



ACTIVITY DETERMINATION

Project No. BGWYQ

Conflict of Interest¹

In this matter:

1. I have declared any possible conflict of interests (real, potential, or perceived) to the Acting 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 Acting Chief Executive, Land & Housing Corporation as soon as I become aware of a possible conflict of interest.

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

Dated....

18 December 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

66-70

Street or property name

Pegler Avenue

Suburb, town or locality

South Granville

Postcode

2142

Local Government Area(s)

Cumberland

Real property description (Lot and DP)

Lots 14, 15 and 16 DP36280

ACTIVITY DESCRIPTION

Provide a description of the activity

Demolition of 3 existing dwellings and associated structures, transplanting of 3 trees within the site and the construction of a 24 unit seniors housing development comprising 13 x 1-bedroom and 11 x 2-bedroom independent living units, with associated landscaping and fencing, surface parking for 11 vehicles, 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..... 18 December 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	DA00	F	13.06.2023	Brewster Murray Pty Ltd
Block Analysis	DA01	E	06.02.2023	Brewster Murray Pty Ltd
Site Analysis	DA02	E	06.02.2023	Brewster Murray Pty Ltd
Demolition Plan	DA03	E	06.02.2023	Brewster Murray Pty Ltd
Site Plan	DA04	F	13.06.2023	Brewster Murray Pty Ltd
Ground Floor Plan	DA05	E	06.02.2023	Brewster Murray Pty Ltd
First Floor Plan	DA06	E	06.02.2023	Brewster Murray Pty Ltd
Second Floor Plan	DA07	E	06.02.2023	Brewster Murray Pty Ltd
Roof Plan + BASIX	DA08	F	13.06.2023	Brewster Murray Pty Ltd
Elevations 1	DA09	F	13.06.2023	Brewster Murray Pty Ltd
Elevations 2 + Materials	DA10	F	13.06.2023	Brewster Murray Pty Ltd
Sections	DA11	F	13.06.2023	Brewster Murray Pty Ltd
Cut & Fill & Retaining Walls	DA12	E	06.02.2023	Brewster Murray Pty Ltd
Cut & Fill & Retaining Walls	DA13	E	06.02.2023	Brewster Murray Pty Ltd
Shadow Diagram	DA14	E	06.02.2023	Brewster Murray Pty Ltd
View from Sun Diagram	DA15	E	06.02.2023	Brewster Murray Pty Ltd
Materials and Finishes	DA16	E	06.02.2023	Brewster Murray Pty Ltd
GFA, Landscape and C.O.S Calcs	DA17	E	06.02.2023	Brewster Murray Pty Ltd
Civil/ Stormwater				
Notes and Legends	C01	8	14.09.2023	Greenview Consulting

Title / Name:	Drawing No / Document Ref	Revision / Issue:	Date [dd/mm/yyyy]:	Prepared by:
Ground Floor Drainage Plan	C02	8	14.09.2023	Greenview Consulting
Area Plan	C03	1	14.09.2023	Greenview Consulting
Site Stormwater Details Sheet 1	C04	8	14.09.2023	Greenview Consulting
Site Stormwater Details Sheet 2	C05	1	14.09.2023	Greenview Consulting
Site Stormwater Details Sheet 3	C06	4	14.09.2023	Greenview Consulting
Site Stormwater Details Sheet 4	C07	4	14.09.2023	Greenview Consulting
Road Frontage Plan	C08	3	14.09.2023	Greenview Consulting
Long Section Sheet	C09	3	14.09.2023	Greenview Consulting
Easement Option 2 – Easement Frontage Kerb Discharge	C11	3	14.09.2023	Greenview Consulting
Soil Erosion and Sediment Control Plan				
Notes and Legends	ESM13	3	10.02.2023	Greenview Consulting
Environmental Site Management Plan	ESM23	3	10.02.2023	Greenview Consulting
Landscape				
Landscape Plan	1 of 2	B	16.02.2023	Greenland Design Pty Ltd
Landscape Details and Specification	2 of 2	B	16.02.2023	Greenland Design Pty Ltd
Survey				
Detail and Level Survey	1 of 4	-	12.10.2020	Norton Survey Partners
Detail and Level Survey	2 of 4	-	12.10.2020	Norton Survey Partners
Detail and Level Survey	3 of 4	-	12.10.2020	Norton Survey Partners
Detail and Level Survey	4 of 4	-	12.10.2020	Norton Survey Partners
BASIX				
BASIX Certificate	1373757M_02	-	16.06.2023	Greenview Consulting Pty Ltd
NatHERS Certificate	DMN/13/1645	-	16.06.2023	Design Matters National
Reports				
Traffic Impact Assessment	GT22049	-	08.02.2023	Genesis Traffic
Arboricultural Impact Assessment and Tree Management Plan	5844.2	2	24.02.2023	Redgum Horticultural
Waste Management Plan	BGWYQ	2	February 2023	Brewster Murray Pty Ltd
Accessibility Design Review Assessment	21562	-	14.02.2023	ABE Consulting
Geotechnical Investigation Report	20/3756	-	October 2023	STS Geotechnics Pty Ltd
BCA Design Compliance Assessment	-	3	14.02.2023	BCA Vision

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 Cumberland City 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 and Parking

10. A concrete vehicular crossing and layback shall be provided at the entrance / exit to the property. The crossing and layback shall be constructed in accordance with Cumberland City Council's standard requirements for residential crossings. Council shall be provided with plans for the crossing and layback together with the payment of any council inspection fees.
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 layback / driveway shall be borne by the Land & Housing Corporation. Obsolete gutter laybacks shall be constructed as kerb in accordance with Cumberland City 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. Cumberland City 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 the Land & Housing Corporation.

Tree Removal/Relocation

20. Removal and relocation of trees within the boundaries of the site is to be carried out in accordance with the trees shown for removal/relocation on the approved Landscape Plan and Arboricultural Impact Assessment and Tree Management Plan and no other trees shall be removed without further approval(s).

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(s) 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. Cumberland City 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 Cumberland City 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 and/or relocated 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 and Tree Management Plan.

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 Cumberland City Council's drainage code.

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

43. Where site filling is necessary, a minimum of 95% standard compacting shall be achieved and certified by a NATA registered Soils Lab.
44. 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

45. 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.
46. All workers and 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

47. Any existing structures identified for demolition shall be demolished prior to commencement of the construction of the activity.
48. Demolition shall be carried out in accordance with the appropriate provisions of AS 2601.

49. 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.
50. 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)].
51. 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.
52. 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.
53. Demolition procedures shall maximise the reuse and recycling of demolished materials in order to reduce the environmental impacts of waste disposal.
54. 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.
55. 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

56. 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

57. 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

58. 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

59. 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.
60. No fires shall be lit or waste materials burnt on the site.
61. No washing of concrete forms or trucks shall occur on the site.
62. 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.
63. Dust generation during demolition / construction shall be controlled using regular control measures such as on site watering or damp cloth fences.
64. All vehicles transporting loose materials and travelling on public roads shall be secured (i.e. closed tail gate and covered) to minimise dust generation.
65. 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

66. The Land & Housing Corporation shall bear the cost of any necessary adjustments to utility mains and services.
67. 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

68. 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

69. 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

70. The cost of repairing any damage caused to Cumberland City 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

71. 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.

A positive covenant and restriction-as-to-user shall be placed over the onsite detention system in accordance with Cumberland City Council's on-site detention policy to ensure that the system will be adequately maintained. The positive covenant and restriction-as-to-user shall be registered at NSW Land Registry Services prior to occupation. A copy of the registered restriction-as-to-user shall be provided to the Land & Housing Corporation and Cumberland City Council.

PART B – Additional Identified Requirements

Specific Requirements for Seniors Housing

72. 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.

73. 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.

74. 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.
75. 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.
76. The existing footpath between the site frontage and bus stops ID 2142201 and ID 214273 on Blaxcell Street 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 Cumberland City Council specifications to provide an accessible pathway from the site to the nearest bus stops. The footpath must be a minimum of 1.2m in width.

Note:

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

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

Requirements Resulting from Council Comments

78. All soft and hard landscaping works to be undertaken on the site is to be carried out by a minimum AQF3 landscaper. The final inspection of works is to be signed off by an individual other than the person carrying out the works.
79. The pedestrian access (walkway) to and from the car parking spaces to the building must be safe with zero or minimal chances of being in collision with oncoming traffic. It must be marked to guide pedestrians safely to the car spaces.

80. The stormwater drainage system for the safe disposal stormwater from the site must be designed and constructed in accordance with Council's Development Control Plan and relevant policies. This includes:
- a) The on-site detention (OSD) stormwater system must be designed with the site storage requirement (SSR) of 470m³/ha and the Permissible Site Discharge (PSD) of 80 l/s/ha for the subject site.
 - b) The area bypassing the OSD system must not exceed 15% of the site area.
 - c) The HED chamber grate shall be twin 450x900 hinged grates. There should be one access opening to storage area, adjacent to the HED chamber grate.
81. Any work including drainage or pipe works within the public domain must be approved by Council. In this regard, detail drawings must be submitted to Council's Engineering Section (infrastructure) for endorsement prior to the commencement of the pipe construction works.. The street drainage depth shall be reduced as much as possible.
82. In accordance with the *Section 2.5 and 2.7 Cumberland DCP 2021 Part G4*, the development must incorporate the *Water Sensitive Urban Design (WSUD)* measures to comply with the controls outlined therein and achieve the pollutant removal targets.

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.

Decision Statement

Project No. BGWYQ

SITE IDENTIFICATION

STREET ADDRESS

Unit/Street No

66-70

Street or property name

Pegler Avenue

Suburb, town or locality

South Granville

Postcode

2142

Local Government Area(s)

Cumberland

Real property description (Lot and DP)

Lots 14, 15 and 16 DP36280

ACTIVITY DESCRIPTION

Provide a description of the activity

Demolition of 3 existing dwellings and associated structures, transplanting of 3 trees within the site and the construction of a 24 unit Seniors Housing development comprising 13 x 1-bedroom and 11 x 2-bedroom independent living units, with associated landscaping and fencing, surface parking for 11 vehicles, and consolidation into a single lot.

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 and supporting documentation, including advice from Cumberland City Council a decision to proceed with the proposed activity has been made. This decision included consideration of the following:

Significant Impact on the Environment

- 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 document it was decided that the proposed 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 development will assist in the provision of much needed social and affordable housing and assist in addressing the existing and growing demand for seniors housing in the Cumberland City 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 8. 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.... 18 December 2023

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

BGWYQ

DEPARTMENT OF PLANNING & ENVIRONMENT

NSW LAND & HOUSING CORPORATION

AT: 66-70 PEGLER AVENUE, SOUTH GRANVILLE

LOCATION PLAN



DRAWING LIST

SK SHEET LIST

- DA00 COVER SHEET
- DA01 BLOCK ANALYSIS
- DA02 SITE ANALYSIS
- DA03 DEMOLITION PLAN
- DA04 SITE PLAN
- DA05 GROUND FLOOR PLAN
- DA06 FIRST FLOOR PLAN
- DA07 SECOND FLOOR PLAN
- DA08 ROOF PLAN + BASIX
- DA09 ELEVATIONS 1
- DA10 ELEVATIONS 2 + MATERIALS
- DA11 SECTIONS
- DA12 CUT & FILL & RETAINING WALLS
- DA13 CUT & FILL & RETAINING WALLS
- DA14 SHADOW DIAGRAM
- DA15 VIEW FROM SUN DIAGRAM
- DA16 MATERIALS & FINISHES
- DA17 GFA, LANDSCAPE & C.O.S CALCS

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DEVELOPMENT DATA

JOB REFERENCE	BGWYQ			
LOCALITY / SUBURB	SOUTH GRANVILLE			
STREET ADDRESS	66-70 PEGLER AVENUE			
LOTS	LOTS 14, 15, 16 DP 36280			
SITE AREA	2608.9m²			
NO. EXISTING LOTS	3			
PROPOSED GFA*	SITE AREA	LOT 14 785.3m²	LOTS 15+16 1823.6m²	ALL LOTS 2608.9m²
	FSR CONTROL	0.8:1	0.6:1	
	GFA AVAILABLE	628.2m²	1094.1m²	1722.3m²
	GROUND	LOT 14 260.3m²	LOTS 15+16 462.2m²	ALL LOTS 722.5m²
	FIRST	183.8m²	462.2m²	642m²
	SECOND	184.0m²	189.2m²	353.2m²
	TOTAL	628.1m²	1093.6m²	1721.7m²
TOTAL DWELLINGS	24 (11 x 2 BED + 13 x 1 BED)			
	UNIT NO.	TYPE	NO. BEDROOMS	AREA (m²)
	01	GROUND	2	70
	02	GROUND	1	53
	03	GROUND	2	70
	04	GROUND	1	53
	05	GROUND	1	53
	06	GROUND	1	53
	07	GROUND	1	53
	08	GROUND	2	70
	09	GROUND	2	70
	10	GROUND	2	70
	11	FIRST FLOOR	2	70
	12	FIRST FLOOR	1	53
	13	FIRST FLOOR	2	70
	14	FIRST FLOOR	1	53
	15	FIRST FLOOR	1	53
	16	FIRST FLOOR	1	53
	17	FIRST FLOOR	1	53
	18	FIRST FLOOR	2	70
	19	FIRST FLOOR	2	70
	20	SECOND FLOOR	2	70
	21	SECOND FLOOR	1	53
	22	SECOND FLOOR	2	70
	23	SECOND FLOOR	1	53
	24	SECOND FLOOR	1	53
				P.O.S. (m²)
				60
				60
				53
				24
				24
				24
				24
				22
				30
				51
				10
				10
				8
				10
				8
				8
				8
				10
				10
				8
				10
				8
				10
				8
				8

	CONTROL	REQUIREMENT		PROPOSED	
BUILDING HEIGHT	H-SEPP	9.5m APPLYABLE TO THIRD STOREY ONLY: 45° PLANE PROJECTED FROM THE SOUTH (SIDE) AND WEST (REAR) BOUNDARIES		9.5m THIRD STOREY WITHIN PROJECTED PLANES	
	C-LEP	11m			
PARKING	H-SEPP	1 ACCESSIBLE SPACE PER 5 UNITS = 24/5 = 4.8 = 5 MIN		11 (INCL 5 ACCESSIBLE) NOTE: RATE APPLIED AS FOLLOWS: 0.4 per 1 BED + 0.5 per 2 BED = 0.4*13 + 0.5*11 = 10.7 (11) TOTAL	
FSR	C-LEP	LOT 14	0.8:1	LOT 14	0.80 : 1*
		LOTS 15 & 16	0.6:1	LOTS 15 & 16	0.60 : 1*
	H-SEPP	0.5:1		0.67 : 1**	
SETBACK	C-DCP	PRIMARY FRONT SETBACK 6.0m MIN		FRONT SETBACK 7.0m TO BUILDING (6m TO BALCONIES)	
		REAR = 20% OF SITE DEPTH = 10.363m MIN		REAR SETBACK 10.36m	
		SIDES 3m MIN		SIDE SETBACKS 3.74m MIN	
	ADG	SEPARATION BETWEEN HABITABLE WINDOWS: 6m FROM BOUNDARY		SIDE SETBACKS - HABITABLE - 6.0m	
LANDSCAPING	H-SEPP	35m² / UNIT = 840m² MIN		925m²	
DEEP SOIL	H-SEPP	15% OF SITE AREA, MIN DIMENSION 3m = 391m² MIN TOTAL 65% OF REQUIRED DEEP SOIL AT REAR = 254m² MIN AT REAR		567m² TOTAL (261m² AT REAR)	
SOLAR ORIENTATION	H-SEPP	70% OF DWELLINGS TO HAVE MIN. 2 HRS SUNLIGHT BETWEEN 9AM-3PM MIDWINTER TO LIVING AREA & P.O.S		17/ 24 UNITS = 71%	
	ADG	MAX 15% UNITS NO SUN		NIL	
CROSS-VENTILATION	ADG	MIN 60% UNITS		15/ 24 UNITS = 63%	
COMMON OPEN SPACE	ADG	MIN 25% OF SITE = 652.2m²		652.5m²	

* GROSS FLOOR AREA CALCULATION FOR COUNCIL LEP EXCLUDES EXTERIOR WALLS AND EXCLUDES COMMON VERTICAL CIRCULATION SPACES
** GROSS FLOOR AREA CALCULATION FOR HOUSING SEPP EXCLUDES EXTERIOR WALLS BUT INCLUDES COMMON VERTICAL CIRCULATION SPACES

C-LEP = CUMBERLAND LOCAL ENVIRONMENTAL PLAN 2021
C-DCP = CUMBERLAND DEVELOPMENT CONTROL PLAN 2021
H-SEPP = HOUSING SEPP 2021
ADG = APARTMENT DESIGN GUIDE

STREET PERSPECTIVE



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NOMINATED ARCHITECT:
MICHAEL BULLEN

SIGNATURE:

F

13-06-23 FOR PART 5

06-02-23 FOR PART 5

11-01-23 FOR REVIEW

20-12-22 FOR REVIEW

16-12-22 FOR REVIEW

REV DATE NOTATION/AMENDMENT

DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.
FIGURED DIMENSIONS TAKE PRECEDENCE.

ARCHITECT

BREWSTER MURRAY PTY LTD
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BCA CONSULTANT

CONSULTING ENGINEERS

GREENVIEW CONSULTING

LANDSCAPE CONSULTANT

GREENLAND DESIGN

CLIENT

DEPARTMENT OF PLANNING & ENVIRONMENT
LAND & HOUSING CORPORATION

PROJECT

SENIORS HOUSING DEVELOPMENT

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE

COVER SHEET

FILE

PLOTTED

STATUS

PART 5

DATE
13-06-23

SCALE

MB

DESIGNER

AG

SHEET

DA00

PROJECT No

BGWYQ

DRAWN

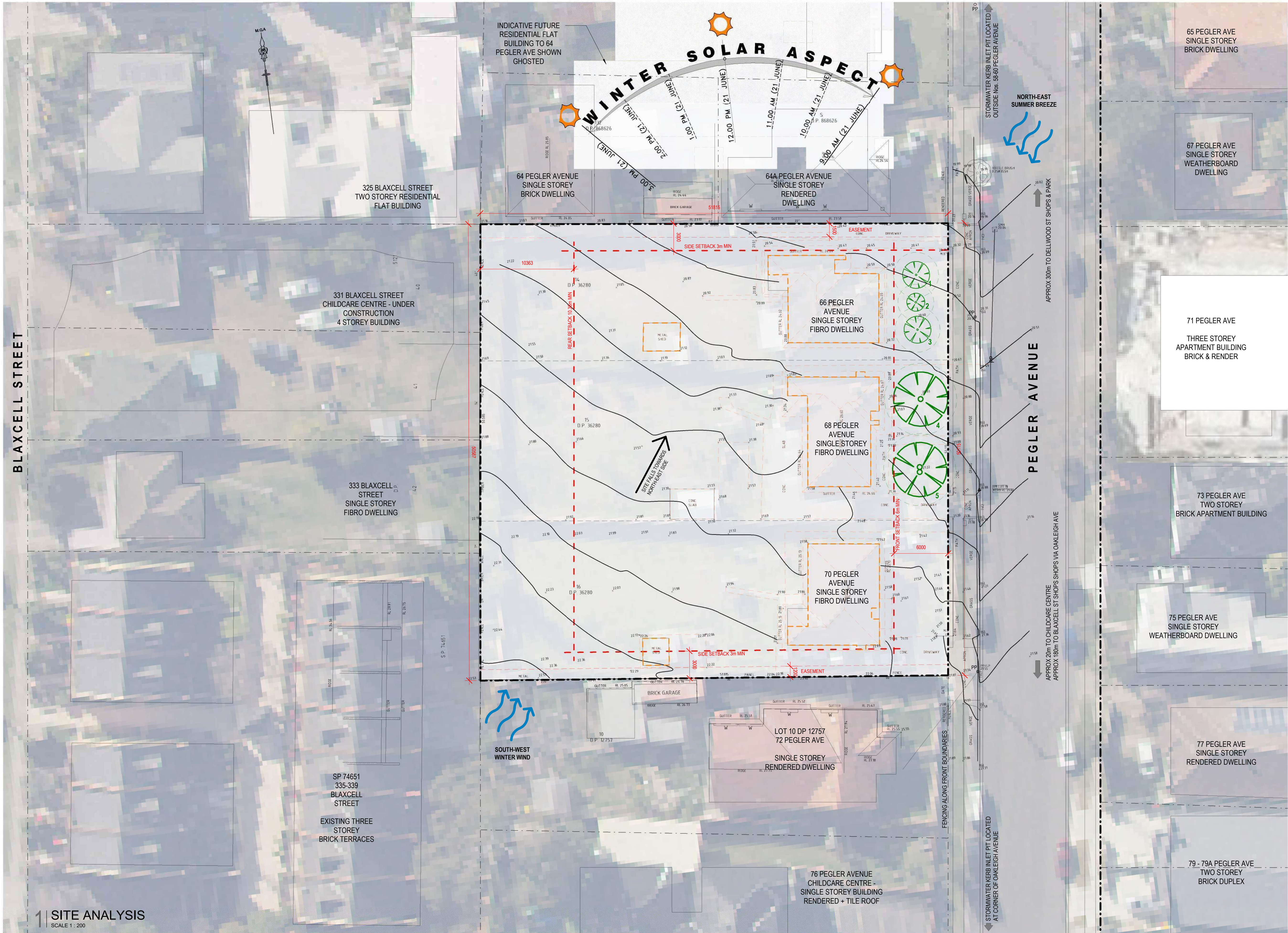
MB

REVIEWED

MB

REV

F



- LEGEND**
- EXISTING TREE - NOT ASSESSED
 - EXISTING TREE - HIGH RETENTION VALUE (WITH TPZ DASHED)
 - EXISTING TREE - MEDIUM RETENTION VALUE (WITH TPZ DASHED)
 - EXISTING STRUCTURE TO BE DEMOLISHED

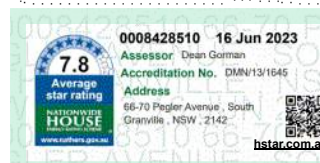
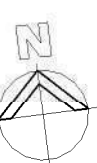
- PP POWER POLE
T TELSTRA PIT
H HYDRANT
SW STORMWATER
S SEWER

SITE CHARACTERISTICS & POTENTIALS

- THE CHARACTER OF SURROUNDING DEVELOPMENTS CONSISTS OF A MIXTURE OF OLDER DETACHED SINGLE STOREY RESIDENTIAL DWELLINGS ALONG WITH NEWER 2-3 STOREY APARTMENT BUILDINGS & TERRACES, CHILDCARE CENTRES
- RELATIVELY FLAT SITE AIDS ACCESSIBILITY WITHIN THE SITE
- LOW TRAFFIC LEVELS ON PEGLER STREET
- SITE IS WITHIN CLOSE PROXIMITY OF BUS STOPS & LOCAL SHOPS
- EXISTING FOOTPATHS IN THE STREET
- REGULAR RECTANGULAR SHAPED SITE

SITE CONSTRAINTS

- LARGE NEW CHILDCARE CENTRE TO WEST OF SITE - OVERSHADOWING AND OVERLOOKING ISSUES
- POWER POLES WITHIN FRONTAGE
- DISTANCES & GRADIENTS ALONG PATHS OF TRAVEL TO THE BUS STOP WILL NEED TO BE VERIFIED BY SURVEY TO ENSURE THEY COMPLY - INCLUDING ACCESS TO STOP ON NORTHERN SIDE OF STREET
- FURTHER INVESTIGATION IS REQUIRED IN STORMWATER RUNOFF AS THE SITES ARE RELATIVELY FLAT



1 | SITE ANALYSIS

SCALE 1 : 200



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PROJECT
SENIORS HOUSING DEVELOPMENT UNDER
NSW HOUSING SEPP 2021
66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE
SITE ANALYSIS
FILE
PLOTTED

STATUS
PART 5
DATE 06-02-23
SCALE
PROJ MB
SHEET A1
DA02
DESIGNER AG
CHECKED MB
REV E

18 December 2023

LEGEND:

EXISTING BOUNDARY LINE

BUILDINGS / STRUCTURES TO BE DEMOLISHED

EXISTING TREES TO BE REMOVED

EXISTING MEDIUM VALUE TREE TO BE RETAINED

TREE No. FROM ARBORIST REPORT

STRUCTURAL ROOT ZONE

TREE PROTECTION ZONE (REFER TO ARBORIST REPORT FRO DIMENSIONS)

REFER TO ARBORIST REPORT FOR TEMPORARY PROTECTION MEASURES TO TREES

- DEMOLITION NOTES:
1.

ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS INCLUDING AS2601 (2001 + AS AMENDED) THE DEMOLITION OF STRUCTURES, CODES AND LOCAL AUTHORITY REQUIREMENTS.
2.

ALL EXISTING SERVICES ON & ADJACENT TO THE SITE TO BE VERIFIED ON SITE BEFORE COMMENCEMENT OF ANY WORK. CONFIRM EXISTING LOCATION OF SERVICES WITH 'DIAL BEFORE YOU DIG'.
3.

PROVIDE TEMPORARY FENCING AND STAGING FOR SAFETY AND SECURITY. PROVIDE LOCKABLE GATES FOR THE FULL DURATION OF CONSTRUCTION WORK UNTIL HAND OVER. FENCE SPECIFICATION TO BE IN-ACCORDANCE WITH COUNCIL AND WH&S STANDARDS. PROVIDE SIGNAGE TO COMPLY WITH COUNCIL REQUIREMENTS.
4.

REFER TO LAHC REFERENCE SPECIFICATION FOR HOUSING CONSTRUCTION, SECTIONS (BUT NOT LIMITED TO): PRELIMINARIES & 01-DEMOLITION
5.

DEMOLISH AND REMOVE FROM SITE STRUCTURES AS NOTED, MATERIALS ON SITE, INCLUDING ALL BUILDING STRUCTURES UNDERGROUND AND ANY UNDERGROUND INSPECTION AND PITS AND THEIR ASSOCIATED SERVICES LINES. MAKE SAFE ALL SERVICES.
6.

ALLOW FOR ALL REMOVAL OF ALL ASBESTOS AND ANY HAZARDOUS MATERIALS ON SITE. DISPOSE HAZARDOUS MATERIAL IN-ACCORDANCE WITH EPA AND LOCAL COUNCIL'S REQUIREMENT. PAY FOR FEES ASSOCIATED WITH REMOVAL & DISPOSAL OF WASTE.
7.

DEMOLISH & REMOVE FENCES AS NOTED BUT NOT LIMITED TO: WATER TANKS, SEPTIC TANKS, CLOTHES LINES, BBQ & ASSOCIATED AREAS, LANDSCAPING, DECKS, STAIRS, ANTENNAS, PONDS & ASSOCIATED SERVICES & EQUIPMENT.
8.

TERMINATE, CAP OFF OR DIVERT OF ALL EXISTING SERVICES WHERE SO REQUIRED AND/OR ARE NECESSARY TO CARRY OUT NEW WORKS. PERFORM ALL WORKS IN BEST TRADESMAN-LIKE MANNER AND TO THE SATISFACTION OF RELEVANT AUTHORITIES.
9.

ALL EXISTING STORMWATER & SEWERAGE DRAIN CONNECTIONS TO EXISTING MAINS TO BE CAPPED
10.

WHOLE SITE TO BE MADE SECURE BY SUITABLE METAL FENCING/ HOARDINGS TO PREVENT ANY UNAUTHORISED ACCESS. SITE SECURITY AND SAFETY TO BE UNDERTAKEN BY BUILDING CONTRACTOR.
11.

REMOVE ALL SPOIL & DEMOLISHED MATERIAL FROM SITE.
12.

DISCONNECT ALL EXISTING ON SITE SERVICES TO THE SITE BOUNDARIES CLEAR OF WORKS. MAKE SAFE TO AUTHORITIES REQUIREMENTS.
13.

ALL TREES SHOWN DOTTED TO BE REMOVED. ALL OTHER EXISTING TREES SHOWN TO REMAIN ARE TO BE PROTECTED DURING CONSTRUCTION WORK IN-ACCORDANCE WITH ARBORIST AND COUNCIL'S RECOMMENDATION. REFER TO LANDSCAPE DESIGN FOR ADDITIONAL INFORMATION.
14.

CLEAR THE SITE OF ALL VEGETATION AND TOPSOIL, LEFT BEHIND MATERIALS, SPOIL, ETC
15.

DEMOLISH EXISTING CROSSINGS & REPLACE WITH KERB & GUTTER TO COUNCIL'S REQUIREMENTS. MAKE GOOD TO SURROUNDS WHERE DISTURBED BY NEW WORKS TO COUNCIL ENGINEER'S SPECIFICATION. OBTAIN ALL COUNCIL APPROVALS AND PAY ALL AUTHORITIES' FEES / BONDS.
16.

ALL DIMENSIONS SHOWN IN METRES
17.

REFER TO DA14 SHOWING ELEVATIONS OF PROPOSED DEMOLISHED DWELLINGS AND REMOVAL OF ONE STREET TREE



66, 68, 70 PEGLER AVENUE ELEVATION VIEW

1 | DEMOLITION PLAN

SCALE 1 : 150



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MICHAEL BULLEN		D	11-01-23	FOR REVIEW
		C	20-12-22	FOR REVIEW
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PROJECT
SENIORS HOUSING DEVELOPMENT UNDER
NSW HOUSING SEPP 2021

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE
DEMOLITION PLAN

FILE

STATUS	PART 5			
DATE	06-02-23	SCALE	MB	PROJECT No
STAGE		SHEET SIZE	AG	DESIGNED
		A1		MB
		SHEET		REV
		DA03		E

18 December 2023

LEGEND:

- COMMON STAIRS

1 BEDROOM UNIT

2 BEDROOM UNIT

LANDSCAPE AREA

DEEP SOIL AREA

CONCRETE / PATHWAY

DRIVEWAY

PAVED COURTYARD / BALCONY

INDICATIVE PROPOSED FALL
- BALCONY OVER

EXISTING BUILDING TO BE DEMOLISHED

CIRCULATION CLEARANCE

LB

LETTERBOX

G

GARBAGE AREA

P.O.S

PRIVATE OPEN SPACE

H/L

HIGHLIGHT WINDOW

DP

DOWNPIPE

CL

CLOTHES LINE

WHW

GAS HOT WATER HEATER

PP

POWER POLE (EXISTING)

TEL

TELSTRA PIT (EXISTING)

BOL

BOLLARD LIGHT

LT

EXTERIOR LIGHT WALL MOUNT

- PP -

POWER CONDUIT

- PP -

TELECOM LINE

- SS -

SEWER LINE

- - -

SETBACK LINE

- - -

STORMWATER PIT (REFER TO CIVIL LAYOUT PLAN)

- - -

EXISTING GROUND RL FROM SURVEY TO AHD

RL 00.000

PROPOSED RL TO AHD

ERL 00.000

EXISTING RL RETAINED
- EXISTING TREES:
TREE No. FROM ARBORIST REPORT

STRUCTURAL ROOT ZONE

TREE PROTECTION ZONE

LINETYPE INDICATES RETENTION VALUE:

EXISTING TREE TO BE REMOVED / RELOCATED

EXISTING TREE TO BE RETAINED

PROPOSED NEW TREES - REFER TO LANDSCAPE PLAN

PROPOSED NEW PLANTING - REFER TO LANDSCAPE PLAN

INDICATES HOURS OF DIRECT SOLAR ACCESS ON 21ST JUNE

- GENERAL NOTES:
- REFER TO CIVIL ENGINEERS DOCUMENTATION FOR PROPOSED STORMWATER
 - REFER TO SURVEY FOR ALL EXISTING SERVICES
 - ALL SLOPE ARROWS SHOW SLOPE UP UNLESS ANNOTATED 'FALL'
 - READ IN CONJUNCTION WITH CUT & FILL PLAN AND RETAINING WALLS SECTIONS
 - REFER TO SHEET DA17 FOR DEEP SOIL ZONES CALCULATION
 - REFER TO LANDSCAPE PLAN FOR PLANTING TYPES
 - FEN-1 TYPICAL HEIGHT 1.8m
 - FEN-2 TYPICAL HEIGHT 1.2m
 - FEN-3 TYPICAL HEIGHT 1.5m

1 SITE PLAN
SCALE 1: 150

NOMINATED ARCHITECT:	SIGNATURE:	F	13-06-23	FOR PART 5
MICHAEL BULLEN		E	06-02-23	FOR PART 5
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	GREENLAND DESIGN

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NSW HOUSING SEPP 2021

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE
SITE PLAN

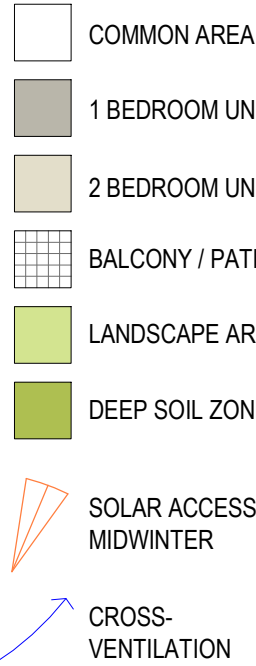
STATUS	PART 5
DATE	13-06-23
SCALE	
PROJ	MB
DESIGNER	AG
CHECKED	MB
REV	F
DA04	



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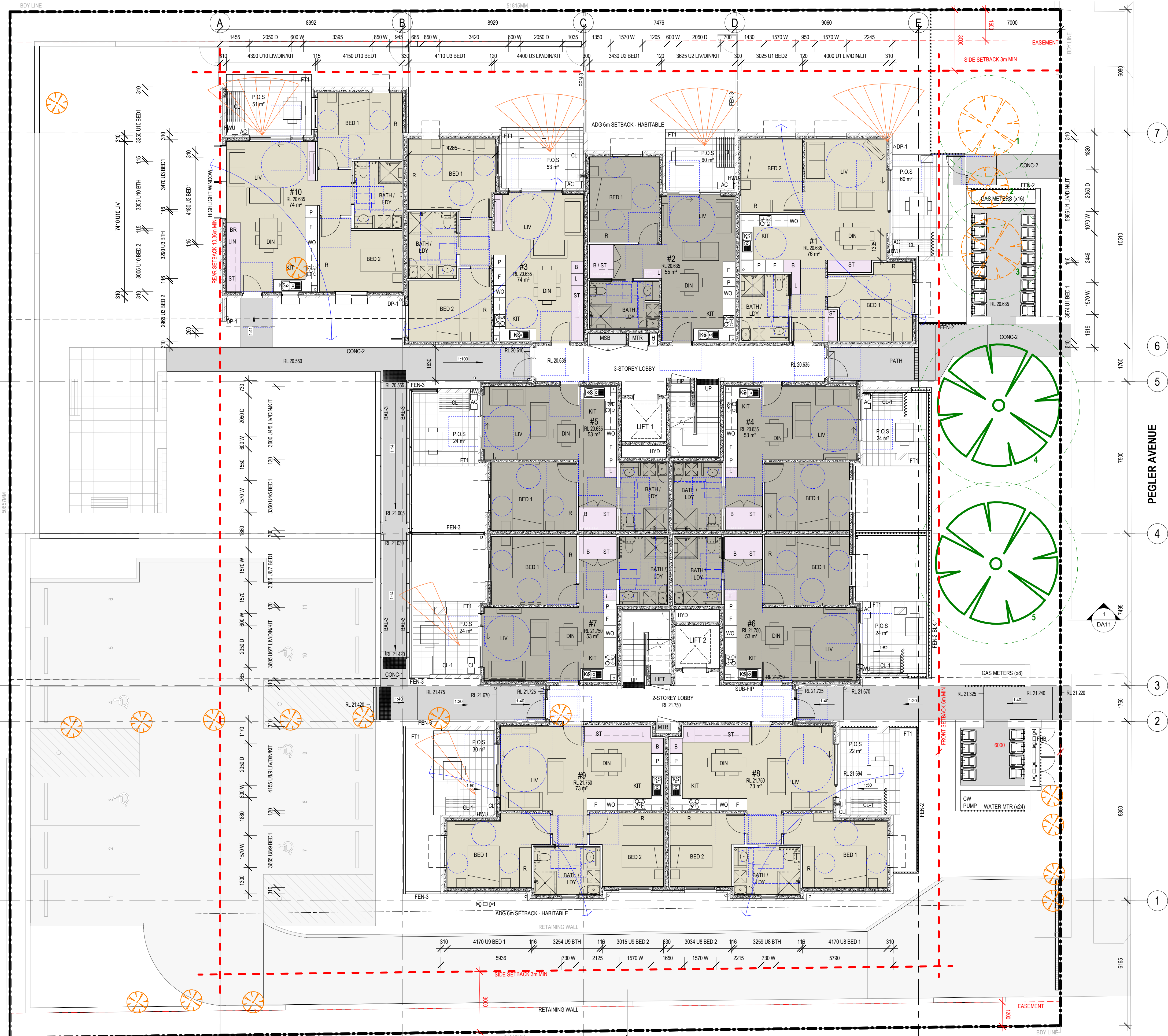
LEGEND



- EXISTING TREE - TO BE RETAINED
(WITH TPZ DASHED) - TREE NUMBERS
AS PER ARBORIST REPORT
- EXISTING TREE TO BE
REMOVED / RELOCATED
- NOTES:
- HYDRANT COVERAGE IN ACCORDANCE WITH NCC(2019) E1.3
 - PORTABLE FIRE EXTINGUISHERS TO NCC(2019) E1.6
 - EMERGENCY LIGHTING TO BE IN ACCORDANCE WITH NCC(2019) E4.2
 - EXIT SIGNS TO BE IN ACCORDANCE WITH NCC(2019) E4.5
 - DIRECTIONAL SIGNS TO BE IN ACCORDANCE WITH NCC(2019) E4.6
 - SMOKE DETECTOR TO BE IN ACCORDANCE WITH NCC(2019) E2.2
 - LIFT-OFF HINGES TO BE PROVIDED TO SWING TYPE BATHROOM DOORS

