CEC Geotechnical

ACID SULPHATE SOIL (ASS) INVESTIGATION AND MANAGEMENT PLAN REPORT

Client – Place Studio Pty Ltd
Project Title – 20, Heradale Pd, Batemans Bay
Project Type – Apartment Buildings
Project No. – ER23038Arev1
Date Issued – 07/11/2023
Description of Services – Acid Sulphate Soil (ASS) Investigation and Management Plan Report

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Report Title: Acid Sulphate Soil (ASS) Investigation and Management Plan Report

Report No: ER23024

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1. Introduction

1.1 Background

CEC (Geotechnical) has undertaken an Acid Sulphate Soils Assessment and Management Plan for the proposed Four-storey unit complex to be constructed at 20 Heradale Parde, Batemans Bay. Acid Sulphate Soil (ASS) is investigation is required where soil types contain iron sulphides and/or their oxidation by-product (Sulphuric acid). Acid Sulphate waters can corrode engineering works and infrastructure such as culverts, bridges and weirs, which are in contact with these waters/soil. The precipitation of iron hydroxide/oxide flocs from acidic, iron-rich waters can cause the blocking of drains, wells and the reduction of aquifer recharge.

1.2 Proposed Development

Information provided by the client indicates the proposed development comprises by construction of four-storey unit complex with underground car park. Proposed development comprises of 3 buildings with 5-level including 1-level basement carpark.

1.3 Scope of Works

The geotechnical site investigation for Acid Sulphate Soils (ASS) was carried out on 05/06/2023 and included the drilling of boreholes and Soil sampling in accordance with Australian Standards AS 1289, 'Methods of Testing Soil for Engineering Purposes'. The soil encountered during drilling was classified according to Australian Standards AS 1726-2017. The soil sampling was carried out as per Acid Sulphate Soil Manual, August 1998, NSW.

- A site walk-over inspection by a Geotechnical Engineer in order to determine the overall surface conditions and to identify relevant site features.
- A review of DBYD plans, and service locations carried out on the site using a specialised subcontractor to ensure that the investigation area is free from underground services.
- Machine Drilling of four boreholes BH1-BH4 to a maximum depth of 4.5m below the ground.
- Soil samples collected from the boreholes were tested by Eurofins, a NATA accredited laboratory for Acid Sulphate Test.

This report is based only on the information provided prior to preparation of this report and may not be valid if the site conditions changed and/or after earthworks are undertaken.

2. Desktop Assessment

This spatial dataset identifies areas of land showing the extent of acid sulphate soils. Acid Sulphate soils have been classified into five classes based on the likelihood of the acid sulphate soils being present in particular areas and at specific depths.

- Class 1: Acid Sulphate soils in a class 1 area are likely to be found on and below the natural ground surface.
- Class 2: Acid Sulphate soils in a class 2 area are likely to be found below the natural ground surface.
- Class 3: Acid Sulphate soils in a class 3 area are likely to be found beyond 1 metre below the natural ground surface.
- Class 4: Acid Sulphate soils in a class 4 area are likely to be found beyond 2 metres below the natural ground surface.
- Class 5: Acid Sulphate soils are not typically found in Class 5 areas. Areas classified as Class 5 are located within 500 metres on adjacent class 1,2,3, or 4 land.

Reference made to the NSW Planning Portal indicates the site is situated within an area of general ASS occurrences, identified as a Class 3 region, as shown in Figure 1 in Appendix B.

It is noted that the NSW Planning Portal classifies ASS into five (5) different classes based on the likelihood of the ASS being present in particular areas and at specific depths. Where ASS is not typically found in Class 5 regions and is likely to be found 1-3m below the natural ground surface in Class 5 regions.

The pointed location in the Figure 2 in Appendix B shows the construction location does not have any date on known occurrence of acid sulphate but the site is located roughly 130m away of L2 zone (Low probability 1-3 m below ground) and roughly 400m away of L0 zone (Low probability at/near ground surface).

ASSMAC recommends the following geomorphic or site criteria be used to determine if acid Sulphate soils (ASS) are likely to be present:

a) Sediments of recent geological age (Holocene).
b) Soil horizons less than 5m AHD.
c) Marine or estuarine sediments and tidal lakes.
d) In coastal wetlands or back swamp areas; waterlogged or scalded areas; interdunal swales or coastal sand dunes (if deep excavation or drainage is proposed).
e) In areas where the dominant vegetation is mangroves, reeds, rushes and other swamp-tolerant or marine vegetation.
f) In areas identified in geological descriptions or in maps as bearing acid sulphide minerals, coal deposits or former marine shales/sediments.
g) Deep older estuarine sediments >10 metres below the ground surface, Holocene, or Pleistocene age (only an issue if deep drainage is proposed).

As mentioned above, the Acid Sulphate Soils map included in the Site Contamination Assessment indicates that the development area is within Class 2 Land. Therefore, it is considered that there is likely risk of ASS being present within the proposed development area.

3. Investigation of Acid Sulphate Soils

3.1 Assessment Criteria for Acid Sulphate Soil

The assessment criteria normally applied to assist in the preliminary identification of Actual Acid Sulphate Soils (AASS) and Potential Acid Sulphate Soils (PASS), in accordance with Acid Sulphate Soils Planning Guidelines (AASMAC), are as follows:

- pHF < 4 shows occurrence of oxidation in the past and that AASS are likely to be present.
- pHFOX <3, plus a pHFOX reading at least one pH unit below the corresponding pHF , plus a strong reaction with peroxide, strongly indicates the presence of PASS.

3.2 Methodology and Preliminary Laboratory Analyses

A preliminary soil sampling programme was undertaken following the Acid Sulphate Soil Guidelines. Five (4) boreholes (BH2, BH3, BH4 and BH5) were drilled utilising a truck mount solid flight auger drill rig in the area of the proposed development (Figure 3, Appendix A – for the borehole locations).

The samples were submitted to the laboratory (Eurofins Laboratories) for the recommended preliminary testing. The detailed laboratory analysis results are presented in Appendix C – Laboratory Reports. The Table below summarises laboratory testing results to determine the pH for the tests mentioned above as carried out by NATA accredited laboratory on the recovered samples from boreholes (BH2, BH3, BH4 and BH5) inclusive, with laboratory testing results certificates presented in Appendix C.

3.3 Results

3.3.1 Preliminary Laboratory Results

The field pHF and pHFOX results obtained from Eurofins Environment Testing (1034910-S) are summarised in Table 1. Following ASSMAC (1998), Table 1, indicates that Field pH (pH-F) readings are greater than 4, indicate the absence of actual ASS. Furthermore, only one condition after monitoring the Field pH peroxide test (pH-FOX) is verified (lowering of the soil pH by at least one unit). The reaction rate generally indicates the level of risk present but also depends on the texture and other soil constituents. From Table 1, it is indicated that majority of the soil sample's possess reaction rate 2-4, shows moderate-extreme reaction. However, BH5-1.5 and BH5-3.0 exhibit rate of 1, shows slight reaction. Therefore, soil testing did not strongly indicate the presence of acid sulphate soil (PASS). For verification, 4 samples (BH1-0.5m BH1-1.5, BH2-0.5 and BH4-1.5) were selected and tested for detailed laboratory analyses.

Table 1: Summary of Preliminary Laboratory Results

Location	Field Test				
	Field pH (pHf)	Actual ASS	pH FOX	pH Drop	Reaction Rate
BH2-0.5	9.1	No	7.1	2	4 (Extreme)
BH2-1.5	9.4	No	7.7	1.7	2 (Moderate)
BH2-3.0	9.1	No	7.5	1.6	2 (Moderate)
BH2-4.5	8.6	No	8.9	-0.3	4 (Extreme)
BH3-0.5	9.2	No	7.7	1.5	2 (Moderate)
BH3-1.5	9.4	No	7.9	1.5	4 (Extreme)
BH3-3.0	9.2	No	7.6	1.6	4 (Extreme)
BH3-4.5	8.9	No	7.7	1.2	4 (Extreme)
BH4-0.5	9.3	No	8.0	1.3	4 (Extreme)
BH4-1.5	9.1	No	7.5	1.6	2 (Moderate)
BH4-3.0	9.3	No	7.6	1.7	2 (Moderate)
BH5-1.0	9.3	No	7.7	1.6	2 (Moderate)
BH5-1.5	9.3	No	7.6	1.7	1 (Slight)
BH5-3.0	8.7	No	7.8	0.9	1 (Slight)

3.3.2 Detailed Laboratory Results

Samples BH3-0.5m BH3-1.5, BH3-3.0 and BH3-4.5 were considered representative of the subsurface soil profile and were submitted for Suspension Peroxide Combined Acidity and Sulphate (SPOCAS) testing to confirm the presence or absence of AASS and PASS in the soil. Test results obtained from Eurofins Environment Testing (1038018-S) are summarised in Table 2. The results of analysis for the soils are compared with a summary of the ASSMAC assessment criteria, also included in Table 2. It is assumed that >1,000 tonnes of material would be disturbed hence the action criteria for greater than 1,000 tonnes have been applied.

Table 2: Summary of Detailed Laboratory Results

Location	TPA moles H+/tonne	Spos %w/w
BH3-0.5	< 0.02	< 0.005
BH3-1.5	< 0.02	< 0.005
BH3-3.0	< 0.02	< 0.005
BH3-4.5	< 0.02	0.039

NSW AAMAC Action Criteria			
Type of Material Texture	Approx Clay Content (%<0.002mm)	Action Criteria >1000 tonnes Acid Trail TPA mole H+/t	Action Criteria <1000 tonnes Sulphur Trail Spos %
Sandy Loam to Light Clay	<5	18	0.03

The laboratory results do not indicate any acid trail in the shallow soil profile. From the above findings, it can be stated ASS management plan is not required for the above site.

4. Conclusion

The above discussion provides preliminary- and detailed- assessment of the potential/actual for ASS across the site area and addresses the Department of Planning, Industry and Environment requirements. Soil samples tested indicated no presence of AASS to the maximum depth of 3m, and possible presence of ASS, depth of below 3m. Upon completion of our onsite investigation and laboratory analysis the following conclusions/discussions are made:

- Ground water was encountered during our investigation which concluded the depth varies between 1.4-4.1m.
- Field pH tests conducted on the soil indicated that the potential for AASS and / or PASS soils.
- Laboratory tests (SPOCAS suite) have been analysed and they indicate no acid trails in the soil samples to the maximum depth of 3m, and possible presence of ASS, depth of below 3m.

Although the site is not considered to be affected by ASS (to the maximum depth of 3m), it is recommended that all excavations and construction activities are to be monitored to ensure that any ASS are not encountered during construction. Signs that may indicate the presence of ASS may include:

- Lowering of the soil pH by at least one unit.
- Soils change colour into a greyish and/or darker tone.
- Noticeable sulphur-smelling gases (similar to rotten egg) such as sulphur dioxide or hydrogen sulphide into the atmosphere.
- Effervescence.

Should any of the above indicators be present during construction, excavation work on the site is to stop, and CEC (Geotechnical) should be contacted to determine what actions are required to be taken before work may recommence.

As acidity is transported by water, excavations should be conducted during dry periods as much as possible. This will minimise the risk associated with sudden or heavy rain, allow better control of treated waters for discharge, and provide some safety margin for unattended weekend or holiday periods.
It should be noted that ground conditions and the actual extent of any ASS which may be present within the site are expected to differ from those encountered and inferred in this report since no geotechnical or geological exploration programme, no matter how comprehensive, can reveal and identify all subsurface conditions and the actual extent of any ASS underlying and present within the site.

Based on laboratory testing, it is therefore recommended that the proposed foundation system be designed in accordance with AS 2870-2011 and other appropriate standards and guidelines, based on the laboratory testing results, in particular for (not limited to) the minimum exposure classification for concrete, minimum concrete strength and curing requirements, and minimum reinforcement cover.
CEC Geotechnical also recommends that following demolition of the existing dwellings and infrastructures within the site, preliminary aggressivity and salinity assessment be carried out by a suitably qualified geotechnical engineer in order to determine pH, chloride and Sulphate content, and electrical conductivity of the underlying soils.

5. Acid Sulphate Management Plan

Neutralisation of ASS materials should be undertaken in accordance with the ASSMAC guidelines, as discussed below.

The excavated ASS / acid generating materials material should be contained within a suitable bunded area with an impermeable base and appropriately neutralised prior to stockpiling. The design of the treatment area should also consider the construction methodology and staging to ensure that sufficient area is available for staged excavation, treatment and stockpiling.

It is recommended that Grade 1 agricultural lime ($CaCO_3$) be used for the neutralisation of potential acid sulphate soils excavated during the construction. The following liming / monitoring procedures for the treatment of ASS / acid generating materials are recommended:

- All excavated soil should be contained within a suitably designed and bunded area and kept moist to minimise oxidation, prior to treatment and neutralisation with lime. Progressive neutralisation will be required to manage the staged construction programme which will minimise the area required for treatment.
- Stockpiled soil should be limed with dose of 30kg lime/tonner (>3m) of soil for neutralisation as soon as practicable following excavation.
- The neutralising agent and ASS should be thoroughly mixed and aerated using, for example, an agricultural lime spreader and excavator. The soil should be treated in layers up to 300 mm thick to encourage aeration.
- It should be noted that the actual lime rate required will also depend on the results of monitoring during neutralisation. Additional lime will be required if monitoring results indicate that appropriate neutralisation has not been achieved. Conversely the liming rate may decrease if monitoring suggests over-liming is occurring.

- Sampling and testing after lime treatment of soil pH and pHfox should be taken at a frequency of at least one sample per 25m^3 excavated soil, to verify the neutralisation treatment and confirm oxidation of acid generating soils is not occurring. The frequency of testing would be reviewed during treatment and could be reduced subject to achievement of consistent monitoring results.
- Upon verification of treatment, the neutralised ASS could be re-used on-site for construction (subject to geotechnical suitability) or sent to a suitable landfill after classification as per Part 1: Classifying Waste, Waste Classification Guidelines published by the DECCW NSW (2014).

6. General Recommendations

6.1 Construction Implications / Management & Monitoring Strategies

It is recommended that all excavations and construction activities are to be conducted to ensure that any ASS are not encountered during construction. Signs that may indicate the presence of ASS may include:

- Lowering of the soil pH by at least one unit.
- Soils change colour into a greyish and/or darker tone.
- Noticeable sulphur-smelling gases (similar to rotten egg) such as sulphur dioxide or hydrogen sulphide into the atmosphere.
- Effervescence.

Should any of the above indicators be present during construction, excavation work on the site is to stop, and CEC (Geotechnical) should be contacted to determine what actions are required to be taken before work may recommence.
As acidity is transported by water, excavations should be conducted during dry periods as much as possible. This will minimise the risk associated with sudden or heavy rain, allow better control of treated waters for discharge, and provide some safety margin for unattended weekend or holiday periods.

It should be noted that ground conditions and the actual extent of any ASS which may be present within the site are expected to differ from those encountered and inferred in this report since no geotechnical or geological exploration programme, no matter how comprehensive, can reveal and identify all subsurface conditions and the actual extent of any ASS underlying and present within the site.

Based on laboratory testing, it is therefore recommended that the proposed foundation system be designed in accordance with AS 2870-2011 and other appropriate standards and guidelines, based on the laboratory testing results, in particular for (not limited to) the minimum exposure classification for concrete, minimum concrete strength and curing requirements, and minimum reinforcement cover.

CEC Geotechnical also recommends that following demolition of the existing dwellings and infrastructures within the site, preliminary aggressivity and salinity assessment be carried out by a suitably qualified geotechnical engineer in order to determine pH, chloride and Sulphate content, and electrical conductivity of the underlying soils.

6.2 Acid Sulphate Soil Treatment

Our investigation and laboratory results on soil samples do not indicate the presence of AASS soil deeper than 1.5. Also, there is not enough strong evidence to indicate the presence of PASS in the soils. However, if the conditions change and on-site treatment is required, the following guidelines should be considered.

In general, if on-site neutralisation treatment of any PASS material were to be adopted and that material remains stockpiled for over one week, material containing PASS should ideally be stockpiled separately on a liming pad/stockpiling site and mixed with lime. Appropriate monitoring and leachate control are to be adopted. Once PASS material has been placed in the treatment areas, it should be dosed with lime in accordance with the calculated dosing rate (as discussed in Section 5). This will be followed by thoroughly mixing the soil/lime mixture with site machinery to treat the soil. Additional quantities oflime above the potential calculated dosing rate may be required to allow for difficulties in mixing. The effectiveness of the adopted dosing rate should be confirmed by the regular screening of the treated material using pH and peroxide pH field tests. It should be noted that as a precautionary measure, treatment works involving lime should not be conducted during windy conditions unless the material can be appropriately conditioned to prevent dust generation.

6.3 Monitoring Frequencies & Target Levels

Monitoring of ASS and PASS and neutralisation effectiveness may be undertaken as prescribed in the Table 2.

Table 3: Monitoring of ASS and PASS and neutralisation effectiveness

Material	Test	Frequency	Target Level
Ponded leachate Water (both leachate and groundwater ponded in the excavation	pH	Daily, following rain events and non-work periods	pH 6.5 - 8.5, but not < 5.5
Discharged leachate (Irrigation into subsoil)	pH	Daily checks of pH during discharge period.	pH 6.5 - 8.5
	TSS	Daily visual checks (with measurements taken if turbidity is observed) and weekly monitoring	TSS <50 NTU
Soils to be disposed of	Field pH H_2O_2 pH	During and after treatment (prior to disposal).	- pH 6.0 - 12.0 - No change in colour - No effervescence - No release of sulphurous odour - No depression in pH below field pH

6.4 'Acid' Soil vs 'Acid Sulphate' Soil

Not all acid soil materials are ASS materials. The acidity hazard of soil materials that are strongly acidic due to processes other than RIS oxidation is not considered an ASS acidity hazard.

Naturally occurring acidic soils are not considered an environmental hazard and indeed are usually part of acidophilic ecosystems whose health depends on maintaining an acidic environment. As an example, many soil materials in naturally acidic landscapes, such as acidic peatlands and coastal heaths, often have low pH values and high acidities.

If it can be demonstrated that the majority of the acidity of acidic soil materials is not or could not be derived from the oxidation of RIS, then these materials should not be treated as if they were ASS materials. To do so may result in the liming of naturally acidic ecosystems. This could lead to unnaturally alkaline environments resulting in severe ecological damage to the acidophilic organisms that rely on the acidic nature of these ecosystems.

Field investigation can help determine whether acidic soil materials are ASS materials or not. The presence of jarosite in a soil material, or adjacent soil material, is strong evidence of prior oxidation of RIS. Documented jarosite, along with field pHs less than 4, can be used to identify these soil materials as AASS materials rather than just acid soil materials. Further information is provided in the National Acid Sulphate Soils Identification and Laboratory Methods Manual (Sullivan et al., 2018b) to help distinguish naturally occurring acidic soil materials from AASS materials.

6.5 Disposal Off-Site

Any materials proposed to be excavated and disposed of off-site during proposed remediation/development works must be classified in accordance with the NSW EPA (2014) Waste Classification Guidelines prior to off-site disposal to an appropriately licenced waste management/landfill facility. If the waste generator does not undertake a chemical assessment of the waste, it must be classified as hazardous waste. Waste classified as hazardous waste cannot be disposed of in NSW and must be treated prior to disposal.

7. Limitations

This report and its associated recommendations have been prepared exclusively for our client, who is named on the front page of this report and is the only intended entity to benefit from this report. CEC Geotechnical notes that any reliance on the information provided in this report by any third party will be at their own risk. It should be noted that the analysis and conclusions made in this report are based on documents and investigations prepared by other consultants and entities, and hence, should these documents and investigations be incorrect, CEC Geotechnical must be made aware, and the results of this report may be void.

For and on behalf of CEC Geotechnical Pty Ltd.

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References

- AS 1726-2017 Geotechnical Site Investigation. Standards Australia.
- NSW Department of Mineral Resources (1983) Sydney 1:100,000 Geological Series Sheet 9130 (Edition 1)
- Geological Survey of New South Wales. Department of Mineral Resources.
- NSW Government Environment and Heritage, Soil and Land Information, Sydney 1:100,000 Soil Landscape Series Sheet 9130bt.
- Acid Sulphate Soils Assessment Guidelines - Acid Sulphate Soils Management Advisory Committee (ASSMAC) (1998).
- National Acid Sulphate Soils Guidance – National Acid Sulphate Soils Sampling and Identification
  Methods Manual. Department of Agriculture and Water Resources (2018).
- NSW Planning Portal.
- https://www.planningportal.nsw.gov.au/spatialviewer
- Geocortex Viewer for HTML5 (nsw.gov.au), https://geo.seed.nsw.gov.au
  Methods Manual. Department of Agriculture and Water Resources (2018).
- NSW Planning Portal.
- https://www.planningportal.nsw.gov.au/spatialviewer
- Geocortex Viewer for HTML5 (nsw.gov.au), https://geo.seed.nsw.gov.au

APPENDIX A – Figures

Figure 1: NSW Planning portal, Site is subject to ASS Class 3

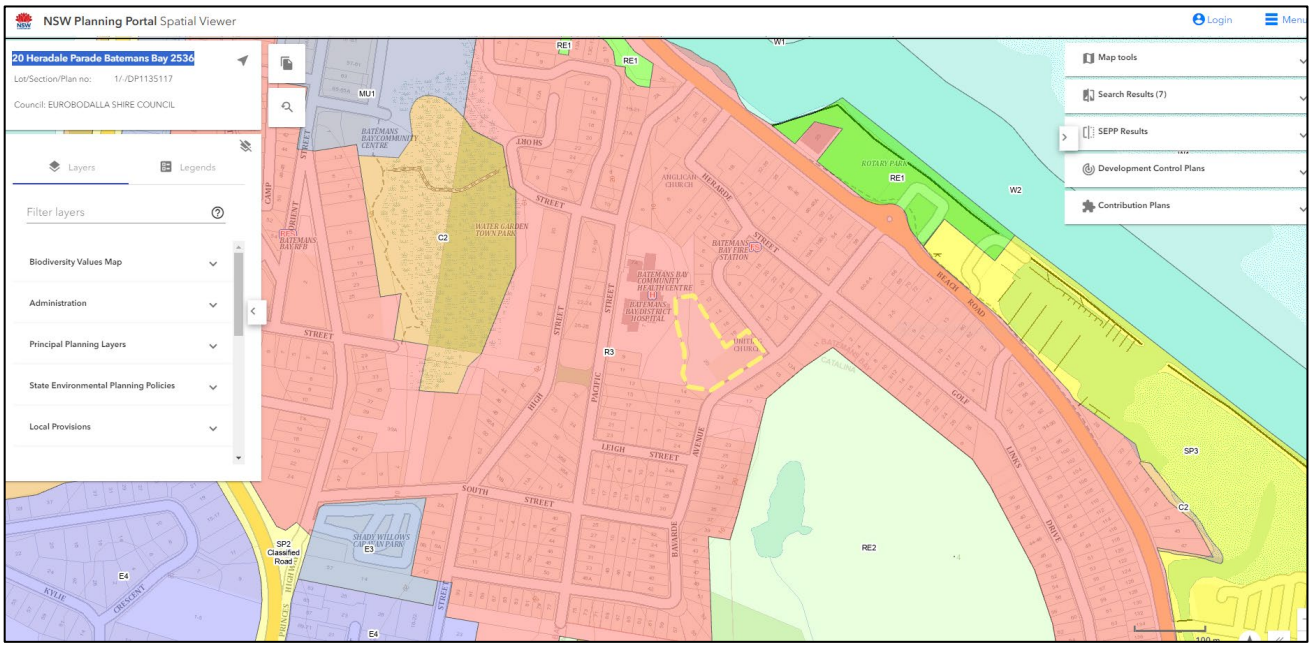

Figure 2: ASS potential for the Site Location

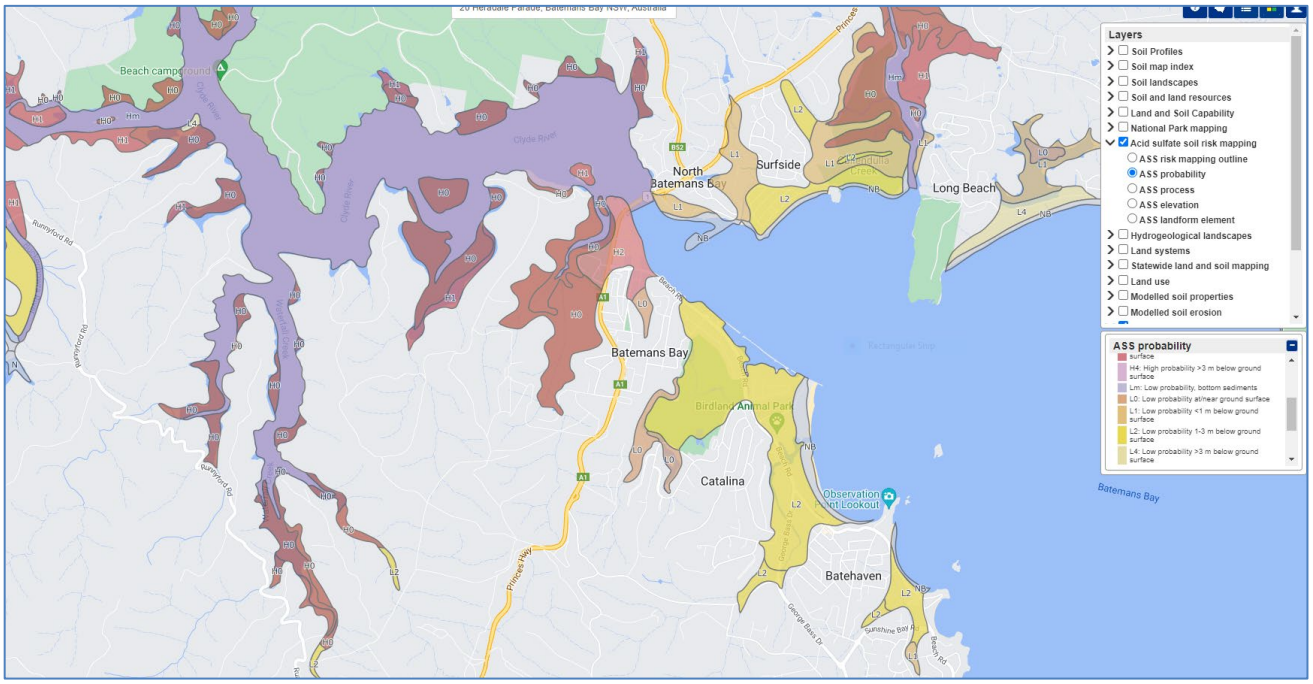

Figure 3: Site Plan

APPENDIX B – Borehole Logs

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Geotechnical Log - Borehole

BH1/MW1

UTM	: 56H	**Drill Rig**	: Truck mounted Rig	**Job Number**	: GR23206
Easting (m)	: 0.0	**Driller Supplier**	: Total Drilling	**Client**	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	**Logged By**	: KT	**Project**	: Proposed Development
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 20 Heradale Pde, Batemans Bay
Total Depth	: 9.5 m BGL	**Date**	: 29/10/2023	**Loc Comment**	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		0.2		Top Soil		ML	Top soil Sandy SILT (ML) : soft, low plasticity, brown yellow, fine grained sand, organic, w < pl.	w < PL		S	
		1		Marine Deposit		SC	Marine deposit Clayey SAND (SC) : loose, low plasticity clay, brown yellow, fine grained, with fine sized gravel, moist.	M		L	
		1.5		Residual		SC	Residual Clayey SAND (SC) : medium dense, medium plasticity clay, grey brown, fine grained, moist.			MD	
		2									
		2.8		Residual		Cl	Residual Silty CLAY (Cl) : very stiff, medium plasticity, grey brown, trace fine grained sand, inorganic, moist.			VSt	
		3									

