety of apartment types is provided - The apartment mix is appropriate, taking into consideration the location of public transport, market demands, demand for affordable housing, different cultural/social groups - Flexible apartment configurations are provided to support diverse household types and stages of life <u>*Objective 4K-2*</u> *The apartment mix is distributed to suitable locations within the building* <u>Design guidance</u> - Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available	A mix of 1, 2 and 3 bedroom apartments are provided. 3 of the apartments (>10% of the 22 proposed) are adaptable apartments; these contain 1 and 2 bedrooms. The apartment size varies throughout the building.	Yes
<u>4L Ground floor apartments</u> <u>*Objective 4L-1*</u> *Street frontage activity is maximised where ground floor apartments are located* <u>Design guidance</u>	3 ground floor apartments; have access from the ground level. Apartment 204 can be directly approached from Bourke Street. Fencing delineates the private domain as separate from the busy public domain	Yes

Standards/controls	*Comment*	*Complies*
- Direct street access should be provided to ground floor apartments - Activity is achieved through front gardens, terraces and the facade of the building. - Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases, provide higher floor to ceiling heights and ground floor amenities for easy conversion <u>*Objective 4L-2*</u> *Design of ground floor apartments delivers amenity and safety for residents* <u>Design guidance</u> - The design of courtyards should balance the need for privacy of ground floor apartments with surveillance of public spaces. Design solutions include: • elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4) • landscaping and private courtyards • window sill heights that minimise sight lines into apartments • integrating balustrades, safety bars or screens with the exterior design - Solar access should be maximised through: • high ceilings and tall windows • trees and shrubs that allow solar access in winter and shade in summer	and together with the magnolia tree, provides ground floor apartments with privacy and amenity. Courtyards appear to be at or above street level with a combination of screening and landscaping proposed to provide necessary privacy to both external and internal ground floor living areas.	
<u>4M Facades</u> <u>*Objective 4M-1*</u> *Building facades provide visual interest along the street while respecting the character of the local area* <u>Design guidance</u> - To ensure that building elements are integrated into the overall building form and façade design - 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.	The building façade features a combination of building elements and a mixture of materials. The applicant has provided a colour and materials schedule with the DA and photomontage. The schedule is considered generally acceptable, with the exception of the Virginia Street Level 5 treatment. It is recommended that the lower level materials and cladding extend up to Level 5.	Yes

Standards/controls	*Comment*	*Complies*
- Building services should be integrated within the overall facade - Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. - To ensure that new developments have facades which define and enhance the public domain and desired street character. <u>*Objective 4M-2*</u> *Building functions are expressed by the facade* <u>Design guidance</u> - Building entries should be clearly defined	Building services are integrated into the façade in a manner which will not reduce the design quality of the building. Primary pedestrian entry is well defined and access from the street frontage is well resolved and acknowledges the significant magnolia tree.	
<u>4N Roof design</u> <u>*Objective 4N-1*</u> *Roof treatments are integrated into the building design and positively respond to street* <u>Design guidance</u> - Roof design should use materials and a pitched form complementary to the building and adjacent buildings. <u>*Objective 4N-2*</u> *Opportunities to use roof space for residential accommodation and open space are maximised* <u>Design guidance</u> - Habitable roof space should be provided with good levels of amenity. - Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations <u>*Objective 4N-3*</u> *Roof design incorporates sustainability features* <u>Design guidance</u> - Roof design maximises solar access to apartments during winter and provides shade during summer	The roof design is appropriate and the roof plan indicates services and photovoltaics.	Yes
<u>4O Landscape design</u> <u>*Objective 4O-1*</u>	Landscape design is generally satisfactory, with eth exception of Level 1	Yes

Standards/controls	*Comment*	*Complies*
Landscape design is viable and sustainable Design guidance - Landscape design should be environmentally sustainable and can enhance environmental performance - Ongoing maintenance plans should be prepared *Objective 4O-2* *Landscape design contributes to the streetscape and amenity* Design guidance - Landscape design responds to the existing site conditions including: • changes of levels • views • significant landscape features	communal open space decking. Significantly, the magnolia tree is retained and accommodated within a suitable tree protection zone.	
4P Planting on Structures *Objective 4P-1* *Appropriate soil profiles are provided* Design guidance - Structures are reinforced for additional saturated soil weight - Minimum soil standards for plant sizes should be provided in accordance with Table 5 *Objective 4P-2* *Plant growth is optimised with appropriate selection and maintenance* Design guidance - Plants are suited to site conditions *Objective 4P-3* *Planting on structures contributes to the quality and amenity of communal and public open spaces* Design guidance - Building design incorporates opportunities for planting on structures. Design solutions may include: • green walls with specialised lighting for indoor green walls • wall design that incorporates planting	Council's landscape designer has reviewed the landscape plan and has provided a satisfactory referral subject to condition regarding the communal open space decking.	Yes

Standards/controls	*Comment*	*Complies*
• green roofs, particularly where roofs are visible from the public domain • planter boxes		
4Q Universal design *Objective 4Q-1* *Universal design features are included in apartment design to promote flexible housing for all community members* Design guidance - A universally designed apartment provides design features such as wider circulation spaces, reinforced bathroom walls and easy to reach and operate fixtures *Objective 4Q-2* *A variety of apartments with adaptable designs are provided* Design guidance - Adaptable housing should be provided in accordance with the relevant council policy *Objective 4Q-3* *Apartment layouts are flexible and accommodate a range of lifestyle needs* Design guidance - Apartment design incorporates flexible design solutions	3 of the 22 apartments are silver level liveable apartments (201, 301 and 401).	Yes
Part 4 – Designing the building - Configuration 4U Energy efficiency *Objective 4U-1* *Development incorporates passive environmental design* Design guidance - Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) *Objective 4U-2*	The applicant has obtained a BASIX certificate which confirms that the proposed development will achieve the required energy efficiency and thermal comfort targets of the SEPP. Adequate natural light will be provided to all habitable rooms. Heat gain for west facing living rooms and balconies has been addressed through	Yes