ABBREVIATION LEGEND

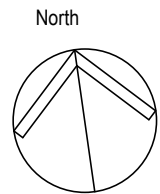
AC	AIR CONDITIONING UNIT (PROVISIONAL LOCATION)	LB	LETTERBOX
BAL-1	BALUSTRADE TYPE 1 - SEE SCHEDULE	G	GARAGE AREA
BAL-2	BALUSTRADE TYPE 2 - SEE SCHEDULE	P.O.S	PRIVATE OPEN SPACE
BAL-3	BALUSTRADE TYPE 3 - ACCESS - TO AS - SEE SCHEDULE	C.O.S	COMMON OPEN SPACE
BR-1	BRICK TYPE 1 - SEE SCHEDULE	PP	POWER POLE
BLK-1	BLOCKWORK TYPE 1 - SEE SCHEDULE	T	TELSTRA PIT
CL-1	CLOTHING LINE (FOLDING) TYPE 1	H	HYDRANT
CONC-1	CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.	SW	STORMWATER
CONC-2	CONCRETE FLOOR FINISH - TYPE 2 - SEE SPEC.	RL	INDICATIVE RELATIVE LEVEL
DP-1	DOWN PIPE - TYPE 1 - SEE SCHEDULE	H/L	HIGHLIGHT WINDOW
DP-2	DOWN PIPE - TYPE 2 - SEE SCHEDULE	DP	DOWNPIPE
FEN-1	FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE	CL	CLOTHES LINE
FEN-2	FENCE TYPE 2 - SEE SCHEDULE	BR	BROOM CUPBOARD
FEN-3	FENCE TYPE 3 - SEE SCHEDULE	LN	LINEN
FHB	FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.	KS	KITCHEN SINK
FT1	FLOOR TILE TYPE 1	CT	COOKTOP
GT-1	GUTTER TYPE 1 - SEE SCHEDULE	P	PANTRY
HWU	HOT WATER UNIT	F	FRIDGE
LVR-1	LOUVER TYPE 1 - SEE SCHEDULE	WO	WALL OVEN
LVR-2	LOUVER TYPE 2 - SEE SCHEDULE	BL	BOLLARD LIGHT
MC-1	METAL CLADDING TYPE 1 - SEE SCHEDULE	R	ROBE
MOR-1	METAL DECK ROOFING - SEE SCHEDULE		
MS-1	METAL SCREEN - SEE SCHEDULE		
PB-1	POST BOXES - TYPE 1 - SEE SCHEDULE		
REC	ROOF EDGE CAPPING		
VT-1	VENT TYPE 1 - SEE SCHEDULE		
VT-2	VENT TYPE 2 - SEE SCHEDULE		
WB-1	WHEELIE BIN TYPE 1 - 240L		



1 GROUND FLOOR
SCALE 1 : 100

NOMINATED ARCHITECT: MICHAEL BULLEN		SIGNATURE: E 06-02-23 FOR PART 5 D 11-01-23 FOR REVIEW C 20-12-22 FOR REVIEW B 16-12-22 FOR REVIEW A 07-12-22 DRAFT FOR REVIEW REV DATE NOTATION/AMENDMENT DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.		ARCHITECT BREWSTER MURRAY PTY LTD PH (02) 9259 0888		CONSULTING ENGINEERS GREENVIEW CONSULTING		CLIENT DEPARTMENT OF PLANNING & ENVIRONMENT LAND & HOUSING CORPORATION		PROJECT SENIORS HOUSING DEVELOPMENT UNDER NSW HOUSING SEPP 2021 66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW LOTS 14, 15, 16 IN DP36280		TITLE GROUND FLOOR PLAN		STATUS PART 5		DATE 06-02-23		SCALE 1:100		PROJ MB		PROJECT No BGWYQ	
				BCA CONSULTANT		LANDSCAPE CONSULTANT GREENLAND DESIGN						FILE		PLOTTED		TYPE		SHEET A1		DESIGNER AG		CHECKED MB	
																		DA05				REV E	

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18 December 2023

LEGEND

- COMMON AREA
- 1 BEDROOM UNIT
- 2 BEDROOM UNIT
- BALCONY / PATIO
- LANDSCAPE AREA
- DEEP SOIL ZONE

- SOLAR ACCESS MIDWINTER
- CROSS-VENTILATION



EXISTING TREE - TO BE RETAINED
(WITH TPZ DASHED) - TREE NUMBERS AS PER ARBORIST REPORT



EXISTING TREE TO BE REMOVED / RELOCATED

NOTES:

- HYDRANT COVERAGE IN ACCORDANCE WITH NCC(2019) E1.3
- PORTABLE FIRE EXTINGUISHERS TO NCC(2019) E1.8
- EMERGENCY LIGHTING TO BE IN ACCORDANCE WITH NCC(2019) E4.2
- EXIT SIGNS TO BE IN ACCORDANCE WITH NCC(2019) E4.5
- DIRECTIONAL SIGNS TO BE IN ACCORDANCE WITH NCC(2019) E4.6
- SMOKE DETECTOR TO BE IN ACCORDANCE WITH NCC(2019) E2.2
- LIFT-OFF HINGES TO BE PROVIDED TO SWING TYPE BATHROOM DOORS

ABBREVIATION LEGEND

- AC AIR CONDITIONING UNIT (PROVISIONAL LOCATION)
BAL-1 BALUSTRADE TYPE 1 - SEE SCHEDULE
BAL-2 BALUSTRADE TYPE 2 - SEE SCHEDULE
BAL-3 BALUSTRADE TYPE 3 - ACCESS - TO AS - SEE SCHEDULE
BK-1 BRICK TYPE 1 - SEE SCHEDULE
BLK-1 BLOCKWORK TYPE 1 - SEE SCHEDULE
CL-1 CLOTHING LINE (FOLDING) TYPE 1
CONC-1 CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.
CONC-2 CONCRETE FLOOR FINISH - TYPE 2 - SEE SPEC.
DP-1 DOWN PIPE - TYPE 1 - SEE SCHEDULE
DP-2 DOWN PIPE - TYPE 2 - SEE SCHEDULE
FEN-1 FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE
FEN-2 FENCE TYPE 2 - SEE SCHEDULE
FEN-3 FENCE TYPE 3 - SEE SCHEDULE
FH8 FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.
FT1 FLOOR TILE TYPE 1
GT-1 GUTTER TYPE 1 - SEE SCHEDULE
HWU HOT WATER UNIT
LVR-1 LOUVER TYPE 1 - SEE SCHEDULE
LVR-2 LOUVER TYPE 2 - SEE SCHEDULE
MC-1 METAL CLADDING TYPE 1 - SEE SCHEDULE
MDR-1 METAL DECK ROOFING - SEE SCHEDULE
MS-1 METAL SCREEN - SEE SCHEDULE
PB-1 POST BOXES - TYPE 1 - SEE SCHEDULE
REC ROOF EDGE CAPPING
VT-1 VENT TYPE 1 - SEE SCHEDULE
VT-2 VENT TYPE 2 - SEE SCHEDULE
WB-1 WHEELIE BIN TYPE 1 - 240L

- LB LETTERBOX
G GARBAGE AREA
P.O.S. PRIVATE OPEN SPACE
C.O.S. COMMON OPEN SPACE
PP POWER POLE
T TELSTRA PIT
H HYDRANT
SW STORMWATER
RL INDICATIVE RELATIVE LEVEL
HL HIGHLIGHT WINDOW
DP DOWNPIPE
CL CLOTHES LINE
BR BROOM CUPBOARD
LIN LINEN
KS KITCHEN SINK
CT COOKTOP
F FRIDGE
WO WALL OVEN
BL BOLLARD LIGHT
R ROBE

PEGLER AVENUE



1 FIRST FLOOR - NORTH

SCALE 1: 100



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PARRAMATTA NSW 2124
Ph 1800 738 718
www.dpie.nsw.gov.au/land-and-housing-corporation

NOMINATED ARCHITECT:
MICHAEL BULLEN

SIGNATURE:

E 06-02-23 FOR PART 5

D 11-01-23 FOR REVIEW

C 20-12-22 FOR REVIEW

B 16-12-22 FOR REVIEW

A 07-12-22 DRAFT FOR REVIEW

REV DATE NOTATION/AMENDMENT

DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.
FIGURED DIMENSIONS TAKE PRECEDENCE.

ARCHITECT

BREWSTER MURRAY PTY LTD
PH (02) 9259 0888

BCA CONSULTANT

CONSULTING ENGINEERS

GREENVIEW CONSULTING

LANDSCAPE CONSULTANT

GREENLAND DESIGN

CLIENT

DEPARTMENT OF PLANNING & ENVIRONMENT
LAND & HOUSING CORPORATION

PROJECT

SENIORS HOUSING DEVELOPMENT UNDER
NSW HOUSING SEPP 2021

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE

FIRST FLOOR PLAN

FILE

PLOTTED

STATUS

PART 5

DATE 06-02-23

SCALE 1:100

STAGE A1

SHEET MB

DA06

PROJECT No

BGWYQ

DESIGNER

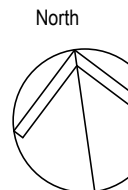
AG

CHECKED

MB

REV

E



18 December 2023

LEGEND

- COMMON AREA
- 1 BEDROOM UNIT
- 2 BEDROOM UNIT
- BALCONY / PATIO
- LANDSCAPE AREA
- DEEP SOIL ZONE

- SOLAR ACCESS MIDWINTER
- CROSS-VENTILATION



EXISTING TREE - TO BE RETAINED (WITH TP2 DASHED) - TREE NUMBERS AS PER ARBORIST REPORT

EXISTING TREE TO BE REMOVED / RELOCATED

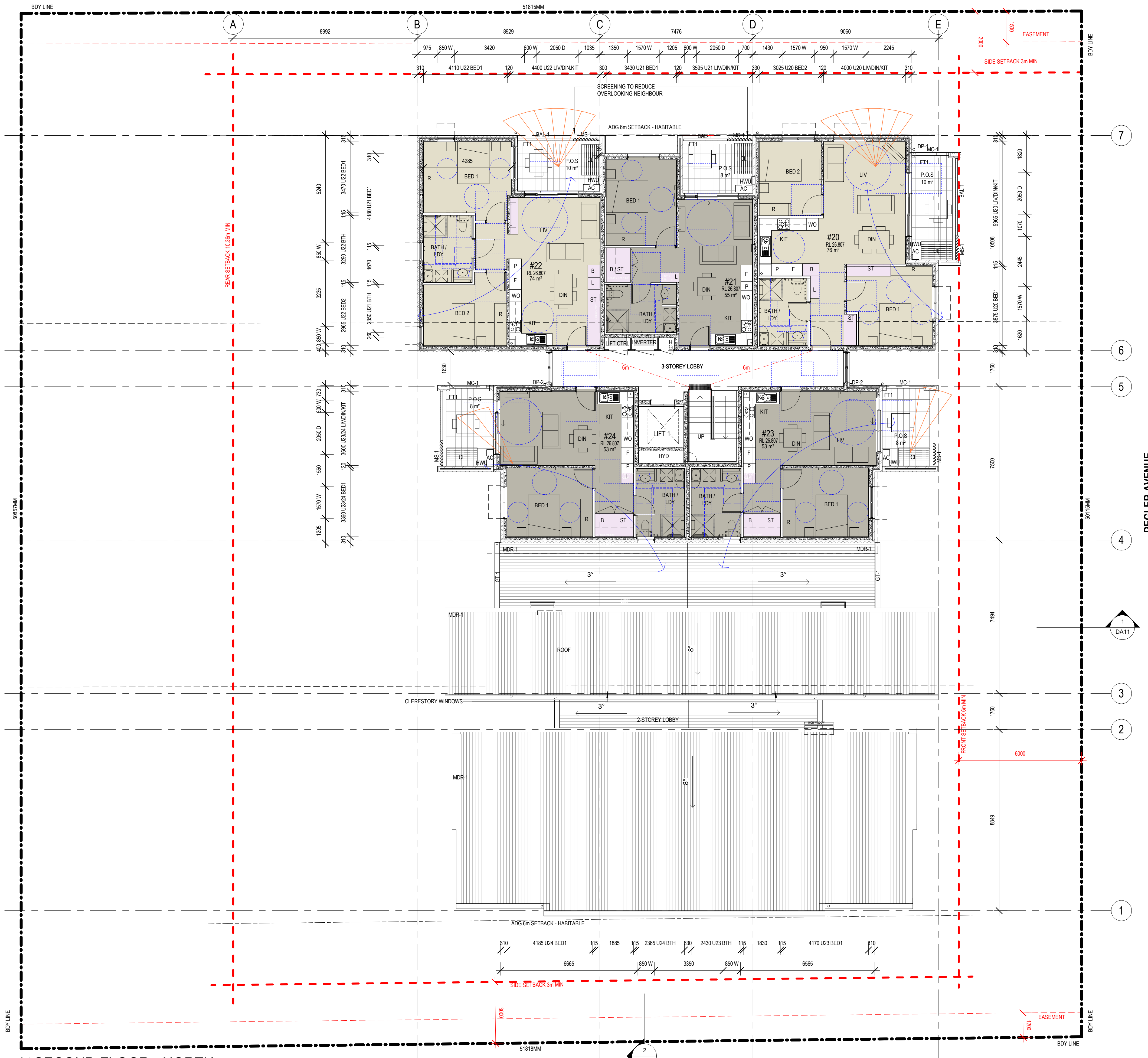
NOTES:

- HYDRANT COVERAGE IN ACCORDANCE WITH NCC(2019) E1.3
- PORTABLE FIRE EXTINGUISHERS TO NCC(2019) E1.6
- EMERGENCY LIGHTING TO BE IN ACCORDANCE WITH NCC(2019) E4.2
- EXIT SIGNS TO BE IN ACCORDANCE WITH NCC(2019) E4.5
- DIRECTIONAL SIGNS TO BE IN ACCORDANCE WITH NCC(2019) E4.6
- SMOKE DETECTOR TO BE IN ACCORDANCE WITH NCC(2019) E2.2
- LIFT-OFF HINGES TO BE PROVIDED TO SWING TYPE BATHROOM DOORS

ABBREVIATION LEGEND

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BAL-1 BALUSTRADE TYPE 1 - SEE SCHEDULE
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BLK-1 BLOCKWORK TYPE 1 - SEE SCHEDULE
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CONC-1 CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.
CONC-2 CONCRETE FLOOR FINISH - TYPE 2 - SEE SPEC.
DP-1 DOWN PIPE - TYPE 1 - SEE SCHEDULE
DP-2 DOWN PIPE - TYPE 2 - SEE SCHEDULE
FEN-1 FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE
FEN-2 FENCE TYPE 2 - SEE SCHEDULE
FEN-3 FENCE TYPE 3 - SEE SCHEDULE
FHB FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.
FT1 FLOOR TILE TYPE 1
GT-1 GUTTER TYPE 1 - SEE SCHEDULE
HWU HOT WATER UNIT
LVR-1 LOUVER TYPE 1 - SEE SCHEDULE
LVR-2 LOUVER TYPE 2 - SEE SCHEDULE
MC-1 METAL CLADDING TYPE 1 - SEE SCHEDULE
MDR-1 METAL DECK ROOFING - SEE SCHEDULE
MS-1 METAL SCREEN - SEE SCHEDULE
PB-1 POST BOXES - TYPE 1 - SEE SCHEDULE
REC ROOF EDGE CAPPING
VT-1 VENT TYPE 1 - SEE SCHEDULE
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H HYDRANT
SW STORMWATER
RL INDICATIVE RELATIVE LEVEL
H/L HIGHLIGHT WINDOW
DP DOWNPIPE
CL CLOTHES LINE
BR BROOM CUPBOARD
LIN LINEN
KS KITCHEN SINK
CT COOKTOP
P PANTRY
F FRIDGE
WO WALL OVEN
BL BOLLARD LIGHT
R ROBE



PEGLER AVENUE

7

6

5

4

3

2

1

1
DA112
DA11

1 SECOND FLOOR - NORTH

SCALE 1 : 100

NOMINATED ARCHITECT:

MICHAEL BULLEN

SIGNATURE:

E 06-02-23 FOR PART 5

D 11-01-23 FOR REVIEW

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A 07-12-22 DRAFT FOR REVIEW

REV DATE NOTATION/AMENDMENT

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ARCHITECT

BREWSTER MURRAY PTY LTD

PH (02) 9259 0888

BCA CONSULTANT

CONSULTING ENGINEERS

GREENVIEW CONSULTING

LANDSCAPE CONSULTANT

GREENLAND DESIGN

CLIENT

DEPARTMENT OF PLANNING & ENVIRONMENT
LAND & HOUSING CORPORATION

PROJECT

SENIORS HOUSING DEVELOPMENT UNDER
NSW HOUSING SEPP 202166-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE

SECOND FLOOR PLAN

FILE

PLOTTED

STATUS

PART 5

DATE

06-02-23

SCALE

1:100

STAGE

A1

SHEET

DA07

PROJ

MB

DESIGNER

AG

CHECKED

MB

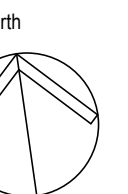
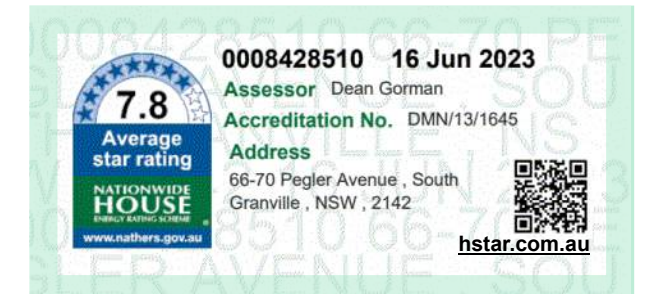
REV

E

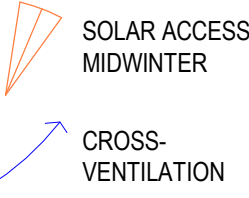
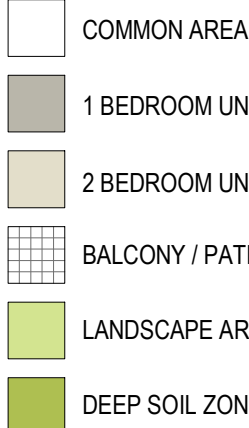
PROJECT No

BGWYQ

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LEGEND



ABBREVIATION LEGEND

AC	AIR CONDITIONING UNIT (PROVISIONAL LOCATION)
BAL-1	BALUSTRADE TYPE 1 - SEE SCHEDULE
BAL-2	BALUSTRADE TYPE 2 - SEE SCHEDULE
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BLK-1	BLOCKWORK TYPE 1 - SEE SCHEDULE
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CONC-1	CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.
CONC-2	CONCRETE FLOOR FINISH - TYPE 2 - SEE SPEC.
DP-1	DOWN PIPE - TYPE 1 - SEE SCHEDULE
DP-2	DOWN PIPE - TYPE 2 - SEE SCHEDULE
FEN-1	FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE
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FHB	FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.
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HWU	HOT WATER UNIT
LVR-1	LOUVER TYPE 1 - SEE SCHEDULE
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MC-1	METAL CLADDING TYPE 1 - SEE SCHEDULE
MDR-1	METAL DECK ROOFING - SEE SCHEDULE
MS-1	METAL SCREEN - SEE SCHEDULE
PB-1	POST BOXES - TYPE 1 - SEE SCHEDULE
REC	ROOF EDGE CAPPING
VT-1	VENT TYPE 1 - SEE SCHEDULE
VT-2	VENT TYPE 2 - SEE SCHEDULE
WB-1	WHEELIE BIN TYPE 1 - 240L

LB	LETTERBOX
G	GARAGE AREA
P.O.S	PRIVATE OPEN SPACE
C.O.S	COMMON OPEN SPACE
PP	POWER POLE
T	TELSTRA PIT
H	HYDRANT
SW	STORMWATER
RL	INDICATIVE RELATIVE LEVEL
H/L	HIGHLIGHT WINDOW
DP	DOWNPIPE
CL	CLOTHES LINE
BR	BROOM CUPBOARD
LIN	LINEN
KS	KITCHEN SINK
CT	COOKTOP
P	PANTRY
F	FRIDGE
WO	WALL OVEN
BL	BOLLARD LIGHT
R	ROBE

NOTES:

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- PORTABLE FIRE EXTINGUISHERS TO NCC(2019) E1.6
- EMERGENCY LIGHTING TO BE IN ACCORDANCE WITH NCC(2019) E4.2
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- LIFT-OFF HINGES TO BE PROVIDED TO SWING TYPE BATHROOM DOORS

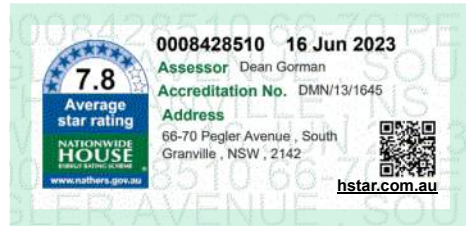
PEGLER AVENUE

NATHERS Thermal Performance Specification - South Granville			
External Walls			
Wall Type	Insulation	Colour	Comments
Brick Veneer	Reflective antiglare foil	Med - SA 0.475 - 0.70	As per elevations
Metal cladding	R1.5 Bulk + Reflective antiglare foil	Dark - SA > 0.70	As per elevations
SA - Solar Absorptance			
Internal Walls			
Wall Type	Insulation	Comments	
Plasterboard Stud	None	Internally in units	
Concrete panel	None	Party walls between dwellings	
Concrete panel	None	Shared walls with lobby/stairs/lift	
Floors			
Floor Type	Insulation	Comments	
Concrete slab on ground	None	Ground floor	
Concrete	None	Unit below	
Ceilings			
Ceiling Type	Insulation	Comments	
Plasterboard	None	Unit above	
Plasterboard	R2.5	Roof/ air above	
Insulation loss due to downlights has not been modelled in this assessment. A sealed exhaust fan has been included in every kitchen, bathroom, laundry and ensuite.			
Roof			
Roof Type	Insulation	Colour	Comments
Metal roof	R1.3 Foil-faced blanket	Light - SA < 0.475	Throughout (Unvented Cavity)
SA - Solar Absorptance			
Glazing			
Opening type	U-Value	SHGC	Glazing & Frame Type
Sliding + Fixed (Ground floor & Level 1)	6.7	0.70	e.g. Single glazed clear Aluminium frame
Sliding + Fixed (Units: 10, 17, 20-24)	4.8	0.59	e.g. Single glazed high performing Low-E clear Aluminium frame
Awning (Ground floor & Level 1)	6.7	0.57	e.g. Single glazed clear Aluminium frame
Awning (Units: 10, 17, 20-24)	4.8	0.51	e.g. Single glazed high performing Low-E clear Aluminium frame
U and SHGC values are based on the AFRC Default Windows Set. Glazing systems to be installed must have an equal or lower U value and a SHGC value ± 10% of the above specified values.			
Skylights			
Skylight Type	Frame Type	Comments	
na	na	na	
Ceiling fans			
Size	Location	Comments	
1200mm diameter	Living areas & bedrooms	Throughout except as below	
1400mm diameter	Living area	Units: 23 & 24 only	

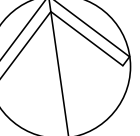
Certificate Prepared by



Greenview Consulting Pty Ltd
ABN: 32600067338
Email: dean@greenview.net.au Phone: 0404 649 762



North



1 ROOF PLAN

SCALE 1 : 100

NOMINATED ARCHITECT:	SIGNATURE:	F	13-06-23 FOR PART 5
MICHAEL BULLEN		E	06-02-23 FOR PART 5
		D	11-01-23 FOR REVIEW
		C	20-12-22 FOR REVIEW
		B	16-12-22 FOR REVIEW
	REV	DATE	NOTATION/AMENDMENT
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ARCHITECT
BREWSTER MURRAY PTY LTD
PH (02) 9259 0888

BCA CONSULTANT

CONSULTING ENGINEERS
GREENVIEW CONSULTING

LANDSCAPE CONSULTANT
GREENLAND DESIGN

CLIENT
DEPARTMENT OF PLANNING & ENVIRONMENT
LAND & HOUSING CORPORATION

PROJECT
SENIORS HOUSING DEVELOPMENT UNDER
NSW HOUSING SEPP 2021

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE
ROOF PLAN + BASIX

FILE

PLOTTED

STATUS
PART 5

DATE
13-06-23

SCALE
MB

PROJECT No
BGWYQ

STAGE
A1

DESIGNER
AG

CHECKED
MB

REV
F

DA08



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18 December 2023

ABBREVIATION LEGEND

AC	AIR CONDITIONING UNIT (PROVISIONAL LOCATION)	FT1	FLOOR TILE TYPE 1
BAL-1	BALUSTRADE TYPE 1 - SEE SCHEDULE	GT-1	GUTTER TYPE 1 - SEE SCHEDULE
BAL-2	BALUSTRADE TYPE 2 - SEE SCHEDULE	HWU	HOT WATER UNIT
BAL-3	BALUSTRADE TYPE 3 - ACCESS - TO AS - SEE SCHEDULE	LVR-1	LOUVER TYPE 1 - SEE SCHEDULE
BK-1	BRICK TYPE 1 - SEE SCHEDULE	LVR-2	LOUVER TYPE 2 - SEE SCHEDULE
BLK-1	BLOCKWORK TYPE 1 - SEE SCHEDULE	MC-1	METAL CLADDING TYPE 1 - SEE SCHEDULE
CL-1	CLOTHING LINE (FOLDING) TYPE 1	MDR-1	METAL DECK ROOFING - SEE SCHEDULE
CONC-1	CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.	MS-1	METAL SCREEN - SEE SCHEDULE
CONC-2	CONCRETE FLOOR FINISH - TYPE 2 - SEE SPEC.	PB-1	POST BOXES - TYPE 1 - SEE SCHEDULE
DP-1	DOWN PIPE - TYPE 1 - SEE SCHEDULE	REC	ROOF EDGE CAPPING
DP-2	DOWN PIPE - TYPE 2 - SEE SCHEDULE	VT-1	VENT TYPE 1 - SEE SCHEDULE
FEN-1	FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE	VT-2	VENT TYPE 2 - SEE SCHEDULE
FEN-2	FENCE TYPE 2 - SEE SCHEDULE	WB-1	WHEELIE BIN TYPE 1 - 240L
FEN-3	FENCE TYPE 3 - SEE SCHEDULE		
FHB	FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.		



1 EAST ELEVATION
SCALE 1 : 100



2 WEST ELEVATION
SCALE 1 : 100



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MICHAEL BULLEN		E	06-02-23 FOR PART 5
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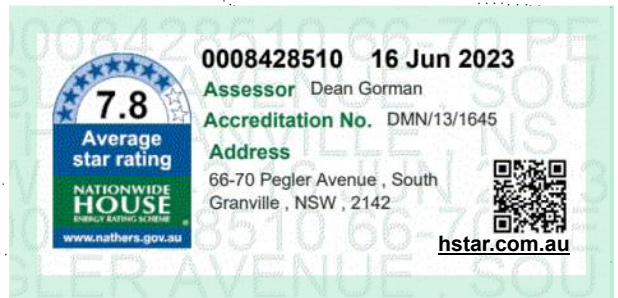
ARCHITECT	BREWSTER MURRAY PTY LTD PH (02) 9259 0888
BCA CONSULTANT	

CONSULTING ENGINEERS	GREENVIEW CONSULTING
LANDSCAPE CONSULTANT	GREENLAND DESIGN

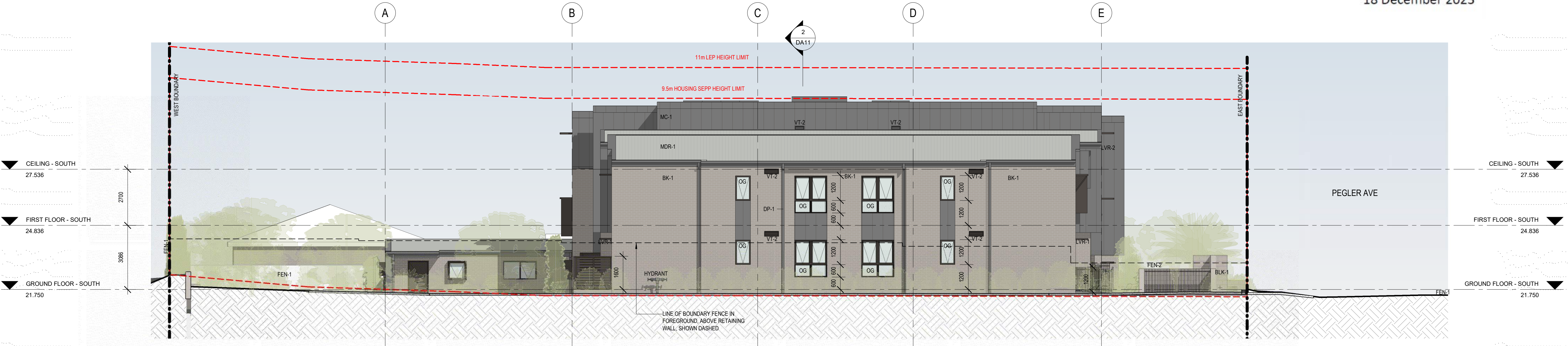
CLIENT	DEPARTMENT OF PLANNING & ENVIRONMENT LAND & HOUSING CORPORATION
PROJECT	SENIORS HOUSING DEVELOPMENT 66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW LOTS 14, 15, 16 IN DP36280

TITLE	ELEVATIONS 1
FILE	
PLOTTED	

STATUS	PART 5
DATE	13-06-23
SCALE	1:100
PROJ	MB
DESIGNER	AG
PROJECT No	BGWYQ
DESIGNED	MB
REV	F
DA09	



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1 SOUTH ELEVATION
SCALE 1:100



2 NORTH ELEVATION
SCALE 1:100

EXTERIOR FINISHES

CODE	MATERIAL	DESCRIPTION	FINISH
BK-1		FACE BRICK	SIMILAR TO BEIGE
MDR-1		METAL ROOF	SIMILAR TO SHALE GREY
DP, GT		ROOF FLASHINGS, DOWNPIPES, ENTRY AWNINGS	SIMILAR TO WOODLAND GREY
MC-1		METAL CLADDING	SIMILAR TO WOODLAND GREY
WF, DF, SS-1, LVR-1, VT, MS-1, BAL-1		ALUMINIUM WINDOW & DOOR FRAMES, SUN SHADE, VENTS	SIMILAR TO MONUMENT

CODE	MATERIAL	DESCRIPTION	FINISH
CONC-1		PATHWAYS	NATURAL GREY CONCRETE
CONC-2		DRIVEWAYS	DARK GREY CONCRETE
FEN-1		METAL FENCING TO BOUNDARIES	COLORBOND SHALE GREY
FEN-2		SLATTED PRIVACY FENCING	COLORBOND MONUMENT (OR SIMILAR)
FEN-3		REAR FENCES	COLORBOND WOODLAND GREY (OR SIMILAR)
BLK-1		SPLIT FACE BLOCK	SIMILAR TO LIMESTONE



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ARCHITECT	CONSULTING ENGINEERS	CLIENT	PROJECT
BREWSTER MURRAY PTY LTD PH (02) 9259 0888	GREENVIEW CONSULTING	DEPARTMENT OF PLANNING & ENVIRONMENT LAND & HOUSING CORPORATION	SENIORS HOUSING DEVELOPMENT
BCA CONSULTANT	LANDSCAPE CONSULTANT		
	GREENLAND DESIGN		

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	GREENLAND DESIGN		

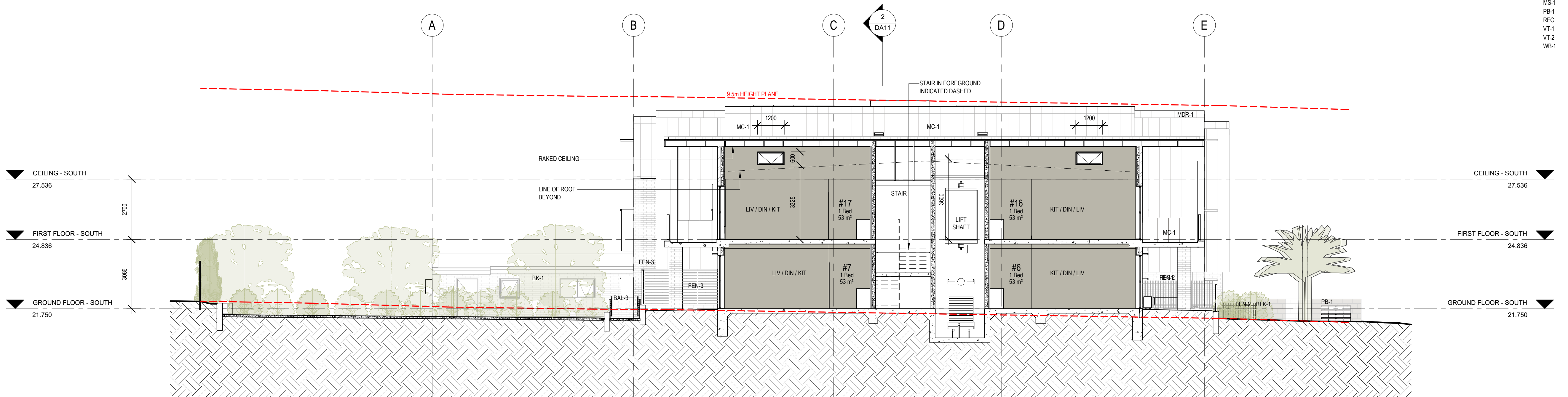
ELEVATIONS 2 + MATERIALS

FILE	PLOTTED	STATUS	PART 5
		DATE	13-06-23
		SCALE	1:100
		PROJ	MB
		DESIGNER	AG
		CHANGED	MB
		REVISION	F
		SHEET	DA10

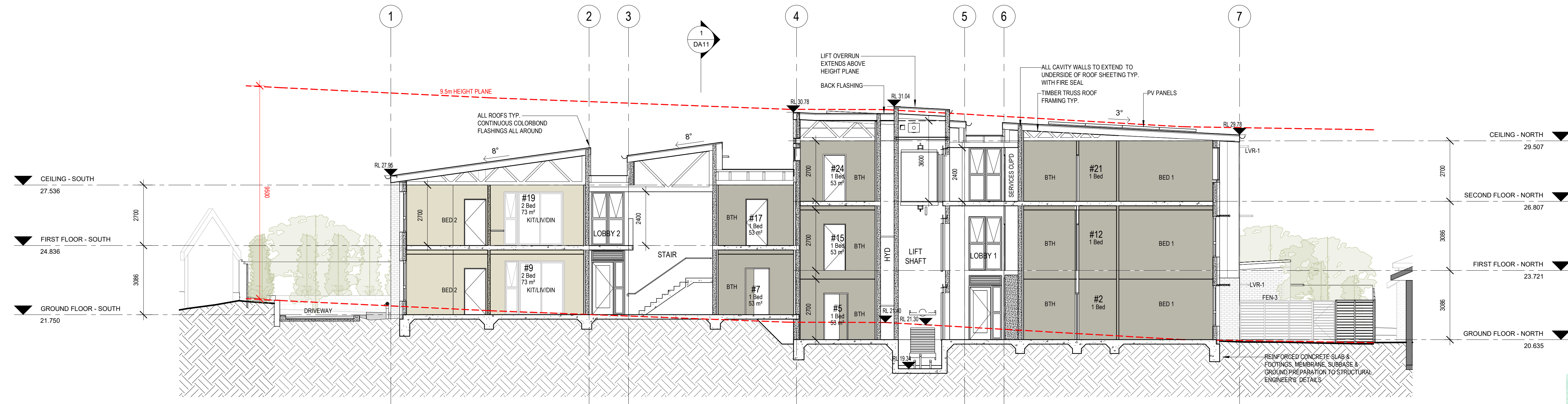
18 December 2023

ABBREVIATION LEGEND

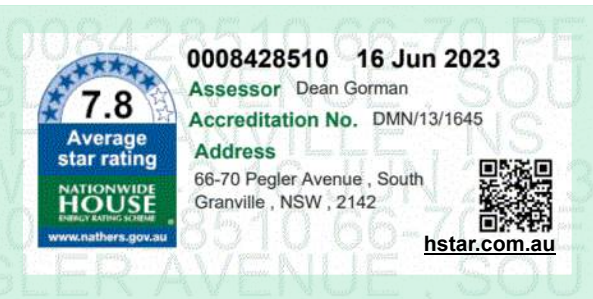
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DP-2	DOWN PIPE - TYPE 2 - SEE SCHEDULE
FEN-1	FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE
FEN-2	FENCE TYPE 2 - SEE SCHEDULE
FEN-3	FENCE TYPE 3 - SEE SCHEDULE
FHB	FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.
FT1	FLOOR TILE TYPE 1
GT-1	GUTTER TYPE 1 - SEE SCHEDULE
HWU	HOT WATER UNIT
LVR-1	LOUVER TYPE 1 - SEE SCHEDULE
LVR-2	LOUVER TYPE 2 - SEE SCHEDULE
MC-1	METAL CLADDING TYPE 1 - SEE SCHEDULE
MDR-1	METAL DECK ROOFING - SEE SCHEDULE
MS-1	METAL SCREEN - SEE SCHEDULE
PB-1	POST BOXES - TYPE 1 - SEE SCHEDULE
REC	ROOF EDGE CAPPING
VT-1	VENT TYPE 1 - SEE SCHEDULE
VT-2	VENT TYPE 2 - SEE SCHEDULE
WB-1	WHEELIE BIN TYPE 1 - 240L



1 | SECTION 01
SCALE 1 : 100



2 | SECTION 02
SCALE 1 : 100



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NOMINATED ARCHITECT:	SIGNATURE:	F	13-06-23 FOR PART 5
MICHAEL BULLEN		E	06-02-23 FOR PART 5
		D	11-01-23 FOR REVIEW
		C	20-12-22 FOR REVIEW
		B	16-12-22 FOR REVIEW
REV	DATE	NOTATION/AMENDMENT	
		DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.	
		FIGURED DIMENSIONS TAKE PRECEDENCE.	