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Geotechnical Log - Borehole

BH1/MW1

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 9.5 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		4.1		Residual		CI	Residual Silty CLAY (CI) : very stiff, medium plasticity, grey brown, trace fine grained sand, inorganic, moist.			VSt	
				Rock		SHL	Extremelyweathered, rock Sandy CLAY (SHL) : hard, low plasticity, brown orange, fine grained sand, inorganic, moist.			H	
		5									
		6									
		7					**7m : Commenced NMLC Coring;**				

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Geotechnical Log - Borehole

BH2/MW2

UTM	: 56H	**Drill Rig**	: Truck mounted Rig	**Job Number**	: GR23206
Easting (m)	: 0.0	**Driller Supplier**	: Total Drilling	**Client**	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	**Logged By**	: KT	**Project**	: Proposed Development
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	**Date**	: 29/10/2023	**Loc Comment**	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		0.2		Top Soil		ML	Top soil Sandy SILT (ML) : soft, low plasticity, brown yellow, fine grained sand, organic, w < pl.	w < PL		S	
		1		Marine Deposit		SM	Marine deposit Silty SAND (SM) : loose, brown yellow, fine grained, with medium sized gravel, slightly moist.	SM		L	
		2		Residual		SC	Residual Clayey SAND (SC) : medium dense, medium plasticity clay, grey brown, fine grained, moist.	M		MD	
		2.8		Residual		CI	Residual Sandy CLAY (CI) : firm, medium plasticity, grey brown, fine grained sand, inorganic, moist.			F	
		3									

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Geotechnical Log - Borehole

BH2/MW2

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		4.1		Residual		CI	Residual Sandy CLAY (CI) : firm, medium plasticity, grey brown, fine grained sand, inorganic, moist.			F	
				Residual		CI	Residual Sandy CLAY (CI) : stiff, medium plasticity, grey brown, fine grained sand, inorganic, moist.			St	
		5									
		5.8		Rock		SHL	Extremelyweathered, rock Sandy CLAY (SHL) : hard, medium plasticity, brown orange, fine grained sand, inorganic, wet.	W		H	
		6									
		7					**7m : Commenced NMLC Coring;**				

CEC Geotechnical

U4 83, Grose Street, North Parramatta, NSW 2151

Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH3

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 0.2 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
				Top Soil		ML	Top soil Sandy SILT (ML) : soft, low plasticity, brown yellow, fine grained sand, organic, w < pl.	w < PL		S	
		1					**BH3 Terminated at 0.2 m**				
		2									
		3									

CEC Geotechnical

U4 83, Grose Street, North Parramatta, NSW 2151

Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH4/MW3

UTM	: 56H	**Drill Rig**	: Truck mounted Rig	**Job Number**	: GR23206
Easting (m)	: 0.0	**Driller Supplier**	: Total Drilling	**Client**	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	**Logged By**	: KT	**Project**	: Proposed Development
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	**Date**	: 29/10/2023	**Loc Comment**	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
		0.2		Top Soil		ML	Top soil Sandy SILT (ML) : soft, low plasticity, brown yellow, fine grained sand, organic, w < pl.	w < PL		S	
		1		Marine Deposit		SM	Marine deposit Silty SAND (SM) : loose, brown yellow, fine grained, with medium sized gravel, dry.	D		L	
100mm SFA		2		Residual		SC	Residual Clayey SAND (SC) : medium dense, medium plasticity clay, grey brown, fine grained, with coarse sized gravel, moist.	M		MD	
		3									
		3.6		Residual		CI	Residual Sandy CLAY (CI) : hard, medium plasticity, grey brown, fine grained sand, with fine to medium sized gravel, inorganic, wet.	W		H	

CEC Geotechnical

U4 83, Grose Street, North Parramatta, NSW 2151

Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH4/MW3

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		5 5.8 6 7		Residual		CI	Residual Sandy CLAY (CI) : hard, medium plasticity, grey brown, fine grained sand, with fine to medium sized gravel, inorganic, wet.	W		H	
				Rock		SHL	Extremelyweathered, rock Sandy CLAY (SHL) : hard, medium plasticity, brown orange, fine grained sand, inorganic, wet.				

CEC Geotechnical

U4 83, Grose Street, North Parramatta, NSW 2151

Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH4/MW3

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA				Rock		SHL	Extremelyweathered, rock Sandy CLAY (SHL) : hard, medium plasticity, brown orange, fine grained sand, inorganic, wet.				
							8.3m : Commenced NMLC Coring;				
		9									
		10									
		11									

CEC Geotechnical

U4 83, Grose Street, North Parramatta, NSW 2151

Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH5/MW4

UTM	: 56H	**Drill Rig**	: Truck mounted Rig	**Job Number**	: GR23206
Easting (m)	: 0.0	**Driller Supplier**	: Total Drilling	**Client**	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	**Logged By**	: KT	**Project**	: Proposed Development
Ground Elevation	: Not Surveyed	**Reviewed By**	:	**Location**	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	**Date**	: 29/10/2023	**Loc Comment**	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		0.2		Top Soil		ML	Top soil Sandy SILT (ML) : soft, low plasticity, brown yellow, fine grained sand, organic, w < pl.	w < PL		S	
		1		Marine Deposit		SM	Marine deposit Silty SAND (SM) : loose to medium dense, brown yellow, fine grained, trace medium plasticity clay, dry.	D		L-MD	
		1.1		Residual		SC	Residual Clayey SAND (SC) : medium dense, medium plasticity clay, grey brown, fine grained, with coarse sized gravel, moist.	M		MD	
		2									
		2.8		Residual		Cl	Residual Silty CLAY (Cl) : stiff, medium plasticity, grey brown, with fine grained sand, trace medium sized gravel, inorganic, wet.	W		St	
		3									

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Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH5/MW4

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
100mm SFA		4.1		Residual		CI	Residual Silty CLAY (CI) : stiff, medium plasticity, grey brown, with fine grained sand, trace medium sized gravel, inorganic, wet.	W		St	
				Rock		SHL	Extremelyweathered, rock Silty CLAY (SHL) : hard, medium plasticity, brown orange, with medium sized gravel, with fine grained sand, inorganic, wet.			H	
		5									
		6									
		6.8		Rock		SST	Rock SANDSTONE: distinctly weathered, very low to low strength, brown yellow, fine to medium grained, wet.			VLS-LS	
150mm Washbore		7									

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Phone: (02) 9630 0121

Geotechnical Log - Borehole

BH5/MW4

UTM	: 56H	Drill Rig	: Truck mounted Rig	Job Number	: GR23206
Easting (m)	: 0.0	Driller Supplier	: Total Drilling	Client	: Place Studio AU Pty Ltd
Northing (m)	: 0.0	Logged By	: KT	Project	: Proposed Development
Ground Elevation	: Not Surveyed	Reviewed By	:	Location	: 20 Heradale Pde, Batemans Bay
Total Depth	: 10 m BGL	Date	: 29/10/2023	Loc Comment	:

Drilling Method	DCP graph	Depth (m)	Water	Soil Origin	Graphic Log	Classification Code	Material Description	Moisture	Testing	Consistency/Density	Well Diagram
150mm Washbore		9		Rock		SST	Rock SANDSTONE: distinctly weathered, very low to low strength, brown yellow, fine to medium grained, wet.			VLS-LS	
		10					**BH5/MW4 Terminated at 10 m**				
		11									

APPENDIX C – Architectural Drawings

PROPOSED RESIDENTIAL DEVELOPMENT

20 HERALDALE PARADE, BATEMANS BAY

SHEET	SHEET NAME	REV	DATE
DA-0001	COVER SHEET	E	03/09/2024
DA-0002	COMPLIANCE TABLE	C	03/09/2024
DA-0003	SITE LOCATION	C	03/09/2024
DA-0004	EXISTING SITE ANALYSIS	C	03/09/2024
DA-0100	DEMOLITION PLAN - SURVEY OVERLAY	C	03/09/2024
DA-2000	SITE PLAN	D	03/09/2024
DA-2001	GA - BASEMENT SURVEY UNDERLAY	D	03/09/2024
DA-2002	GA - BASEMENT FLOOR PLAN	D	03/09/2024
DA-2003	GA - GROUND SURVEY UNDERLAY	D	03/09/2024
DA-2004	GA - GROUND FLOOR PLAN	D	03/09/2024
DA-3000	GA - LEVEL 01 PLAN	C	03/09/2024
DA-3001	GA - LEVEL 02 PLAN	C	03/09/2024
DA-3002	GA - LEVEL 03 PLAN	C	03/09/2024
DA-3003	GA - ROOF PLAN	D	03/09/2024

SHEET	SHEET NAME	REV	DATE
DA-3004	GA - ROOF SURVEY UNDERLAY	C	03/09/2024
DA-4000	SECTIONS	D	03/09/2024
DA-4001	DRIVEWAY RAMP SECTION	C	03/09/2024
DA-4002	CULVERT SECTION	C	03/09/2024
DA-5000	SOUTH & EAST ELEVATIONS	C	03/09/2024
DA-5001	BUILDING A ELEVATIONS	C	03/09/2024
DA-5002	BUILDING B - ELEVATIONS	C	03/09/2024
DA-5003	BUILDING C - ELEVATIONS	C	03/09/2024
DA-7000	GROSS FLOOR AREA DIAGRAMS	C	03/09/2024
DA-7010	DEEP SOIL CALCULATION	C	03/09/2024
DA-7020	COMMUNAL OPEN SPACE COMPLIANCE	C	03/09/2024
DA-7030	CROSS-VENTILATION DIAGRAM	C	03/09/2024
DA-7040	SOLAR ACCESS	C	03/09/2024
DA-7050	SITE COVERAGE DIAGRAM	C	03/09/2024

SHEET	SHEET NAME	REV	DATE
DA-7060	HEIGHT PLANE	C	03/09/2024
DA-7070	ADAPTABLE UNITS	C	03/09/2024
DA-7071	ADAPTABLE UNITS	C	03/09/2024
DA-8000	SHADOW DIAGRAM - 9AM -3PM	C	03/09/2024
DA-8090	JUNE SOLAR VIEWS - 0900	C	03/09/2024
DA-8100	JUNE SOLAR VIEWS - 1000	C	03/09/2024
DA-8110	JUNE SOLAR VIEWS - 1100	C	03/09/2024
DA-8120	JUNE SOLAR VIEWS - 1200	C	03/09/2024
DA-8130	JUNE SOLAR VIEWS - 1300	C	03/09/2024
DA-8140	JUNE SOLAR VIEWS - 1400	C	03/09/2024
DA-8150	JUNE SOLAR VIEWS - 1500	C	03/09/2024
DA-8160	SOLAR MATRIX	B	03/09/2024
DA-9100	UNIT & WINDOW SCHEDULE	C	03/09/2024
DA-9200	MATERIALS SCHEDULE	C	03/09/2024

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DEVELOPMENT APPLICATION

Document Notes
Verify all dimensions on site before commencing work. Report all discrepancies to the architect prior to construction. Place Studio shall not be held responsible for any variations to specifications or drawings due to any discrepancies without consultation. Use figured dimensions in preference to scaled dimensions. Drawings made to larger scales and those showing particular parts of the works take precedence over drawings made to smaller scales or for general purposes. All work is to conform to relevant Australian Standards and Codes together with all Authorities' requirements and Regulations.

REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	05/06/2023	DA RFI Response	SK
D	24/11/2023	DA RFI Response	JA
E	03/09/2024	DA Submission	BA

ARCHITECT:
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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
COVER SHEET

SHEET NUMBER: **DA-0001**
REV: **E**
DATE: 03/09/2024

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LEP / DCP COMPLIANCE

EUROBADALLA LOCAL ENVIRONMENT PLAN 2012

ZONING: R3 - MEDIUM DENSITY RESIDENTIAL

PURPOSE: RESIDENTIAL FLAT BUILDING
PERMITTED WITH CONSENT

HEIGHT PLANE: 11.5-12.5m

ACID SULFATE SOILS: EAST PORTION OF SITE IS CLASS 3 ACID SULFATE SOILS (BETWEEN 1M AND 3M BELOW THE SURFACE)

EUROBADALLA DCP 2012

PRECINCT: BATEMANS BAY REGIONAL CENTRE - R3 MEDIUM DENSITY RESIDENTIAL ZONE

SETBACK CONTROLS:

FRONT BOUNDARY:

- **5.5m** (50% OF THE FRONT FACADE MAY BE SET BACK 4.5m FROM BOUNDARY)
- GARAGES AND CARPORTS FACING THE STREET TO BE SET BACK 5.5m

COMPLIES

SIDE BOUNDARY:

- GROUND FLOOR - 900mm FROM BOUNDARY (MINIMUM 600mm TO EAVES AND GUTTERS)

COMPLIES

- 4.5m~7.5m ABOVE GROUND - MUST BE SET BACK 1.5m FROM BOUNDARY (MINIMUM 1.2m TO EAVES AND GUTTERS)

COMPLIES

- ABOVE 7.5m - MUST BE SET BACK 1.5m FROM BOUNDARY (MINIMUM 1.2m TO EAVES AND GUTTERS) WHERE ADJOINING PROPERTY IS R3 OR BUSINESS ZONE; OR
MUST BE SETS BACK 2m (MIIMUM OF 1.7m TO EAVES AND GUTTERS) ELSEWHERE.

COMPLIES

SECONDARY STREET FRONTAGE: 3m FROM BOUNDARY

COMPLIES

FSR CONTROLS: N/A

SITE COVERAGE: N/A

LANDSCAPE: NATIVE VEGETATION

APARTMENT DESIGN GUIDE COMPLIANCE

ADG DESIGN CRITERIA	%	DESCRIPTION		TARGET	PROPOSED	COMPLY
Overall sunlight access to living Rooms and Private Open Space	70%	70% min, 3 hours direct sunlight between 9am and 3pm in mid winter		45 of 60	45 of 60 (75%)	YES
	15%	Max 15% no direct sunlight between 9am and 3pm at mid-winter		9 of 60	9 of 60 (15%)	YES
Natural Cross Ventilation	60%	60% of units should be naturally cross ventilated		40 of 60	40 of 60 (67%)	YES
		Units at 10 storeys and above with balcony which allows adequate natural ventilation	deemed to be adequately cross ventilated			
		cross-over & cross through units	Max 18m depth			
Adaptable Apartments	25%	Min 25% of units require adaptable layouts for accessibility		18 of 60	18 of 60 (30%)	YES
Livable Apartments	100%	100% of units require incorporating the liveable housing guidelines silver level design features		60 of 60	60 of 60 (100%)	YES
Minimum Apartment Sizes	100%		35m²	To Comply	nil provided	YES
		1 Bed	50m²		nil provided	
		2 Bed	70m² + 5m² per extra bath		nil provided	
		3 Bed	90m² + 5m² per extra bath		3-Bed - 100+m²	
Habitable Apartment room depths	-	maximum 2.5 x the ceiling height			nil exceed 8m	YES
		open plan layouts: 8m from a window				
Living room internal width	100%	Studio and 1 Bed units	3.6m	To Comply	1-Bed - 3.6m living	YES
		2 and 3 Bed units	4.0m		2-3-Bed - 4m Living	
		cross-over & cross through units	4.0m		4m Living	
Bedroom Dimension Area (excluding Wardrobe)	100%	Min Dimension	3.0m		3m+ min provided	YES
		Master Bedroom Area	10m²		min 10.0m² provided	
		Other Bed(s) minimum area	9.0m²		9m² min provided	
Minimum Ceiling Heights	100%	Habitable Rooms	2.7m	min 2.7m	min 2.7 provided to habitable rooms thoughout	YES
		Non-habitable Rooms	2.4m	min 2.4m		
		mixed-use ground floor	3.3m	min 3.3m	N/A	
Primary Balcony Private Open Space and Minimum area and dimension	100%	Studio	4.0m²	All balconies and P.O.S to comply with minimum dimensions.	N/A	YES
		1 Bed	8.0m² (2m min dimension)		N/A	
		2 Bed	10.0m² (2m min dimension)		N/A	
		3+ Bed	12.0m² (2.4m min dimension)		min. 26.90 m2	
		Private Open Space on ground floor or podium	15.0m² (3m min dimension)			
		Minimum balcony depth contributing to the balcony area	1.0m		min 1.0m balconies (counted)	
Minimum Storage requirements	-	Studio	4.0m³	Storage to comply with at least 50% of the required storage located in each dwelling	N/A	YES
		1 Bed	6.0m³		N/A	
		2 Bed	8.0m³		N/A	
		3 Bed	10.0m³		10.0m³	
Common Circulation	-	Maximum units off a circulation core on a single level	8 units/core preferred. 12 units max	8-12 Units	1 Lifts & 1 Stairs service 5 units on each building.	YES
		Min Units sharing a single lift for building 10 storeys and over	40 units per lift	40 Units	20 Units for 1 Lifts	
Building Depth	-	Max. 18m Building Depth Glass line to Glass line			each stack <10m deep	YES
Building Separation	-	Up to 4 storeys (approx. 12m):	12m habitable and habitable (6m to side and rear boundaries) 12m habitable and non-habitable 6m non-habitable rooms (3m to side and rear boundaries)		4.0m sidesetback, 4.0m from arterial road	YES
	-	5-8 Storeys (approx. 25m)	18m habitable . and habitable (9m to side and rear boundary) 12m habitable and non-habitable 9m non-habitable (4.5m to side and rear boundaries)		**N/A**	
	-	9 storeys and above (over 25m)	24m habitable and habitable . (12m to side and rear boundaries) 18m habitable and non habitable 12m non-habitable (6m to side and rear boundaries)		**N/A**	
	-	Lower density at next door	additional 3m setback from the next door boundary		**N/A**	
Deep soil Zone	15%	7% of total site area		min 1,262m2	3990m² of Deep soil with min. dimension 6m	YES
		minimum dimension	site area 650m² -1500m² = 3m			
			site area >1500m² = 6m			
Communal Open Space	25%	25% of site area		min 2,103m2	4802m² C.O.S	YES
		50% of C.O.S should receive sunlight access for 3 hour a day between 9am and 3pm at mid-winter			3848m² receives min 3 hours sun	YES
Carparking rates are applied for development on sites	-	DCP		2 each for 3+Bed 1 car wash for 20 units	88 Parking bays + 3 Car wash bays	YES

UNIT MIX

TYPE	AREA (m²)	COUNT
1 BED	124.3 m²	2
2 BED	608.6 m²	5
2 BED - ADA	817.7 m²	7
3 BED	4130.3 m²	32
3 BED - ADA	1414.4 m²	10
4 BED	706.8 m²	4
60	7802.0 m²	60

SOLAR ACCESS

UNITS SOLAR ACCESS	COUNT	PERCENTAGE
3 HOURS	45	75%
NO SOLAR	9	15%
PARTIAL SOLAR	6	10%
	60	

CROSS VENTILATION

UNITS CROSS VENTILATED	COUNT	PERCENTAGE
No	20	33%
Yes	40	67%
	60	

PARKING SCHEDULE

TYPE	QTY
Residential Adaptable Car Space (5400 x 2400)	16
Residential Car Space (5400 x 2400)	72
Residential Car Wash Bay	3
	91

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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
COMPLIANCE TABLE

SHEET NUMBER: **DA-0002**
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N
0 40m
1:1000
SCALE: 1 : 1000 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SITE LOCATION

SHEET NUMBER: **DA-0003**
REV: **C**
DATE: 03/09/2024

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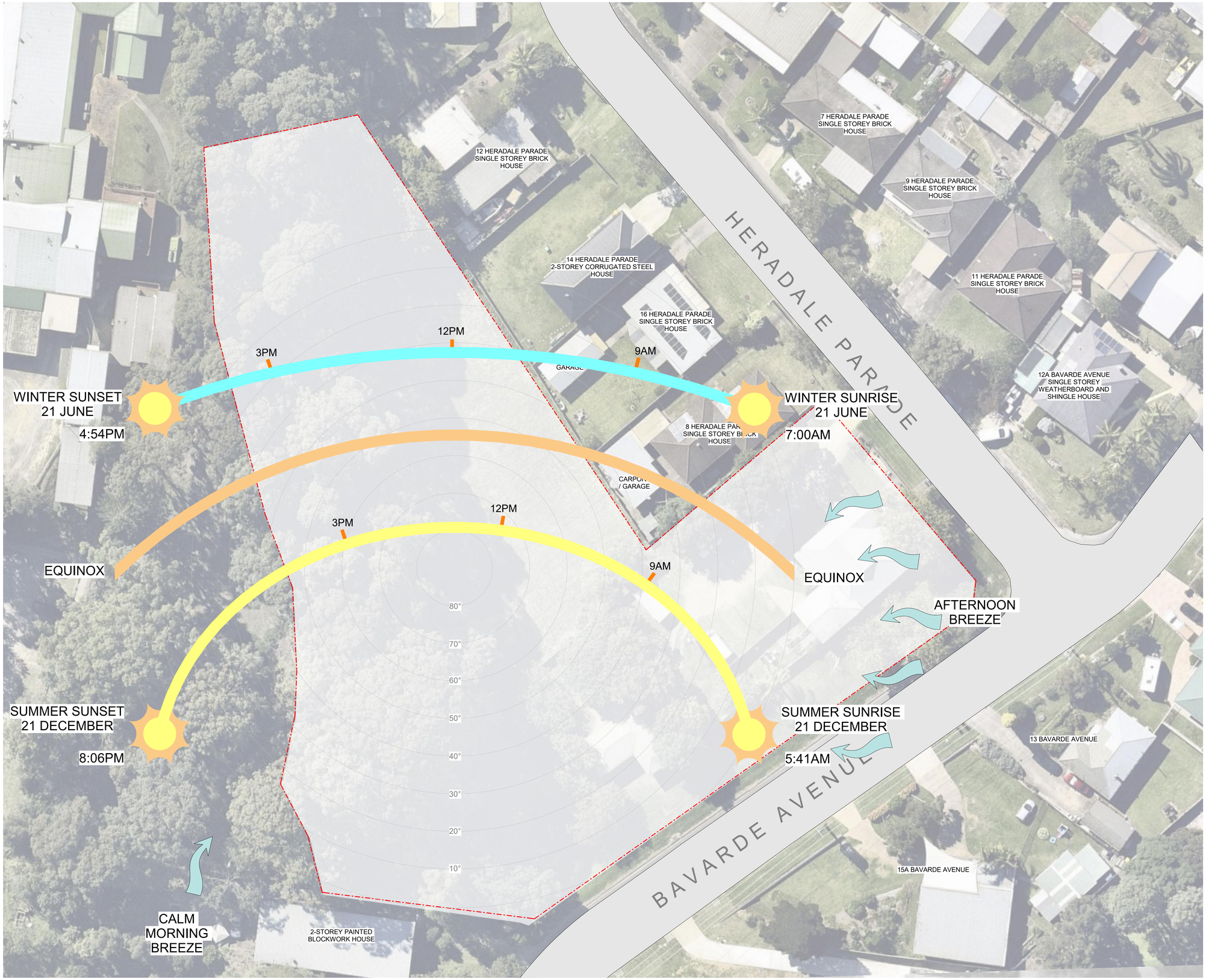
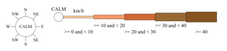


ANNUAL WIND ROSES

RESULTS TAKEN FROM CATALINA BAY COUNTRY CLUB



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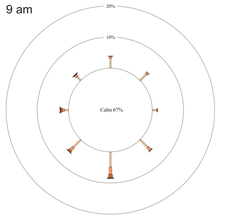

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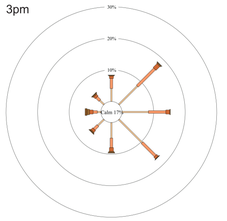

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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

PRELIMINARY
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DEVELOPMENT APPLICATION

ARCHITECT:
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N

SCALE: 1 : 300 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
EXISTING SITE ANALYSIS

