

ACTIVITY DETERMINATION

Project No. BGYGN

Conflict of Interest1

In this matter:

- I have declared any possible conflict of interests (real, potential or perceived) to the Chief Executive, Land & Housing Corporation.
- 2. I do not consider I have any personal interests that would affect my professional judgement.
- 3. I will inform the Chief Executive, Land & Housing Corporation as soon as I become aware of a possible conflict of interest.

Signed.....

Name....Emma Nicholson....

Dated....5 July 2023

Having regard to the Determination Recommendation Report, the Statement of Compliance and the Review of Environmental Factors for this project addressing matters under Part 5 of the Environmental Planning and Assessment Act 1979, I determine that the activity proceed as described below and subject to the Identified Requirements set out in Schedule 1.

SITE IDENTIFICATION		
STREET ADDRESS		
Unit/Street No	Street or property name	
36-38	Birdwood Avenue	
Suburb, town or locality		Postcode
Pagewood, NSW		2035
Local Government Area(s)	Real property description (Lot and	IDP)
Bayside	Lots 3 and 4 in DP 35317	
ACTIVITY DESCRIPTION		

Provide a description of the activity

Demolition of existing dwellings and structures, removal of trees including 1 street tree, and the construction of 10 independent living seniors housing units comprising 8 x 1 bedroom and 2 x 2 bedroom units, with associated landscaping and fencing, surface parking for 4 cars, and consolidation into a single lot.

^{1.} Conflict of interest includes actual and potential. A conflict of interest includes pecuniary i.e. financial interests to you or a related party or non-pecuniary i.e. benefits to relatives, friends, business associates and personal causes, etc. This includes "related persons" as defined in the Property, Stock and Business Agency Act 2002.

Signed.....

Dated 5 July 2023

Emma Nicholson
A/Head of Policy and Innovation
Land and Housing Corporation
Department of Planning & Environment

SCHEDULE 1

IDENTIFIED REQUIREMENTS

PART A - Standard Identified Requirements

THE DEVELOPMENT

The following Identified Requirements are to ensure that the residential activity is carried out in accordance with the plans / documents and any amendments arising from the Review of Environmental Factors under Part 5 of the Environmental Planning & Assessment Act 1979, Section 171 of the Environmental Planning and Assessment Regulation 2021 and the requirements of State Environmental Planning Policy (Housing) 2021.

1. The development shall be carried out substantially in accordance with the following plans / documents as modified below and by any of the undermentioned Identified Requirements:

Title / Name:	Drawing No / Document Ref	Revision / Issue:	Date [dd/mm/yyyy]:	Prepared by:				
Architectural								
Cover Sheet	A-0001	В	23/02/2023	CKDS Architects				
Ground Floor	A-0101	Α	19/01/2023	CKDS Architects				
Demolition Plan								
Site Plan – Ground	A-1101	С	23/02/2023	CKDS Architects				
Floor Plan								
First Floor Plan	A-1102	Α	19/01/2023	CKDS Architects				
Roof Plan	A-1103	Α	19/01/2023	CKDS Architects				
Unit Plans 1 & 6	A-1201	Α	19/01/2023	CKDS Architects				
Unit Plans 2 & 7	A-1202	Α	19/01/2023	CKDS Architects				
Unit Plans 3 & 8	A-1203	Α	19/01/2023	CKDS Architects				
Unit Plans 4 & 9	A-1204	Α	19/01/2023	CKDS Architects				
Unit Plans 5 & 10	A-1205	Α	19/01/2023	CKDS Architects				
Streetscape	A-2001	С	23/02/2023	CKDS Architects				
Elevation –								
Birdwood Avenue								
North & East	A-2002	С	23/02/2023	CKDS Architects				
Elevation								
South & West	A-2003	С	23/02/2023	CKDS Architects				
Elevation								

Title / Name:	Drawing No /	Revision	Date	Prepared by:
	Document Ref	/ Issue:	[dd/mm/yyyy]:	
Architectural	1 4 0001		00,00,000	
Section A & B	A-3001	C	23/02/2023	CKDS Architects
Waste Management	A-4001	А	19/01/2023	CKDS Architects
Plan	A 4000	Α	10/01/0000	OKDO A l-: t t-
Cut and Fill Plan	A-4002	Α	19/01/2023	CKDS Architects
Window Schedule	A-7001	В	19/01/2023 23/02/2023	CKDS Architects CKDS Architects
External Finishes	A-8001	В	23/02/2023	CNDS Architects
Schedule Material Schedule –	A-8002	Α	19/01/2023	CKDS Architects
Perspectives	A-0002	A	19/01/2023	CRDS Architects
Material Schedule -	A-8003	Α	19/01/2023	CKDS Architects
Perspectives	A-0003	_ ^	19/01/2023	CNDS Architects
Landscape				
Cover Sheet	DA-L000	D	09/03/2023	Xeriscapes
Cover Sneet	DA-LOOU	D	09/03/2023	Aeriscapes
Landscape Plan –	DA-L101	С	24/02/2023	Xeriscapes
Ground Floor	DA-LIOI		24/02/2023	Aeriscapes
Landscape Planting	DA-L102	Α	09/03/2023	Xeriscapes
Plan	DA-LIOZ		03/03/2023	Keriscapes
Plant Schedule	DA-L201	Α	09/03/2023	Xeriscapes
Civil/ Stormwater	DA-LZOI	<u> </u>	03/03/2023	Aeriscapes
Civil Engineering	DA-C01.01	2	17/01/2023	Northrop
Package – Cover	DA-C01.01		17/01/2023	Northrop
sheet, drawing list				
and locality plan				
Civil Engineering	DA-C02.01	2	17/01/2023	Northrop
Package – Erosion	DA-002.01	_	17/01/2023	Northrop
and Sediment				
Control Plan				
Civil Engineering	DA-C02.11	2	17/01/2023	Northrop
Package – Erosion	77. 002	-	.,, .,,,	
and Sediment				
Control Details				
Civil Engineering	DA-C03.01	3	18/01/2023	Northrop
Package –				·
Stormwater				
Management Plan				
Civil Engineering	DA-C04.01	2	17/01/2023	Northrop
Package – Civil				
Details				
BASIX				
BASIX Certificate	1361044M		22/01/2023	Evergreen Energy
				Consultants Pty Ltd
NatHERS	0008364450		22/01/2023	Evergreen Energy
Certificate				Consultants Pty Ltd
Reports				
Traffic and Parking		Rev B	08/03/2023	McLaren Traffic
Assessment Report				Engineering & Road Safety
				Consultants
Arboricultural			January 2023	Allied Tree Consultancy
Impact Assessment				
Waste Management			-	Bayside Council/NSW
Plan				LAHC
Access Report			27/02/23	Lindsay Perry Access
Geotechnical			June 2022	STS Geotechnics Pty Ltd
Investigation Report				
BCA Design			02/03/2023	Philip Chun Building

Title / Name:	Drawing No / Document Ref	Revision / Issue:	Date [dd/mm/yyyy]:	Prepared by:
Architectural				
Compliance				Compliance
Assessment				
Noise Impact			February	Spectrum Acoustics
Assessment Report			2023	

- 2. All building work is to be undertaken in accordance with the National Construction Code and referenced Australian Standards.
- **3.** All commitments listed in the BASIX certificate and stamped plans shall be implemented.
- **4.** All construction documentation and building work is to be certified in accordance with Section 6.28 of the Environmental Planning and Assessment Act 1979.
- 5. The land the subject of this determination shall be consolidated into a single lot. The plan of consolidation shall be lodged at the NSW Land Registry Services and shall be registered prior to the occupation of the development. A copy of the registered plan shall be provided to the Land & Housing Corporation.

OPERATIONAL MATTERS

The following Identified Requirements relate to the use of the site and are to ensure that the activity and its operation do not interfere with the amenity of the surrounding area.

Stormwater Run-off

- 6. Stormwater shall be collected within the site and conveyed in a pipeline to the appropriate gutter or drain under the control of Bayside Council substantially in accordance with the approved concept stormwater drainage plans.
- 7. Alterations to the natural surface contours or surface absorption characteristics of the site shall not impede, increase or divert natural surface water runoff so as to cause a nuisance to adjoining property owners.
- **8.** All driveways shall be graded in such a manner as to provide continuous surface drainage flow paths to the appropriate points of discharge.
- **9.** To prevent water from entering buildings, surface waters shall be collected and diverted clear of the buildings by a sub-surface / surface drainage system.

Vehicular Access & Parking

10. Concrete vehicular crossings and laybacks shall be provided at the entrances / exits to the property. The crossings and laybacks shall be constructed in accordance with Bayside Council's standard requirements for residential crossings. Council shall be provided with plans for the crossings and laybacks together with the payment of any council inspection fees.

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11. Particular care shall be taken in the location of vehicular crossings and/or laybacks to avoid poles, pits etc. The cost of any necessary adjustments to utility mains and services associated with the construction of the laybacks / driveways shall be borne by the Land & Housing Corporation. Obsolete gutter laybacks shall be constructed as kerb in accordance with Bayside Council's standards.

Note

It is recommended that discussion be held with the relevant authorities before construction works commence.

12. Car parking spaces and driveways shall be constructed of concrete or other approved hard surfaced materials. The spaces must be clear of obstructions and columns, permanently line marked and provided with adequate manoeuvring facilities. The design of these spaces must comply with AS 2890.1.

Site Works

- 13. All soil erosion and sediment control measures required to be put in place prior to the commencement of demolition / construction works shall be maintained during the entire period of the works until all the disturbed areas are restored by turfing, paving or revegetation. Soil erosion and sediment control measures shall be designed in accordance with the guidelines set-out in the Blue Book *Managing Urban Stormwater:* Soils and Construction (4th edition, Landcom, 2004).
- 14. An appropriately qualified person shall design retaining walls or other methods necessary to prevent the movement of excavated or filled ground, including associated stormwater drainage measures.

Building Siting

15. All buildings shall be sited well clear of any easements affecting the site. The builder shall ascertain if any easements do exist and, if they do, obtain full details of such prior to construction commencing.

Smoke Detection System(s)

- 16. Smoke detection systems shall be installed throughout the building(s) in accordance with requirements of Clause E2.2a of the Building Code of Australia. Detectors and alarms shall comply with AS 3786 and AS 1670 and must:
 - i. be connected to a permanent 240V power supply; and
 - ii. be provided with a battery backup to activate the alarm unit in the event of failure of the permanent power supply.

Site Soil Contamination

17. If the site is identified as being potentially affected by soil contamination, it shall be inspected by a suitably qualified person to identify any contaminated or hazardous material present. A proposal for remediation shall be prepared, which may include preparation of a Remedial Action Plan, and remediation shall be carried out in accordance with the proposal. A Validation Report, prepared in accordance with Environment Protection Authority requirements, shall be obtained from a qualified expert on completion of the remediation work to verify that the site is suitable for the intended residential use. A copy of the Validation Report shall be provided to the Land & Housing Corporation on completion of the remediation works.

Landscaping

- 18. Landscaping shall be carried out substantially in accordance with the approved Landscape Plan and maintained for a period of 12 months by the building contractor. Bayside Council shall be consulted in relation to the planting of any street trees.
- 19. All scheduled plant stock shall be pre-ordered, prior to commencement of construction or 3 months prior to the commencement of landscape construction works, whichever occurs sooner, for the supply to the site on time for installation. The builder shall provide written confirmation of the order to the Land & Housing Corporation.

Tree Removal

20. Removal of trees within the boundaries of the site and external to the site are to be carried out in accordance with the trees shown for removal on the approved Landscape Plan and Arboricultural Impact Assessment Report and no other trees shall be removed without further approvals.

Fencing

21. All front fencing and gates shall be constructed wholly within the boundaries of the site. Any gates associated with the fencing shall swing inwards towards the site.

Provision of Letterbox Facilities

22. Suitable letterbox facilities are to be provided in accordance with Australia Post specifications.

Public Liability Insurance

23. A valid public liability insurance policy of at least \$10M shall be maintained throughout the demolition / construction works by the contractor.

PRIOR TO ANY WORK COMMENCING ON THE SITE

The following Identified Requirements are to be complied with prior to any work commencing on the site, including demolition.

Disconnection of Services

- 24. All services that are required to be disconnected shall be appropriately disconnected and made safe prior to commencement of the demolition / construction works. The various service authorities shall be consulted regarding their requirements for the disconnection of services.
- **25.** All existing services within the boundary to remain live shall be identified, pegged and made safe.

Demolition

26. The builder shall notify the occupants of premises on either side, opposite and at the rear of the site a minimum of 5 working days prior to demolition. Such notification shall be clearly written on an A4 size paper giving the date demolition will commence

and be placed in the letterbox of every premise (including every unit in a multi-unit residential building or mixed use building). The demolition shall not commence prior to the date that is stated in the notice letter.

- 27. Prior to the demolition, a Work Plan shall be prepared by a competent person in accordance with AS 2601 and shall be submitted to the Land & Housing Corporation. The Work Plan shall outline the identification of any hazardous materials (including surfaces coated with lead paint), method of demolition, the precautions to be employed to minimise any dust nuisance and the disposal methods for hazardous materials.
- 28. If buildings to be demolished are determined as, or suspected of, containing asbestos cement, a standard commercially manufactured sign containing the words 'DANGER ASBESTOS REMOVAL IN PROGRESS', and measuring not less than 400mm x 300mm, shall be erected in a prominent visible position on the site for the duration of the demolition works.

Note:

Any buildings constructed before 1987 is assumed to contain asbestos.

Utilities Service Provider Notification

29. The demolition / construction plans shall be submitted to the appropriate water utility's office (e.g. Sydney Water office) to determine whether or not the development will affect the utility's sewer and water mains, stormwater drains and any easements.

Note:

If the development complies with water utility's requirements, the plans will be stamped indicating that no further requirements are necessary.

Council Notification

30. Bayside Council shall be advised in writing, of the date it is intended to commence work, including demolition. A minimum period of **5** working days notification shall be given.

Site Safety

- 31. A sign shall be erected in a prominent position on any site on which demolition or building work is being carried out:
 - (a) showing the name, address and telephone number of the responsible Land & Housing Corporation officer for the work, and
 - (b) showing the name of the principal contractor (if any) and a telephone number on which that person may be contacted outside working hours, and
 - (c) stating that unauthorised entry to the work site is prohibited.

The sign shall be maintained while the work is being carried out but shall be removed when the work has been completed.

Note:

This requirement does not apply in relation to building work that is carried out inside an existing building that does not affect the external walls of the building.

32. A minimum 1.8m high security fence or Class A / Class B (overhead) hoarding must be erected between the work site and any public place prior to demolition / construction.

Access to the site shall be restricted to authorised persons only and the site shall be secured against unauthorised entry when demolition / construction work is not in progress or the site is otherwise unoccupied.

Note

Approval from the relevant roads authority will be required under Section 138 of the Roads Act 1993 where a Class A or B hoarding encroaches onto the footpath of / or a public thoroughfare within a classified road.

33. No building or demolition materials are to be stored on the footpath or roadway.

Site Facilities

- **34.** The following facilities shall be installed on the site:
 - (a) Toilet facilities shall be provided at the rate of 1 toilet for every 20 persons or part thereof employed at the site. Each toilet provided shall be a standard flushing toilet and shall be connected to a public sewer or if connection to a public sewer is not practicable, to an accredited sewerage management facility provided by Bayside Council or if this is not practicable to some other council approved management facility.
 - (b) Adequate refuse disposal methods and builders storage facilities. Builders' wastes, materials or sheds shall not to be placed on any property other than that which this approval relates to.
- **35.** Access to the site shall only be provided via an all-weather driveway on the property and is not to be provided from any other site.

Protection of Trees

36. Trees and other vegetation that are to be retained on site shall be protected prior to the commencement of works and for the duration of the construction period in accordance with the details provided in the Arboricultural Impact Assessment Report.

Waste Management

37. A final Waste Management Plan shall be prepared and submitted to the Land & Housing Corporation by the building contractor prior to the commencement of demolition / construction. The plan shall detail the amount of waste material and the destination of all materials, recyclable and non-recyclable.

PRIOR TO ANY CONSTRUCTION WORK COMMENCING ON SITE

The following Identified Requirements are to be complied with prior to any construction works occurring on the site, excluding demolition.

Service Authority Clearances

38. A compliance certificate, or other evidence, shall be obtained from Sydney Water, confirming service availability prior to work commencing.

Note:

Payment of water and/or sewer service charges and/or a notice of requirements for works to be carried out during construction / prior to occupation may be applicable prior to issue of the compliance certificate.

- **39.** A written clearance from an electricity supply authority stating that electrical services are available to the site, or that arrangements have been entered into for the provision of services to the site, shall be obtained prior to work commencing.
- **40.** A certificate from an approved telecommunications carrier certifying that satisfactory arrangements have been made for the provision of underground telephone services, to the site and to each dwelling, shall be obtained prior to work commencing.
- 41. Where the site is to be connected to reticulated gas, a certificate from an approved gas carrier to certify that satisfactory arrangements have been made to ensure the provision of underground gas services to each dwelling in the development shall be obtained prior to work commencing.

Stormwater Disposal

- 42. A detailed stormwater drainage plan(s), substantially in accordance with the approved concept stormwater drainage plan(s), shall be prepared and submitted to the Land & Housing Corporation. Any on-site detention system shall be designed in accordance with the relevant catchment authority's requirements (e.g. the Upper Parramatta River Catchment Trust On-site Detention Handbook) and/or Bayside Council's drainage code.
- 43. Where a drainage easement is required, proof of lodgement of the plan of the drainage easement at the NSW Land Registry Services shall be submitted to the Land & Housing Corporation prior to commencement of works. Registration of the plan of easement shall be completed prior to occupation of the development and a copy of the registered plan shall be provided to the Land & Housing Corporation.

DURING DEMOLITION AND CONSTRUCTION WORKS

The following Identified Requirements are to be complied with whilst demolition and construction works are occurring on the site.

Landfill

- **44.** Where site filling is necessary, a minimum of 95% standard compacting shall be achieved and certified by a NATA registered Soils Lab.
- **45.** Land fill materials must satisfy the following requirements:
 - i. be Virgin Excavated Natural Matter (VENM);
 - ii. be free of slag, hazardous, contaminated, putrescible, toxic or radio-active matter; and
 - iii. be free of industrial waste and building debris.

Heritage

46. Historic and indigenous archaeological sites and relics are protected under the Heritage Act 1977 and National Parks and Wildlife Act 1974, respectively. Should any relics be uncovered during the course of the approved works, work must cease immediately in the affected area. Subsequently, in cases where historical or

- indigenous items have been uncovered, the Department of Planning and Environment must be contacted.
- 47. All workers / contractors on the site shall be informed of their obligations, under the Heritage Act and *National Parks and Wildlife Act 1974*, that it is illegal to disturb, damage or destroy a relic without the prior approval of the Department of Planning and Environment.

Demolition

- **48.** Any existing structures identified for demolition shall be demolished prior to commencement of the construction of the activity.
- **49.** Demolition shall be carried out in accordance with the appropriate provisions of AS 2601.
- **50.** Where materials containing asbestos are to be removed, demolition shall be carried out by a licensed contractor(s) who have current SafeWork NSW accreditation in asbestos removal.
- 51. Removal of asbestos-based thermal or acoustic insulation, such as sprayed asbestos and asbestos-based lagging, including friable asbestos boards, shall be carried out in accordance with the National Occupational Health and Safety Commission's Code of Practice for the Safe Removal of Asbestos, 2nd Edition [NOHSC:2002 (2005)].
- **52.** Hazardous or intractable wastes, including all asbestos laden waste, arising from the demolition process shall be removed and disposed of in accordance with the requirements of SafeWork NSW and the Department of Planning and Environment.
- **53.** Documentary evidence, in the form of tip receipts from an approved Waste Management Facility, shall be obtained by the demolition contractor and submitted to the Land & Housing Corporation demonstrating the appropriate disposal of the asbestos waste.
- **54.** Demolition procedures shall maximise the reuse and recycling of demolished materials in order to reduce the environmental impacts of waste disposal.
- 55. During demolition, the public footpath and the public road shall not be obstructed by any vehicles. The public road and footpath shall be swept (not hosed) clean of any material, including clay, soil and sand.
- 56. All vehicles leaving the site with demolition materials shall have their loads covered and vehicles shall not track soil and other material onto the public roads and footpaths. The footpath shall be suitably protected against damage when plant and vehicles access the site. All loading of vehicles with demolished materials shall occur on site.

Survey Reports

57. Survey reports shall be submitted by the building contractor to the Land & Housing Corporation prior to the placement of the footings / slab and on completion of the dwellings to verify the correct position of the structures in relation to the allotment boundaries.

Hours of Demolition / Construction / Civil Work

58. Demolition / construction / Demolition / construction / civil work shall only occur on the site between the hours of 7.00am to 5.00pm Monday to Saturday with no work permitted on Sundays or public holidays.