ARCHITECT	BREWSTER MURRAY PTY LTD PH (02) 9259 0888
BCA CONSULTANT	

CONSULTING ENGINEERS	GREENVIEW CONSULTING
LANDSCAPE CONSULTANT	GREENLAND DESIGN

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DEPARTMENT OF PLANNING & ENVIRONMENT
LAND & HOUSING CORPORATION

PROJECT
SENIORS HOUSING DEVELOPMENT
66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE
SECTIONS

FILE

PLOTTED

STATUS	PART 5
DATE	13-06-23
SCALE	MB
PROJECT No	BGWYQ
STAGE	A1
DESIGNER	AG
CHECKED	MB
REVISION	F
DA11	

Shadr

18 December 2023

ABBREVIATION LEGEND

AC	AIR CONDITIONING UNIT (PROVISIONAL LOCATION)
BAL-1	BALUSTRADE TYPE 1 - SEE SCHEDULE
BAL-3	BALUSTRADE TYPE 3 - ACCESS - TO AS - SEE SCHEDULE
BK-1	BRICK TYPE 1 - SEE SCHEDULE
BLK-1	BLOCKWORK TYPE 1 - SEE SCHEDULE
CL	CLOTHING LINE (FOLDING) TYPE 1
CONC-1	CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.
CONC-2	
DP-1	DOWN PIPE - TYPE 1 - SEE SCHEDULE
DP-2	DOWN PIPE - TYPE 2 - SEE SCHEDULE
FEN-1	FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE
FEN-2	FENCE TYPE 2 - SEE SCHEDULE
FEN-3	FENCE TYPE 3 - SEE SCHEDULE
FHB	FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.
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GT-1	GUTTER TYPE 1 - SEE SCHEDULE
HWU	HOT WATER UNIT
LVR-1	LOUVER TYPE 1 - SEE SCHEDULE
LVR-2	LOUVER TYPE 2 - SEE SCHEDULE
MC-1	METAL CLADDING TYPE 1 - SEE SCHEDULE
MDR-1	METAL DECK ROOFING - SEE SCHEDULE
MS-1	METAL SCREEN - SEE SCHEDULE
PB-1	POST BOXES - TYPE 1 - SEE SCHEDULE
REC	ROOF EDGE CAPPING
VT-1	VENT TYPE 1 - SEE SCHEDULE
VT-2	VENT TYPE 2 - SEE SCHEDULE
WB-1	WHEELIE BIN TYPE 1 - 240L

LEGEND:

	AREA OF FILL (APPROX)
	AREA OF CUT (APPROX)
	OUTLINE OF BUILDING SLABS
	EXISTING BUILDINGS TO BE DEMOLISHED
	EXISTING TREES TO BE DEMOLISHED
	TREE NUMBER FROM ARBORIST REPORT
	EXISTING TREES TO REMAIN
	SW DRAINAGE (REFER TO CIVIL PLAN)
	STORMWATER PIT
	PROPOSED UNDERSIDE OF SLAB LEVEL (APPROX)
	PROPOSED FINISH GROUND RL (APPROX)
	EXISTING GROUND LEVELS (FROM SURVEY)
	EXISTING GROUND LEVEL
	NEW GROUND LEVEL

READ IN CONJUNCTION WITH SITE PLAN AND CUT AND FILL PLAN NOTES:

- BUILDER TO VERIFY ALL PROPOSED LEVELS FOR EXCAVATION, ALL SURVEY INFORMATION, INCLUDING SERVICES AND LEVELS AND MAKE ADJUSTMENTS TO SUIT FINISHED REDUCED LEVELS PRIOR TO EXCAVATION COMMENCING
- BUILDER TO VERIFY ALL ABOVE GROUND / INGROUND POND, POOLS, WATER TANKS & SEPTIC TANKS ON SITE. AFTER DEMOLITION & REMOVAL OF THESE ITEMS, BUILDER TO INFILL HOLE TO NATURAL GROUND LEVEL OR INFILL TO REQUIRED LEVEL FOR CONSTRUCTION.
- EXTENT OF CUT AND FILL AREAS SHOWN SHADED ARE INDICATIVE FOR BULK EXCAVATION ONLY. CONTRACTOR TO VERIFY ON SITE.



1 | GROUND FLOOR - CUT & FILL PLAN

SCALE 1 : 150

2 | SECTION 1 - CUT AND FILL

SCALE 1 : 100

3 | SECTION 2 - CUT AND FILL

SCALE 1 : 100



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BCA CONSULTANT	

CONSULTING ENGINEERS	GREENVIEW CONSULTING
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LAND & HOUSING CORPORATION**

PROJECT
**SENIORS HOUSING DEVELOPMENT UNDER
NSW HOUSING SEPP 2021**

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE
**CUT & FILL & RETAINING
WALLS**






FILE
PLOTTED

STATUS	PART 5	PROJECT No	BGWYQ
DATE	06-02-23	PROJ MB	
STAGE	A1	DESIGNER AG	CHECKED MB
SHEET	DA12	REV	E

18 December 2023

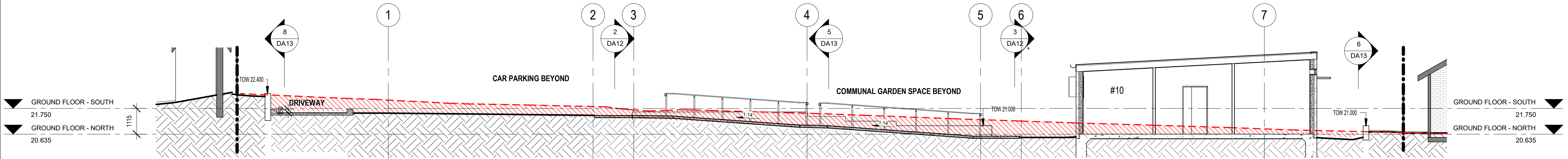
LEGEND:

READ IN CONJUNCTION WITH SITE PLAN AND CUT AND FILL PLAN

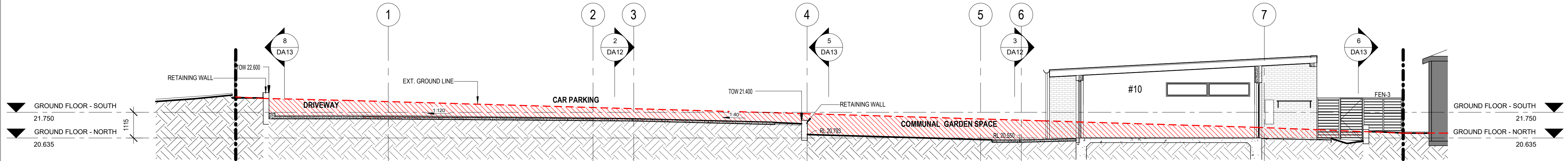
-  AREA OF FILL (APPROX)
-  AREA OF CUT (APPROX)
-  EXISTING GROUND LEVEL TO BE REMOVED
-  NEW GROUND LEVEL
-  BOUNDARY LINE

ABBREVIATION LEGEND

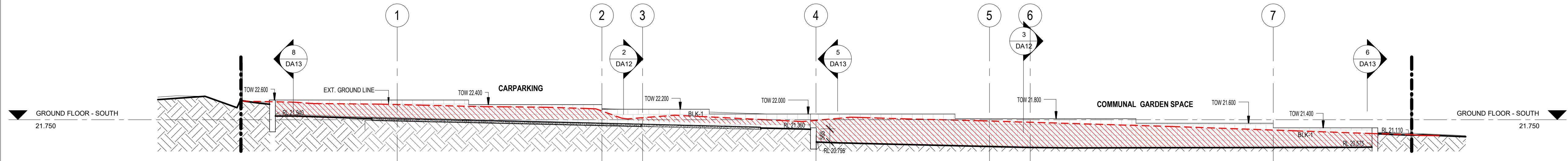
- AC AIR CONDITIONING UNIT (PROVISIONAL LOCATION)
- BAL-1 BALUSTRADE TYPE 1 - SEE SCHEDULE
- BAL-3 BALUSTRADE TYPE 3 - ACCESS - TO AS - SEE SCHEDULE
- BLK-1 BRICK TYPE 1 - SEE SCHEDULE
- BLK-1 BLOCKWORK TYPE 1 - SEE SCHEDULE
- CL CLOTHING LINE (FOLDING) TYPE 1
- CL-1 CONCRETE FLOOR FINISH - TYPE 1 - SEE SPEC.
- CONC-2
- DP-1 DOWN PIPE - TYPE 1 - SEE SCHEDULE
- DP-2 DOWN PIPE - TYPE 2 - SEE SCHEDULE
- FEN-1 FENCE TYPE 1 - BOUNDARY FENCE - SEE SCHEDULE
- FEN-2 FENCE TYPE 2 - SEE SCHEDULE
- FEN-3 FENCE TYPE 3 - SEE SCHEDULE
- FHB FIRE HYDRANT BOOSTER - HYD & FIRE ENG. SPEC.
- FT1 FLOOR TILE TYPE 1
- GT-1 GUTTER TYPE 1 - SEE SCHEDULE
- HWU HOT WATER UNIT
- LVR-1 LOUVER TYPE 1 - SEE SCHEDULE
- LVR-2 LOUVER TYPE 2 - SEE SCHEDULE
- MC-1 METAL CLADDING TYPE 1 - SEE SCHEDULE
- MOR-1 METAL DECK ROOFING - SEE SCHEDULE
- MS-1 METAL SCREEN - SEE SCHEDULE
- PB-1 POST BOXES - TYPE 1 - SEE SCHEDULE
- REC ROOF EDGE CAPPING
- VT-1 VENT TYPE 1 - SEE SCHEDULE
- VT-2 VENT TYPE 2 - SEE SCHEDULE
- WB-1 WHEELIE BIN TYPE 1 - 240L



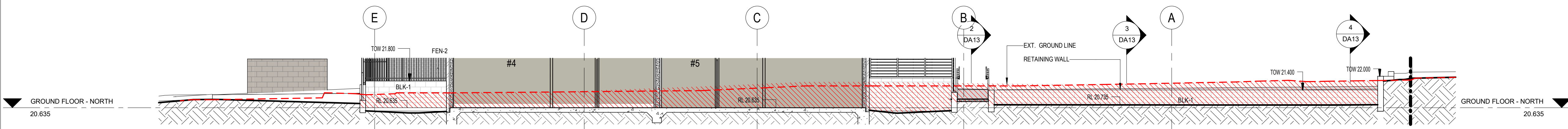
2 SECTION 4 - CUT AND FILL
SCALE 1 : 100



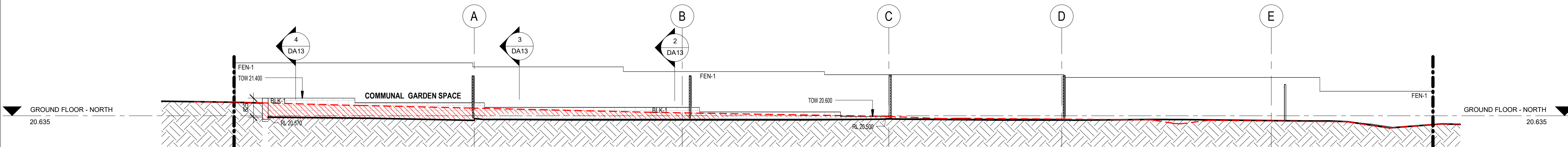
3 SECTION 5 - CUT AND FILL
SCALE 1 : 100



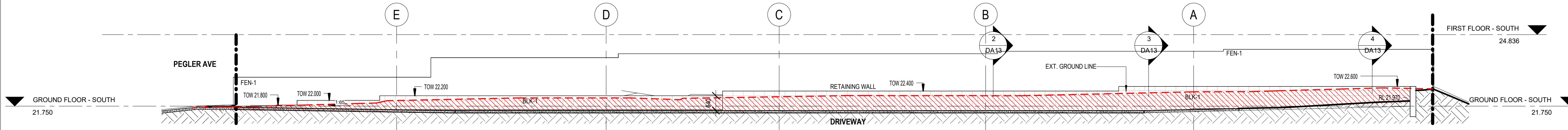
4 SECTION 6 - CUT AND FILL
SCALE 1 : 100



5 SECTION 7 - CUT AND FILL
SCALE 1 : 100



6 SECTION 8 - CUT AND FILL
SCALE 1 : 100



8 SECTION 10 - CUT AND FILL
SCALE 1 : 100



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REV DATE NOTATION/AMENDMENT

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ARCHITECT

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GREENLAND DESIGN

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LAND & HOUSING CORPORATION

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SENIORS HOUSING DEVELOPMENT

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW

LOTS 14, 15, 16 IN DP36280

TITLE
CUT & FILL & RETAINING
WALLS

FILE

PLOTTED

STATUS

PART 5

DATE

06-02-23

STAGE

A1

SCALE

MB

DESIGNER

AG

CHECKED

MB

PROJECT No

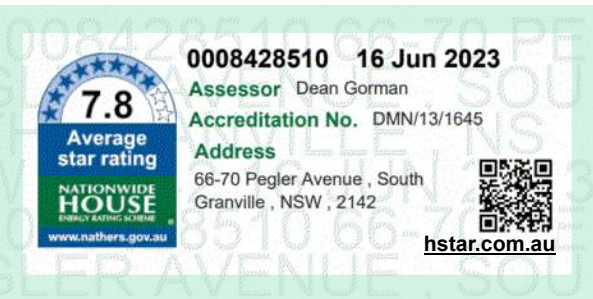
BGWYQ

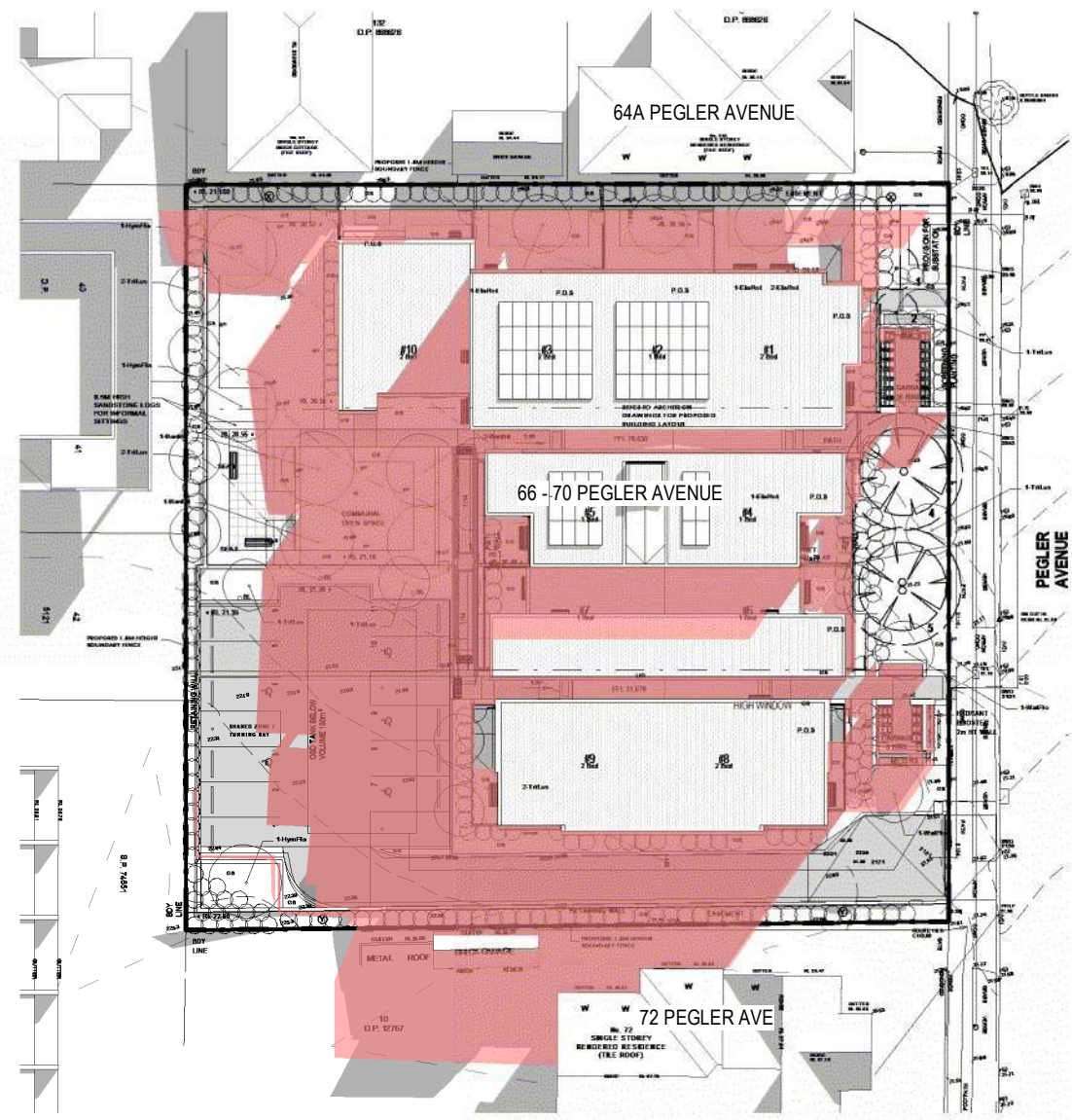
DESIGNED

MB

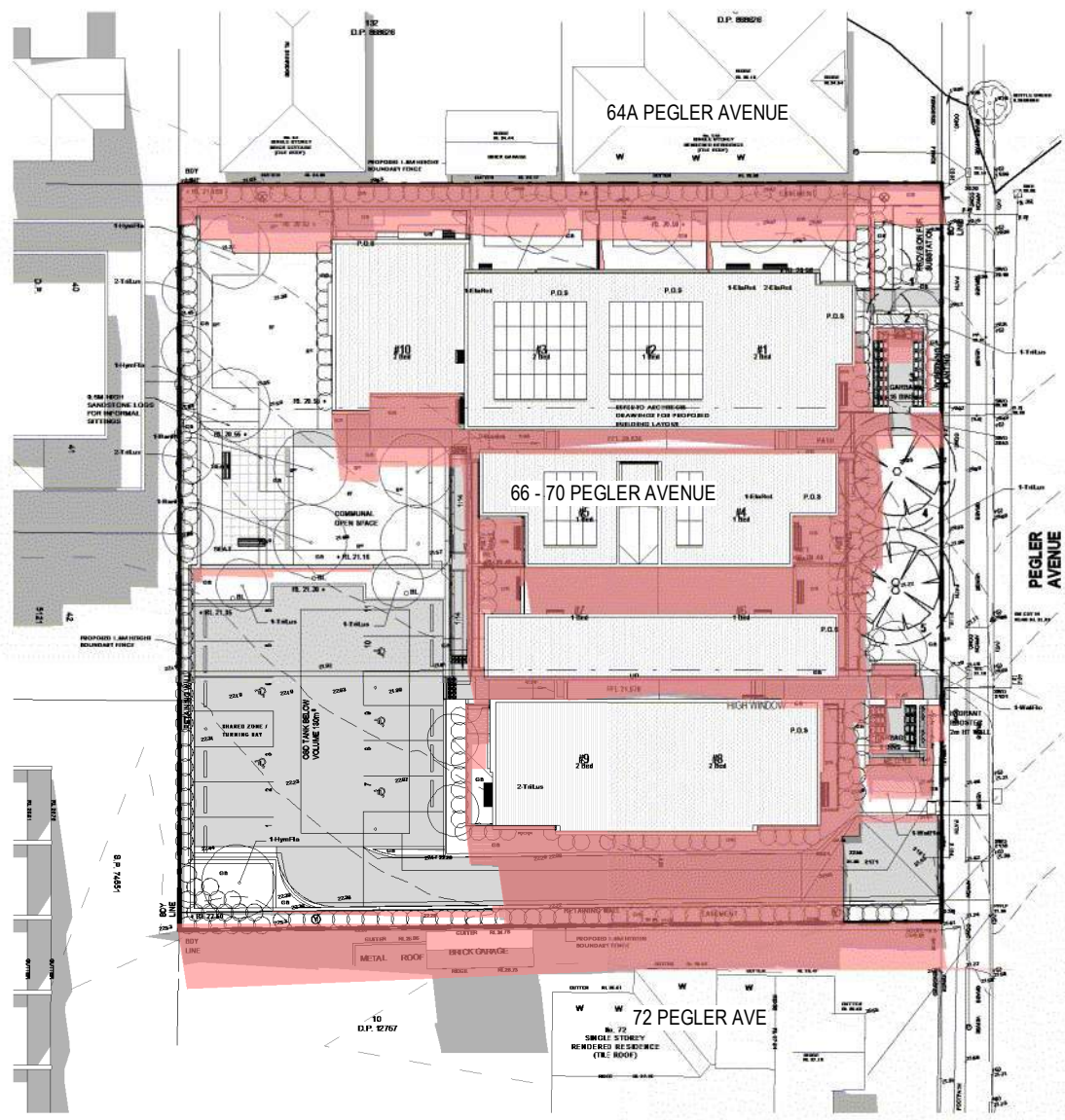
REV

E





1 | SHADOW IMPACT - JUNE 21 9AM
SCALE 1 : 700



2 | SHADOW IMPACT - JUNE 21 12PM
SCALE 1 : 500



3 | SHADOW IMPACT - JUNE 21 3PM
SCALE 1 : 500

GREY AREA INDICATES EXISTING SHADOWS CAST BY NEIGHBOURING BUILDINGS

PINK AREA INDICATES SHADOWS CAST BY PROPOSED DEVELOPMENT



18 December 2023



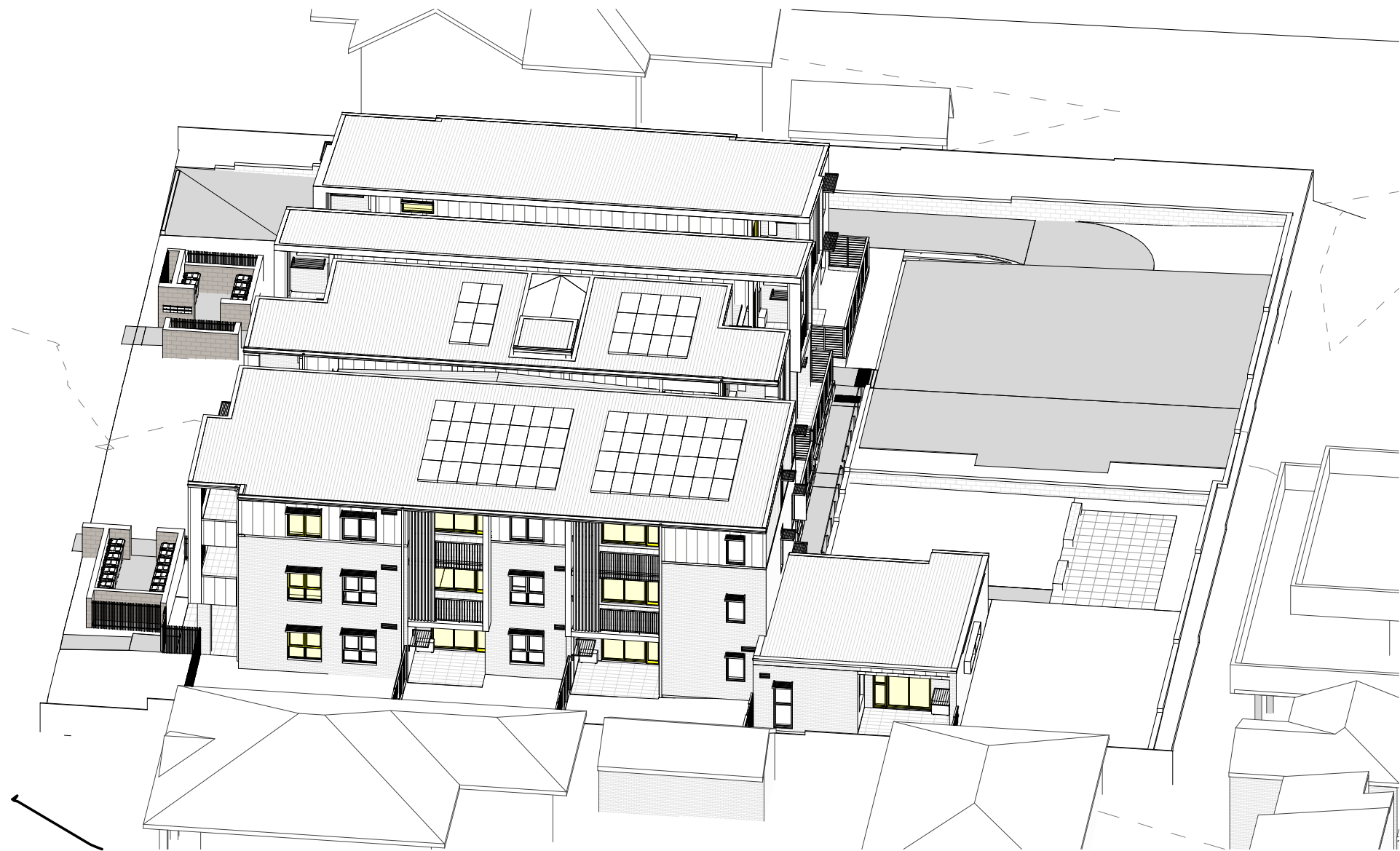
1 VFS - 9AM
SCALE



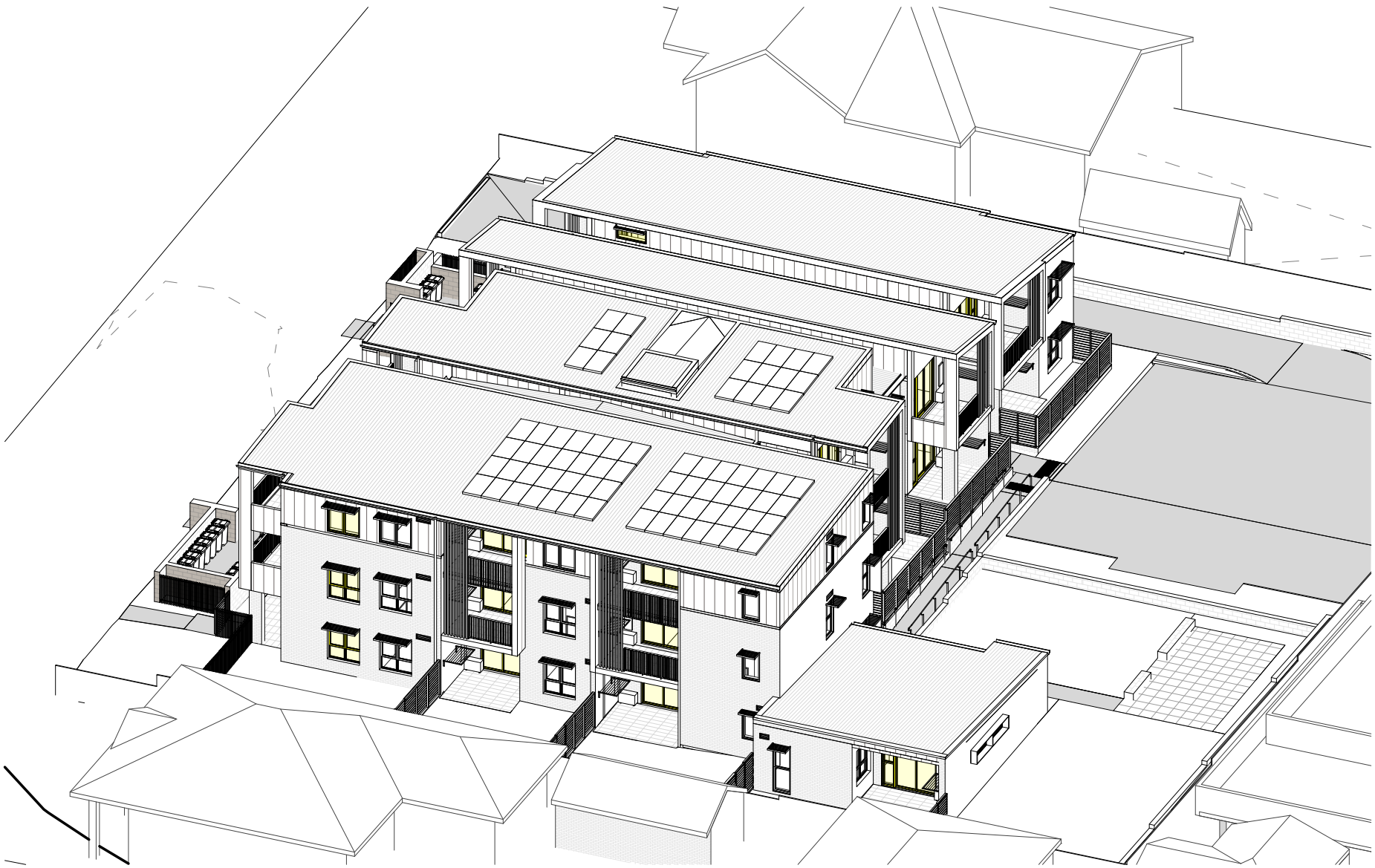
2 VFS - 10AM
SCALE



3 VFS - 11AM
SCALE



4 VFS - 12PM
SCALE



5 VFS - 1PM
SCALE



6 VFS - 2PM
SCALE



7 VFS - 3PM
SCALE



WINTER SOLAR ACCESS SUMMARY						
UNIT	LIVING AREAS	P.O.S		3+ HOURS ACHIEVED		2 HOURS ACHIEVED
01	9AM - 1PM	4 HRS	9AM - 3PM	6 HRS	✓	✓
02	9AM - 3PM	6 HRS	9AM - 3PM	6 HRS	✓	✓
03	9AM - 3PM	6 HRS	9AM - 2PM	5 HRS	✓	✓
04	9AM - 9.30AM	0.5 HRS	9AM - 11AM	2 HRS		
05	2.30PM - 3.00PM	0.5 HRS	1PM - 3PM	2 HRS		
06	9AM - 10.30AM	1.5 HRS	9AM - 11AM	2 HRS		
07	1PM - 3PM	2 HRS	1PM - 3PM	2 HRS		✓
08	9AM - 10AM	1 HRS	9AM - 11AM	2 HRS		
09	1PM - 3PM	2 HRS	12PM - 3PM	3 HRS		✓
10	9AM - 3PM	6 HRS	9AM - 3PM	6 HRS	✓	✓
11	9AM - 1PM	4 HRS	9AM - 3PM	6 HRS	✓	✓
12	9AM - 3PM	6 HRS	9AM - 3PM	6 HRS	✓	✓
13	9AM - 3PM	6 HRS	9AM - 2PM	5 HRS	✓	✓
14	9AM - 9.30AM	0.5 HRS	9AM - 11AM	2 HRS		
15	2PM - 3.00PM	1 HRS	1PM - 3PM	2 HRS		
16	9AM - 11AM	2 HRS	9AM - 11AM	2 HRS		✓
17	1PM - 3PM	2 HRS	12PM - 3PM	3 HRS		✓
18	9AM - 11AM	2 HRS	9AM - 11AM	2 HRS		✓
19	1PM - 3PM	2 HRS	12PM - 3PM	3 HRS	✓	✓
20	9AM - 1PM	4 HRS	9AM - 3PM	6 HRS	✓	✓
21	9AM - 3PM	6 HRS	9AM - 3PM	6 HRS	✓	✓
22	9AM - 3PM	6 HRS	9AM - 2PM	5 HRS	✓	✓
23	9AM - 11AM	2 HRS	9AM - 11AM	2 HRS		
24	1PM - 3PM	2 HRS	12PM - 3PM	3 HRS		✓



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ARCHITECT

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PROJECT

SENIORS HOUSING DEVELOPMENT

66-70 PEGLER AVENUE, SOUTH GRANVILLE, NSW
LOTS 14, 15, 16 IN DP36280

TITLE

VIEW FROM SUN DIAGRAM

FILE

PLOTTED

STATUS

PART 5

DATE
06-02-23

SCALE

STAGE

PROJ

MB

DESIGNER

AG

CHECKED

MB

REV

E

DA15

MDR-1 METAL ROOF SHEETING

FEN-1 BOUNDARY FENCES

COLOUR: SIMILAR TO SHALE GREY



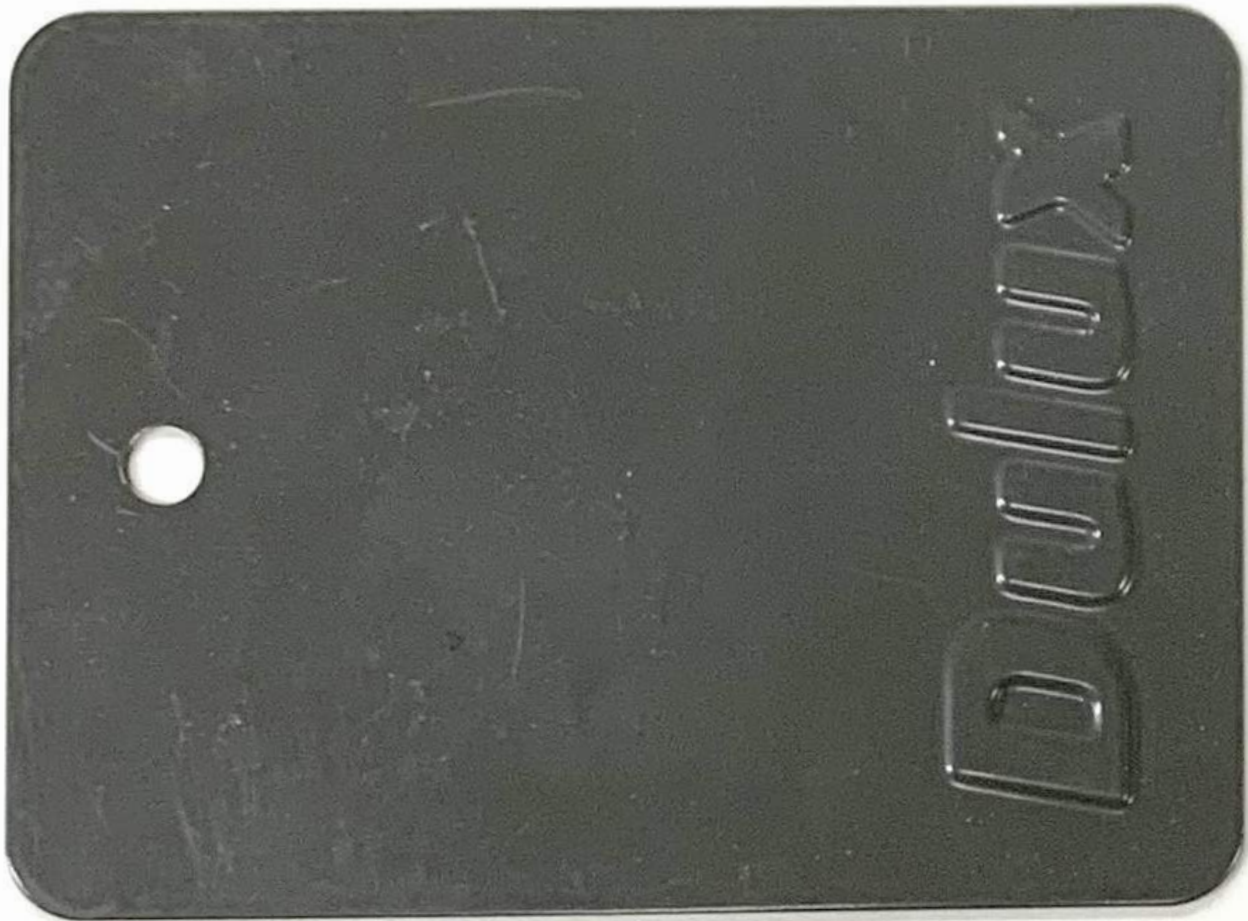
FEN-3 FENCES

TRIM-1 ROOF EDGE TRIMS, GUTTERS & DOWPIPES

MC-1 METAL WALL CLADDING - LYSAGHT DOMINION OR SIMILAR

VT-2 VENTS

COLOUR: SIMILAR TO WOODLAND GREY



LVR-1 LOUVRES, VENTS

MS-1 METAL SCREEN

FEN-2 FENCES

BAL-1 BALUSTRATE

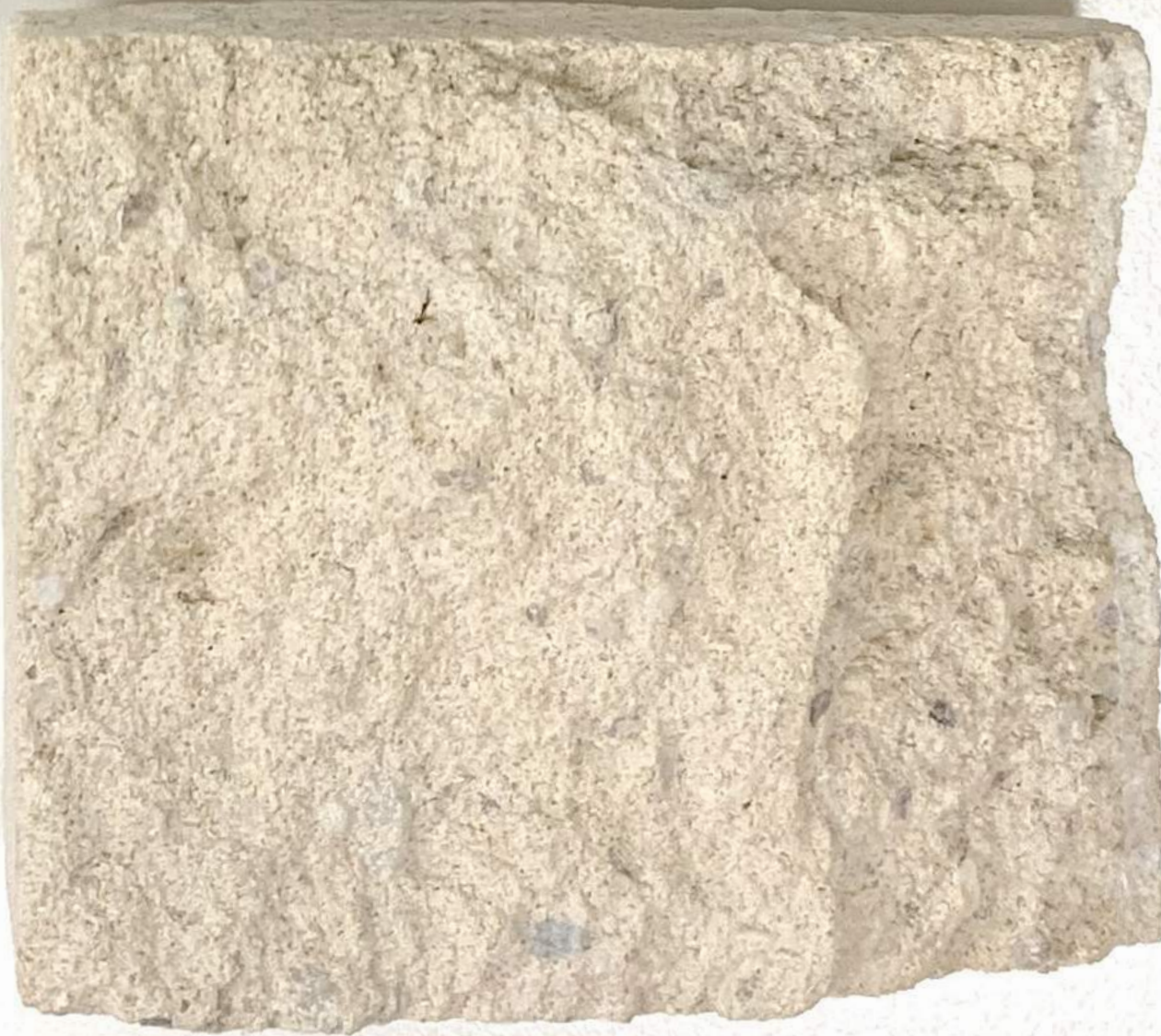
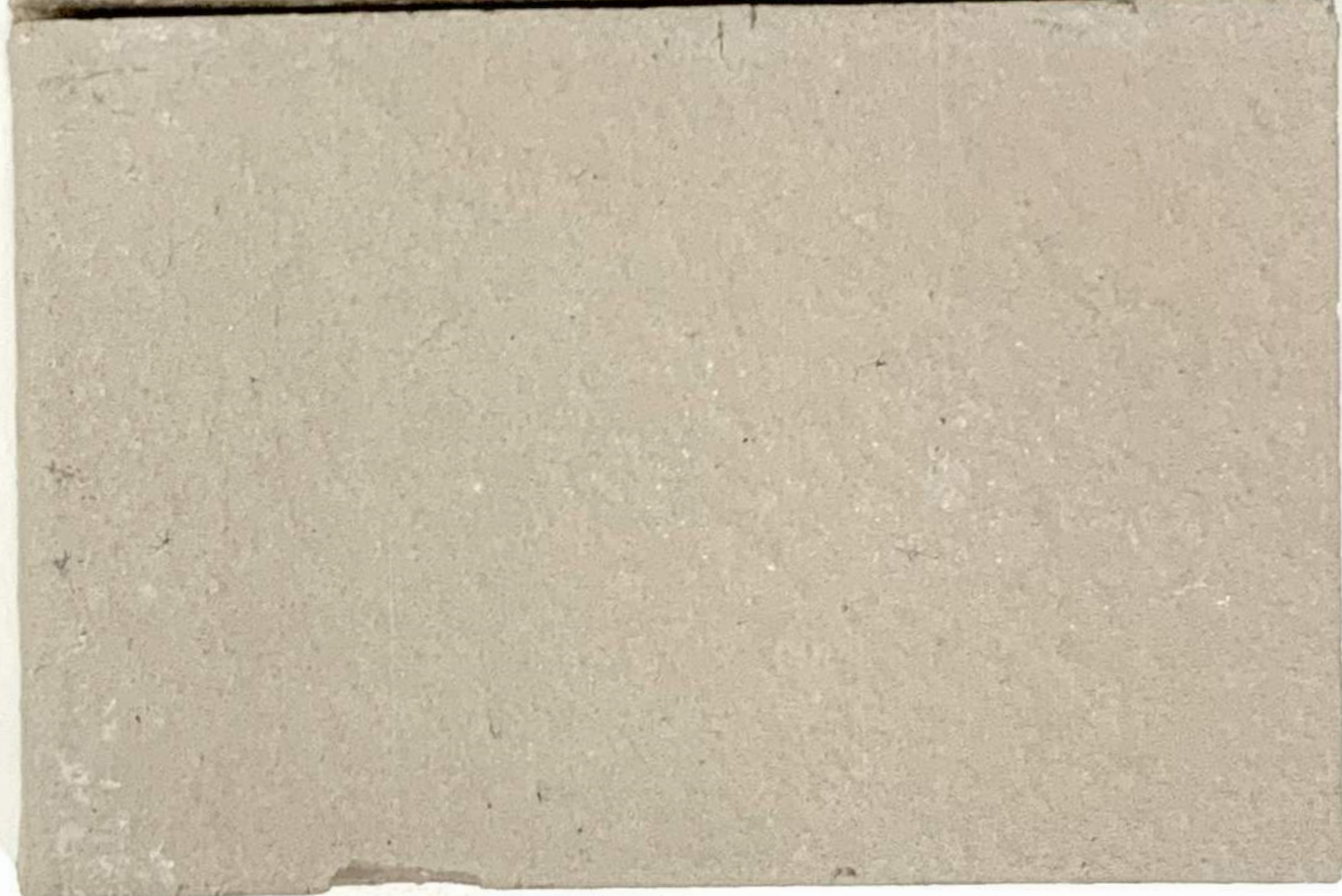
BAL-2 BALUSTRATE