SHEET NUMBER: **DA-0004**
REV: **C**
DATE: 03/09/2024

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REV	DATE	DESCRIPTION	APP
A	05/06/2023	DA RFI Response	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

TO BE DEMOLISHED

7 HERADALE PARADE
SINGLE STOREY BRICK HOUSE

9 HERADALE PARADE
SINGLE STOREY BRICK HOUSE

11 HERADALE PARADE
SINGLE STOREY BRICK HOUSE

12A BAVARDE AVENUE
SINGLE STOREY WEATHERBOARD AND SHINGLE HOUSE

12 HERADALE PARADE
SINGLE STOREY BRICK HOUSE

14 HERADALE PARADE
2-STOREY CORRUGATED STEEL HOUSE

16 HERADALE PARADE
SINGLE STOREY BRICK HOUSE

8 HERADALE PARADE
SINGLE STOREY BRICK HOUSE

13 BAVARDE AVENUE

15A BAVARDE AVENUE

2-STOREY PAINTED BLOCKWORK HOUSE

HERADALE PARADE

BAVARDE AVENUE

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DEVELOPMENT APPLICATION

ARCHITECT:
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N

SCALE: As indicated @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
DEMOLITION PLAN - SURVEY OVERLAY

SHEET NUMBER: **DA-0100**
REV: **C**

DATE: 03/09/2024

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UNIT MIX

TYPE	NO.	AREA (m²)
3 BED	A-101	115.9 m²
3 BED	A-102	137.4 m²
3 BED - ADA	A-103	145.0 m²
2 BED - ADA	A-104	116.8 m²
4 BED	A-105	174.0 m²
3 BED	A-201	115.9 m²
3 BED	A-202	137.4 m²
3 BED - ADA	A-203	144.9 m²
2 BED - ADA	A-204	116.7 m²
4 BED	A-205	174.0 m²
3 BED	A-301	115.9 m²
3 BED	A-302	137.4 m²
3 BED - ADA	A-303	145.0 m²
2 BED - ADA	A-304	116.8 m²
4 BED	A-305	174.0 m²
1 BED	A-G01	50.8 m²
1 BED	A-G02	73.5 m²
3 BED - ADA	A-G03	145.0 m²
3 BED	A-G04	147.2 m²
3 BED	A-G05	121.5 m²
3 BED	B-101	134.6 m²
2 BED - ADA	B-102	116.8 m²
3 BED - ADA	B-103	145.0 m²
3 BED	B-104	109.3 m²
3 BED	B-105	115.1 m²
3 BED	B-106	115.9 m²
3 BED	B-201	134.4 m²
2 BED - ADA	B-202	116.8 m²
3 BED - ADA	B-203	145.0 m²
3 BED	B-204	109.3 m²
3 BED	B-205	115.1 m²
3 BED	B-206	115.9 m²
3 BED	B-301	134.6 m²
2 BED - ADA	B-302	116.8 m²
2 BED - ADA	B-303	117.1 m²
2 BED	B-304	131.3 m²
4 BED	B-305	184.8 m²
3 BED	B-G01	96.2 m²
3 BED	B-G02	147.2 m²
3 BED	B-G03	120.4 m²
3 BED	B-G04	121.9 m²
3 BED	C-101	137.0 m²
3 BED	C-102	141.1 m²
2 BED	C-103	109.9 m²
3 BED - ADA	C-104	136.3 m²
3 BED - ADA	C-105	136.1 m²
3 BED	C-106	130.7 m²
3 BED	C-201	137.5 m²
3 BED	C-202	134.0 m²
3 BED - ADA	C-203	136.3 m²
3 BED - ADA	C-204	136.1 m²
3 BED	C-205	130.7 m²
3 BED	C-301	137.5 m²
3 BED	C-302	130.7 m²
2 BED	C-G01	114.2 m²
3 BED	C-G02	158.0 m²
2 BED	C-G03	130.3 m²
3 BED	C-G04	164.2 m²
2 BED	C-G05	122.8 m²
3 BED	C-G06	130.7 m²
60		

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	24/11/2023	DA RFI Response	JA
D	03/09/2024	DA Submission	BA

ARCHITECT:
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N

SCALE: 1 : 250 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SITE PLAN

SHEET NUMBER: **DA-2000**
REV: **D**
DATE: 03/09/2024

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PARKING SCHEDULE

TYPE	QTY
Residential Adaptable Car Space (5400 x 2400)	16
Residential Car Space (5400 x 2400)	72
Residential Car Wash Bay	3
	91

Document Notes
Verify all dimensions on site before commencing work. Report all discrepancies to the architect prior to construction. Place Studio shall not be held responsible for any variations to specifications or drawings due to any discrepancies without consultation. Use figured dimensions in preference to scaled dimensions. Drawings made to larger scales and those showing particular parts of the works take precedence over drawings made to smaller scales or for general purposes. All work is to conform to relevant Australian Standards and Codes together with all Authorities' requirements and Regulations.

REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	24/11/2023	DA RFI Response	JA
D	03/09/2024	DA Submission	BA

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DEVELOPMENT APPLICATION

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N
0 4m
1:100
SCALE: 1 : 250 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - BASEMENT SURVEY UNDERLAY

SHEET NUMBER: **DA-2001**
REV: **D**
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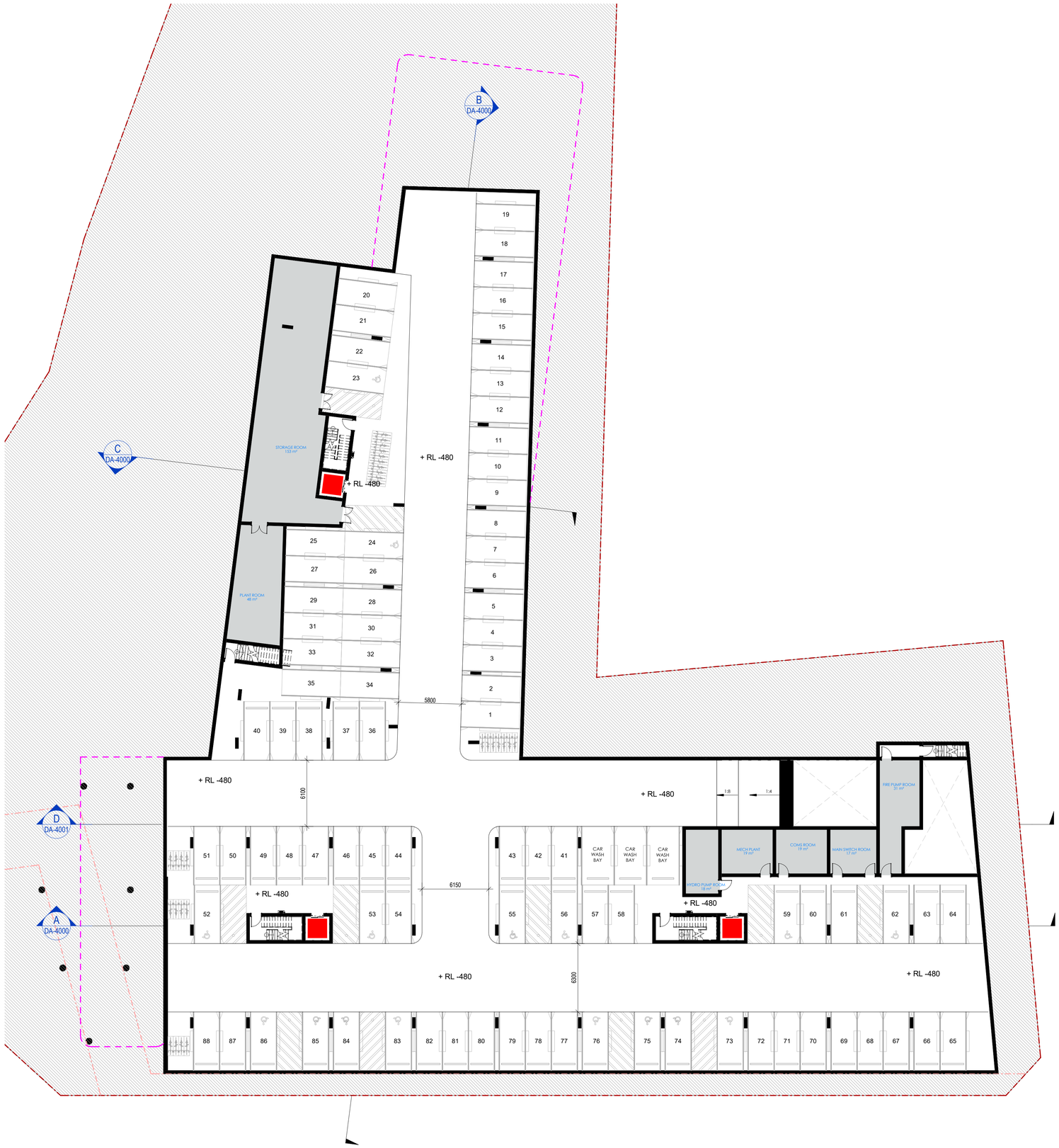

LEGEND

- 1 BED
- 2 BED
- 2 BED - ADA
- 3 BED
- 3 BED - ADA
- 4 BED
- BALCONY
- COMMUNAL
- SERVICE ROOM

PARKING SCHEDULE

TYPE	QTY
Residential Adaptable Car Space (5400 x 2400)	16
Residential Car Space (5400 x 2400)	72
Residential Car Wash Bay	3
	91

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DEVELOPMENT APPLICATION

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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	24/11/2023	DA RFI Response	JA
D	03/09/2024	DA Submission	BA

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0 4m
1:100
SCALE: 1 : 200 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - BASEMENT FLOOR PLAN

SHEET NUMBER: **DA-2002**
REV: **D**
DATE: 03/09/2024

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A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	24/11/2023	DA RFI Response	JA
D	03/09/2024	DA Submission	BA

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SCALE: 1 : 250 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - GROUND SURVEY UNDERLAY

SHEET NUMBER: **DA-2003**
REV: **D**
DATE: 03/09/2024

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LEGEND

- 1 BED
- 2 BED
- 2 BED - ADA
- 3 BED
- 3 BED - ADA
- 4 BED
- BALCONY
- COMMUNAL
- SERVICE ROOM

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	24/11/2023	DA RFI Response	JA
D	03/09/2024	DA Submission	BA

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DEVELOPMENT APPLICATION

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SCALE: 1 : 200 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - GROUND FLOOR PLAN

SHEET NUMBER: **DA-2004**
REV: **D**
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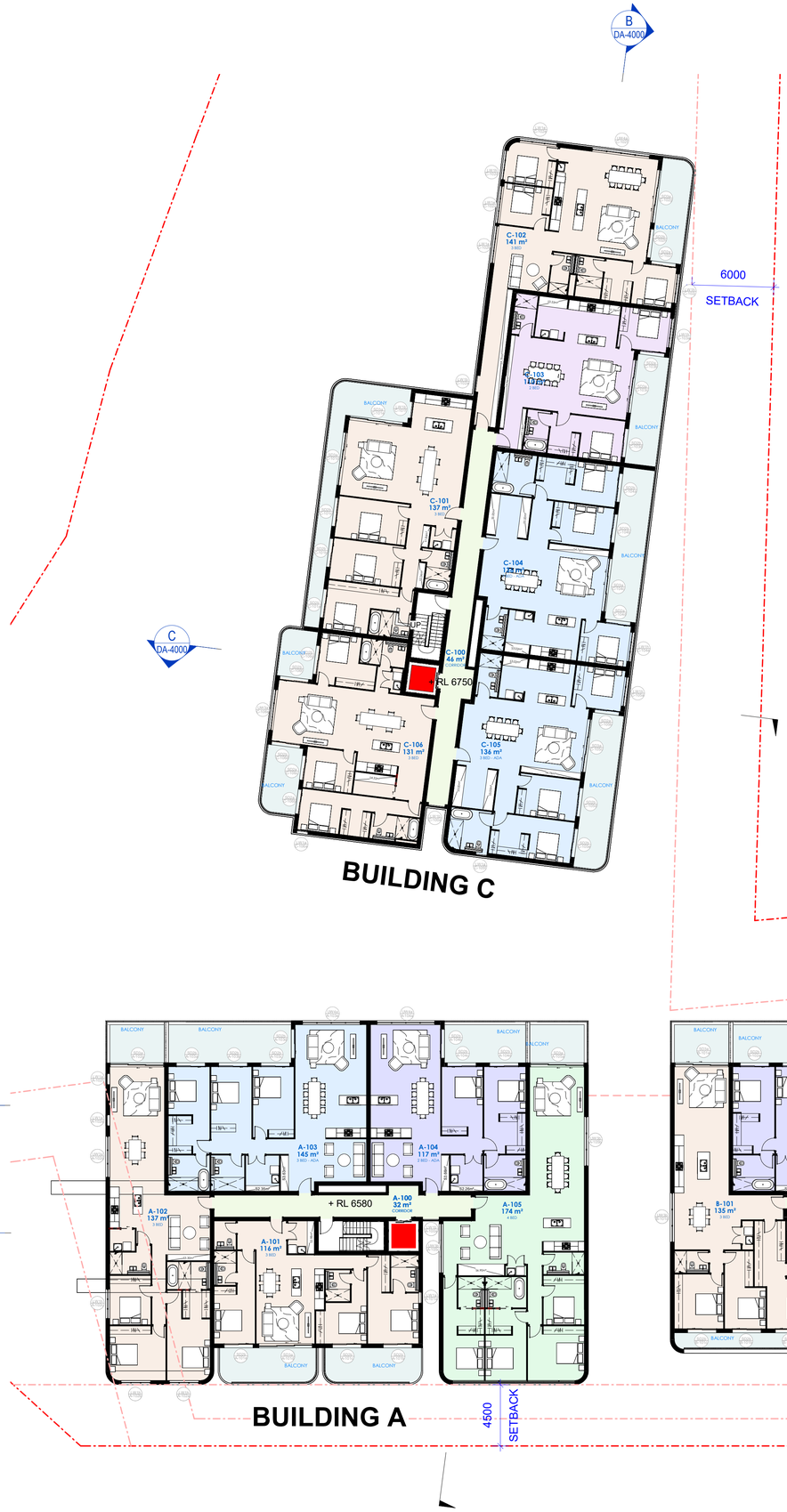

LEGEND

- 1 BED
- 2 BED
- 2 BED - ADA
- 3 BED
- 3 BED - ADA
- 4 BED
- BALCONY
- COMMUNAL
- SERVICE ROOM

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
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C	03/09/2024	DA Submission	BA

PRELIMINARY
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DEVELOPMENT APPLICATION

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SCALE: 1 : 200 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - LEVEL 01 PLAN

SHEET NUMBER: **DA-3000**
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LEGEND

- 1 BED
- 2 BED
- 2 BED - ADA
- 3 BED
- 3 BED - ADA
- 4 BED
- BALCONY
- COMMUNAL
- SERVICE ROOM

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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DEVELOPMENT APPLICATION

ARCHITECT:
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SCALE: 1 : 200 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - LEVEL 02 PLAN

SHEET NUMBER: **DA-3001**
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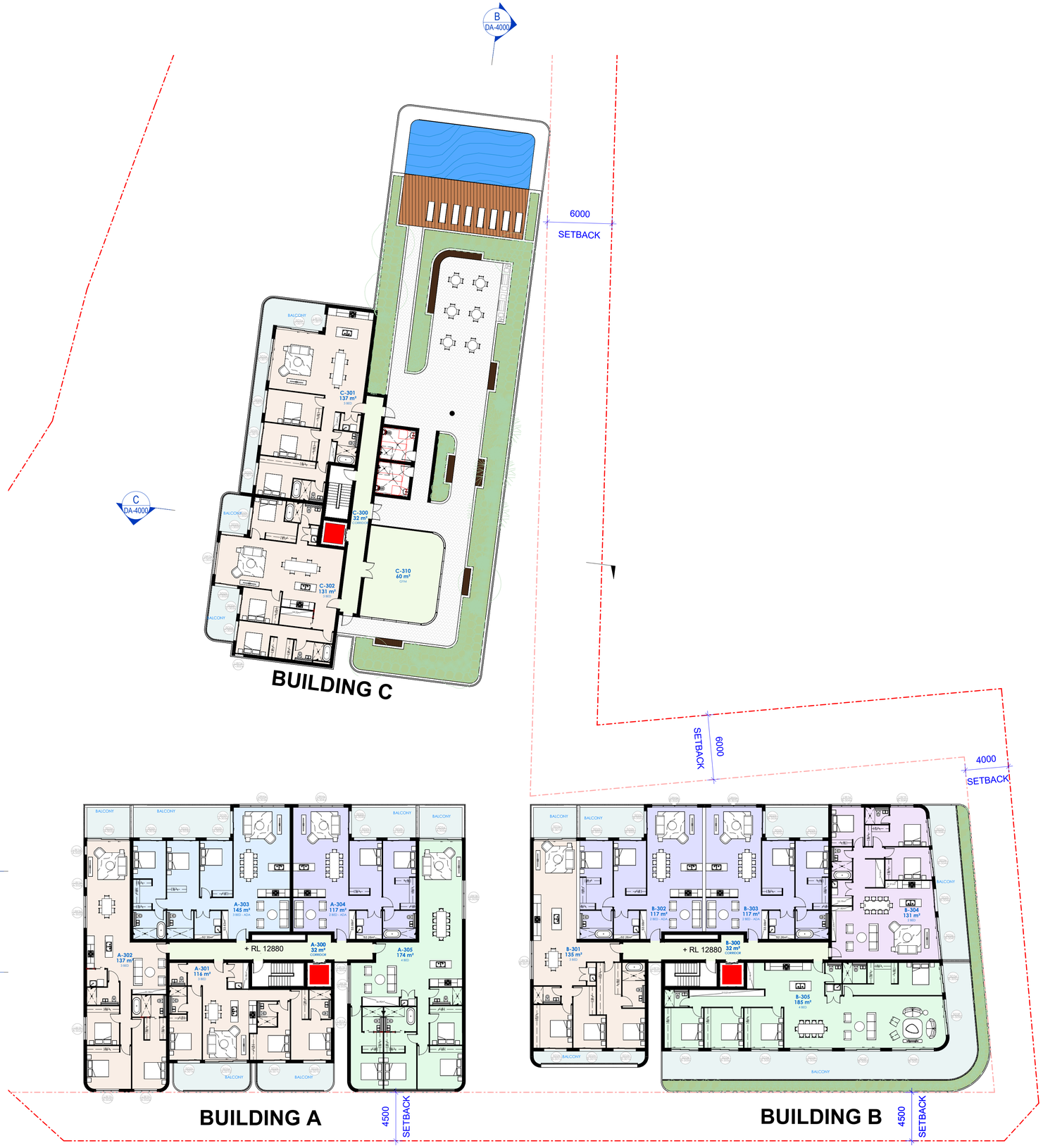

LEGEND

- 1 BED
- 2 BED
- 2 BED - ADA
- 3 BED
- 3 BED - ADA
- 4 BED
- BALCONY
- COMMUNAL
- SERVICE ROOM

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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SCALE: 1 : 200 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - LEVEL 03 PLAN

SHEET NUMBER: **DA-3002**
REV: **C**
DATE: 03/09/2024

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PRELIMINARY
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DEVELOPMENT APPLICATION

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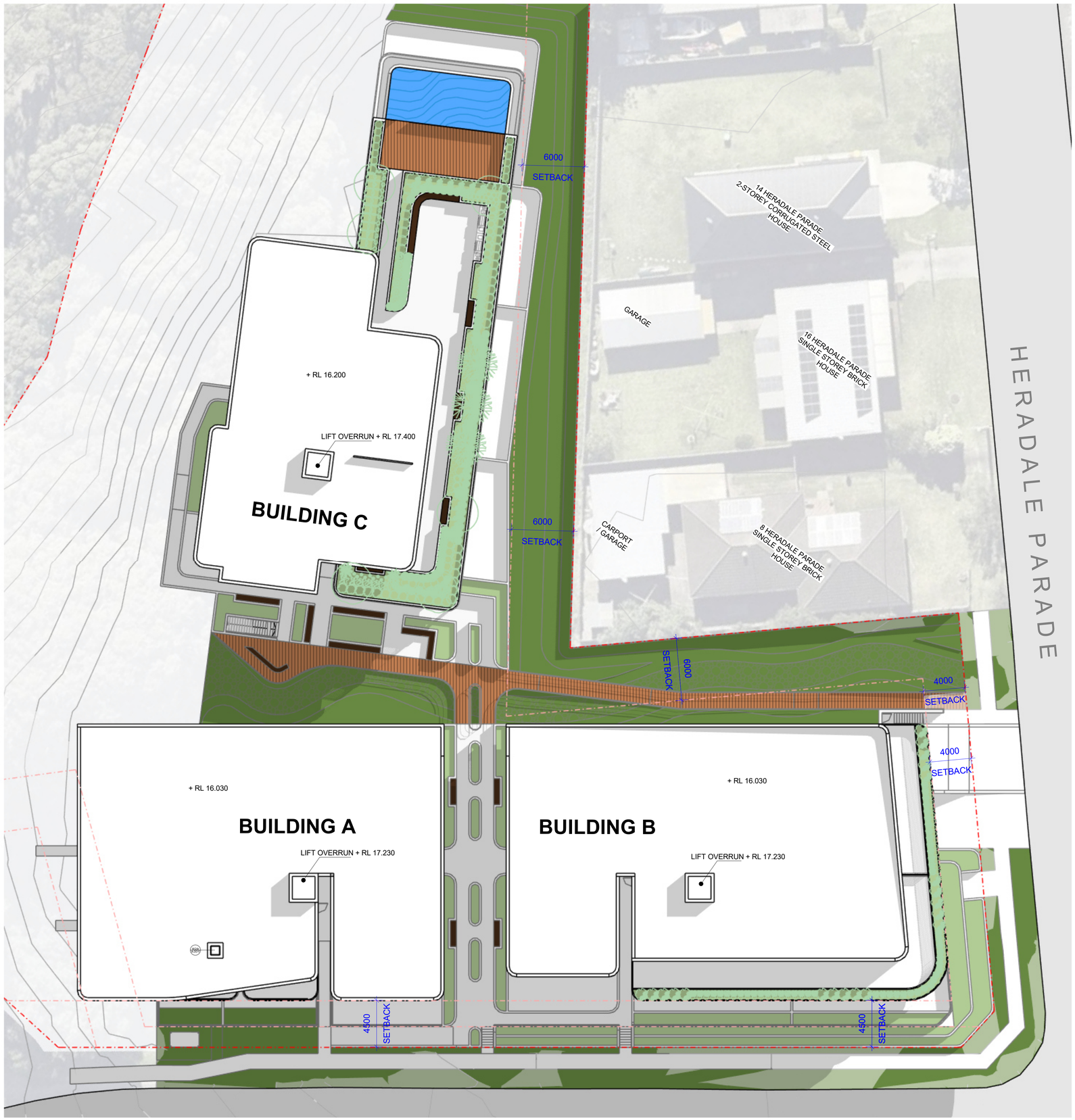

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	02/06/2023	DA RFI Response	SK
C	24/11/2023	DA RFI Response	JA
D	03/09/2024	DA Submission	BA

PRELIMINARY
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DEVELOPMENT APPLICATION

ARCHITECT:
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N
0 4m
1:100
SCALE: 1 : 200 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - ROOF PLAN

SHEET NUMBER: **DA-3003**
REV: **D**
DATE: 03/09/2024

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REV	DATE	DESCRIPTION	APP
A	05/06/2023	DA RFI Response	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
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N
0 4m
SCALE: 1 : 250 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
GA - ROOF SURVEY UNDERLAY

SHEET NUMBER: **DA-3004** REV: **C**
DATE: 03/09/2024

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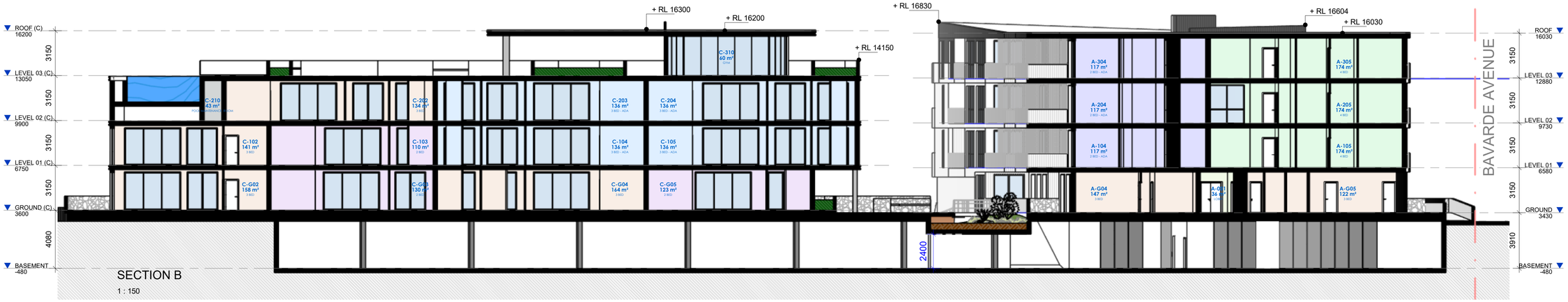
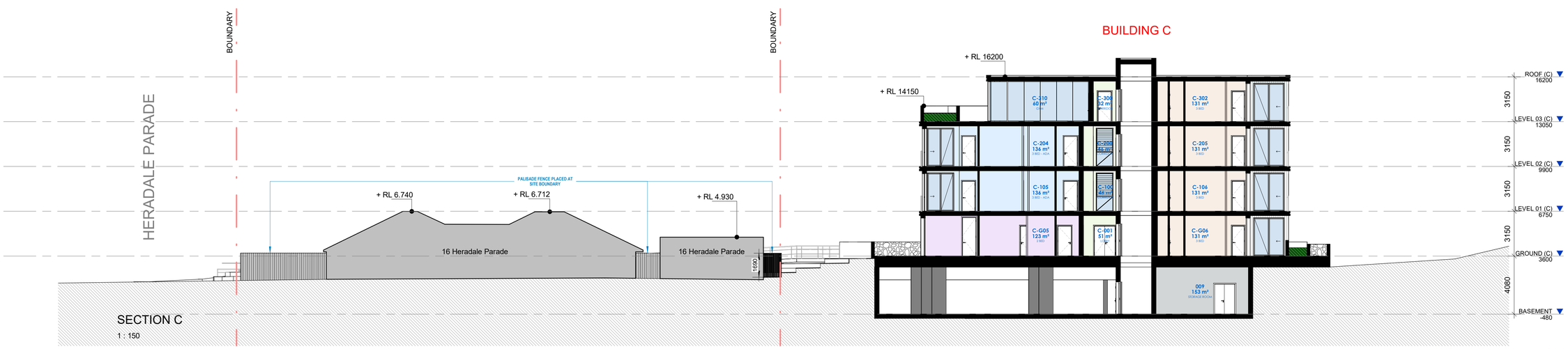
9/2/2024 4:47:09 PM