Excavation & Backfilling

59. All excavations and backfilling associated with the demolition or erection of building(s) shall be executed safely and in accordance with appropriate professional standards. All such work shall be guarded and protected to prevent it from being dangerous to life or property.

Pollution Control

- 60. Any noise generated during the construction of the development shall not exceed the limits specified in the July 2009 Interim Construction Noise Guidelines, published by the former Department of Environment and Climate Change.
- 61. No fires shall be lit or waste materials burnt on the site.
- **62.** No washing of concrete forms or trucks shall occur on the site.
- 63. Any contamination / spills on the site during construction works shall be actively managed and reported immediately to appropriate regulatory authorities to minimise any potential damage to the environment.
- **64.** Dust generation during demolition / construction shall be controlled using regular control measures such as on site watering or damp cloth fences.
- **65.** All vehicles transporting loose materials and travelling on public roads shall be secured (i.e. closed tail gate and covered) to minimise dust generation.
- **66.** Non-recyclable waste and containers shall be regularly collected and disposed of at a licensed landfill or other disposal site in accordance with details set out in the final Waste Management Plan.

Impact of Construction Works

- 67. The Land & Housing Corporation shall bear the cost of any necessary adjustments to utility mains and services.
- **68.** Care shall be taken to prevent any damage to adjoining properties. The building contractor shall be liable to pay compensation to any adjoining owner if, due to demolition/construction works, damage is caused to such adjoining property.

Termite Protection

69. To protect buildings from subterranean termite, termite barriers installed in accordance with AS 3660.1, shall be placed on the underside and in penetrations of the concrete slab floor.

In addition, a durable notice must be permanently fixed inside the meter box indicating:

- (a) the method of protection.
- (b) the date of installation of the system.
- (c) where a chemical barrier is used, its life expectancy as listed on the National Registration Authority label, and
- (d) the need to maintain and inspect the system on a regular basis.

PRIOR TO OCCUPATION OF THE DEVELOPMENT

The following Identified Requirements are to be complied with prior to the occupation of the development.

General

70. The use or occupation of the development shall not commence until all the Identified Requirements of this determination have been complied with.

Council Infrastructure Damage

71. The cost of repairing any damage caused to Bayside Council's assets in the vicinity of the site as a result of demolition / construction works shall be met in full by the building contractor.

Stormwater Drainage

- 72. Prior to occupation, a Work As Executed Plan shall be prepared by the building contractor clearly showing all aspects of the constructed stormwater drainage system, including any on-site detention system. The plan shall demonstrate general compliance with the approved concept stormwater drainage plan(s) and shall include:
 - sufficient levels and dimensions to verify the constructed storage volumes; and
 - location and surface levels of all pits; and
 - invert levels of the internal drainage lines, orifice plates fitted and levels within the outlet control pits; and
 - finished floor levels of all structures; and
 - verification that any required trash screens have been installed; and
 - locations and levels of any overland flow paths; and
 - verification that any drainage lines are located wholly within easements, where applicable.

The Work-As-Executed Plan information shall be shown on the final civil works drawings.

PART B – Additional Identified Requirements

Specific Requirements for Seniors Housing

73. The independent living units shall comply with the accessibility and useability standards referenced in section 85 and set out in Schedule 4 of State Environmental Planning Policy (Housing) 2021.

Note:

This requirement does not apply to the provisions set out under sections 2, 7-13 and 15-20 of Schedule 4 for an independent living unit, or part of such a unit, that is located above the ground floor.

- **74.** Only the following kinds of people shall be accommodated in the approved development:
 - (a) seniors or people who have a disability; or
 - (b) people who live within the same household with seniors or people who have a disability; or
 - (c) staff employed to assist in the administration and provision of services to the seniors housing development.

Note:

It should be noted that 'seniors', as defined in the Housing SEPP, are any of the following:

- (a) people aged 60 or more years,
- (b) people who are resident at a facility at which residential care (within the meaning of the Aged Care Act 1997 of the Commonwealth) is provided, and
- (c) people who have been assessed as being eligible to occupy housing for aged persons provided by a social housing provider.

A restriction as to user shall be registered against the title of the property, prior to occupation, in accordance with Section 88E of the Conveyancing Act 1919 limiting the use of any accommodation to the kinds of people referred to above and that the dwellings cannot be subdivided.

- **75.** Pathway lighting shall be designed to provide a minimum of 20 lux at ground level and be located to avoid glare for pedestrians and adjacent dwellings.
- **76.** Access to, and within, the site shall be provided in accordance with AS 1428.1 so that a person using a wheelchair can use common areas and common facilities associated with the activity.
- 77. The existing footpath between the site frontage and bus stops ID203519 and ID203225 on Bunnerong Road must be checked for compliance with the access and gradient requirements under clause 93(4) in the State Environmental Planning Policy (Housing) 2021. Where upgrades to the existing footpath are required, they must be constructed in accordance with Bayside Council specifications.

Note:

The responsible officer at the Bayside Council shall be contacted regarding council's specifications and any necessary approvals.

78. Entry doors to units shall to be provided with door viewers to enable residents to view approaches to their units without the need to open the door.

Site Specific Requirements

- 79. The 4 canopy trees located within 1.5m of the existing sewer main at the rear of the site must be replaced with smaller shrub planting (5m or less in height) to avoid conflict with existing infrastructure. An updated Landscape Plan must be provided prior to construction.
- 80. New tree planting provided on the site to compensate for the loss of existing trees must be of an 'advanced' size (minimum 100 lt) when planted, and supplied by a registered nursery that adheres to Australian Standard 2303. This applies to all trees specified on the Landscape Plan as having a mature height of 7m or greater.

- 81. The construction recommendations specified in the Noise Impact Assessment Report prepared by Spectrum Acoustics (dated February 2023) must be incorporated in the design documentation prior to the issuing of the relevant Crown Certificate.
- 82. To minimise potential privacy impacts generated by the driveway, car park and pedestrian walkway, the lower pane of windows W201-W204, and window W102 are to be fitted with translucent glazing.

ADVISORY NOTES

- i. Approval of this development activity does not imply or infer compliance with Section 23 of the *Disability Discrimination Act 1992*. Refer to AS 1428.1 and the Building Code of Australia for detailed guidance.
- ii. Information regarding the location of underground services may be obtained from Dial Before You Dig at www.1100.com.au or by dialing 1100.

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Decision Statement

SITE IDENTIFICATION							
STREET ADDRESS							
Unit/Street No	Street or property name						
36-38	Birdwood Avenue						
Suburb, town or locality		Postcode					
Pagewood, NSW		2035					
Local Government Area(s)	Real property description (Lot and	J DP)					
Bayside	Lots 3 and 4 in DP 35317						
ACTIVITY DESCRIPTION							
Provide a description of the activity							
Demolition of existing dwellings and structures, removal of trees including 1 street tree, and the construction of 10 independent living seniors housing units comprising 8 x 1 bedroom and 2 x 2 bedroom units, with associated landscaping and fencing, surface parking for 4 cars, and							

The Land & Housing Corporation (LAHC) has proposed the above activity under the provisions of *State Environmental Planning Policy (Housing) 2021* (Housing SEPP) which requires determination under Part 5 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). This Decision Statement relates to the Review of Environmental Factors (REF) for the above activity prepared under Part 5 of the EP&A Act and the *Environmental Planning and Assessment Regulation 2021*

Based on the REF document, a decision to proceed with the proposed activity has been made. This decision included consideration of the following:

Significant Impact on the Environment

consolidation into a single lot.

- The proposed activity is not likely to have a significant impact on the environment and therefore an EIS is not required.
- The proposed activity will not be carried out in a declared area of outstanding biodiversity value and
 is not likely to significantly affect threatened species, populations or ecological communities, or their
 habitats or impact biodiversity values, meaning a SIS and/or BDAR is not required.

Reasons for the Decision

- Following an assessment of the proposed activity and associated environmental impacts within the REF it was decided that the proposed seniors housing development will have economic and social benefits and any minor short-term impacts on the environment or surrounding properties can be appropriately mitigated.
- The proposed seniors housing development will assist LAHC in providing new, fit for purpose housing in the Bayside area which will assist in addressing the existing and growing demand for social housing in Bayside local government area.

Mitigation Measures

 Mitigation measures are required to minimise or manage environmental impacts and are detailed throughout the REF and specifically within Section 7. All mitigation measures are detailed as Identified Requirements within the Activity Determination. Additional mitigation measures, detailed in the Activity Determination have been imposed to minimise the impact on the surrounding environment, ensure appropriate site safety and to ensure legislative compliance.

Signed.....

Dated...5 July 2023

Emma Nicholson
Acting Head of Policy and Innovation
Land and Housing Corporation
Department of Planning & Environment

Lahc Pagewood Seniors Housing - Bgygn

36-38 BIRDWOOD AVENUE PAGEWOOD NSW 2035 Lot 3 & 4 DP 35317





Job Reference	BGYGN									
Locality/ Suburb										
	Pagewood (Ba	yside Council)								
Street Address	36-38 BIRDW0									
Lot & DP	Lot 3 & 4 DP 3	531/								
SITE AREA	1280sqm									
EXISTING LOTS	2									
PROPOSED GFA	704sqm									
DWELLING#	10 Units			Area	POS	CROSS VENTILATION	SOLAR COMP	LAR	SOLAR COMP	LAR
DWELLINGS	Number	Type*	No. of Bedrooms	(m²)	(m²)	VENTILATION	June 21 9am-3 LIVING	pm POS	June 21 9am-3 LIVING	pm POS
	1	Ground	1	58m ²	15m ²	YES	COMPLIES	COMPLIES	COMPLIES	COMPLI
	2	Ground	1	61m ²	24m ²	YES	COMPLIES	COMPLIES	COMPLIES	COMPLI
	3	Ground	1	54m ²	39m ²	NO	COMPLIES	COMPLIES	COMPLIES	COMPLI
	4	Ground	2	75m ²	47m ²	YES	COMPLIES	COMPLIES	COMPLIES	COMPLI
	5	Ground	1	54m ²	102m²	YES	NO NO	COMPLIES	NO NO	COMPLI
	6	1st	1	59m ²	9m ²	YES	COMPLIES	COMPLIES	COMPLIES	COMPLI
	7	1st	1	61m ²	8m ²	YES				
		101					COMPLIES	COMPLIES	COMPLIES	COMPLI
	8	1st	1	54m ²	8m²	NO	COMPLIES	COMPLIES	COMPLIES	COMPLI
	9	1st	2	76m ²	12m ²	YES	COMPLIES	COMPLIES	COMPLIES	COMPLI
	10	1st	1	54m ²	10m ²	YES	NO	NO	NO	NO
						8 (80%)	8 (80%)	9 (90%)	8 (80%)	9 (90%)
	Co	ontrol		Requirer	nent				posed	
			70% of dwellings re			rs of direct solar			MPLIES	
SOLAR ACCESS	Housing	SEPP	access between				1	COI	WFLIES	
HEIGHT	Counci	I - LEP		9m					4DL IEO	
HEIGHT				9.50			1		MPLIES	
	Housing								AT RIDGE	
FSR	Housing	- SEPP	0.5:	1 (0.5x128	0 = 640m ²	*) *	* Area of 7	0.58:1 46m² is calculate	OMPLIANT = 746m ² * d based on the H	ousing SEPI
FSR	Counci	I - LEP	0.55:	1 (0.55x12	80 = 704n	n²)		COI 0.55:1	ler clause 82(defi MPLIES = 704m ² *	
	1	Front Street					* Area of 704m	Bayside	sed on the definit Council LEP 6.0m to BALCON	
		Setback	Prevail	ling street :	setback or	6m	١,		6.0m to BALCON	
SETBACK	Council - DCP	Western Side Setback	Up to 4n	Un to 4m: 900mm min BUILDING			LWALL			
		Eastern Side Setback	Betweer Over 7m	n 4-7m: 1 n: 3	.5m min Im min			BUILD	ING: 3.8m PORT: 0m	
		Discretion	The side setback of 1 metre for 30% of when the setback	f the length is increase	of the bo d by an e	undary, only		Carport le	ength = 5.4m undary length)	
		Rear	elsewhere along to	he same b	oundary			VADIES	8: 8.5 - 12m	
BUILDING	BBDCP Pt 4B.2.4(C3)	Setback		Max 24m b	uilding		COMPLIES 22.05m			
LENGTH MAX LENGTH	BBDCP		length. Max 20m						NO	
OF BUILDING FRONTAGE	Pt 4B (C2.1)		(3m break)					BRE 22.05m T	ARTICULATION AK) 8.15m OTAL STREET ONTAGE	
PARKING	Housing SEPP	Accessible	1 space for every 5 dwellings					MPLIES 2 non-accessible		
PARKING	LaHC preference	Car Spaces		2 acces 2 Non-acc	sible essible		COMPLIES 2 accessible, 2 non-accessible			
LANDSCAPE	Housing SEPP	No. of units x 35sqm		350sq	m				MPLIES qm (nom)	
DEEP SOIL	Housing SEPP	15% of site area. Min dimension 3m		192sc	m			229sqn COMi		
		2/3 at rear.		144sq	m			1599	MPLIES sqm (nom)	
STORAGE	LAHC Design Standards	Broom/ Garden Cupboard	sh	lings 600 x elf 1200 at	ove floor			COMPLIES 6	00 X 450 deep broard provided	oom
	HOUSING	Linen Cupboard	0-2 bed dwe (min)	equally spi	aced sheh	p with x4 res		COMPLIES 6	600 X 600 deep li h 4 shelves provi	nen ded
ADAPTABLE HOUSING	SEPP LAHC	Min	imum Silver Liveabi	600 x 6		AHC				
HUUSING	Design Standards BBDCP		dwellings where lev	el access	s availabl	е.				
DEGION	Part 3C.2(C1) Housing		20% adaptable where 10 or more dwellings are proposed.					ccessible to com of the Housing S		
DESIGN PRINCIPLES	SEPP Division 6		Development must principles listed	consider to d under Div	ne / desig ision 6.	n		COMPLIE	S, Refer Checkl	st
STANDARDS APPLYING TO HOSTELS AND INDEPENDENT LIVING UNITS	Housing SEPP	The	applicable design 4 must be	requirement addresse	nts in Sch d.	edule		COMPLIE	ES, Refer Checkl	st

General Notes

ALL DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE.

ALL BUILDING WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT AND REGULATIONS, THE BUILDING CODE OF AUSTRALIA, AND APPROVED PLANS.

BUILDER SHALL MAKE GOOD ALL DISTURBED AREAS ADJACENT TO THE WORKS ON COUNCIL PROPERTY.

ALL CONCRETE FOOTINGS, FLOOR SLABS, COLUMNS, AND ROOF FRAMING TO STRUCTURAL ENGINEER'S DETAIL.

ALL STORMWATER REQUIREMENTS, EXTERNAL RL'S AND DRIVEWAY LEVELS TO CIVIL ENGINEER'S DETAILS IF REQUIRED.

ALL LANDSCAPE AREAS, EXISTING TREES, AND DRIVEWAY TO LANDSCAPE PLANS IF REQUIRED.

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υr	awing	LIST

Sheet Index Layout ID	Layout Name
A-0001	Cover Sheet
A-0002	Planning Controls
A-0003	Context Photos
A-0101	Ground Floor Demolition Plan
A-1001	Site Location Plan
A-1002	Block Analysis Plan
A-1003	Site Analysis Plan
A-1101	Site Plan Ground Floor Plan
A-1102	First Floor Plan
A-1103	Roof Plan
A-1201	Unit Plans 1 & 6
A-1202	Unit Plans 2 & 7
A-1203	Unit Plans 3 & 8
A-1204	Unit Plans 4 & 9
A-1205	Unit Plans 5 & 10
A-2001	Streetscape Elevation Birdwood Avenue
A-2002	North + East Elevation
A-2003	South + West Elevation
A-3001	Section A & B
A-4001	Waste Management Plan
A-4002	Cut and Fill Plan
A-4003	Deep Soil, Landscape & GFA Calculation
A-5001	Shadow Diagram
A-6001	Unit 1 & 2
A-6002	Unit 3 & 4
A-6003	Unit 5 & 6
A-6004	Unit 7 & 8
A-6005	Unit 9 & 10
A-7001	Window Schedule
A-8001	External Finishes Schedule
A-8002	Perspectives
A-8003	Perspectives
A-8004	Height Plane Diagram





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Nominated Architects: Caine King NSW ARB 7974 / Stuart Co	ampbell NSW ARB 7545

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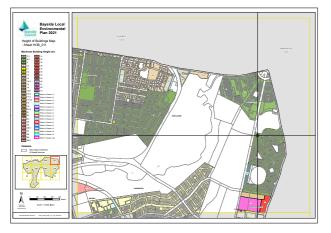




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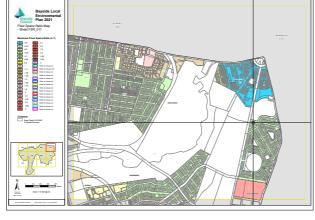
LAND ZONING: R2 LOW DENSITY



MAXIMUM BUILDING HEIGHT: 9m

Bayside Loc Environment Plan 2021 Acid Sulfate Soils Map - Sheet ASS_011

ACID SULPHATE SOILS: N/A



FLOOR SPACE RATIO: 0.55

Project Information:

Site Area: 1280sqm

Building Classification: Class 2 (Seniors Living) Required Landscape Area: (10x35) 350 sqm

Maximum Site coverage: 640sqm

Waste: 4 x 240L Recycling: 4 x 240L

Green Waste: 2 x 240L (Optional)



Bayside Council DCP Planning Controls

Reference: 695/2022

Ph: 1300 584 010

Private Open Space: Ground: 15sqm (min. dimension 3x3)

> Upper level 2 bed: 10sqm (min. depth of 2m) Upper level 1 bed: 6sqm (min. depth of 2m)

Site Coverage: Max 50% of the site area

This is a summary of the BASIX Commitments as detaile

THERMAL COMFORT COMMITMENTS - Refer to TPA Specificati

WATER COMMITMENTS

ENERGY COMMITMENTS

Fixtures All Toilets

Fixtures

Hot Water

Natural Lighting

Lighting

LED)

OTHER COMMITMENTS

Waste for Multidwelling Housing: Waste: 1 x 240L per 2-3 dwellings

Recycling: 1 x 240L per 2-3 dwellings

1 x 240L per 5 dwellings (optional) Green:

Bulk: 4m³ must be allocated for the storage of discarded bulky items, such as old

Important Note for Develo

22nd January 2023 **Evergreen Energy Consultants**

The following specification was used to achieve the thermal performance values indicated on the Assessor Cartificate. If they vary from drawings or other specifications this Specification shall take precedence. If only one specification option is detailed for a building element, that specification must apply to all instances of that element for the whole project. If alternate specifications are detailed, the

Once the development is approved by the consent authority, these specifications will become condition of consent and must be included in the built works. If you do not want to include these requirements, the proposed construction varies to those detailed or need further information, please

This assessment has assumed that the BCA provisions for building sealing will be compiled with a

DMN Assessor #16/1742

contact Evergreen Energy Consultants.

furniture, awaiting council pick up.