Standards/controls	*Comment*	*Complies*
Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer Design Guidance - Provision of consolidated heating and cooling infrastructure should be located in a centralised location *Objective 4U-3* *Adequate natural ventilation minimises the need for mechanical ventilation*	the balcony depth and window selection. Plant room located within the basement. Refer to discussion above at 4B in relation to natural ventilation.	
4V Water management and conservation *Objective 4V-1* *Potable water use is minimised* *Objective 4V-2* *Urban stormwater is treated on site before being discharged to receiving waters* Design guidance - Water sensitive urban design systems are designed by a suitably qualified professional *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	The BASIX certificate confirms that the proposed development will meet the NSW Government requirements for sustainability if built in accordance with the commitments set out in the certificate. This relates to both energy and water efficiency (4U and 4V). The applicant has provided a Water Sensitive Urban Design plan with the development which is consistent with the water quality objectives of WDCP 2009 Chapter E15.	Yes
4W Waste management *Objective 4W-1* *Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents* Design guidance - Common waste and recycling areas should be screened from view and well ventilated *Objective 4W-2* *Domestic waste is minimised by providing safe and convenient source separation and recycling* Design guidance	The applicant proposes waste storage within the basement. On-street collection is proposed. Waste will be transported to the garbage room manually by a building manger or residents. The applicant has indicated a purpose built trolley will be used to transport bins, however this may be dependent on arrangements approved by residents.	Yes

Standards/controls	*Comment*	*Complies*
- Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core - For mixed use developments, residential waste and recycling storage areas and access should be separate and secure from other uses - Alternative waste disposal, such as composting, can be incorporated into the design of communal open space areas		
4X Building maintenance *Objective 4X-1* *Building design detail provides protection from weathering* Design guidance - Design solutions such as roof overhangs to protect walls and hoods over windows and doors to protect openings can be used. *Objective 4X-2* *Systems and access enable ease of maintenance* Design guidance - Window design enables cleaning from the inside of the Building *Objective 4X-3* *Material selection reduces ongoing maintenance costs easily cleaned surfaces that are graffiti resistant*	The applicant proposes to use durable and cleanable materials. Where windows are unable to be accessed from balconies or terraces, other cleaning methods will be required to be employed.	Yes

Wollongong Development Control Plan 2009

CHAPTER A2 – ECOLOGICALLY SUSTAINABLE DEVELOPMENT

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

CHAPTER D13 – WOLLONGONG CITY CENTRE

2 Building Form

Objectives/controls	*Comment*	*Compliance*
2.2 Building to street alignment and street setbacks 4m setback required. Balconies allowed to project 600mm into front setback, to a cumulative maximum width of 50% of horizontal width façade.	The proposal is setback 3.1 to the front terrace (Virginia Street) and approximately 3.5m to the front terrace (Bourke Street). 4m setback to building proper.	Yes
2.5 Side and rear building setbacks and building separation Residential uses up to 12m in height: Habitable rooms with openings and balconies Side minimum 6m; Rear minimum 6m Non-habitable rooms and habitable rooms without openings Side minimum 3m; Rear minimum 4.5m Residential uses between 12m and 24m in height: Habitable rooms with openings and balconies Side minimum 9m; Rear minimum 9m Non-habitable rooms and habitable rooms without openings Side minimum 4.5m; Rear minimum 4.5m	ADG and DCP setbacks generally the same, with exception non habitable rear setback for buildings under 12m. Variation to Level 5 units 501, 502 and 503 setbacks are proposed. At this height, habitable setbacks of 9m are required and non-habitable 4.5m. Unit 501 faces the northern boundary and has a balcony setback of 6m (where 9m is required) and non-habitable wall without openings at 4.48m (where 4.5m is required). Unit 502 has balcony of approximately 7m setback (where 9m is required) and non-habitable wall without openings at 4.48m (where 4.5m is required). Unit 503 side setbacks relate to the eastern boundary and are 7.2m balcony setback (where 9m is required) and 3m to a non-habitable wall without openings (where 4.5m is required). The non-complying setbacks occur above the roof level of adjoining buildings and either are buffered by screening or planters or have no openings. No adverse impact of the setbacks is anticipated and the proposed setbacks are supported.	No

Objectives/controls	*Comment*	*Compliance*
2.6 Deep soil zone Minimum 15% of the site i.e. 265.5m^2 minimum dimension 6m	Deep soil provided at rear (eastern boundary) and immediately adjoining the magnolia tree. The area of the total DSZ is 338.91m^2 (19.1%) and the rear boundary area has a minimum dimension of 6m.	Yes
2.8 Landscape design	Acceptable; although Council's landscape designer has recommended some changes to the rear communal open space area.	Yes.
2.9 Green roofs, green walls and planting on structures	A true deep soil area is provided at the rear, and immediately surrounding the magnolia tree. All other landscaping occurs on podium	Yes
2.11 Development on classified roads	Bourke Street is a classified road. The provisions of SEPP (Infrastructure) 2007 have been considered and the development is acceptable.	Yes