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NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	22/03/2024	Council RFI Response	BA
D	03/09/2024	DA Submission	BA

ARCHITECT:
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SCALE: 1 : 150 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SECTIONS

SHEET NUMBER: **DA-4000**
REV: **D**
DATE: 03/09/2024

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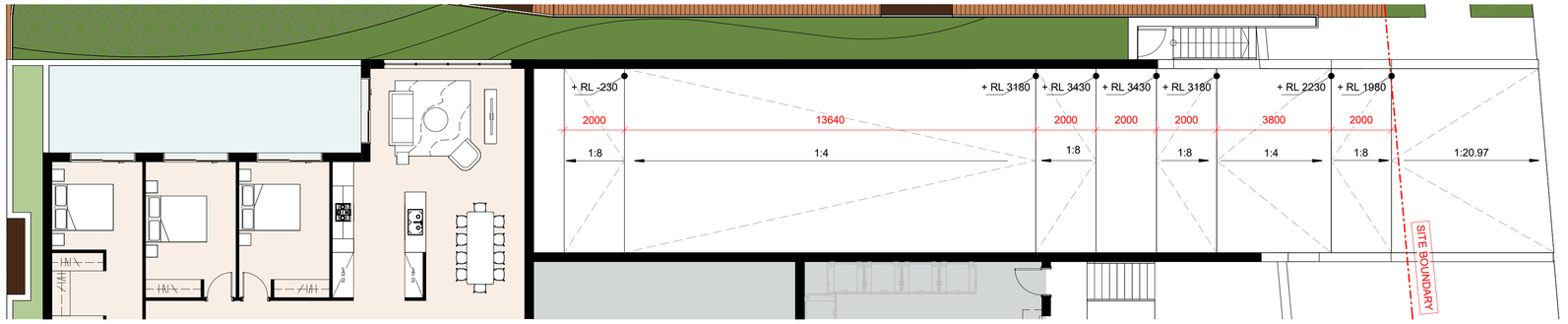
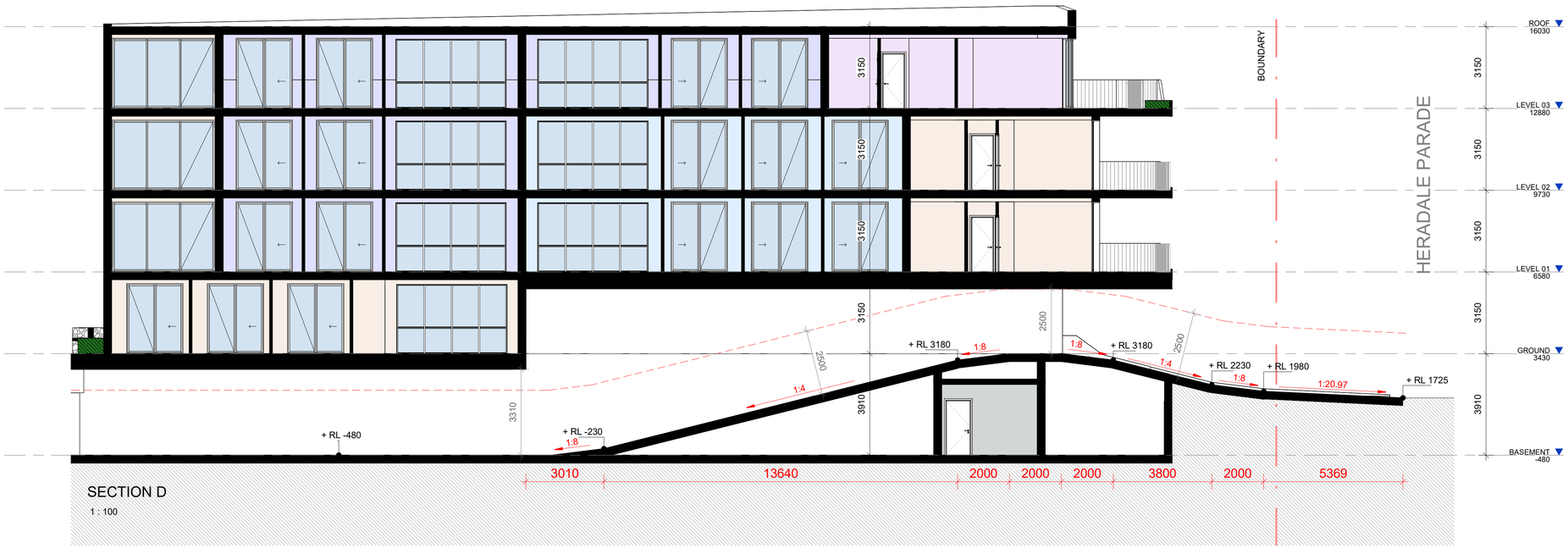
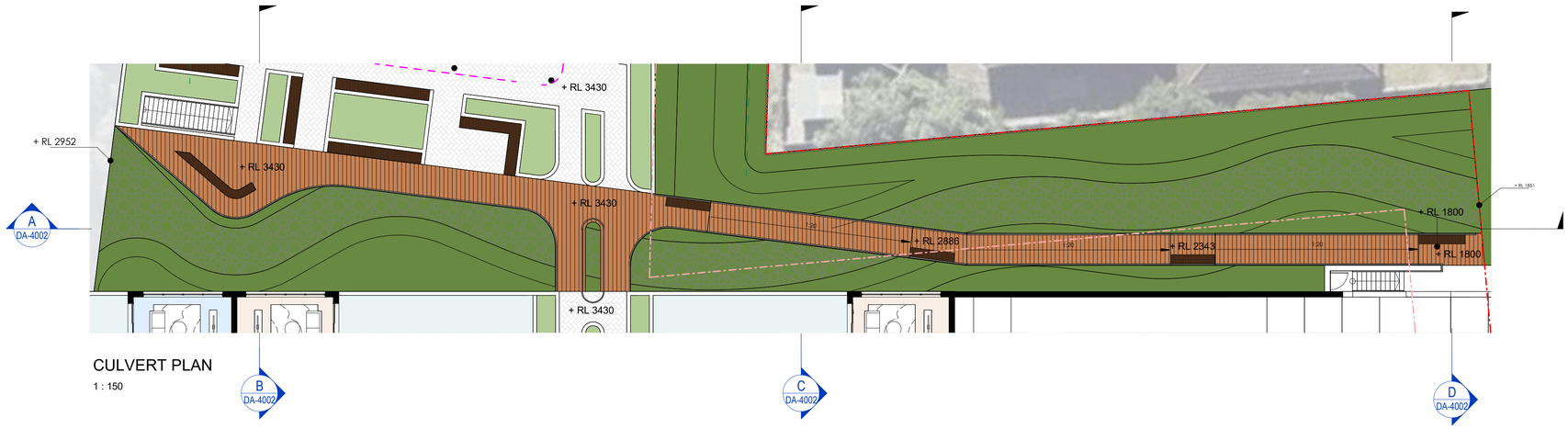


BASEMENT RAMP_GROUND FLOOR

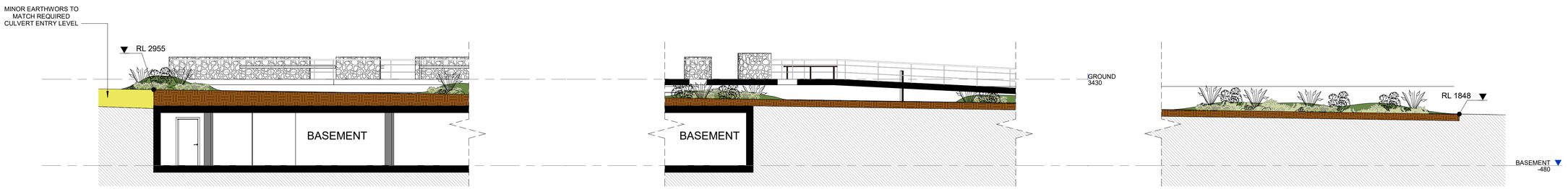
1 : 100


BOUNDARY
HERADALE PARADE
ROOF
16030
LEVEL 03
12880
LEVEL 02
9730
LEVEL 01
6580
GROUND
3430
BASEMENT
-480
3150
3150
3150



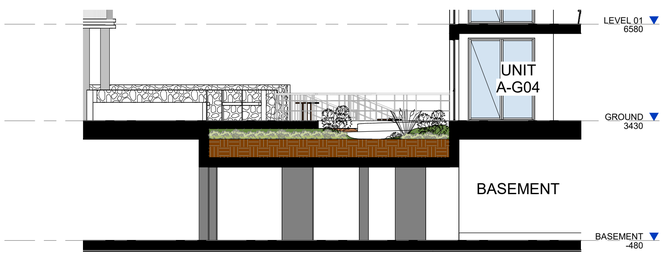
CULVERT PLAN

1 : 150



CULVERT SECTION A

1 : 100



CULVERT SECTION B

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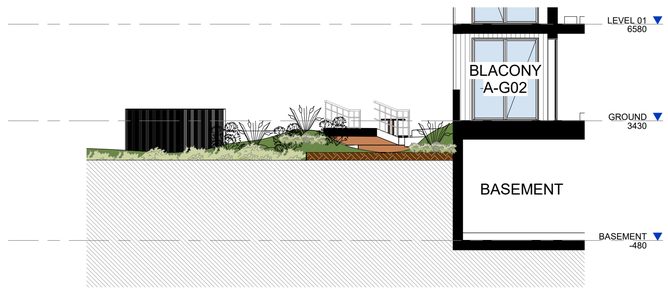
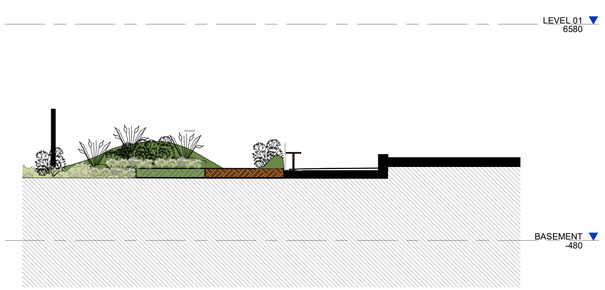


CULVERT SECTION C

1 : 100



CULVERT SECTION D

1 : 100

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DEVELOPMENT APPLICATION

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B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
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W | www.PlaceStudio.com.au E | Studio@PlaceStudio.com.au

SCALE: As indicated @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
CULVERT SECTION

SHEET NUMBER: **DA-4002**
REV: **C**
DATE: 03/09/2024

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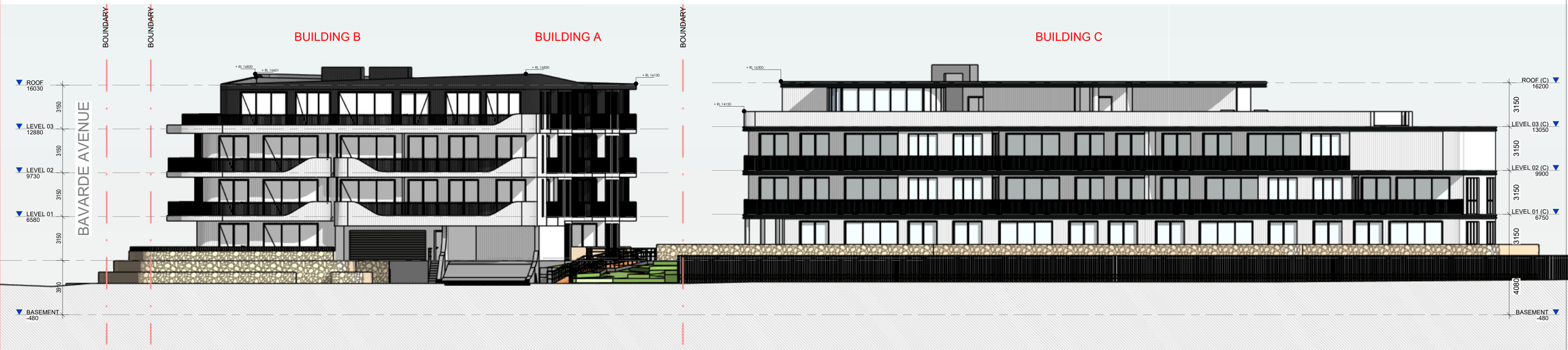
9/2/2024 4:20:52 PM

SOUTH ELEVATION - BAVARD AVENUE

1 : 150



EAST ELEVATION - HERADALE PARADE

1 : 150

PRELIMINARY
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DEVELOPMENT APPLICATION

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B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
PLACE STUDIO
PLACE STUDIO AU PTY LTD |

SCALE: 1 : 150 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SOUTH & EAST ELEVATIONS

SHEET NUMBER: **DA-5000**
REV: **C**
DATE: 03/09/2024

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9/2/2024 4:21:04 PM

BUILDING A - SOUTH ELEVATION

1 : 150

BUILDING A - EAST ELEVATION

1 : 150

BUILDING A - NORTH ELEVATION

1 : 150

BUILDING A - WEST ELEVATION

1 : 150

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

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C	03/09/2024	DA Submission	BA

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SCALE: 1 : 150 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
BUILDING A ELEVATIONS

SHEET NUMBER: **DA-5001**
REV: **C**
DATE: 03/09/2024

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9/2/2024 4:21:20 PM

BUILDING B - SOUTH ELEVATION

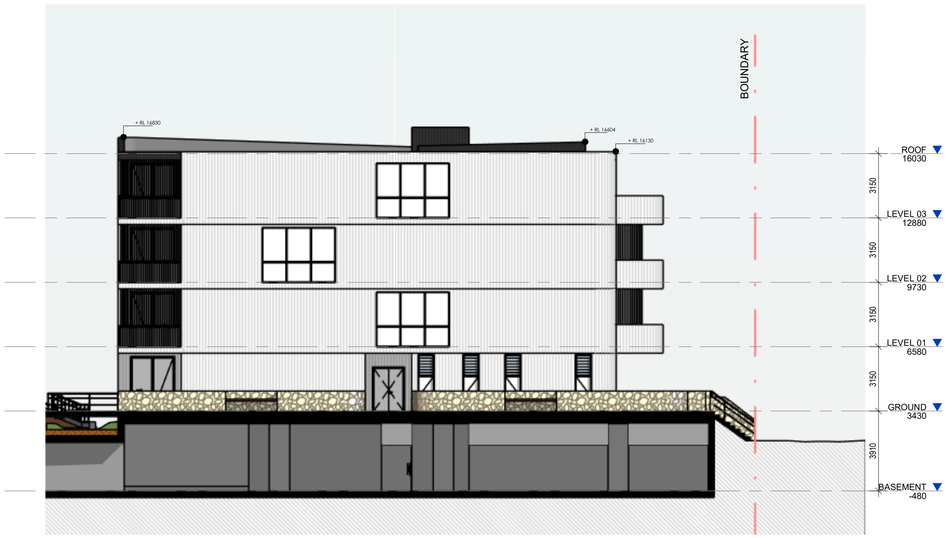
1 : 150

BUILDING B - EAST ELEVATION

1 : 150

BUILDING B - NORTH ELEVATION

1 : 150



BUILDING B - WEST ELEVATION

1 : 150

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

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C	03/09/2024	DA Submission	BA

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SCALE: 1 : 150 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
BUILDING B - ELEVATIONS

SHEET NUMBER: **DA-5002**
REV: **C**
DATE: 03/09/2024

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BUILDING C - WEST ELEVATION

1 : 150

BUILDING C - NORTH ELEVATION

1 : 150

BUILDING C - EAST ELEVATION

1 : 150

BUILDING C - SOUTH ELEVATION

1 : 150

PRELIMINARY
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DEVELOPMENT APPLICATION

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C	03/09/2024	DA Submission	BA

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SCALE: 1 : 150 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
BUILDING C - ELEVATIONS

SHEET NUMBER: **DA-5003**
REV: **C**
DATE: 03/09/2024

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9/2/2024 4:21:50 PM

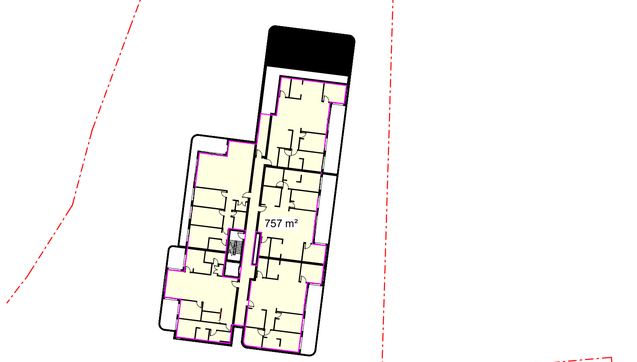
GROUND

1 : 500

LEVEL 01

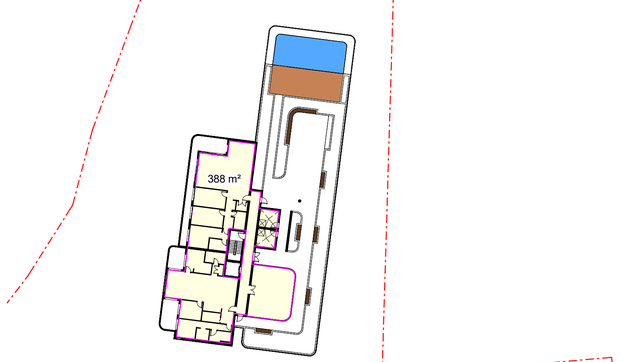
1 : 500

GFA	
Level	**Area**
GROUND	**901 m²**
GROUND	**592 m²**
GROUND	**596 m²**
LEVEL 01	**867 m²**
LEVEL 01	**743 m²**
LEVEL 01	**798 m²**
LEVEL 02	**757 m²**
LEVEL 02	**743 m²**
LEVEL 02	**798 m²**
LEVEL 03	**388 m²**
LEVEL 03	**743 m²**
LEVEL 03	**738 m²**
	8664 m²



LEVEL 02

1 : 500



LEVEL 03

1 : 500

SITE AREA:	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²
MAX FSR:	**NA**	**DEEP SOIL REQD:**	**15.00%**	**C.O.S REQD:**	**25% =** 2,102.50 m²
MAX GFA:	NA	**DEEP SOIL REQD:**	1,261.50 m²	**C.O.S ON SITE:**	**57% =** 4,789.00 m²
PROPOSED GFA:	8664.00 m²	**DEEP SOIL ON SITE:**	3933.00 m²	> 3Hrs Sun	**80% =** 3845.00 m²
PROPOSED FSR:	**1.03: 1**		**46.76%**	< 3Hrs Sun	**20% =** 944.00 m²

SITE AREA:	8,410.00 m²
LANDSCAPE REQD:	**50.00%**
LANDSCAPE REQD:	4205.00 m²
LANDSCAPE ON SITE:	4440.00 m²
	52.80%

PRELIMINARY

NOT FOR CONSTRUCTION

DEVELOPMENT APPLICATION

Document Notes

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C	03/09/2024	DA Submission	BA

ARCHITECT:

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N

SCALE: 1 : 500 @ A1

PROJECT:

#2021029

HERADALE
BATEMANS BAY

20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:

GROSS FLOOR AREA DIAGRAMS

SHEET NUMBER: **DA-7000**

REV: **C**

DATE: 03/09/2024

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9/2/2024 4:22:03 PM

Deep Soil	
Name	**Area**
DEEP SOIL	**3933 m²**

Deep Soil

DEEP SOIL

SITE AREA:	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²
MAX FSR:	**NA**	**DEEP SOIL REQD:**	**15.00%**	**C.O.S REQD:**	**25% =** 2,102.50 m²	**LANDSCAPE REQD:**	**50.00%**
MAX GFA:	NA	**DEEP SOIL REQD:**	1,261.50 m²			**LANDSCAPE REQD:**	4205.00 m²
PROPOSED GFA:	8664.00 m²	**DEEP SOIL ON SITE:**	3933.00 m²	**C.O.S ON SITE:**	**57% =** 4,789.00 m²	**LANDSCAPE ON SITE:**	4440.00 m²
PROPOSED FSR:	**1.03: 1**		**46.76%**	> 3Hrs Sun	**80% =** 3845.00 m²		**52.80%**
				< 3Hrs Sun	**20% =** 944.00 m²		

NOT FOR CONSTRUCTION

CONSTRUCTION CERTIFICATE

Document Notes

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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

KEY PLAN:

CLIENT:

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ARCHITECT:

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0 4m

1:100

PROJECT:

#2021029

HERADALE BATEMANS BAY

20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:

DEEP SOIL CALCULATION

SHEET NUMBER: **DA-7010**

REV: **C**

DATE: 03/09/2024

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GROUND FLOOR COS

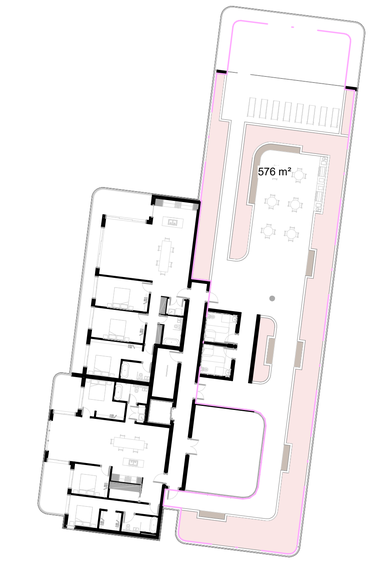
1 : 300

COMMUNAL OPEN SPACE

COMMUNAL OPEN SPACE <3 Hrs

COMMUNAL OPEN SPACE >3 Hrs

Communal Open Space	
Name	**Area**
COMMUNAL OPEN SPACE <3 Hrs	**421 m²**
COMMUNAL OPEN SPACE <3 Hrs	**244 m²**
COMMUNAL OPEN SPACE <3 Hrs	**279 m²**
	944 m²
COMMUNAL OPEN SPACE >3 Hrs	**3269 m²**
COMMUNAL OPEN SPACE >3 Hrs	**576 m²**
	3845 m²
	4789 m²



LEVEL 03 COS

1 : 300

SITE AREA:	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²
MAX FSR:	**NA**	**DEEP SOIL REQD:**	**15.00%**	**C.O.S REQD:**	**25% =** 2,102.50 m²	**LANDSCAPE REQD:**	**50.00%**
MAX GFA:	NA	**DEEP SOIL REQD:**	1,261.50 m²			**LANDSCAPE REQD:**	4205.00 m²
PROPOSED GFA:	8664.00 m²	**DEEP SOIL ON SITE:**	3933.00 m²	**C.O.S ON SITE:**	**57% =** 4,789.00 m²	**LANDSCAPE ON SITE:**	4440.00 m²
PROPOSED FSR:	**1.03: 1**		**46.76%**	> 3Hrs Sun	**80% =** 3845.00 m²		**52.80%**
				< 3Hrs Sun	**20% =** 944.00 m²		

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

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N

SCALE: 1 : 300 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
COMMUNAL OPEN SPACE COMPLIANCE

SHEET NUMBER: **DA-7020**
REV: **C**
DATE: 03/09/2024

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CROSSED VENT DIAGRAM - GROUND

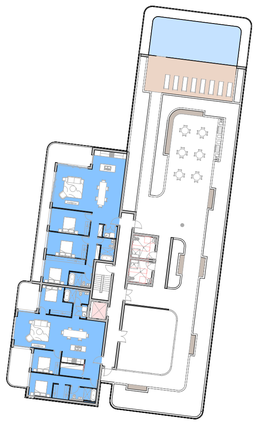
1 : 400

CROSSED VENT DIAGRAM - LEVEL 01

1 : 400

CROSSED VENT DIAGRAM - LEVEL 02

1 : 400



CROSSED VENT DIAGRAM - LEVEL 03

1 : 400

CROSS VENTILATION

UNITS CROSS VENTILATED	COUNT	PERCENTAGE
No	20	33%
Yes	40	67%
	60	

Cross Vent

No

Yes

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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W | www.PlaceStudio.com.au E | Studio@PlaceStudio.com.au

N

SCALE: 1 : 400 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
CROSS-VENTILATION DIAGRAM

SHEET NUMBER: **DA-7030**
REV: **C**
DATE: 03/09/2024

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9/2/2024 4:22:36 PM

SOLAR ACCESS DIAGRAM - GROUND

1 : 400

SOLAR ACCESS DIAGRAM - LEVEL 01

1 : 400

SOLAR ACCESS DIAGRAM - LEVEL 02

1 : 400

SOLAR ACCESS DIAGRAM - LEVEL 03

1 : 400

SOLAR ACCESS

UNITS SOLAR ACCESS	COUNT	PERCENTAGE
3 HOURS	45	75%
NO SOLAR	9	15%
PARTIAL SOLAR	6	10%
	60	

SOLAR ACCESS

3 HOURS

NO SOLAR

PARTIAL SOLAR

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
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REV	DATE	DESCRIPTION	APP
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C	03/09/2024	DA Submission	BA

