



SUITE 17, 808 FOREST ROAD, PEAKHURST 2210 ABN: 73 107 291 494
P 02 9046 3800 ACOUSTICS@DAYDESIGN.COM.AU WWW.DAYDESIGN.COM.AU

Environmental Noise Assessment

New Buildings & Refurbishment, Cronulla High School
Cnr Elouera Road & Captain Cook Drive, Cronulla, NSW

REPORT NUMBER
7218-1.1R

DATE ISSUED
15 August 2022

Prepared For:

MBB Group Pty Ltd
Level 4, 73 York Street
Sydney NSW 2000

Attention: Ms Natalya Partington



Revision History

Status	Date	Prepared	Checked	Comment
Final	15/08/2022	Ricky Thom	Adam Shearer	

Document 7218-1.1R, 33 pages plus attachments

Disclaimer

The work presented in this document was carried out in accordance with the Day Design Pty Ltd Quality Management System. Day Design is certified to ISO9001.

Day Design Pty Ltd reserves all copyright of intellectual property in any or all of Day Design’s documents. No permission, license or authority is granted by Day Design to any person or organisation to use any of Day Design’s documents for any purpose without written consent of Day Design.

This report has been prepared for the client identified in Section 1.0 only and cannot be relied or used by any third party. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Day Design is not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.

Recommendations made in this report are intended to resolve acoustical problems only. No claims of expertise in other areas are made and no liability is accepted in respect of design or construction for issues falling outside the specialist field of acoustical engineering including but not limited to structural, fire, thermal, architectural buildability, fit for purpose, waterproofing or other aspects of building construction. Supplementary professional advice should be sought in respect of these issues.

The information in this document should not be reproduced, presented or reviewed except in full. Prior to passing onto a third party, the Client is to fully inform the third party of the specific brief and limitations associated with the commission. The only exception to this is for the Regulatory Authority in its use of this report to make a Determination.



TABLE OF CONTENTS

1.0	CONSULTING BRIEF	5
2.0	PROJECT DESCRIPTION & SUMMARY OF FINDINGS.....	6
3.0	ACOUSTIC CRITERIA	9
3.1	Measured Ambient Noise Levels.....	9
3.2	SEPP (Transport and Infrastructure) 2021.....	12
3.3	NSW Environment Protection Authority.....	14
3.3.1	NSW Noise Policy for Industry	14
3.3.1.1	Project Intrusiveness Noise Levels	14
3.3.1.2	Project Amenity Noise Levels.....	15
3.3.2	NSW Road Noise Policy	17
3.4	Project Specific Noise Criteria.....	20
3.4.1	Residential Receivers	20
3.4.2	Active Recreation Receiver.....	20
3.4.3	Passive Recreation Receiver	20
3.4.4	On – Road Traffic Noise Criteria	21
4.0	SCHOOL NOISE EMISSION.....	22
4.1	Outdoor Areas Noise Emissions	22
4.2	General Learning Spaces Noise Emissions.....	23
4.3	Relocated Performing Arts Building Noise Emissions	24
4.4	Mechanical Plant Noise Emissions	26
4.5	Car Park Noise Emission.....	27
4.6	Predicted Cumulative Noise Level at Receptor Locations.....	28
4.7	On – Road Traffic Noise.....	31
5.0	NOISE CONTROL RECOMMENDATIONS - MECHANICAL PLANT.....	32
5.1	Internal Noise Levels – Building L Mechanical Plant.....	32
5.2	General Requirements – Certification.....	32
6.0	NOISE IMPACT STATEMENT	33



TABLES

Table 1	Noise Sensitive Receptors.....	7
Table 2	Ambient Noise Levels – Cronulla High School, Cronulla, NSW	10
Table 3	Short-term Rating and Ambient Background Levels	11
Table 4	Amenity Noise Levels.....	15
Table 5	Road Traffic Noise Assessment Criterion – Residential	17
Table 6	Road Traffic Noise Assessment Criterion – Non-Residential Land Uses	18
Table 7	Road Traffic Noise – Assessment Locations for Existing Land Uses	19
Table 8	$L_{eq, 15 \text{ minute}}$ Sound Power Levels – Teacher & Students – GLSs.....	23
Table 9	$L_{eq, 15 \text{ minute}}$ Sound Power Levels – New Performance Space/Lecture Theatre	25
Table 10	$L_{eq, 15 \text{ minute}}$ Sound Power Levels - Mechanical Plant	26
Table 11	SEL Sound Power Levels – Vehicles	27
Table 12	Predicted Cumulative $L_{eq, 15 \text{ minute}}$ Noise Levels – GLAs, Performing Arts Building, Car Park & Mechanical Plant.....	28
Table 13	Calculated $L_{Aeq, 1 \text{ hour}}$ Noise Levels – Additional On-Road Traffic	31



1.0 CONSULTING BRIEF

Day Design Pty Ltd was engaged by School Infrastructure NSW to carry out an acoustic assessment of the proposed new buildings and refurbishment of existing buildings at Cronulla High School, at the corner of Elouera Road and Captain Cook Drive, Cronulla, NSW.

This commission involves the following:

Scope of Work:

- Inspect the site and environs
- Measure the background noise levels at critical locations and times
- Establish acceptable noise level criteria
- Quantify noise emissions from the School taking into consideration the proposed new and refurbished buildings
- Calculate the level of noise emission, taking into account building envelope transmission, screen walls and distance attenuation
- Prepare a site plan identifying the development and nearby noise sensitive locations
- Provide recommendations for acoustical treatment (if necessary)
- Prepare an Environmental Noise Assessment Report.



2.0 PROJECT DESCRIPTION & SUMMARY OF FINDINGS

It is proposed to refurbish four of the existing buildings, construct two new buildings, relocate the existing performing arts building and reconfigure the existing car park at Cronulla High School (*CHS*) at the corner of Elouera Road and Captain Cook Drive, Cronulla, NSW.

CHS is located on land zoned *SP2 – Infrastructure* under the Sutherland Shire Local Environmental Plan (LEP) 2015.

CHS comprises of outdoor playing fields and courts, a central courtyard, car park, and multiple buildings containing class rooms, general learning spaces (GLSs), library, amenities, staff areas and administration areas.

CHS caters for up to approximately 1350 students in years 7 to 12. There will be no increase to the total number of students enrolled at *CHS* as part of this proposal.

The proposal seeks approval for the following:

- Construction of two new 2-storey buildings (Building L and Building M), comprising:
 - Building L:
 - Ground Floor – public and student reception, admin and clerical spaces, staff offices and interview rooms, student health clinics, store rooms and amenities; and
 - Level 1 – 4 x GLSs, a seminar room, shared learning space and amenities.
 - Building M:
 - Ground Floor - canteen, staff room, sports store and amenities; and
 - Level 1 – 6 x GLSs, a seminar room, shared learning space and amenities.
- Refurbishment and repurposing of staff areas and GLSs in four existing buildings (Buildings A(d), C(e), D(a) and E(b));
- Relocation of existing performing arts building (Building I(i)); and
- Reconfiguration of the existing car park area.

Mechanical plant, including but not limited to air conditioning condenser units and exhaust fans, will be required to serve the proposed Buildings L and M.

CHS is bounded by residential premises to the north, east and south east, Bate Bay Road to the south, Elouera Road to the south-west and Captain Cook Drive to the west and north west. Residential premises are also located on the opposite side of Bate Bay Road to the south, Cronulla Golf Course is located on the opposite side of Elouera Road to the south-west and Towra Point Nature Reserve and land designated RE1 – *Public Recreation* are located on the opposite side of Captain Cook Drive to the west and north-west. The site and surrounding residential premises and recreation areas are shown on Figure 1.



The nearest noise sensitive receptors to the proposed new and refurbished buildings at *CHS*, in various directions, are shown on Figure 1 and are as follows in Table 1.