COLOUR: SIMILAR TO MONUMENT



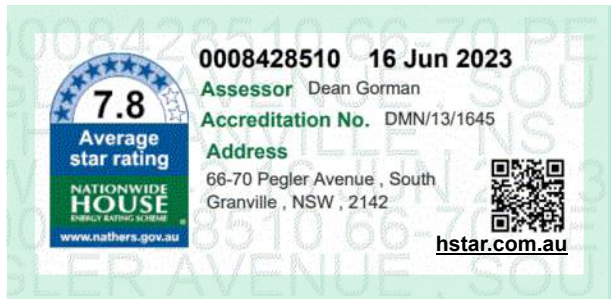
BK-1 FACE BRICK WITH NATURAL VARIATION

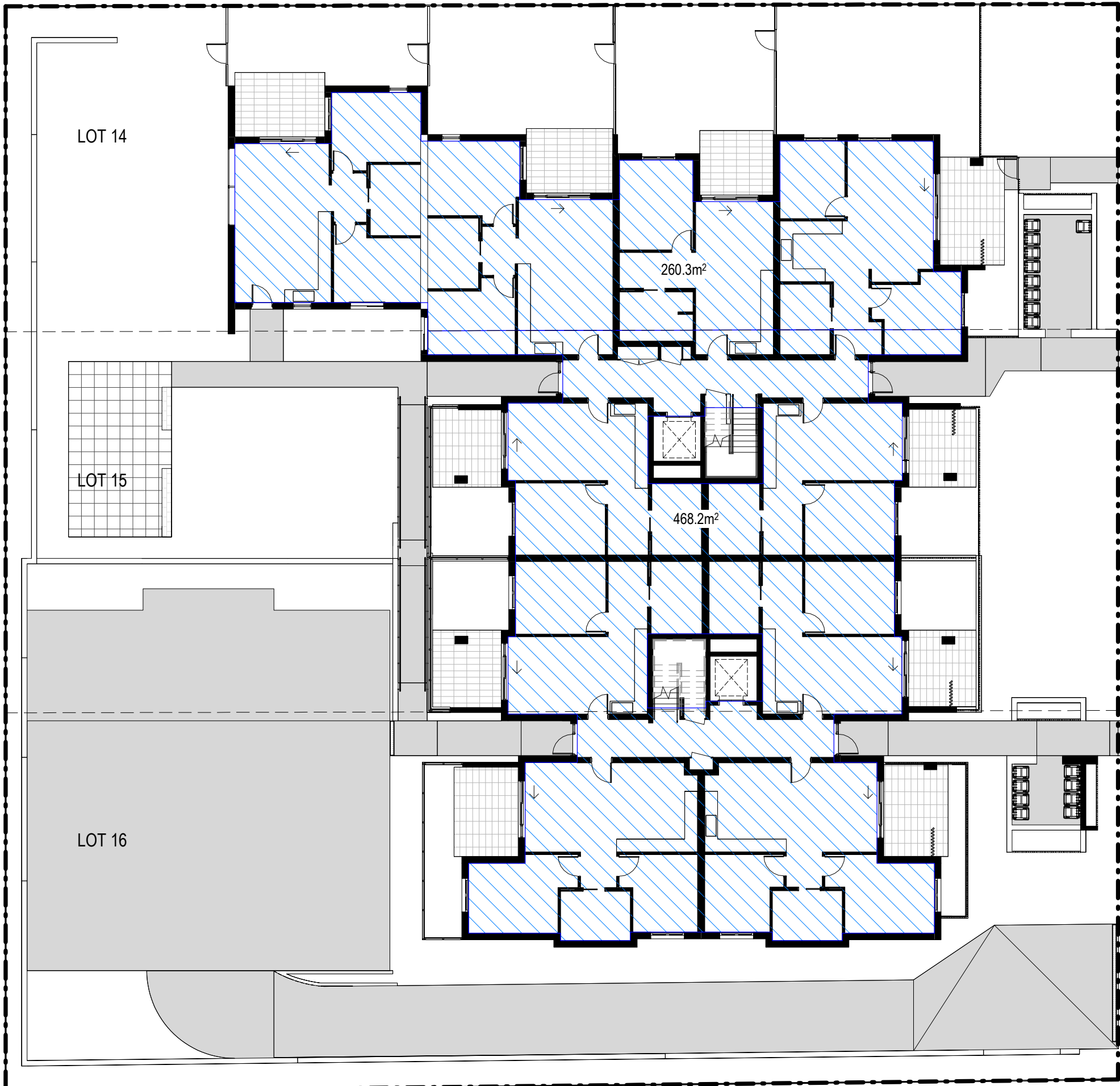
COLOUR - BEIGE OR SIMILAR



BLK-1 MASONRY RETAINING WALLS SPLIT FACE BLOCK

COLOUR - LIMESTONE OR SIMILAR

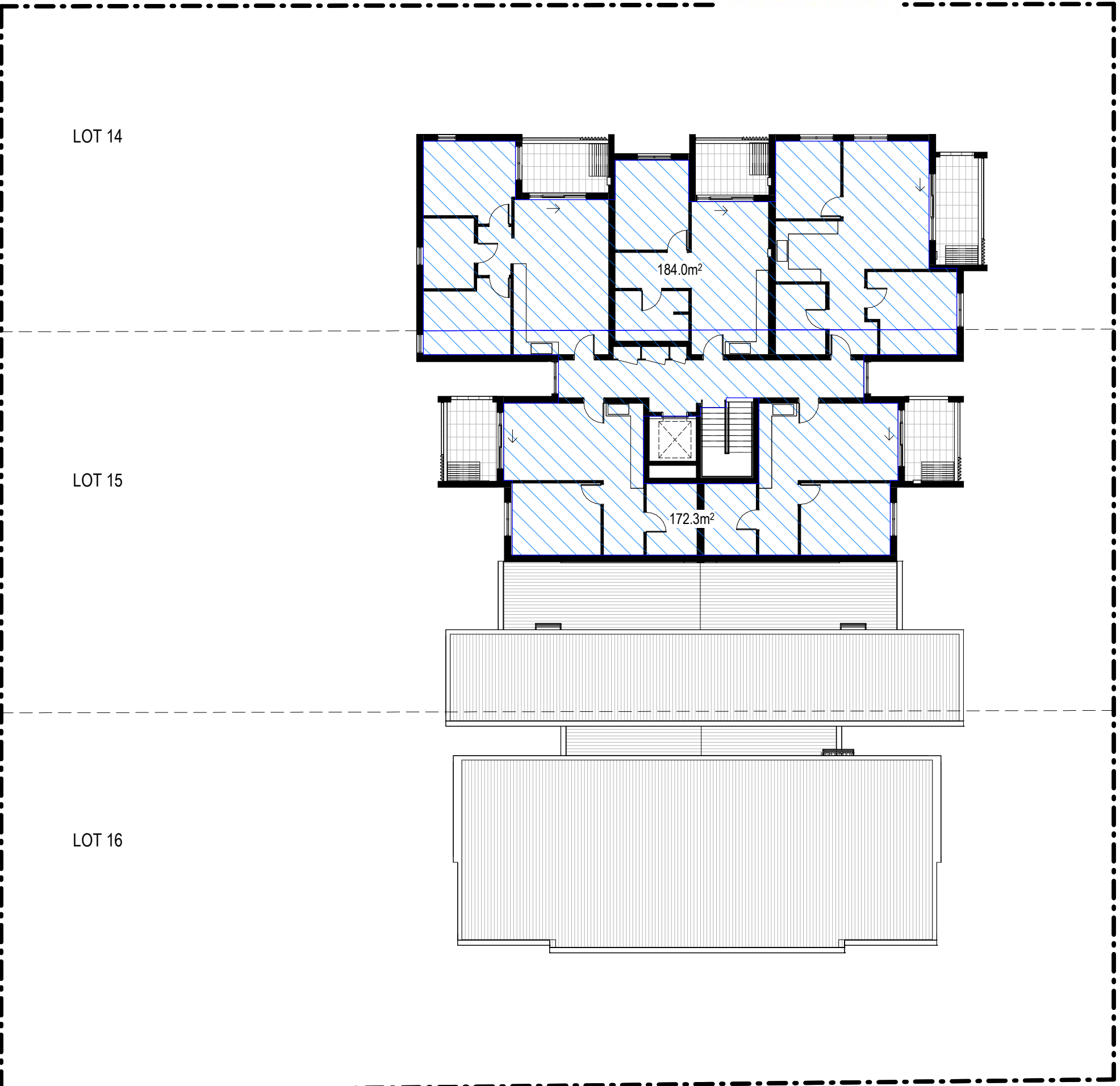




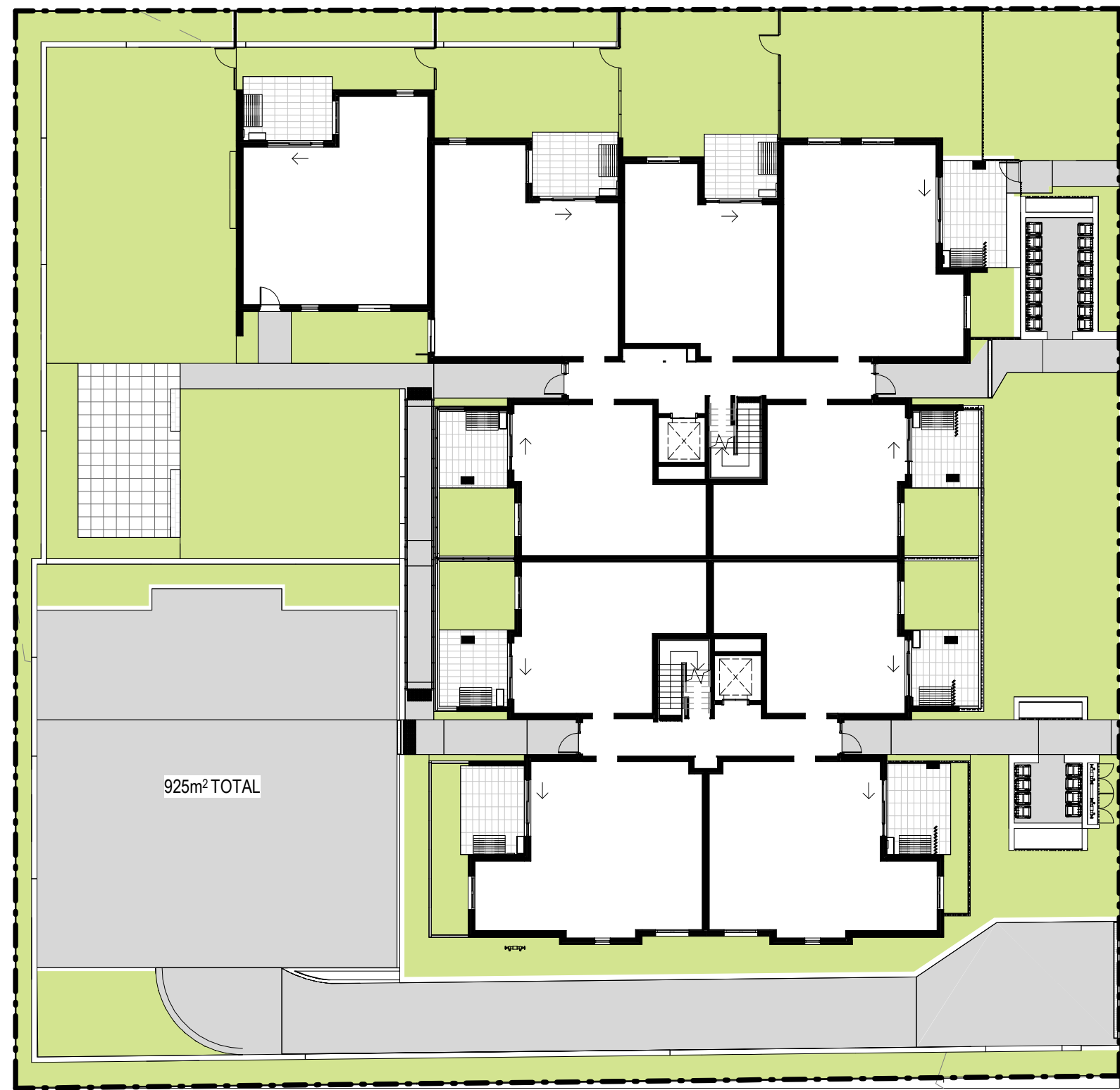
1 GFA - GROUND FLOOR
SCALE 1 : 200



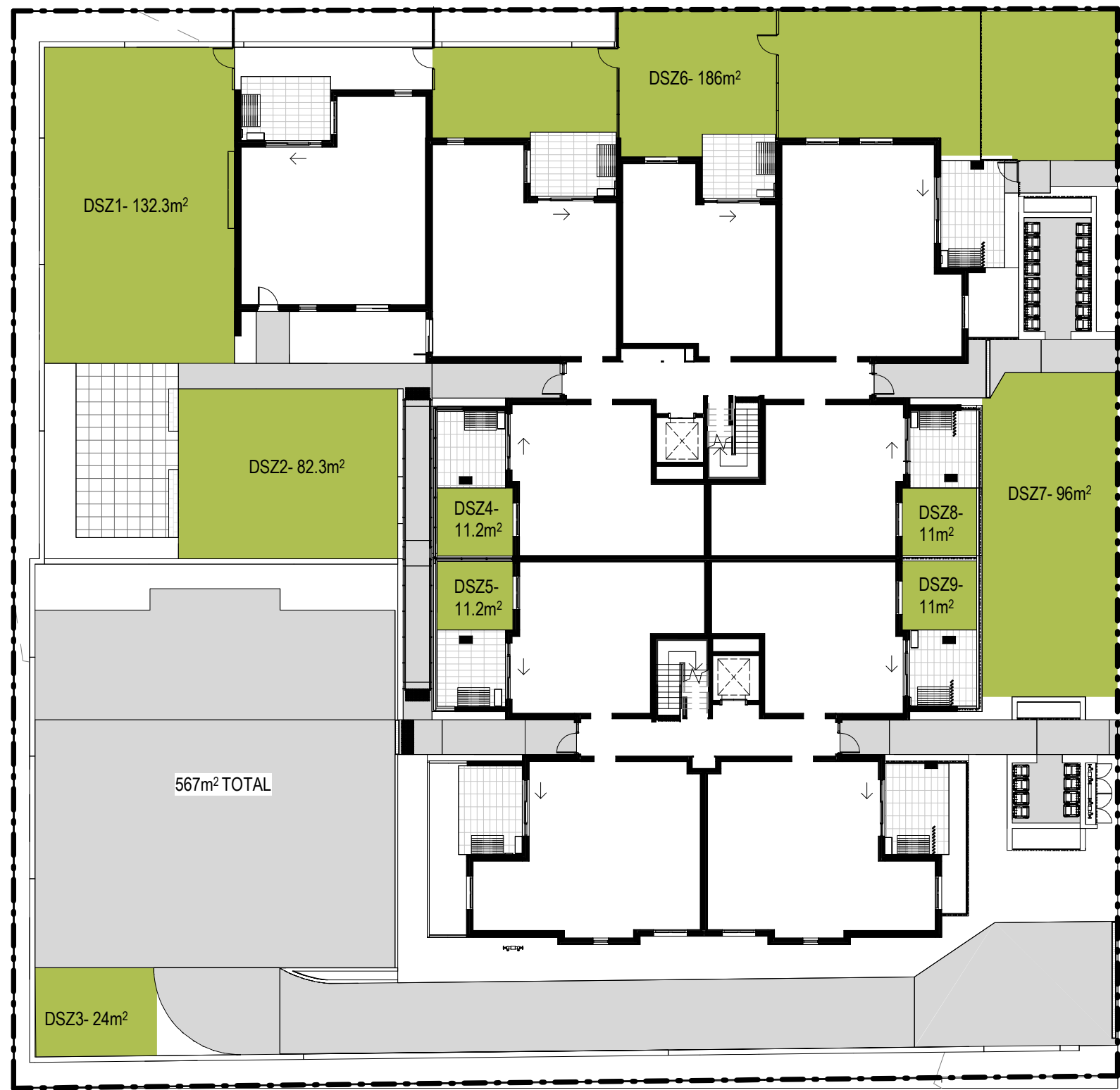
2 GFA - FIRST FLOOR
SCALE 1 : 200



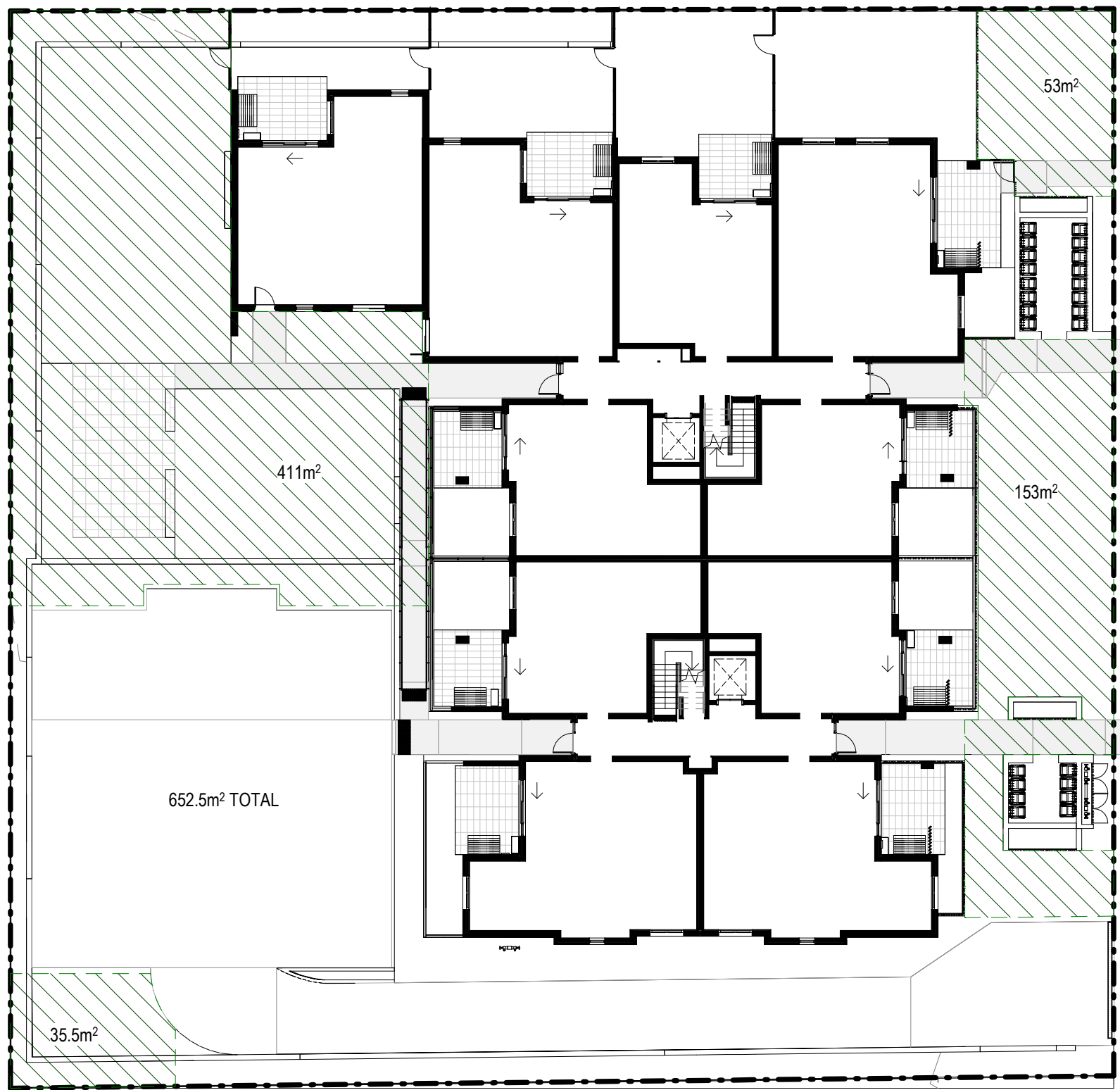
3 GFA - SECOND FLOOR
SCALE 1 : 200



4 LANDSCAPE AREA
SCALE 1 : 250



5 DEEP SOIL AREA
SCALE 1 : 250



6 COMMON OPEN SPACE
SCALE 1 : 250

LEGEND

- GROSS FLOOR AREA
- GROSS LANDSCAPE AREA
- GROSS DEEP SOIL AREA
- GROSS COMMON OPEN SPACE



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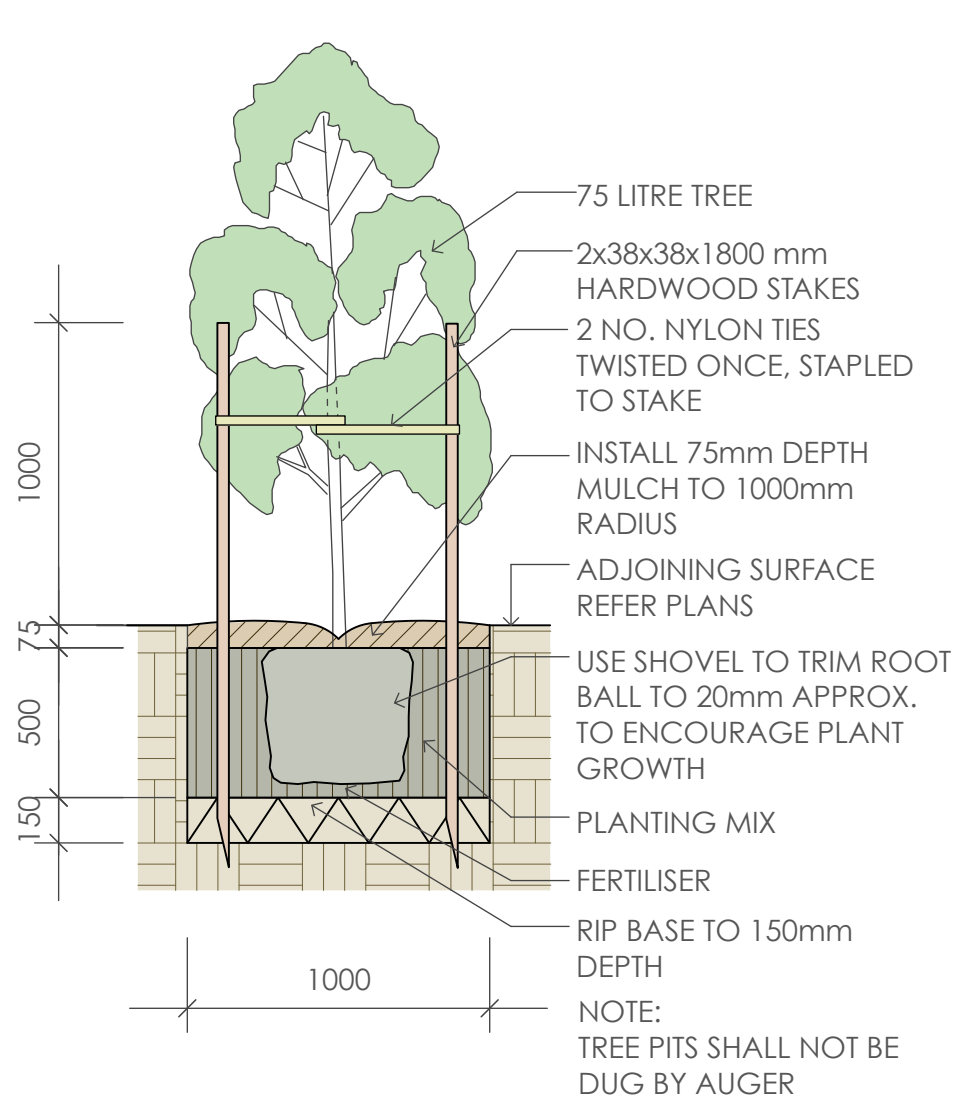
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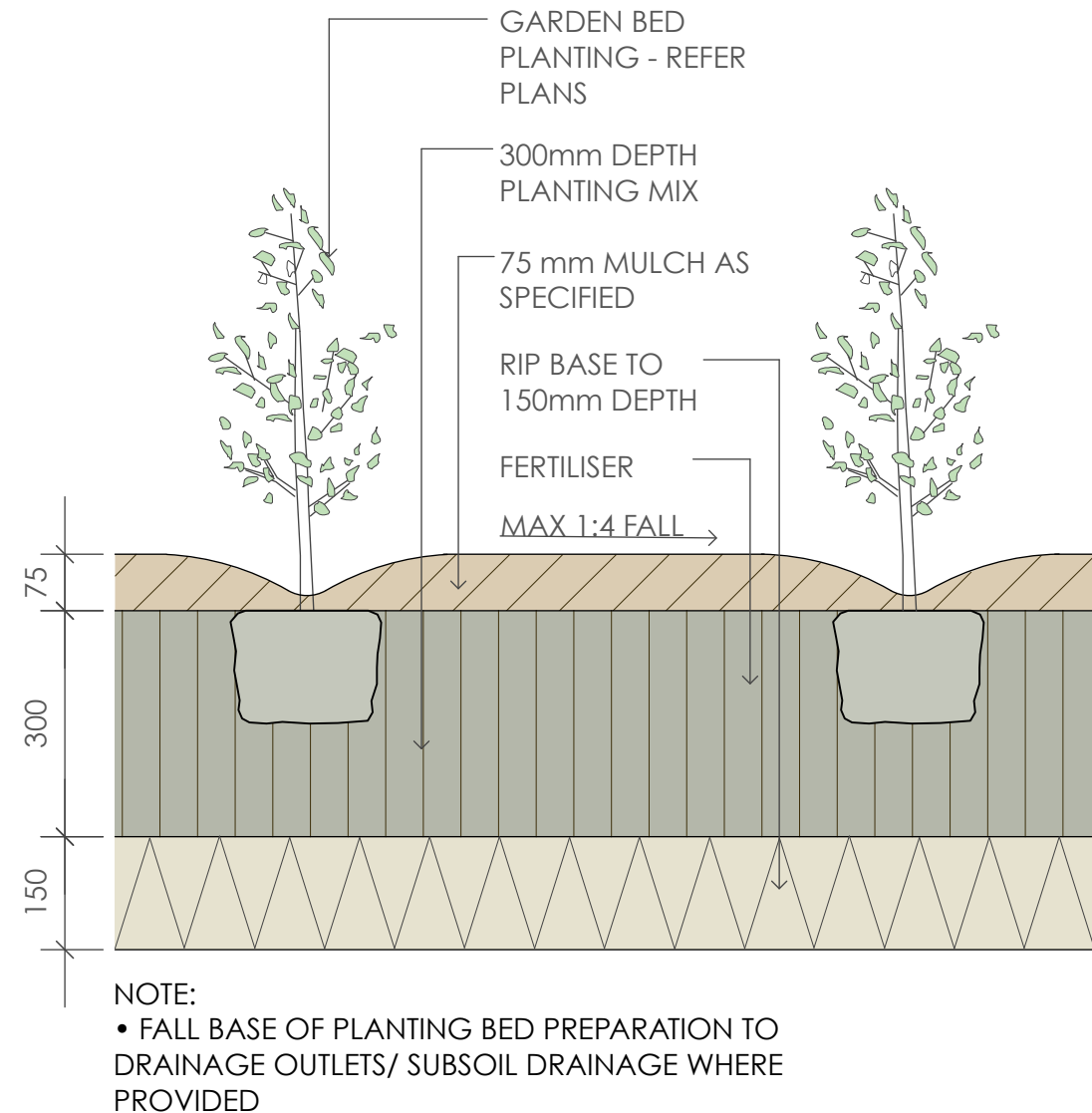
TITLE
GFA, LANDSCAPE & C.O.S
CALCS
FILE PLOTTED

STATUS
PART 5
DATE 06-02-23
SCALE
SHEET SIZE A1
SHEET DA17
PROJ MB
DESIGNER AG
CHECKED MB
REV E

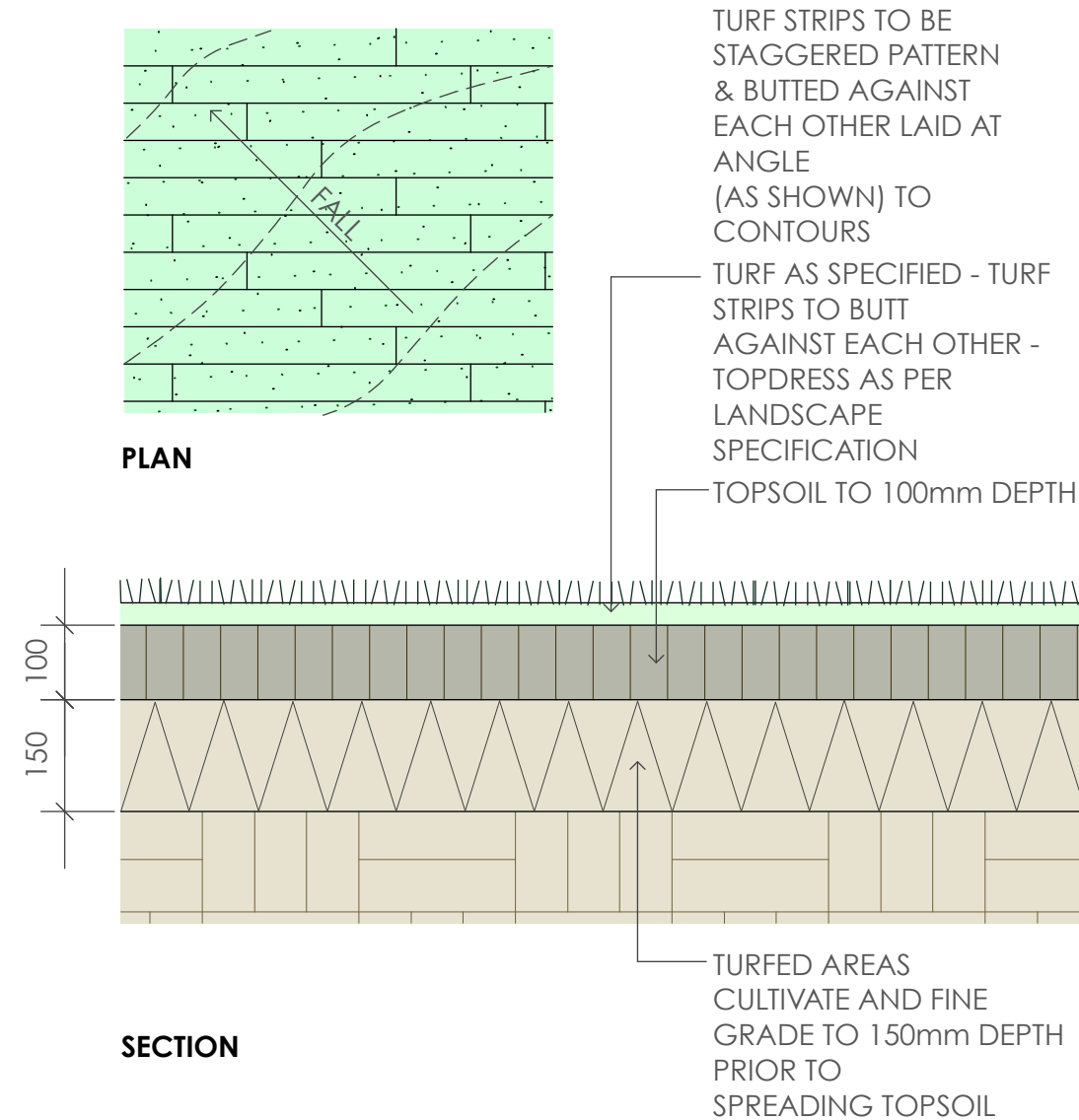
18 December 2023



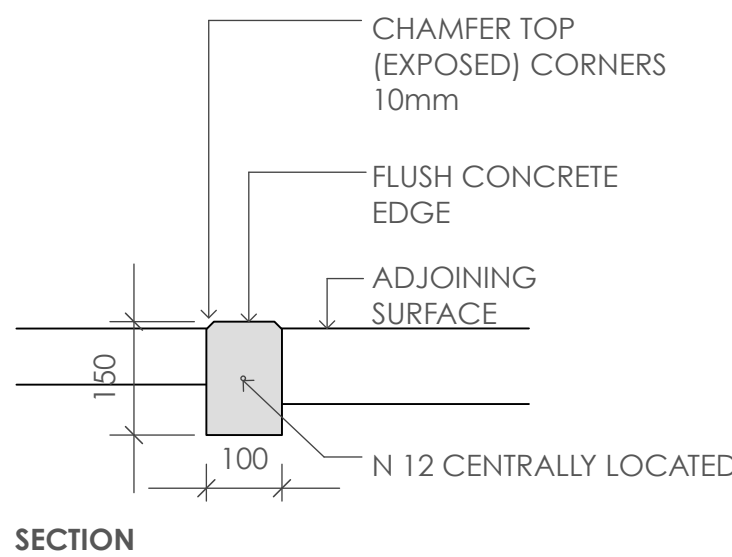
1 75 Litre Tree Planting
scale 1:25



2 Planting Bed Detail
scale 1:10



3 Turfing
scale as shown



4 Concrete Edge
scale 1:10

Plant Schedule							
ID	Qty	Common Name	Botanical Name	Size	Mature Height	Mature Spread	Native (N)
Trees							
BanInt	4	Coastal Banksia	Banksia integrifolia	75Litre	6 - 8m	3 - 5m	N
ElaRet	1	Blueberry Ash	Elaeocarpus reticulatus	75Litre	8 - 10m	3 - 4m	N
HymFla	3	Native Frangipani	Hymenosporum flavum	75Litre	8 - 12m	5 - 6m	N
TriLus	9	Water Gum	Tristanopsis laurina 'Luscious'	75Litre	6 - 8m	3.5 - 6m	N
WatFlo	2	Weeping Lilly Pilly	Waterhousia floribunda	75Litre	10 - 15m	6 - 10m	N
Shrubs							
AcaGree	42	Green Mist	Acacia cognata 'Green Mist'	200mm	1.0 - 1.5m	0.8 - 1.0m	N
AcmChe	81	Forest Flame	Acmena 'Cherry Surprise'	200mm	3.0 - 5.0m	1.2 - 1.5m	N
AcmRed	18	Red Head Lilly Pilly	Acmena smithii 'Red Head'	200mm	5 - 6m	3.0 - 4.0m	N
AcmFir	42	Fire Screen Lilly Pilly	Acmena smithii 'Fire Screen'	200mm	2 - 4m	1 - 1.5m	N
CalEnd	24	Scarlet Bottlebrush	Callistemon citrinus 'Endeavour'	200mm	3 - 5m	2.0 - 3.5m	N
CalLit	24	Little John	Callistemon 'Little John'	200mm	0.9 - 1.5m	0.9 - 1.2m	N
CalRed	18	Red Alert Bottle Brush	Callistemon 'Red Alert'	200mm	1.0 - 1.5m	2.0 - 3.0m	N
CorStri	67	Narrow Palm Lily	Cordylina stricta congesta	200mm	1 - 2m	0.8 - 1.0m	N
CosEve	54	Evening Glow Mirror Plant	Coprosma 'Evening Glow'	200mm	1.2 - 1.5m	0.9 - 1.2m	N
CriPed	23	Swamp Lily	Crinum pedunculatum	200mm	1.5 - 2m	1.2 - 2.0m	N
DorExc	13	Gymea Lily	Doryanthes excelsa	200mm	1.5 - 2m	1.2 - 2.0m	N
GreHon	30	Honey Gem Grevillea	Grevillea 'Honey Gem'	200mm	3.0 - 4.0m	2.0 - 3.0m	N
GreMoo	14	Grevillea	Grevillea 'Moonlight'	200mm	4.0 - 5.0m	2.0 - 4.0m	N
LepGree	16	Green Screen Leptospermum	Leptospermum 'Green Screen'	200mm	1.2 - 1.5m	1.2 - 1.5m	N
SyzCas	17	Cascade Lilly Pilly	Syzygium 'Cascade'	200mm	2 - 3m	1.5 - 2.0m	N
WesFru	67	Jervis Gem	Westringia fruticosa 'Jervis Gem'	200mm	0.8 - 1.2m	0.8 - 1.2m	N
Ground Covers							
LomTan	327	Spiny-headed mat rush	Lomandra longifolia 'Tanika'	150mm	0.45 - 0.6m	0.6 - 0.9m	N
MyoYar	115	Carpet Spreading Myoporum	Myoporum parvifolium 'Yareena'	150mm	0.05 - 0.1m	0.8 - 1.0m	N
DiaLas	246	Flax Lily	Dianella tasmanica 'Tasred'	150mm	0.4 - 0.5m	0.4 - 0.5m	N
CasCou	71	Cousin It	Casuarina 'Cousin It'	150mm	0.10 - 0.15m	0.8 - 1.0m	N
HypGol	47	Gold Nuget	Hymenosporum flavum 'Gold Nuget'	150mm	0.10 - 0.15m	0.8 - 1.0m	N
LomGla	30	Pale Mat Rush	Lomandra glauca	150mm	0.3 - 0.4m	0.3 - 0.4m	N
DicEme	79	Emerald Falls Dichondra	Dichondra 'Emerald Falls'	150mm	0.0 - 0.3m	0.9 - 1.2m	N
HarMee	40	Meema	Hardenbergia violacea 'Meema'	150mm	0.4 - 0.6m	1.5 - 2.0m	N
BanBir	34	Birthday Candle	Banksia spinulosa 'Birthday Candle'	150mm	0.45 - 0.6m	0.9 - 1.2m	N

SPECIFICATION NOTES

PLANTING MATERIALS

Planting Mix:

Planting mix for tree pit backfill shall be "Organic Garden Mix" consisting of

- 50% Black Soil
- 20% Coarse Sand
- 30% Organic Material

as available from Australian Native Landscapes, Phone: [02] 9450 1444, or approved equivalent. Samples shall be provided to the Superintendent prior to ordering or delivery to site. Any material delivered to site, that is rejected by the Superintendent, shall be removed by the contractor at his own expense. Minimum depths of mix to all planting bed areas is as specified on details.