					Thermal Performance Specifications							
						External Wa	all Construction	Insulation Colour (Solar Absorbance)		noe)	Detail	
						Ce	avity Brick	Bulk, reflective one side, anti-glare the other R1.0	1	Medium		
						Internal Wa	II Construction	Insulation		Deta	ıl .	
							wall, direct fix ard, single gap	None				
							lls - Cavity Brick	None				
						Ceiling (Construction	Insulation		Deta	เปิ	
						Plasterbo	oard with Timber	Bulk insulation R3.0		Top floor o	ceilings	
	36-38 Birdwoo	d Avenue, Page	wood			Concrete a	bove Plasterboard	None		Ground floo	r ceilings	
		BASIX COMMITM				Roof Co	onstruction	Insulation	Colour (So	aler Absorpta	nce)	Detail
				BASIX Certificate.		0	clorbond	Bulk, reflective side down,	-	Medium		3°, 15°,
Refer to the TMENTS	CURRENT BASI	X Certificate for	Complete	details.		-		no air gap above R1.3			1	8° & 24° pitch
						Floor C	onstruction	Insulation		Cover	ing	20000
		e 10,000(L) Tank				300mm	Waffle Pod Slab	None		Carpet an	d Tiles	
One O	utdoor Tap	Laundry W/M C	old Tap	Applies to Units 1	-5 only	Windows	Glass and frame t	уре	U Value	SHGC	Area m	2
eads 4 Star		4 Star Kitchen T		4 Star Basin Ta	ps	GJA-001-22 A	Aluminium framed 6EA Awning Windo	us Single Glazed	4.80	0.52		
FORT COMMITMENTS – Refer to TPA Specification on plans				GJA-011-21 A	Aluminum framed	no onigio olazou	4.50	0.02				
ITMENTS							6EA Fixed Window	s Single Glazed	3.91	0.66		
Electric instant	T					GJA-013-25 A	Aluminium framed	on Cinale Classed	4.44	0.63		
Living	None					G IA-017-24 A	6EA Sliding Window Aluminum framed	vs Single Glazed	4,44	0.03		
Bedrooms	None					OUNT IT ZTA		Nindows Single Glazed	4.61	0.60		
Living	None					GJA-070-25 A	Aluminium framed	*************				
Bedrooms	None		1	1 = 1 - 44		014 002 24 4	6EA Sliding Doors : Aluminium framed	Single Glazed	4.41	0.60		
Bathrooms		o roof/facade		al on/off		GJA-002-21 A	6EA Hinged Doors	Single Glazed	4.62	0.53		
Kitchen	-	o roof/facade	Manu	al on/off		Solar Tubes -	Single Glazed Clear			3,33		
Laundry	Not Applicab	oic .	As Dra			Skylight to Livi	ng Area Unit 10 - V	elux Fixed U-Value 2.60, SHG	C 0.24			
Window/Skylig		c/Toilets	As Dra			U and SHGC	values are accordin	g to NFRC. Alternate product	s may be use	d if the U va	lue is lowe	r and the
Window/Skylig Number of bed		All	AS DI	Dedicated	Yes			wer than the above figures.				
Number of Livi				Dedicated	Yes	Fixed shad	ing – Eaves	Width includes gu	ittering offset	is distance a	bove wind	ows
Kitchen	III DITHING TOOM	Yes		Dedicated	Yes	As drawn		Nominal o	nly, reler to pl	an for detail		
All Bathrooms/	Toilets	Yes		Dedicated	Yes	Fixed shad	ing - Other	Verandah	to certain unit	s only		
Laundry		Yes		Dedicated	Yes	Shaded areas and shade devices as drawn, adjoining buildings and boundary fences						
All Hallways		Yes Dedicated		Yes	For construction in NSW the BCA Vol 1 or 2 must be complied with, in particular the following:				vina:			
MENTS				- Lancard Control Control				rdance with Vol 1 Section J				
line No Indoor or sheltered clothes drying line No										(h)		
Electric cooktop, electric oven						e with Section J1.3(d) & 1.5	2.5			30.5%		
	ted" refrigerato							ing insulation in accordance				
Central photovoltaic system to generate at least 10.0 peak kW of electricity						e with Section J1.6(c) & (d)			r (c) & (d)			
Ceiling fans to	be installed –	Refer to NatHER	S certific	ates for locations		- Building se	aling in accordance	e with Section J3 or Part 3.	12.3.110 3.1	2.3.0.		



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LaHC PAGEWOOD SENIORS HOUSING 36-38 BIRDWOOD AVENUE PAGEWOOD NSW 2035 3 & 4/-/DP 35317

Planning Controls

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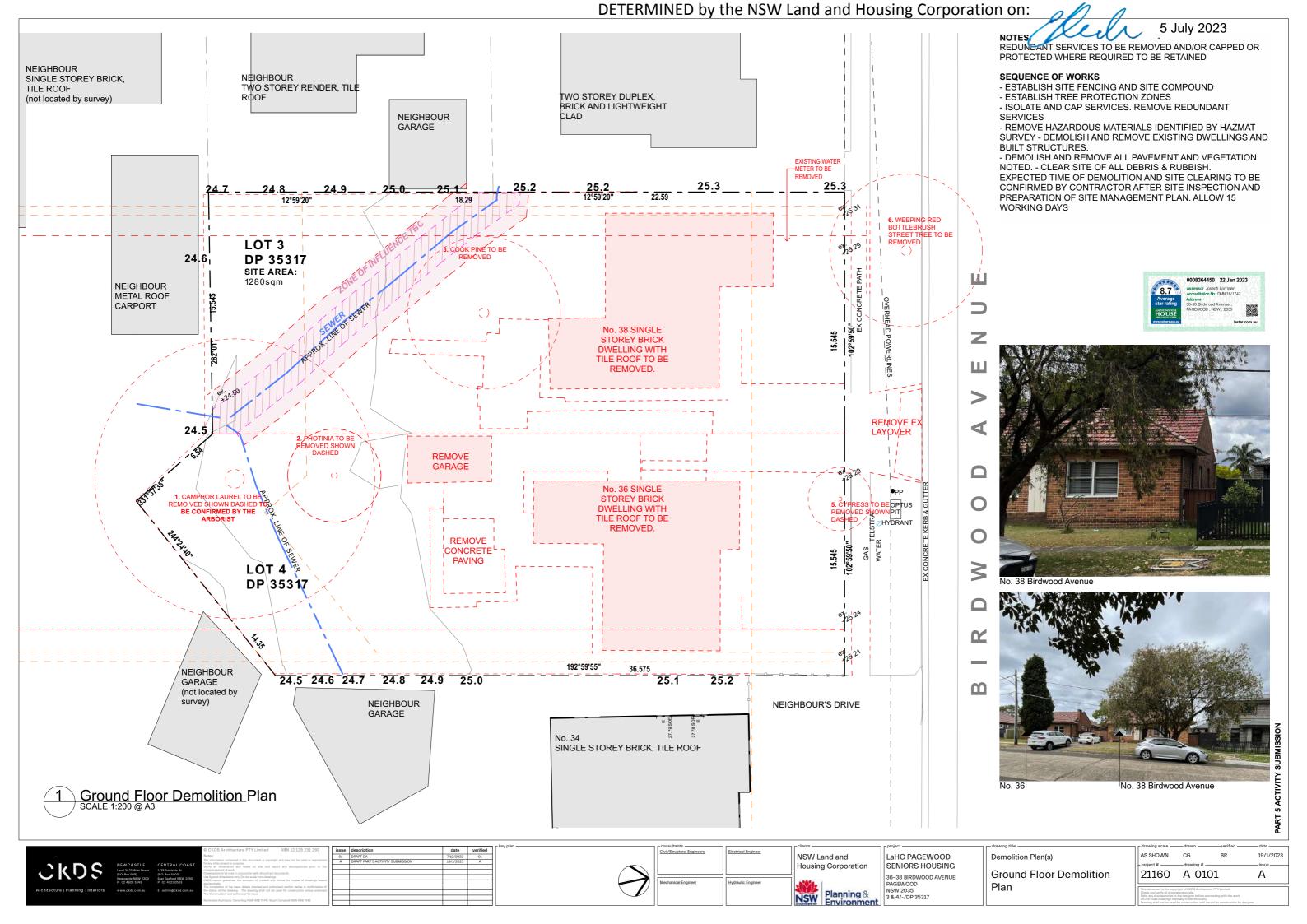
- consultants - Civil/Structural Engineers	Electrical Enginee



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36-38 BIRDWOOD AVENUE PAGEWOOD NSW 2035

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STREET VIEW 3 - 36-38 BIRDWOOD AVENUE



STREET VIEW 4 - CORNER OF BIRDWOOD AVENUE & BANKS AVENUE



STREET VIEW 1 - CORNER OF PRINCE EDWARD CIRCUIT & WARK AVENUE



STREET VIEW 2 - CORNER OF PRINCE EDWARD CIRCUIT & WARK AVENUE



STREET VIEW 5 - 40 BIRDWOOD AVENUE



CKDS	NEW CASTLE Level 3/23 Watt Street (P.O. Box 958) Newcastle NSW 2300 P 02 4929 1843	CENTRAL COAST 1/28 Adelaide St (P.O. Box 4400) East Gosford NSW 2250 P 02 4321 0503
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tects: Caine King NSW ARB 7974 / Stup					
tects: Callie King Now Arts 79747 ottal	t Campouil Now Arto 7040				

Civil/Structural Engineers	Electrical Engineer	NSW Land and Housing Corpora
Mechanical Engineer	Hydraulic Engineer	

LaHC PAGEWOOD ng Corporation SENIORS HOUSING

Site Location Plan

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CKDS NEWCASTLE CENTRAL COAST LE CENTRAL

36-38 BIRDWOOD AVENUE PAGEWOOD NSW 2035 3 & 4/-/DP 35317 NSW Planning & Environment

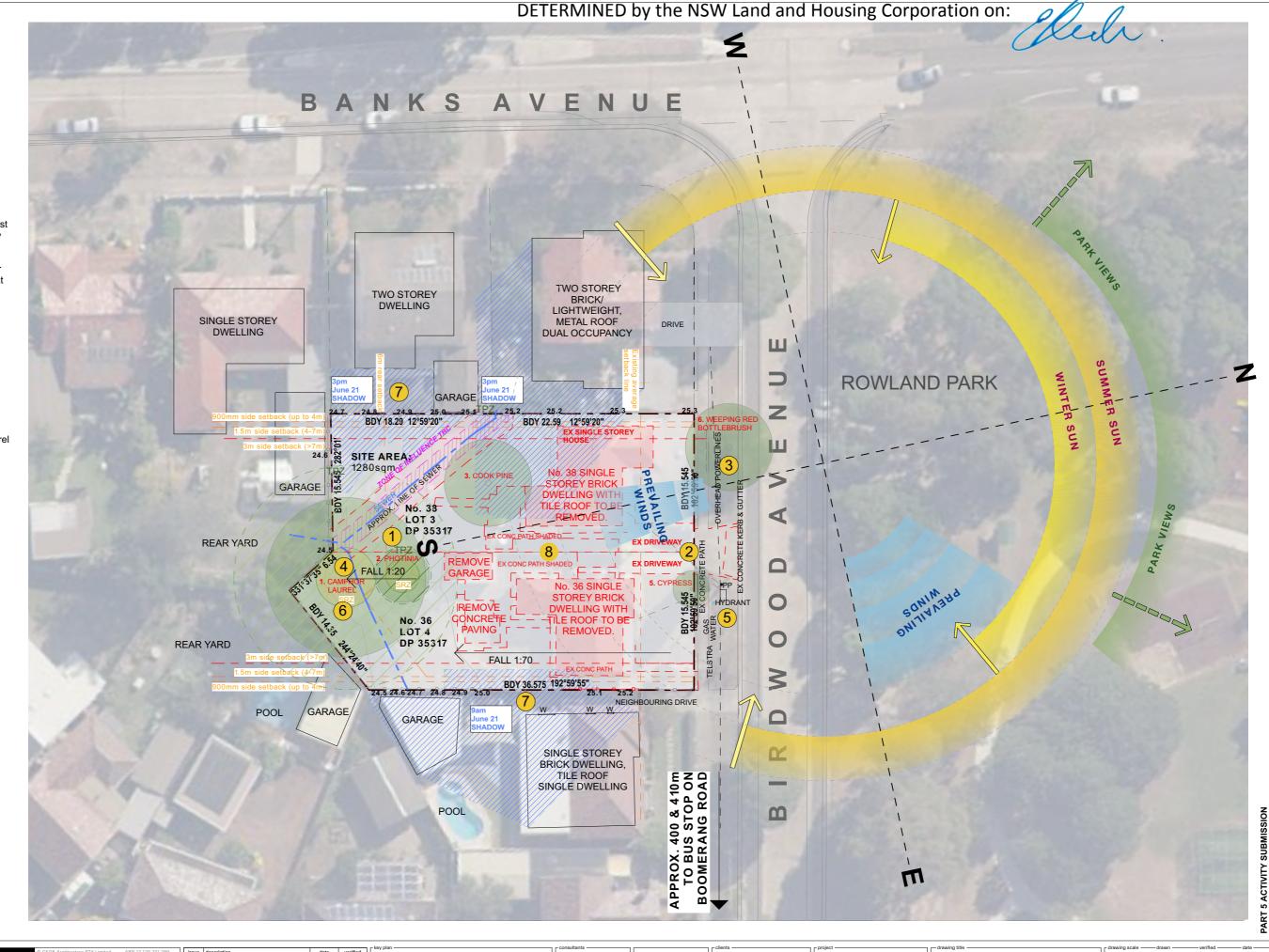
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DESIGN RESPONSES:

Generous Deep soil to rear for landscapin, stormwater 1 infiltration & common open space. Retain existing trees if possible

Orientation to street

- 2 optimises northern orientation and views to the park. Private open space for units
- 3 Street tree to be removed to provide access to car park. West boundary selected for driveway due to;
 - site geometry; more space for carpark to be accommodated at rear of site
 - existing sewer main; avoid building over sewer
- 4 Avoid exisiting sewer
- 5 Utilise existing hydrant
- Existing bank to rear property, especially around camphor laurel
- 7 Minimise overlooking to neighbour
- 8 Subject site is within 20-25 ANEF contour for airport noise







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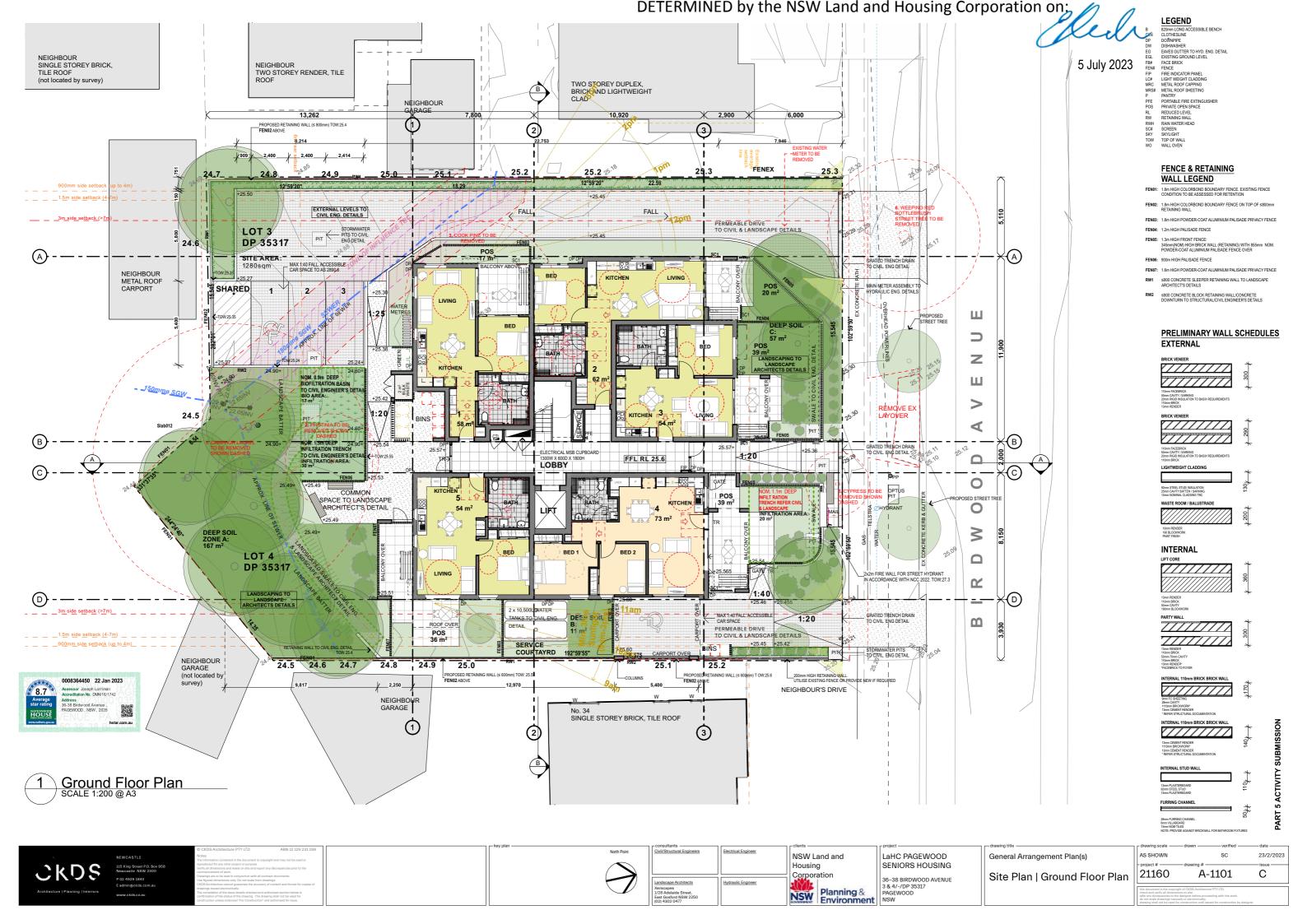


tants ructural Engineers	Electrical Engineer	NSW Land and Housing Corporation	L
ical Engineer	Hydraulic Engineer	Planning & Environment	3 P N 3

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19/1/2023



DETERMINED by the NSW Land and Housing Corporation on: LEGEND

B ZÜMM LONG ACCESSIBLE BENCH
CLIN CLOHESLINE
DP DOWNER
DE PRELIMINARY AUTHORITY CONTROL INFORMATION SUBJECT TO PLANNER AND COUNCIL REVIEW AND FURTHER INVESTIGATION ① 3 **FENCE & RETAINING** WALL LEGEND FEN01: 1.8m HIGH COLORBOND BOUNDARY FENCE. EXISTING FENCE CONDITION TO BE ASSESSED FOR RETENTION LOT 3 FEN04: 1.2m HIGH PALISADE FENCE DP 35317 2,060 / 190 FEN06: 900m HIGH PALISADE FENCE FEN07: 1.6m HIGH POWDER-COAT ALUMINIUM PALISADE PRIVACY FENCE ≤800 CONCRETE SLEEPER RETAINING WALL TO LANDSCAPE ARCHITECT'S DETAILS SHARED POS 8 m² LIVING PRELIMINARY WALL SCHEDULES **EXTERNAL** POS 8 m² GFA 352 m² LOBBY INTERNAL LOT 4 POS 12 m² CARPORT ROOF __900mm_side_setback (up to 4m)__ (3) First Floor Plan NSW Land and LaHC PAGEWOOD General Arrangement Plan(s) AS SHOWN 19/1/2023 Housing SENIORS HOUSING CKDS A-1102 21160 Α First Floor Plan 36-38 BIRDWOOD AVENUE



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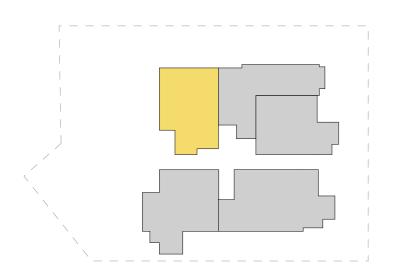




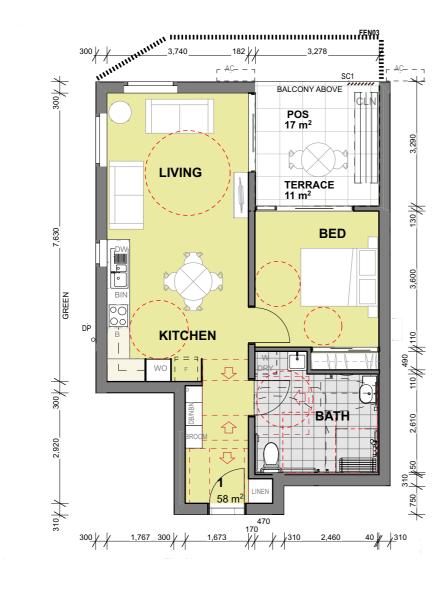
LaHC PAGEWOOD SENIORS HOUSING 36-38 BIRDWOOD AVENUE 3 & 4/-/DP 35317 PAGEWOOD NSW

General Arrangement Plan(s) Roof Plan

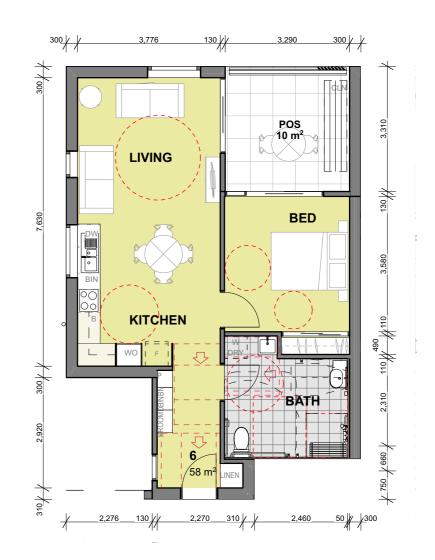




KEY PLAN



1 BEDROOM UNIT PLAN UNIT 1 - GROUND FLOOR INTERNAL AREA = 58m² EXTERNAL AREA = 17m²



1 BEDROOM UNIT PLAN UNIT 6 - FIRST FLOOR INTERNAL AREA = 58m² EXTERNAL AREA = 10m²





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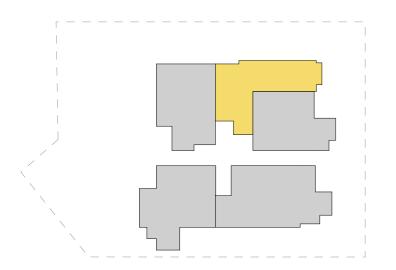