3 Pedestrian Amenity

Objectives/controls	*Comment*	*Compliance*
3.4 Safety and security	The development provides open front setbacks, with common and private areas delineated. Both street frontages have openings facing the road. The communal open space benefits from casual surveillance.	Yes
3.6 Vehicular footpath crossings	Driveway proposed on Virginia Street	Yes
3.8 Building exteriors	Generally, acceptable building materials and colours are proposed. Council's design expert has recommended that the top floor on Virginia Street is of same cladding and materials as the floors below.	Yes
3.10 Views and view corridors	No significant impact on views expected	N/A

4 Access, parking and servicing

Objectives/controls	*Comment*	*Compliance*

4.2 Pedestrian access and mobility	The entrance to the building on Virginia Street is legible. The revised plans have widened the entry foyer and provided a view through to landscaping at the rear.	Yes
4.3 Vehicular driveways and manoeuvring areas	Driveways, access and manoeuvring comply with relevant controls.	Yes
4.4 On-site parking	Adequate parking proposed.	Yes
As per the requirements of Chapter E3:- *Residential flat building in city centre* 0.75 spaces per dwelling <70m2 [nil]; 1 space per dwelling 70-110m^2 [15]; 1.25 spaces per dwelling >110sqm [7], plus 0.2 car parking spaces per dwelling for visitors [Total 24 resident spaces plus 5 visitor car space required]. 1 bicycle space per 3 dwellings for residents and 1 bicycle space per 12 dwellings for visitors. [Total 8 resident bicycles and 2 visitor bicycles required] 1 motorcycle space per 15 dwellings [Total 2 motorcycle spaces required]	Plans provide for – 29 x resident car parking spaces plus 5 visitor spaces – 2 x motorcycle spaces – 10 x bicycle spaces	
4.5 Site facilities and services	The site is serviced by the major utilities and the proposal is not expected to require significant augmentation of these services. Waste storage proposed within the basement and collection from Virginia Street	Yes

5 Environmental Management

Objectives/controls	*Comment*	*Compliance*
5.2 Energy efficiency and conservation	Energy efficient and thermal comfort measures identified in the BASIX certificate are shown on the plans where required. Conditions will require compliance with the BASIX certificate.	Yes

5.3 Water conservation	Water conservation measures identified in the BASIX certificate are shown on the plans.	Yes
5.4 Reflectivity	Materials are not highly reflective	Yes
5.6 Waste and recycling	The plans indicate that bins are to be stored within a storage room in the basement. Bins will be moved to Virginia Street for weekly collection via a specialised cart.	Yes

6 Residential Development Standards

Objectives/controls	*Comment*	*Compliance*
6.2 Housing Choice & Mix Maximum 10% of units are 1 bed or studios Maximum 10% of units are 3 or more beds Minimum 10% of units must be adaptable	22 apartments are proposed. Apartment mix is 1 x 1 bed; 15 x 2 bed and 6 x 3 bed. 3 adaptable apartments are proposed (101, 102 and 104). 3 silver level liveable apartments are proposed (201, 302 and 401).	Yes
6.6 Basement Carparks	Ventilation satisfactorily positioned. Flooding levels are acceptable.	Yes
6.7 Communal open space Minimum $5m^2$ per dwelling	Provided at rear, in excess of area requirements.	Yes
6.8 Private open space Each unit to have POS Courtyards: minimum $25m^2$ and minimum width 2m Balconies: minimum $12m^2$ and minimum depth 2.4m Minimum 70% of units must receive at least 3hrs direct sunlight 9am-3pm June 21	POS areas are provided in compliance with applicable controls.	Yes
6.9 Overshadowing Adjacent residential buildings and their public spaces must receive minimum 3 hours direct sunlight 9am-3pm on June 21	Shadow diagrams provided and are acceptable. Adjacent buildings receive minimum 3 hours of direct sunlight.	Yes
6.10 Solar access Living rooms and POS of minimum 70% must receive at least 3 hours direct sunlight 9am-3pm.	Adequate solar access is provided. Minimum 70% receive 3 hours direct sunlight.	Yes

Objectives/controls	*Comment*	*Compliance*
6.11 Natural ventilation	Over 80% of apartments are naturally cross ventilated, exceeding requirements.	Yes
6.12 Visual privacy	External screens, landscape buffers and building setbacks minimise direct overlooking of neighbouring properties. Side and rear setbacks comply with the ADG with the exception of northern side setback to Level 5 POS (unit 501, screening is proposed), and eastern side setbacks units 501 and 503 where vegetated balconies are 6m where 9m required.	Yes
6.13 Acoustic Privacy	Bourke Street is a classified road. A condition of consent is suggested requiring implementation of the Harwood Acoustics recommendations.	Yes
6.14 Storage 1 bed: $3m^2/3m^3$ 2 bed: $4m^2/8m^3$ 3 bed: $5m^2/10m^3$	Adequate provision made – refer storage plan	Yes

7 Planning controls for special areas

The site is not located within a special area.

8 Works in the public domain

Footpath paving and street tree planting is required.

CHAPTER B1 – RESIDENTIAL DEVELOPMENT

Section 6 of Chapter B1 provides specific controls for residential flat buildings. Where Chapter D13 provides alternative provisions, Chapter D13 supersedes those in Chapter B1.