Mulch:

Mulch to garden bed:

Mulch shall mean hardwood mulch (25mm grade), free from material derived from Privet, Willow, Poplar, Coral trees, or other noxious weeds. Any mulch exceeding the 25mm grade shall be rejected / removed from the site. Graded hardwood mulch to be supplied by Australian Native Landscapes Pty Ltd Phone (02) 9450 1444, or approved equivalent.

Spread mulch so that after settling, it is:

- smooth and evenly graded between design surface levels;
- flush with adjacent finished levels;
- of the required depths (75mm); and
- sloped towards the base of plant stems in plantation beds, but not in contact with the stem (not closer than 50mm in the case of gravel mulches).

Place after the preparation of the planting bed, planting and all other work.

Plant Material:

All plant material must be true to the species. No substitutes will be allowed. All plants shall be free of fungus and insect damage. All plants shall be healthy, well shaped, not soft or force grown and not root bound.

Plants are available from **Andreasens Green** wholesale nursery, contact Darren (02) 8777 4713, email darren@andreasengreen.com.au or approved equivalent.

Turfed areas:

All new turfed areas are to be selected weed free Soft Leaf Buffalo. Turf shall be laid neatly butted with staggered joins, flush with adjacent surfaces and have even running falls to all drainage points.

All new turfed area shall have a minimum 150mm depth of weed free top soil, placed and levelled prior to turfing.

PREPARATION AND HARDWORKS

Excavating for Spot Planting

To planting areas, excavate a hole for each plant large enough to provide not less than twice the depth and twice the diameter than the root ball of species to be planted.

Staking

Use durable hardwood, straight, free from knots or twists, pointed at one end. Drive stakes into the ground a minimum one third of their length, avoiding damage to the root system.

- 75 Litre trees in 2 x 38x38x1800mm Hardwood Stake with double Nylon tie
- TIES: Provide a 50mm wide Nylon webbing tie per stake, fixed securely to the stakes, one tie at half the height of the main stem and the other as necessary to stabilise the plant.

Concrete Edge

MATERIALS: Concrete to be off white colour.

INSTALLATION: Supply and install 150 x 100mm (width) reinforced flush concrete kerb to locations as approved on site by the Superintendent. Provide flexible joints at maximum 3 metre intervals in colour to match concrete. Lightly expose aggregate through rinsing / sponging. Tool finish exposed edges with 10mm pencil round to prevent chipping.

MAINTENANCE / PLANT ESTABLISHMENT

Maintenance shall apply to all hard and soft landscape materials installed prior to the "handover" and acceptance by Principles Representative and the Site Superintendent. The maintenance period shall convenience at the granting of practical completion and shall extend for 12 months.

Maintenance shall consist of the following works:

- Follow a daily watering programme to be approved by Superintendent. Water all plants individually, twice per week or when necessary to ensure constant plant growth. Water all turf and native grassed areas, twice per week.
- Apply appropriate weed control sprays and hand weed as required to maintain planting areas, native grassing bed areas, turfed areas, paved areas, and tree pits in turf free of weed or rogue grass growth.
- Regularly tidy and top up mulch and trim edges to prevent spill over onto paved / grassed areas.
- Spray to control pests and diseases.
- Replace plants, which fail with plants of a similar size and quality as originally specified to approval of Superintendent. Costs of replacement shall be the responsibility of the Contractor. Replacement planting will be undertaken within 2 weeks of identification of dead material or instruction be the Superintendent.
- Report any incidence of plants stolen or destroyed by vandalism.
- Adjust stakes and ties to plants as necessary. Ensure that strangulation of plants does not occur.
- Prune and shape plants as directed or where necessary.
- Make good any defects or faults arising out of defective workmanship or materials.
- Fertilise lawn areas to maintain healthy growth.
- Make good any erosion or soil subsidence, which may occur including soft areas in pathways.
- Mow lawn to maintain neat healthy growth.
- A final inspection shall be made by the Superintendent before handover. Any items requiring rectification shall be repaired before the works are finally approved, and retention moneys released.

NOTE:

- All finished levels are to be verified by Contractor on site.
- All landscape works be in strict accordance with Council's landscape code and guidelines
- This plan to be used in conjunction with all other submitted architectural, hydraulics and engineering drawing where applicable.

GREENLAND DESIGN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TWELVE MONTHS MAINTENANCE SCHEDULE												
Plant Care												
Monitoring												
Pruning as required												
Deadhead /tip pruning												
Slow release fertilise												
Rapid soluble fertilise as required												
Cut back perennials and grasses												
Watering as required												
Garden Bed												
Edging												
Remove weeds and herbicide spraying as required												
Top up mulch as required												
Dead foliage removal												
Pest Management												
Monitoring and herbicide spraying as required												
Turfed Area												
Fertilise												
Make good turf as required												
Winter clean up												
Remove dead foliage and pruning as required												



LOCKED BAG 5022
PARRAMATTA NSW 2124
PHONE No 1800 738 718
https://www.dpie.nsw.gov.au/land-and-housing-corporation

			ARCHITECT BREWSTER MURRAY PTY LTD PH (02) 9299 0988	
			PROJECT MANAGER LAND & HOUSING CORPORATION PH (02) 8753 9050	
			LANDSCAPE CONSULTANT GREENLAND DESIGN PTY LTD PH 0453 164 198	
B	16/02/2023	DA		
A	16/11/2021	SKETCH		
REV	DATE	NOTATION/AMENDMENT		
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.				

PROJECT:
**SENIORS HOUSING DEVELOPMENT
UNDER SEPP (HOUSING) 2021**
66-70 PEGLER AVENUE SOUTH GRANVILLE NSW
LOTS 14,15,16 IN DP36280

TITLE:
**LANDSCAPE DETAILS AND
SPECIFICATION**

FILE:
2487

PLOTTED:

STATUS:
DA

DATE:
06/02/2023

SCALE:
1:100

PROJ:
BGWYQ

STAGE:

DRAWN:
CL

CHECKED:
GD

PROJECT NO:
BGWYQ

HOUSING ARCHITECT


REV:
B

TYP:
LA

SHEET:
2 of 2

CIVIL DESIGN

FOR PROPOSED DEVELOPMENT AT

66-70 Pegler Avenue, South Granville, NSW

GENERAL NOTES

- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE NOMINATED OR APPLICABLE COUNCIL SPECIFICATION.
- THE CONTRACTOR SHOULD REPORT ANY DISCREPANCIES ON THE DRAWINGS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN.
- IT IS THE RESPONSIBILITY OF THE TENDERER TO SEEK CLARIFICATION WHERE DOCUMENTATION IS CONFLICTING OR UNCLEAR. WHERE NO CLARITY IS OBTAINED, THE TENDERER IS TO ALLOW FOR BOTH INTERPRETATIONS IN THEIR PRICING.
- CONTRACTOR IS NOT TO ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE PERMISSION OF THE OWNER.
- SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED OR REMOVED FROM SITE.
- ALL NEW WORKS SHALL MAKE A SMOOTH JOINT WITH EXISTING.
- ALL DRAINAGE LINES THOUGH ADJACENT LOTTS SHALL BE CONTAINED WITHIN EASEMENTS CONFORMING TO COUNCIL'S STANDARDS.
- PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL PROVIDE A TRAFFIC MANAGEMENT PLAN PREPARED BY AN ACCREDITED PERSON IN ACCORDANCE WITH RMS REQUIREMENTS, FOR ANY WORK ON OR ADJACENT TO PUBLIC ROADS. PLAN TO BE SUBMITTED TO COUNCIL & RMS AS REQUIRED.
- THESE PLANS SHALL BE A READ IN CONJUNCTION WITH OTHER RELEVANT CONSULTANTS' PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE REQUIREMENTS.
- THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE. PRIOR TO THE COMMENCEMENT OF ANY WORKS, ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.
- THE BUILDER IS TO VERIFY ALL LEVELS ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- ALL THE CLEANING EYES (OR INSPECTION EYES) FOR THE UNDERGROUND PIPES HAVE TO BE TAKEN UP TO THE FINISHED GROUND LEVEL FOR EASY IDENTIFICATION AND MAINTENANCE PURPOSES.
- ALL TERRACE FLOOR AND PLANTER GRATES TO HAVE FIRE COLLARS FITTED EXCEPT FOR CLASS 1 BUILDINGS
- ALL PITS HAVING AN INTERNAL DEPTH THAT EXCEEDS 1.0m SHALL BE PROVIDED WITH GALVANIZED STEP IRONS AT 300 mm CENTRES PLACED IN A STAGGERED PATTERN AND SHALL BE IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AS4198-1994.
- ALL MULCHING TO BE USED WITHIN THE AREA DESIGNATED AS ON SITE DETENTION STORAGE SHALL BE OF A NON-FLOATABLE MATERIAL SUCH AS DECORATIVE RIVER GRAVEL. BARK MULCHING SHALL NOT BE USED WITHIN THE DETENTION STORAGE AREA.
- PRIOR TO COMMENCING ANY WORKS ON THE SITE, THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITE STORMWATER SYSTEM CONNECTION INTO COUNCIL'S KERB/DRAINAGE SYSTEM MATCH THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
- GREENVIEW IS NOT RESPONSIBLE FOR THE ACCURACY OF ANY SURVEY INFORMATION PROVIDED ON THIS DRAWING.
- ALL LEVELS SHOWN ARE EXPECTED TO BE TO A.H.D.
- ALL CHAINAGES AND LEVELS ARE IN METERS, AND DIMENSIONS IN MILLIMETRES, UNLESS NOTED OTHERWISE.
- THE SURVEY INFORMATION ON THIS DRAWING HAS BEEN PROVIDED BY THE ARCHITECT.
- CONTRACTORS SHALL ARRANGE FOR THE WORKS TO BE SET OUT BY A REGISTERED SURVEYOR.
- W & E DRAWINGS BY A REGISTERED SURVEYOR ARE REQUIRED PRIOR TO CERTIFICATION OF DRAINAGE.
- WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES WITHOUT WRITTEN APPROVAL.
- WATER TREATMENT DEVICES TO STRICTLY COMPLY WITH MANUFACTURING SPECIFICATIONS.

RAINWATER REUSE SYSTEM NOTES

- RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED (BY OTHERS)
- NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAINWATER SUPPLY
- PROVIDE AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK
- PROVIDE AT LEAST ONE EXTERNAL HOSE COCK ON THE TOWN WATER SUPPLY FOR FIRE FIGHTING.
- PROVIDE APPROPRIATE FLOAT VALVE AND/OR SOLENOID VALVES TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL.
- ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE.
- PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN.
- ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK SURFACE WATER INLETS ARE NOT TO BE CONNECTED.
- PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS/NZS3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED AS RAINWATER. THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1345)
- EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELLED RAINWATER ON A METALLIC SIGN IN ACCORDANCE WITH AS1319
- ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY.
- ALL DOWNPIPES CHARGED TO THE RAINWATER TANK ARE TO BE SEALED UP TO GUTTER LEVEL AND BE PRESSURE TESTED AND CERTIFIED
- TOWN WATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF THE REGULATORY AUTHORITY. THIS MAY REQUIRE PROVISION OF
 - 13.1. PERMANENT AIR GAP
 - 13.2. BACKFLOW PREVENTION DEVICE

SAFETY IN DESIGN NOTES

THERE ARE INHERENT RISKS WITH CONSTRUCTING, MAINTAINING, OPERATING, DEMOLISHING, DISMANTLING AND DISPOSING. WE NOTE THIS DESIGN IS TYPICAL OF SIMILAR DESIGNS. AS FAR AS IS REASONABLY PRACTICABLE RISKS HAVE BEEN ELIMINATED OR MINIMISED THROUGH THE DESIGN PROCESS. HAZARD CONTROLS MUST STILL BE IMPLEMENTED BY THE CONTRACTOR, OWNER OR OPERATOR TO ENSURE THE SAFETY OF WORKERS. GREENVIEW ASSESSMENT DID NOT IDENTIFY ANY UNIQUE RISKS ASSOCIATED WITH THE DESIGN.

EARTHWORK NOTES

- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS
- THE CONTRACTOR SHALL CLEAR THE SITE BY REMOVING ALL RUBBISH, FENCES AND DEBRIS ETC. TO THE EXTENT OF THE PROPOSED DEVELOPED AREA.
- PROVIDE PROTECTION BARRIERS TO PROTECTED/SENSITIVE AREAS PRIOR TO ANY BULK EXCAVATION
- OVER FULL AREA OF EARTHWORKS, CLEAR VEGETATION, RUBBISH, SLABS ETC. AND STRIP TOP SOIL, AVERAGE 200mm THICK. REMOVE FROM SITE, EXCEPT TOP SOIL FOR RE-USE.
- CUT AND FILL OVER THE SITE TO LEVELS REQUIRED.
- PRIOR TO ANY FILLING IN AREAS OF CUT OR IN EXISTING GROUND, PROOF ROLL THE EXPOSED SURFACE WITH A ROLLER OF MINIMUM WEIGHT OF 5 TONNES WITH A MINIMUM OF 10 PASSES.
- EXCAVATE AND REMOVE ANY SOFT SPOTS ENCOUNTERED DURING PROOF ROLLING AND REPLACE WITH APPROVED FILL COMPACTED IN LAYERS. THE WHOLE OF THE EXPOSED SUBGRADE AND FILL SHALL BE COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT $\pm 2\%$.
- FOR ON SITE FILLING AREAS, THE CONTRACTOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.
- WHERE HARD ROCK IS EXPOSED IN THE EXCAVATED SUB-GRADE, THIS WILL BE INSPECTED AND A DECISION MADE ON THE LEVEL TO WHICH EXCAVATION IS TAKEN.
- FILL IN 200mm MAXIMUM (LOOSE THICKNESS) LAYERS TO UNDERSIDE OF BASECOURSE USING THE EXCAVATED MATERIAL AND COMPACTED TO 98% STANDARD (AS 1289 5.1.1). MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT $\pm 2\%$ SHOULD THERE BE INSUFFICIENT MATERIAL FROM SITE EXCAVATIONS, IMPORT AS NECESSARY CLEAN GRANULAR FILL TO APPROVAL.
- COMPACTION TESTING SHALL BE CARRIED OUT AT THE RATE OF 2 TESTS PER 1000SQ METRES PER LAYER BY A REGISTERED NATA LABORATORY. THE COSTS OF TESTING AND RE-TESTING ARE TO BE ALLOWED FOR BY THE BUILDER.
- BATTERS TO BE AS SHOWN, OR MAXIMUM 1 VERT : 4 HORIZ.
- ALL CONDUITS AND MAINS SHALL BE LAID PRIOR TO LAYING FINAL PAVEMENT.
- ALL BATTERS AND FOOTPATHS ADJACENT TO ROADS SHALL BE TOP SOILED WITH 150mm APPROVED LOAM AND SEEDED UNLESS OTHERWISE SPECIFIED.

DRAINAGE INSTALLATION

RCP CONVENTIONAL

INSTALLATIONS & ROAD CROSSINGS

- SUPPLY & INSTALLATION OF DRAINAGE WORKS TO BE IN ACCORDANCE WITH THESE DRAWINGS, THE COUNCIL SPECIFICATION AND THE CURRENT APPLICABLE AUSTRALIAN STANDARDS.
- BACKFILL SHALL BE PLACED & COMPACTED IN ACCORDANCE WITH THE SPECIFICATION, A GRANULAR GRAVEL AGGREGATE MATERIAL (<10mm) BACKFILL IS RECOMMENDED FOR THE BEDDING, HAUNCH SUPPORT AND SIDE ZONE DUE TO ITS SELF COMPACTING ABILITY.
- A MINIMUM OF 150mm CLEARANCE IS TO BE PROVIDED BETWEEN THE OUTSIDE OF THE PIPE BARREL AND THE TRENCH WALL FOR PIPES < 600 DIA. 200mm CLEARANCE FOR PIPES 600 TO 1200 DIA AND 210 CLEARANCE FOR PIPES > 1200 DIA
- BEDDING OF THE PIPELINES IS TO BE TYPE 'HS2' IN ACCORDANCE WITH THE STANDARDS AND AS FOLLOWS:

a COMPACTED GRANULAR MATERIAL IS TO COMPLY WITH THE FOLLOWING GRADINGS:

M	19	2.3600	0.6000	0.3000	0.1500	0.0750
% MASS PASSING	100	50-100	20-90	10-60	0-25	0-10

-AND THE MATERIAL PASSING THE 0.075 SIEVE HAVING LOW PLASTICITY AS DESCRIBED IN APPENDIX D OF AS1726.

b BEDDING DEPTH UNDER THE PIPE TO BE 100mm.

c BEDDING MATERIAL TO BE EXTENDED FROM THE TOP OF THE BEDDING ZONE UP TO 0.3 TIMES PIPE OUTSIDE DIAMETER. THIS REPRESENTS THE HAUNCH ZONE.

d THE BEDDING & HAUNCH ZONE MATERIAL IS TO BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 98% WITHIN ROAD RESERVES AND TRAFFICABLE AREAS AND 95% ELSEWHERE FOR COHESIVE MATERIAL OR A MINIMUM DENSITY INDEX OF 70% IN ACCORDANCE WITH THE STANDARDS FOR COHESIONLESS MATERIAL.

e COMPACTION TESTING SHALL BE CARRIED OUT BY AN APPROVED ORGANISATION WITH A NATA CERTIFIED LABORATORY FOR ALL DRAINAGE LINES LAID WHOLLY OR IN PART UNDER THE KERB & GUTTER OR PAVEMENT

ROOF DRAINAGE

- ALL ROOF DRAINAGE IS TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CURRENT APPLICABLE AUSTRALIAN STANDARDS INCLUDING AS3500.3, NCC AND COUNCIL'S SPECIFICATIONS.
- DOWNPIPES SHOWN ARE INDICATIVE ONLY. REFER ARCHITECTURALS FOR FINAL LOCATIONS.
- ALL DOWNPIPES TO BE CONSTRUCTED OF ONE MATERIAL FOR AESTHETICS REASONS AND PAINTED TO PROTECT THEM AGAINST ULTRA-VIOLET LIGHT DAMAGE, UNLESS APPROVED OTHERWISE BY THE PROJECT ARCHITECT.
- ALL DOWNPIPES TO HAVE LEAF GUARDS.
- ALL EAVES GUTTERS ARE TO BE DESIGNED TO THE 5% AEP (20YR) STORM EVENTS UNO
- ALL EAVES GUTTER OVERFLOWS ARE TO BE IN ACCORDANCE WITH AS3500.3 G3
- ALL BOX GUTTERS ARE TO BE DESIGNED TO CATER TO THE 1% AEP (100YR) STORM EVENTS UNO
- IN ACCORDANCE WITH AS3500.3 CLAUSE 3.7.6.6, BOX GUTTERS SHALL:
 - a. BE STRAIGHT WITHOUT CHANGE IN DIRECTION
 - b. HAVE A HORIZONTAL CONSTANT WIDTH BASE (SOLE) WITH VERTICAL SIDES IN A CROSS-SECTION.
 - c. HAVE A CONSTANT LONGITUDINAL SLOPE BETWEEN 1:200 AND 1:40.
 - d. DISCHARGE AT THE DOWNSTREAM END WITHOUT CHANGE OF DIRECTION (I.E. NOT TO THE SIDE); AND
 - e. BE SEALED TO THE RAINHEADS AND SUMPS.
- GREENVIEW RECOMMENDS THAT THE BUILDER VERIFIES THAT ANY AND ALL BOX GUTTERS HAVE BEEN DESIGNED BY A QUALIFIED CIVIL ENGINEER PRIOR TO THE COMMENCEMENT OF WORKS.
- GREENVIEW RECOMMENDS A SPECIFIC INSPECTION AND CERTIFICATION BY A QUALIFIED CIVIL ENGINEER OF ANY AND ALL BOX GUTTERS INSTALLED ON THE PROJECT PRIOR TO OCCUPATION CERTIFICATE
- ALL DOWNPIPES ARE TO BE PIPE CONNECTED INTO THE FORMAL RAINWATER OR STORMWATER LINE UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OTHERWISE.

STORMWATER DRAINAGE NOTES

- STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS INCLUDING AS3500.3, NCC AND COUNCIL'S SPECIFICATION
- MINIMUM PIT DIMENSIONS ARE TO BE IN ACCORDANCE WITH AS3500.3 TABLE 7.5.2.1 WHICH PROVIDES GUIDANCE ACCORDING TO PIT DEPTH U.N.O.

TABLE 7.5.2.1

MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS

Depth to invert of outlet	Minimum internal dimensions mm		
	Rectangular	Circular	
	Width	Length	Diameter
≤450	350	350	—
≤600	450	450	600
>600 ≤900	600	600	900
>900 ≤1200	600	900	1000
>1200	900	900	1000

- PIPES OF 225mm DIA. AND UNDER SHALL BE UPVC
- PIPES OF 300mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2
- ADJACENT HAVING DIFFERENT GRADES SHALL BE UNDERTAKEN PRIOR TO THE CONSTRUCTION OF THE BUILDING. THE BUILDER IS TO SET OUT THE FLOOR LEVELS AND ENSURE PROPOSED STORMWATER DRAINAGE LEVELS AND BUILDING LEVELS ARE COMPATIBLE. NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.
- GREENVIEW RECOMMENDS ALL IN-GROUND STORMWATER PIPE RUNS ARE SET OUT BY THE BUILDER PRIOR TO COMMENCEMENT OF WORKS. WHERE 300mm COVER IS NOT ACHIEVED, NOTIFY ENGINEER.
- WHERE STORMWATER DRAINAGE WORKS ARE TO BE UNDERTAKEN PRIOR TO THE CONSTRUCTION OF THE BUILDING, THE BUILDER IS TO SET OUT THE FLOOR LEVELS AND ENSURE PROPOSED STORMWATER DRAINAGE LEVELS AND BUILDING LEVELS ARE COMPATIBLE. NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.
- ON-SITE DETENTION (OSD) TANKS ARE TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CURRENT APPLICABLE AUSTRALIAN STANDARDS INCLUDING AS3500.3, NCC AND COUNCIL'S SPECIFICATIONS.
- IT IS CRITICAL THAT THE MINIMUM OSD VOLUME AS CALCULATED BY THE DESIGN AND NOTED ON THESE PLANS IS ACHIEVED ON SITE. VOLUMES TO BE VERIFIED BE REGISTERED SURVEYOR AND NOTED IN THE WAE SURVEY PRIOR TO CERTIFICATION
- OSD VOLUME MAY BE ACHIEVED IN BELOW GROUND TANK, OR ABOVE GROUND PONDING, OR RAINWATER TANK OFFSET, OR INFILTRATION/ABSORPTION SYSTEM. EACH OPTION HAS SPECIFIC GUIDELINES FOR HOW STORMWATER FLOWS ARE TO BE CONTROLLED AND DISCHARGED.
- PONDING AND OVERFLOW LEVELS FROM THE OSD SHALL BE NOT LESS THAN 300mm BELOW ADJACENT HABITABLE FLOOR LEVELS OF BUILDINGS AND NOT LESS THAN 150mm BELOW NON-HABITABLE FLOOR LEVELS (AS3500.1 CLAUSE 7.10.1)
- THE HYDRAULIC CONTROL FOR THE STORAGE (USUALLY ORIFICE PLATE) SHALL BE FIRMLY FIXED IN PLACE TO PREVENT REMOVAL OR TAMPERING. A PLATE OF 3mm TO 5mm THICK STAINLESS STEEL WITH A CIRCULAR HOLE SHALL BE USED, PROVIDED:
 - a. IT IS MACHINED TO 0.5% ACCURACY
 - b. IT RETAINS A SHARP EDGE; AND
 - c. THE ORIFICE DIAMETER IS NOT LESS THAN 25mm (AS 3500.3 CLAUSE 7.10.2
- INSPECTION / ACCESS OPENINGS SHALL BE PROVIDED ABOVE THE LOCATION OF THE OUTLET WITH DIMENSIONS AT LEAST 600mm x 600mm OR 600mm DIAMETER FOR STORAGES UP TO 800mm DEEP AND 600mm x 900mm FOR DEEPER STORAGES. THERE SHALL BE NO IMPEDIMENTS TO THE REMOVAL OF DEBRIS THROUGH THIS OPENING. INSPECTION SHALL BE POSSIBLE WITHOUT RESIDENTS OR OWNERS HAVING TO REMOVE HEAVY ACCESS COVERS (AS3500.3 CLAUSE 7.10.2.b.ii)
- WHERE STORAGES ARE NOT DEEP ENOUGH TO WORK IN (<1.5m DEEP), ACCESS SHALL BE PROVIDED AT INTERVALS OF APPROXIMATELY 1.0m TO ALLOW THE SYSTEM TO BE FLUSHED TO THE STORAGE OUTLET> ACCESS SHALL BE PROVIDED AT THE OUTLET (AS3500.3 CLAUSE 7.10.2.b.iii)
- A SUMP SHALL BE PROVIDED AT THE OUTLET POINT, SET BELOW THE LEVEL OF THE MAIN STORAGE TO COLLECT DEBRIS. WHERE A DISCHARGE CONTROL PIT IS INCLUDED IN THE STORAGE< THIS SHALL CONTAIN A SUMP SET A MINIMUM OF 1.5 TIMES THE DIAMETER OF THE ORIFICE OF THE OUTLET BELOW THE CENTRE OF THE ORIFICE. SUMPS SHALL BE PROVIDED WITH WEEP HOLES TO DRAIN OUT TO THE SURROUNDING SOIL, AND SHALL BE FOUND ON A COMPACTED GRANULAR BASE.
- WHERE THE DEPTH OF THE TANK EXCEEDS 1.2m, A LADDER IN ACCORDANCE WITH AS3500.3 CLAUSE 7.5.5.4 SHALL BE INSTALLED.
- BELOW GROUND OSD SYSTEMS SHALL CONFORM WITH AS2865.
- IN ACCORDANCE WITH AS3500.3 CLAUSE 7.10.2.D SCREENS (TRASH RACKS) WITH THE FOLLOWING CHARACTERISTICS SHOULD BE PROVIDED TO COVER EACH ORIFICE OUTLET:
 - a. FOR ORIFICES UP TO 150mm DIA., A FINE APERTURE-EXPANDED METAL MESH SCREEN WITH A MINIMUM AREA OF 50 TIMES THE AREA OF THE ORIFICE. FOR LARGER DIA. ORIFICES, A COARSER GRID MESH WITH A MINIMUM AREA OF 20 TIMES THE ORIFICE AREA MAY BE USED AS AN ALTERNATIVE.
 - b. STEEL SCREENS SHOULD BE STAINLESS STEEL OR HOT-DIP GALVANIZED
 - c. WHERE APERTURE-EXPANDED MESH SCREENS ARE EMPLOYED, THEY SHOULD BE POSITIONED SO THAT THE OVAL-SHAPED HOLES ARE HORIZONTAL, WITH THE PROTRUDING LIP ANGLED UPWARDS AND FACING DOWNSTREAM. A HANDLE MAY BE FITTED TO ENSURE CORRECT ORIENTATION AND EASY REMOVAL FOR MAINTENANCE.
 - d. SCREENS SHOULD BE PLACED NO FLATTER THAN 45 DEGREES TO THE HORIZONTAL IN SHALLOW STORAGES UP TO 600mm DEEP. IN DEEPER OR MORE REMOTE LOCATIONS, THE MINIMUM ANGLE SHOULD BE 60 DEGREES TO THE HORIZONTAL.
- IF THE BELOW GROUND OSD DRAINAGE IS SEALED, A VENT SHOULD BE PROVIDED TO EXPEL ANY NOXIOUS GASES (AS3500.3 CLAUSE 7.10.2.D.B).
- THE STORAGE SHOULD BE DESIGNED TO FILL WITHOUT CAUSING OVERFLOWS IN UPSTREAM CONDUITS DUE TO BACKWATER EFFECTS (AS3500.3 CLAUSE 7.10.2.D.C).
- BELOW GROUND STORAGES SHALL BE CONSTRUCTED OF CONCRETE, MASONRY, ALUMINIUM/ZINC AND ALUMINIUM/ZINC/MAGNESIUM ALLOY-COATED STEEL, ZINC-COATED STEEL, GALVANISED IRON OR PLASTICS (AS3500.3 7.10.3)
- ALL GRATES IN AREAS OF FREQUENT PEDESTRIAN TRAFFIC (IE FOOTPATHS, WALKWAYS, ETC.) TO BE HEEPLPROOF GRATE.
- REFER ARCHITECTS DETAIL FOR GRATE FINISH (IE STAINLESS STEEL OR GALVANISED)
- GRATES TO BE IN ACCORDANCE WITH TABLE BELOW:

PIT GRATE INLINE TYPE

GRATE TYPE	TRAFFIC CONDITIONS
A - EXTRA LIGHT DUTY	FOOTPATHS AND AREAS ACCESSIBLE ONLY TO PEDESTRIANS AND PEDAL CYCLISTS.
B - LIGHT DUTY	FOOTPATHS THAT CAN BE MOUNTED BY VEHICLES.
C - MEDIUM DUTY	ALLS AND PEDESTRIAN AREAS OPEN TO SLOW MOVING COMMERCIAL VEHICLES.
D - HEAVY DUTY	CARRIAGEWAYS OF ROADS AND AREAS OPEN TO COMMERCIAL VEHICLES.
TABLE AS PER AS3696 - 2006. ENGINEER TO BE NOTIFIED IF LOAD CONDITIONS LISTED ABOVE ARE EXCEEDED.	

- COVER TO PIPE TO BE AS PER TABLE BELOW:

COVER TABLE

LOCATION	PIPE TYPE	COVER
LANDSCAPE	PVC	300
LANDSCAPE (SINGLE DWELLING)	PVC	100
UNDER TRAFFICABLE AREA	PVC	100 BELOW UNDERSIDE OF PAVEMENT
CONCRETE	STEEL	NIL BELOW UNDERSIDE OF PAVEMENT
ROADS	RCP	500 BELOW UNDERSIDE OF PAVEMENT

STORMWATER DRAINAGE NOTES CONTINUED

- GREENVIEW'S STORMWATER SYSTEM HAS BEEN DESIGNED TO CAPTURE SURFACE RUNOFF FROM THE SITE ITSELF BUT DOES NOT INCORPORATE SPECIFIC GROUNDWATER CAPTURE MECHANISMS. IN SOME CASES, GROUNDWATER INUNDATION MAY BE A SIGNIFICANT SOURCE OF WATER DURING A STORM EVENT. GREENVIEW RECOMMENDS THAT ALL RETAINING WALLS CLOSE TO HABITABLE AREAS BE FITTED WITH AN IMPERMEABLE MEMBRANE AND SUBSOIL DRAINAGE TO PREVENT GROUNDWATER INGRESS.
- GREENVIEW RECOMMENDS ALL IN-GROUND STORMWATER PIPE RUNS ARE SET OUT BY THE BUILDER PRIOR TO COMMENCEMENT OF WORKS. WHERE 300mm COVER IS NOT ACHIEVED, NOTIFY ENGINEER.
- WHERE STORMWATER DRAINAGE WORKS ARE TO BE UNDERTAKEN PRIOR TO THE CONSTRUCTION OF THE BUILDING, THE BUILDER IS TO SET OUT THE FLOOR LEVELS AND ENSURE PROPOSED STORMWATER DRAINAGE LEVELS AND BUILDING LEVELS ARE COMPATIBLE. NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.