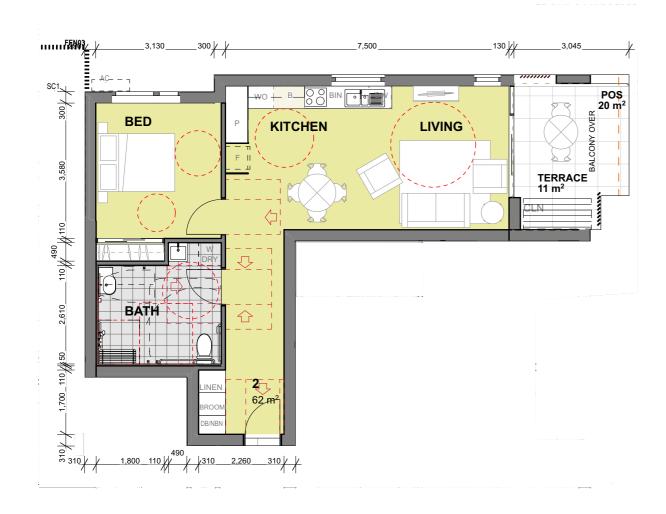


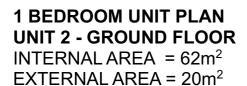


Unit Type Plans
Unit Plans 1 & 6
SCALE 1:100 @ A3











1 BEDROOM UNIT PLAN UNIT 7 - FIRST FLOOR INTERNAL AREA = 62m² EXTERNAL AREA = 8m²

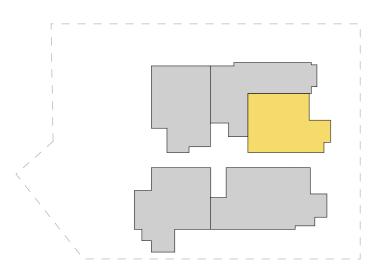


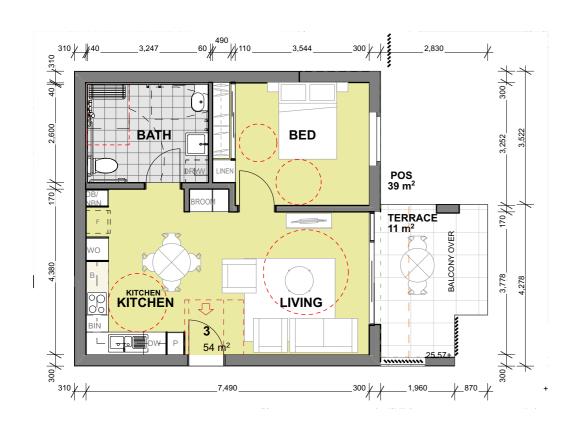














1 BEDROOM UNIT PLAN UNIT 3 - GROUND FLOOR INTERNAL AREA = 54m²

INTERNAL AREA = 54m² EXTERNAL AREA = 39m²















Unit Type Plans

Unit Plans 3 & 8

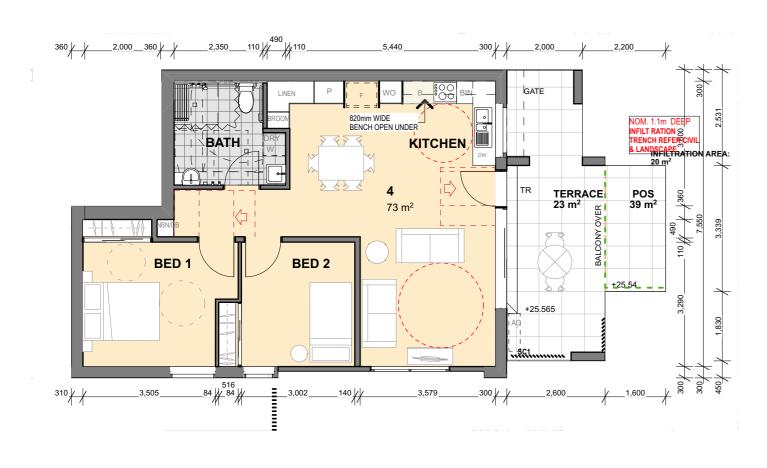
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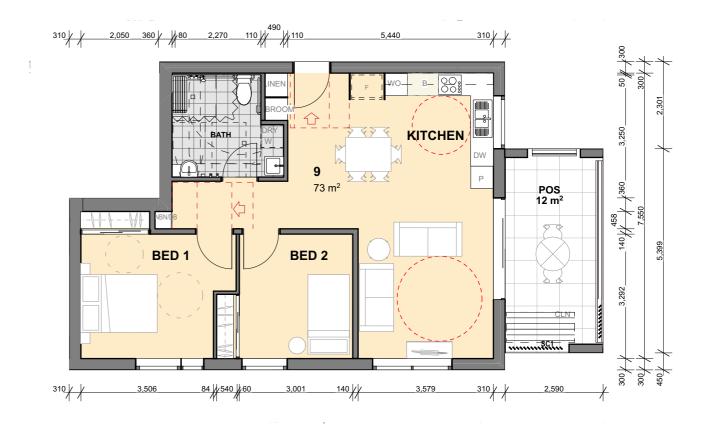


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2 BEDROOM UNIT PLAN UNIT 4 - GROUND FLOOR

INTERNAL AREA = 73m² EXTERNAL AREA = 39m²

2 BEDROOM UNIT PLAN UNIT 9 - FIRST FLOOR INTERNAL AREA = 73m² EXTERNAL AREA = 12m²



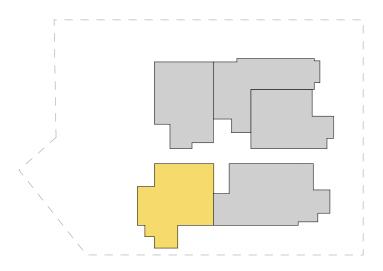


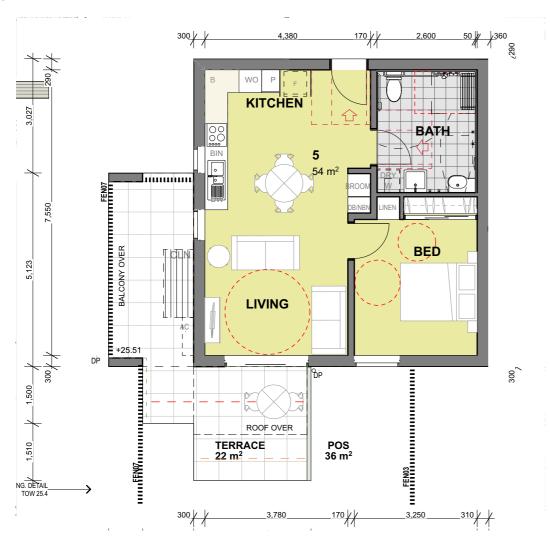














1 BEDROOM UNIT PLAN UNIT 5 - GROUND FLOOR INTERNAL AREA = 54m² EXTERNAL AREA = 36m²

1 BEDROOM UNIT PLAN UNIT 5 - FIRST FLOOR INTERNAL AREA = 54m² EXTERNAL AREA = 12m²











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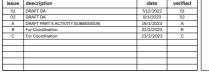


Streetscape Elevation
SCALE 1:200 @ A3





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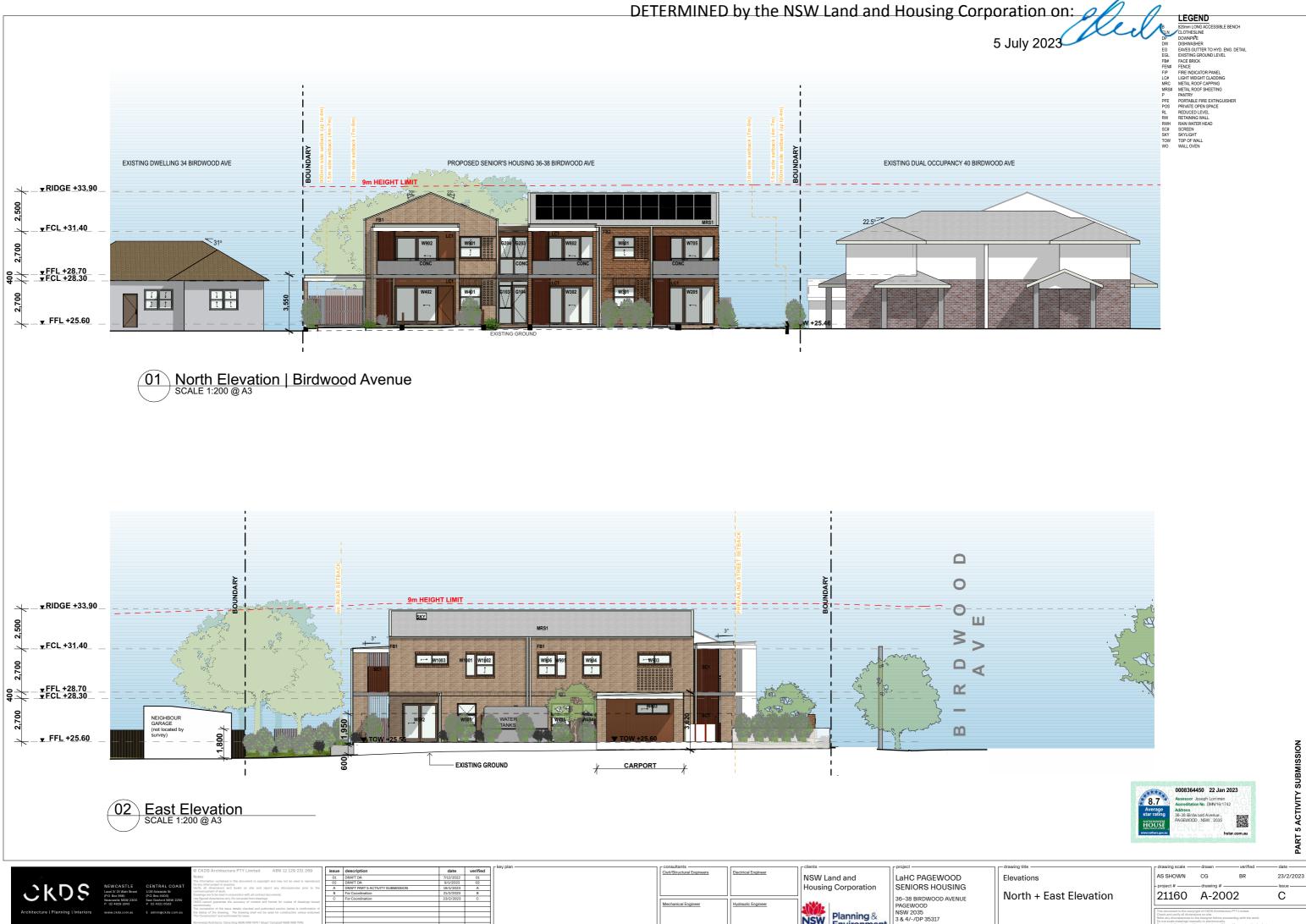




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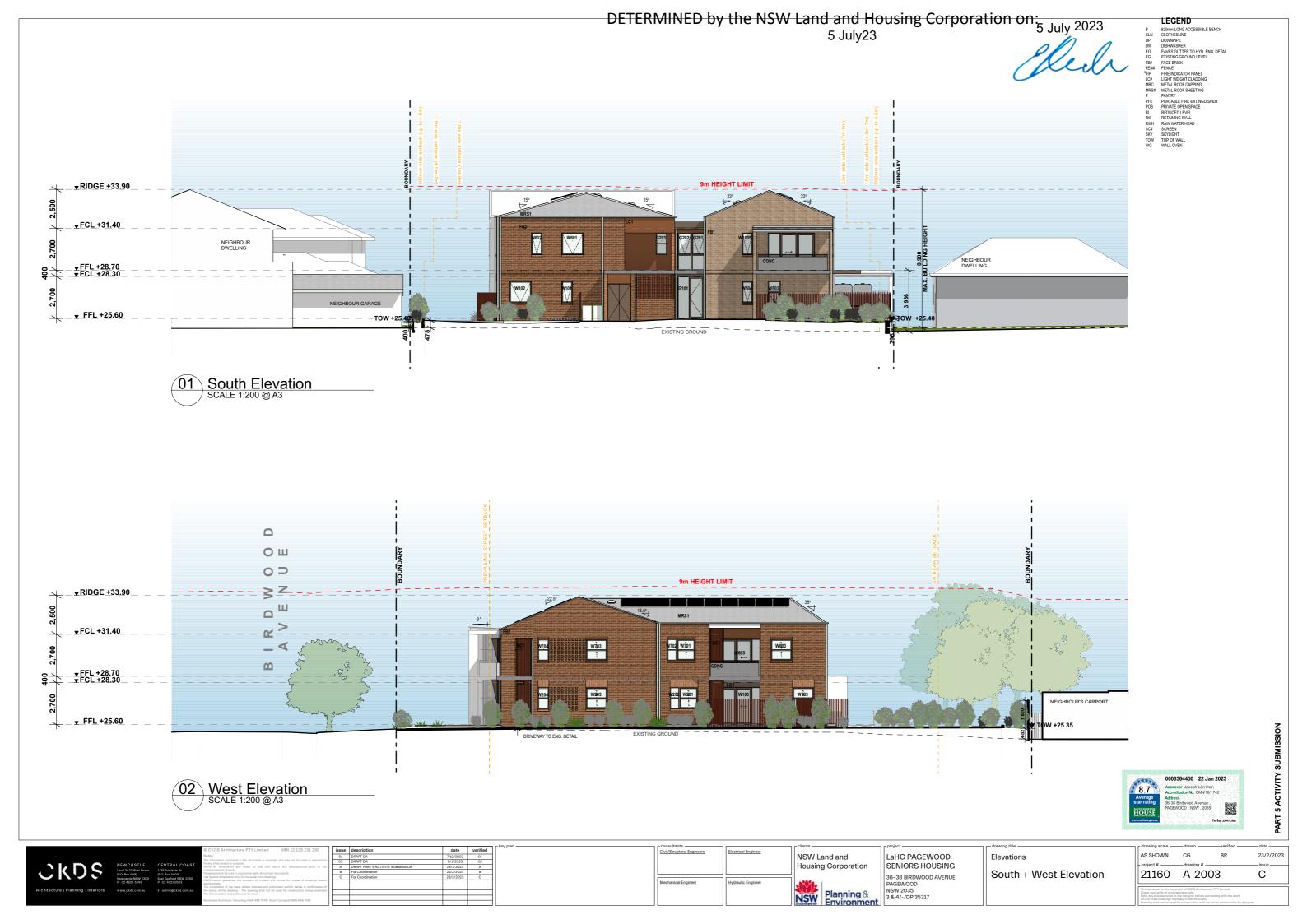
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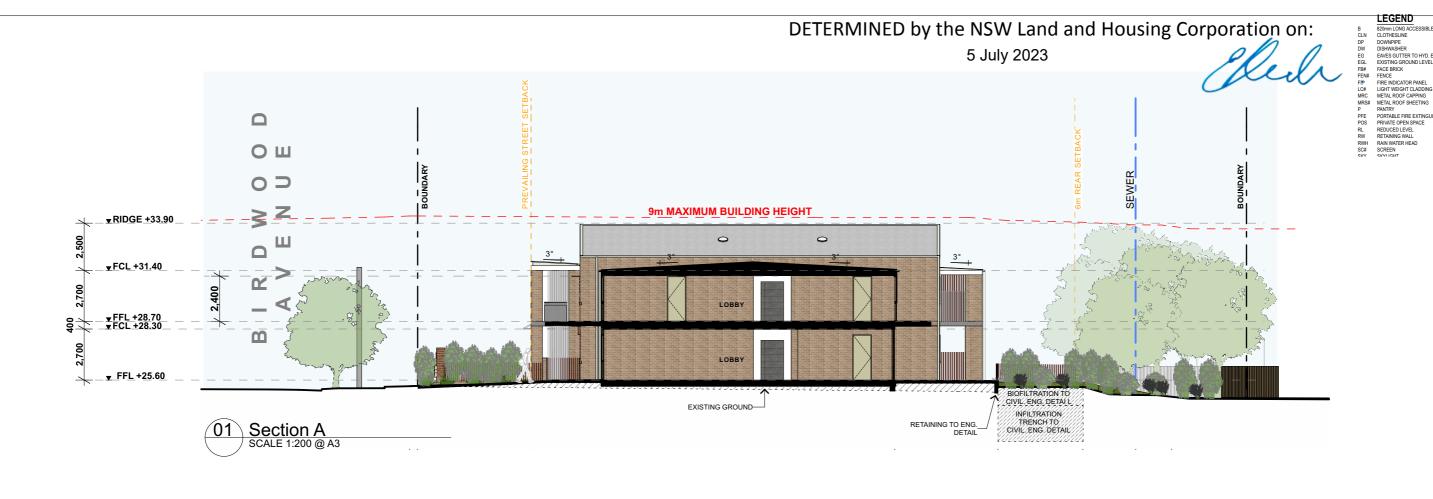
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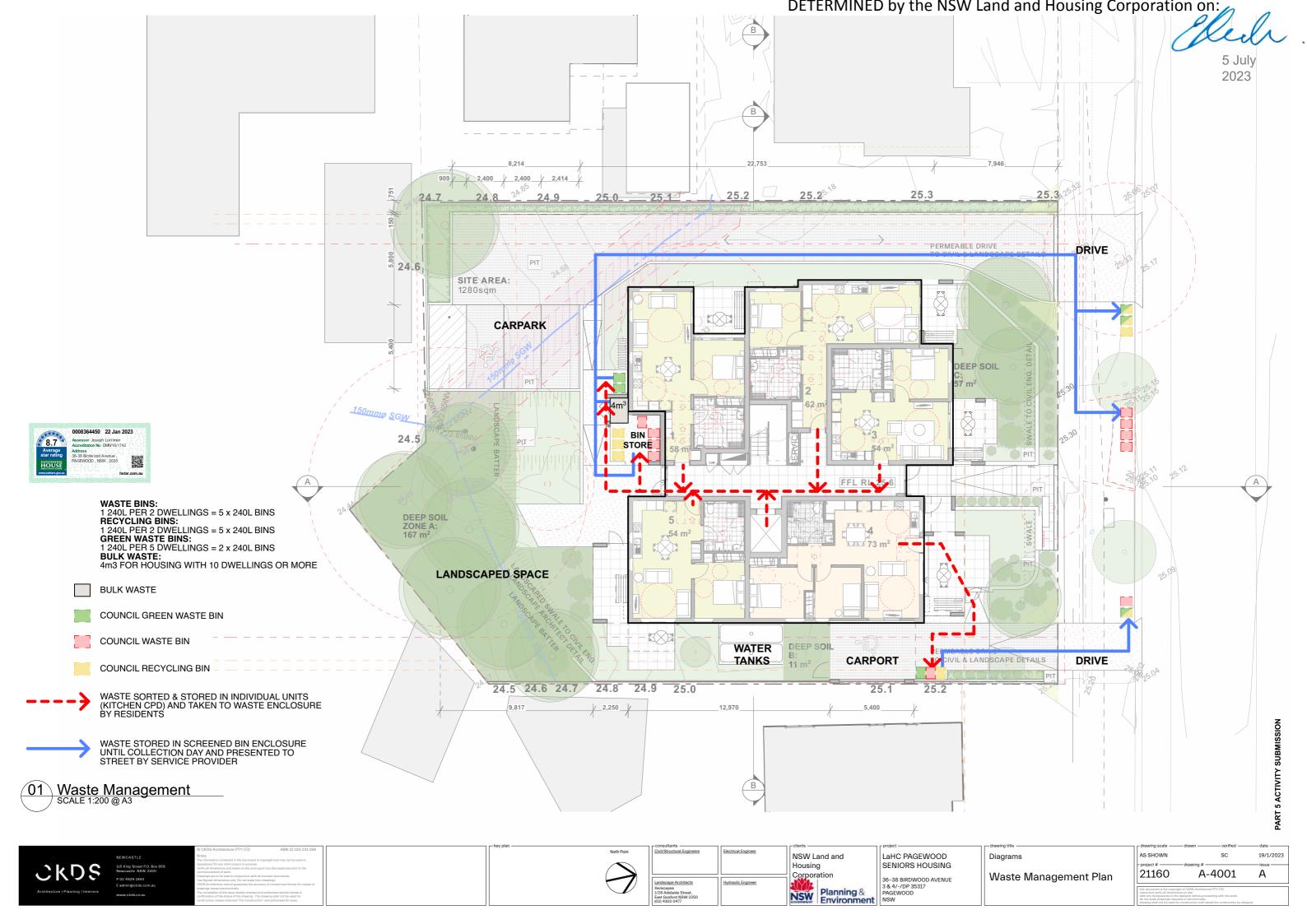
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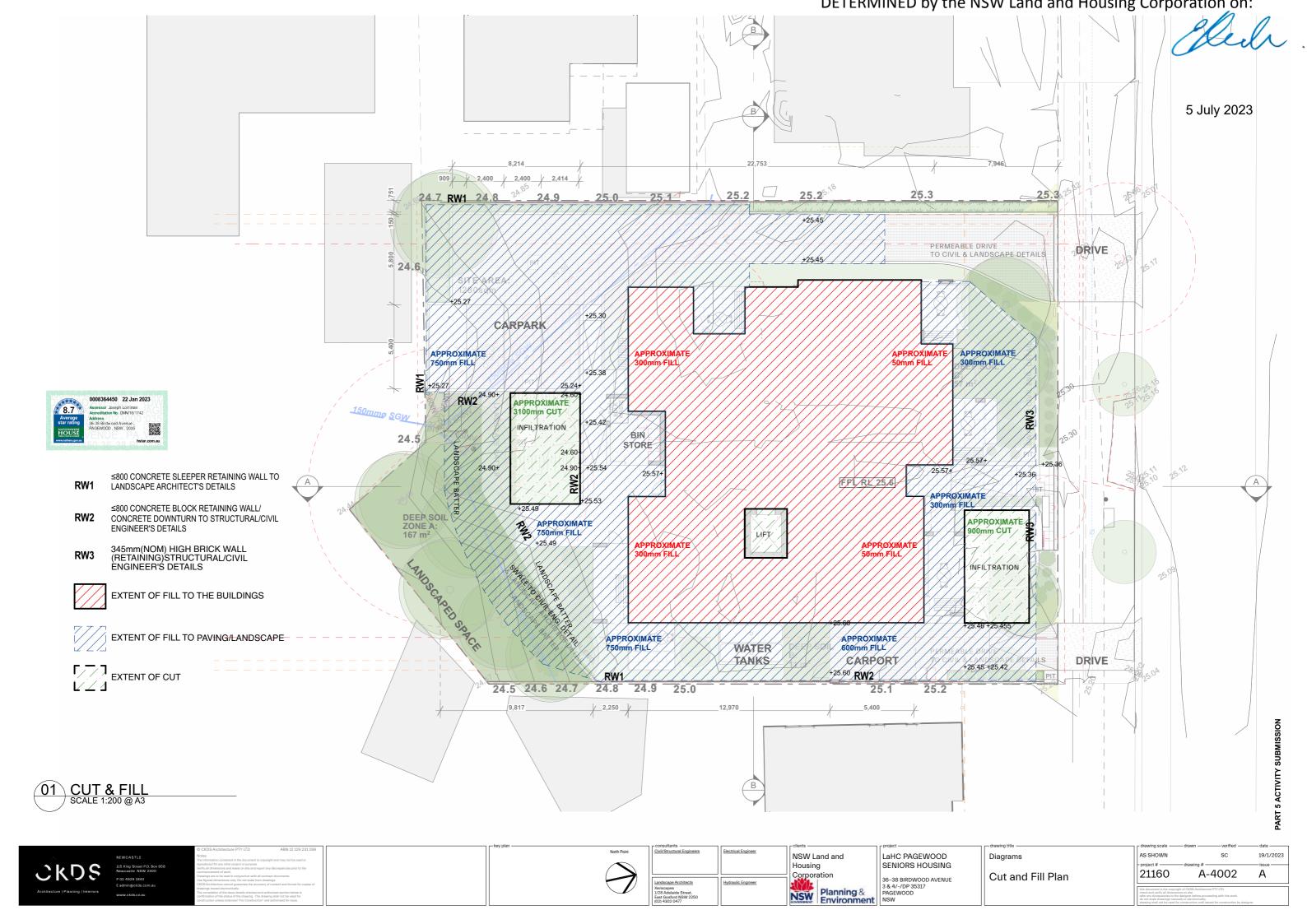
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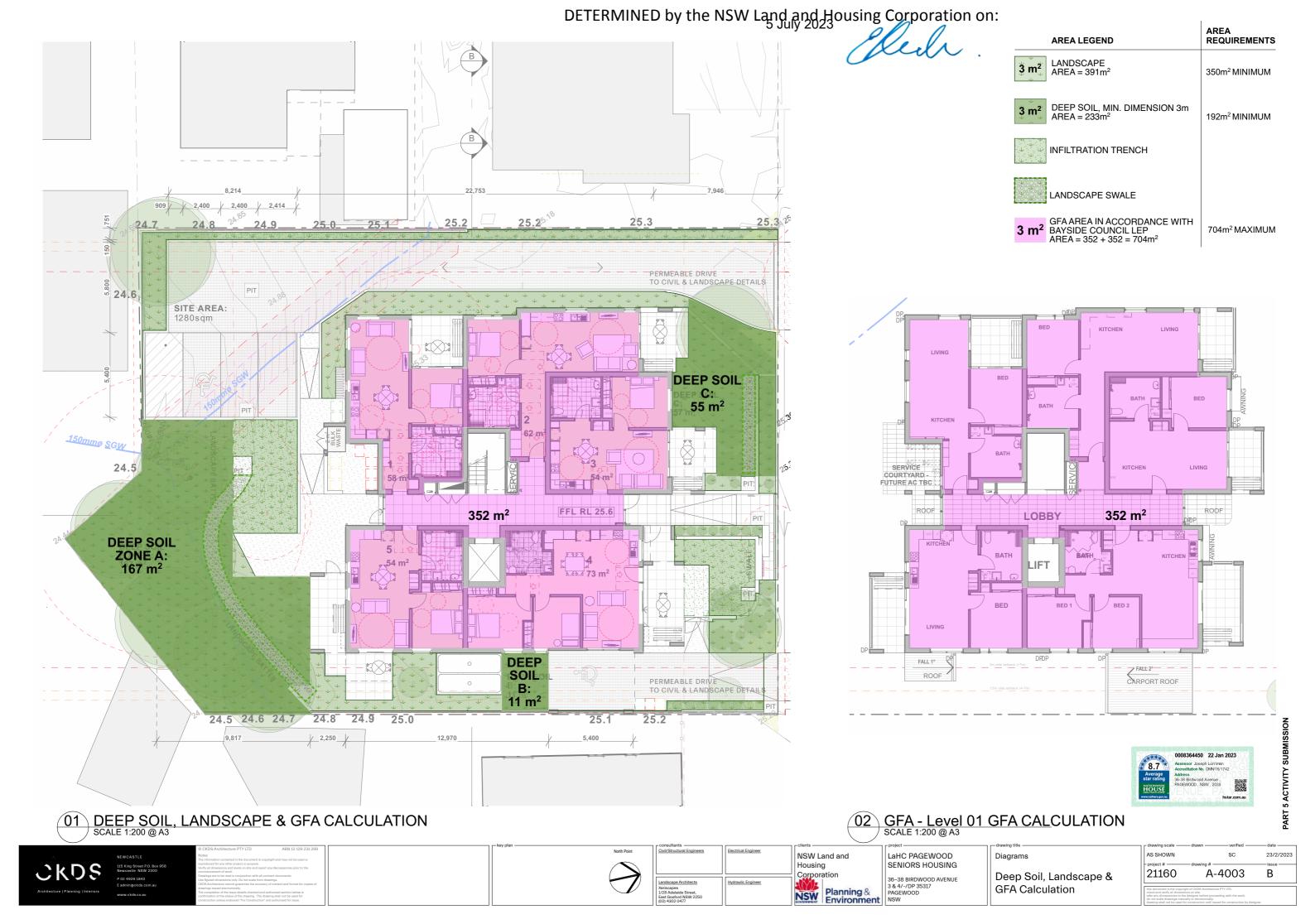
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Section A & B