Clause 1 states that, in addition to the controls in Section 6, the controls within Section 4 (excluding 4.1 to 4.12 and 4.20 to 4.23) of this chapter must also be taken into consideration in the assessment of a residential flat building. The controls are addressed in the following table:

4.0 General Residential Controls

Controls/objectives	*Comment*	*Compliance*
4.12 Site Facilities		
· Letterboxes and clothes lines in an accessible location.	Letter boxes located on approach to building foyer on Virginia Street.	Yes
4.13 Fire Brigade Servicing		
· All dwellings, particularly dual occupancy and dwellings on battle axe allotment must be located within 60m of a fire hydrant, or the required	Complies.	Yes

distance as required by Australian Standard AS 2419.1.		
4.14 Services		
· Encourage early consideration of servicing requirements.	The site is already serviced; it is expected that some augmentation to existing utilities will be required to facilitate the proposed development. Conditions can be imposed in this regard.	Yes

6 Residential Flat Buildings

Controls/objectives	Comment	Compliance
6.2 Minimum Site Width Requirement · Minimum required site width of 24 metres; width must be measured for the full length of the building envelope and perpendicular to the side boundary. Exceptions will only be considered for social housing developments and in circumstances outline below. · Do not create an "isolated lot". Amalgamation of allotments will be required in the circumstance where an isolated allotment would otherwise be created. · In cases where the subject site is an existing "isolated lot", Council may consider a variation to the minimum site width requirement provided, in the opinion of Council, the proposed development will not cause any significant adverse overshadowing, privacy or amenity impact upon any adjoining development. · In certain existing "isolated lot" cases, a proposed development may not achieve its maximum development potential (e.g. maximum floor space ratio and height) where side and rear setbacks are varied and the development does not, in the opinion of Council, achieve: (a) Adequate separation between buildings to maintain reasonable levels of solar access, privacy and	The site is a corner lot with dimensions 22.45 and 36.19m. Developer is not a social housing provider. Site will not create an isolated allotment; the site is an isolated allotment surrounded by strata subdivided residential flat and multi-dwelling housing development.	Yes

amenity to neighbouring dwellings; (b) Adequate landscaping screening of the development to maintain the amenity of adjoining dwellings; and (c) Maintain the streetscape amenity of the locality.		
6.5 Built Form		
· RFBs must be designed by qualified designer and design verification statement provided as per SEPP 65. · The design, height and siting of a new development must respond to its site context. · The appearance of new development must be in harmony with the buildings around it and the character of the street. New development must contain or respond to the essential elements that make up the character of the surrounding urban environment. · Incorporate the following elements: (a) Define a base, middle and top related to the overall proportion of the building. (b) Articulate all building elevations in both plan and section to reduce monotonous flat facades. (c) avoid highly reflective finishes and curtain wall glazing. (d) Avoid expanses of any single material. (e) Utilise high quality and durable materials and finishes. (f) Avoid blank or solid walls and the use of dark or obscured glass on street frontages. (g) screen air conditioning units. (h) For those dwellings adjacent to the street frontage, the habitable rooms must face the street. (i) The main pedestrian entrance or a foyer must be 1.2m or less above natural ground level.	A qualified designer has provided design verification. The proposed design does not detract from the urban character of the streetscape. The RFB follows the traditional RFB form of defined base, middle and top. Articulation and combination of building materials proposed to all elevations. No highly reflective finishes and curtain wall glazing proposed. Mix of materials proposed. Entry and front window face street frontage. Separate pedestrian entry to front Bourke Street unit 204 is available directly from street frontage.	Yes

(j) Entrances must be visible at eye level from the street and well lit. Ensure entrances can accommodate the movement of furniture.		
6.10 Access Requirement		
· All vehicles must be able to leave the site in a forward direction.	Access from the Virginia Street driveway.	Yes
· Driveway grades must comply with AS 2890.1.	Swept paths suggest compliant manoeuvring available to allow vehicles using the basement garage to leave the site in a forward direction.	
6.11 Landscaping Requirements		
· A minimum of 30% of the total site area must be provided as landscaped area (= 531m^2).	The plans indicate a total landscaped area of814.63m^2 (46%).	Yes
· The landscaped area may also include landscaping on a podium, where that section of the podium is less or equal to than 1.2 metres in height and the minimum soil standards below are achieved. Any landscaped area on the site which is less than 1.5 metres in width is not included within the landscaped area calculations.	The plans provide for retention of the magnolia tree. Landscaping is provided to side boundaries. Council's landscape designer has requested to communal open space decking is extended to the northern boundary (where landscaping currently proposed), to remove small areas of turf that may be hard to maintain.	
· The required landscaped area must include a minimum 1.5 metre wide landscaping bed, which is provided along the side and rear boundaries of the site.		
6.15 Adaptable 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 "preadaptation" design details to ensure visitability is achieved.	The development incorporates 3 adaptable apartments (101, 102 and 104). Pre and post adaptation plans have been provided.	Yes
· The DA 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). 6.16 Access for People with a Disability · provide a continuous path of travel to the development to ensure equitable access for all people including people with a disability.	Provided.	Yes

CHAPTER E2: CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

The proposed development is generally acceptable with regard to CPTED matters. Building entries are visible and secure access is provided to the basement and building foyer. Fencing delineates shared and private spaces.

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

Traffic impact assessment and public transport studies

A traffic impact assessment was provided for the proposal.

Parking demand and servicing requirements

The development requires parking at the following WDCP 2009 rates:

Residential flat building in city centre

- 0.75 spaces per dwelling <70m2 [nil apartments]; 1 space per dwelling 70-110m^2 [15]; 1.25 spaces per dwelling >110sqm [7],
- plus 0.2 car parking spaces per dwelling for visitors

  = Total 24 resident spaces plus 5 visitor car space required.
- 1 bicycle space per 3 dwellings for residents and 1 bicycle space per 12 dwellings for visitors.