ON-SITE DETENTION

- ON-SITE DETENTION (OSD) TANKS ARE TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CURRENT APPLICABLE AUSTRALIAN STANDARDS INCLUDING AS3500.3, NCC AND COUNCIL'S SPECIFICATIONS.
- IT IS CRITICAL THAT THE MINIMUM OSD VOLUME AS CALCULATED BY THE DESIGN AND NOTED ON THESE PLANS IS ACHIEVED ON SITE. VOLUMES TO BE VERIFIED BE REGISTERED SURVEYOR AND NOTED IN THE WAE SURVEY PRIOR TO CERTIFICATION
- OSD VOLUME MAY BE ACHIEVED IN BELOW GROUND TANK, OR ABOVE GROUND PONDING, OR RAINWATER TANK OFFSET, OR INFILTRATION/ABSORPTION SYSTEM. EACH OPTION HAS SPECIFIC GUIDELINES FOR HOW STORMWATER FLOWS ARE TO BE CONTROLLED AND DISCHARGED.
- PONDING AND OVERFLOW LEVELS FROM THE OSD SHALL BE NOT LESS THAN 300mm BELOW ADJACENT HABITABLE FLOOR LEVELS OF BUILDINGS AND NOT LESS THAN 150mm BELOW NON-HABITABLE FLOOR LEVELS (AS3500.1 CLAUSE 7.10.1)

BELOW GROUND OSD TANKS

- THE HYDRAULIC CONTROL FOR THE STORAGE (USUALLY ORIFICE PLATE) SHALL BE FIRMLY FIXED IN PLACE TO PREVENT REMOVAL OR TAMPERING. A PLATE OF 3mm TO 5mm THICK STAINLESS STEEL WITH A CIRCULAR HOLE SHALL BE USED, PROVIDED:
 - a. IT IS MACHINED TO 0.5% ACCURACY
 - b. IT RETAINS A SHARP EDGE; AND
 - c. THE ORIFICE DIAMETER IS NOT LESS THAN 25mm (AS 3500.3 CLAUSE 7.10.2
- INSPECTION / ACCESS OPENINGS SHALL BE PROVIDED ABOVE THE LOCATION OF THE OUTLET WITH DIMENSIONS AT LEAST 600mm x 600mm OR 600mm DIAMETER FOR STORAGES UP TO 800mm DEEP AND 600mm x 900mm FOR DEEPER STORAGES. THERE SHALL BE NO IMPEDIMENTS TO THE REMOVAL OF DEBRIS THROUGH THIS OPENING. INSPECTION SHALL BE POSSIBLE WITHOUT RESIDENTS OR OWNERS HAVING TO REMOVE HEAVY ACCESS COVERS (AS3500.3 CLAUSE 7.10.2.b.ii)
- WHERE STORAGES ARE NOT DEEP ENOUGH TO WORK IN (<1.5m DEEP), ACCESS SHALL BE PROVIDED AT INTERVALS OF APPROXIMATELY 1.0m TO ALLOW THE SYSTEM TO BE FLUSHED TO THE STORAGE OUTLET> ACCESS SHALL BE PROVIDED AT THE OUTLET (AS3500.3 CLAUSE 7.10.2.b.iii)
- A SUMP SHALL BE PROVIDED AT THE OUTLET POINT, SET BELOW THE LEVEL OF THE MAIN STORAGE TO COLLECT DEBRIS. WHERE A DISCHARGE CONTROL PIT IS INCLUDED IN THE STORAGE< THIS SHALL CONTAIN A SUMP SET A MINIMUM OF 1.5 TIMES THE DIAMETER OF THE ORIFICE OF THE OUTLET BELOW THE CENTRE OF THE ORIFICE. SUMPS SHALL BE PROVIDED WITH WEEP HOLES TO DRAIN OUT TO THE SURROUNDING SOIL, AND SHALL BE FOUND ON A COMPACTED GRANULAR BASE.
- WHERE THE DEPTH OF THE TANK EXCEEDS 1.2m, A LADDER IN ACCORDANCE WITH AS3500.3 CLAUSE 7.5.5.4 SHALL BE INSTALLED.
- BELOW GROUND OSD SYSTEMS SHALL CONFORM WITH AS2865.
- IN ACCORDANCE WITH AS3500.3 CLAUSE 7.10.2.D SCREENS (TRASH RACKS) WITH THE FOLLOWING CHARACTERISTICS SHOULD BE PROVIDED TO COVER EACH ORIFICE OUTLET:
 - a. FOR ORIFICES UP TO 150mm DIA., A FINE APERTURE-EXPANDED METAL MESH SCREEN WITH A MINIMUM AREA OF 50 TIMES THE AREA OF THE ORIFICE. FOR LARGER DIA. ORIFICES, A COARSER GRID MESH WITH A MINIMUM AREA OF 20 TIMES THE ORIFICE AREA MAY BE USED AS AN ALTERNATIVE.
 - b. STEEL SCREENS SHOULD BE STAINLESS STEEL OR HOT-DIP GALVANIZED
 - c. WHERE APERTURE-EXPANDED MESH SCREENS ARE EMPLOYED, THEY SHOULD BE POSITIONED SO THAT THE OVAL-SHAPED HOLES ARE HORIZONTAL, WITH THE PROTRUDING LIP ANGLED UPWARDS AND FACING DOWNSTREAM. A HANDLE MAY BE FITTED TO ENSURE CORRECT ORIENTATION AND EASY REMOVAL FOR MAINTENANCE.
 - d. SCREENS SHOULD BE PLACED NO FLATTER THAN 45 DEGREES TO THE HORIZONTAL IN SHALLOW STORAGES UP TO 600mm DEEP. IN DEEPER OR MORE REMOTE LOCATIONS, THE MINIMUM ANGLE SHOULD BE 60 DEGREES TO THE HORIZONTAL.
- IF THE BELOW GROUND OSD DRAINAGE IS SEALED, A VENT SHOULD BE PROVIDED TO EXPEL ANY NOXIOUS GASES (AS3500.3 CLAUSE 7.10.2.D.B).
- THE STORAGE SHOULD BE DESIGNED TO FILL WITHOUT CAUSING OVERFLOWS IN UPSTREAM CONDUITS DUE TO BACKWATER EFFECTS (AS3500.3 CLAUSE 7.10.2.D.C).
- BELOW GROUND STORAGES SHALL BE CONSTRUCTED OF CONCRETE, MASONRY, ALUMINIUM/ZINC AND ALUMINIUM/ZINC/MAGNESIUM ALLOY-COATED STEEL, ZINC-COATED STEEL, GALVANISED IRON OR PLASTICS (AS3500.3 7.10.3)

MAINTENANCE SCHEDULE: ON

SITE DETENTION (OSD)

ALL OSD MAINTENANCE TASKS SHOULD BE UNDERTAKEN AFTER A SIGNIFICANT STORM EVENT

6 MONTHLY

ELEMENT	TASK	DESCRIPTION / ACTION
ORIFICE PLATE	INSPECT FOR BLOCKAGE	CHECK PLATE FOR BLOCKAGE AND CLEAN
TRASH SCREEN	CHECK / CLEAN	CHECK AND CLEAN TRASH SCREEN
PIT SUMP	CHECK FOR SEDIMENT	CHECK FOR SEDIMENT / LITTER / SLUDGE AND CLEAN-OUT
GRATED LIDS	CHECK FOR DAMAGE	CHECK FOR CORROSION OR OTHER DAMAGE AND REPAIR / REPLACE AS NEEDED
	CLEAR BLOCKAGES	CHECK AND CLEAR BLOCKAGES
STORAGE LIDS	CHECK	REMOVE DEBRIS / MULCH / LITTER / SEDIMENT
OUTLET PIPES	CHECK FOR BLOCKAGES	CHECK / CLEAN / FLUSH OUTLET PIPES, REMOVE ANY BLOCKAGES
STEP IRONS	CHECK FIXING	ENSURE STEP-IRON FIXINGS ARE SECURE AND REPAIR AS NEEDED

ANNUALLY

ELEMENT	TASK	DESCRIPTION / ACTION
ORIFICE PLATE	CHECK ATTACHMENT	ENSURE PLATE IS MOUNTED SECURELY, TIGHTEN AND SEAL GAPS AS REQUIRED
TRASH SCREEN	CHECK ATTACHMENT	ENSURE PLATE IS MOUNTED SECURELY, TIGHTEN AND SEAL GAPS AS REQUIRED
	CHECK CORROSION	CHECK TRASH SCREEN FOR CORROSION, ESPECIALLY AT CORNERS NEAR WELDS AND REPAIR / REPLACE AS NEEDED
STEP IRONS	CHECK FOR CORROSION	EXAMINE STEP IRONS AND REPAIR ANY DAMAGE
INTERNAL WALLS	CHECK	CHECK FOR CRACKS / SPALLING AND REPAIR AS NEEDED
OSD SURROUNDS	CHECK FOR SUBSIDENCE	CHECK FOR SUBSIDENCE (WHICH MAY INDICATE LEAKS) AND REPAIR AS NEEDED

5-YEARLY

ELEMENT	TASK	DESCRIPTION / ACTION
ORIFICE PLATE	CHECK ORIFICE PLATE	CHECK ORIFICE SIZE AGAINST WAE AND CHECK FOR FITTING / SCARRING, REPLACE IF NECESSARY

COLOUR LEGEND

NEW (REFER TO SCHEDULES FOR COLOUR DEFINITION)
EXISTING
REMOVED OR RELOCATED

GREENVIEW CIVIL SHEET LIST		
No.	SHEET NAME	REV.
C01	NOTES & LEGENDS	8
C02	GROUND FLOOR DRAINAGE PLAN	8
C03	AREA PLAN	1
C04	SITE STORMWATER DETAILS SHEET 1	8
C05	SITE STORMWATER DETAILS SHEET 2	1
C06	SITE STORMWATER DETAILS SHEET 3	4
C07	SITE STORMWATER DETAILS SHEET 4	4
C08	ROAD FRONTAGE PLAN	3
C09	LONG SECTION SHEET	3
C10	EASEMENT OPTION 1 - KERB DISCHARGE ACROSS DRIVEWAY	3
C11	EASEMENT OPTION 2 - EASEMENT FRONTAGE KERB DISCHARGE	3

RECOMMENDED SAFETY SIGNS



CONFINED SPACE DANGER SIGN

- A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS CONFINED SPACE.
 - MINIMUM DIMENSIONS OF THE SIGN
 - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
 - 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES & MANHOLES)
- THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE
- SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN.

EXISTING SERVICES



ABBREVIATIONS

DP	DOWN PIPE
FFL	PROPOSED FINISHED FLOOR LEVEL
GL	PROPOSED PIT SURFACE LEVEL
IL	PROPOSED PIT INVERT LEVEL
IO	INSPECTION OPENING
K&G	KERB & GUTTER
P	FINISHED PAVEMENT LEVEL
RCP	REINFORCED CONCRETE PIPE
RL	ROLL KERB & GUTTER
RSL	FINISHED SURFACE LEVEL
RWO	RAINWATER DRAINAGE OUTLET
RWT	PROPOSED RAINWATER TANK
TK	TOP OF NEW KERB LEVEL
TOW	TOP OF NEW RETAINING WALL LEVEL
VD	TOP OF WATER LEVEL
UPVC	RIGID PVC PIPE
VERT	VERTICAL DROPPER

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18 December 2023

GENERAL LEGEND

LANDSCAPE
BYPASS LANDSCAPE
HARDSTAND
ROOF AREA TO DRAIN
OSD
EASEMENT FOR DRAINAGE

CIV - FIXTURES SCHEDULE		
	TYPE	DESCRIPTION
		GRADED STORMWATER PIT
		SEALED STORMWATER PIT
	300W	GRADED STRIP DRAIN

CIV - STANDARD SYMBOLS	
	DESCRIPTION
	ROOF FALL ARROW

CIV - STORMWATER SERVICES		
	TYPE	DESCRIPTION
	STW	STORMWATER
	STW EX	EXISTING STORMWATER

PIPE EXTENSION TO CONNECT SECOND INTO 3RD
NEW KERB INLET PIT 44m FROM FIRST KERB INLET
PIT AT THE FRONTAGE OF NO. 60 PEGLER AVE
GL +18.507
IL +17.219

PIPE EXTENSION TO CONNECT FIRST INTO 2ND
NEW KERB INLET PIT 21m FROM FIRST KERB INLET
PIT AT THE FRONTAGE OF NO. 60 PEGLER AVE
GL +19.364
IL +17.716

STW Ø375mm RCP @1% MIN

NOTE: PIPE EXTENSION TO CONNECT INTO EXISTING KERB
INLET PIT NORTH BOUNDARY NEAR NO. 60 PEGLER
GL 18.102
IL +17.132 (BUILDER TO VERIFY LEVELS PRIOR TO
CONSTRUCTION WORKS)

NOTE: PROPOSED KERB INLET PIT
APPROXIMATELY 55m PIPE EXTENSION

GL +20.20
IL +18.293
BUILDER TO VERIFY LEVELS ON SITE PRIOR TO SITE WORKS COMMENCING AND NOTIFY ENGINEER.

THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC
UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD
RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS

BYPASS OVERFLOW PIPE IL 19.582

STORMFILTER
PER OCEANPROTECT DETAIL
9 TALL (690mm) CARTRIDGES
SEALED CAP AT SURFACE
CAP GL 21.773
TOP LEVEL OF STORMFILTER RL 20.187
IL 18.712

NOTE: BELOW GROUND RWT
MINIMUM VOLUME = 10.5kL TO ACHIEVE WSUD TARGETS
USAGE TO BE INACCORDANCE WITH BASIX REQUIREMENTS.
PROPOSED INTERNAL AREA = 1.6m x 6.0m
PROPOSED DEPTH = 1.2m

GROUND FLOOR DRAINAGE PLAN
Scale: 1 : 150

- ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING.
- THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES. PRIOR TO COMMENCING ANY WORKS ON THE SITE, THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITE STORMWATER SYSTEM CONNECTION INTO COUNCIL'S KERB/DRAINAGE SYSTEM MATCH THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY
- ALL STORMWATER DRAINAGE WORK TO AVOID TREE ROOTS. WHERE NOT POSSIBLE, ALL EXCAVATIONS IN VICINITY OF TREE ROOTS ARE TO BE HAND DUG.
- ALL BASES OF PITS TO BE BENCHMARKED (TO HALF PIPE DEPTH) TO THE INVERT OF THE OUTLET PIPE WITH ALL PIPES CUT FLUSH WITH SIDE OF PIT, TO ALLOW SMOOTH FLOW OF STORMWATER.
- PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATE WHERE IN TRAFFICABLE AREAS.
- PROVIDE 100mm GAP IN BASE OF FENCE FOR EMERGENCY OVERFLOWS.
- PROVIDE SUBSOIL DRAINAGE AND OUTLETS TO ALL ON PODIUM PLANTER BOXES. OUTLET PIPES NOT SHOWN FOR CLARITY OF DOCUMENTATION.
- ALL DOWNPIPES ARE TO BE PIPE CONNECTED INTO THE FORMAL RAINWATER OR STORMWATER LINE UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OTHERWISE.
- ALL PIPES TO BE 100mmØ @ 1% MINIMUM UNLESS NOTED OTHERWISE.
- ALL BASES OF PITS TO BE BENCHMARKED TO THE INVERT OF THE OUTLET PIPE WITH ALL PIPES CUT FLUSH WITH SIDE OF PIT, TO ALLOW SMOOTH FLOW OF STORMWATER.
- PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATES IN TRAFFICABLE AREAS.

PROVIDE SUBSOIL DRAINAGE TO ALL
RETAINING WALLS. PIPES NOT SHOWN
FOR CLARITY OF DOCUMENTATION.

OSD TANK IN HED CONFIGURATION
• MIN VOLUME = 130m³
• GL +21.40
• TWL +20.30 (MIN 300mm FREEBOARD FROM ALL DWELLINGS)
• LOWEST IL +19.34
• HIGHEST IL +19.54
• IL AT INLET FROM PIT 17 = +18.865 OR LOWER IL 19.493
• MAX DEPTH = 0.96m
• AVERAGE DEPTH = 0.86m
• MINIMUM PLAN AREA = 151m²
• PROPOSED INTERNAL PLAN AREA = 179.4 m² (11.5m x 15.6m)
• VOLUME ACHIEVED = 154.28m³ [OK]

OSD CALCULATIONS
• SITE AREA: 0.2603ha
• UPSTREAM CATCHMENT THROUGH SITE: 0HA
• BASIC STORAGE [470 * A]: 122.341m³
• BASIC Q [0.08*A]: 0.021m³/s
• AREA OF SITE TO OSD: 0.2212ha
• PERCENTAGE OF SITE DRAINED: 85%
• STORAGE PER HA OF CONTRIBUTING AREA: 553.1m³/ha
• ADJUSTED PSD FROM FIG 5.1: 64.6L/s/ha
• PSD: 14.29 L/s
• MAX. HEAD TO ORIFICE [TWL - ORIFICE CL]: 1.1m
• ORIFICE DIAMETER: 0.080m
• MAX. Q: 14.29 L/s
• HEAD FOR HED [WEIR RL - ORIFICE CL]: 1m
• HED FLOW: 13.63 L/s
• APPROX. MEAN DISCHARGE Q: 13.96L/S
• AVE. Q PER HA: 63.1L/s/ha
• FINAL SSR PER HA: 562.7m³/ha
• FINAL SSR: 124.5m³

OCEANGUARDS

ALL OCEANGUARDS IN SURFACE FLOW CONFIGURATION

REFER STANDARD DETAIL

BAG DEPTH = 170mm
TOTAL DEPTH = 270mm

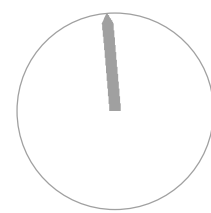
PLAN ID	MAXIMUM PIT PLAN DIMENSIONS
S	450mm x 450mm
M	600mm x 600mm
L	900mm x 900mm
XL	1200mm x 1200mm

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PROPOSED DEVELOPMENT

66-70 Pegler Avenue, South Granville, NSW

Brewster Murray



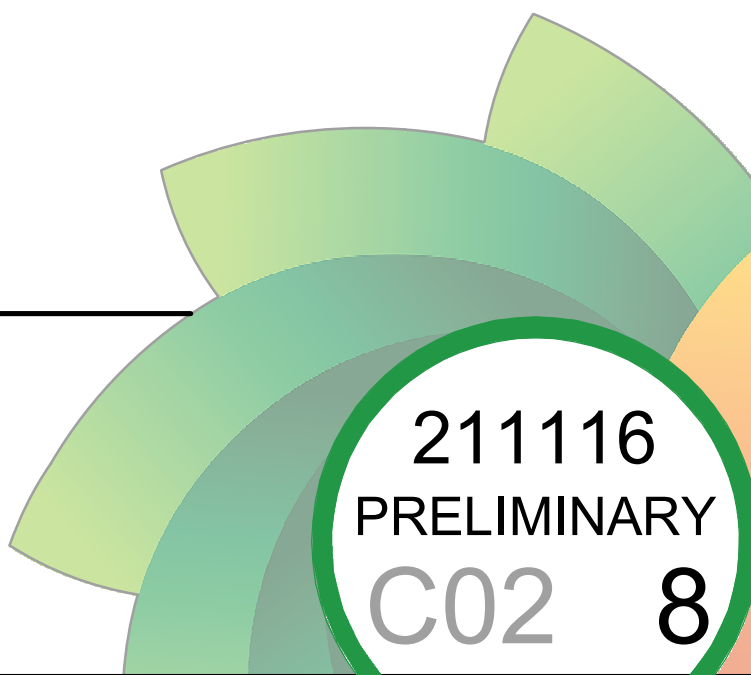
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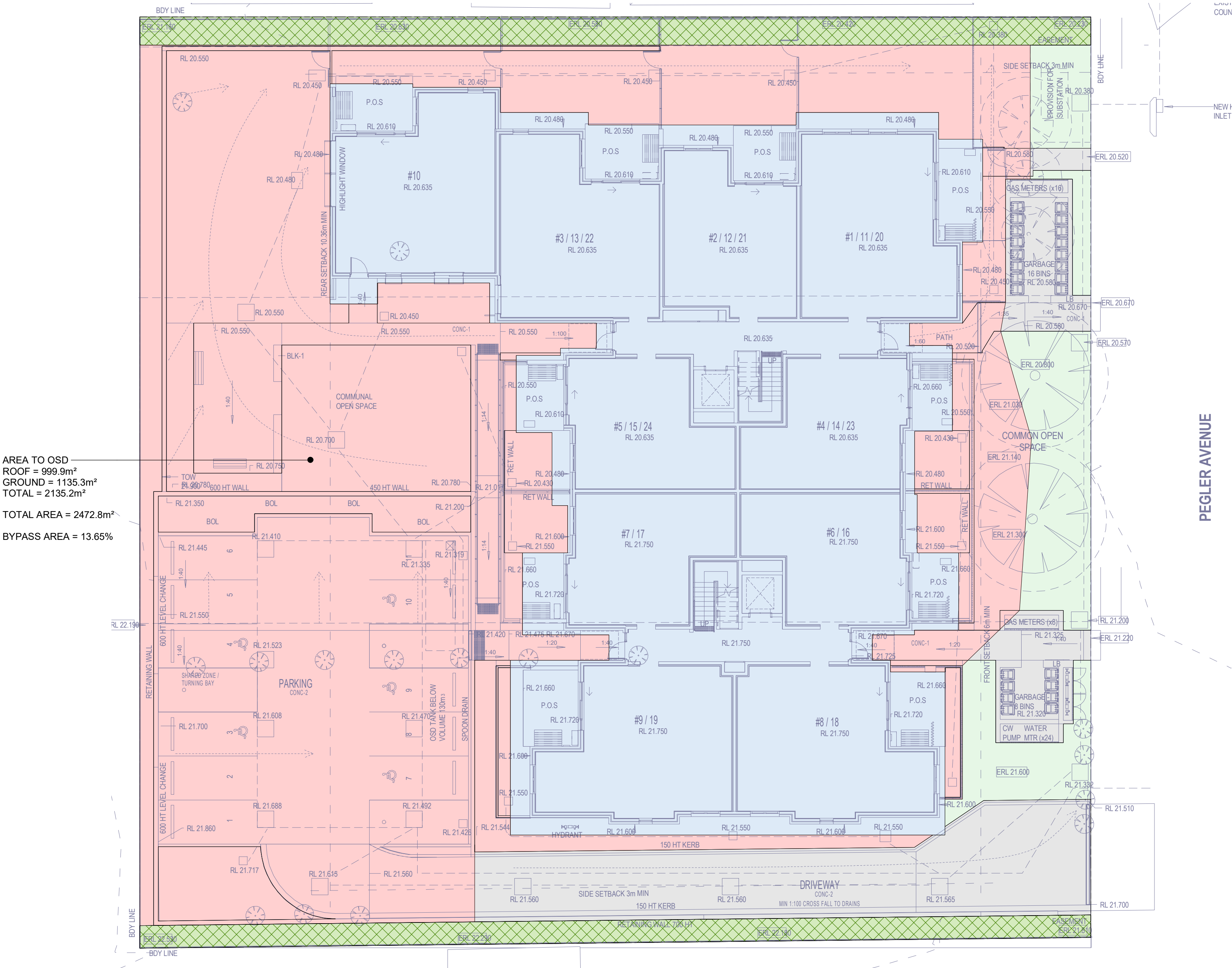
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SCALE: As indicated

CIVIL DESIGN

GROUND FLOOR DRAINAGE PLAN





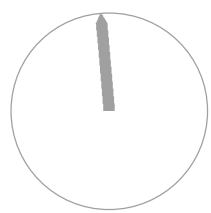
AREA PLAN
Scale: 1 : 150

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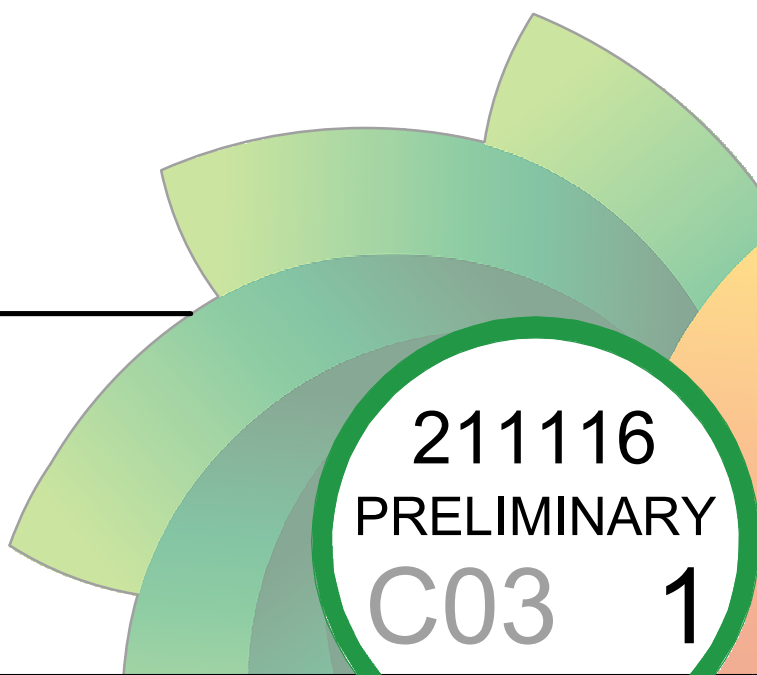
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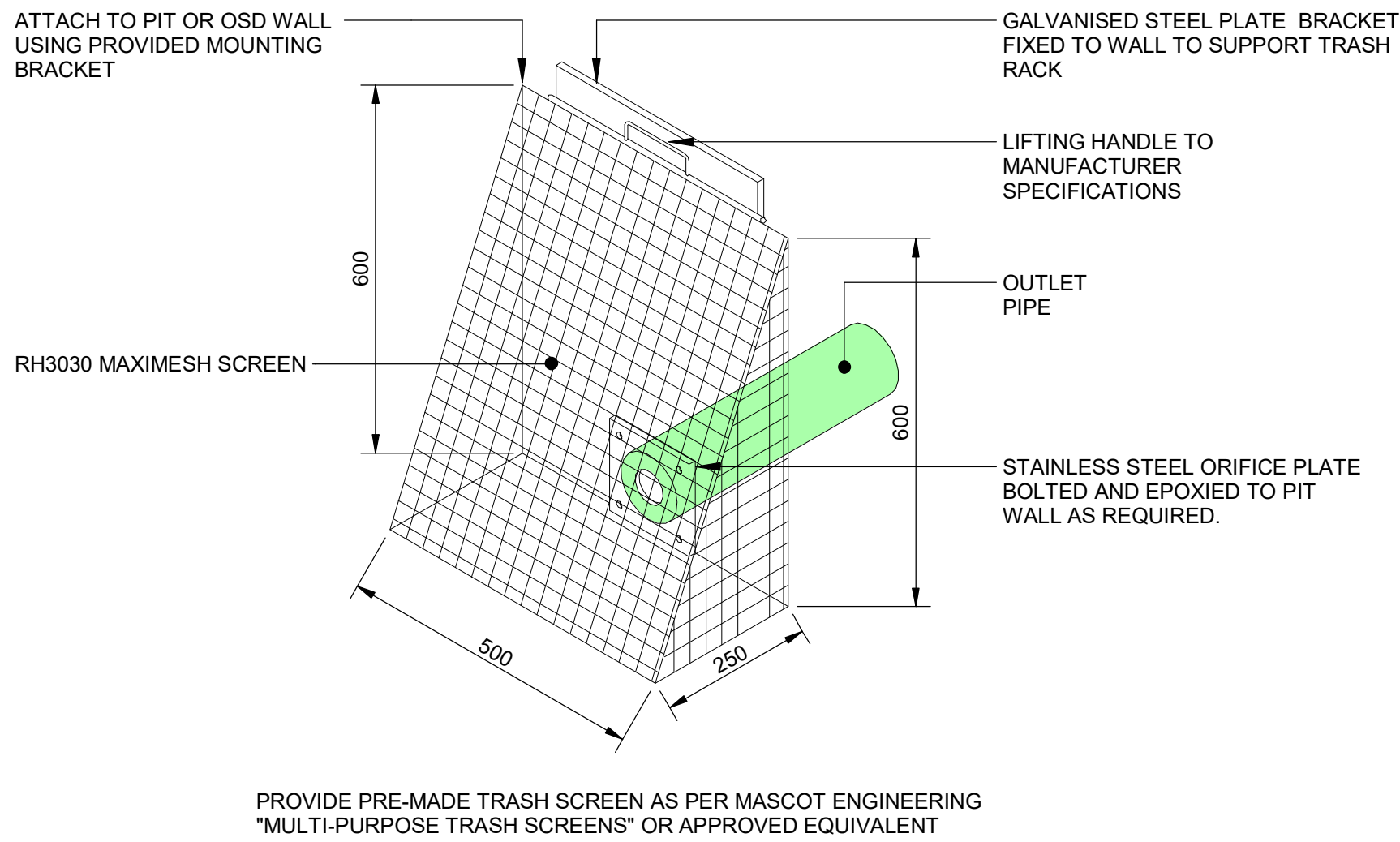
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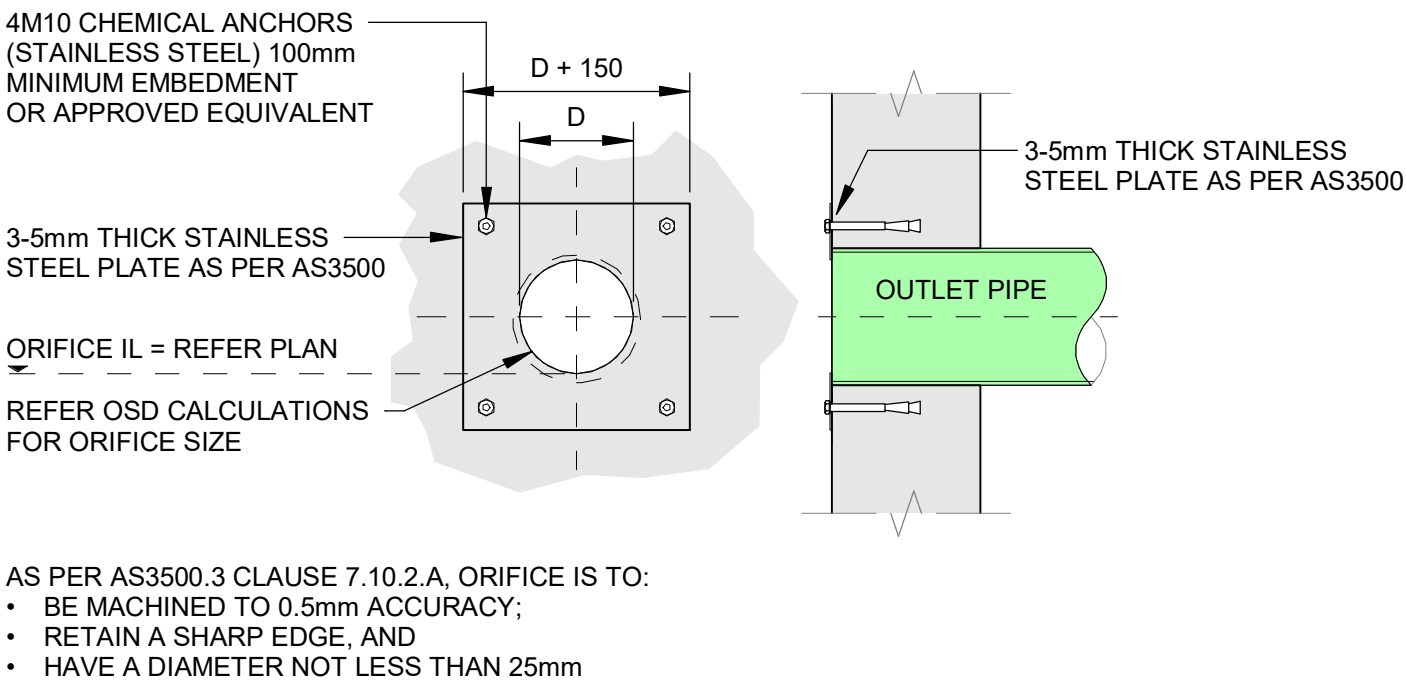
AREA PLAN



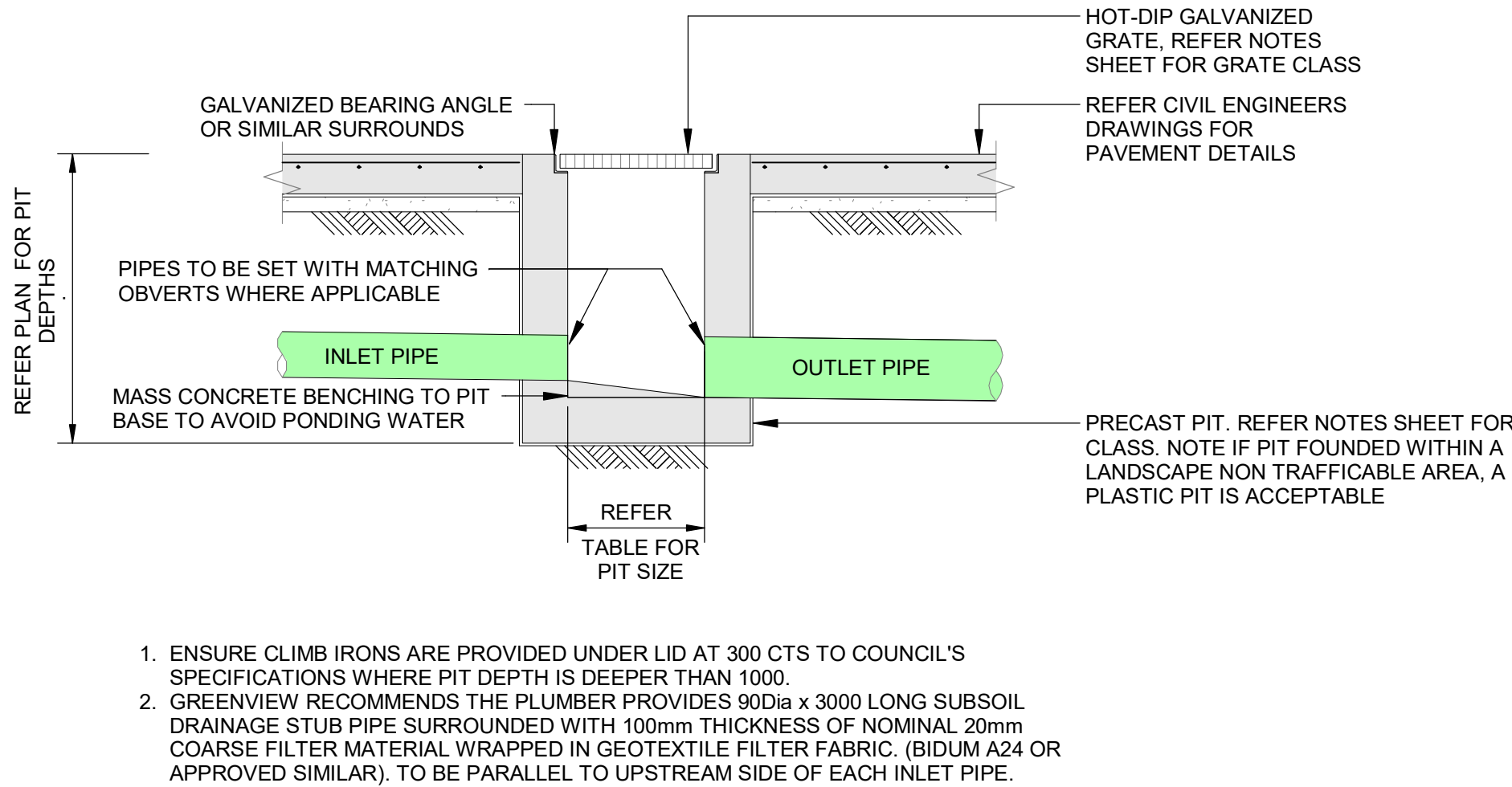
18 December 2023



TYPICAL TRASH SCREEN DETAIL
Scale: 1 : 10

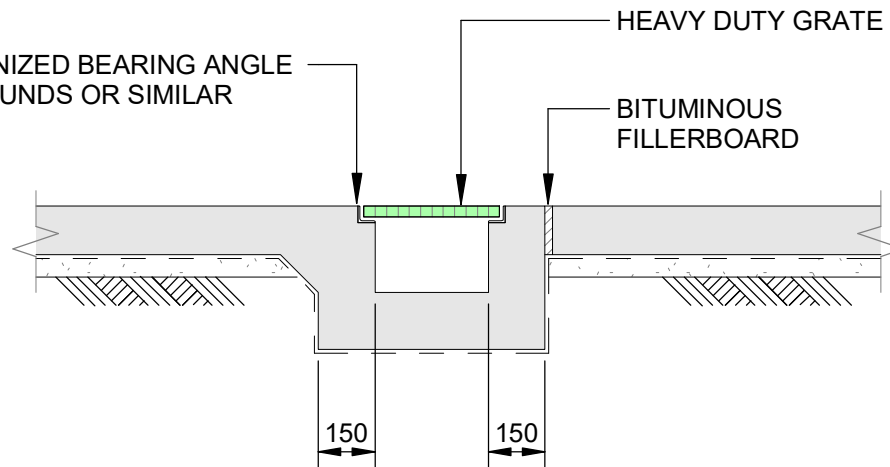


TYPICAL ORIFICE PLATE DETAIL
Scale: 1 : 10



PIT SIZE	
DEPTH	PIT DIMENSION
0 - 600	450 mm x 450 mm
600 - 900	600 mm x 600 mm
900 - 1200	600 mm x 900 mm
1200 +	900 mm x 900 mm

TYPICAL CONCRETE INLET PIT - CONCRETE SURFACE
Scale: 1 : 20



TYPICAL GRATED DRAIN DETAIL
Scale: 1 : 20

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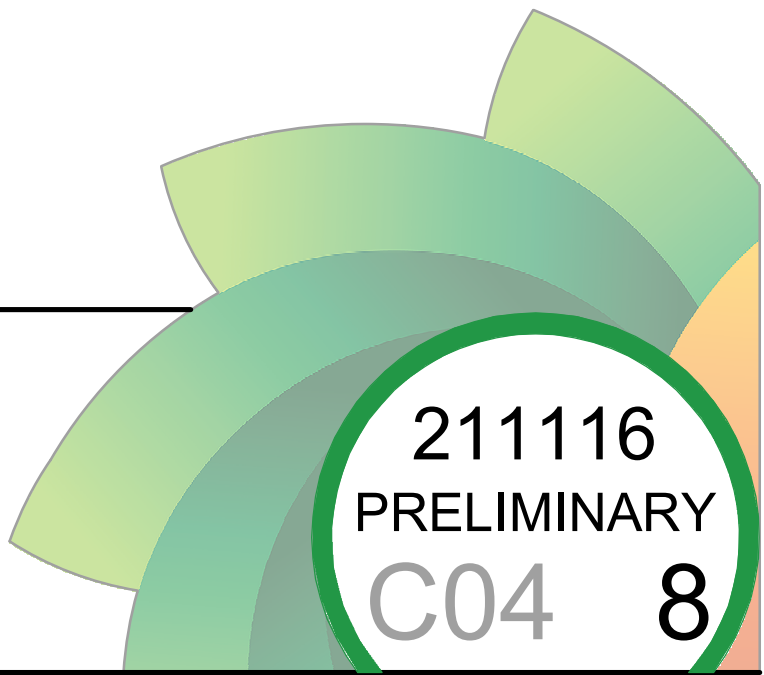
Brewster Murray