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SCALE: 1 : 400 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY

20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SOLAR ACCESS

SHEET NUMBER: **DA-7040**
REV: **C**

DATE: 03/09/2024

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9/2/2024 4:22:49 PM

SITE AREA
8410 m²
LANDSCAPED AREA
4440 m²

SITE AREA:	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²	**SITE AREA:**	8,410.00 m²
MAX FSR:	**NA**	**DEEP SOIL REQD:**	**15.00%**	**C.O.S REQD:**	**25% =** 2,102.50 m²	**LANDSCAPE REQD:**	**50.00%**
MAX GFA:	NA	**DEEP SOIL REQD:**	1,261.50 m²			**LANDSCAPE REQD:**	4205.00 m²
PROPOSED GFA:	8664.00 m²	**DEEP SOIL ON SITE:**	3933.00 m²	**C.O.S ON SITE:**	**57% =** 4,789.00 m²	**LANDSCAPE ON SITE:**	4440.00 m²
PROPOSED FSR:	**1.03: 1**		**46.76%**	> 3Hrs Sun	**80% =** 3845.00 m²		**52.80%**
				< 3Hrs Sun	**20% =** 944.00 m²		

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
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SCALE: 1 : 350 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SITE COVERAGE DIAGRAM

SHEET NUMBER: **DA-7050** REV: **C**
DATE: 03/09/2024

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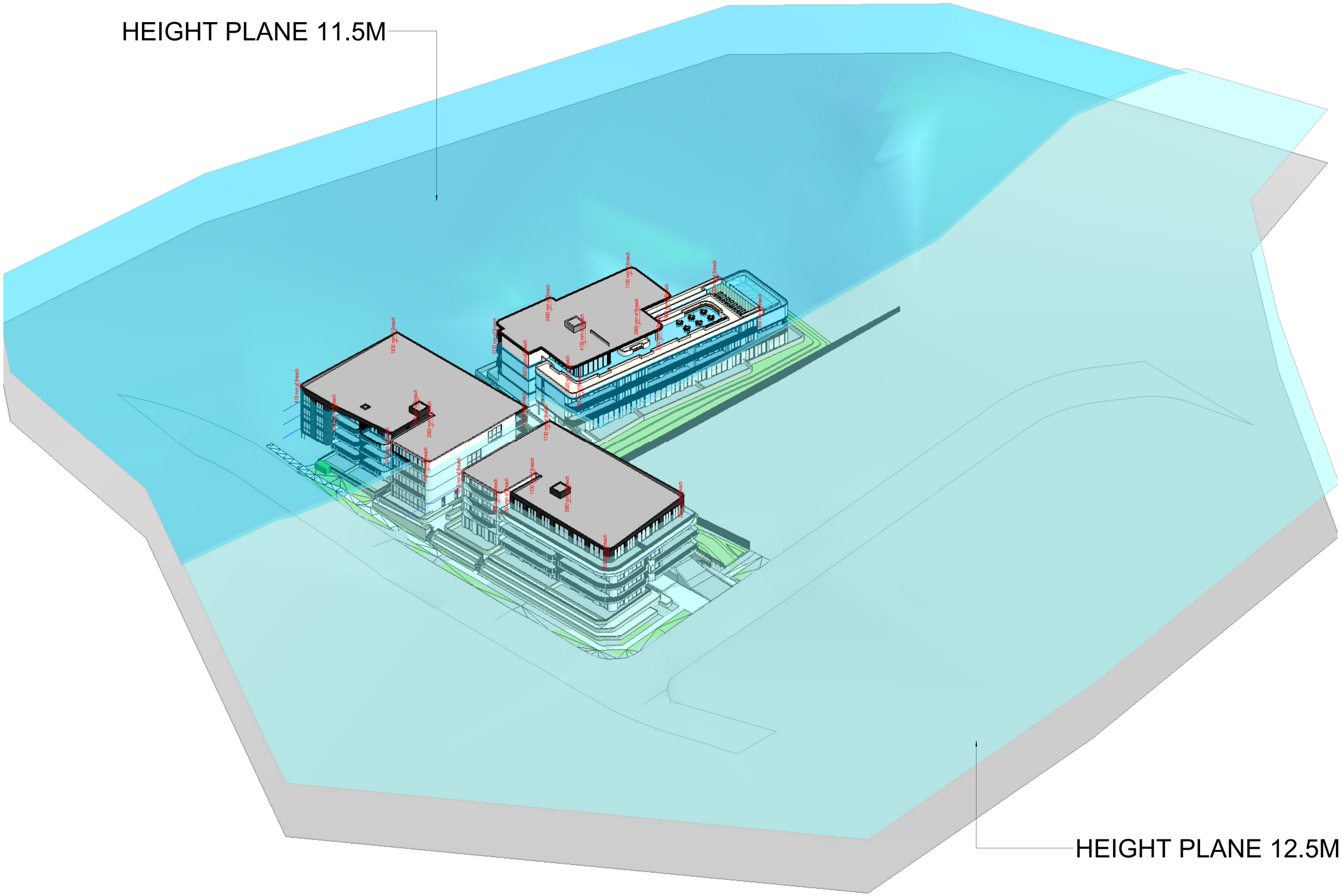
HEIGHT PLANE 11.5M



HEIGHT PLANE 12.5M

PRELIMINARY
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DEVELOPMENT APPLICATION

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PROJECT:
#2021029
HERADALE
BATEMANS BAY
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BATEMANS BAY

DRAWING TITLE:
HEIGHT PLANE

SHEET NUMBER: **DA-7060**
REV: **C**
DATE: 03/09/2024

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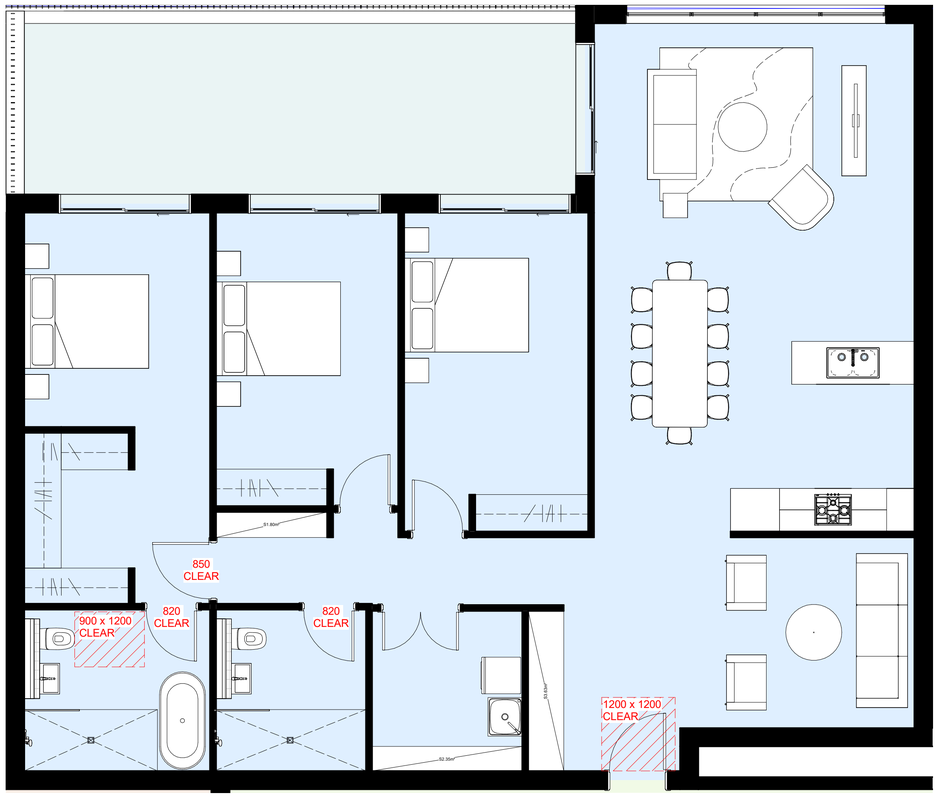
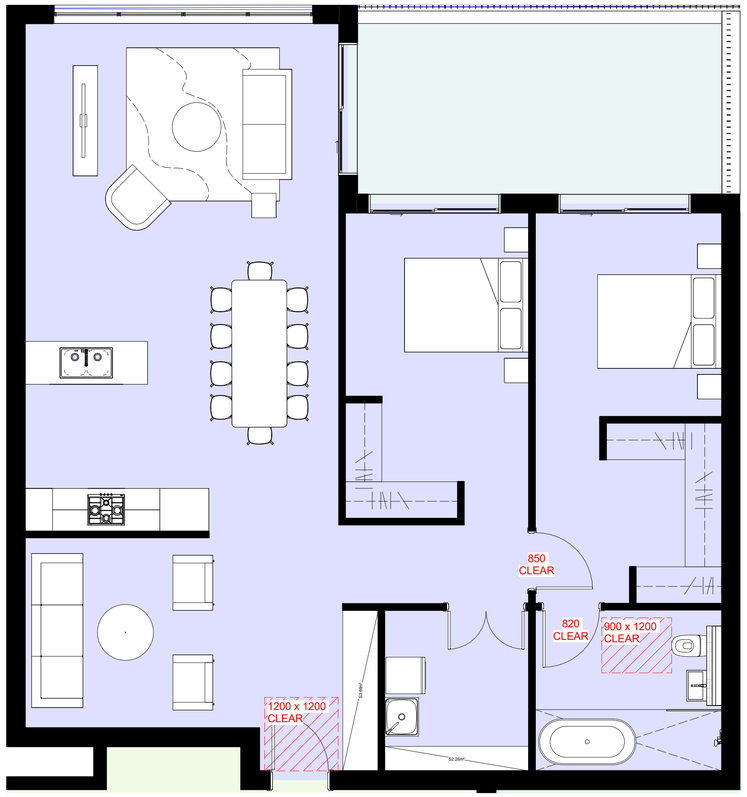


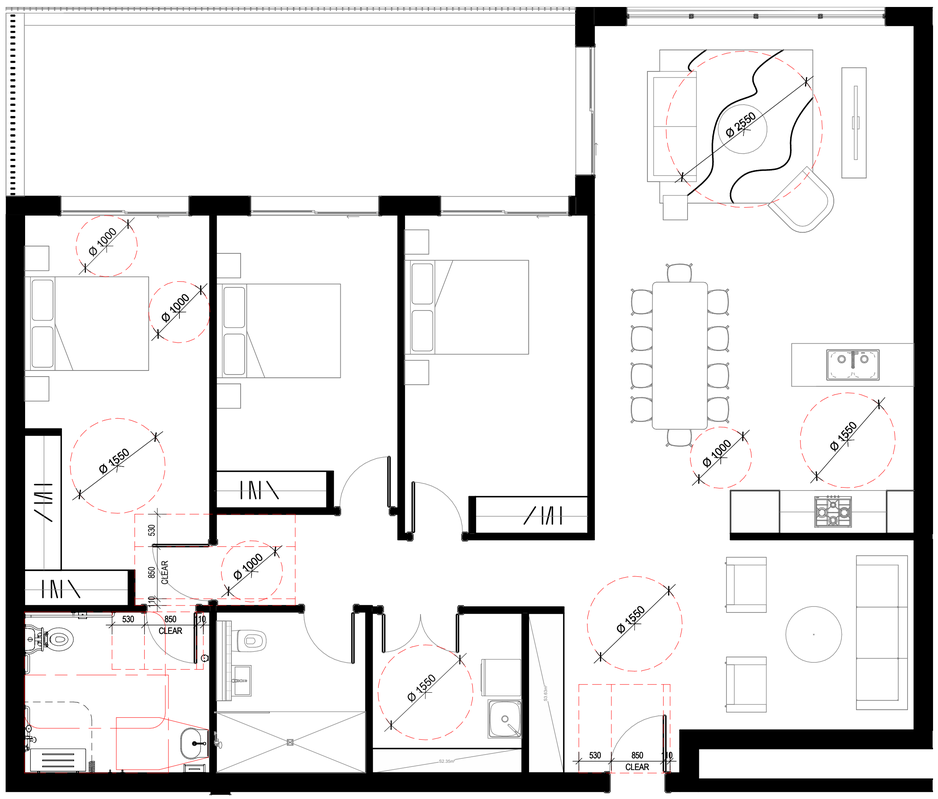
PRE-ADAPTABLE / LIVABLE_TYPE 1(3 BED)

1 : 50



PRE-ADAPTABLE / LIVABLE_TYPE 2(2 BED)

1 : 50



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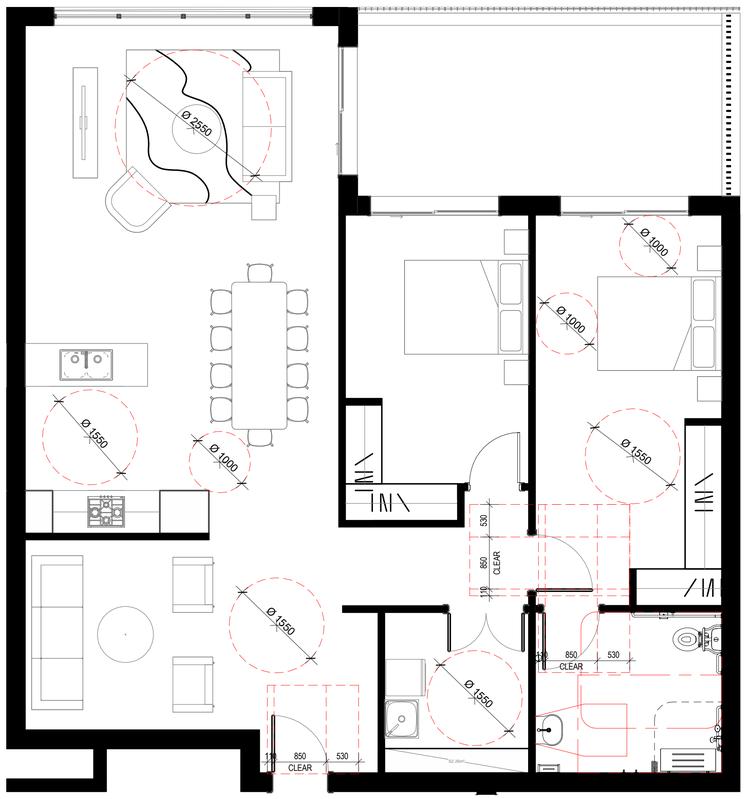
1 : 50



POST-ADAPTABLE_TYPE 2(2 BED)

1 : 50

UNIT MIX

TYPE	AREA (m²)	COUNT
1 BED	124.3 m²	2
2 BED	608.6 m²	5
2 BED - ADA	817.7 m²	7
3 BED	4130.3 m²	32
3 BED - ADA	1414.4 m²	10
4 BED	706.8 m²	4
60	7802.0 m²	60

ADAPTABLE UNITS

NO.	TYPE
A-G03	3 BED - ADA
A-103	3 BED - ADA
A-104	2 BED - ADA
B-102	2 BED - ADA
B-103	3 BED - ADA
C-104	3 BED - ADA
C-105	3 BED - ADA
A-203	3 BED - ADA
A-204	2 BED - ADA
B-202	2 BED - ADA
B-203	3 BED - ADA
C-203	3 BED - ADA
C-204	3 BED - ADA
A-303	3 BED - ADA
A-304	2 BED - ADA
B-302	2 BED - ADA
B-303	2 BED - ADA
17	

EXTRA CAPPED OFF SERVICES (PLUMBING SUPPLY AND WASTE) WITH SUITABLE SET - OUTS AND CLEARANCES TO ALLOW FOR REALOCATION OF BASIN AT POST ADAPATION, TO COMPLY WITH AS1428.1 THE CAPPED OFF PLUMBING SERVICES WILL NEED TO PROTUDE ANY WATER PROOFING

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
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A	21/03/2023	DA SUBMISSION	SK
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C	03/09/2024	DA Submission	BA

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ARCHITECT:
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N
0 4m
1:100
SCALE: 1 : 50 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
ADAPTABLE UNITS

SHEET NUMBER: **DA-7070**
REV: **C**
DATE: 03/09/2024

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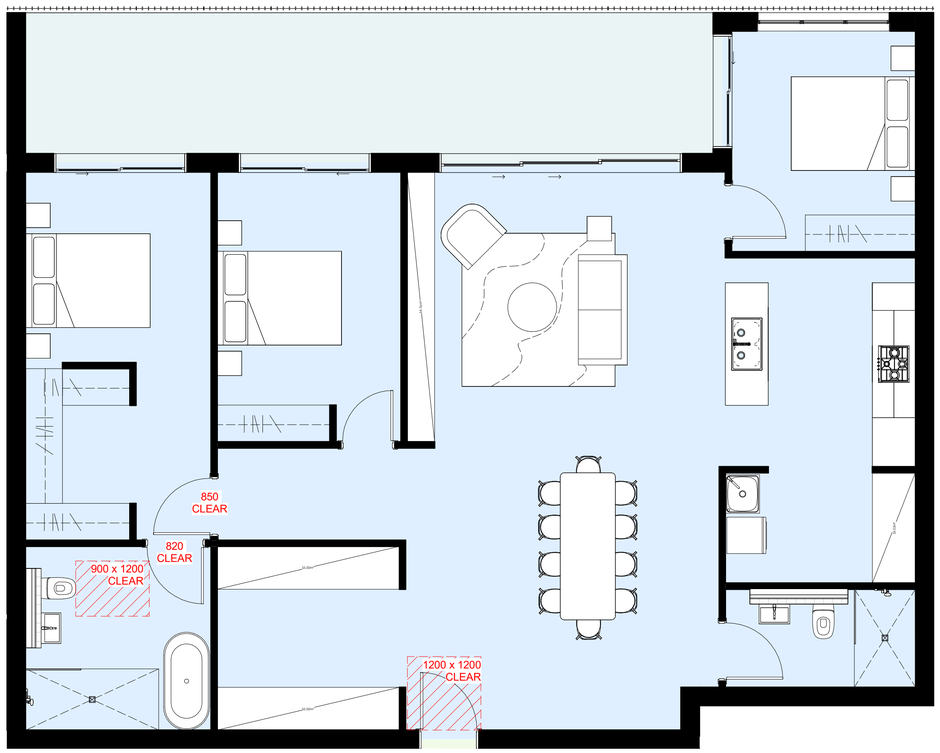
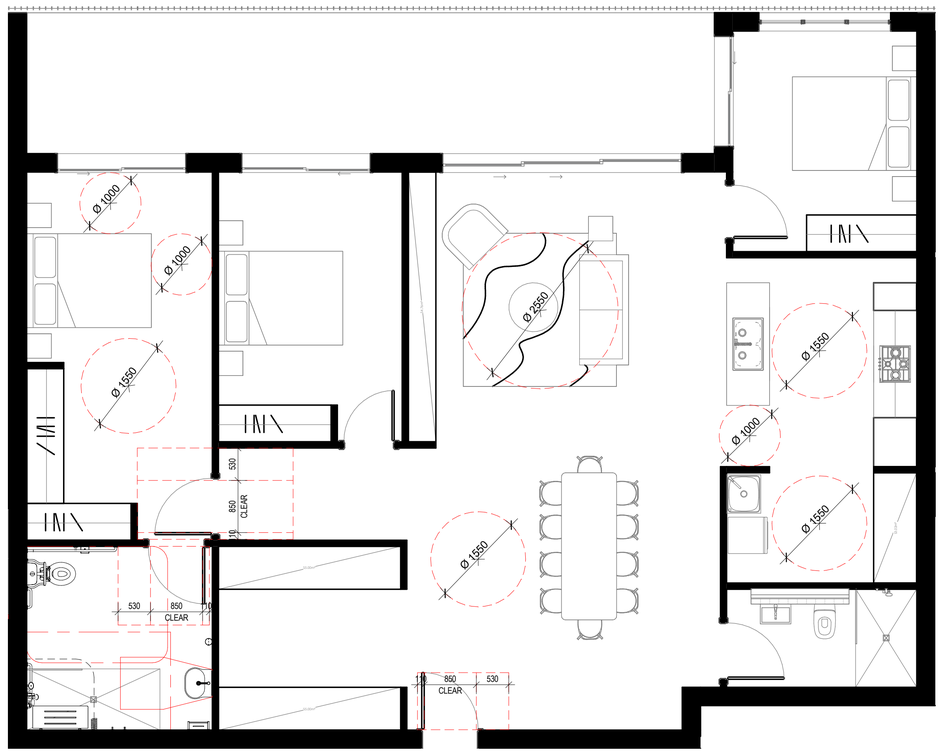


PRE-ADAPTABLE / LIVABLE_TYPE 3(2 BED)

1 : 50



POST-ADAPTABLE_TYPE 3(2 BED)

1 : 50

UNIT MIX

TYPE	AREA (m²)	COUNT
1 BED	124.3 m²	2
2 BED	608.6 m²	5
2 BED - ADA	817.7 m²	7
3 BED	4130.3 m²	32
3 BED - ADA	1414.4 m²	10
4 BED	706.8 m²	4
60	7802.0 m²	60

ADAPTABLE UNITS

NO.	TYPE
A-G03	3 BED - ADA
A-103	3 BED - ADA
A-104	2 BED - ADA
B-102	2 BED - ADA
B-103	3 BED - ADA
C-104	3 BED - ADA
C-105	3 BED - ADA
A-203	3 BED - ADA
A-204	2 BED - ADA
B-202	2 BED - ADA
B-203	3 BED - ADA
C-203	3 BED - ADA
A-303	3 BED - ADA
A-304	2 BED - ADA
B-302	2 BED - ADA
B-303	2 BED - ADA
17	

EXTRA CAPPED OFF SERVICES (PLUMBING SUPPLY AND WASTE) WITH SUITABLE SET - OUTS AND CLEARANCES TO ALLOW FOR REALOCATION OF BASIN AT POST ADAPATION, TO COMPLY WITH AS1428.1 THE CAPPED OFF PLUMBING SERVICES WILL NEED TO PROTUDE ANY WATER PROOFING

PRELIMINARY
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DEVELOPMENT APPLICATION

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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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ARCHITECT:
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0 4m
1:100
SCALE: 1 : 50 @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
ADAPTABLE UNITS

SHEET NUMBER: **DA-7071**
REV: **C**
DATE: 03/09/2024

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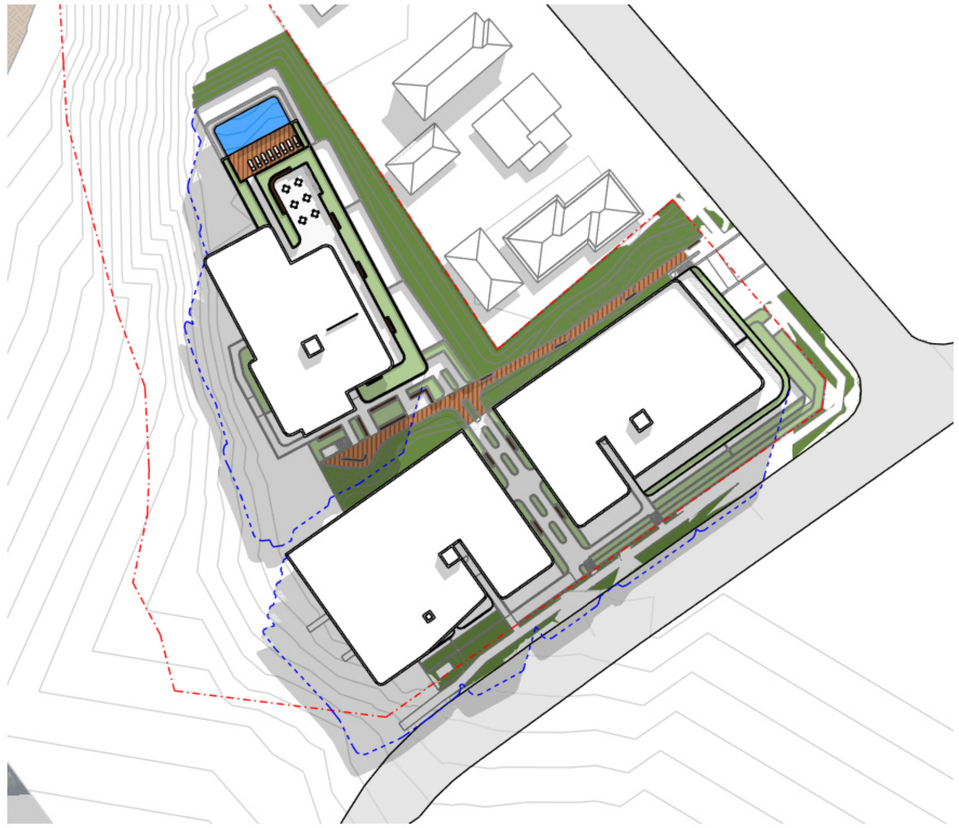
9/2/2024 4:23:23 PM

SHADOW STUDY - PROPOSED - 21 JUNE 9AM

1 : 500



SHADOW STUDY - PROPOSED - 21 JUNE 12PM

1 : 500

SHADOW STUDY - PROPOSED - 21 JUNE 3PM

1 : 500

LEGEND :

PERMISSIBLE SHADOW OUTLINE

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
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REV	DATE	DESCRIPTION	APP
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B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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N

SCALE: As indicated @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SHADOW DIAGRAM - 9AM -3PM