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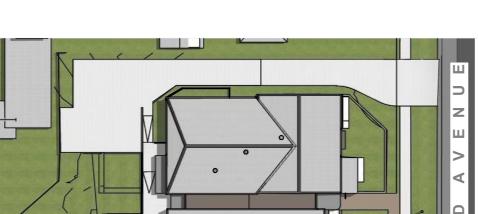


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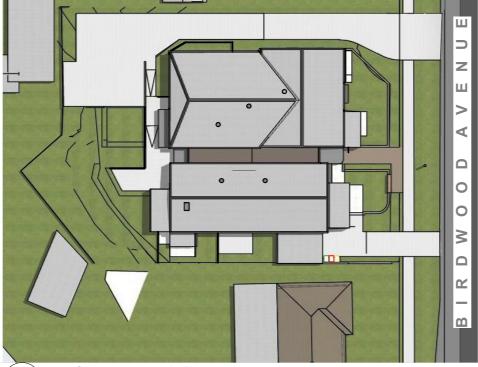


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01 DECEMBER 21 12pm



01 DECEMBER 21 3pm



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	Newcastle NSW 2300 P 02 4929 1843	East Gosford NSW 2250 P 02 4321 0503
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Shadow Diagrams
Shadow Diagram

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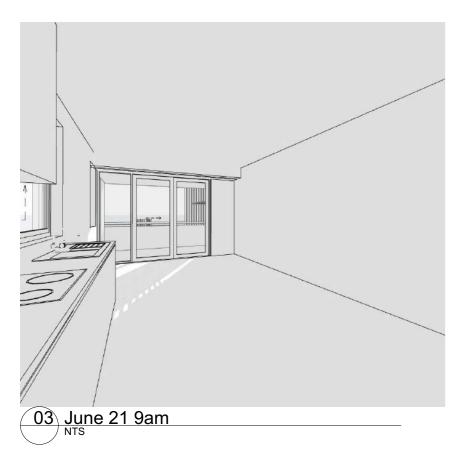
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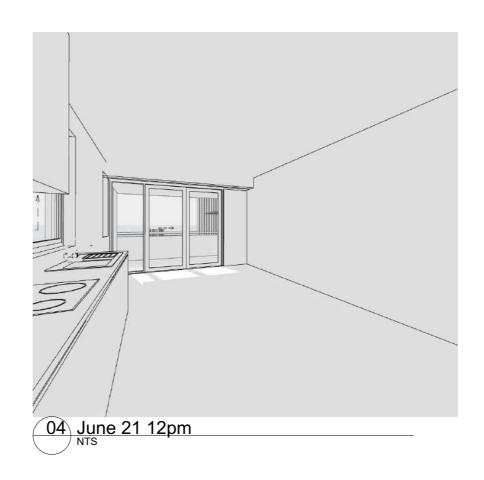














UNIT 2

UNIT 1



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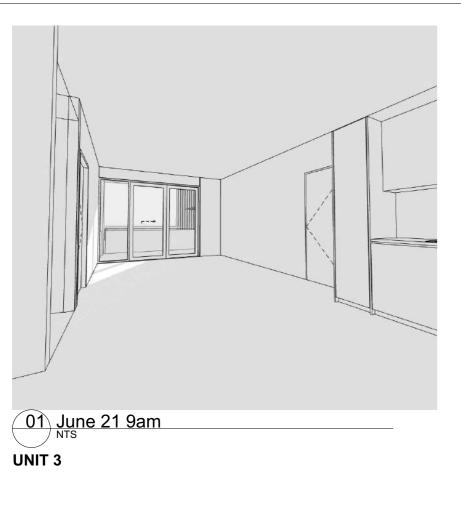
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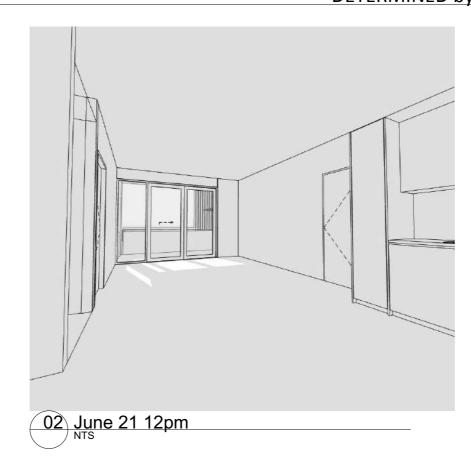
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Internal Solar Analysis
Unit 1 & 2

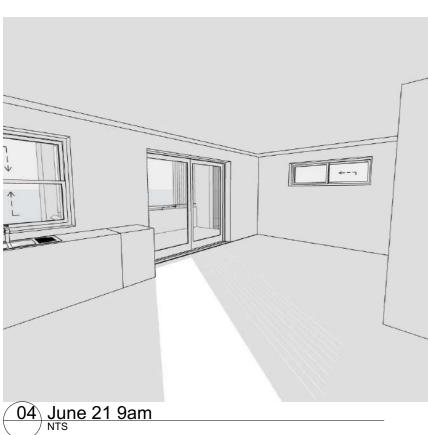
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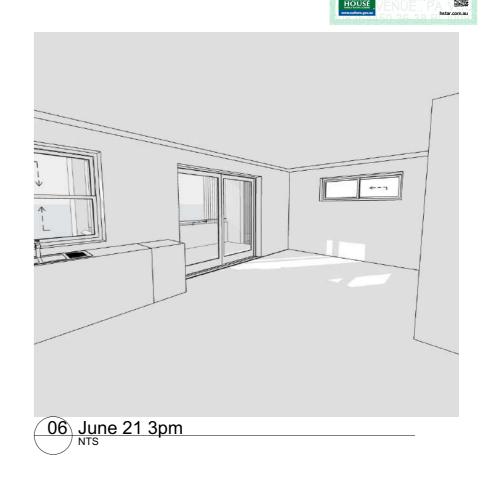












UNIT 4



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5 July 2023

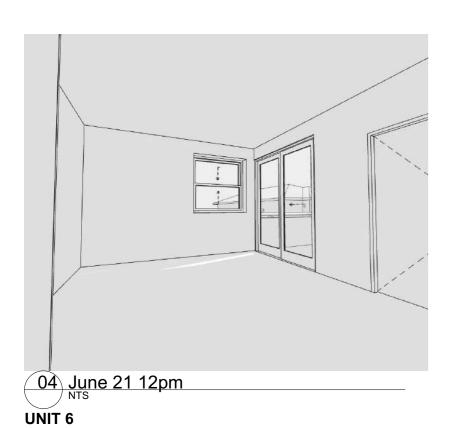


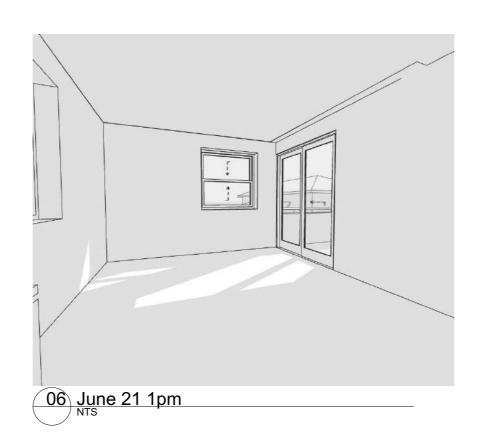
















UNIT 5

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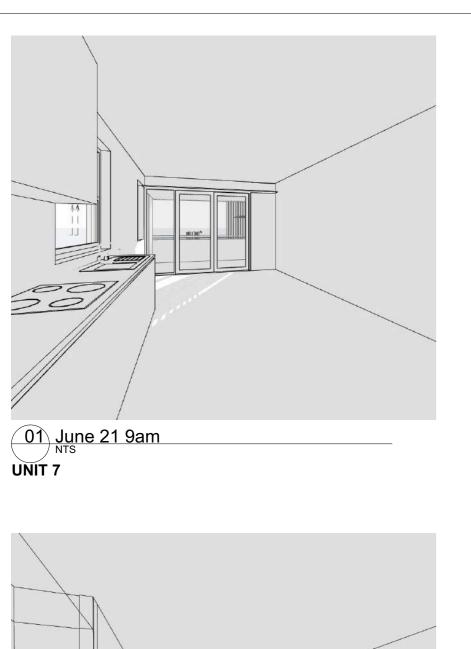
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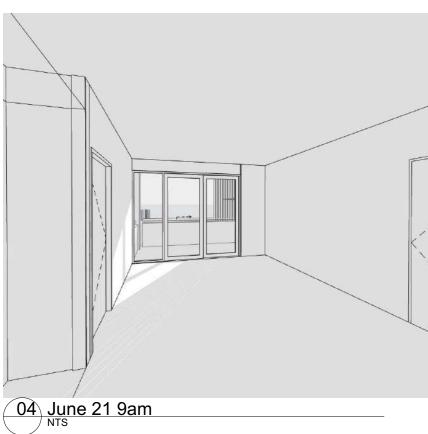
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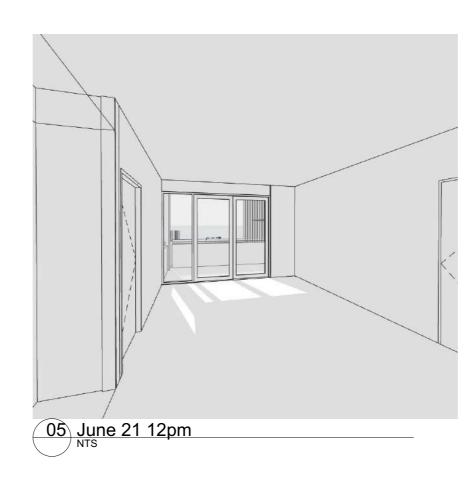
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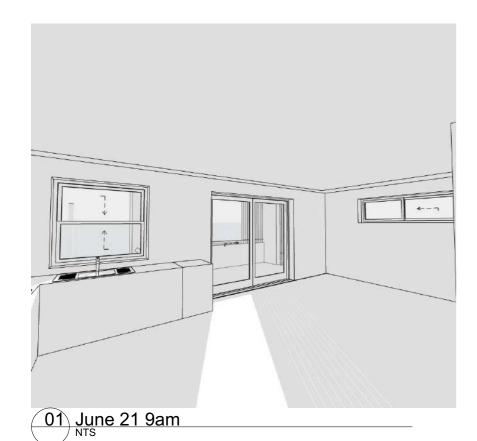
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Internal Solar Analysis
Unit 7 & 8



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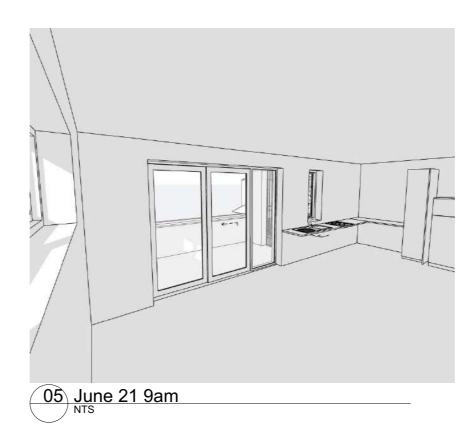


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UNIT 9







UNIT 10

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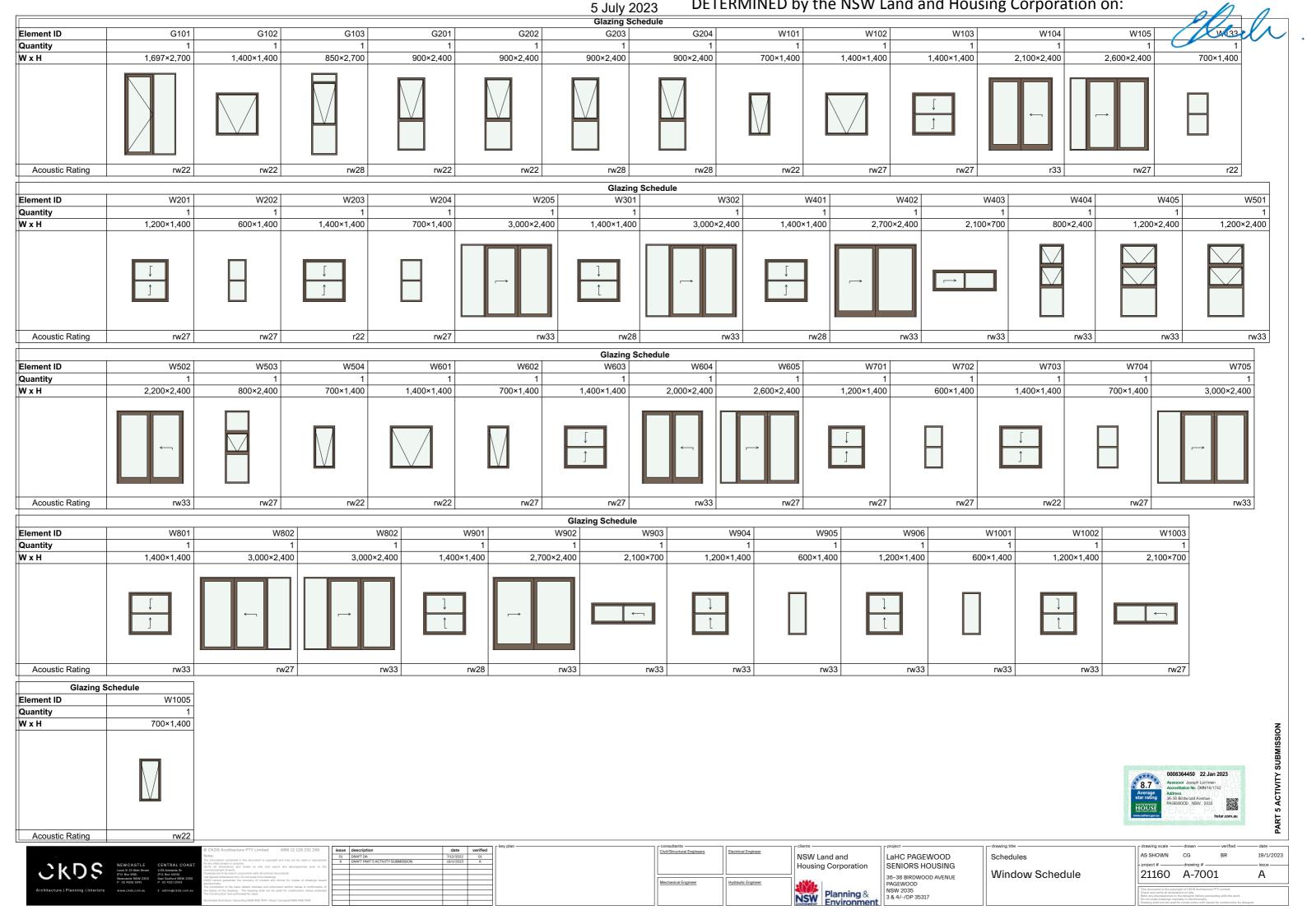
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Internal Solar Analysis Unit 9 & 10

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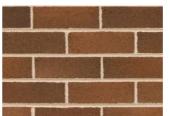
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Material Schedule
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Material Schedule Perspectives

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9m HEIGHT PLANE DIAGRAM



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Material Schedule
Height Plane Diagram

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PAGEWOOD SENIORS RESIDENTIAL HOUSING

MARCH 2023



LOCATION MAP



Drawing Schedule

Name	Drawing Number	Revision
Cover Sheet	DA-L000	D
Landscape Plan - Ground Floor	DA-L101	С
Landscape Planting Plan	DA-L102	Α
Plant Schedule	DA-L201	Α
Precedent Images	DA-L301	В

Site Calculations

Item	Area	Percentage
Total Site	1280m ²	
Building Footprint	352m ²	
Total Hardscape Materials Total	537m²	
Permeable Pavement Driveway	311m ²	24.2%
Total Soft Landscaping	391m²	30.5%
Deep Soil Planting Zones	233m ²	18.2%

Council Guidelines

Bayside City Council

- Bayside City Council Development Control Plan (DCP) 2021
- Bayside City Council Local Environmental Plan (LEP) 2021
- AS 1428.1 2009 Design For Access and Mobility

Site Description:

The subject site is located at 36-38 Birdwood Avenue, Pagewood, NSW 2035.