Table 1 Noise Sensitive Receptors

Receptor and Type	Address	Direction from site
R1 – Residential <i>R1a – Ground Floor Receptor</i> <i>R1b – First Floor Receptor</i>	15 Peregrine Drive	East
R2 – Residential <i>R2a – Ground Floor Receptor</i> <i>R2b – First Floor Receptor</i>	9 Peregrine Drive	East
R3 – Residential <i>R3a – Ground Floor Receptor</i> <i>R3b – First Floor Receptor</i>	29 Bate Bay Road	South-East
R4 – Residential <i>R4a – Ground Floor Receptor</i> <i>R4b – First Floor Receptor</i>	2B Elouera Road	South
R5 – Private Recreation	19-27 Hume Road, Cronulla Golf Course	South-West
R6 – Public Recreation	405-417 Captain Cook Drive	North-West

Each residential receptor location has been selected to represent the adjacent residential premises, eg R1 is representative of all residential receptors further north of the new Building M at *CHS*, R4 is representative of all residential receptors to the south of the new Building L, etc.

The existing and ongoing operating hours for *CHS* are:

Standard Hours:

- Monday – Friday: 8.40 am – 3.00 pm; including
- Recess: 10.45 am – 11.15 am; and
- Lunch: 12.45 pm – 1.30 pm.

This proposal has been undertaken in accordance with the NSW Department of Planning and Environment’s (DoPE) *State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021* and the NSW Environment Protection Authority’s (EPA) *Noise Policy for Industry (NPI)* and NSW Road Noise Policy (RNP).

An acoustic assessment of the noise from the general learning spaces (GLSs) and mechanical plant has been carried out to ensure the noise impact of the proposed new and refurbished buildings at *CHS* will not adversely affect the acoustic amenity of the nearby residences.



Calculations show that the level of noise emission, subsequent to the construction of the new facilities at *CHS*, will meet the acoustic requirements in the NSW Department of Planning and Environment’s *SEPP (Transport and Infrastructure) 2021* and the EPA’s NPI and RNP.

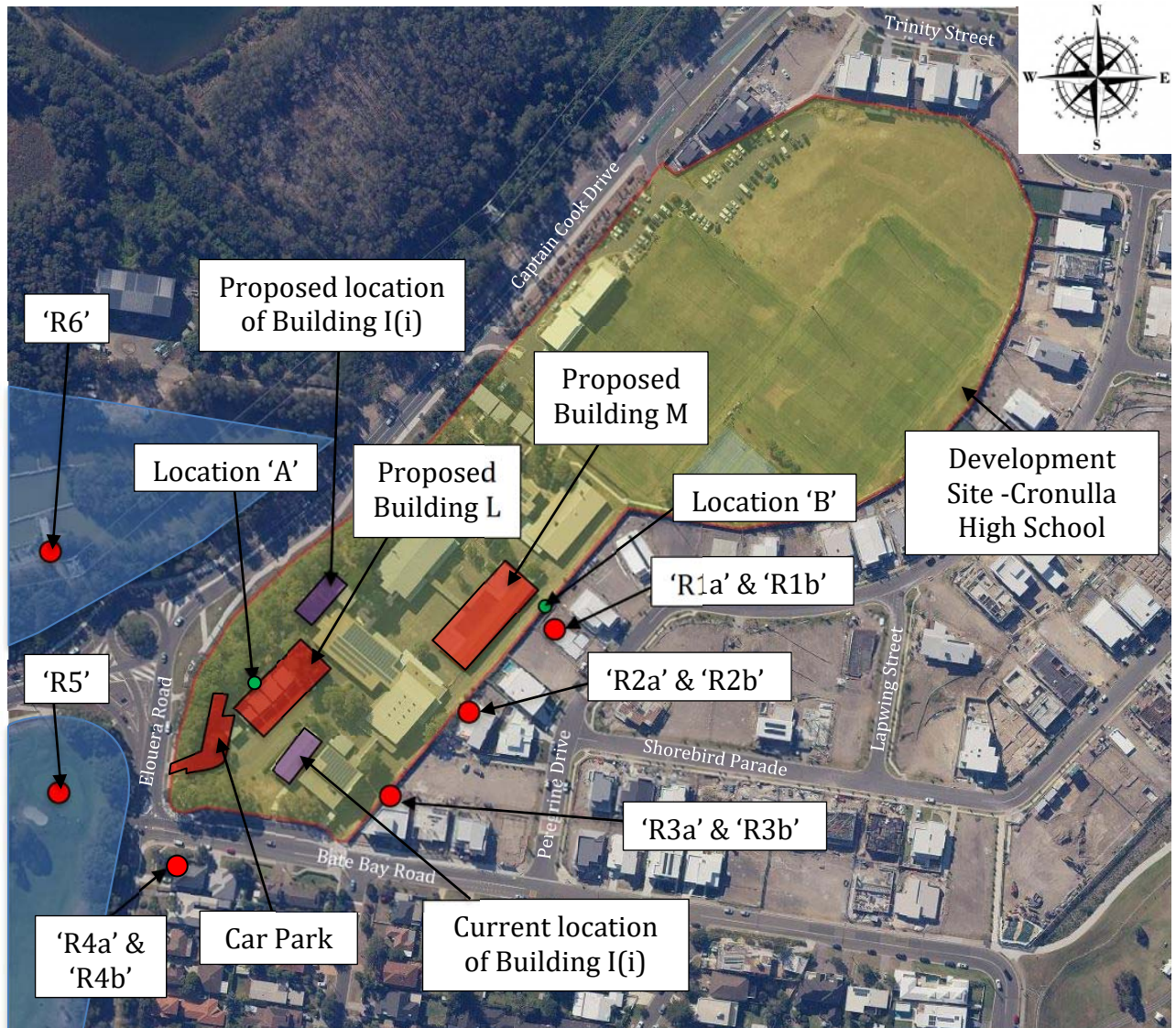


Figure 1 - Location Plan – Cronulla High School, Cnr Elouera Road & Captain Cook Drive, Cronulla, NSW.



3.0 ACOUSTIC CRITERIA

3.1 Measured Ambient Noise Levels

In order to assess the severity of a possible environmental noise problem in a residential area it is necessary to measure the ambient background noise level at the times and locations of worst possible annoyance. The lower the background noise level, the more perceptible the intrusive noise becomes and the more potentially annoying.

Fact Sheet A: Determining existing noise levels, Section A1 of the NPI states the following in relation to determining background noise levels:

Background noise levels need to be determined before intrusive noise can be assessed. The background noise levels to be measured are those that are present at the time of the noise assessment and without the subject development operating. For the assessment of modifications to existing premises, the noise from the existing premises should be excluded from background noise measurements. The exception is where the premises has been operating for a significant period of time and is considered a normal part of the acoustic environment; it may be included in the background noise assessment under the following circumstances:

- *the development must have been operating for a period in excess of 10 years in the assessment period/s being considered and is considered a normal part of the acoustic environment; and*
- *the development must be operating in accordance with noise limits and requirements imposed in a consent or licence and/or be applying best practice.*

Any ambient noise measurements must also take into consideration the noise contribution to the surrounding area from the nearby Captain Cook Drive and existing operations of *CHS*, as they form part of the existing acoustic environment during the school term – noise from road traffic and the operation of the school is typical/expected in this area.

Section B1.1 'Instrument requirements and siting', paragraph 2 of the *NPI* requires monitoring to take place at a 'site that is truly representative of the noise environment at the residence'.

Section B1.2 'Measurement procedure', point 2, of the *NPI* specifies that monitoring should take place for 'each day of the week the proposed development will be operating and over the proposed operating hours'.

CHS does not and is not proposed to operate in its typical capacity in the school holidays (ie normal classes), therefore monitoring took place during the school term, and excluded the noise emission associated with *CHS's* outdoor play times (recess and lunch).

The ambient L_{90} background noise level is a statistical measure of the sound pressure level that is exceeded for 90% of the measuring period (typically 15 minutes).



The Rating Background Level (RBL) is defined by the Environment Protection Authority (NSW) as the median value of the (lower) tenth percentile of L₉₀ ambient background noise levels for day, evening or night periods, measured over a number of days during the proposed days and times of operation.