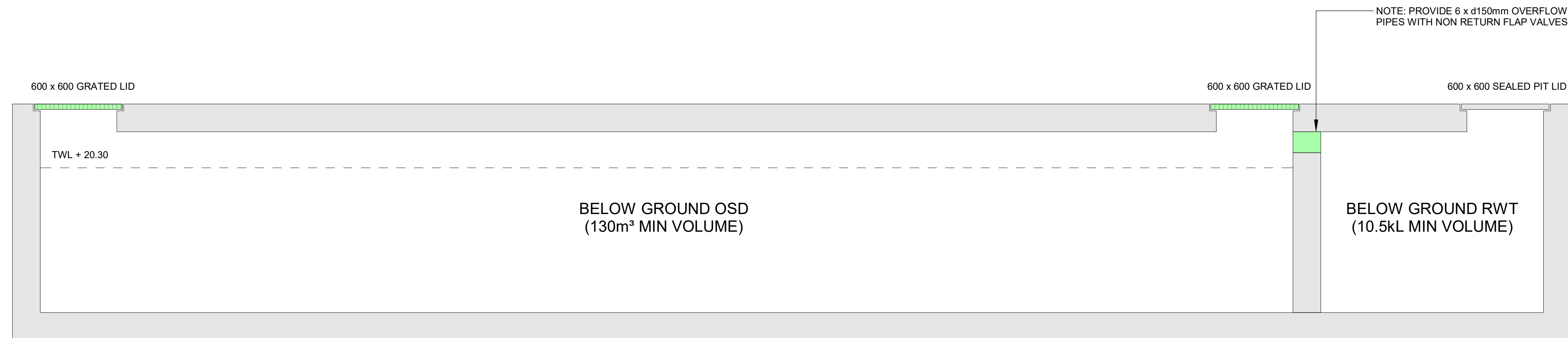
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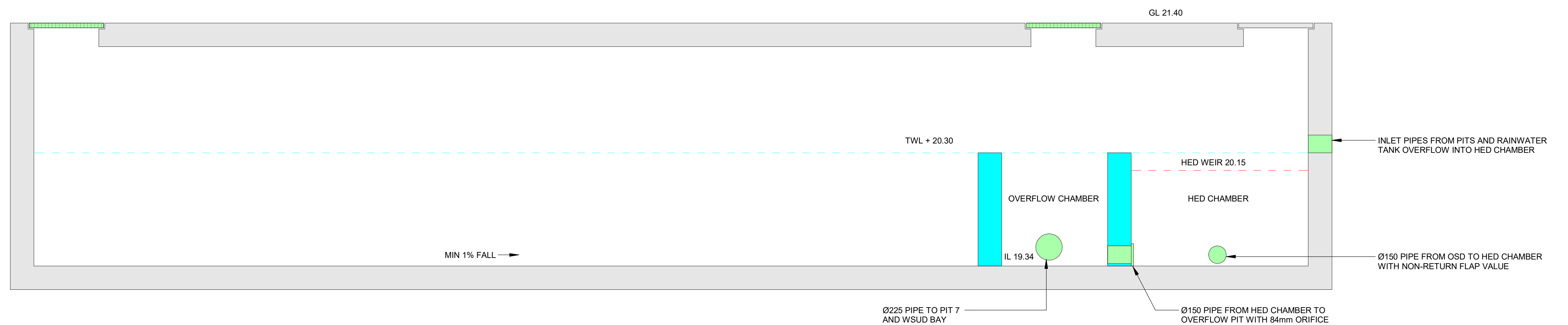
SITE STORMWATER DETAILS SHEET 1



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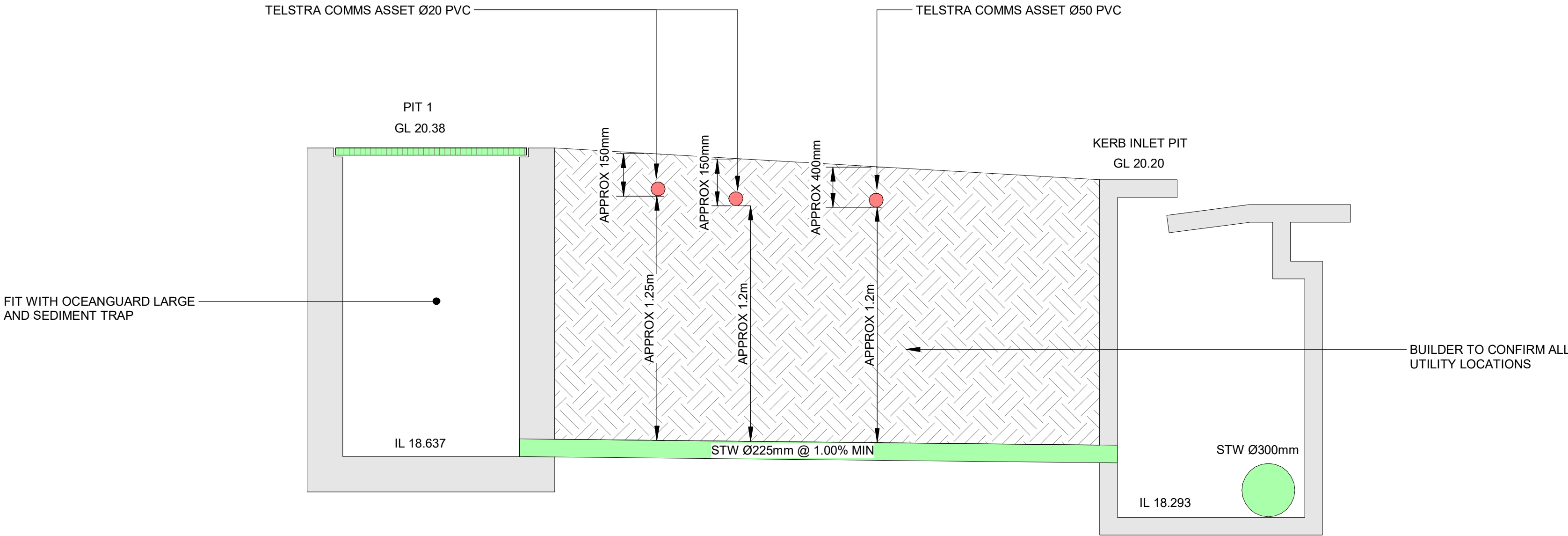


1 OSD SECTION 1
C02 Scale: 1 : 20



2 OSD SECTION 2
C02 Scale: 1 : 20

[illegible]



EXISTING UTILITIES LOCATED AS PER SURVEY COMPLETED BY DURKIN
REPORT NO. UTILD22875
DATED 9 JUNE 2023

1 LONG SECTION
Scale: 1 : 20

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REV.	DATE	BY	DESCRIPTION
4	14.09.2023	JPS	PRELIMINARY ISSUE
3	28.07.2023	JPS	ISSUED FOR APPROVAL
2	29.06.2023	JPS	ISSUED FOR APPROVAL
1	22.06.2023	JPS	PRELIMINARY ISSUE

PROPOSED DEVELOPMENT
66-70 Pegler Avenue, South Granville, NSW

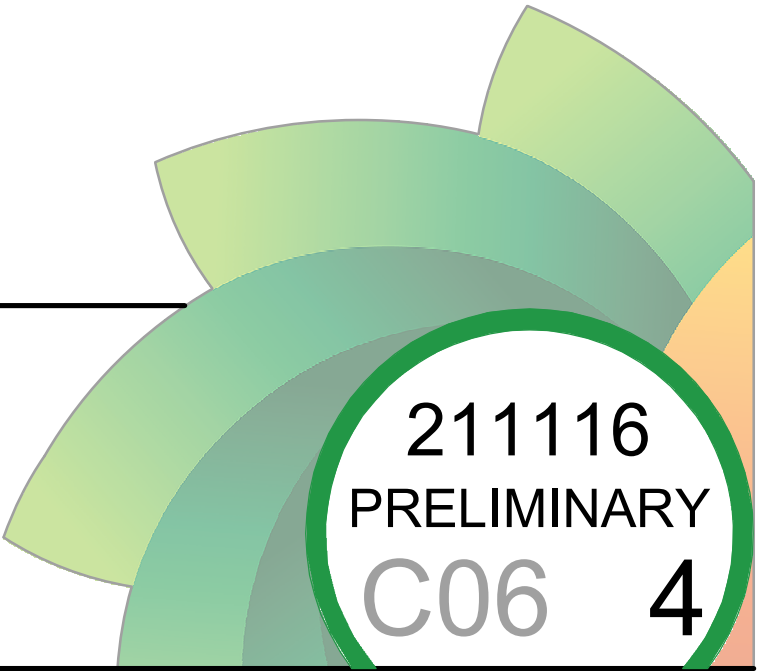
Brewster Murray

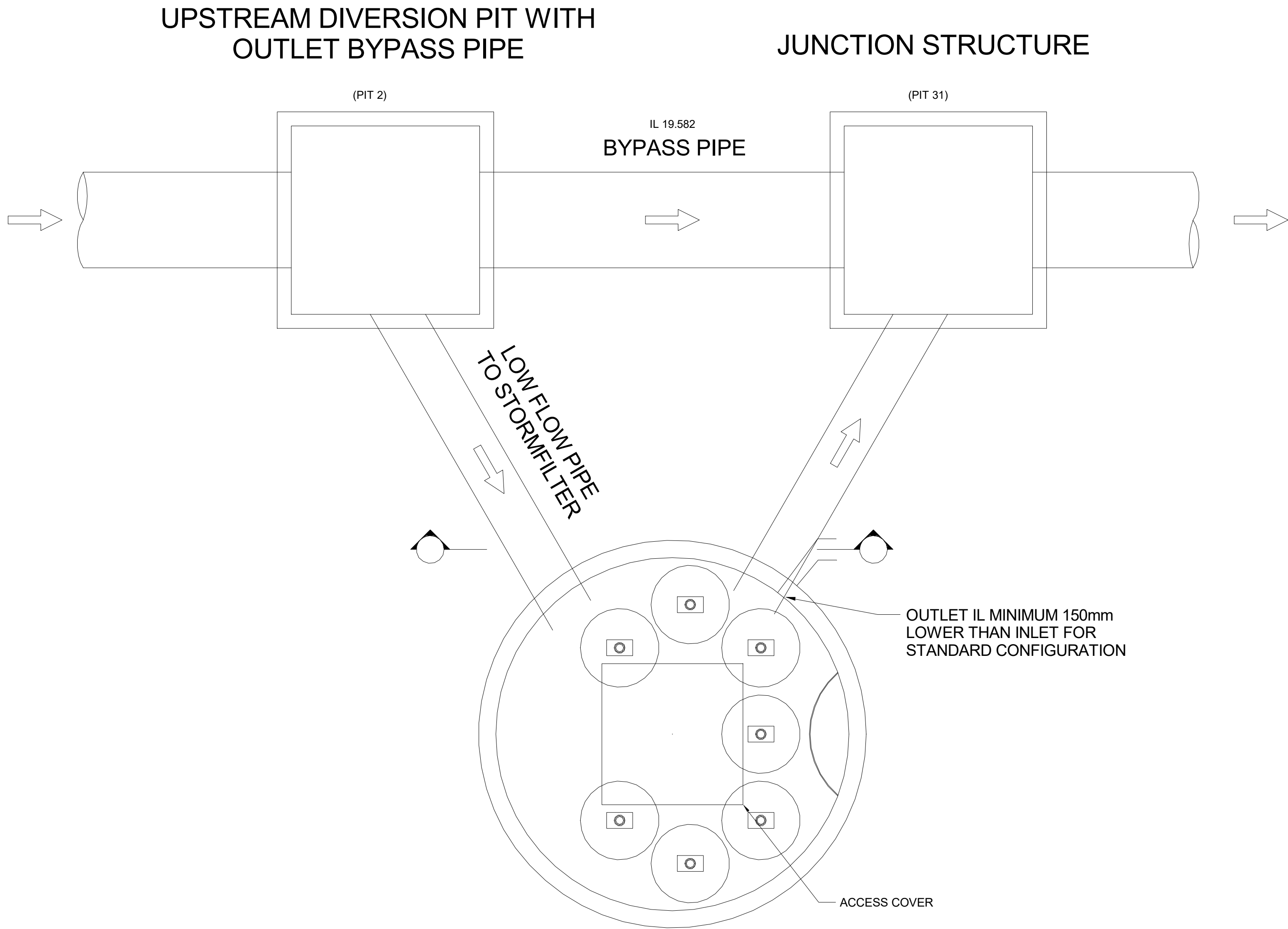


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SCALE: 1 : 20

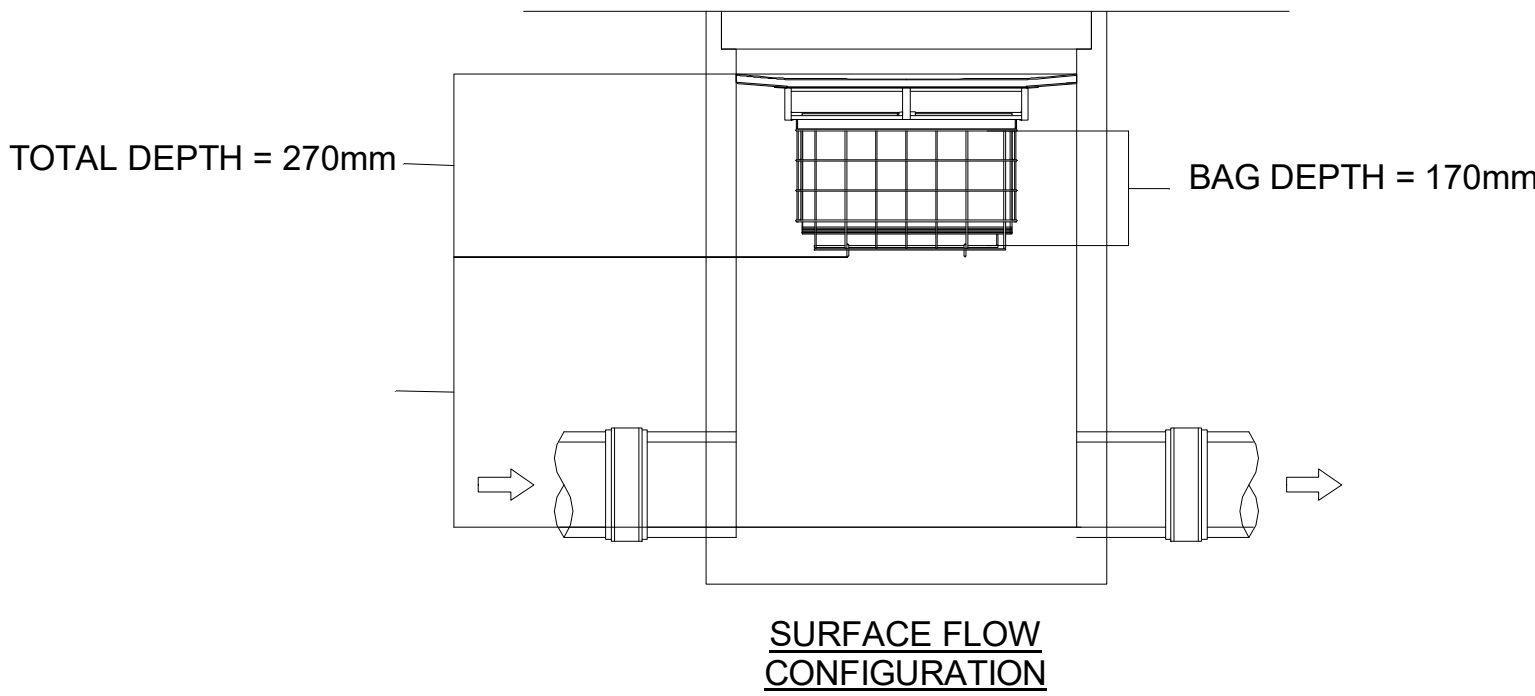
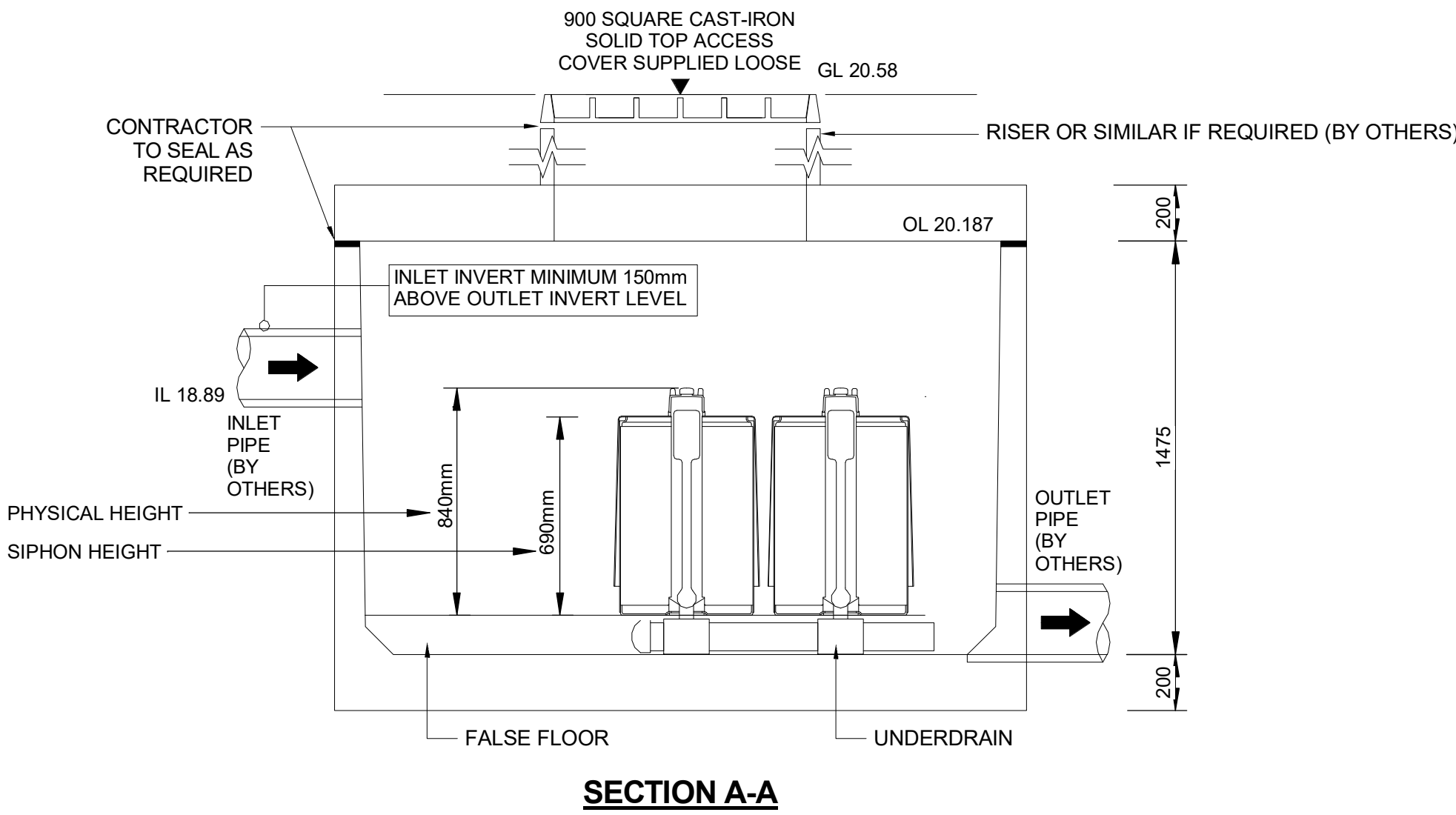
CIVIL DESIGN

SITE STORMWATER DETAILS SHEET 3





PLAN OF TYPICAL OFFLINE LAYOUT



OCEANPROTECT DETAILS
Scale: 1 : 20

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PROPOSED DEVELOPMENT

66-70 Pegler Avenue, South Granville, NSW

Brewster Murray



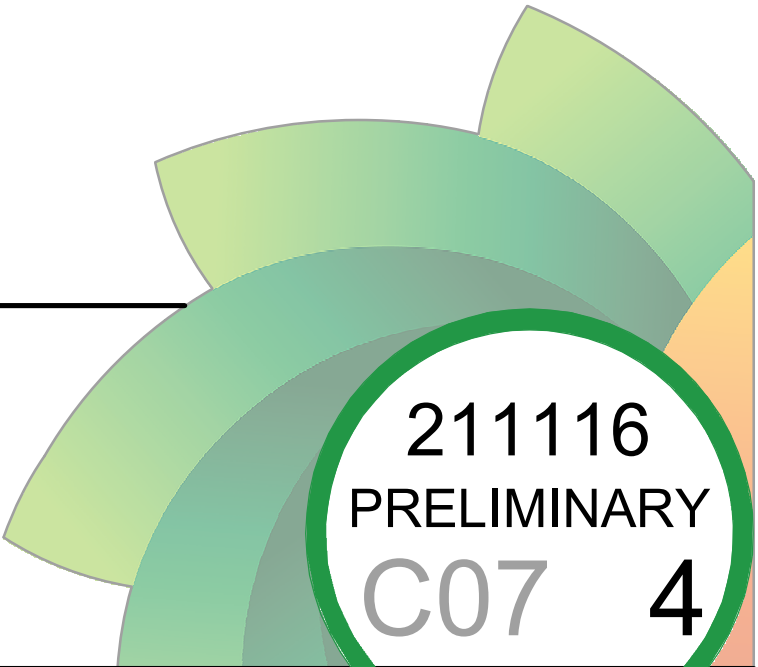
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CIVIL DESIGN

SITE STORMWATER DETAILS SHEET 4






Heck.


18 December 2023



GENERAL LEGEND

The diagram illustrates a cross-section of a roof assembly with the following layers from top to bottom:

- LANDSCAPE**: The top layer, shown with green grass and small green arrows indicating downward drainage.
- BYPASS LANDSCAPE**: The second layer, shown with a green arrow pointing down and a green arrow pointing up, indicating a bypass path.
- HARDSTAND**: The third layer, shown as a solid grey block.
- ROOF AREA TO DRAIN**: The fourth layer, shown with blue diagonal hatching.
- OSD**: The fifth layer, shown with green diagonal hatching.
- EASEMENT FOR DRAINAGE**: The bottom layer, shown with green diagonal hatching and a green arrow pointing down.

CIV - FIXTURES SCHEDULE		
	TYPE	DESCRIPTION
		GRATED STORMWATER PIT
		SEALED STORMWATER PIT
	300W	GRATED STRIP DRAIN

CIV - STANDARD SYMBOLS	
	DESCRIPTION
	ROOF FALL ARROW

CIV - STORMWATER SERVICES		
	TYPE	DESCRIPTION
	STW	STORMWATER
	STW EX	EXISTING STORMWATER



ROAD FRONTAGE PLAN
Scale: 1 : 200

Scale: 1 : 200

EXISTING UTILITIES LOCATED AS PER SURVEY COMPLETED BY DURKIN
REPORT NO. UTILD22875
DATED 9 JUNE 2023

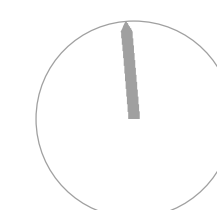
NOTE: PIPE EXTENSION TO CONNECT INTO EXISTING KERE
INLET PIT NORTH BOUNDARY NEAR NO. 60 PEGLER
GL 18.102
IL +17.132 (BUILDER TO VERIFY LEVELS PRIOR TO
CONSTRUCTION WORKS)

NOTE: APPROX LOCATION OF PROPOSED NEW KERB INLET PIT 3
GL +18.507
IL +17.219
BUILDER TO VERIFY LEVELS ON SITE PRIOR TO SITE WORKS COMMENCING AND NOTIFY ENGINEER.

— PROPOSED STW Ø300mm RCP @1% MIN

— NOTE: APPROX LOCATION OF PROPOSED NEW KERB INLET PIT 2
GL +19.364
IL +17.716
BUILDER TO VERIFY LEVELS ON SITE PRIOR TO SITE WORKS COMMENCING AND NOTIFY ENGINEER.

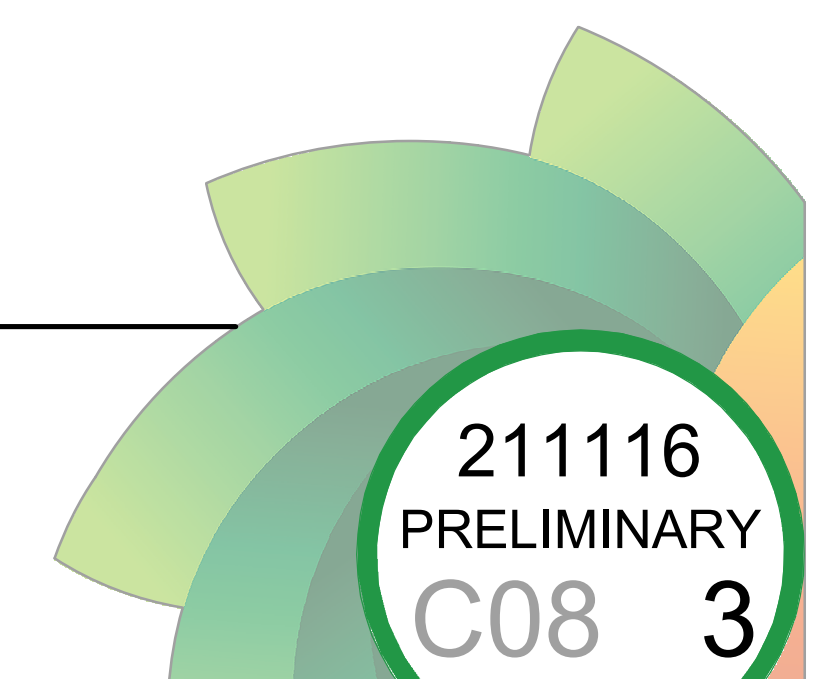
NOTE: PROPOSED NEW KERB INLET PIT 1
APPROXIMATELY 55m PIPE EXTENSION
GL +20.20
IL +18.293
BUILDER TO VERIFY LEVELS ON SITE PRIOR TO SITE WORKS COMMENCING AND NOTIFY ENGINEER.

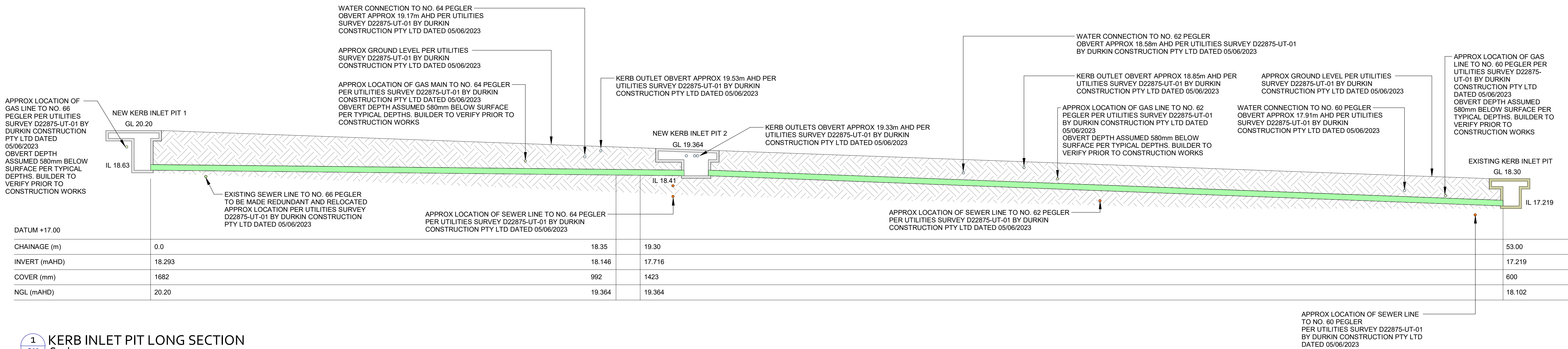
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SIZE: A1	SCALE: As indicated
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CIVIL DESIGN

ROAD FRONTAGE PLAN





1 KERB INLET PIT LONG SECTION
Scale: 1 : 75

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PROPOSED DEVELOPMENT

66-70 Pegler Avenue, South Granville, NSW

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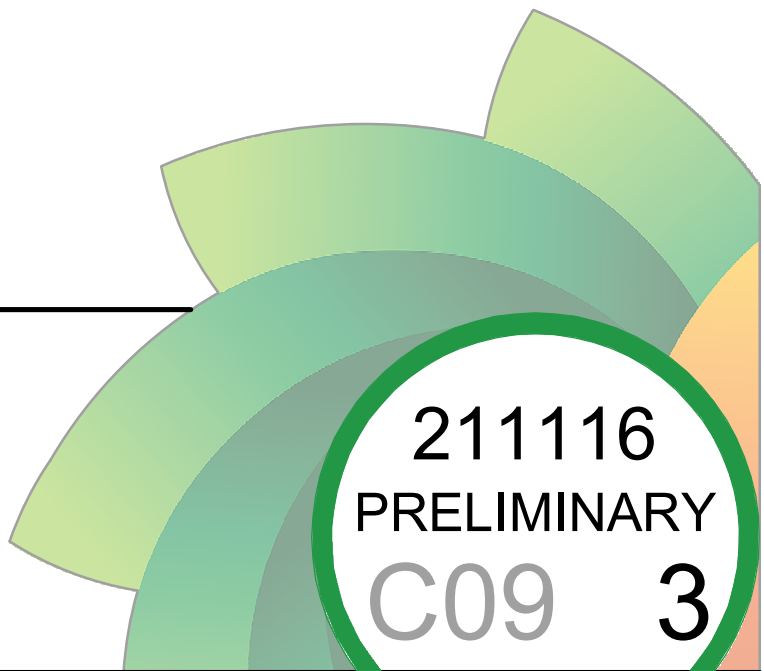
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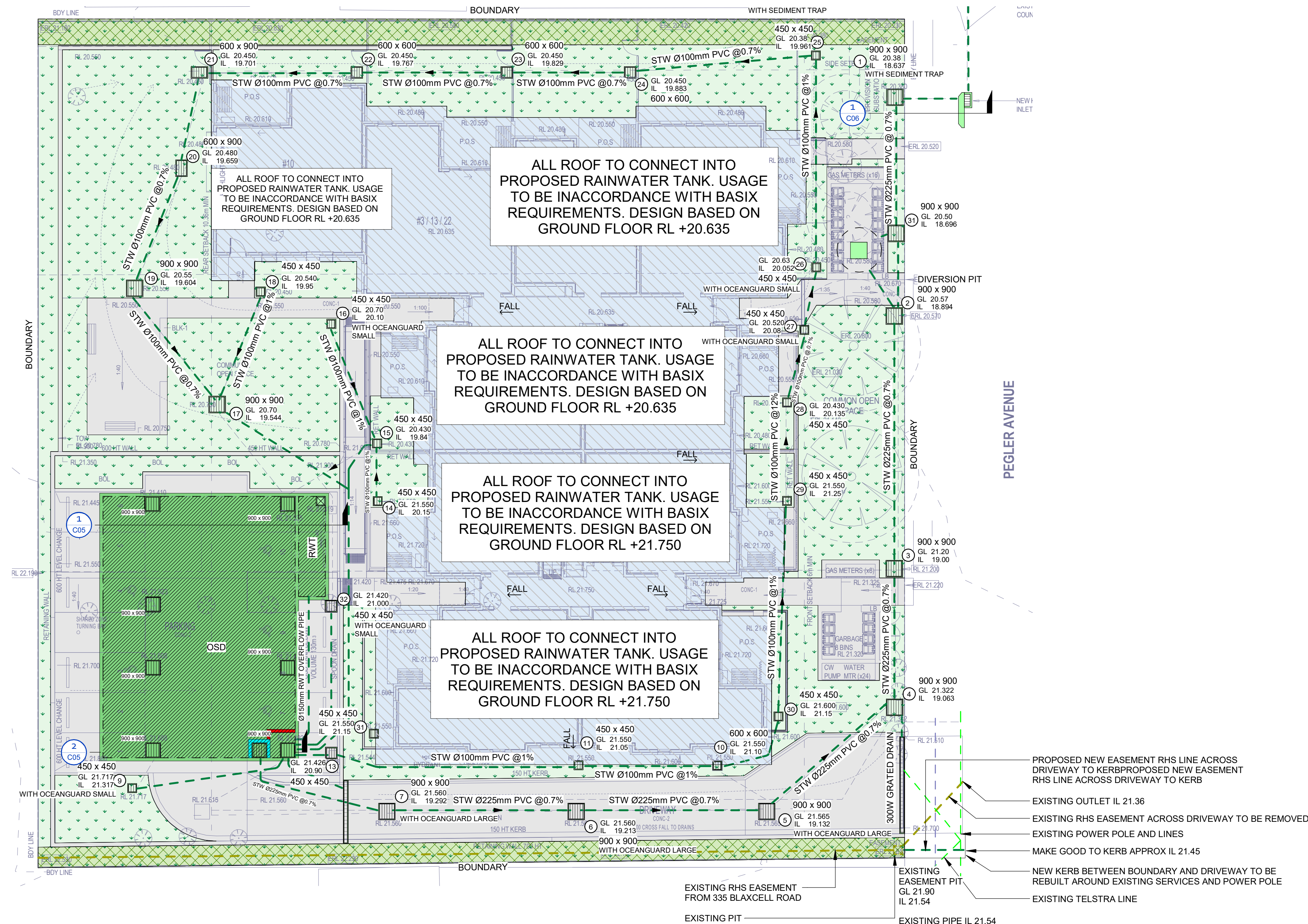
SIZE: A1

SCALE: 1 : 75

CIVIL DESIGN

LONG SECTION SHEET





GENERAL LEGEND

LANDSCAPE
BYPASS LANDSCAPE
HARDSTAND
ROOF AREA TO DRAIN
OSD
EASEMENT FOR DRAINAGE

CIV - FIXTURES SCHEDULE

	TYPE	DESCRIPTION
		GRADED STORMWATER PIT
		SEALED STORMWATER PIT
	300W	GRADED STRIP DRAIN

CIV - STANDARD SYMBOLS

	DESCRIPTION
	ROOF FALL ARROW

CIV - STORMWATER SERVICES

	TYPE	DESCRIPTION
	STW	STORMWATER
	STW EX	EXISTING STORMWATER

EASEMENT OPTION 2 - EASEMENT FRONTAGE KERB DISCHARGE
Scale: 1:150

1. ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING.
2. THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE. FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.
3. PRIOR TO COMMENCING ANY WORKS ON THE SITE, THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITE STORMWATER SYSTEM CONNECTION INTO COUNCIL'S KERB/DRAINAGE SYSTEM MATCH THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
4. ALL STORMWATER DRAINAGE WORK TO AVOID TREE ROOTS. WHERE NOT POSSIBLE, ALL EXCAVATIONS IN VICINITY OF TREE ROOTS ARE TO BE HAND DUG.
5. ALL BASES OF PITS TO BE BENCHED (TO HALF PIPE DEPTH) TO THE INVERT OF THE OUTLET PIPE WITH ALL PIPES CUT FLUSH WITH SIDE OF PIT, TO ALLOW SMOOTH FLOW OF STORMWATER.
6. PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATE WHERE IN TRAFFICABLE AREAS.
7. PROVIDE 100mm GAP IN BASE OF FENCE FOR EMERGENCY OVERFLOWS.
8. PROVIDE SUBSOIL DRAINAGE AND OUTLETS TO ALL ON PODIUM PLANTER BOXES. OUTLET PIPES NOT SHOWN FOR CLARITY OF DOCUMENTATION.
9. ALL DOWNPIPES ARE TO BE PIPE CONNECTED INTO THE FORMAL RAINWATER OR STORMWATER LINE UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OTHERWISE.
10. ALL PIPES TO BE 100mmØ @ 1% MINIMUM UNLESS NOTED OTHERWISE.
11. ALL BASES OF PITS TO BE BENCHED TO THE INVERT OF THE OUTLET PIPE WITH ALL PIPES CUT FLUSH WITH SIDE OF PIT, TO ALLOW SMOOTH FLOW OF STORMWATER.
12. PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATES IN TRAFFICABLE AREAS.

- PROPOSED NEW EASEMENT RHS LINE ACROSS DRIVEWAY TO KERB
- EXISTING OUTLET IL 21.36
- EXISTING RHS EASEMENT ACROSS DRIVEWAY TO BE REMOVED
- EXISTING POWER POLE AND LINES
- MAKE GOOD TO KERB APPROX IL 21.45
- NEW KERB BETWEEN BOUNDARY AND DRIVEWAY TO BE REBUILT AROUND EXISTING SERVICES AND POWER POLE
- EXISTING TELSTRA LINE

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PROPOSED DEVELOPMENT

66-70 Pegler Avenue, South Granville, NSW

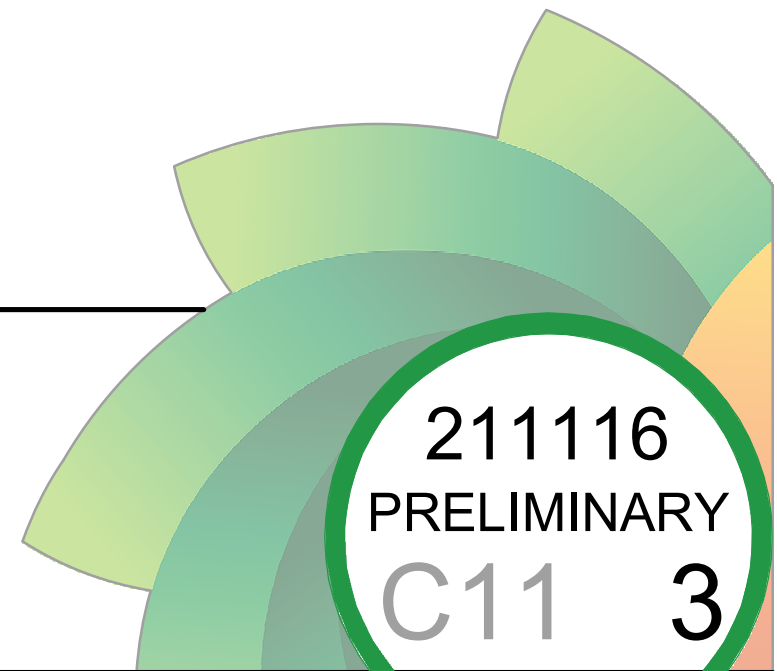
Brewster Murray



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CIVIL DESIGN

EASEMENT OPTION 2 - EASEMENT FRONTAGE KERB DISCHARGE



CIVIL DESIGN

FOR PROPOSED DEVELOPMENT AT

66-70 Pegler Avenue, South Granville, NSW

GENERAL INSTRUCTIONS

1. THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.
2. CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE GUIDELINES OF "MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION", DEPT OF HOUSING, 1998 (BLUE BOOK).
3. ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN REDUCING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.
4. THESE PLANS SHALL BE READ IN CONJUNCTION WITH OTHER RELEVANT CONSULTANTS' PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONSENT AND CONSTRUCTION CERTIFICATE REQUIREMENTS, WHERE DISCREPANCIES ARE FOUND NOTIFY ENGINEER IMMEDIATELY FOR VERIFICATIONS.
5. WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES.