SHEET NUMBER: **DA-8000**
REV: **C**
DATE: 03/09/2024

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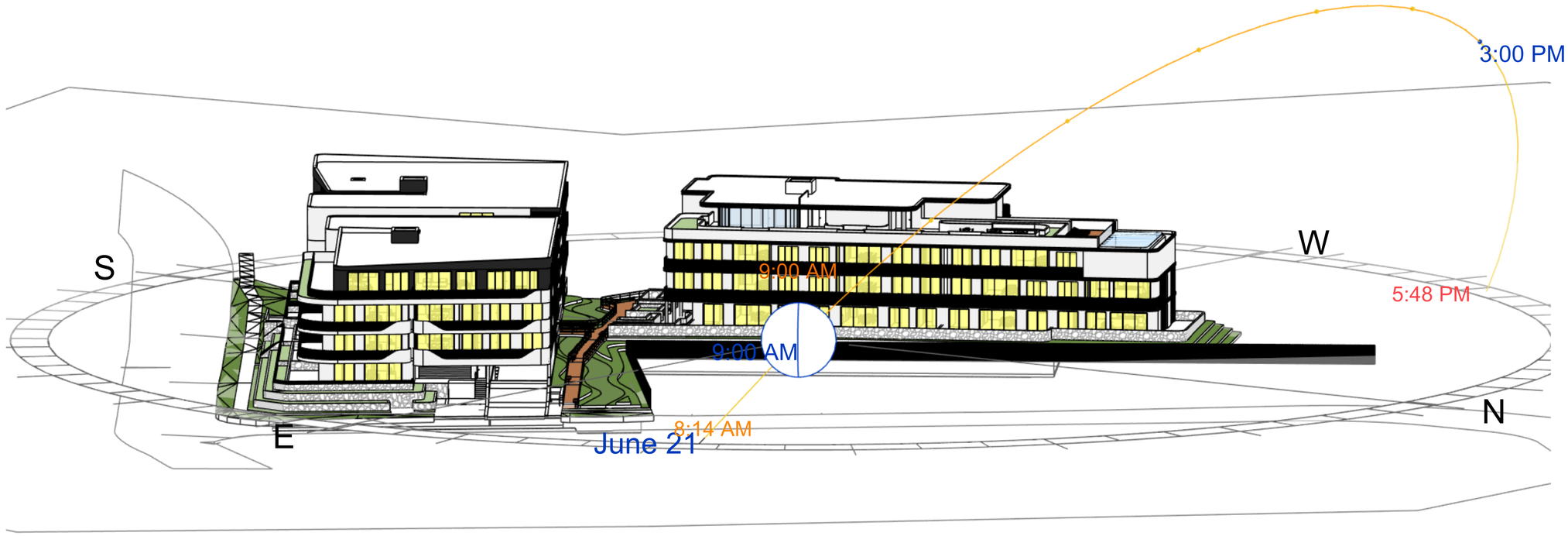

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A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 0900

SHEET NUMBER: **DA-8090**
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DATE: 03/09/2024

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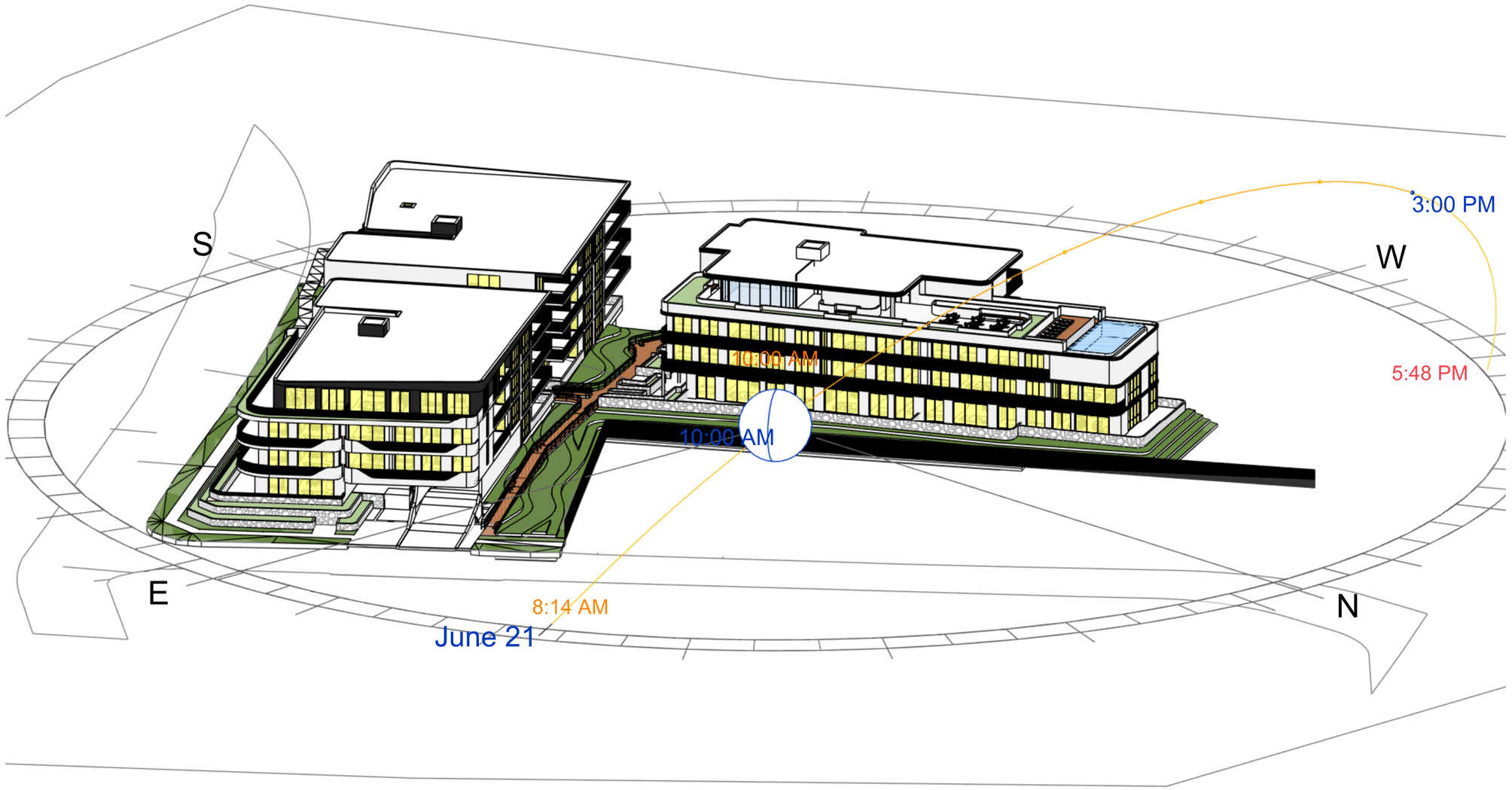

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DEVELOPMENT APPLICATION

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A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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N
0 4m
1:100
SCALE: @ A1

PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 1000

SHEET NUMBER: **DA-8100**
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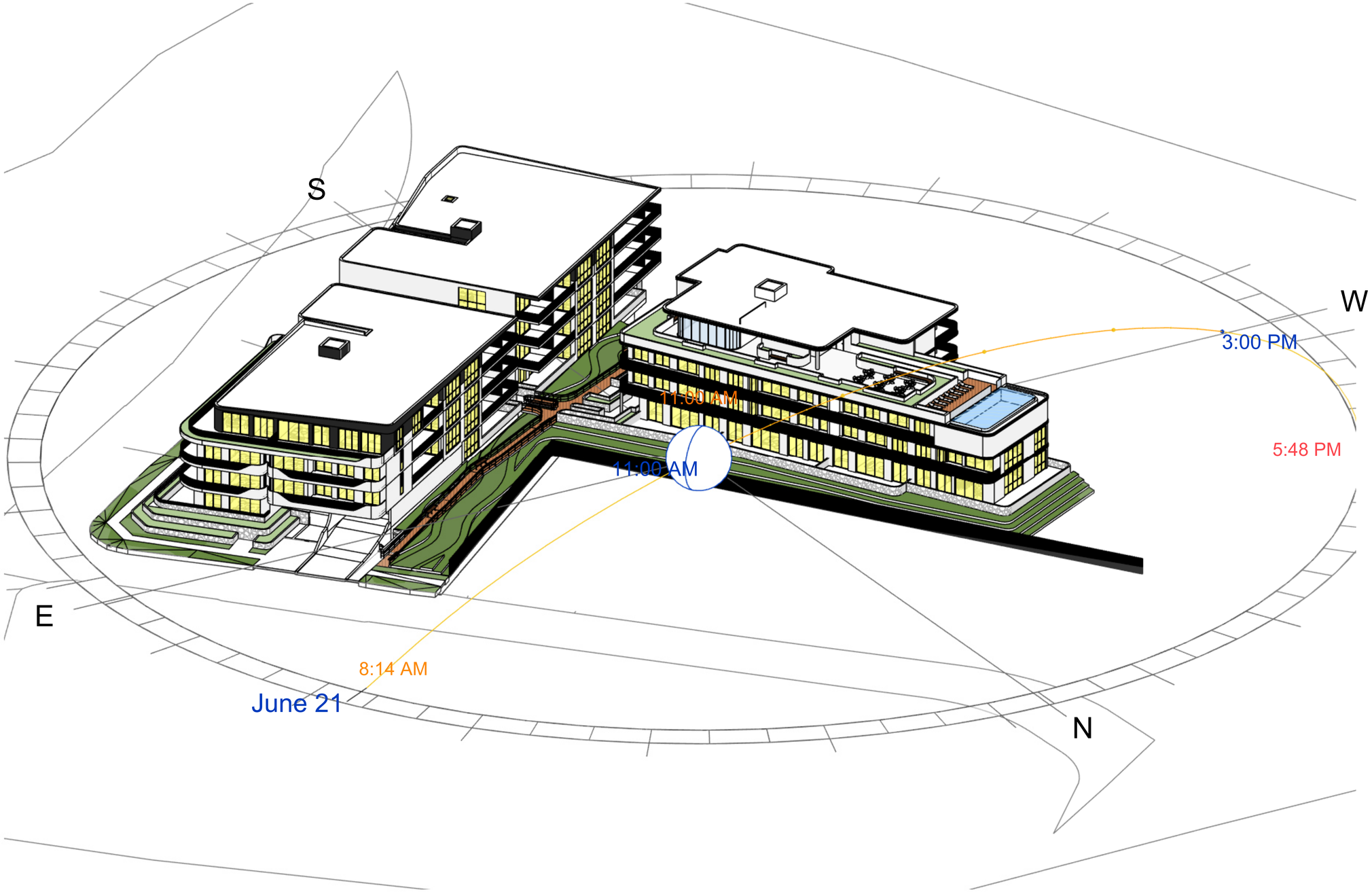

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C	03/09/2024	DA Submission	BA

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

ARCHITECT:
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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 1100

SHEET NUMBER: **DA-8110**
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DATE: 03/09/2024

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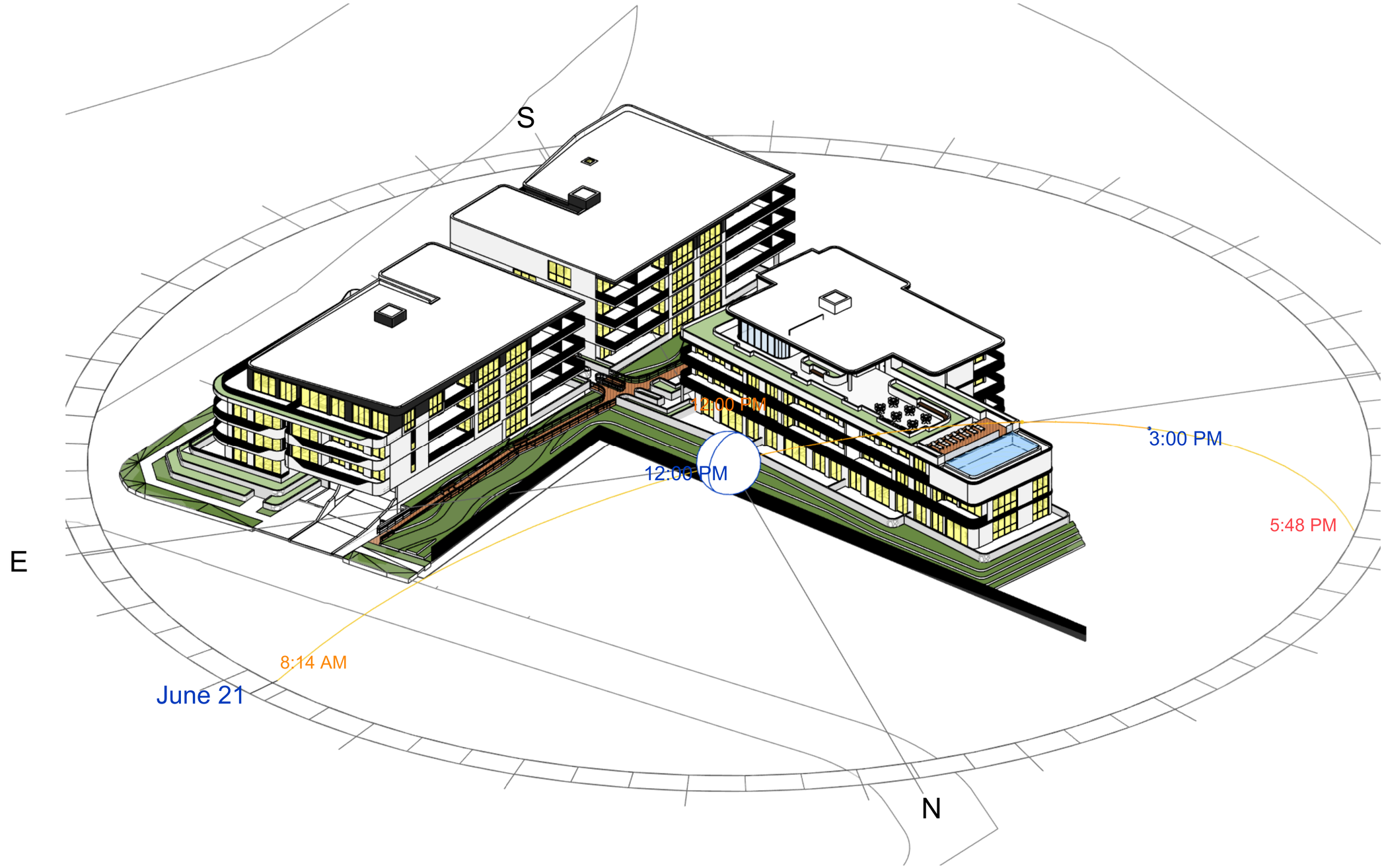

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DEVELOPMENT APPLICATION

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B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 1200

SHEET NUMBER: **DA-8120**
REV: **C**
DATE: 03/09/2024

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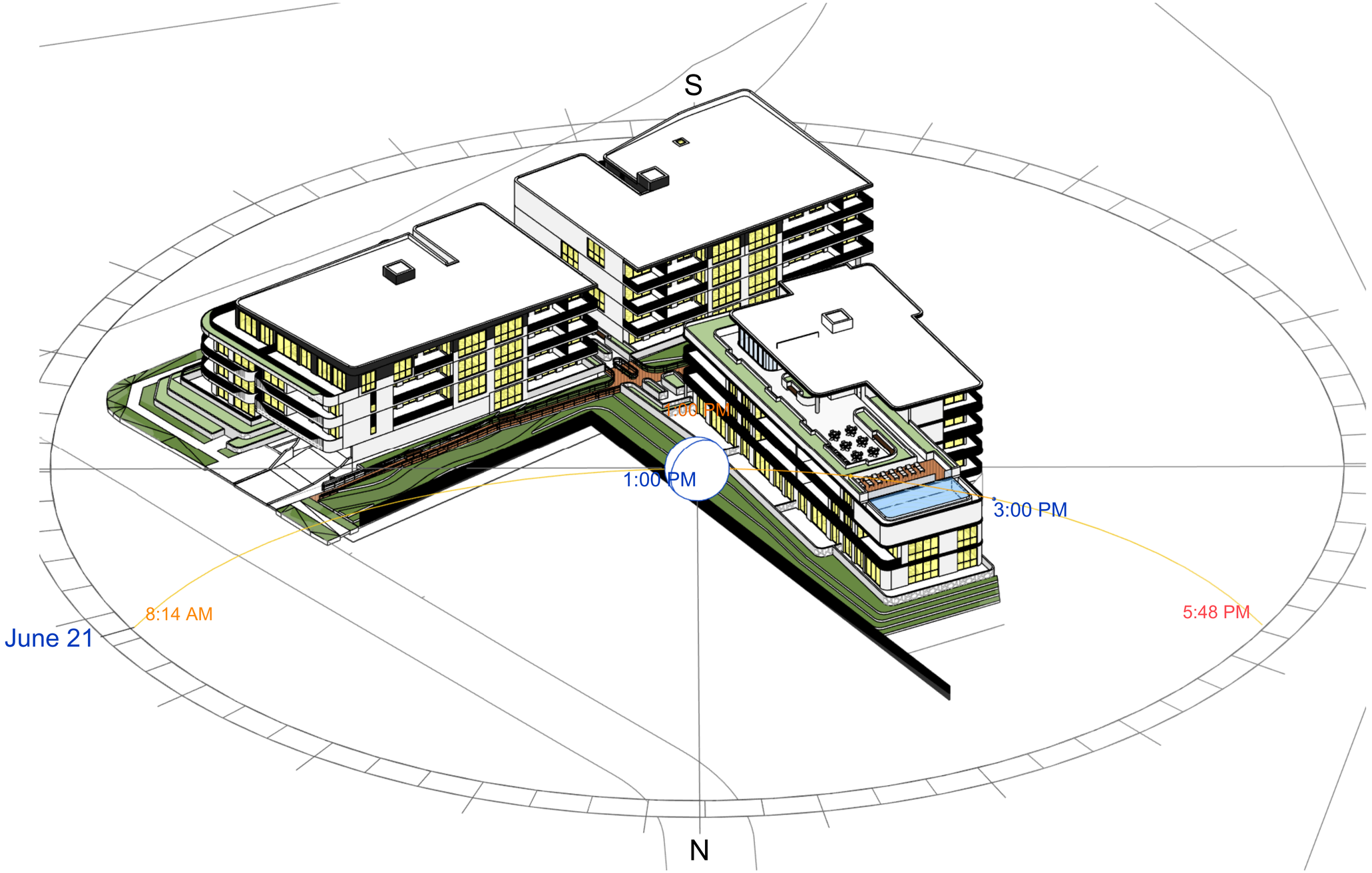

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
PLACE STUDIO
PLACE STUDIO AU PTY LTD |
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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 1300

SHEET NUMBER: **DA-8130**
REV: **C**
DATE: 03/09/2024

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DEVELOPMENT APPLICATION

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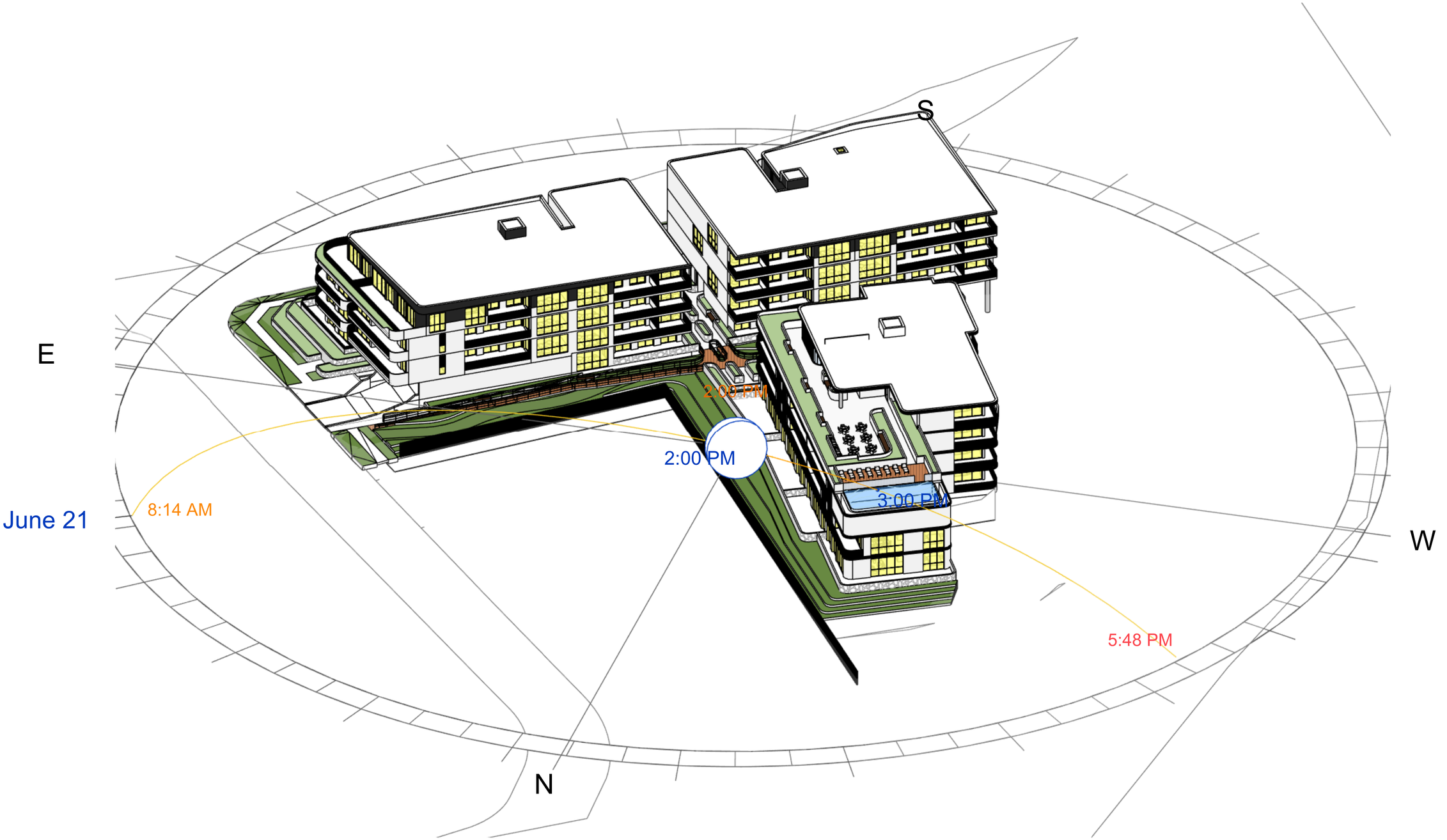

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A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 1400

SHEET NUMBER: **DA-8140**
REV: **C**
DATE: 03/09/2024

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PRELIMINARY
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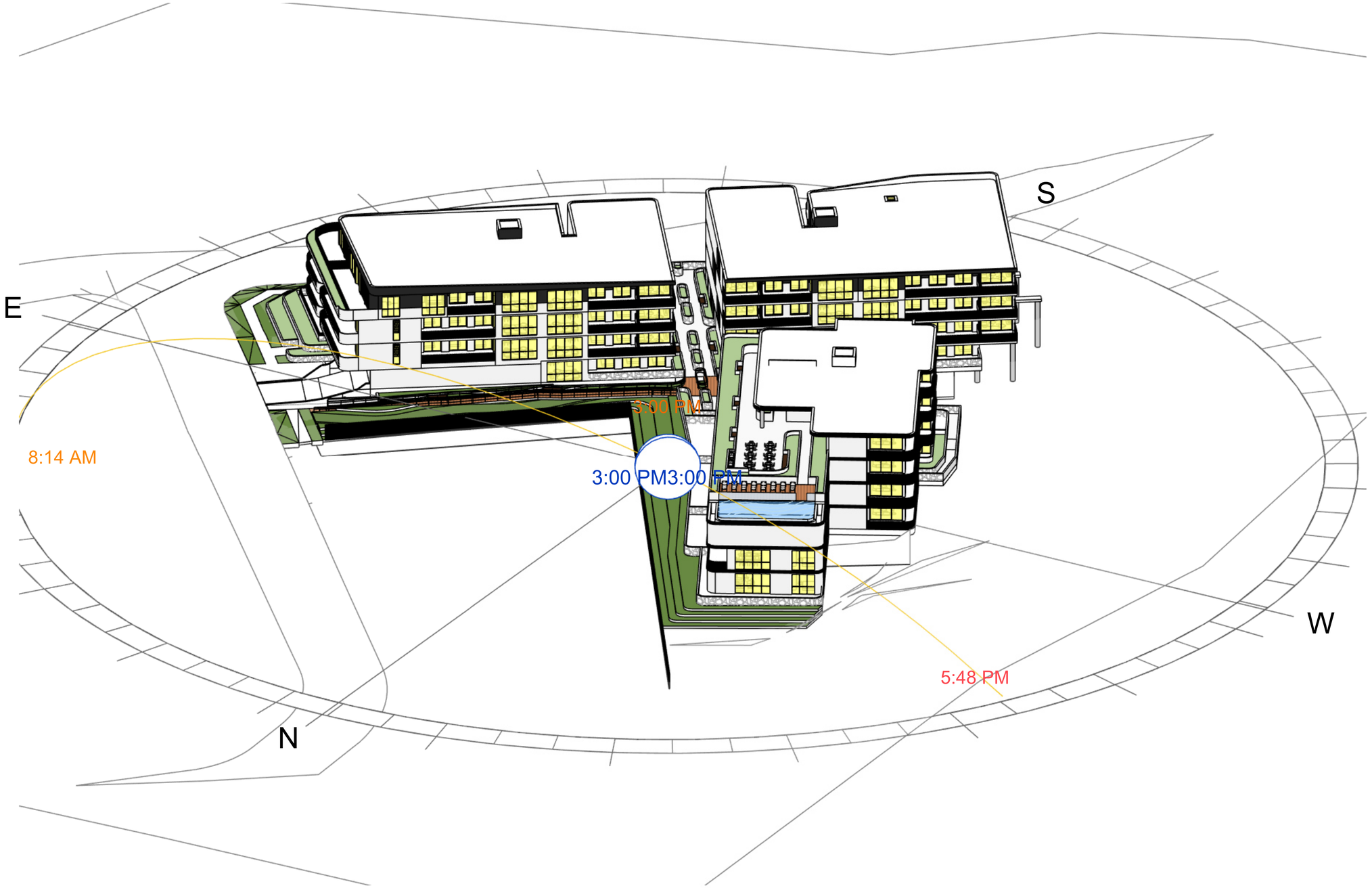
DEVELOPMENT APPLICATION