The places of worst possible annoyance are the nearby residential dwellings to the east and south-east of the proposed Building L and Building M, as shown in Figure 1 as ‘R1’ to ‘R4’. The times of worst possible annoyance will be during the day when CHS is operating.

Ambient noise levels were measured in two locations on the western and eastern sides of CHS from Wednesday 19 May to Thursday 27 May, 2021, shown as Locations ‘A’ and ‘B’ on Figure 1. The noise monitor installed at Location ‘A’ was approximately 1.5 metres above ground level, and was installed at the approximate location of the proposed western façade of Building L. The noise monitor installed at Location ‘B’ was approximately 4.5 metres above ground level, and was installed along the eastern boundary of CHS between the proposed Building M and the residential receptors at ‘R1’.

The day time ambient noise levels are presented in the attached Appendix B1 to B2, and also below in Table 2.

Table 2 Ambient Noise Levels – Cronulla High School, Cronulla, NSW

Noise Measurement Location	Time Period	L ₉₀ Rating Background Level	Existing Leq Noise Level
Location ‘A’ – Western Boundary, Cronulla High School	Day (7 am to 6 pm)	56 dBA	62 dBA ¹
Location ‘B’ – Eastern Boundary, First Floor Level, Cronulla High School	Day (7 am to 6 pm)	48 dBA	59 dBA

Meteorological conditions during the testing typically consisted of clear skies. Temperatures ranged from 8 to 23°C. Atmospheric conditions were ideal for noise monitoring. Noise measurements were therefore considered reliable and typical for the receptor areas.

¹ The measured ambient noise levels at Location ‘A’ were affected by existing road traffic noise from Captain Cook Drive. Where the existing Leq, traffic noise level is 10 dB or more above the recommended amenity noise level, the area is considered to have high traffic noise (EPA, Noise Policy for Industry, Section 2.4.1).



Short-term ambient noise measurements were also conducted at Locations ‘A’ and ‘B’ between 12 pm and 12.40 pm on Wednesday 19 March, 2021, at ground and first floor levels, in order to determine the level difference between ground and first floor heights. The result of this noise survey is shown below in Table 3.

Table 3 Short-term Rating and Ambient Background Levels

Location	Time Period	L ₉₀ Rating Background Level (dBA)	Existing L _{Aeq} Noise Levels (dBA)
<i>Location ‘A’ – Proposed Western Façade of Building L at CHS</i>			
Ground Floor	12.01 pm – 12.16 pm	57	63
First Floor		57	64
<i>Location ‘B’ – Eastern Boundary of CHS</i>			
Ground Floor	1.50 pm – 2.05 pm	44	52
First Floor		47	53

As seen in Table 3, the L₉₀ Rating Background Level recorded at ground and first floor level at Location ‘A’ throughout the short-term monitoring period was found to be the same, with a 1 dB level difference in L_{Aeq} noise levels also recorded. As such, it is found that the L₉₀ day time noise levels at the first-floor level are likely to be **56 dBA**, with a daytime L_{Aeq} of (62 + 1 =) **63 dBA**.

At Location ‘B’, a 3 dB level difference in L₉₀ Rating Background Level was recorded between ground and first floor levels throughout the short-term monitoring period, with an average of 1 dB level difference in L_{Aeq} noise levels also recorded. As such, it is found that L₉₀ day time noise levels at the ground-floor level are likely to be (48 - 3 =) **45 dBA**, with a daytime L_{Aeq} of (59 - 1 =) **58 dBA**.

As per the above, we have excluded all noise data that was potentially affected by noise associated with the use of CHS (students playing at recess and lunch) from the measured background noise levels in order to calculate our RBLs.



3.2 SEPP (Transport and Infrastructure) 2021

The NSW Department of Planning and Environment (DoPE) published the State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021 on 1 March 2022, which consolidated the SEPP (Education and Child Care Facilities) 2017. The relevant parts of the SEPP to this proposal have been extracted and are revised below.

Chapter 3 Education establishments and child care facilities

Part 3.4 Schools - specific development controls

3.36 Schools – development permitted with consent

- (2) Development for a purpose specified in section 3.40 (1) or 3.41 (2) (e) may be carried out by any person with development consent on land within the boundaries of an existing school.*
- (9) A provision of a development control plan that specifies a requirement, standard or control in relation to development of a kind referred to in subclause (1), (2), (3) or (5) is of no effect, regardless of when the development control plan was made.*

3.40 Existing schools – complying development

- (1) Development carried out by or on behalf of any person on land within the boundaries of an existing school is complying development if:
 - (a) it consists of the construction of, or alterations or additions to, any of the following:
 - (i) a library, an administration building or office premises for the purposes of the school,*
 - (ii) a gym, indoor sporting facility or hall,*
 - (iii) a teaching facility (including lecture theatre), laboratory, trade facility or training facility,*
 - (iv) a cafeteria that is carried out in accordance with AS4674:2004, Design, construction and fit-out of food premises, published by Standards Australia on 11 February 2004,*
 - (v) a kiosk or bookshop for students or staff (or both),*
 - (vi) a hall with associated covered outdoor learning area or kiosk,*
 - (vii) an outdoor learning or play area and associated awning or canopy,*
 - (viii) demolition of a building or structure (unless a State heritage item or local heritage item),***



- (ix) *minor alterations or additions (such as internal fitouts, structural upgrades, or alterations or additions to enable plant or equipment to be installed, to address work health and safety requirements or to provide access for people with a disability),*
 - (x) *restoration, replacement or repair of a damaged building or structure, and*
 - (b) *it complies with this clause.*
 - (3) *The development standards for complying development under this clause (other than for development referred to in subclause (1) (a) (viii), (ix) or (x)) are set out in Schedule 2.*

'Schedule 6 Schools – Complying development' of the SEPP requires the following regarding noise:

'6 Noise

A new building or (if the development is an alteration or addition to an existing building for the purpose of changing its use) an existing building that is to be used for the purpose of a school or school-based child care must be designed so as not to emit noise exceeding an L_{Aeq} of 5 dB(A) above background noise when measured at any lot boundary.'

Also, 'Schedule 8 Schools – design quality principles' of the SEPP requires the following:

'Principle 5. Amenity

Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood.'



3.3 NSW Environment Protection Authority

3.3.1 NSW Noise Policy for Industry

The NSW Environment Protection Authority (EPA) published the *Noise Policy for Industry* (NPI) in October 2017. The NPI is specifically aimed at assessing noise from industrial noise sources listed in Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO, 1997).

The NPI provides a framework to assess noise emission from a premises, and whether that premises produces intrusive or non-intrusive noise and/or maintains the acoustic amenity.

Section 1.4 of the NPI specifies the types of industrial noise sources the policy is designed for, such as mechanical plant and equipment and vehicle movements within the premises and/or on private roads, etc. In addition, Section 1.5 of the NPI lists the type of noise sources to which the policy does not apply to, which includes *'noise sources covered by regulation (domestic/neighbourhood uses)'*.

The NPI is **not** applicable (Section 1.5 of the NPI - see above) to noise associated with students engaged in active/passive play in the outdoor/indoor areas of an educational establishment. However, the amenity noise levels may be used as a screening test to establish whether further investigation into the likely effects, if any, on the acoustic amenity (as per the SEPP) of the local area is warranted.

Section 2.1 of the NPI states the following:

"Intrusive noise levels are only applied to residential receivers (residences). For other receiver types identified in Table 2.2, only the amenity levels apply."

3.3.1.1 Project Intrusiveness Noise Levels

The EPA states in Section 2.3 of its NSW NPI (October 2017) that the intrusiveness of an industrial noise source may generally be considered acceptable if the level of noise from the source (represented by the L_{Aeq} descriptor), measured over a 15-minute period, does not exceed the rating background noise level by more than 5 dB when beyond a minimum threshold (EPA NPI, 2017, Section 2.3).