LAND DISTURBANCE INSTRUCTIONS

1. DISTURBANCE TO BE NO FURTHER THAN 5 (PREFERABLY 2) METRES FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON APPROVED PLANS. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
2. ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METRES THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON-SITE. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
3. ENTRY TO LANDS NOT REQUIRED FOR CONSTRUCTION OR ACCESS IS PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.
4. WORKS ARE TO PROCEED IN THE FOLLOWING SEQUENCE.
 - A. INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
 - B. CONSTRUCT THE STABILISED SITE ACCESS.
 - C. CONSTRUCT DIVERSION DRAINS AS REQUIRED.
 - D. INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS.
 - E. INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON-SITE DROP INLET PITS.
 - F. CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON THE PLAN.
 - G. UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
 - H. GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
 - I. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
5. ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING.
6. ON COMPLETION OF MAJOR WORKS LEAVE DISTURBED LANDS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL LATER.

SITE MAINTENANCE INSTRUCTIONS

1. THE SITE SUPERINTENDENT WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
 - A. ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS.
 - B. REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS.
 - C. REMOVE TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURE HAS BEEN EXCEEDED.
 - D. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND NOT TO INITIATE UPGRADING OR REPAIR AS NECESSARY.
 - E. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS ON THE WORK-SITE OR ELSEWHERE IN THE CATCHMENT.
 - F. MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.

THE SITE SUPERINTENDENT WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:

- A. THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS.
- B. THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS.
- C. THE CONDITION AND ANY NEED TO IRRIGATE.
- D. THE NEED FOR DUST PREVENTION STRATEGIES.
- E. ANY REMEDIAL WORKS TO BE UNDERTAKEN.

THE LOGBOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS.

SAFETY IN DESIGN NOTES

1. THERE ARE INHERENT RISKS WITH CONSTRUCTING, MAINTAINING, OPERATING, DEMOLISHING, DISMANTLING AND DISPOSING. WE NOTE THIS DESIGN IS TYPICAL OF SIMILAR DESIGNS. AS FAR AS IS REASONABLY PRACTICABLE RISKS HAVE BEEN ELIMINATED OR MINIMISED THROUGH THE DESIGN PROCESS. HAZARD CONTROLS MUST STILL BE IMPLEMENTED BY THE CONTRACTOR, OWNER OR OPERATOR TO ENSURE THE SAFETY OF WORKERS. GREENVIEW ASSESSMENT DID NOT IDENTIFY ANY UNIQUE RISKS ASSOCIATED WITH THE DESIGN.

SEDIMENT CONTROL INSTRUCTIONS

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE SUPERINTENDENT TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
3. SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
4. STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METRES OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
5. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE.
6. TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
7. ACCESS TO SITES SHOULD BE STABILISED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

SOIL EROSION CONTROL INSTRUCTIONS

1. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTED, THAN:
 - 2(H):1(V) WHERE SLOPE LENGTH LESS THAN 12 METRES.
 - 2.5(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 16 METRES.
 - 3(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 20 METRES.
 - 4(H):1(V) WHERE SLOPE LENGTH GREATER THAN 20 METRES.
2. ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 120 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
3. WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FLOW VELOCITIES ARE TO BE LIMITED TO THOSE SHOWN IN TABLE 5-1 OF "MANAGING URBAN STORMWATER-SOILS AND CONSTRUCTION", DEPT OF HOUSING 1998 (BLUE BOOK). FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
4. STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.1 (60% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
5. ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
6. FOR AREAS OF SHEET FLOW USE THE FOLLOWING GROUND COVER PLANT SPECIES FOR TEMPORARY COVER: JAPANESE MILLET 20 KG/HA AND OATS 20 KG/HA.
7. PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.
8. REVEGETATION SHOULD BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. NATURAL SURFACE SOILS SHOULD BE REPLACED AND NON-PERSISTENT ANNUAL COVER CROPS SHOULD BE USED.

WASTE CONTROL INSTRUCTIONS

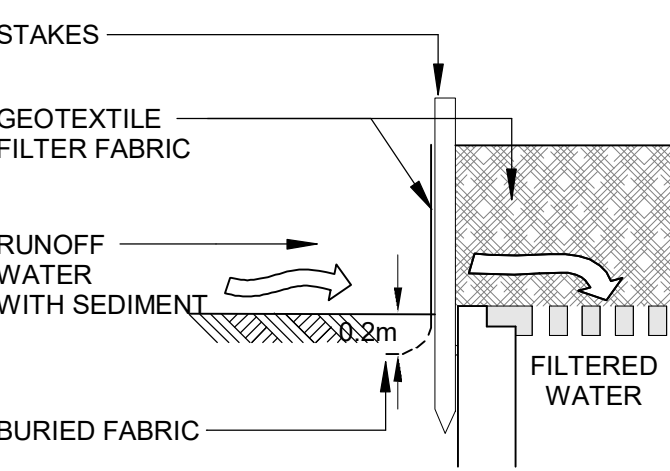
1. ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.
2. ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOOD PRONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
3. ALL SITE STAFF AND SUB-CONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
4. ANY DE-WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
5. PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.

PROCEDURE FOR DE-WATERING

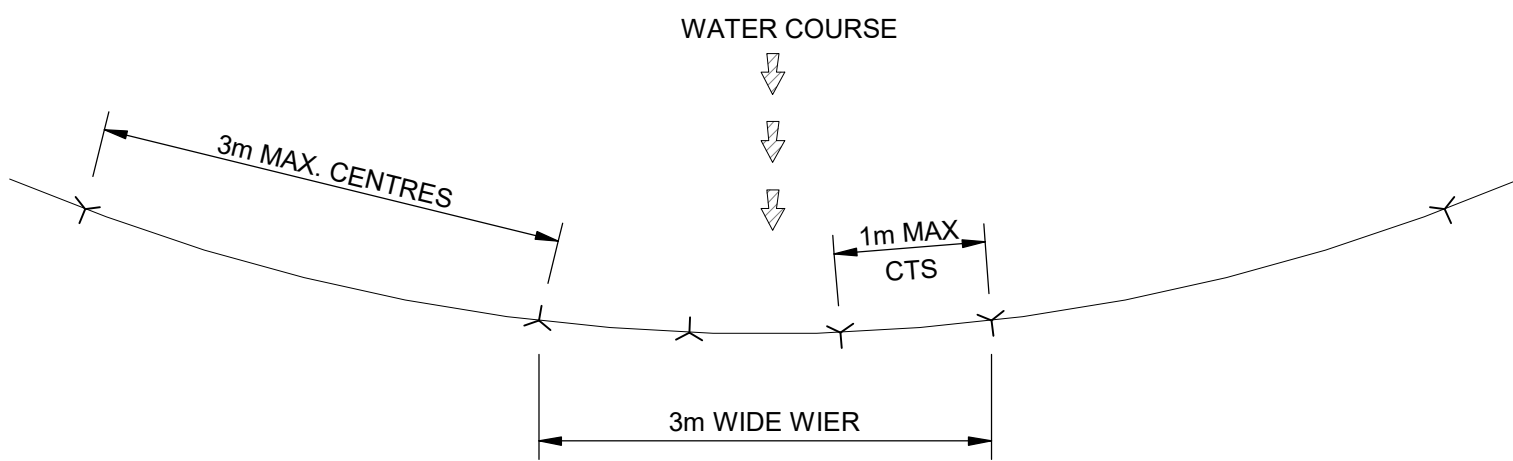
1. ENSURE PERMISSION FOR DE-WATERING IS RECEIVED FROM AUTHORITIES BEFORE PUMPING OUT.
2. AN ON-SITE TREATMENT PROCESS DISCHARGING TO THE STORMWATER SYSTEM WILL BE IMPLEMENTED. ALL SITE WATERS DURING CONSTRUCTION WILL BE CONTAINED ON SITE AND RELEASED ONLY WHEN pH IS BETWEEN 8.5 & 6.5, SUSPENDED SOLIDS ARE LESS THAN 50mg/L, TURBIDITY LESS THAN 100 NTUS, OIL AND GREASE LESS THAN 10mg/L AND BIOCHEMICAL OXYGEN DEMAND (BOD5) LESS THAN 30mg/L (FOR STORMS LESS THAN 1 IN 5 YEAR EVENTS).
3. METHODS OF SAMPLING AND ANALYSIS OF WATER QUALITY WILL BE IN ACCORDANCE WITH THE APPLICABLE METHOD LISTED IN THE EPA PUBLISHED APPROVED METHODS FOR THE SAMPLING ANALYSIS OF WATER POLLUTANTS IN NEW SOUTH WALES.
4. WHERE LABORATORY ANALYSIS IS REQUIRED AS INDICATED BY IN-SITU TESTING, APPROPRIATE SAMPLE BOTTLES AND PRESERVATIVES WILL BE USED AND GUIDANCE FOR THE SAMPLING METHOD OBTAINED FROM APPLICABLE PARTS OF ASS667.1 AND ASS667.5. ANALYSIS WILL BE UNDERTAKEN WHERE PRACTICAL BY A NATA REGISTERED LABORATORY CERTIFIED TO PERFORM THE APPLICABLE ANALYSIS.
5. AS EXCAVATION TO TOP SOIL PROGRESSES, ANY WATER COLLECTED AT THE BOTTOM OF EXCAVATIONS WILL BE DIVERTED TO A TEMPORARY SEDIMENTATION BASIN OR SETTLEMENT TANK. IF THE WATER CONTAINS ONLY SEDIMENTS, IT WILL BE FILTERED AND PUMPED TO STORMWATER. BEFORE THIS CAN HAPPEN IT MUST CONTAIN LESS THAN 50mg/L TOTAL SUSPENDED SOLIDS.
6. POLLUTED WATER MUST NOT ENTER THE STORMWATER SYSTEM. IN SOME CIRCUMSTANCES, A LIQUID WASTE COMPANY MAY BE REQUIRED TO COLLECT CONTAMINATED WATER FOR DISPOSAL AT A LICENSED TREATMENT FACILITY.

THE BUILDER AND EXCAVATION CONTRACTOR ARE TO ENSURE ANY WATER DISCHARGED INTO COUNCIL STORMWATER SYSTEM FROM THE EXCAVATED PORTIONS OF THE SITE COMPLY WITH THE RELEVANT ENVIRONMENTAL CRITERIA AND APPROPRIATE CONTROL METHODS SHALL BE ADOPTED. THE PROPOSED CONTROL METHODS ARE STRICTLY TO COMPLY WITH THE ANZECC 2000 GUIDELINES.

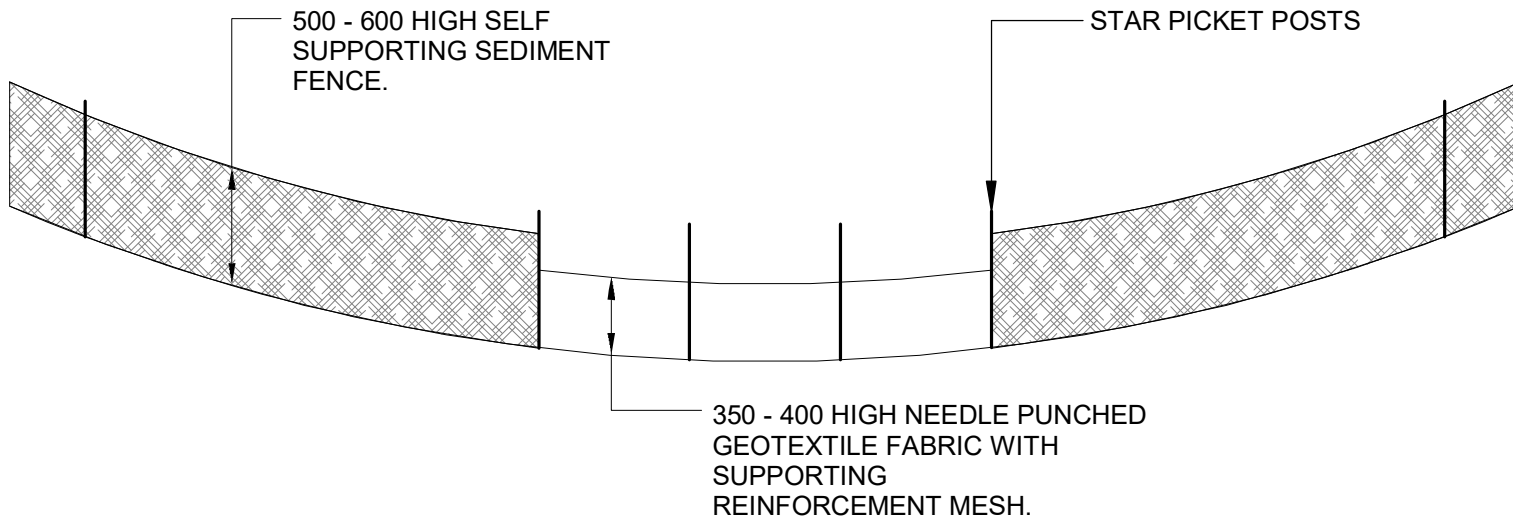
WHERE WORK INVOLVES EXCAVATION OR STOCKPILING OF RAW OR LOOSE MATERIALS, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROVIDED WHOLLY WITHIN THE SITE WHILST WORK IS BEING CARRIED OUT IN ORDER TO PREVENT SEDIMENT AND SILT FROM SITE WORKS BEING CONVEYED BY STORMWATER INTO COUNCIL'S STORMWATER SYSTEM. NATURAL WATER COURSES, BUSHLANDS, AND NEIGHBORING PROPERTIES. IN THIS REGARD, ALL STORMWATER DISCHARGE FROM THE SITE SHALL MEET THE REQUIREMENTS OF THE PROTECT OF ENVIRONMENT OPERATIONS ACT 1997 AND THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER GUIDELINES. THE CONTROL DEVICES ARE TO BE MAINTAINED IN A SERVICEABLE CONDITION AT ALL TIMES.



INLET SEDIMENT TRAP
Scale: 1 : 20

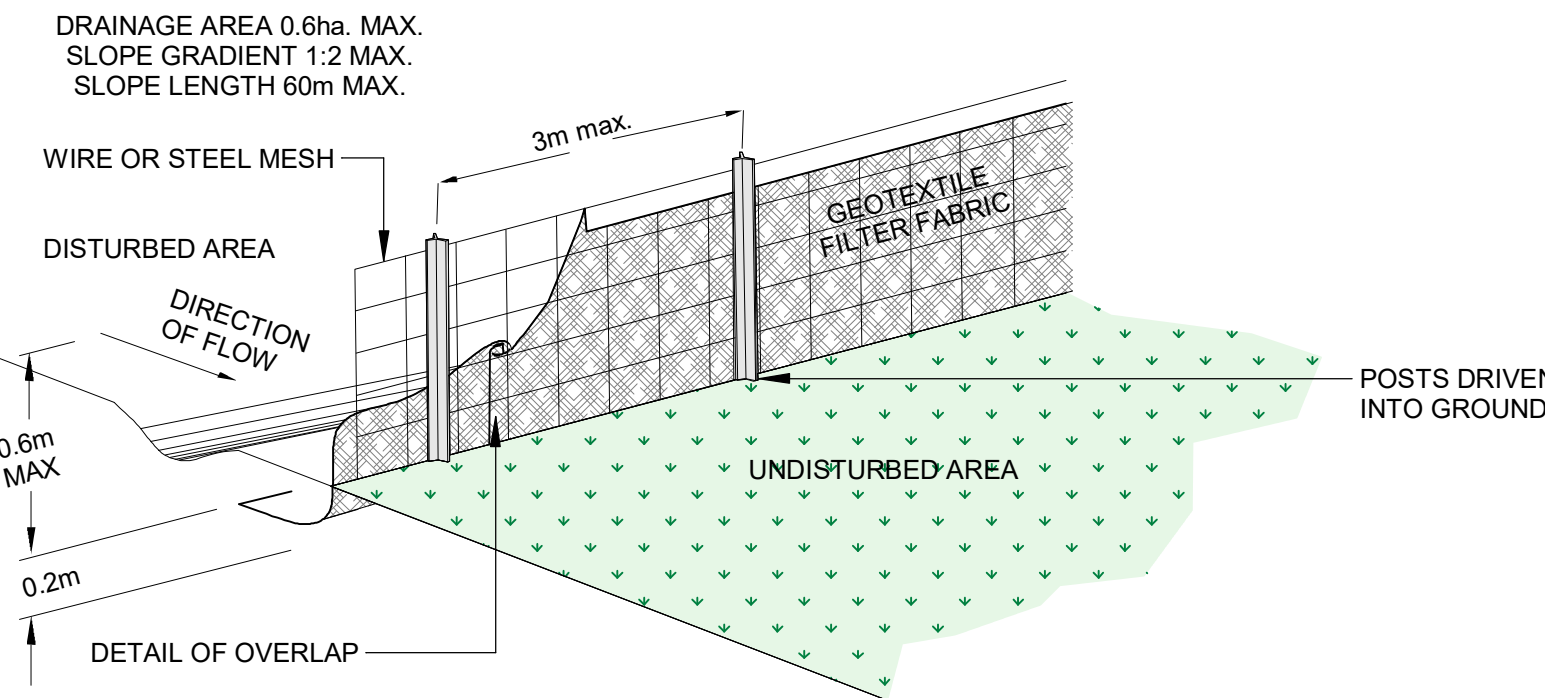


PLAN

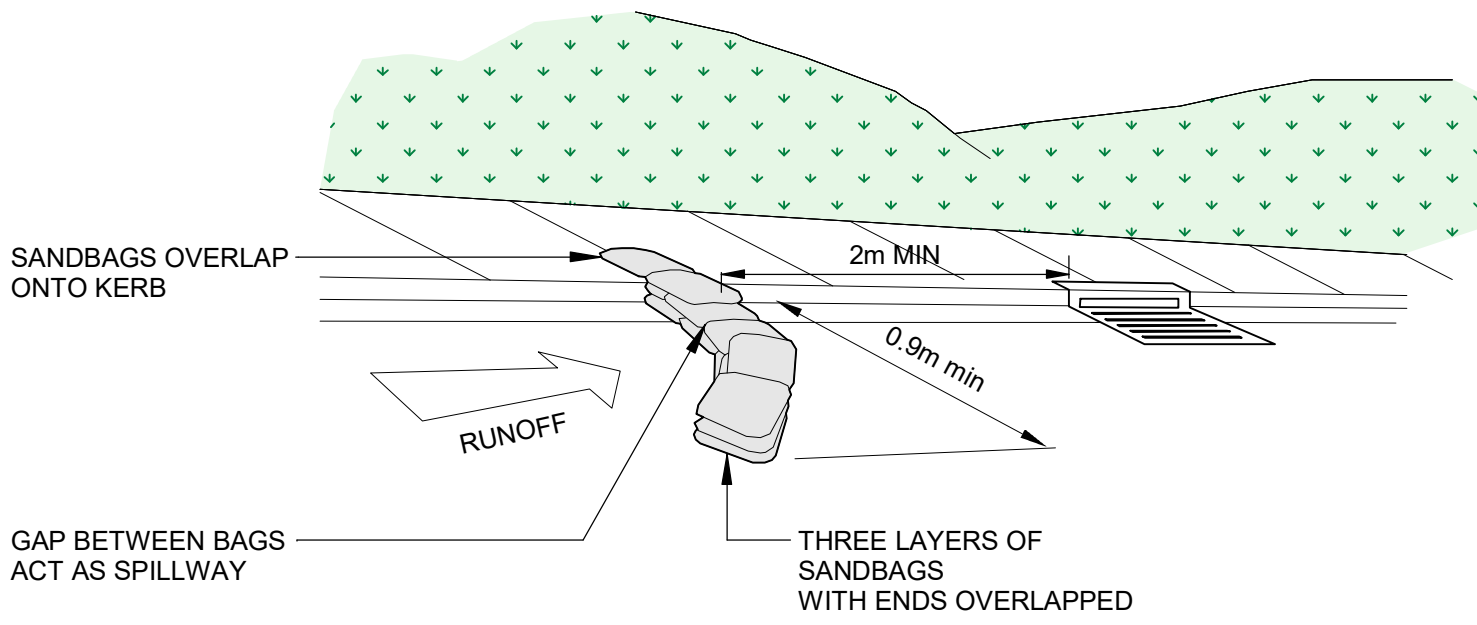
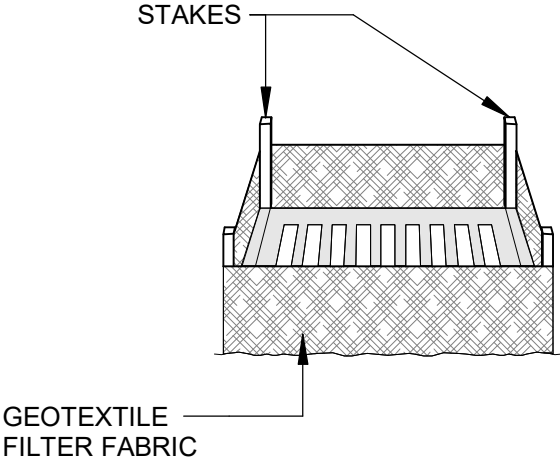


ELEVATION

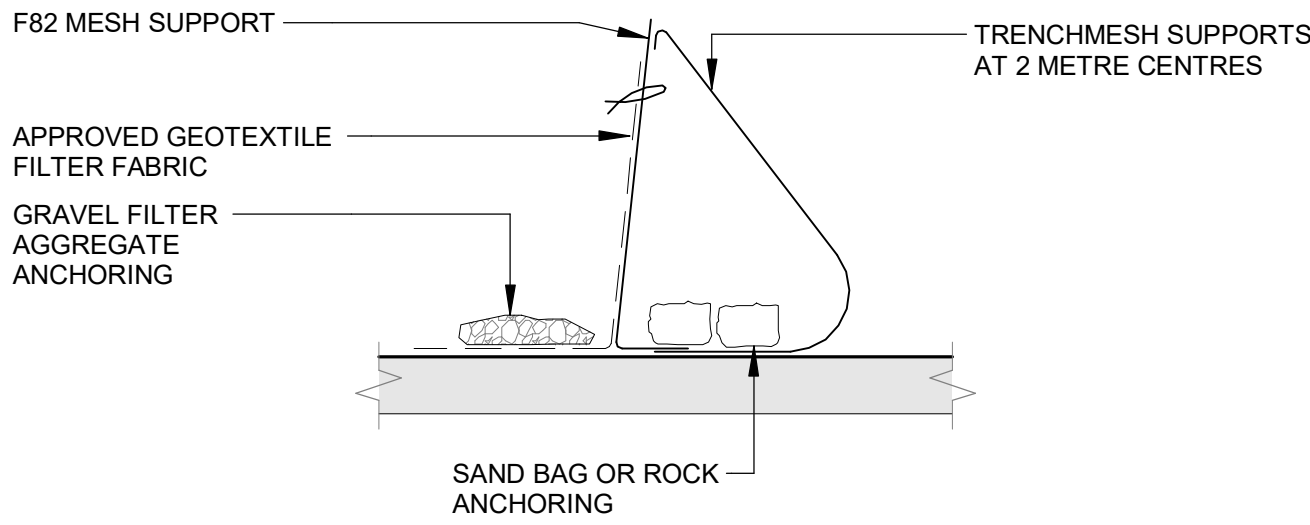
ESM_SEDIMENT FENCE WEIR
Scale: 1 : 20



SEDIMENT SILT FENCE
Scale: 1 : 20

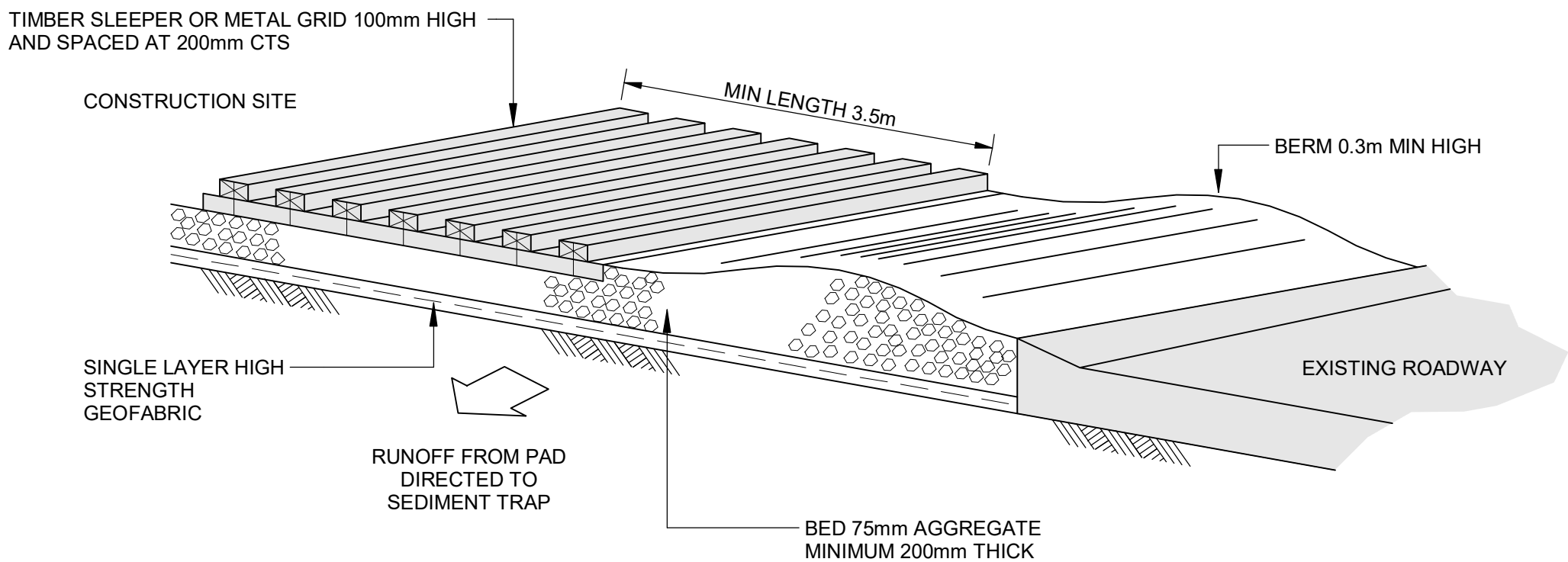


SANDBAG SEDIMENT TRAP
Scale: 1 : 20



1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
2. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
3. JOIN SECTIONS OF FABRIC AT A SUPPORT WITH A 150mm OVERLAP.
4. REFER TO DETAIL SD 6-9 "BLUE BOOK"

SILT FENCE BARRIER DETAIL
Scale: 1 : 20



TEMPORARY CONSTRUCTION EXIT
Scale: 1 : 20

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3	10.02.2023	JPS	PRELIMINARY ISSUE	
2	02.02.2023	JPS	PRELIMINARY ISSUE	
1	20.01.2023	JPS	PRELIMINARY ISSUE	
REV.	DATE	BY	DESCRIPTION	

PROPOSED DEVELOPMENT

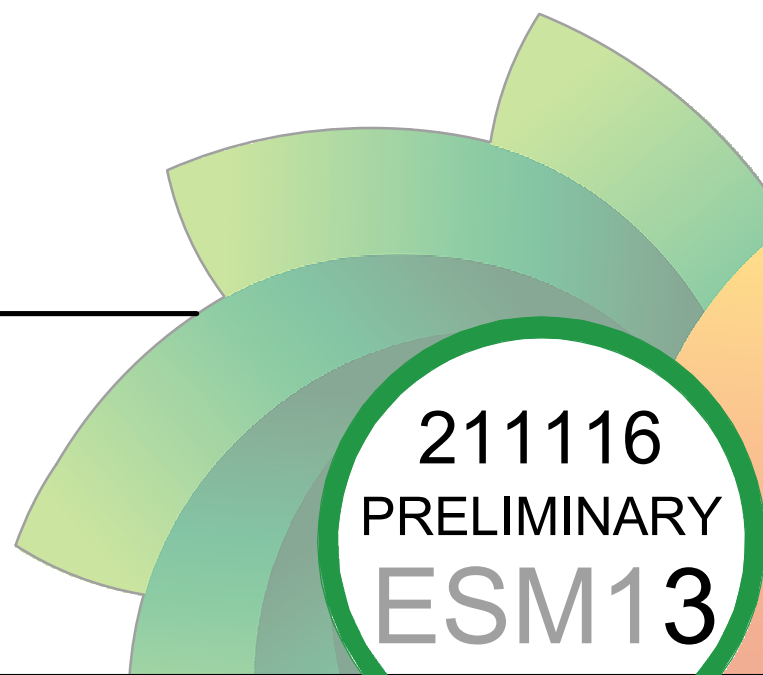
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Brewster Murray



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NOTES & LEGENDS

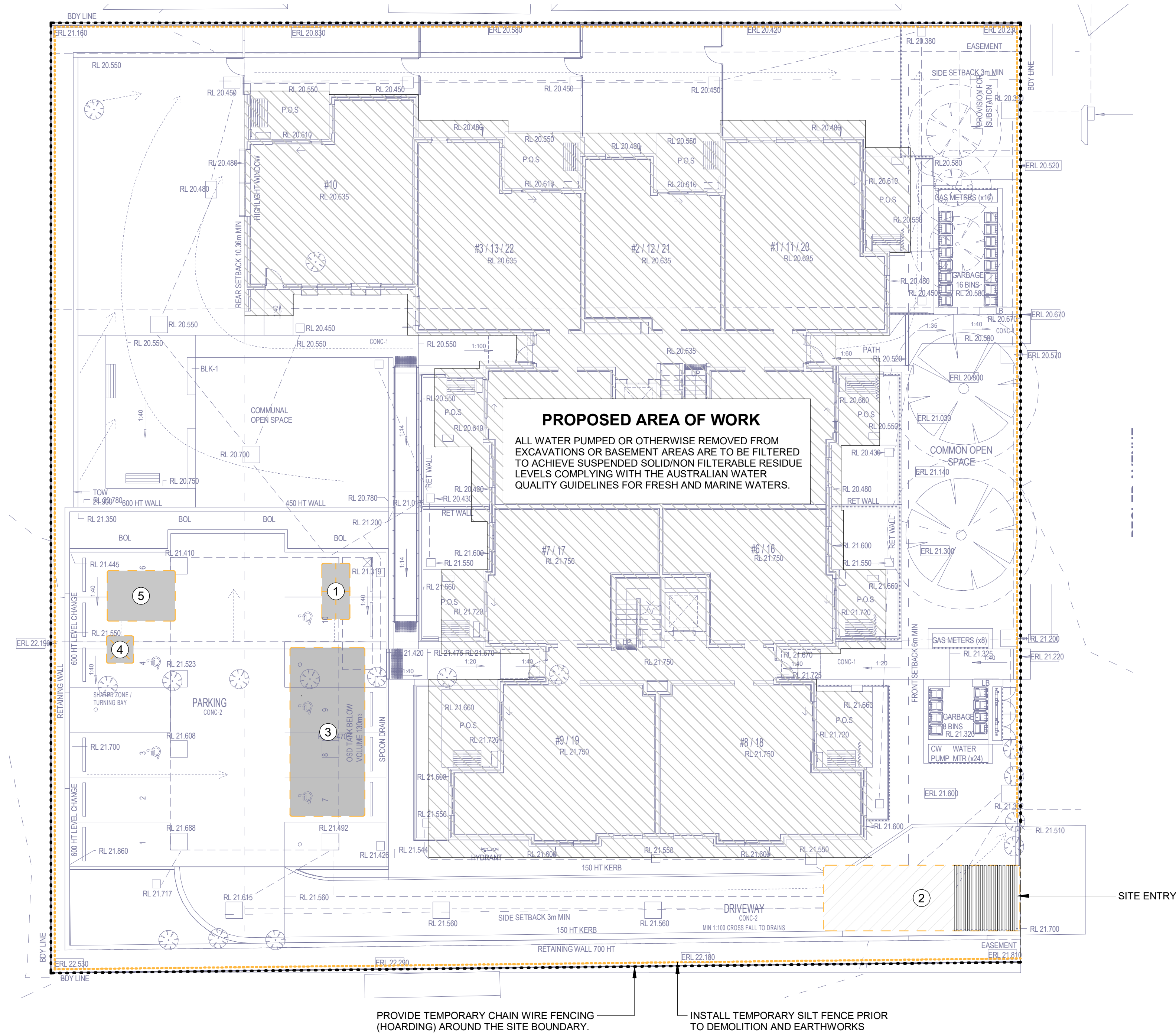


18 December 2023

SITE MANAGEMENT LEGEND

- CHAIN WIRE FENCE
- SILT FENCE

ESM - SITE MANAGEMENT SCHEDULE	
TYPE	DESCRIPTION
1	SKIP BIN (PROVIDE COVER)
2	SITE ACCESS GRATE
3	MATERIALS STOCKPILE (RELOCATE AS NECESSARY)
4	TOILET FACILITY
5	SITE SHED



ENVIRONMENTAL SITE MANAGEMENT LAYOUT

Scale: 1 : 150

FOR NOISE CONTROL, VIBRATION MANAGEMENT, DUST CONTROL, ODOUR CONTROL REFER TO NOTES ON THIS DRAWING. FOR OTHER NOTES (LITTER/WASTE, STORMWATER) REFER ESM1

WHERE WORK INVOLVES EXCAVATION OR STOCKPILING OF RAW OR LOOSE MATERIALS, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROVIDE WHOLLY WITHIN THE SITE WHILST WORK IS BEING CARRIED OUT IN ORDER TO PREVENT SEDIMENT AND SILT FROM SITE WORKS BEING CONVEYED BY STORMWATER INTO COUNCIL'S STORMWATER SYSTEM, NATURAL WATER COURSES, BUSHLANDS, AND NEIGHBORING PROPERTIES. IN THIS REGARD, ALL STORMWATER DISCHARGE FROM THE SITE SHALL MEET THE REQUIREMENTS OF THE PROTECT OF ENVIRONMENT OPERATIONS ACT 1997 AND THE DEPARTMENT OF ENVIRONMENT, CLIMATE CHANGE AND WATER GUIDELINES. THE CONTROL DEVICES ARE TO BE MAINTAINED IN A SERVICEABLE CONDITION AT ALL TIMES.

THE BUILDER AND EXCAVATION CONTRACTOR ARE TO ENSURE ANY WATER DISCHARGED INTO COUNCIL STORMWATER SYSTEM FROM THE EXCAVATED PORTIONS OF THE SITE COMPLY WITH THE RELEVANT ENVIRONMENTAL CRITERIA AND APPROPRIATE CONTROL METHODS SHALL BE ADOPTED. THE PROPOSED CONTROL METHODS ARE STRICTLY TO COMPLY WITH THE ANZECC 2000 GUIDELINES.

- NOISE CONTROL**
- WHERE POSSIBLE, STRATEGICALLY PLACE NOISE-GENERATING PLANT / EQUIPMENT TO TAKE ADVANTAGE OF NATURAL SCREENING (E.G. BUILDINGS)
 - AVOID PLACING NOISE-GENERATING PLANT / EQUIPMENT CLOSE TOGETHER AND/OR OPERATE SIMULTANEOUSLY
 - MAINTAIN ALL PLANT & EQUIPMENT TO MINIMISE NOISE EMISSIONS (E.G. REPAIR BROKEN SILENCING EQUIPMENT, TIGHTEN RATTLING COMPONENTS ETC)
 - ALL PLANT & EQUIPMENT TO BE OPERATED IN THE CORRECT MANNER TO AVOID UNNECESSARY NOISE EMISSIONS
 - ALL DELIVERIES TO SITE TO BE IN ACCORD WITH THE RELEVANT CONSTRUCTION TRAFFIC MANAGEMENT PLAN (CTMP)
 - NO PUBLIC ADDRESS SYSTEMS TO BE USED EXCEPT IN THE CASE OF EMERGENCIES
 - WHERE NECESSARY, FIT PLANT WITH SILENCERS AND/OR OTHER NOISE ATTENUATION MEASURES
 - ENSURE CONSTRUCTION VEHICLES AND PLANT/EQUIPMENT ARE TURNED OFF WHEN NOT IN USE (I.E. AVOID IDLING)

- VIBRATION MANAGEMENT**
- USE LOW-VIBRATION EMITTING PLANT & EQUIPMENT WHERE POSSIBLE
 - WHERE PRACTICAL, USE NON-PERCUSSIVE PILING TECHNIQUES OR PROVIDE ACCOUSTIC SHIELDING

- DUST CONTROL**
- WHERE POSSIBLE, STAGE ANY VEGETATION REMOVAL TO MINIMISE EXPOSED AREAS
 - AREAS EXPOSED (IN THE SHORT TERM) TO BE STABILISED USING WATERING AND/OR GEO-FABRICS AS APPROPRIATE TO MINIMISE DUST GENERATION
 - MODIFY / REDUCE CONSTRUCTION ACTIVITIES DURING HIGH WIND CONDITIONS IF INCREASED DUST GENERATION IS A POSSIBILITY
 - DUST CONTROL MEASURES TO BE IMPLEMENTED AS THE SITE SUPERVISOR DEEMS APPROPRIATE, INCLUDING WATER CARTS, SPRINKLERS, SPRAYS, DUST SCREENS, ETC
 - CHECK EROSION CONTROL MEASURE REGULARLY TO ENSURE CAPTURED SILT DOES NOT BECOME AIRBORNE

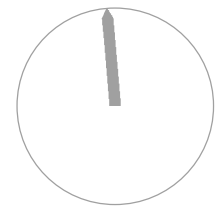
- ODOUR CONTROL**
- SEGREGATE AND COLLECT WASTE REGULARLY TO ENSURE ODOURS ARE MINIMISED
 - NO BURNING-OFF OF WASTE AT ANY TIME
 - REMOVE WASTE BINS FROM SITE REGULARLY

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Brewster Murray



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ENVIRONMENTAL SITE MANAGEMENT PLAN

CHECKED: AMcK SIZE: A1 SCALE: As indicated