  = Total 8 resident bicycles and 2 visitor bicycles required]
- 1 motorcycle space per 15 dwellings

  = Total 2 motorcycle spaces required

The development exceeds these requirements and provides:

- 29 x resident car parking spaces plus 5 visitor spaces
- 2 x motorcycle spaces
- 10 x bicycle spaces

Vehicular access

Driveway grades and sight distances are satisfactory.

Loading / unloading facilities and service vehicle manoeuvring

On-street waste collection is acceptable in this location.

Pedestrian access

The proposal is generally satisfactory with regard to pedestrian access into the site and along the frontage.

Safety & security (Crime Prevention through Environmental Design) measures for car parking areas

The basement car parking area is satisfactory with regard to the principles of CPTED.

CHAPTER E6: LANDSCAPING

A satisfactory landscape plan has been provided, which incorporates adequate tree protection and structural root zones to allow retention of the heritage listed magnolia tree. Council's landscape designer has no objection, noting that Trees 2-5 can be removed. Street tree planting is recommended.

CHAPTER E7: WASTE MANAGEMENT

A Site Waste Minimisation and Management Plan has been provided. Waste collection would occur on Virginia Street.

Suitable waste storage and servicing arrangements are proposed. Conditions should be imposed, if consent is granted, in relation to waste management during construction and ongoing waste management arrangements once the development is occupied.

CHAPTER E11 HERITAGE CONSERVATION

The land contains a magnolia tree identified as an item of local heritage significance. Council's heritage officer has reviewed the application and submitted heritage and arborist reports and conducted a site inspection. Photographic archival recording and a heritage interpretation plan are recommended.

CHAPTER E12 GEOTECHNICAL ASSESSMENT

The application 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 an uncategorised flood risk precinct. Council's stormwater engineer has reviewed the proposal with respect to the provisions of this chapter and WLEP 2009 and has recommended conditions of consent.

CHAPTER E14: STORMWATER MANAGEMENT

Stormwater can be suitably connected to Council's existing system. Council's Stormwater Engineer has provided a satisfactory referral in this regard.

CHAPTER E15 WATER SENSITIVE URBAN DESIGN

A water sensitive urban design report has been provided with eth application and is satisfactory.

CHAPTER E17: PRESERVATION AND MANAGEMENT OF TREES AND VEGETATION

Protection of the significant magnolia tree has been addressed within the arborist report supplied with the application. No concerns have been raised in relation to the impact of the proposed development on the magnolia, subject to tree protection measures being undertaken during excavation and construction. Conditions of consent are recommended.

CHAPTER E21: DEMOLITION AND HAZARDOUS BUILDING MATERIALS MANAGEMENT

Demolition of the existing aged care facility is proposed. All structures will be removed. A hazardous building survey and demolition work plan have been provided. Conditions of consent are recommended relating to asbestos disposal.

CHAPTER E22: SOIL EROSION AND SEDIMENT CONTROL

A sediment and erosion control plan has been provided.

ATTACHMENT 6 - DRAFT CONDITIONS FOR: DA-2020/1466

Approved Plans and Specifications

1 The development shall be implemented substantially in accordance with the details and specifications set out on Project No 20107 Drawing AR 0401-B, AR 0402-B, AR 0301-B, AR 0302-B, AR 201-B to AR 206-B, AR 0200-B, AR 0211-B and AR 207-B dated 9 June 2021 and AR 0303-A, AR 0211-A and AR 0212-A dated 7 December 2020 prepared by Jack Taylor Architects Pty Ltd and Hardscape Plan sheet 1-I and Drawing LPDA20-278 page 2-I, 3-I, 4-F and 5-F dated 15 June 2021 and L1 Landscape Plan 2 page 3-F dated 10 December 2020 prepared by Conzept and any details on the application form, and with any supporting information received, except as amended by the condition specified and imposed hereunder.

General Matters

2 **Building Work - Compliance with the Building Code of Australia**
All building work must be carried out in compliance with the provisions of the Building Code of Australia.

3 **Construction Certificate**
A Construction Certificate must be obtained from Council or a Registered Certifier prior to work commencing.

A Construction Certificate certifies that the provisions of Clauses 139-147 of the Environmental Planning and Assessment Regulation 2000 have been satisfied, including compliance with all relevant conditions of Development Consent and the Building Code of Australia.

Note: The Certifier must cause notice of its determination to be given to the consent authority, and to the Council, by forwarding to it, within two (2) days after the date of the determination, the plans and documentation referred to in clause 142 (2) of the Environmental Planning and Assessment Regulation 2000.

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

5 **Geotechnical**

a All work is to be in accordance with the geotechnical recommendations contained in the report dated 16 June 2020 by Construction Sciences.

b A dilapidation report is required for all structures located within the zone of influence of the proposed earthworks as determined by the geotechnical consultant.

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

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

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

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

g An earthworks plan is to be developed by the geotechnical consultant prior to start of earthworks.

h All recommendations of the geotechnical consultant in their geotechnical report dated 16 June 2020 are to be accommodated in the earthworks plan.

i The earthworks plan may require modification considering any subsequent geotechnical reports commissioned to address unforeseen geotechnical conditions encountered during the site preparation earthworks.

j All earthworks including drainage, retaining wall and footing construction is to be subject to geotechnical supervision. Where necessary amendments are to be made to the designs during construction based on supplementary geotechnical advice given during the supervision to ensure that the completed works accommodates all encountered geotechnical constraints.

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

6 **Stormwater Quality Management**

a The stormwater treatment system must achieve pollutants and nutrients removal minimum: GP – 90%, TSS – 80%, TP – 55% and TN – 40%

b It is strata management responsibility to maintain the stormwater filtration system.