The RBL at Location 'A' was 56 dBA during the day at ground and first floor levels (see Table 2 and Table 3). Therefore, the acceptable L_{eq} noise intrusiveness criteria in this area is:

- (56 + 5 =) 61 dBA $L_{eq, 15 \text{ minute}}$ during the day

The RBLs at Location 'B' were 45 dBA and 48 dBA during the day at ground and first floor levels, respectively (see Table 2 and Table 3). Therefore, the acceptable L_{eq} noise intrusiveness criteria in this area is:

- (45 + 5 =) 50 dBA $L_{eq, 15 \text{ minute}}$ during the day at ground floor level; and
- (48 + 5 =) 53 dBA $L_{eq, 15 \text{ minute}}$ during the day at first floor level.



3.3.1.2 Project Amenity Noise Levels

Depending on the type of area in which the noise is being made, there is a certain reasonable expectancy for noise amenity. The NSW NPI provides a schedule of recommended L_{eq} industrial noise levels that under normal circumstances should not be exceeded. If successive developments occur near a residential area, each one allowing a criterion of background noise level plus 5 dB, the ambient noise level will gradually creep higher.

The recommended L_{eq} noise levels in Table 2 are taken from Section 2.4, Table 2.2 of the NPI.

Table 4 Amenity Noise Levels

Receiver	Noise Amenity Area	Time of Day	L_{eq} , dBA, Recommended Amenity Noise Level
Residential	Suburban	Day	55
		Evening	45
		Night	40
Area specifically reserved for passive recreation (eg national park)	All	When in use	50
Active recreation area (eg school playground, golf course)	All	When in use	55

The L_{Aeq} is determined over a 15-minute period for the project intrusiveness noise level and over an assessment period (day, evening and night) for the project amenity noise level. This leads to the situation where, because of the different averaging periods, the same numerical value does not necessarily represent the same amount of noise heard by a person for different time periods. To standardise the time periods for the intrusiveness and amenity noise levels, the NPI assumes that the $L_{Aeq,15min}$ will be taken to be equal to the $L_{Aeq,period} + 3$ decibels (dB) (Section 2.2, NPI).



Compliance with the amenity criteria will limit ambient noise creep. **Section 2.4** of the *NPI* states the following:

*“To ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a **project amenity noise level** applies for each new source of industrial noise as follows:*

- **Project amenity noise level for industrial developments = recommended amenity noise level (Table 2.2) minus 5 dB (A).**

The following exceptions to the above method to derive the project amenity noise level apply:

3. *Where the resultant project amenity noise level is 10 dB or more lower than the existing industrial noise level. In this case the project amenity noise levels can be set at 10 dB below existing industrial noise levels if it can be demonstrated that existing industrial noise levels are unlikely to reduce over time.’*

In addition, the level of transport noise, road traffic noise in particular, may be high enough to make noise from an industrial source effectively inaudible, even though the L_{Aeq} noise level from that industrial noise source may exceed the project amenity noise level. In such cases the project amenity noise level may be derived from the $L_{Aeq, period}$ (traffic) minus 15 dBA.

The existing L_{eq} noise level at Location ‘A’ was 62 dBA (see Table 2) during the day. In accordance with Table 2.3 of the *NPI*, Location ‘A’ is considered to be a ‘Suburban’ Noise Amenity Area. Therefore, the acceptable amenity criteria for the residential receptors in this area, ‘R4’, are:

- $(62 - 10 + 3 =) 55$ dBA $L_{eq, 15\text{ minute}}$ during the day.

The existing L_{eq} noise levels at Location ‘B’ were 58 dBA and 59 dBA during the day at ground floor and first floor levels, respectively (see Table 2 and Table 3). Therefore, the acceptable amenity criteria for the residential receptors in this area, ‘R1’, ‘R2’ and ‘R3’, are:

- $(55 - 5 + 3 =) 53$ dBA $L_{eq, 15\text{ minute}}$ during the day at ground floor level; and
- $(55 - 5 + 3 =) 53$ dBA $L_{eq, 15\text{ minute}}$ during the day at first floor level.

Section 2.6 of the *NPI* states the following in regard to assessment locations for passive and active recreation areas:

‘In assessing amenity noise levels at passive and active recreation areas, the noise level is to be assessed at the most affected point within the area that is reasonably expected to be used by people, for example, picnic areas or walking tracks.’

For the active recreative area at Cronulla Golf Course, ‘R5’, the most affected point expected to be used by people is the golf green closest to *CHS* and Captain Cook Drive, as indicated on Figure 1.

The acceptable amenity criteria for the active recreation area at Cronulla Golf Course, ‘R5’, is:

- $(62 - 10 + 3 =) 55$ dBA $L_{eq, 15\text{ minute}}$ when in use.



For the passive recreation area at 405-417 Captain Cook Drive, 'R6', the most affected point expected to be used by people is the walking track/road closest to CHS and Captain Cook Drive, as indicated on Figure 1.

The acceptable amenity criteria for the passive recreation area at 'R6' is:

- (62 - 10 +3 =) 55 dBA $L_{eq, 15 \text{ minute}}$ when in use.

3.3.2 NSW Road Noise Policy

The NSW Road Noise Policy (RNP), in Section 2.3.1, sets out road traffic noise assessment criteria for residential land uses in Table 3. The information in that table is extracted below in Table 5.

Table 5 Road Traffic Noise Assessment Criterion – Residential

Road Category	Type of project/land use	Assessment Criteria - dB(A)	
		Day (7 am – 10 pm)	Night (10 pm – 7 am)
Freeway/arterial/sub-arterial roads	3. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq, (15 \text{ hour})}$ 60 (external)	$L_{Aeq, (9 \text{ hour})}$ 55 (external)



Section 2.3.2 of the RNP sets out road traffic noise assessment criteria for non-residential land uses in Table 4. The relevant information in that table is extracted below in Table 6.

Table 6 Road Traffic Noise Assessment Criterion – Non-Residential Land Uses

Existing sensitive land use	Assessment Criteria – dB(A)		Additional Considerations
	Day (7 am –10 pm)	Night (10 pm –7 am)	
4. Open space (active use)	L _{Aeq, (15 hour)} 60 (external) when in use	–	Active recreation is characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion. Passive recreation is characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, eg playing chess, reading.
5. Open space (passive use)	L _{Aeq, (15 hour)} 55 (external) when in use	–	In determining whether areas are used for active or passive recreation, the type of activity that occurs in that area and its sensitivity to noise intrusion should be established. For areas where there may be a mix of passive and active recreation, eg school playgrounds, the more stringent criteria apply. Open space may also be used as a buffer zone for more sensitive land uses.

Section 2.5.4 of the RNP outlines the relevant assessment locations for existing land uses in Table 7. The relevant information in that table is extracted below in Table 7.



Table 7 Road Traffic Noise – Assessment Locations for Existing Land Uses

Existing sensitive land use	Additional Considerations
External noise levels at residences	<p>The noise level should be assessed at 1 metre from the façade and at a height of 1.5 metres from the floor.</p> <p>Separate noise criteria should be set and assessments carried out for each façade of a residence, except in straightforward situations where the residential façade most affected by road traffic noise can be readily identified.</p>
Open space – passive or active use	<p>The noise level is to be assessed at the time(s) and location(s) regularly attended by people using the space. In this regard, ‘regular’ attendance at a location means at least once a week.</p>



3.4 Project Specific Noise Criteria

Considering there is no specific noise criteria for outdoor activities taking place at an educational establishment, noise emission from outdoor activities will be screened against the amenity noise levels specified in the *NPI, Schedule 8, Principle 5 – Amenity of the SEPP*, requires that the amenity of adjacent development and the local neighbourhood be considered.

Noise emissions from the use (indoor classes and mechanical plant) of the new school buildings, relocated performing arts building and reconfigured car park will be assessed against the requirements of *Schedule 6, Part 6 - Noise of the SEPP*.