The existing topography of the site is relatively flat site with a cross fall from the approximate high point RL 25.21 located on the north-east corner to the approximate low point RL 24.44 located in the south-west corner.

As a result there is an approximate cross fall of 1.8%.

Currently occupying the proposed site boundary are two single storey brick buildings with single lane concrete driveway access. The buildings and concrete driveway will be demolished as part of this proposal.

Local Context/Character:

Birdwood Avenue is a double lane carriage way with kerb and gutter and onstreet parking. The existing street character is predominantly a mix of single and double storey residential brick dwellings and double storey unit development with off street parking.

There are intermittent street tree planting's of native species that provide character, aesthetic and shade canopy to Birdwood Avenue but hold no significant heritage value to the local street neighbourhood and suburb. The existing trees adjacent to the proposed site have been heavily lopped due to the electricity supplier maintenance of overhead powerlines. Two street trees will require removal and replacement as part of this development. Refer to plant schedule for species selection.

There are currently large expanses of hard paved areas at the premises. There is minimal plantings which include exotic hedges and palms associated with the existing building. There is also a mix of exotic and native established trees located at the site's entrance from Glover Street.

Existing trees 1, 2, 3, 5, 6 are requiring removal as part of this development. Please refer to the Arboricultural Impact Assessment Report prepared by Allied Tree Consultancy (Ref: D4508).

The apparent infrastructure associated with the street are a telecommunication pit, water inspection opening and overhead powerlines and power poles adjacent to the proposed site. There is an existing concrete footpath and turf verge located outside the residential lots providing pedestrian access to the surrounding neighbourhood. There is a footpath to remain and be reinstated where altered due to driveway access to the proposed development.

The subject site is located in close proximity to the following;

- Rowland Park Recreational zone and recreational zone (Directly Opposite).
- Bonnie Doon Golf Club (150m).
- Bus Stop Public Transport (300m)
- Junior Kingsford Light Rail Public Transport (1km)

Proposed Development:

The proposed development is a two storey Class 2 Seniors living development providing 5 units and off street parking with additional 5 visitor parking spaces to reduced on street parking congestion, Two 75L street trees will be included as part of this development to contribute to the local street character and aesthetic whilst further providing shade and amenity to local residents. All proposed works are to comply with Bayside City Council regulations and AS 1428.1 - 2009 Design For Access and Mobility. The proposed works it to include the following;

- Private Open Spaces
- Common open space with bench seating to allow for community integration, socialising and gathering
- Retaining wall and boundary fencing to provide safety and privacy to each unit within the development and to the street
- Dry creek river swale to accommodate storm water and level changes within site.
- Designated Bin Zone
- Biofiltration Basins and infiltration trenches with biofiltration planting to remove pollutants

Planting Design Strategy:

The planting design strategy for this high school upgrade development will include the following:

- Tree planting within appropriate deep soil zones to reduce bulk & scale of the development
- Species selection and location of all verge plantings will be in respect to existing/proposed services and infrastructure, car parking zones and car door opening widths.
- Evergreen tree planting to provide shade & amenity
- Feature planting to create aesthetically pleasing character
- Deciduous tree planting to allow for solar access & educate seasonal change
- A broad planting palette to include a variety native species & exotic species to provide colour, texture, aroma & form
- Canopy shade for seating areas and passive areas such as break-out spaces, for learning and in class activities.
- Implementation of indigenous species to encourage canopy corridor links and biodiversity connectivity
- Screen planting to define areas within the school play areas and provide privacy between carpark and play zones

With the proposed landscape design for this development we would implement the following safety planting initiatives:

- Avoid planting tree species that are prone to potential limb drop
- Avoid planting species close to paths and hard paved areas that are known for excessive flower and foliage drop that may cause potential slip hazards
- Avoid planting species that are known for invasive root structure that may cause damage to existing infrastructure and damage paths & hard paved areas, which may cause potential trip hazards
- Species that comply to Central Coast Council bush fire prone category 1 planting species
 Avoid planting species that are known to be toxic or may cause respiratory, allergy and/or skin irritations

Shrub species, sizing & locations are to ensure that passive surveillance is maintained at building, carpark & driveway entries path and all plantings are to be layered to with smaller groundcovers and shrubs adjacent to paths and buildings in accordance with Crime Prevention Through Environmental Design (CPTED) principles.

All proposed plant species selection has been considered in terms of soil types, species hardiness and on-going watering maintenance requirements. Predominantly low water use species (both native & exotic) have been grouped in regard to watering requirements and to reduce reliance on use of potable water.

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PROJECT

PAGEWOOD SENIORS RESIDENTIAL HOUSING 36-38 BIRDWOOD AVENUE, PAGEWOOD NSW 2035

DRAWING NAME

COVER SHEET

CLIENT LAHC
PROJECT NO 22091

REVISION D

DATE 09.03.23

DRAWING NO DA-L000

SCALE NA



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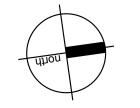
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PAGEWOOD SENIORS RESIDENTIAL HOUSING 36-38 BIRDWOOD AVENUE, PAGEWOOD NSW 2035

DRAWING NAME

LANDSCAPE PLAN **GROUND FLOOR**



CLIENT LAHC

SCALE 1:75 @ A1

PROJECT NO 22091 DRAWING NO DA- L101 **REVISION** C



Building Line

Refer Architects Drawings

Building Line Over

Refer Architects Drawings

Refer Civil Dwgs

Fence 1: 1.8 M. H. Custom

Seat - Refer to Architect Dwgs

Orb Colorbond Boundary Fence

(Jasper) . Refer Architects Dwg

Bench Seat - Hardwood Timber Bench F3

Retaining Wall . Refer Architects Dwgs Fence 3: Palisade Fence - 1.8m.

Fence 4: Palisade Fence -

High Powdercoat Fence.

1.2m. High Palisade Fence.

Refer Architects Dwg

Refer Architects Dwg

PROJECT PAGEWOOD SENIORS RESIDENTIAL HOUSING 36-38 BIRDWOOD AVENUE, PAGEWOOD NSW 2035

RW1 Retaining Wall 1: Concrete Sleeper

Retaining Wall. Refer Architects Dwg

Retaining Wall 2: Concrete Block

Retaining Wall. Refer Civil Dwgs

Tree to be Removed Refer Arborist Assessment

Small Feature Tree

Refer Indicative Plant Schedule

DRAWING NAME

Climber Plants
Refer Plant Schedule

Mass Groundcover Planting

Refer Details & Schedule

Screen Shrubs (>1.5m. H.)

Refer Indicative Plant Schedule

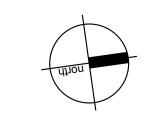
Shrubs (<1.5m. H.)
Refer Indicative Plant Sche

LANDSCAPE PLANTING PLAN

Biofiltration Planting - Mass

Planted Groundcovers.

Refer Planting Schedule



CLIENT LAHC PROJECT NO 22091 DRAWING NO DA-L102 **REVISION** A **DATE** 09.03.23

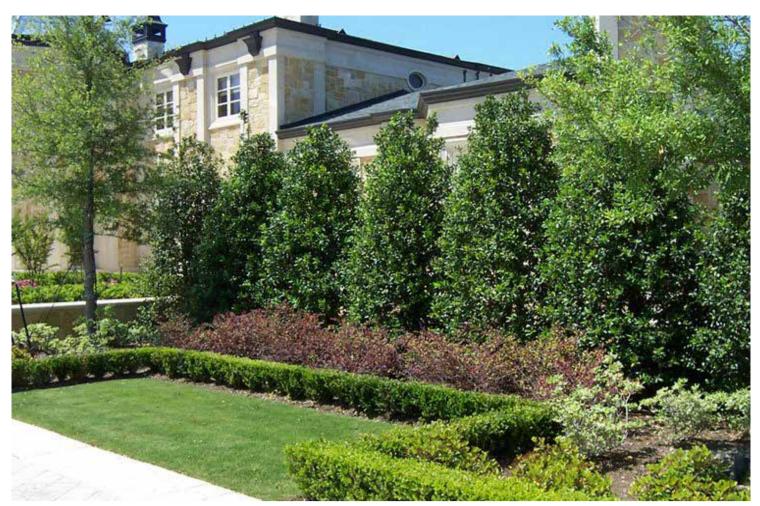
Image	Botanical Name	Common Name		Mature Spread		Spacing	Quant
Street Tree	es		(111.)	(111.)			
01 - Cvi	Callistemon viminalis	Weeping Red Bottlebrush	7	5	75L	As Shown	02
Shade Am	enity Tree						
Gfe	Glochidion ferdinandi	Cheese Tree	12	8	75L	As Shown	02
02 - Sau	Syzygium australe	Brush Cherry	12	8	75L	As Shown	02
03 - Wfl	Waterhousia floribunda	Weeping Lilly Pilly	10	8	75L	As Shown	02
Small Feat	ture Tree						
04 - Eeu	Elaeocarpus Eumundi	Emundi Quandong	7	2	75L	As Shown	01
05 - Hpe	Harpullia pendula	Tulipwood	7	6	75L	As Shown	01
06 - LIF	Lagerstroemia indica x L. fauriei	Crepe Myrtle	5	4	75L	As Shown	01
07 - TLu	Tristaniopsis 'Luscious'	Luscious Water Gum	8	5	75L	As Shown	01
Screen Sh	rubs > 1.5m						
Mco	Macrozamia communis	Burrawang	1	1.5	140mm	As Shown	12
08 - MFF	Metrosideros 'Fiji Fire'	NZ Christmas Bush	3	2	300mm	As Shown	30
09 - SSN	Syzigium australe 'Straight & Narrow'		5	2		As Shown	18
10 - RCW	Rhaphiolepis indica 'Cosmic White'	Indian Hawthorn	2	2		As Shown	23
Charles	I. 5						
Shrubs < 1		Litaly Duby	0.5	0.5	1.40,,,,,,,	A a Chauss	0.1
11 - ALR	Alternanthera dentata 'Little Ruby'	Littly Ruby	0.5	0.5		As Shown	
12 - ARV	Anigozanthus 'Ruby Velvet'	Ruby Velvet Kangaroo Paw	0.4	0.4		As Shown	18
13 - CBJ	Callistemon 'Better John'	Better John Bottlebrush	1.2	0.9		As Shown	
14 - NFI	Nandina domestica 'Flirt'	Flirt Dwarf Sacred Bamboo	0.35	0.3		As Shown	35
15 - RAB	Raphiolepis indica 'Apple Blossom'	Apple Blossom Hawthorn	1	1		As Shown	12
16 - WZe 17 - WAB	Westringia fruiticosa 'Zena' Westringia 'Aussie Box	Westringia 'Zena' Aussie Box Coastal Rosemary	1.2 0.9	1.2 0.9		As Shown As Shown	15 36
Accent Sh 18 - PXa	rubs Philodendron 'Xanadu'	Xanadu Dwarf Philodendron	0.8	0.8	140mm	As Shown	23
19 - WMu	Westringia 'Mundi'	Westringia 'Mundi'	0.6	1.5		As Shown	
Mass Grou	undcover Planting						
20 - Ccn	Convolvulus cneorum	Silver Bush	0.5	1	1/10mm	As Shown	24
21 - Dre	Dichondra repens	Kidney Weed	0.3	0.3		4/lin. M.	104
22 - Lis	Liriope muscari 'Isabella'	Isabella Fine Leaf Liriope	0.4	0.5		As Shown	07
MYa	Myoporum parvifolum Ýareena'	Yareena Creeping Boobialla	0.1	1		2/lin. M	58
23 - Ngr	Neomarica gracilis	Walking Iris	1.2	1.2		As Shown	
Low Borde	er Planting						
Lla	Lomandra labill	Evergreen Baby	0.45	0.45	1/10mm	As Shown	6
24 - Sby	Stachys byzantina	Lambs Ears	0.43	0.43		As Shown	
Vhe	Viola hederacea	Native Violet	0.5	0.3		4/lin. M	9 27
CCI	Casuarina glauca 'Cousin It'	Cousin It	0.1	1		2/lin. M	55
RBL	Rosmarinus officinalis 'Blue Lagoon'	Blue Lagoon Rosemary	0.3	1		2/III. M	62
Diafiltuati-	an Blanting						
_	on Planting Carey appressa	Tall Sedge	0.8	0.6	140mm	3/lin. M	42
Cap	Carex appressa		U.O 1			3/II/1. IVI 3/Ii/1. M	
Fno	Ficinia nodosa	Knobby Club Rush	1	0.8			27 42
Jef LTa	Juncus effusus Lomandra longifolia 'Tanika'	Common Rush Lomandra Tanika	0.6	1 0.65		3/lin. M 3/lin. M	42 103
	-						
Climbers 25 - Hvi	Hardenbergia violacea	Native Sarsparilla	3	3	140mm	1/lin. M	09
<u> </u>	rardenbergia violacea	ινατίνο Θαισματιίια	J	J	TOTTITI	171111. IVI	



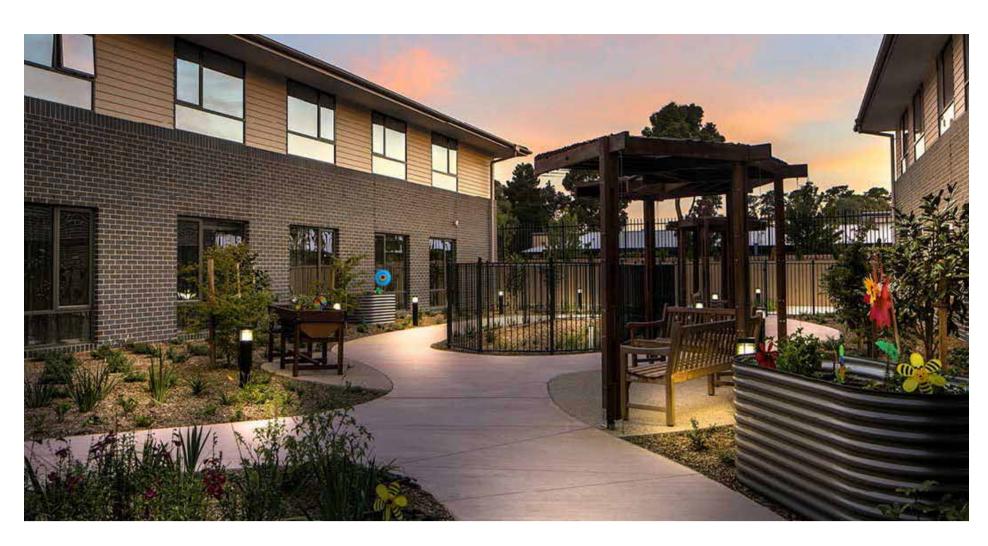
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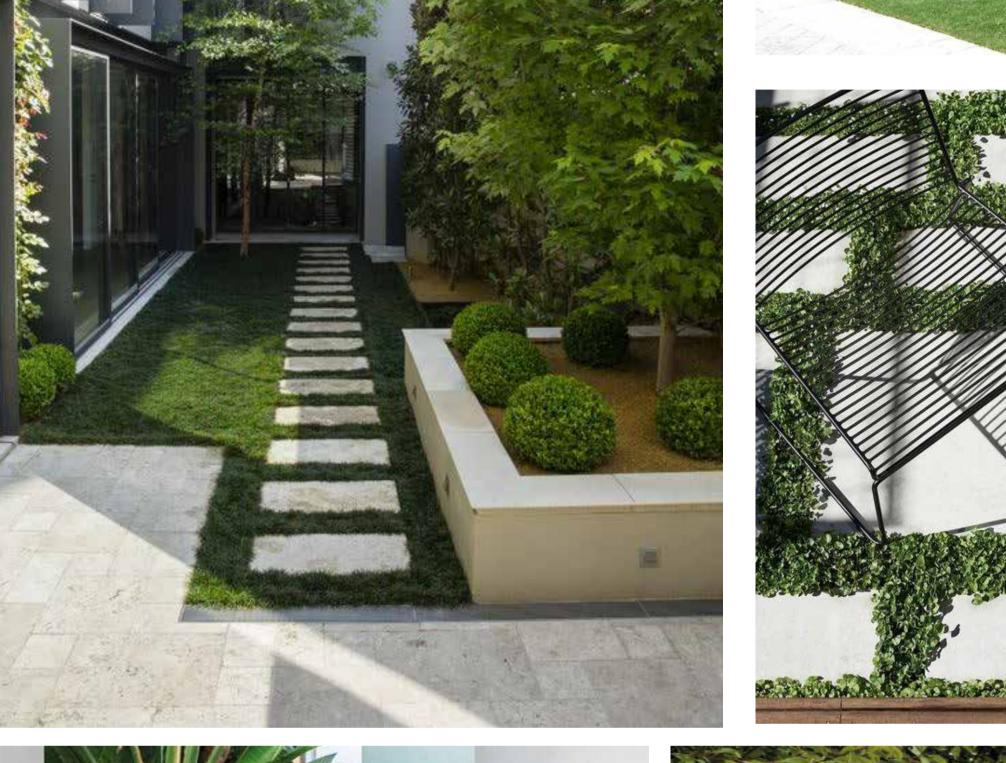
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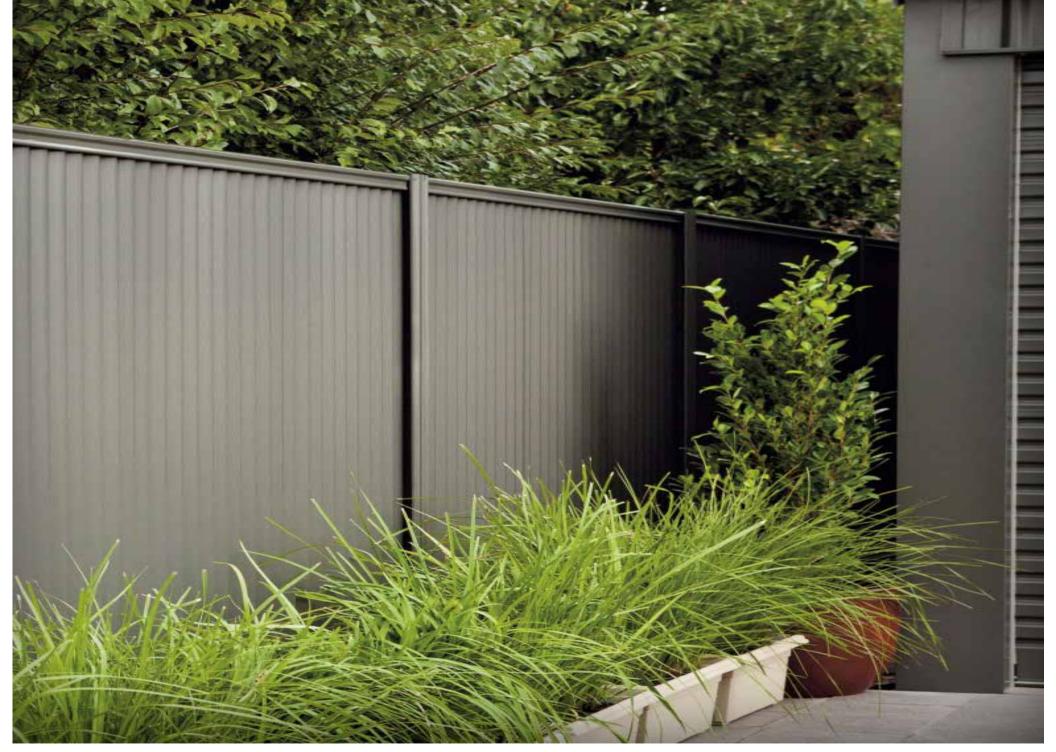
