7 **Tree Retention/Removal**

The developer shall retain the existing tree indicated within the Aboricultural Impact Assessment (Moore Trees, June 2021) consisting of Tree 1.

Any branch pruning, which has been given approval, must be carried out by a qualified arborist in accordance with Australian Standard AS 4373:2007.

All tree protection measures are to be installed in accordance with Australian standard AS 4790:2009 Protection of Trees on development Sites.

All recommendations in the Aboricultural Impact Assessment (Moore Trees, December 2021) to be implemented including and not restricted to remedial tree pruning, deadwooding, fencing and signage, sediment buffer, stem protection, establishing tree protection zones and watering and root hormone application if required.

This consent permits the removal of Trees 2 - 5 as indicated. No other trees shall be removed without prior written approval of Council.

Prior to the Issue of the Construction Certificate

8 **Dilapidation Report Prior to Construction**

A Dilapidation Report detailing the current structural condition of adjoining buildings, infrastructure and roads shall be prepared and endorsed by a qualified structural engineer. The report shall be submitted to the satisfaction of the certifying authority prior to issue of the Construction Certificate. A copy of the report is to be forwarded to Council and the owners of adjoining properties prior to the issue of a Construction Certificate.

9 **Heritage – Interpretation Plan**

An interpretation plan is to be provided to Council's Heritage Staff for written approval to guide the development of an appropriate Interpretative Installation to acknowledge the Carlton Residence and history of the site, linking it to the landscape vales of the magnolia and allows for the inclusion of any archaeological resources that are uncovered during excavation. The plan should include external elements, as well as internal signage in communal spaces.

The details of the proposed plan are to be provided to Council's Heritage Officers for written approval prior to the release of the Construction Certificate.

10 **Heritage Excavation Permit**

The applicant must obtain an excavation permit from the Heritage Branch of the Office of Environment and Heritage under Section 140 of the NSW Heritage Act 1977 before any works commence. A copy of the Section 140 approval should be provided to Council's Heritage Staff prior to the release of the Construction Certificate.

11 **Weather Protection Egress Stair Bourke Street**

Weather protection shall be provided to the egress stairway on the eastern side of the building, facing Bourke Street. An awning or similar is required and shall be shown on Construction Certificate plans

12 **Level 5 Façade Materials**
The change in Virginia Street façade materials on the top floor is not supported. All materials and cladding on the Level 5 façade should matching that shown on the development application plans for the lower levels.

13 **Heritage – Archaeological Research Design**
An Archaeological Research Design (ARD) should be prepared to support a s.140 application to be submitted to the Heritage Council. An Excavation Director must be nominated for that application and archaeological management (test excavation and potential salvage excavations) would likely be required. A copy of the final ARD should be provided to Council's Heritage Staff with the Section 140 Excavation Permit.

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

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

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

15 **Endeavour Energy Requirements**
The submission of documentary evidence from Endeavour Energy to the PC is required confirming that satisfactory arrangements have been made with Endeavour Energy for the provision of electricity supplies to the development, prior to the release of the Construction Certificate.

Note: Applications should be made to Customer Connections – South Coast, Endeavour Energy PO Box 811 Seven Hills NSW 1730.

16 **Car Parking and Access**
The development shall make provision for a total of 33 car parking spaces (including 5 visitor parking spaces and 3 spaces capable of adaptation for people with disabilities), 2 motorcycle parking spaces, a minimum of 8 secure (Class B) residential bicycle spaces, and a minimum of 2 visitor bicycle spaces (Class C). This requirement shall be reflected on the Construction Certificate plans. Any change in above parking numbers shown on the approved DA plans shall be dealt with via a section 4.55 modification to the development. The approved car parking spaces shall be maintained to the satisfaction of Council, at all times.

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

18 **Landscaping**
The submission of a final Landscape Plan will be required in accordance with the requirements of Wollongong City Council DCP 2009 Chapter E6 and the approved Landscape Plan (ie as part of this consent) for the approval by the PC, prior to the release of the Construction Certificate.

19 The submission of a final Landscape Plan to the PC, prior to the release of the Construction Certificate. The final Landscape Plan shall address the following requirements:

a The paved or decking areas are to be consolidated/extended in the communal open space to remove narrow strips of grass that are likely to fail due to wear and be difficult to maintain.

b planting of indigenous plant species native to the Illawarra Region such as: *Syzygium smithii* (syn *Acmena smithii*) Lilly pilly, *Archontophoenix cunninghamiana* Bangalow palm, *Backhousia myrtifolia* Grey myrtle, *Elaeocarpus reticulatus* Blueberry ash, *Glochidion ferdinandii* Cheese tree, *Livistona australis* Cabbage palm tree, *Syzygium paniculatum* Brush cherry.
A further list of suitable suggested species may be found in Wollongong Development Control Plan 2009 – Chapter E6: Landscaping;

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

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

e any proposed hard surface under the canopy of existing trees shall be permeable and must be laid such that the finished surface levels match the existing level. Permeable paving is to be installed in accordance with the manufacturer's recommendations.

The completion of the landscaping works as per the final approved Landscape Plan is required, prior to the issue of Occupation Certificate.

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

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

22 **Tree Protection and Management**

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

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

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

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

d A construction management plan with hold points for inspection by the consulting arborist, addressing demolition, hoardings and site storage and vehicle movement on site.

All site plans must demonstrate compliance with this requirement and be provided to the PC prior to issue of the Construction Certificate.