3.4.1 Residential Receivers

As the measured noise levels at Location 'A' are affected by road traffic noise along Captain Cook Drive, the measured noise levels at Location 'B' will also be used to derive the criteria for residential receptor 'R4'. While this will result in a conservative representation of the noise levels at this receptor, compliance with the more conservative criteria will also ensure compliance with a higher criteria.

Residential Receivers 'R1', 'R2', 'R3' and 'R4' – Based on measured noise levels at Location 'B' and the values shown in Table 3.

For Ground Floor receivers 'R1a', 'R2a', 'R3a' and 'R4a':

- (45 + 5 =) **50 dBA** during the day for all noise associated with the use of the new buildings, relocated performing arts building and reconfigured car park.

For First Floor receivers 'R1b', 'R2b', 'R3b' and 'R4b':

- (48 + 5 =) **53 dBA** during the day for all noise associated with the use of the new buildings, relocated performing arts building and reconfigured car park.

These criteria apply at the most-affected point on or within the residential property boundary. For upper floors of residential receivers, the noise is assessed outside the nearest window.

3.4.2 Active Recreation Receiver

Active Recreation Receiver – 'R5'

- **55 dBA** $L_{eq, 15 \text{ minute}}$ for all noise associated with the use of the new buildings, relocated performing arts building and reconfigured car park. This criteria is applied at the golf green closest to *CHS* and Captain Cook Drive.

3.4.3 Passive Recreation Receiver

Passive Recreation Receiver – 'R6'

- **55 dBA** $L_{eq, 15 \text{ minute}}$ for all noise associated with the use of the new buildings, relocated performing arts building and reconfigured car park. This criteria is applied at the walking track/road closest to *CHS* and Captain Cook Drive



3.4.4 On – Road Traffic Noise Criteria

The following criteria will be applied at 1 metre from the most affected façades of residential receivers 'R1', 'R2', 'R3 and 'R4', for on-road traffic noise from Captain Cook Drive:

- **55 dBA** (external) $L_{eq, 1 \text{ hour}}$ between 7 am and 10 pm.

The following criteria will be applied at the most affected point expected to be regularly used by people during the day at the active recreation receiver 'R5', for on-road traffic noise from Captain Cook Drive. This point is taken to be the golf green closest to Captain Cook Drive:

- **60 dBA** (external) $L_{eq, 1 \text{ hour}}$ between 7 am and 10 pm.

The following criteria will be applied at the most affected point expected to be regularly used by people during the day at the passive recreation receiver 'R6', for on-road traffic noise from Captain Cook Drive. This point is taken to be the walking track/road closest to Captain Cook Drive:

- **55 dBA** (external) $L_{eq, 1 \text{ hour}}$ between 7 am and 10 pm.



4.0 SCHOOL NOISE EMISSION

The main sources of noise from the proposed new buildings and refurbished existing buildings at *CHS* will be as follows:

- Students in the outdoor areas;
- Students inside the proposed new classrooms;
- Students inside the relocated performing arts building;
- Mechanical plant; and,
- Use of the reconfigured car park.

The noise assessment was based on the drawings by Fulton Trotter, Project Number 7068CR04, dated 4 July 2022, attached as Appendix C.

4.1 Outdoor Areas Noise Emissions

As mentioned in Section 2.0, there is no proposal to increase to the total number of students enrolled at *CHS* as part of this proposal. Therefore, noise emissions from the outdoor play areas are also not expected to increase, as the total number of children permitted in the outdoor areas at any given time will not increase.

Considering the above, noise emissions from the outdoor play areas are considered to be acceptable and will maintain the current acoustic amenity of the local area.



4.2 General Learning Spaces Noise Emissions

We have been advised that that the average class size at *CHS* is 30 students.

During normal classroom activities, the main source of noise will be from the teachers and students talking within the GLSs. We have assumed that there may be a maximum of 1/3 of the students talking normally – 10 students. We have also assumed that the teacher in each classroom may be talking loudly.

Calculations assume students are distributed evenly throughout the inside of the GLSs and windows or doors to external areas are partially open (10% of floor area), where applicable.

Day Design Pty Ltd has previously measured and quantified the Octave Band Centre Frequency sound power level of teachers and students talking at different noise levels. The $L_{eq, 15 \text{ minute}}$ sound power levels of teachers and students are shown in Table 4.

Table 8 $L_{eq, 15 \text{ minute}}$ Sound Power Levels – Teacher & Students – GLSs

Description	Sound Power Levels (dB)								
	dBA	63	125	250	500	1k	2k	4k	8k
Teacher talking loudly	80	59	61	70	77	76	72	65	56
School student talking normally	63	53	53	60	63	58	53	52	47
1 teacher and 30 students	81	64	65	73	78	77	73	67	60



4.3 Relocated Performing Arts Building Noise Emissions

Based on the architectural drawings prepared by Fulton Trotter, dated 4 July 2022, attached as Appendix C, we have assumed that the relocated Performing Arts Building will have a capacity of 90 students (three classes) during normal operating hours. From our observations of other sites, we have modelled the noise emission from the Performing Arts Building as follows:

- Students talking loudly (10%), students talking with a raised voice (20%), students talking normally (20%) and the rest are not talking or listening (50%).
- Calculations assume students are distributed evenly throughout the inside of the Performing Arts Building.
- To provide natural ventilation, we have assumed that the operable windows along the eastern and western facades of the Performing Arts Building will be partially open (10% open floor area).
- We have assumed the ceiling/roof system consists of a metal deck roof with standard plasterboard lining beneath, with standard insulation batts installed in the roof/ceiling cavity.
- We have assumed the walls are constructed with 92 mm steel studs, with 13 mm plasterboard and sheet metal or fibre cement fixed to either side of the studs, with standard insulation batts installed in the cavity.
- We have also assumed, as a worst-case scenario, that a small band, including drums, electric guitar, electric bass, electric keyboard and an amplified vocal, may be playing in the Performing Arts Building during the normal operation



Based on information in Harris² and in our noise level database gathered over many years, we calculate the sound power levels shown in Table 9.

Table 9 $L_{eq, 15 \text{ minute}}$ **Sound Power Levels – New Performance Space/Lecture Theatre**

Description	Sound Power Levels (dB) at Octave Band Centre Frequencies (Hz)								
	dBA	63	125	250	500	1k	2k	4k	8k
Student talking loudly	80	59	61	70	77	76	72	65	56
Student talking with a raised voice	69	58	58	64	69	64	60	55	48
Student talking with a normal voice	63	53	53	60	63	58	53	52	47
90 students	90	73	74	82	88	86	82	76	67
Small band	100	109	105	104	97	94	84	84	83
90 students & small band	100	109	105	104	98	95	86	85	83

² *Handbook of Acoustical Measurements and Noise Control, Third Edition, Cyril M. Harris, McGraw-Hill Inc, New York, (Page 16.2)*



4.4 Mechanical Plant Noise Emissions

The mechanical plant currently proposed to serve the new buildings includes four Daikin *RXQ34THY1A(E)* VRV units, with two units servicing the proposed Building L and two units servicing Building M. No exhaust fans are currently proposed to be included in the new buildings.

The two VRV units to service Building L are proposed to be located along the western façade of the building at ground floor level. The two VRV units to service Building M will be in two separate locations, located at the corners of the southern-eastern facade of the building at ground floor level. The proposed locations of the VRV units for both Building L and Building M are shown in architectural drawings prepared by Fulton Trotter, dated 4 July 2022, attached as Appendix C.

The proposed mechanical plant will typically only operate during day time hours, Monday to Friday.

The $L_{eq, 15 \text{ minute}}$ sound power levels for the proposed air conditioning condenser units have been provided by the manufacturer and are presented in Table 10.

Table 10 $L_{eq, 15 \text{ minute}}$ Sound Power Levels - Mechanical Plant

Description	Sound Power Levels (dB)								
	dBA	at Octave Band Centre Frequencies (Hz)							
		63	125	250	500	1k	2k	4k	8k
1 x Daikin <i>RXQ34THY1A(E)</i> VRV condenser unit	83	86	87	83	82	77	75	67	61
2 x Daikin <i>RXQ34THY1A(E)</i> VRV condenser units	86	89	90	86	85	80	78	70	64

Once mechanical plant selection has been finalised, a final assessment should be made, prior to the issue of a Construction Certificate/detailed design stage.