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C	03/09/2024	DA Submission	BA

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

ARCHITECT:
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PROJECT:
#2021029
HERADALE BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
JUNE SOLAR VIEWS - 1500

SHEET NUMBER: **DA-8150**
REV: **C**
DATE: 03/09/2024

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9/2/2024 4:24:40 PM

		9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	COMPLIANCE
A-G01	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
A-G02	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
A-G03	LIVING ROOM	N	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	N	Y	
A-G04	LIVING ROOM	N	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	N	
A-G05	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
A-101	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
A-102	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
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A-103	LIVING ROOM	N	Y	Y	Y	Y	Y	N	Full
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A-104	LIVING ROOM	N	Y	Y	Y	Y	Y	N	Full
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	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
A-202	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
A-203	LIVING ROOM	N	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
A-204	LIVING ROOM	N	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
A-205	LIVING ROOM	N	N	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
A-301	LIVING ROOM	N	N	N	N	N	Y	Y	Partial
	PRIVATE OPEN SPACE	N	N	N	N	N	Y	Y	
A-302	LIVING ROOM	Y	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
A-303	LIVING ROOM	N	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
A-304	LIVING ROOM	N	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
A-305	LIVING ROOM	N	N	Y	Y	Y	Y	Y	Full
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B-G01	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
B-G02	LIVING ROOM	N	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
B-G03	LIVING ROOM	Y	Y	Y	Y	Y	Y	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
B-G04	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	
B-101	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
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B-104	LIVING ROOM	Y	Y	Y	Y	Y	Y	N	Full
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B-106	LIVING ROOM	N	N	N	N	N	N	N	None
	PRIVATE OPEN SPACE	N	N	N	N	N	N	N	

		9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	COMPLIANCE
B-201	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	Y	Y	Y	Y	Y	Y	
B-202	LIVING ROOM	N	Y	Y	Y	Y	Y	Y	Full
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B-305	LIVING ROOM	Y	Y	Y	Y	Y	Y	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-G01	LIVING ROOM	N	N	N	N	Y	Y	Y	Partial
	PRIVATE OPEN SPACE	N	N	N	N	Y	Y	Y	
C-G02	LIVING ROOM	Y	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-G03	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-G04	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-G05	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-G06	LIVING ROOM	N	N	N	N	N	N	Y	Partial
	PRIVATE OPEN SPACE	N	N	N	N	N	N	Y	
C-101	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	N	N	Y	Y	Y	Y	
C-102	LIVING ROOM	Y	Y	Y	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-103	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-104	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-105	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-106	LIVING ROOM	N	N	N	N	N	N	Y	Partial
	PRIVATE OPEN SPACE	N	N	N	N	N	N	Y	
C-201	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	N	N	Y	Y	Y	Y	
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	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-203	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
C-204	LIVING ROOM	Y	Y	Y	Y	Y	N	N	Full
	PRIVATE OPEN SPACE	Y	Y	Y	Y	Y	Y	Y	
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	PRIVATE OPEN SPACE	N	N	N	N	N	N	Y	
C-301	LIVING ROOM	N	N	N	Y	Y	Y	Y	Full
	PRIVATE OPEN SPACE	N	N	N	Y	Y	Y	Y	
C-302	LIVING ROOM	N	N	N	N	N	N	Y	Partial
	PRIVATE OPEN SPACE	N	N	N	N	N	N	Y	

SOLAR ACCESS

UNITS SOLAR ACCESS	COUNT	PERCENTAGE
3 HOURS	45	75%
NO SOLAR	9	15%
PARTIAL SOLAR	6	10%
	60	

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DEVELOPMENT APPLICATION

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B	03/09/2024	DA Submission	BA

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W | www.PlaceStudio.com.au E | Studio@PlaceStudio.com.au

N

SCALE: 1 : 1 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
SOLAR MATRIX

SHEET NUMBER: **DA-8160**
REV: **B**
DATE: 03/09/2024

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UNIT SCHEDULE

NO.	TYPE	Area
GROUND		
A-G01	1 BED	51 m²
A-G02	1 BED	74 m²
A-G03	3 BED - ADA	145 m²
A-G04	3 BED	147 m²
A-G05	3 BED	122 m²
B-G01	3 BED	96 m²
B-G02	3 BED	147 m²
B-G03	3 BED	120 m²
B-G04	3 BED	122 m²
9		1024 m²
GROUND (C)		
C-G01	2 BED	114 m²
C-G02	3 BED	158 m²
C-G03	2 BED	130 m²
C-G04	3 BED	164 m²
C-G05	2 BED	123 m²
C-G06	3 BED	131 m²
6		820 m²
LEVEL 01		
A-101	3 BED	116 m²
A-102	3 BED	137 m²
A-103	3 BED - ADA	145 m²
A-104	2 BED - ADA	117 m²
A-105	4 BED	174 m²
B-101	3 BED	135 m²
B-102	2 BED - ADA	117 m²
B-103	3 BED - ADA	145 m²
B-104	3 BED	109 m²
B-105	3 BED	115 m²
B-106	3 BED	116 m²
11		1426 m²
LEVEL 01 (C)		
C-101	3 BED	137 m²
C-102	3 BED	141 m²
C-103	2 BED	110 m²
C-104	3 BED - ADA	136 m²
C-105	3 BED - ADA	136 m²
C-106	3 BED	131 m²
6		791 m²
LEVEL 02		
A-201	3 BED	116 m²
A-202	3 BED	137 m²
A-203	3 BED - ADA	145 m²
A-204	2 BED - ADA	117 m²
A-205	4 BED	174 m²
B-201	3 BED	134 m²
B-202	2 BED - ADA	117 m²
B-203	3 BED - ADA	145 m²
B-204	3 BED	109 m²
B-205	3 BED	115 m²
B-206	3 BED	116 m²
11		1425 m²
LEVEL 02 (C)		
C-201	3 BED	137 m²
C-202	3 BED - ADA	134 m²
C-203	3 BED - ADA	136 m²
C-204	3 BED - ADA	136 m²
C-205	3 BED	131 m²
5		675 m²
LEVEL 03		
A-301	3 BED	116 m²
A-302	3 BED	137 m²
A-303	3 BED - ADA	145 m²
A-304	2 BED - ADA	117 m²
A-305	4 BED	174 m²
B-301	3 BED	135 m²
B-302	2 BED - ADA	117 m²
B-303	2 BED - ADA	117 m²
B-304	2 BED	131 m²
B-305	4 BED	185 m²
10		1374 m²
LEVEL 03 (C)		
C-301	3 BED	137 m²
C-302	3 BED	131 m²
2		268 m²
TOTAL NUMBER OF UNITS: 60		7802 m²

BALCONY AREA

NO.	TYPE	AREA
GROUND		
A-G01	BALCONY	41 m²
A-G02	BALCONY	28 m²
A-G03	BALCONY	26 m²
A-G04	BALCONY	30 m²
A-G05	BALCONY	27 m²
B-G01	BALCONY	35 m²
B-G02	BALCONY	30 m²
B-G03	BALCONY	63 m²
B-G04	BALCONY	50 m²
		329 m²
GROUND (C)		
C-G01	BALCONY	27 m²
C-G02	BALCONY	56 m²
C-G03	BALCONY	34 m²
C-G04	BALCONY	44 m²
C-G05	BALCONY	43 m²
C-G06	BALCONY	32 m²
		236 m²
LEVEL 01		
A-101	BALCONY	36 m²
A-102	BALCONY	13 m²
A-103	BALCONY	27 m²
A-104	BALCONY	18 m²
A-105	BALCONY	13 m²
B-101	BALCONY	26 m²
B-102	BALCONY	18 m²
B-103	BALCONY	28 m²
B-104	BALCONY	31 m²
B-105	BALCONY	48 m²
B-106	BALCONY	39 m²
		297 m²
LEVEL 01 (C)		
C-101	BALCONY	31 m²
C-102	BALCONY	17 m²
C-103	BALCONY	19 m²
C-104	BALCONY	26 m²
C-105	BALCONY	26 m²
C-106	BALCONY	22 m²
		140 m²
LEVEL 02		
A-201	BALCONY	36 m²
A-202	BALCONY	13 m²
A-203	BALCONY	27 m²
A-204	BALCONY	18 m²
A-205	BALCONY	13 m²
B-201	BALCONY	26 m²
B-202	BALCONY	18 m²
B-203	BALCONY	28 m²
B-204	BALCONY	31 m²
B-205	BALCONY	48 m²
B-206	BALCONY	39 m²
		297 m²
LEVEL 02 (C)		
C-201	BALCONY	31 m²
C-202	BALCONY	26 m²
C-203	BALCONY	26 m²
C-204	BALCONY	26 m²
C-205	BALCONY	22 m²
		130 m²
LEVEL 03		
A-301	BALCONY	36 m²
A-302	BALCONY	13 m²
A-303	BALCONY	27 m²
A-304	BALCONY	18 m²
A-305	BALCONY	13 m²
B-301	BALCONY	25 m²
B-302	BALCONY	18 m²
B-303	BALCONY	17 m²
B-304	BALCONY	36 m²
B-305	BALCONY	96 m²
		300 m²
LEVEL 03 (C)		
C-301	BALCONY	31 m²
C-302	BALCONY	22 m²
		53 m²
		1782 m²

GLAZING SCHEDULE

TYPE	UNIT	MARK	DESCRIPTION	WIDTH	HEIGHT	OPERABILITY
GROUND						
LW1d		B-G01e	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1d		A-G05b	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1d		A-G05a	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
UW4a		A-G04a	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
LW1b		B-001a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
LW1b		A-001a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
LW1d		A-G04f	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1d		B-G01d	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1a		A-G03a	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD3a	A-G01	A-G01b	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2a	A-G01	A-G01a	2 PANEL SLIDING DOOR	1876	2700	SLIDING
LW1j	A-G02	A-G02a	3 PANEL SIDE SLIDING DOOR	4500	2700	SLIDING
LW1a	A-G02	A-G02b	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
LW1e	A-G02	A-G02c	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
UW4a	A-G03	A-G03f	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	A-G03	A-G03e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G03	A-G03b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G03	A-G03c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G03	A-G03d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G04	A-G04b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G04	A-G04e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G04	A-G04d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-G04	A-G04c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1d	A-G05	A-G05c	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1d	A-G05	A-G05d	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1d	B-G01	B-G01f	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
LW1d	B-G01	B-G01g	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
SD2b	B-G01	B-G01c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G01	B-G01b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G01	B-G01a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1d	B-G02	B-G02a	LOUVRE + FIXED WINDOW	800	2100	LOUVRE + FIXED
UW4a	B-G02	B-G02f	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	B-G02	B-G02b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G02	B-G02c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G02	B-G02d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G02	B-G02e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G03	B-G03d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G03	B-G03c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G03	B-G03b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G03	B-G03e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	B-G03	B-G03a	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD3a	B-G04	B-G04b	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	B-G04	B-G04b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G04	B-G04c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-G04	B-G04a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
GROUND: 45						
GROUND (C)						
LW1e		C-G02c	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
LW1e		C-G02b	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
LW1h		C-G02d	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1b		C-G02a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
LW1i		C-G05d	LOUVRE + FIXED WINDOW	800	1850	LOUVRE + FIXED
SD2b	C-G01	C-G01a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-G01	C-G01b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-G01	C-G01c	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD3a	C-G01	C-G01d	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1b	C-G01	C-G01e	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
UW4a	C-G02	C-G02f	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	C-G02	C-G02i	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-G02	C-G02g	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-G02	C-G02h	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1e	C-G02	C-G02e	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
SD2b	C-G03	C-G03a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-G03	C-G03b	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-G03	C-G03c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-G04	C-G04d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-G04	C-G04c	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-G04	C-G04b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-G04	C-G04a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-G05	C-G05a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-G05	C-G05c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-G05	C-G05b	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1f	C-G06	C-G06d	HUNG + FIXED MULTI PANEL WINDOW	3050	2100	DOUBLE HUNG + FIXED
SD2b	C-G06	C-G06e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-G06	C-G06c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2a	C-G06	C-G06a	2 PANEL SLIDING DOOR	1876	2700	SLIDING
SD2b	C-G06	C-G06f	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2a	C-G06	C-G06b	2 PANEL SLIDING DOOR	1876	2700	SLIDING
GROUND (C): 31						

GLAZING SCHEDULE

TYPE	UNIT	MARK	DESCRIPTION	WIDTH	HEIGHT	OPERABILITY
LEVEL 01						
UW3b		B-101d	HUNG + FIXED MULTI PANEL WINDOW	3650	2750	DOUBLE HUNG + FIXED
UW3b		A-105c	HUNG + FIXED MULTI PANEL WINDOW	3650	2750	DOUBLE HUNG + FIXED
UW4a		A-104a	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
LW1h		A-102b	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
UW4a		B-103a	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
UW3b		A-105b	HUNG + FIXED MULTI PANEL WINDOW	3650	2750	DOUBLE HUNG + FIXED
UW3a		A-102d	HUNG + FIXED MULTI PANEL WINDOW	3050	2700	DOUBLE HUNG + FIXED
LW1a		A-102f	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
LW1b		C-102a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
LW1b	A-100	A-100a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD3a	A-101	A-101d	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	A-101	A-101c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-101	A-101e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-101	A-101b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1a	A-101	A-101a	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
LW1h	A-102	A-102a	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1h	A-102	A-102c	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1a	A-102	A-102e	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD3a	A-102	A-102g	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
UW4a	A-103	A-103e	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	A-103	A-103d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-103	A-103a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-103	A-103b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-103	A-103c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-104	A-104b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-104	A-104d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-104	A-104c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	A-105	A-105a	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1b	B-100	B-100a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD3a	B-101	B-101e	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	B-101	B-101c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-101	B-101b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-101	B-101a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
UW4a	B-102	B-102d	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	B-102	B-102c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-102	B-102a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-102	B-102b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-103	B-103b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-103	B-103e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-103	B-103d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-103	B-103c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-104	B-104d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-104	B-104c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-104	B-104b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	B-104	B-104e	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1a	B-104	B-104a	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD2b	B-105	B-105d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-105	B-105c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-105	B-105b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-105	B-105e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	B-105	B-105a	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1a	B-106	B-106e	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD3a	B-106	B-106b	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	B-106	B-106d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-106	B-106c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-106	B-106a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LEVEL 01: 56						
LEVEL 01 (C)						
LW1e		C-102e	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
UW4a		C-102f	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
LW1e		C-102c	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
LW1h		C-103a	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1h		C-104e	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1h		C-102j	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1e		C-102b	HUNG + FIXED MULTI PANEL WINDOW	2800	2700	DOUBLE HUNG + FIXED
LW1h		C-102d	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1b		C-100a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD2b	C-101	C-101a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-101	C-101e	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-101	C-101b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-101	C-101c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-101	C-101d	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1b	C-101	C-101f	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD3a	C-102	C-102g	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-102	C-102h	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2a	C-102	C-102i	2 PANEL SLIDING DOOR	1876	2700	SLIDING
SD3a	C-103	C-103c	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-103	C-103d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2a	C-103	C-103b	2 PANEL SLIDING DOOR	1876	2700	SLIDING
SD3a	C-104	C-104c	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-104	C-104a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-104	C-104b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2a	C-104	C-104d	2 PANEL SLIDING DOOR	1876	2700	SLIDING
SD3a	C-105	C-105c	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-105	C-105e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-105	C-105d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1h	C-105	C-105a	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
SD2a	C-105	C-105b	2 PANEL SLIDING DOOR	1876	2700	SLIDING
LW1a	C-105	C-105f	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD2a	C-106	C-106c	2 PANEL SLIDING DOOR	1876	2700	SLIDING
UW3a	C-106	C-106e	HUNG + FIXED MULTI PANEL WINDOW	3050	2700	DOUBLE HUNG + FIXED
SD2a	C-106	C-106b	2 PANEL SLIDING DOOR	1876	2700	SLIDING
SD2b	C-106	C-106g	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-106	C-106f	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-106	C-106d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1a	C-106	C-106a	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
LEVEL 01 (C): 38						

GLAZING SCHEDULE

TYPE	UNIT	MARK	DESCRIPTION	WIDTH	HEIGHT	OPERABILITY
LEVEL 02						
UW3b		B-201d	HUNG + FIXED MULTI PANEL WINDOW	3650	2750	DOUBLE HUNG + FIXED
UW3b		A-205c	HUNG + FIXED MULTI PANEL WINDOW	3650	2750	DOUBLE HUNG + FIXED
LW1h		A-202b	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
UW4a		B-203a	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
UW3b		A-205b	HUNG + FIXED MULTI PANEL WINDOW	3650	2750	DOUBLE HUNG + FIXED
UW3a		A-202d	HUNG + FIXED MULTI PANEL WINDOW	3050	2700	DOUBLE HUNG + FIXED
UW4a		A-204a	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
LW1a		B-301f	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
LW1b	A-200	A-200a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD3a	A-201	A-201d	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	A-201	A-201c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-201	A-201e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-201	A-201b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LW1a	A-201	A-201a	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
LW1h	A-202	A-202a	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1h	A-202	A-202c	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1a	A-202	A-202e	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD3a	A-202	A-202g	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
UW4a	A-203	A-203e	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	A-203	A-203d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-203	A-203a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-203	A-203b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-203	A-203c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-204	A-204b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-204	A-204d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	A-204	A-204c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	A-205	A-205a	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1b	B-200	B-200a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD3a	B-201	B-201e	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	B-201	B-201c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-201	B-201b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-201	B-201a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
UW4a	B-202	B-202d	HUNG + FIXED MULTI PANEL WINDOW	4275	2700	DOUBLE HUNG + FIXED
SD2b	B-202	B-202c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-202	B-202a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-202	B-202b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-203	B-203b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-203	B-203e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-203	B-203d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-203	B-203c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-204	B-204d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-204	B-204c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-204	B-204b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	B-204	B-204e	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1a	B-204	B-204a	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD2b	B-205	B-205d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-205	B-205c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-205	B-205b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-205	B-205e	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	B-205	B-205a	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1a	B-206	B-206e	LOUVRE + FIXED WINDOW	800	2700	LOUVRE + FIXED
SD3a	B-206	B-206b	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	B-206	B-206d	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-206	B-206c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	B-206	B-206a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
LEVEL 02: 55						
LEVEL 02 (C)						
LW1b		C-210a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
LW1h		C-203e	HUNG + FIXED MULTI PANEL WINDOW	2200	2700	DOUBLE HUNG + FIXED
LW1b		C-200a	LOUVRE + FIXED WINDOW	1200	2700	LOUVRE + FIXED
SD2b	C-201	C-201a	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-201	C-201e	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
SD2b	C-201	C-201b	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD2b	C-201	C-201c	2 PANEL SLIDING DOOR	2176	2700	SLIDING
SD3a	C-201	C-201d	3 PANEL SIDE SLIDING DOOR	3980	2700	SLIDING
LW1b	C-201	C-201f	LOUVRE + FIXED WINDOW	1200	2700

EXTERNAL MATERIALS & FINISHES

CL-001 - "CEMINTEL"
STREET STYLE
EDGE CLADDING OXFORD
COLOUR : RIDGE WHITE

CL-002 - "JAMES HARDIE"
AXON CLADDING
SYSTEM
COLOUR : DULUX
DOMINO

ST-001 - "RMS TRADERS
STONE WALL CLADDING
TYPE:AMMOS

AL-001 - ALUMINUM
SLAB EDGE PROFILE
COLOUR : DULUX
MONUMENT SATIN

BA-001 - POWDER
COAT BALUSTRATE
COLOUR : DULUX
WHITE MATT

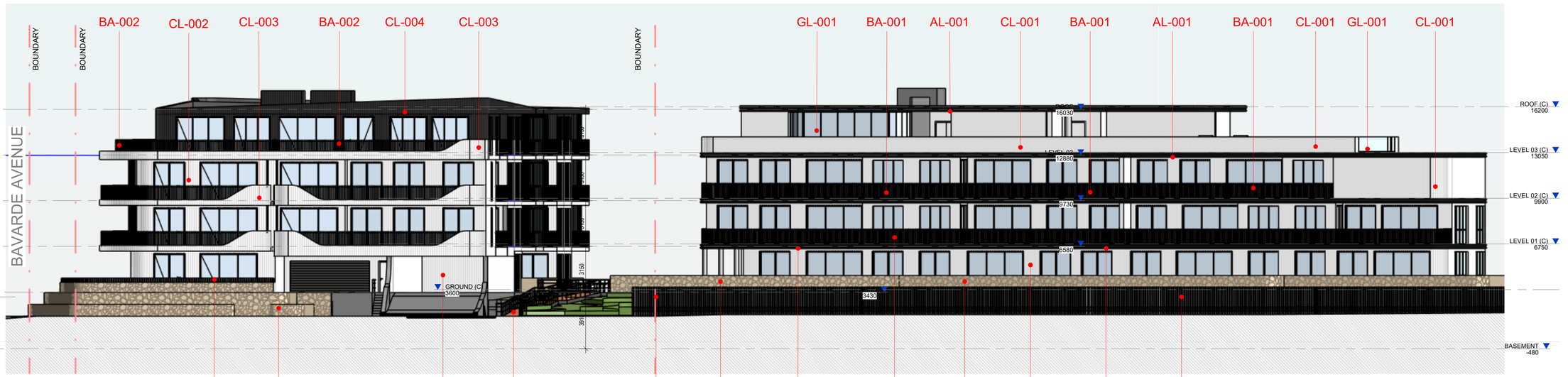
WD-001 - NATIONWIDE
TIMBER DECKING
COLOUR :
TALLOWWODD
DECKING

GL-001 - FRAMLESS
GLASS BALSUTRADE

SOUTH ELEVATION - FINISHES

1 : 150

CL-001 BA-001 CL-001 ST-001 BA-001 GL-001 CL-001 CL-001 ST-001 BA-001 BA-001 ST-001 CL-002 CL-001



EAST ELEVATION - FINISHES

1 : 150

BA-001 ST-001 CL-001 WD-001 BA-001 ST-001 AL-001 BA-002 ST-001 CL-001 AL-001 BA-001

PRELIMINARY
NOT FOR CONSTRUCTION
DEVELOPMENT APPLICATION

Document Notes
Verify all dimensions on site before commencing work. Report all discrepancies to the architect prior to construction. Place Studio shall not be held responsible for any variations to specifications or drawings due to any discrepancies without consultation. Use figured dimensions in preference to scaled dimensions. Drawings made to larger scales and those showing particular parts of the works take precedence over drawings made to smaller scales or for general purposes. All work is to conform to relevant Australian Standards and Codes together with all Authorities' requirements and Regulations.

REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
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W | www.PlaceStudio.com.au E | Studio@PlaceStudio.com.au

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
MATERIALS SCHEDULE

SHEET NUMBER: **DA-9200**
REV: **C**
DATE: 03/09/2024

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9/2/2024 4:25:03 PM

VIEW FROM BAVARDE AVENUE

VIEW FROM HAREDALE PARADE

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DEVELOPMENT APPLICATION

Document Notes
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REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	03/09/2024	DA Submission	BA

ARCHITECT:
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PROJECT:
#2021029
HERADALE
BATEMANS BAY

20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
PERSPECTIVE VIEWS

SHEET NUMBER: **DA-9300**
REV: **B**
DATE: 03/09/2024

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DEVELOPMENT APPLICATION

Document Notes
Verify all dimensions on site before commencing work. Report all discrepancies to the architect prior to construction. Place Studio shall not be held responsible for any variations to specifications or drawings due to any discrepancies without consultation. Use figured dimensions in preference to scaled dimensions. Drawings made to larger scales and those showing particular parts of the works take precedence over drawings made to smaller scales or for general purposes. All work is to conform to relevant Australian Standards and Codes together with all Authorities' requirements and Regulations.

REV	DATE	DESCRIPTION	APP
A	21/03/2023	DA SUBMISSION	SK
B	24/11/2023	DA RFI Response	JA
C	03/09/2024	DA Submission	BA

ARCHITECT:
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N
0 4m
1:100
SCALE: 1 : 250 @ A1

PROJECT:
#2021029
HERADALE
BATEMANS BAY
20 HERADALE PARADE
BATEMANS BAY

DRAWING TITLE:
NOTIFCATION PLAN

SHEET NUMBER: **DA-9999**
REV: **C**
DATE: 03/09/2024

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APPENDIX D – Laboratory Test Results

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☑ Sydney Laboratory
179 Magowar Road, Girraween, NSW 2145
+61 2 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1/21 Smallwood Place, Murarrie, QLD 4172
+61 7 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
46-48 Banksia Road, Welshpool, WA 6106
+61 8 6253 4444 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
+61 3 8564 5000 EnviroSampleVic@eurofins.com

Company	CEC Geotech	Project №	GR23206
Address	Batesman Bay	Project Name	ASS, Geotech
Contact Name		Project Manager	Kaustav V
Phone №		EDD Format (ESdat, EQuIS etc)	
Special Directions		Sampler(s)	ICS
Purchase Order	GR23206	Handed over by	
Quote ID №		Email for Invoice	shyam@cec-au.com; daniella@cec-au.com
		Email for Results	kaustav@cec-au.com, zakib@cec-au.com, daniella@cec-au.com

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Asbestos ID in soil >0.1g/kg, Sulphate/chloride	pH4	pH Fox	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	BH01-2	14/10/23	S	X											
2	BH01-3			X											
3	BH02-0.5			X	X	X									
4	BH02-1.5				X	X									
5	BH02-3				X	X									
6	BH02-4.5			X	X	X									
7	BH03-0.5				X	X									
8	BH03-1.5			X	X	X									
9	BH03-3				X	X									
10	BH03-4.5			X	X	X									
	Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name — Signature — Date — Time

Laboratory Use Only						
Received By	Praveen	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date 16/10	Time 11.05
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time

Temperature 20.5 — Report№

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

103490

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing ABN 50 005 085 521

☐ Sydney Laboratory
179 Magowar Road, Girraween, NSW 2145
+61 2 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
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+61 7 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
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+61 8 6253 4444 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
+61 3 8564 5000 EnviroSampleVic@eurofins.com

Company	CEC Contact	Project №	GR23206	Project Manager	Kaustav
Address	Bateman Bay	Project Name	ABS, Hatch	EDD Format (ESdat, EQuIS etc)	
Contact Name				Sampler(s)	CS
Phone №				Handed over by	
Special Directions				Email for Invoice	shyam@cec.au.com, david@cec.au.com
Purchase Order	GR23206			Email for Results	Kaustav@cec.au.com, Zuhaib@cec.au.com
Quote ID №					

Analyses — Where metals are requested, please specify "Total" or "Filtered"; SUITE code must be used to attract SUITE pricing.