23 Bicycle parking facilities must have adequate weather protection and provide the appropriate level of security as required by the current relevant Australian Standard AS 2890.3 - Bicycle Parking Facilities. This requirement shall be reflected on the Construction Certificate plans.

24 **Property Addressing Policy Compliance**

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

25 **Footpath Paving City Centre**

The developer is responsible for the construction of footpath paving for the entire frontage of the development for the full width of the verge. The type of paving for this development shall be in accordance with the Wollongong City Council Public Domain Technical Manual.

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

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

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

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

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

26 **Street Trees City Centre**

The developer must address the street frontage by installing street tree planting. The number and species for this development are three (3) Magnolia 'Little Gem" for Virginia Street and two (2) *Brachychiton acerifolius* on Bourke Street, 200 litre container size in accordance with AS 2303:2018 Tree stock for landscape use. Tree pit detailing is to be in accordance with the Wollongong City Council Public Domain Technical Manual. Dial Before You Dig must be consulted prior to any excavation on site. Pot holing must be carried out to determine service location. Location of street tree plantings to be sited to ensure no conflict occurs with street light poles.

Tree pits must be adequately mulched, plants installed and tree guard/staking/tree grille/edging installed to the satisfaction of WCC Manager Parks and Open Space.

These requirements shall be reflected on the Construction Certificate plans and any supporting documentation.

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

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

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

28 **Development Contributions**

Pursuant to Section 4.17 of the Environmental Planning and Assessment Act 1979 and the Wollongong City-Wide Development Contributions Plan (2018), a monetary contribution of $72,700.00 (subject to indexation) must be paid to Council towards the provision of public amenities and services, prior to the release of any associated Construction Certificate.

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

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

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

Where:

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

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

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

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

The following payment methods are available:

METHOD	HOW	PAYMENT TYPE
Online	http://www.wollongong.nsw.gov.au/applicationpayments Your Payment Reference: 1294553	• Credit Card
In Person	Wollongong City Council Administration Building - Customer Service Centre Ground Floor 41 Burelli Street, WOLLONGONG	• Cash • Credit Card • Bank Cheque
PLEASE MAKE BANK CHEQUE PAYABLE TO: Wollongong City Council (Personal or company cheques are not accepted)		

A copy of the Wollongong City-Wide Development Contributions Plan (2018) and accompanying Fact Sheet may be inspected or obtained from the Wollongong City Council Administration Building, 41 Burelli Street, Wollongong during business hours or on Council's web site at www.wollongong.nsw.gov.au

Prior to the Commencement of Works

29 **Construction Environmental Management Plan**
Submit a construction environmental management to PC, the plan shall address as minimum hazardous material management as per ECS Consulting recommendations, the vehicle traffic, odour and vapour, dust, plant and machinery noise, water and sediment management, surface water, subsurface seepage and accumulated excavation water, sediment from equipment and cleaning operations, site security, working hours, contact information, incident response and contingency management.

30 **Heritage - Photographic Recording**
Prior to the commencement of works the existing building condition is to be documented through a photographic recording prepared in accordance with the NSW Heritage Branch Guidelines. A copy of the recording is to be provided to Council's Heritage Staff for written approval prior to the commencement of works. A copy of the final recording is to be provided to Wollongong City Council for inclusion in the local studies collection of the Wollongong City Library.

31 **Sign – Supervisor Contact Details**
Before commencement of any work, a sign must be erected in a prominent, visible position:

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

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

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

Each toilet provided must be:

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

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

33 **Enclosure of the Site**
The site must be enclosed with a suitable security fence to prohibit unauthorised access, to be approved by the PC. No building work is to commence until the fence is erected.

34 **Demolition Works**
The demolition of the existing structures shall be carried out in accordance with Australian Standard AS 2601:2001: The Demolition of Structures or any other subsequent relevant Australian Standard and the requirements of the SafeWork NSW.

No demolition materials shall be burnt or buried on-site. The person responsible for the demolition works shall ensure that all vehicles leaving the site carrying demolition materials have their loads covered and do not track soil or waste materials onto the road. Any unforeseen hazardous and/or intractable wastes shall be disposed of to the satisfaction of the PC. In the event that the demolition works may involve the obstruction of any road reserve/footpath or other Council owned land, a separate application shall be made to Council to enclose the public place with a hoarding or fence over the footpath or other Council owned land.

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

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

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

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

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

40 **Certification from Arborist - Adequate Protection of Trees to be Retained**
A qualified arborist is required to be engaged for the supervision of all on-site excavation or land clearing works. The submission of appropriate certification from the appointed arborist to the PC is required which confirms that all trees and other vegetation to be retained are protected by fencing and other measures, prior to the commencement of any such excavation or land clearing works.

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

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

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

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

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

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

During Demolition, Excavation or Construction

43 **Installation of WSUD Treatment Train**
The proponent shall install the WSUD infrastructure (water quality improvement devices) as stated in the stormwater quality management plan prepared by ATB Engineering Consulting dated December 2020.

44 **Implementation of all the Recommendation (Façades Glazing) of Acoustic Report**
Implement building acoustic treatment as recommended in Section 5.0 of acoustic report prepared by Harwood Acoustic dated December 2020. Comply with the with the NSW SEPP Infrastructure 2007 – Development Near Rail Corridors & Busy Roads –Interim Guidelines.