4.5 Car Park Noise Emission

Based on the architectural drawings prepared by Fulton Trotter, dated 4 July 2022, attached as Appendix C, it can be seen that the proposed reconfigured car park on the western side of the site, with entrance/exit via Elouera Road, will have a total capacity of 31 vehicles.

As a worst-case scenario, we have assumed all spaces in the reconfigured car park will be filled/emptied within a 30 minute period either before or after school, or during a special event at the school. This is equivalent to the 15 vehicle trip rates over a 15-minute period during the abovementioned periods.

The Sound Exposure Level (SEL) sound power level and spectra of vehicle noise is shown below in Table 11 and is based on previous measurements by Day Design.

Table 11 SEL Sound Power Levels - Vehicles

Description	Sound Power Levels (dB) at Octave Band Centre Frequencies (Hz)								
	dBA	63	125	250	500	1k	2k	4k	8k
SEL level of car door slam, ignition and drive away	91	104	96	89	87	86	83	81	75
SEL level of car drive by at approximately 50 km/h (flat road)	97	99	97	94	93	95	87	77	70
SEL level of car drive by at approximately 20 km/h (on an incline)	100	115	108	99	95	95	90	89	81



4.6 Predicted Cumulative Noise Level at Receptor Locations

Knowing the sound power level of a noise source (See Table 8 to Table 11), the sound pressure level (as measured with a sound level meter) can be calculated at a remote location using suitable formulae to account for distance losses, sound barriers, building envelope transmission, etc. The predicted noise level at the residential receptors from the various noise producing facets of the development are shown below.

Where applicable, calculations include acoustic shielding provided by *CHS* buildings to the residential receptors, and the boundary fences for residential receivers 'R1', 'R2' and 'R3' noted during the site visit conducted on 19 May, 2021.

The cumulative noise impact from the GLSs, relocated Performing Arts Building, reconfigured car park and mechanical plant associated with the proposed new and refurbished buildings are summarised and shown in Table 12.

Table 12 Predicted Cumulative $L_{eq, 15 \text{ minute}}$ Noise Levels - GLAs, Performing Arts Building, Car Park & Mechanical Plant

Receptor Location	Predicted L_{eq} Noise Level (dBA)	Acceptable L_{eq} Noise Level (dBA)	Compliance
R1a – 15 Peregrine Drive, Ground Floor			
- GLSs	45		
- Performing Arts Building	24		
- Car Park	<20		
- Mechanical plant	43		
Cumulative Noise Level	47	50	Yes
R1b – 15 Peregrine Drive, First Floor			
- GLSs	46		
- Performing Arts Building	26		
- Car Park	21		
- Mechanical plant	49		
Cumulative Noise Level	51	53	Yes
R2a – 9 Peregrine Drive, Ground Floor			
- GLSs	39		
- Performing Arts Building	34		
- Car Park	21		
- Mechanical plant	44		
Cumulative Noise Level	46	50	Yes



Table 12 Predicted Cumulative L_{eq} , 15 minute Noise Levels – GLAs, Performing Arts Building, Car Park & Mechanical Plant – Continued

Receptor Location	Predicted L_{eq} Noise Level (dBA)	Acceptable L_{eq} Noise Level (dBA)	Compliance
R2b – 9 Peregrine Drive, First Floor			
- GLSs	43		
- Performing Arts Building	36		
- Car Park	24		
- Mechanical plant	50		
Cumulative Noise Level	51	53	Yes
R3a – 29 Bate Bay Road, Ground Floor			
- GLSs	33		
- Performing Arts Building	25		
- Car Park	23		
- Mechanical plant	34		
Cumulative Noise Level	37	50	Yes
R3b – 29 Bate Bay Road, First Floor			
- GLSs	38		
- Performing Arts Building	26		
- Car Park	26		
- Mechanical plant	40		
Cumulative Noise Level	42	53	Yes
R4a – 2B Elouera Road, Ground Floor			
- GLSs	28		
- Performing Arts Building	22		
- Car Park	42		
- Mechanical plant	40		
Cumulative Noise Level	44	50	Yes
R4b – 2B Elouera Road, First Floor			
- GLSs	28		
- Performing Arts Building	22		
- Car Park	42		
- Mechanical plant	40		
Cumulative Noise Level	44	53	Yes



Table 12 Predicted Cumulative Leq, 15 minute Noise Levels – GLAs, Performing Arts Building, Car Park & Mechanical Plant – Continued

Receptor Location	Predicted Leq Noise Level (dBA)	Acceptable Leq Noise Level (dBA)	Compliance
R5 – 19-27 Hume Road – Cronulla Golf Course			
- GLSs	30		
- Performing Arts Building	36		
- Car Park	46		
- Mechanical plant	41		
Cumulative Noise Level	48	53	Yes
R6 – 407-415 Captain Cook Drive			
- GLSs	31		
- Performing Arts Building	42		
- Car Park	35		
- Mechanical plant	42		
Cumulative Noise Level	46	55	Yes

The predicted cumulative level of noise from the GLSs, relocated Performing Arts Building, reconfigured car park and mechanical plant will comply with the criteria in Section 3.4 of this report at all receptor locations, and is therefore acceptable.



4.7 On – Road Traffic Noise

The external $L_{Aeq, 1 \text{ hour}}$ traffic noise levels at the most affected receptor locations, from noise associated with on-road traffic travelling along Captain Cook Drive and arriving at the reconfigured car park throughout the day, are calculated to be as shown in Table 13.

Table 13 Calculated $L_{Aeq, 1 \text{ hour}}$ Noise Levels – Additional On-Road Traffic

Receptor Location	Calculated Noise Level (dBA)	Noise Criterion (dBA)	Compliance (Yes/No)
R1a – 15 Peregrine Drive, Ground Floor	<20	55	Yes
R1b – 15 Peregrine Drive, First Floor	<20	55	Yes
R2a – 9 Peregrine Drive, Ground Floor	<20	55	Yes
R2b – 9 Peregrine Drive, First Floor	<20	55	Yes
R3a – 29 Bate Bay Road, Ground Floor	<20	55	Yes
R3b – 29 Bate Bay Road, First Floor	<20	55	Yes
R4a – 2B Elouera Road, Ground Floor	40	55	Yes
R4b – 2B Elouera Road, First Floor	40	55	Yes
R5 – 19-27 Hume Road, Cronulla Golf Course	49	60	Yes
R6 – 405-417 Captain Cook Drive	49	55	Yes

Table 13 shows that the calculated external levels of noise from on-road traffic meets the noise criteria at each of the residential receptor locations, as established in Section 3.4 and is therefore acceptable.



5.0 NOISE CONTROL RECOMMENDATIONS - MECHANICAL PLANT

5.1 Internal Noise Levels – Building L Mechanical Plant

While the proposed condenser units shown in Section 4.4 are found to comply with the criteria shown in Section 3.4 for noise emissions from the use of mechanical plant at nearby residential premises, there is the potential for the selected condensers to impact the internal noise levels of nearby rooms of the proposed buildings.

For Building M, the proposed locations of the condenser units will be acceptable, and will not adversely impact the internal noise levels of the adjacent spaces.

For Building L, the proposed location of the condenser units has the potential to adversely impact the internal noise levels and acoustic amenity for Interview 1, as seen from the architectural drawings attached as Appendix C.

The recommended internal noise level for interview/counselling rooms within schools is outlined within the NSW Department of Education document *Educational Facilities Standards and Guidelines* (EFSG) as an internal noise level of L_{Aeq} 35 dB.

We recommend that a 1.8-metre-high solid barrier be constructed on the eastern side of the proposed condenser units, between the condensers and Interview 1. The barrier may be constructed of solid 'capped and lapped' timber, 9 mm fibre cement or masonry.