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PROJECT PAGEWOOD SENIORS RESIDENTIAL HOUSING 36-38 BIRDWOOD AVENUE, PAGEWOOD NSW 2035

DRAWING NAME PRECEDENT IMAGES CLIENT LAHC

PROJECT NO 22091 DRAWING NO DA-L301 SCALE N/A

REVISION B **DATE** 24.02.23

DRAWING LIST

DRAWING NUMBER

DA-C01.01

DA-C02.01

DA-C02.11

DA-C03.01

DA-C04.01

DRAWING TITLE

CIVIL DETAILS

COVER SHEET, DRAWING LIST AND LOCALITY PLAN

EROSION AND SEDIMENT CONTROL PLAN

STORMWATER MANAGEMENT PLAN

EROSION AND SEDIMENT CONTROL DETAILS

LAHC PAGEWOOD DEVELOPMENT

PART 5 SUBMISSION CIVIL ENGINEERING PACKAGE





LOCALITY PLAN

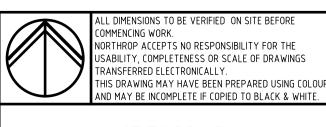
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1	ISSUED FOR INFORMATION	JK		TVK	08.12.22	
2	ISSUED FOR APPROVAL	JK	KS	TVK	17.01.23	
						GOVER
						DRAV

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LAHC PAGEWOOD DEVELOPMENT

36 - 38 BIRDWOOD AVENUE PAGEWOOD NSW 2035

CIVIL ENGINEERING PACKAGE

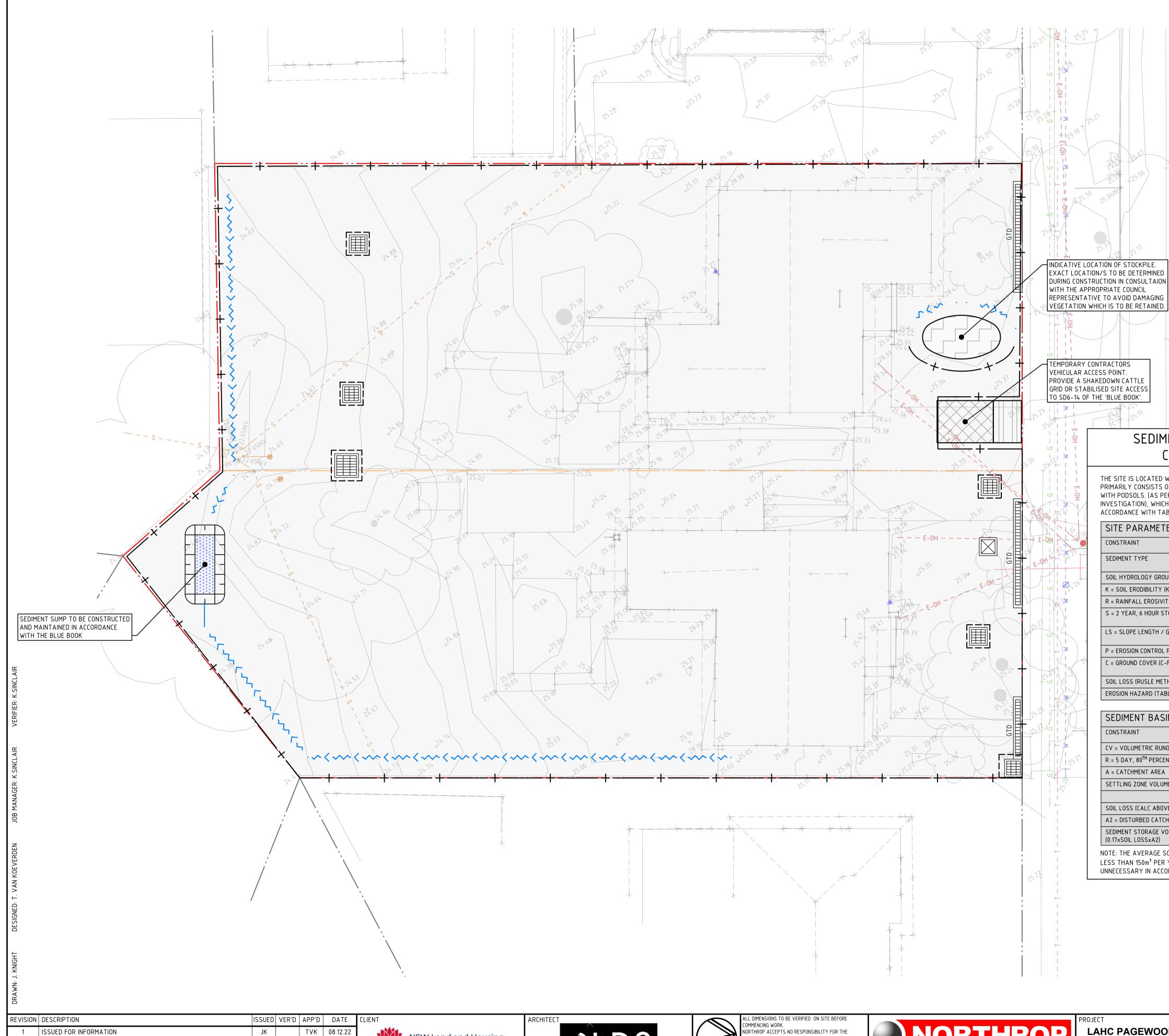
COVER SHEET, DRAWING LIST AND **LOCALITY PLAN**

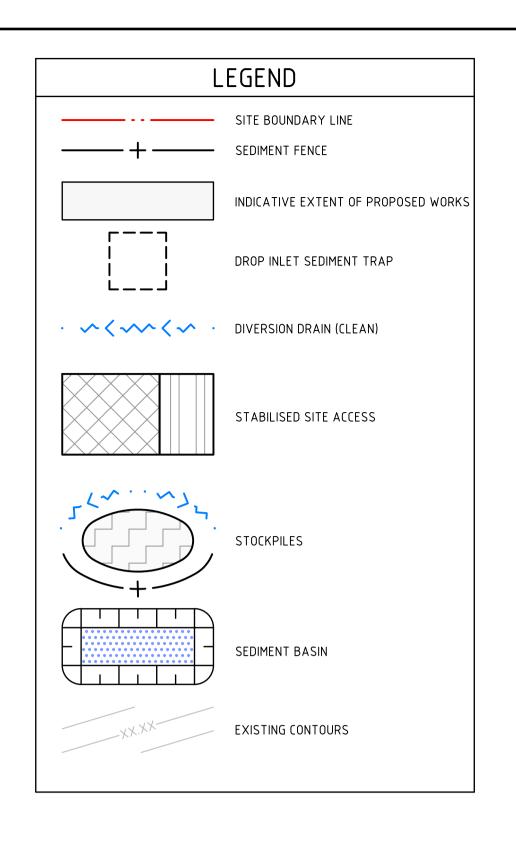
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SEDIMENT BASIN SIZING CALCULATION

BIRDW00

AVENUE

THE SITE IS LOCATED WITHIN THE TUGGERAH SOIL LANDSCAPE AND PRIMARILY CONSISTS OF MEDIUM TO FINE GRAINED "MARINED" SAND WITH PODSOLS. (AS PER THE SITE SPECIFIC GEOTECHNICAL INVESTIGATION), WHICH HAS THE FOLLOWING PROPERTIES (IN ACCORDANCE WITH TABLE C17 OF THE 'BLUE BOOK'):

SITE PARAMETERS	
CONSTRAINT	VALUE
SEDIMENT TYPE	С
SOIL HYDROLOGY GROUP	В
K = SOIL ERODIBILITY (K-FACTOR)	0.016
R = RAINFALL EROSIVITY (R-FACTOR)	3600
S = 2 YEAR, 6 HOUR STORM INTENSITY	12.90
LS = SLOPE LENGTH / GRADIENT	2125 (33. SLOPE @ 2.50% GRADE)
P = EROSION CONTROL PRACTICE (P-FACTOR)	1.3 (TYPICAL)
C = GROUND COVER (C-FACTOR)	1.0 (TYPICAL FOR STRIPPED SITE)
SOIL LOSS (RUSLE METHOD) (tonnes/ha/yr)	17
EROSION HAZARD (TABLE 4.2 BLUE BOOK)	VERY LOW

SEDIMENT BASIN SIZING		
CONSTRAINT	VALUE	UNITS
CV = VOLUMETRIC RUNOFF COEFFICIENT	0.25	
R = 5 DAY, 80 TH PERCENTILE RAINFALL	29.70	mm
A = CATCHMENT AREA	0.128	ha
SETTLING ZONE VOLUME (10xCVxRxA)	9.504	m ³
SOIL LOSS (CALC ABOVE)	13	m³/ha/yr
A2 = DISTURBED CATCHMENT AREA	0.128	ha
SEDIMENT STORAGE VOLUME (0.17xSOIL LOSSxA2)	1.66	m³

NOTE: THE AVERAGE SOIL LOSS FROM THE AREA OF DISTURBANCE IS LESS THAN 150m³ PER YEAR. BUILDING A SEDIMENT BASIN IS UNNECESSARY IN ACCORDANCE WITH THE BLUE BOOK SECTION 6.3.2 (d).

NOTES

- ALL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ON-SITE, IN ACCORDANCE WITH THE 'BLUE BOOK' (MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION. LANDCOM, 2004), OR OTHER CURRENT RECOGNISED INDUSTRY STANDARDS FOR EROSION AND SEDIMENT CONTROL FOR AUSTRALIAN CONDITIONS. THIS INCLUDES SEDIMENT TRAPS AND LINING OF CHANNELS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION AND SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS AND SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ALL MAINTENANCE, CLEANING AND BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.
- 3. INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL SD6-12 OF THE 'BLUE
- 4. ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
- 5. INSTALL SEDIMENT FENCING, OR OTHER SEDIMENT CONTROL DEVICES, AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT OR APPROPRIATE COUNCIL OFFICER.
- ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
- 7. THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB AND GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION.
- 8. ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ON-SITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
- 9. STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE SPREAD ON-SITE AS DIRECTED BY THE SUPERINTENDENT OR REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
- 10. CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).
- 11. ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE
- 12. PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.

WITH THE 'BLUE BOOK'.

13. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.

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1 ISSUED FOR INFORMATION 2 ISSUED FOR APPROVAL

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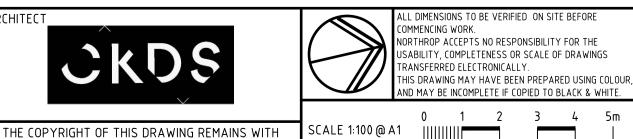
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JK | KS | TVK | 17.01.23



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LAHC PAGEWOOD DEVELOPMENT

36 - 38 BIRDWOOD AVENUE PAGEWOOD NSW 2035

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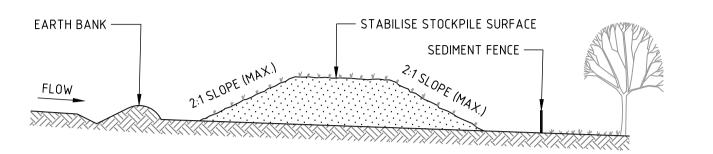
EROSION AND SEDIMENT

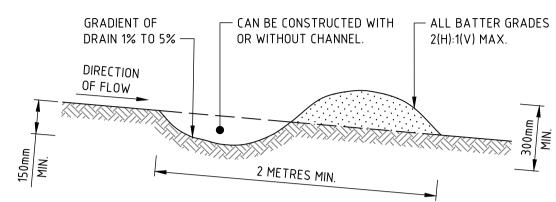
CONTROL PLAN

NL213392

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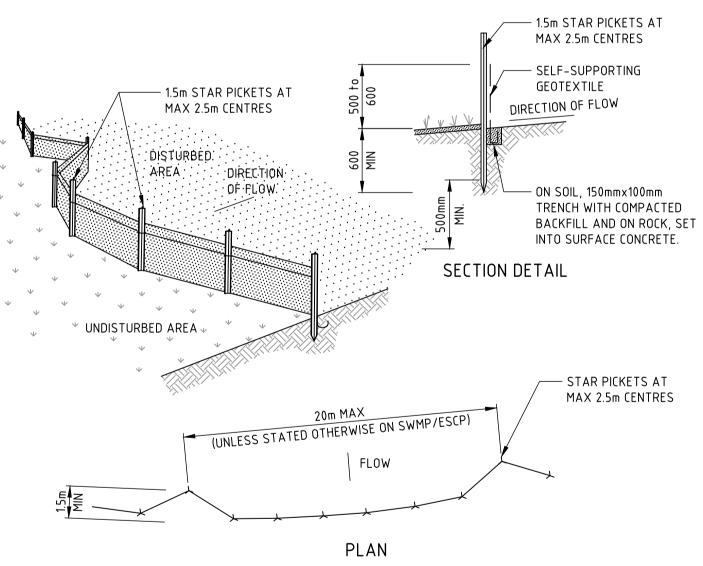




CONSTRUCTION NOTES

- 1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
- 2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
- WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT. 4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
- 5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

STOCKPILES (SD 4-1)



CONSTRUCTION NOTES

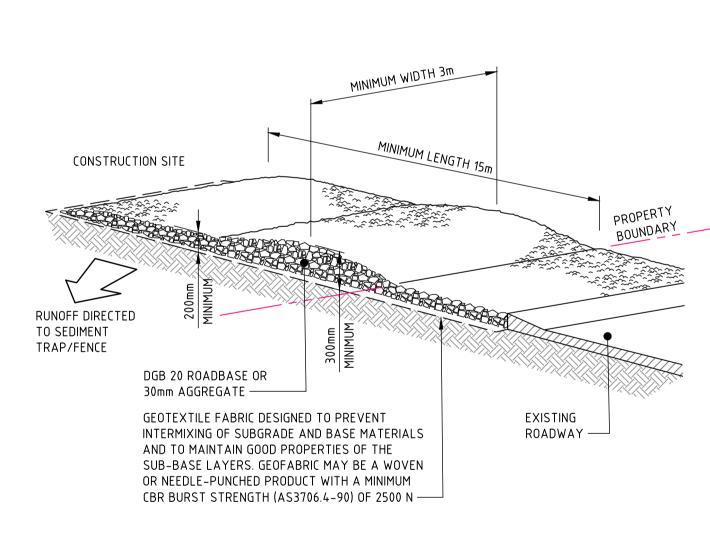
- 1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
- 2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- 3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- 4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
- 5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE (SD 6-8)

CONSTRUCTION NOTES

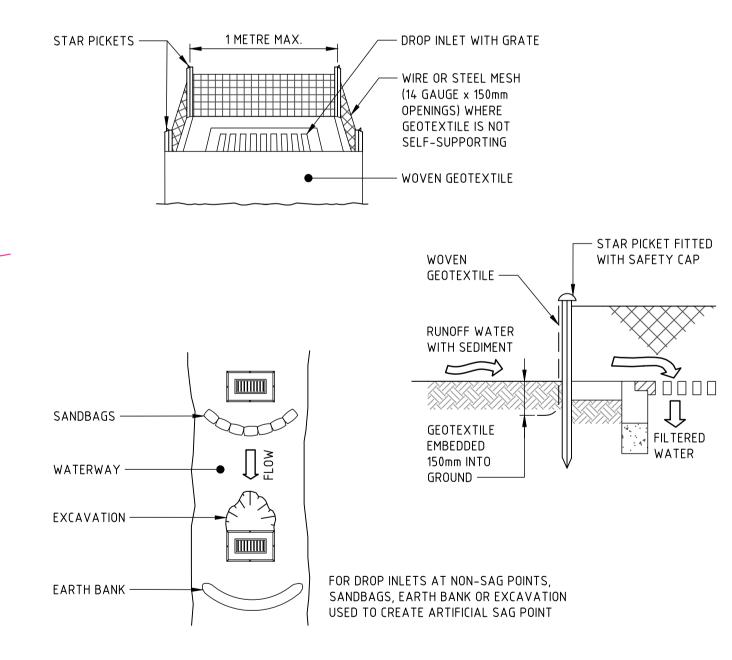
- 1. BUILD WITH GRADIENTS BETWEEN 1 AND 5 PERCENT.
- 2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE WORK AROUND THEM.
- 3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
- 4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
- 5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
- 6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES. EARTH BANK - LOW FLOW (SD 5-5)



- 1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
- 2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
- 3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE
- ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES
- 5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS (SD 6-14)



CONSTRUCTION NOTES

- 1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
- 2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
- 3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN
- 4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER (SD 6-12)

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REVISIOI	DN DESCRIPTION	ISSUED VER'D APP'D DA	TE CLIENT	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE		PROJECT	DRAWING TITLE	JOB NUMBER	
1	ISSUED FOR INFORMATION	JK TVK 08.	2.22 NSW Land and Housing		COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE	NOPTHROD	LAHC PAGEWOOD DEVELOPMENT	CIVIL ENGINEERING PACKAGE	NL213392	
2	ISSUED FOR APPROVAL	JK KS TVK 17.	123	·	TRANSFERRED ELECTRONICALLY.	MONTHINOP				
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NSW 2035

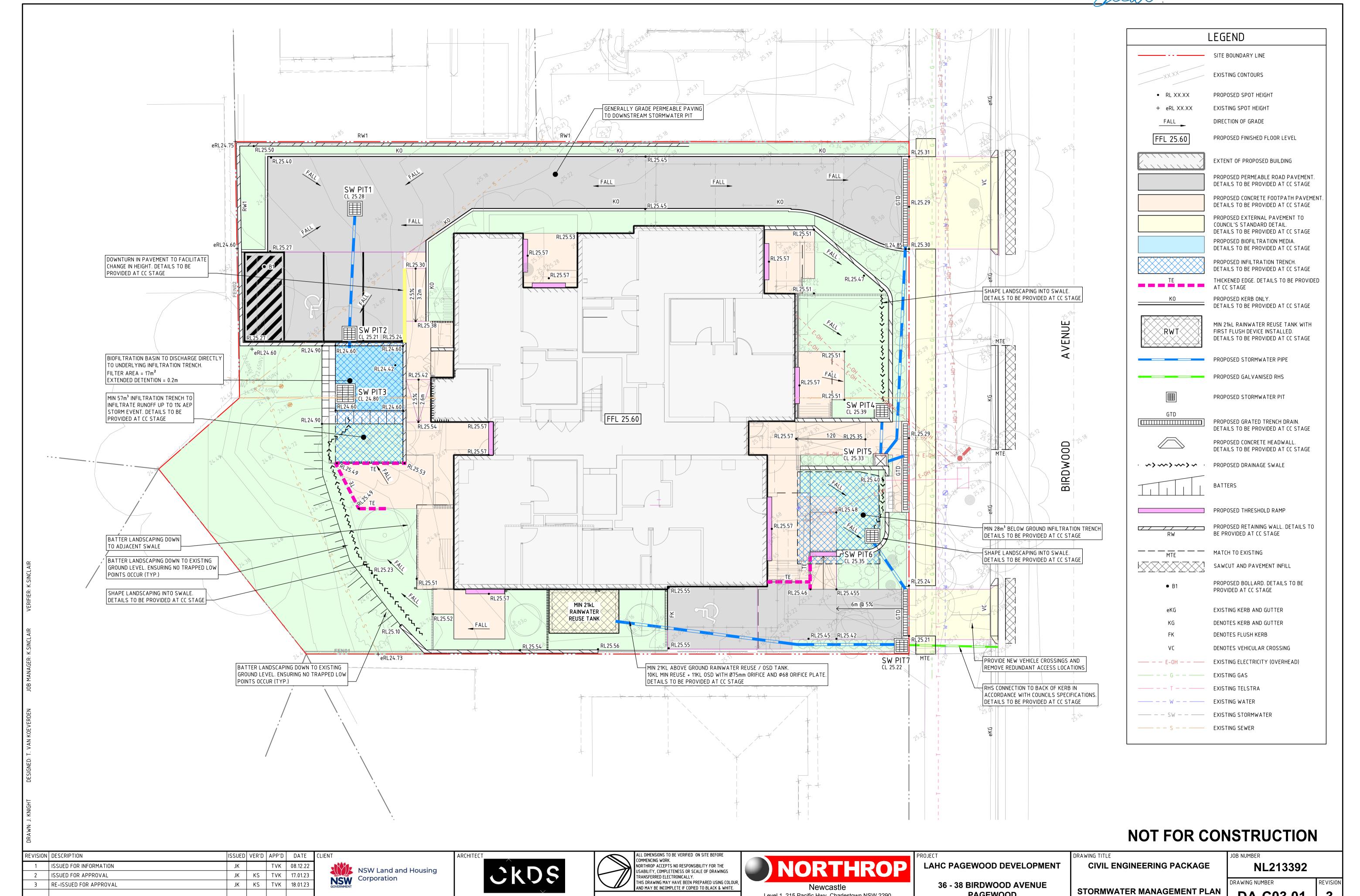
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DA-C03.01