LAeq levels are not to exceed:

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

45 **Heritage - Unanticipated Finds of Aboriginal Cultural Heritage**
If unanticipated Aboriginal objects or human skeletal remains are found during works, all work must stop without causing further harm to the suspected Aboriginal objects. Wollongong City Council must be contacted immediately on 4227 7111. Heritage NSW must also be contacted immediately by calling Environment Line on 131 555. An Aboriginal Heritage Impact Permit (AHIP) under the National Parks & Wildlife Act 1974 may be required if harm to Aboriginal objects cannot be avoided. NSW Police must also be notified if human skeletal remains are found.

46 **Copy of Consent to be in Possession of Person carrying out Tree Removal**
The Developer/Applicant must ensure that any person carrying out tree removal is in possession of this development consent and/or the approved landscape plan, in respect to the tree(s) which has/have been given approval to be removed in accordance with this consent.

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

Allowable construction activity noise levels must be within the limits identified in the NSW EPA Interim Construction Noise Guidelines (ICNG) July 2009. ICNG are also applied for blasting, rock hammer and drilling, external plant and equipment.

https://www.environment.nsw.gov.au/resources/noise/09265cng.pdf

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

a the variation in hours required (length of duration);

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

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

48 **Dust Suppression Measures**
Activities occurring during the construction phase of the development must be carried out in a manner that will minimise the generation of dust.

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

50 **Asbestos Clearance Certificate**
The internal floor area affected or likely to be affected, by scattering of asbestos pieces, particles or fibres during demolition or cutting into the building, is to be cleaned by vacuuming by a contractor approved by SafeWork NSW. A Clearance Certificate to certify that the site area is free of asbestos is to be submitted to Council by a licensed asbestos assessor within fourteen (14) days of the completion of renovations (or prior to the Occupation Certificate being issued).

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

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

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

54 **Podium Planting**
All podium planting areas are to have a waterproofing membrane that can provide a minimum 10 year warranty on product. Protective boarding is to be installed to protect membrane from damage.

All podium planting areas to be provided with an adequate drainage system connected to the stormwater drainage system. The planter box is to be backfilled with free draining planter box soil mix.

If selected mulch is decorative pebbles/gravel, the maximum gravel pebble size is 10mm diameter.

Prior to the Issue of the Occupation Certificate

55 **Acoustic Compliance Report**
The developer shall submit a noise compliance report prepared by an acoustic consultant who is a member of the Australian Acoustic Society (AAS) or the Association of Australian Acoustic Consultants (AAAC) in relation to the building compliance with the NSW SEPP Infrastructure

2007 – Development Near Rail Corridors & Busy Roads –Interim Guidelines. A copy of the acoustic compliance report must be submitted to PC and forward a copy to Council.

56 **Dilapidation Report Following Construction**
A Dilapidation Report prepared by a qualified structural engineer must be submitted to the PC, together with the initial Dilapidation Report prepared prior to construction of the approved development.

The report must ascertain whether any structural damage has occurred to adjoining buildings, infrastructure or roads following construction of the development. The report shall be submitted to the satisfaction of the PC and a copy must be provided to Council within one month of submission to the PC. This must be provided prior to the release of the Occupation Certificate.

57 **Heritage Interpretation Works**
Prior to the release of the Occupation certificate, the developer is to complete any works that are recommended for the site, as detailed in the Heritage Interpretation Plan endorsed by Council's Heritage Staff.

Final sign off on the completed interpretation works is to be provided by Council's Heritage Staff.

58 **Heritage Documents – Local Studies Library**
A copy of all heritage documents are to be provided in bound hard copy and digitally to Councils' Heritage Staff for inclusion in the Wollongong Local Studies Library, prior to the release of Occupation Certificate. The document required in the bundle include:

- Heritage Impact Statement;
- Archaeological Research Design;
- archaeological Test Excavation Report;
- Heritage Interpretation Plan; and
- Photographic Recording.

59 **Completion of Landscape Works**
The completion of the landscaping works as per the final approved Landscape Plan is required prior to the issue of Occupation Certificate.

60 **Completion of Landscape Works on Council Owned or Controlled Land**
The Developer must complete all landscape works required within Council's road reserve, or other Council owned or controlled land, in accordance with the conditions of this consent. The total cost of all such landscape works shall be fully borne by the Developer and any damage to Council's assets shall be the subject of restoration works sufficient to restore the asset to its previous state and configuration previous to the commencement of works. Evidence that this requirement has been met must be satisfied prior to the issue of the Occupation Certificate.

61 **Arborist Verification – Street Tree Installation**
Prior to the issue of Occupation Certificate, the developer must supply certification in the form of a report, including photographic evidence, from an AQF Level 5 Arborist to the PC and Wollongong City Council to verify:

- The tree stock complies with AS 2203:2018 Tree Stock for Landscape Use.
- The tree pits have been constructed and the trees installed in accordance with the requirements of the Wollongong City Council City Centre Public Domain Technical Manual and arboricultural best practice.

Operational Phases of the Development/Use of the Site

62 The magnolia tree shall continue to be protected and managed in perpetuity in accordance with Council's heritage, tree preservation and landscaping policies. Future strata subdivision shall incorporate strategies for the tree's ongoing protection.

63 **Street Tree Establishment Period – City Centre/Commercial Village Centre**

The Developer must comply with the terms of an approved landscape maintenance program for a minimum period of 12 months to ensure that all landscape works within Council's road reserve or Council owned or controlled land becomes well established by regular maintenance. The Street Tree Establishment Period shall commence from the issue of the Occupation Certificate.

The program must include the following elements: watering, weeding, litter removal, mulching, fertilising, tree guard and grate maintenance, and pest and disease control.

Details of the proposed program must be submitted with the Landscape Plan to the PC for approval prior to release of the Construction Certificate.