5.2 General Requirements – Certification

For typical mechanical plant equipment with sound power levels not exceeding those listed in Table 10, it is reasonable and feasible to acoustically treat the plant area or equipment itself so that noise will not impact the neighbouring properties.

Once mechanical plant selection has been finalised, a detailed acoustic assessment should be made, prior to Certification (or during the detailed design stage). We recommend that the mechanical services engineers select mechanical plant equipment with the lowest sound power levels to reduce the amount of acoustic treatment necessary to achieve the noise criteria at nearby receivers.

We offer to provide detailed noise controls when specifications of the mechanical plant equipment have been finalised.



6.0 NOISE IMPACT STATEMENT

Day Design Pty Ltd was engaged by School Infrastructure NSW to carry out an acoustic assessment of the proposed new buildings and refurbishment of existing buildings at Cronulla High School, at the corner of Elouera Road and Captain Cook Drive, Cronulla, NSW.

Calculations show that, the level of noise emitted from the new and refurbished buildings at Cronulla High School, at the corner of Elouera Road and Captain Cook Drive, Cronulla will meet the acoustic requirements of the NSW Department of Planning and Environment's *SEPP (Transport and Infrastructure) 2021*, and the NSW Environment Protection Authority's (EPA) *Noise Policy for Industry and Road Noise Policy*, as detailed in Section 3.0 of this report, and be considered acceptable.

In conclusion, the amenity of adjacent developments and the local neighbourhood will be respected and upheld.



Ricky Thom, BA, BE(Mech)Hons, GradIEAust

Acoustical Engineer

for and on behalf of Day Design Pty Ltd

AAAC MEMBERSHIP

Day Design Pty Ltd is a member company of the Association of Australasian Acoustical Consultants, and the work herein reported has been performed in accordance with the terms of membership.

APPENDICES

- Appendix A – Noise Survey Instrumentation
- Appendix B1 – Ambient Noise Survey – Eastern Boundary, Cronulla High School
- Appendix B2 – Ambient Noise Survey – Western Boundary, Cronulla High School
- Appendix C – Proposed Site Layout



APPENDIX A – NOISE SURVEY INSTRUMENTATION

Noise level measurements and analysis were made with instrumentation as follows in Table A:

Table A Noise Instrumentation

Description	Model No.	Serial No.
Infobyte Noise Logger Condenser Microphone 0.5” diameter	iM4 MK 250	123 123
Infobyte Noise Logger Condenser Microphone 0.5” diameter	iM4 MK 250	124 124

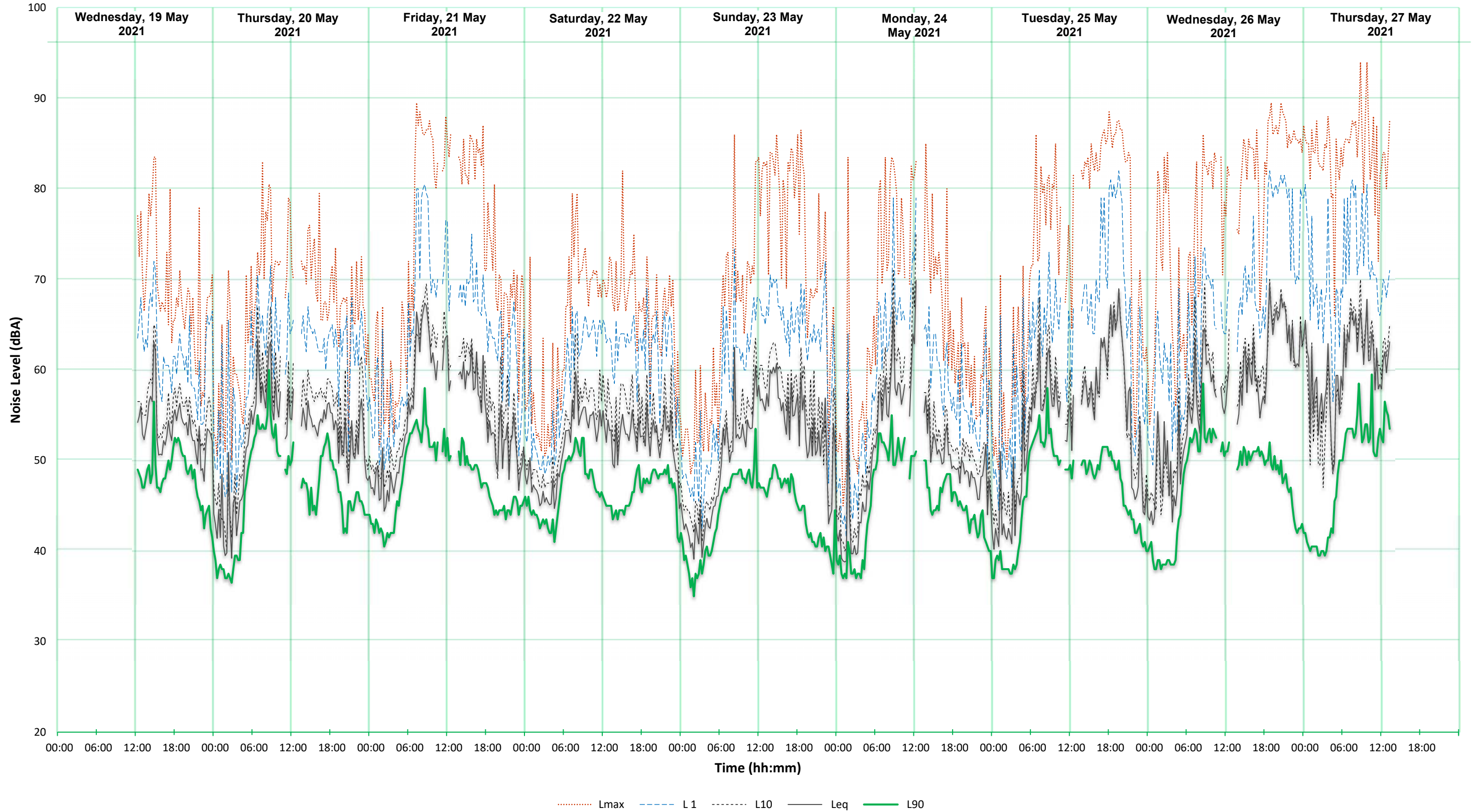
An environmental noise logger is used to continuously monitor ambient noise levels and provide information on the statistical distribution of noise during an extended period of time. The Infobyte Noise Monitors iM4 #123 and #124 are Type 2 precision environmental noise monitors meeting all the applicable requirements of AS1259 for an integrating-averaging sound level meter.

All instrument systems had been laboratory calibrated using instrumentation traceable to Australian National Standards and certified within the last two years thus conforming to Australian Standards. The measurement system was also field calibrated prior to and after noise surveys. Calibration drift was found to be within 1 dB for long-term measurements. No adjustments for instrument drift during the measurement period were warranted.