DRAWING SHEET SIZE = A1





SCALE 1:100 @ A1

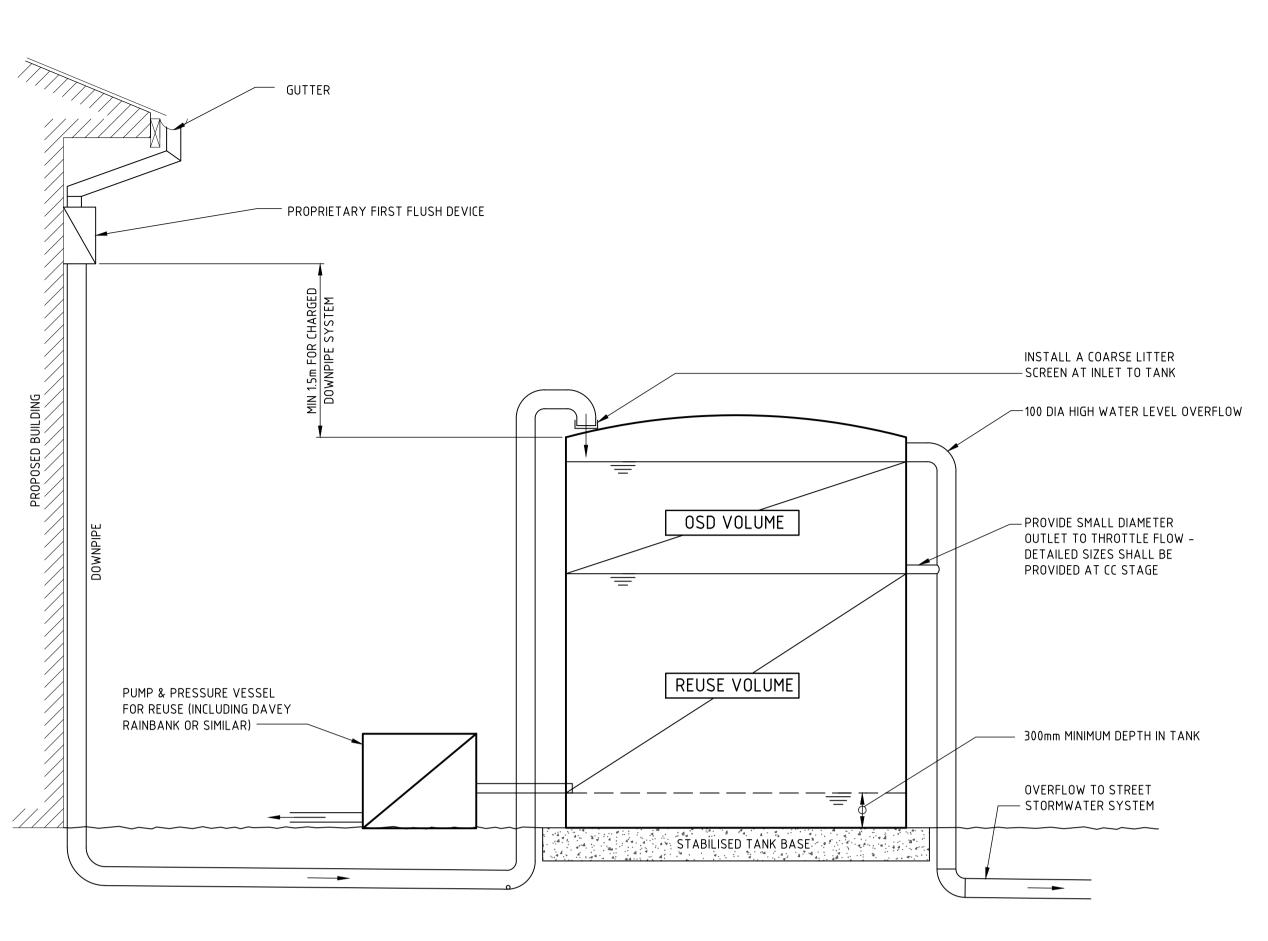
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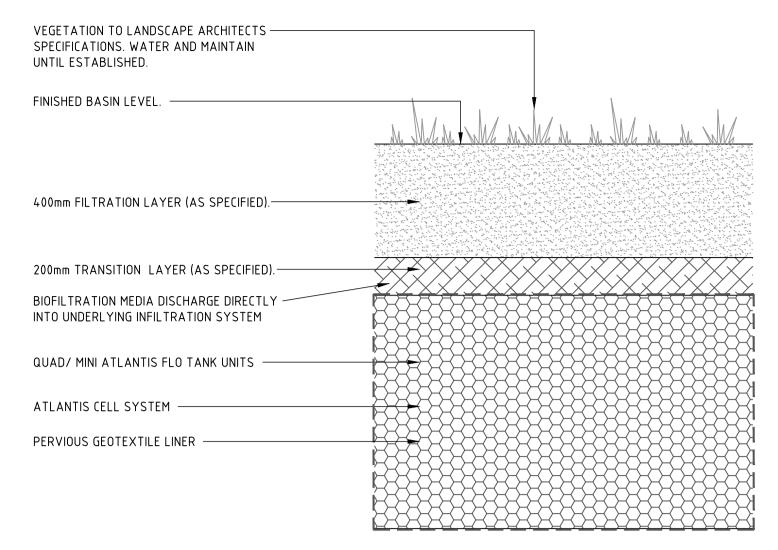
NORTHROP CONSULTING ENGINEERS PTY LTD

DRAWING NOT TO BE USED FOR CONSTRUCTION

UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED

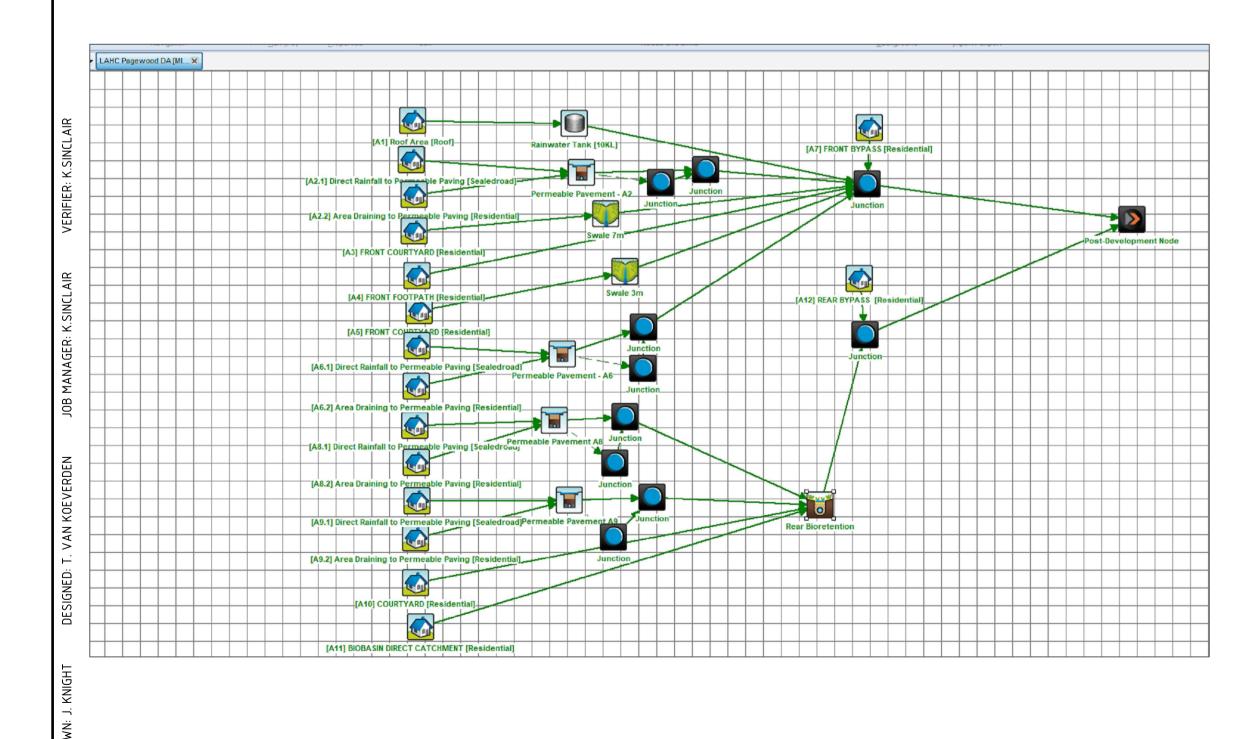


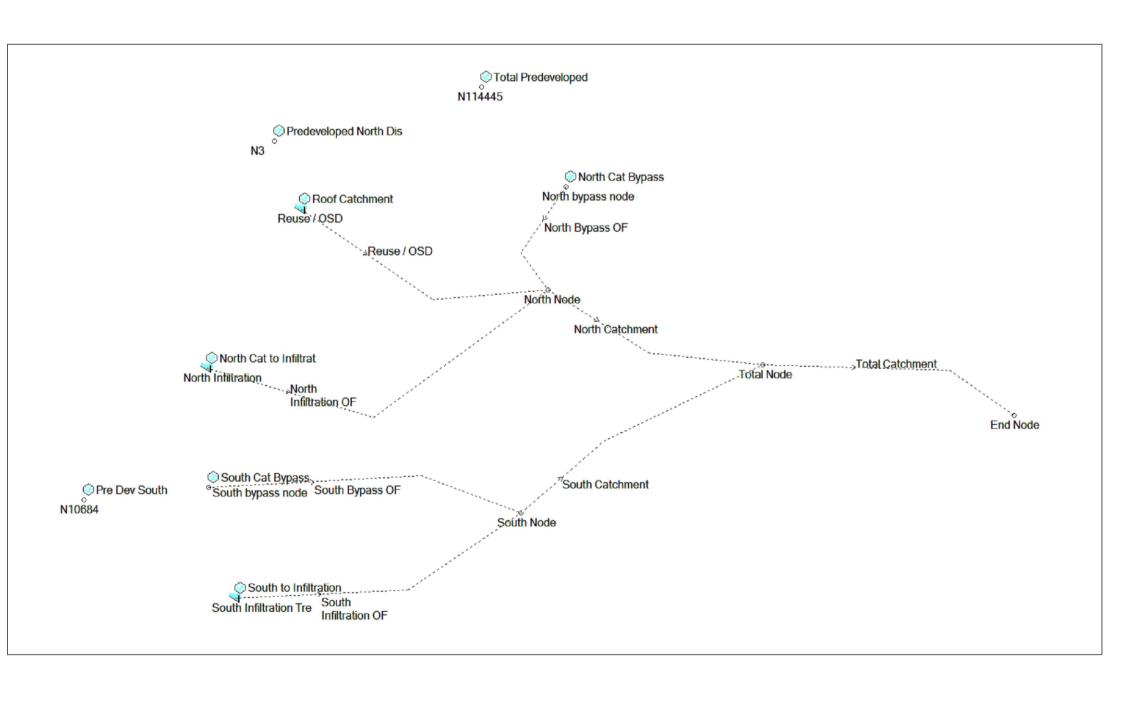




BIOFILTRATION SYSTEM TYPICAL SECTION NOT TO SCALE

TYPICAL REUSE/OSD ABOVE GROUND TANK DETAIL NOT TO SCALE





PROPOSED STORMWATER MANAGEMENT SUMMARY

LGA: LAKE MACQUARIE CITY COUNCIL (LMCC)

NORTHROP CONSULTING ENGINEERS HAVE PREPARED A CONCEPT STORMWATER DRAINAGE DESIGN FOR THE PROPOSED DEVELOPMENT AT 36-38 Birdwood Avenue, WHICH INCLUDES THE CONSTRUCTION OF 10 Seniors housing UNITS, ASSOCIATED PERVIOUS VEHICULAR PAVEMENT, STORMWATER INFRASTRUCTURE AND LANDSCAPING. THIS DESIGN HAS BEEN UNDERTAKEN IN ACCORDANCE WITH THE COBB DEVELOPMENT CONTROL PLAN 2013, COBB STORMWATER MANAGEMENT TECHNICAL GUIDELINES AND AS3500.3:2015 PLUMBING AND DRAINAGE - STORMWATER DRAINAGE

WATER QUANTITY MANAGEMENT

TOTAL SITE AREA = 1,280m²/ POST DEVELOPED IMPERVIOUS AREA = 759.2m²/ = 513m²/ POST DEVELOPED ROOF AREA POST DEVELOPED PAVED AREA = 520.8m²/

STORMWATER INFILTRATION AND DETENTION HAVE BEEN PROVIDED IN ORDER TO LIMIT POST DEVELOPED PEAK FLOWS LEAVING THE SITE TO THAT OF THE PRE-DEVELOPED SCENARIO (WHERE THE PRE DEVELOPED CONDITION IS TO BE ASSUMED A 100% PERVIOUS SITE). THE SITE HAS TWO CATCHMENTS WITH THE NORTHERN CATCHMENT DRAINING TO BIRDWOOD AVENUE AND THE SOUTHERN CATCHMENT SHEETING ACROSS THE SITE'S SOUTHERN BOUNDARY INTO THE NEIGHBOURING PROPERTIES. THE NORTHERN CATCHMENT IS MANAGED USING INFILTRATION, ONSITE DETENTION AND THEN A SMALL AREA BYPASSES. THE PROPOSED ROOF CATCHMENT DRAINS TO A 21KL RAINWATER REUSE / OSD TANK WITH 11KL DEDICATED TO OSD STORAGE AND A Ø75MM AND Ø68MM ORIFICE PLATE. THE DRIVEWAY AREA, COURTYARDS AND ENTRY FOOTPATHS GENERALLY DRAIN TO AN INGROUND INFILTRATION TRENCH LOCATED NEAR THE NORTHERN SITE BOUNDARY. THE INFILTRATION TRENCH HAS BEEN SIZED USING ONSITE INFILTRATION RATE OF 6.7X10⁻⁶M/SEC PROVIDED BY STS GEOTECHNICS (REPORT NO. 22/3495A) FOR ALL STORMS UP TO AND INCLUDING THE 1% AEP EVENT IN DRAINS.

THE SOUTHERN CATCHMENT IS MANAGED VIA AN INFILTRATION TRENCH THAT HAS BEEN SIZED USING ONSITE INFILTRATION RATE OF 6.7X10⁻⁶M/SEC PROVIDED BY STS GEOTECHNICS (REPORT NO. 22/3495A) FOR ALL STORMS UP TO AND INCLUDING THE 1% AEP EVENT IN DRAINS. THE REMINING SOUTHERN BYPASS CATCHMENT FOLLOWS THE EXISTING DRAINAGE REGIME AND SHEETS INTO THE NEIGHBOURING PROPERTY.

THE RESULTS OF THE DRAINS MODELLING CAN BE SEEN IN TABLE 1 BELOW

CATCHMENT	EY	PRE-FLOWRATE (m³/S)	POST-FLOWRATE (m³/S)
	0.200	0.090	0.009
	0.100	0.012	0.010
NORTHERN CATCHMENT	0.050	0.014	0.013
	0.020	0.015	0.015
	0.010	0.017	0.017
	0.200	0.024	0.004
	0.100	0.029	0.005
SOUTHERN CATCHMENT	0.050	0.034	0.006
	0.020	0.041	0.007
	0.010	0.048	0.008

IT IS NOTED THAT THE 10KL ABOVE GROUND RETENTION VOLUME OF THE ABOVE GROUND RAINWATER REUSE TANK HAS NOT BEEN INCLUDED IN THIS ASSESSMENT, WHICH WOULD FURTHER REDUCE POST DEVELOPED FLOW RATES. THE DRAINS MODEL CAN BE PROVIDED TO COUNCIL UPON REQUEST.

WATER QUALITY MANAGEMENT

TO MINIMISE ANY ADVERSE IMPACTS ON THE DOWNSTREAM WATERCOURSES, STORMWATER TREATMENT DEVICES HAVE BEEN INCLUDED IN THE DESIGN FOR THE PROPOSED DEVELOPMENT. A MUSIC MODEL WAS DEVELOPED TO DETERMINE THE EFFECTIVE TREATMENT PROVIDED BY THE PROPOSED STORMWATER TREATMENT DEVICES. COBB'S STORMWATER QUALITY TARGETS ARE PROPOSED TO BE MET BY UTILISING THE FOLLOWING TREATMENT TRAIN:

- 10KL RAINWATER REUSE TO HARVEST RUNOFF FROM THE ROOF. WATER TO BE RETICULATED INTERNALLY FOR TOILET FLUSHING AND EXTERNALLY FOR LANDSCAPE IRRIGATION;
- 1 X 7M LANDSCAPED SWALE TO TREAT RUN OFF FROM A FRONT COURTYARD.
- 1 X 3M LANDSCAPED SWALE TO TREAT RUNOFF FROM A FRONT COURTYARD.
- ADBRI PERMEABLE VEHICULAR PAVEMENT TO TREAT RUNOFF FROM DRIVEWAY AND ADJACENT SURFACES BEFORE DISCHARGING INTO THE INFILTRATION TRENCHES.

- 17M² BIOFILTRATION BASIN WITH 0.2m EXTENDED DETENTION.

THE PROPOSED TREATMENT TRAIN WAS ASSESSED IN THE CONCEPTUAL SOFTWARE MUSIC (VERSION 6.3) AGAINST COUNCIL'S WATER QUALITY TARGETS. RESULTS ARE SHOWN IN TABLE 2 BELOW.

TABLE 2 - MUSI	- MUSIC MODEL RESULT SUMMARY				
POLLUTANT CRITERIA	REDUCTION TARGETS (%)	SOURCE LOAD (kg/YR)	RESIDUAL LOAD (kg/YR)	REDUCTION ACHIEVED (%)	
TOTAL SUSPENDED SOLIDS (TSS)	80.00 128.00		22.50	82.50	
TOTAL PHOSPHROUS (TP)	55.00	0.284	0.11	62.50	
TOTAL NITROGEN (TN)	40.00	2.23	1.27	43.00	
TOTAL GROSS POLUTANTS (GP)	90.00	23.60	0.47	98.00	

IT CAN BE SEEN IN THE ABOVE TABLE THE PROPOSED TREATMENT TRAIN WHEN MODELLED IN MUSIC USING A COMBINATION OF TREATMENT DEVICES WAS SUFFICIENT IN PROVIDING REMOVAL OF STORMWATER POLLUTANTS TO SUGGESTED REQUIREMENTS FROM COBB. THE MUSIC MODEL CAN BE PROVIDED TO COUNCIL UPON REQUEST.

NOT FOR CONSTRUCTION

REVISION DESCRIPTION 1 ISSUED FOR INFORMATION	ISSUED VER'D APP'D DATE CLIENT JK TVK 08.12.22	ARCHITECT	ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE	NORTHROD	PROJECT LAHC PAGEWOOD DEVELOPMENT	DRAWING TITLE CIVIL ENGINEERING PACKAGE	JOB NUMBER NL213392	
2 ISSUED FOR APPROVAL	JK KS TVK 17.01.23 NSW Land and Housing Corporation	CKDS	USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR	Newcastle	36 - 38 BIRDWOOD AVENUE			REVISION
	DRAWING NOT TO BE USED FOR CONSTRUCTION	THE COPYRIGHT OF THIS DRAWING REMAINS WITH	NOT TO SCALE	Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au	PAGEWOOD	CIVIL DETAILS	DA-C04.01	2
	UNLESS VERIFICATION SIGNATURE HAS BEEN ADD		1.5. 1.5 56.7.22	ABN 81 094 433 100			DRAWING SHEET SIZE = A1	.1