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked.

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	pH, Arsenate, Chloride, Resistivity, aggressivity	PHC	PHC+BTEX	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	BH04-0.5	14/10/23	S	X	X	X									
2	BH04-1.5			X	X	X									
3	BH04-3			X	X	X									
4	BH05-1			X	X	X									
5	BH05-1.5			X	X	X									
6	BH05-3			X	X	X									
7	BH06-0.5			X											
8	BH06-5			X											
9															
10															
	Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal | Name | Signature | Date | Time

Laboratory Use Only: Received By | SYD | BNE | MEL | PER | ADL | NTL | DRW | Signature | Date | Time | Temperature

Received By | SYD | BNE | MEL | PER | ADL | NTL | DRW | Signature | Date | Time | Report №

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

CEC Geotechnical
Unit 4 83 Grose Street
North Paramatta
NSW 2151

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Kaustuv**

Report **1034910-S**
Project name ASS GEOTECH
Project ID GR23206
Received Date Oct 16, 2023

Client Sample ID			**BH01-2**	**BH01-3**	**BH02-0.5**	**BH02-1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Oc0032524**	**S23-Oc0032525**	**S23-Oc0032526**	**S23-Oc0032527**
Date Sampled			**Oct 14, 2023**	**Oct 14, 2023**	**Oct 14, 2023**	**Oct 14, 2023**
Test/Reference	LOR	Unit				
Chloride	10	mg/kg	15	13	< 10	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	26	35	100	-
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	6.0	6.1	8.1	-
Resistivity*	0.5	ohm.m	380	290	96	-
Sulphate (as SO4)	10	mg/kg	24	28	< 10	-
Sample Properties						
% Moisture	1	%	12	15	22	-
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	-	-	9.1	9.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	-	-	7.1	7.7
Reaction Ratings*[S05]	0	-	-	-	4.0	2.0

Client Sample ID			**BH02-3**	**BH02-4.5**	**BH03-0.5**	**BH03-1.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Oc0032528**	**S23-Oc0032529**	**S23-Oc0032530**	**S23-Oc0032531**
Date Sampled			**Oct 14, 2023**	**Oct 14, 2023**	**Oct 14, 2023**	**Oct 14, 2023**
Test/Reference	LOR	Unit				
Chloride	10	mg/kg	-	< 10	-	15
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	19	-	86
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	-	8.2	-	9.1
Resistivity*	0.5	ohm.m	-	520	-	120
Sulphate (as SO4)	10	mg/kg	-	< 10	-	18
Sample Properties						
% Moisture	1	%	-	13	-	12
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.1	8.6	9.2	9.4
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.5	8.9	7.7	7.9
Reaction Ratings*[S05]	0	-	2.0	4.0	2.0	4.0

Client Sample ID			BH03-3	BH03-4.5	BH04-0.5	BH04-1.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Oc0032532	S23-Oc0032533	S23-Oc0032534	S23-Oc0032535
Date Sampled			Oct 14, 2023	Oct 14, 2023	Oct 14, 2023	Oct 14, 2023
Test/Reference	LOR	Unit				
Chloride	10	mg/kg	-	17	< 10	20
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	140	64	94
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	-	8.4	8.7	8.7
Resistivity*	0.5	ohm.m	-	73	160	110
Sulphate (as SO4)	10	mg/kg	-	33	< 10	12
Sample Properties						
% Moisture	1	%	-	17	7.0	15
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.2	8.9	9.3	9.1
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	7.7	8.0	7.5
Reaction Ratings*[S05]	0	-	4.0	4.0	4.0	2.0

Client Sample ID			BH04-3	BH05-1.5	BH05-1.5	BH05-3
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Oc0032536	S23-Oc0032537	S23-Oc0032538	S23-Oc0032539
Date Sampled			Oct 14, 2023	Oct 14, 2023	Oct 14, 2023	Oct 14, 2023
Test/Reference	LOR	Unit				
Chloride	10	mg/kg	23	23	< 10	11
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	140	86	63	82
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	8.7	9.1	9.0	8.6
Resistivity*	0.5	ohm.m	71	120	160	120
Sulphate (as SO4)	10	mg/kg	64	13	< 10	16
Sample Properties						
% Moisture	1	%	20	10	13	19
Acid Sulfate Soils Field pH Test						
pH-F (Field pH test)*	0.1	pH Units	9.3	9.3	9.3	8.7
pH-FOX (Field pH Peroxide test)*	0.1	pH Units	7.6	7.7	7.6	7.8
Reaction Ratings*[S05]	0	-	2.0	2.0	1.0	1.0

Client Sample ID			BH06-0.5	BH06-5
Sample Matrix			Soil	Soil
Eurofins Sample No.			S23-Oc0032540	S23-Oc0032541
Date Sampled			Oct 14, 2023	Oct 14, 2023
Test/Reference	LOR	Unit		
Chloride	10	mg/kg	14	18
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	76	110
pH (1:5 Aqueous extract at 25 °C as rec.)	0.1	pH Units	8.2	7.6
Resistivity*	0.5	ohm.m	130	91
Sulphate (as SO4)	10	mg/kg	< 10	72
Sample Properties				
% Moisture	1	%	6.8	23

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chloride	Sydney	Oct 20, 2023	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Sydney	Oct 20, 2023	7 Days
- Method: LTM-INO-4030 Conductivity			
pH (1:5 Aqueous extract at 25 °C as rec.)	Sydney	Oct 20, 2023	7 Days
- Method: LTM-GEN-7090 pH by ISE			
Sulphate (as SO4)	Sydney	Oct 20, 2023	28 Days
- Method: In-house method LTM-INO-4270 Sulphate by Ion Chromatograph			
% Moisture	Sydney	Oct 16, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			
Acid Sulfate Soils Field pH Test	Sydney	Oct 17, 2023	7 Days
- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests			

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Eurofins Environment Testing Australia Pty Ltd
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Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
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Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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IANZ# 1327	IANZ# 1290	IANZ# 1402

Company Name: CEC Geotechnical
Address: Unit 4 83 Grose Street
North Paramatta
NSW 2151

Project Name: ASS GEOTECH
Project ID: GR23206

Order No.: GR23206
Report #: 1034910
Phone: 02 9630 0121
Fax:

Received: Oct 16, 2023 11:45 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: Kaustuv

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Acid Sulfate Soils Field pH Test	Aggressivity Soil Set	Moisture Set
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	BH01-2	Oct 14, 2023		Soil	S23-Oc0032524		X	X
2	BH01-3	Oct 14, 2023		Soil	S23-Oc0032525		X	X
3	BH02-0.5	Oct 14, 2023		Soil	S23-Oc0032526	X	X	X
4	BH02-1.5	Oct 14, 2023		Soil	S23-Oc0032527	X		
5	BH02-3	Oct 14, 2023		Soil	S23-Oc0032528	X		
6	BH02-4.5	Oct 14, 2023		Soil	S23-Oc0032529	X	X	X
7	BH03-0.5	Oct 14, 2023		Soil	S23-Oc0032530	X		
8	BH03-1.5	Oct 14, 2023		Soil	S23-Oc0032531	X	X	X
9	BH03-3	Oct 14, 2023		Soil	S23-Oc0032532	X		
10	BH03-4.5	Oct 14, 2023		Soil	S23-Oc0032533	X	X	X
11	BH04-0.5	Oct 14, 2023		Soil	S23-Oc0032534	X	X	X
12	BH04-1.5	Oct 14, 2023		Soil	S23-Oc0032535	X	X	X
13	BH04-3	Oct 14, 2023		Soil	S23-Oc0032536	X	X	X

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email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
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VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

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NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

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IANZ# 1327	IANZ# 1290	IANZ# 1402

Company Name: CEC Geotechnical
Address: Unit 4 83 Grose Street
North Paramatta
NSW 2151

Project Name: ASS GEOTECH
Project ID: GR23206

Order No.: GR23206
Report #: 1034910
Phone: 02 9630 0121
Fax:

Received: Oct 16, 2023 11:45 AM
Due: Oct 24, 2023
Priority: 5 Day
Contact Name: Kaustuv

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						Acid Sulfate Soils Field pH Test	Aggressivity Soil Set	Moisture Set
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
14	BH05-1.5	Oct 14, 2023		Soil	S23-Oc0032537	X	X	X
15	BH05-1.5	Oct 14, 2023		Soil	S23-Oc0032538	X	X	X
16	BH05-3	Oct 14, 2023		Soil	S23-Oc0032539	X	X	X
17	BH06-0.5	Oct 14, 2023		Soil	S23-Oc0032540		X	X
18	BH06-5	Oct 14, 2023		Soil	S23-Oc0032541		X	X
Test Counts						14	14	14

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry weight basis unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion unless otherwise stated.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with blue colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is 7 days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
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TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

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NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries above the QC limit designated in QSM 5.4, where no positive PFAS results have been reported, have been reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Chloride			mg/kg	< 10			10	Pass	
Conductivity (1:5 aqueous extract at 25 °C as rec.)			uS/cm	< 10			10	Pass	
Sulphate (as SO4)			mg/kg	< 10			10	Pass	
LCS - % Recovery									
Chloride			%	105			70-130	Pass	
Sulphate (as SO4)			%	101			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
				Result 1					
Chloride	S23-Oc0032526	CP	%	99			70-130	Pass	
Sulphate (as SO4)	S23-Oc0032526	CP	%	94			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	R23-Oc0031639	NCP	uS/cm	12	23	61	30%	Fail	Q15
pH (1:5 Aqueous extract at 25 °C as rec.)	R23-Oc0031639	NCP	pH Units	7.8	7.9	<1	30%	Pass	
Resistivity*	R23-Oc0031639	NCP	ohm.m	830	440	61	30%	Fail	Q02
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S23-Oc0032525	CP	mg/kg	13	13	<1	30%	Pass	
Sulphate (as SO4)	S23-Oc0032525	CP	mg/kg	28	28	1.7	30%	Pass	
Duplicate									
Acid Sulfate Soils Field pH Test				Result 1	Result 2	RPD			
pH-F (Field pH test)*	S23-Oc0032535	CP	pH Units	9.1	9.2	pass	20%	Pass	
pH-FOX (Field pH Peroxide test)*	S23-Oc0032535	CP	pH Units	7.5	7.6	pass	0%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Oc0032536	CP	%	20	18	12	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S23-Oc0032538	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Sulphate (as SO4)	S23-Oc0032538	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q02	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity as the cause
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.
S05	Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised by:

Adam Bateup	Analytical Services Manager
Dilani Samarakoon	Senior Analyst-Inorganic
Ryan Phillips	Senior Analyst-Inorganic

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

From: Zuhaib Siddiqui <zuhaib@cec-au.com>
Sent: Wednesday, 25 October 2023 2:13 PM
To: Hannah Mawbey <HannahMawbey@eurofins.com>; Adam Bateup <AdamBateup@eurofins.com>
Cc: Daniella Touma <daniella@cec-au.com>; Shyam Ghimire <shyam@cec-au.com>; Kaustuv Timalsina <kaustuv@cec-au.com>; CEC Geo <geo@cec-au.com>
Subject: RE: Eurofins Test Results, Invoice - Report 1034910 : Site ASS GEOTECH (GR23206)

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Hannah

Can you kindly arrange SPOCAS (3 days TAT) for following 4 samples:

BH3-0.5, BH3-1.5, BH3-3.0, BH3-4.5

Kind regards,

CEC Geotechnical

Zuhaib
Associate Environmental Engineer

9630 0121

8 Buller Street, North
Parramatta, NSW 2151

www.cec-au.com

Please consider the environment before printing this email

Disclaimer: This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you are not the intended addressee please contact the sender and dispose of this email.

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From: AdamBateup@eurofins.com <AdamBateup@eurofins.com>
Sent: Tuesday, October 24, 2023 9:12 PM
To: Kaustuv Timalsina <kaustuv@cec-au.com>
Cc: ali.s@cec-au.com; Daniella Touma <daniella@cec-au.com>; Shyam Ghimire <shyam@cec-au.com>; Zuhaib Siddiqui <zuhaib@cec-au.com>
Subject: Eurofins Test Results, Invoice - Report 1034910 : Site ASS GEOTECH (GR23206)

Please find the attached report and invoice

Kind regards,
Adam Bateup
Assistant Analytical Services Manager
My hours are 3 pm - 11 pm

Eurofins Environment Testing Australia Pty Ltd
179 Magowar Road
Girraween, NSW, 2145

Email: AdamBateup@eurofins.com
Website: www.eurofins.com/environmental-testing
View our latest EnviroNotes

CEC Geotechnical
Unit 4 83 Grose Street
North Paramatta
NSW 2151

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Kaustuv**

Report **1038018-S**
Project name ADDITIONAL - ASS GEOTECH
Project ID GR23206
Received Date Oct 25, 2023

Client Sample ID			**BH03-0.5**	**BH3-1.5**	**BH3-3.0**	**BH3-4.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S23-Oc0058745**	**S23-Oc0058746**	**S23-Oc0058747**	**S23-Oc0058748**
Date Sampled			**Oct 14, 2023**	**Oct 14, 2023**	**Oct 14, 2023**	**Oct 14, 2023**
Test/Reference	LOR	Unit				
Actual Acidity (NLM-3.2)						
pH-KCL (NLM-3.1)	0.1	pH Units	9.0	9.6	9.6	9.4
Titratable Actual Acidity (NLM-3.2)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Actual Acidity (NLM-3.2)	0.003	% pyrite S	< 0.003	< 0.003	< 0.003	< 0.003
Potential Acidity - Titratable Peroxide						
pH-OX	0.1	pH Units	7.2	8.0	8.0	9.4
Titratable Peroxide Acidity (s-TPA)	0.02	% pyrite S	< 0.02	< 0.02	< 0.02	< 0.02
Titratable Peroxide Acidity (a-TPA)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Sulfidic Acidity (a-TSA)	2	mol H+/t	< 2	< 2	< 2	< 2
Titratable Sulfidic Acidity (s-TSA)	0.02	% pyrite S	< 0.02	< 0.02	< 0.02	< 0.02
Extractable Sulfur						
Sulfur - KCl Extractable	0.005	% S	< 0.005	< 0.005	0.017	0.056
Peroxide Extractable Sulfur	0.005	% S	< 0.005	< 0.005	0.021	0.095
HCl Extractable Sulfur	0.005	% S	N/A	N/A	N/A	N/A
Potential Acidity (SPOS)						
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	0.005	% S	< 0.005	< 0.005	< 0.005	0.039
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	2	mol H+/t	< 2	< 2	< 2	24
Retained Acidity (S-NAS)						
Net Acid soluble sulfur (s-SNAS) NLM-4.1[S02]	0.005	% S	N/A	N/A	N/A	N/A
Net Acid soluble sulfur (a-SNAS) NLM-4.1	2	mol H+/t	N/A	N/A	N/A	N/A
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	2.0	2.0
Extractable Calcium						
Calcium - KCl Extractable	0.005	% Ca	0.15	0.15	0.16	0.19
Calcium - Peroxide	0.005	% Ca	0.33	15	2.3	3.1
Calcium - Acid Reacted	0.005	% Ca	0.17	15	2.1	2.9
Calcium - Acid Reacted (s-aCa)	0.005	% S	0.14	12	1.7	2.3
Calcium - Acid Reacted (a-aCa)	0.005	mol H+/t	85	7500	1100	1400
Extractable Magnesium						
Magnesium - KCl Extractable	0.005	% Mg	< 0.005	0.009	0.023	0.029
Magnesium - Peroxide	0.005	% Mg	< 0.005	0.17	0.086	0.083
Magnesium - Acid Reacted	0.005	% Mg	< 0.005	0.16	0.063	0.054
Magnesium - Acid Reacted (s-aCa)	0.005	% S	< 0.005	0.21	0.084	0.071
Magnesium - Acid Reacted (a-aCa)	0.005	mol H+/t	< 0.005	130	52	44

Client Sample ID			BH03-0.5	BH3-1.5	BH3-3.0	BH3-4.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23-Oc0058745	S23-Oc0058746	S23-Oc0058747	S23-Oc0058748
Date Sampled			Oct 14, 2023	Oct 14, 2023	Oct 14, 2023	Oct 14, 2023
Test/Reference	LOR	Unit				
Acid Neutralising Capacity (ANCE)						
Acid Neutralising Capacity - (ANCE)	0.02	% CaCO3	0.94	35	24	30
Acid Neutralising Capacity - (s-ANCE)	0.02	% S	0.30	11	7.6	9.7
Acid Neutralising Capacity - (a-ANCE)	10	mol H+/t	190	6900	4700	6000
Acid Neutralising Capacity (ANCbt)						
ANC Fineness Factor		factor	1.5	1.5	1.5	1.5
Net Acidity (Including ANC)						
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	10	mol H+/t	< 10	< 10	< 10	< 10
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	0.02	% S	< 0.02	< 0.02	< 0.02	< 0.02
SPOCAS - Liming rate - ASSMAC	1	kg CaCO3/t	< 1	< 1	< 1	< 1
Extraneous Material						
<2mm Fraction	0.005	g	42	49	45	40
>2mm Fraction	0.005	g	< 0.005	< 0.005	< 0.005	< 0.005
Analysed Material	0.1	%	100	100	100	100
Extraneous Material	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
SPOCAS Suite			
SPOCAS Suite	Brisbane	Oct 25, 2023	6 Week
- Method: LTM-GEN-7050			
Extraneous Material	Brisbane	Oct 25, 2023	6 Week
- Method: LTM-GEN-7050/7070			

eurofins

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road	19/8 Lewalan Street	179 Magowar Road	Unit 1,2 Dacre Street	1/21 Smallwood Place	1/2 Frost Drive
Dandenong South	Grovedale	Girraween	Mitchell	Murarrie	Mayfield West NSW 2304
VIC 3175	VIC 3216	NSW 2145	ACT 2911	QLD 4172	Tel: +61 2 4968 8448
Tel: +61 3 8564 5000	Tel: +61 3 8564 5000	Tel: +61 2 9900 8400	Tel: +61 2 6113 8091	Tel: +61 7 3902 4600	NATA# 1261
NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	NATA# 1261	Site# 25079 & 25289
Site# 1254	Site# 25403	Site# 18217	Site# 25466	Site# 20794	

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377
Site# 2370

Eurofins Environment Testing NZ Ltd
NZBN: 9429046024954

Auckland	Christchurch	Tauranga
35 O'Rorke Road	43 Detroit Drive	1277 Cameron Road,
Penrose,	Rolleston,	Gate Pa,
Auckland 1061	Christchurch 7675	Tauranga 3112
Tel: +64 9 526 4551	Tel: +64 3 343 5201	Tel: +64 9 525 0568
IANZ# 1327	IANZ# 1290	IANZ# 1402

Company Name: CEC Geotechnical
Address: Unit 4 83 Grose Street
North Paramatta
NSW 2151

Project Name: ADDITIONAL - ASS GEOTECH
Project ID: GR23206

Order No.:
Report #: 1038018
Phone: 02 9630 0121
Fax:

Received: Oct 25, 2023 12:00 AM
Due: Oct 30, 2023
Priority: 3 Day
Contact Name: Kaustuv

Eurofins Analytical Services Manager : Hannah Mawbey

Sample Detail						SPOCAS Suite
Brisbane Laboratory - NATA # 1261 Site # 20794						X
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	BH03-0.5	Oct 14, 2023		Soil	S23-Oc0058745	X
2	BH3-1.5	Oct 14, 2023		Soil	S23-Oc0058746	X
3	BH3-3.0	Oct 14, 2023		Soil	S23-Oc0058747	X
4	BH3-4.5	Oct 14, 2023		Soil	S23-Oc0058748	X
Test Counts						4

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3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
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6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery									
Actual Acidity (NLM-3.2)									
pH-KCL (NLM-3.1)			%	89			80-120	Pass	
Titratable Actual Acidity (NLM-3.2)			%	102			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Actual Acidity (NLM-3.2)				Result 1	Result 2	RPD			
pH-KCL (NLM-3.1)	S23-Oc0058747	CP	pH Units	9.6	9.6	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	S23-Oc0058747	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Actual Acidity (NLM-3.2)	S23-Oc0058747	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Potential Acidity - Titratable Peroxide				Result 1	Result 2	RPD			
pH-OX	S23-Oc0058747	CP	pH Units	8.0	8.8	<1	20%	Pass	
Titratable Peroxide Acidity (s-TPA)	S23-Oc0058747	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Titratable Peroxide Acidity (a-TPA)	S23-Oc0058747	CP	mol H+/t	< 2	< 2	<1	20%	Pass	
Titratable Sulfidic Acidity (a-TSA)	S23-Oc0058747	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Titratable Sulfidic Acidity (s-TSA)	S23-Oc0058747	CP	% pyrite S	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Extractable Sulfur				Result 1	Result 2	RPD			
Sulfur - KCl Extractable	S23-Oc0058747	CP	% S	0.017	0.016	8.1	30%	Pass	
Peroxide Extractable Sulfur	S23-Oc0058747	CP	% S	0.021	0.021	<1	20%	Pass	
HCl Extractable Sulfur	S23-Oc0058747	CP	% S	N/A	N/A	N/A	20%	Pass	
Duplicate									
Potential Acidity (SPOS)				Result 1	Result 2	RPD			
Peroxide Oxidisable Sulfur (s-SPOS) (NLM 2.2)	S23-Oc0058747	CP	% S	< 0.005	< 0.005	<1	30%	Pass	
Peroxide Oxidisable Sulfur (a-SPOS) (NLM 2.2)	S23-Oc0058747	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Duplicate									
Retained Acidity (S-NAS)				Result 1	Result 2	RPD			
Net Acid soluble sulfur (s-SNAS) NLM-4.1	S23-Oc0058747	CP	% S	N/A	N/A	N/A	30%	Pass	
Net Acid soluble sulfur (a-SNAS) NLM-4.1	S23-Oc0058747	CP	mol H+/t	N/A	N/A	N/A	30%	Pass	
Duplicate									
Extractable Calcium				Result 1	Result 2	RPD			
Calcium - KCl Extractable	S23-Oc0058747	CP	% Ca	0.16	0.16	1.0	30%	Pass	
Calcium - Peroxide	S23-Oc0058747	CP	% Ca	2.3	2.2	1.2	20%	Pass	
Calcium - Acid Reacted	S23-Oc0058747	CP	% Ca	2.1	2.1	1.4	30%	Pass	
Calcium - Acid Reacted (s-aCa)	S23-Oc0058747	CP	% S	1.7	1.7	1.4	30%	Pass	
Calcium - Acid Reacted (a-aCa)	S23-Oc0058747	CP	mol H+/t	1100	1000	1.4	30%	Pass	
Duplicate									
Extractable Magnesium				Result 1	Result 2	RPD			
Magnesium - KCl Extractable	S23-Oc0058747	CP	% Mg	0.023	0.023	<1	30%	Pass	
Magnesium - Peroxide	S23-Oc0058747	CP	% Mg	0.086	0.086	<1	20%	Pass	
Magnesium - Acid Reacted	S23-Oc0058747	CP	% Mg	0.063	0.063	1.1	30%	Pass	
Magnesium - Acid Reacted (s-aCa)	S23-Oc0058747	CP	% S	0.084	0.083	1.1	30%	Pass	
Magnesium - Acid Reacted (a-aCa)	S23-Oc0058747	CP	mol H+/t	52	52	1.1	30%	Pass	
Duplicate									
Acid Neutralising Capacity (ANCE)				Result 1	Result 2	RPD			
Acid Neutralising Capacity - (ANCE)	S23-Oc0058747	CP	% CaCO3	24	23	5.0	30%	Pass	
Acid Neutralising Capacity - (a-ANCE)	S23-Oc0058747	CP	mol H+/t	4700	4500	5.0	30%	Pass	

Duplicate									
Acid Neutralising Capacity (ANCbt)				Result 1	Result 2	RPD			
ANC Fineness Factor	S23-Oc0058747	CP	factor	1.5	1.5	<1	30%	Pass	
Duplicate									
Net Acidity (Including ANC)				Result 1	Result 2	RPD			
SPOCAS - Net Acidity - ASSMAC (Acidity Units)	S23-Oc0058747	CP	mol H+/t	< 10	< 10	<1	30%	Pass	
SPOCAS - Net Acidity - ASSMAC (Sulfur Units)	S23-Oc0058747	CP	% S	< 0.02	< 0.02	<1	30%	Pass	
SPOCAS - Liming rate - ASSMAC	S23-Oc0058747	CP	kg CaCO3/t	< 1	< 1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5

Authorised by:

Adam Bateup	Analytical Services Manager
Jonathon Angell	Senior Analyst-SPOCAS

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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