AMBIENT NOISE SURVEY

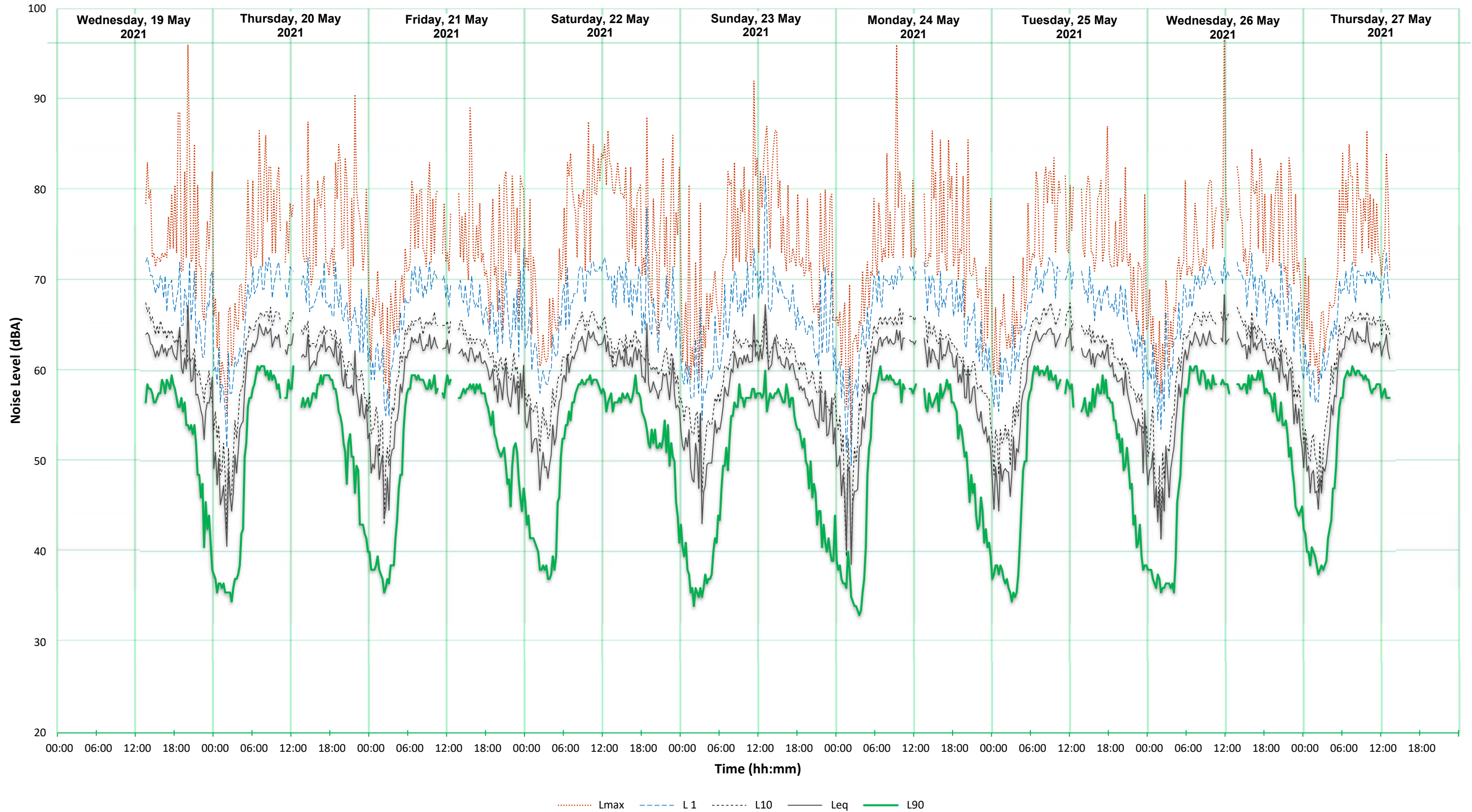
Located at First Floor Level, Eastern Boundary, Cronulla High School Cnr Elouera Rd & Captain Cook Drive, Cronulla, NSW



AMBIENT NOISE SURVEY

7218-1.1R
Appendix B2

Located at Western Boundary, Cronulla High School Cnr Elouera Rd & Captain Cook Drive, Cronulla, NSW



CRONULLA HIGH SCHOOL

FOR NSW DEPARTMENT OF EDUCATION (SCHOOLS INFRASTRUCTURE)

7068CR04




SD-0001	TITLE PAGE	06
SD-0002	LEGENDS PAGE	06
SD-1001	EXISTING SITE PLAN	08
SD-1002	DEMOLITION SITE PLAN	08
SD-1003	PROPOSED SITE PLAN	08
SD-1101	STREETSCAPE ELEVATIONS & SCHOOL SIGNAGE	06
SD-1102	SITE SECTIONS 01	06
SD-1103	EXTERNAL MATERIALS & FINISHES	04
SD-1105	SHADOW DIAGRAMS	04
SD-1201	EXTERNAL WORKS PLAN 01	07
SD-1202	EXTERNAL WORKS PLAN 02	07
SD-1203	EXTERNAL WORKS PLAN - SUBSTATION & MSB ENCLOSURE	03
SD-1301	STAGING PLANS	08
SD-1501	PROPOSED PLAY SPACE	06
SD-1502	AMENITIES STRATEGY	06
SD-1503	CONNECTION WITH COUNTRY ART WORK ZONE	01
SD-1601	TYPICAL WALL DETAILS - EXTERNAL	06
SD-1602	TYPICAL WALL DETAILS - INTERNAL	04
SD-1801	TYPICAL DETAILS 1	03
SD-1802	TYPICAL DETAILS 2	03
SD-1803	TYPICAL DETAILS 3	02
SD-1804	TYPICAL DETAILS 4	02
SD-1805	TYPICAL DETAILS 5	02
SD-A-2001	BUILDING A - GROUND FLOOR PLAN & CEILING PLAN	06
SD-A-2002	BUILDING A - FIRST FLOOR PLAN & CEILING PLAN	06
SD-C-2001	BUILDING C - GROUND FLOOR PLAN & CEILING PLAN	06
SD-D-2001	BUILDING D - GROUND FLOOR PLAN & CEILING PLAN	06
SD-D-2002	BUILDING D - FIRST FLOOR PLAN & CEILING PLAN	06
SD-D-2003	BUILDING D - DOOR & WINDOW SCHEDULE	04
SD-E-2001	BUILDING E - GROUND FLOOR PLAN & CEILING PLAN	06
SD-E-2002	BUILDING E - FIRST FLOOR PLAN & CEILING PLAN	06
SDL-2001	BUILDING L - GROUND FLOOR PLAN	10
SDL-2002	BUILDING L - FIRST FLOOR PLAN	10
SDL-2101	BUILDING L - ROOF PLAN	10
SDL-2201	BUILDING L - GROUND FLOOR CEILING PLAN	07
SDL-2202	BUILDING L - FIRST FLOOR CEILING PLAN	07
SDL-2301	BUILDING L - GROUND FLOOR FINISHES PLAN	06
SDL-2302	BUILDING L - FIRST FLOOR FINISHES PLAN	07
SDL-3001	BUILDING L - ELEVATION 01	07
SDL-3002	BUILDING L - ELEVATION 02	07
SDL-3003	BUILDING L - SECTION 01	07
SDL-6001	BUILDING L - DOOR SCHEDULE 01	04
SDL-6002	BUILDING L - DOOR SCHEDULE 02	04
SDL-6101	BUILDING L - WINDOW SCHEDULE	04
SDL-8001	BUILDING L - GROUND FLOOR PLAN FF&E	06
SDL-8002	BUILDING L - FIRST FLOOR PLAN FF&E	06
SD-M-2001	BUILDING M - GROUND FLOOR PLAN	09
SD-M-2002	BUILDING M - FIRST FLOOR PLAN	10
SD-M-2101	BUILDING M - ROOF PLAN	09
SD-M-2201	BUILDING M - GROUND FLOOR CEILING PLAN	07
SD-M-2202	BUILDING M - FIRST FLOOR CEILING PLAN	07
SD-M-2301	BUILDING M - GROUND FLOOR FINISHES PLAN	06
SD-M-2302	BUILDING M - FIRST FLOOR FINISHES PLAN	06
SD-M-3001	BUILDING M - ELEVATION 01	08
SD-M-3002	BUILDING M - ELEVATION 02	08
SD-M-3003	BUILDING M - SECTION 01	08
SD-M-6001	BUILDING M - DOOR SCHEDULE 01	04
SD-M-6002	BUILDING M - DOOR SCHEDULE 02	04
SD-M-6003	SITE - GATE SCHEDULE	01
SD-M-6101	BUILDING M - WINDOW SCHEDULE	04
SD-M-8001	BUILDING M - GROUND FLOOR PLAN FF&E	06
SD-M-8002	BUILDING M - FIRST FLOOR PLAN FF&E	06
SD-T-5001	ROOM ELEVATIONS 01 - GLS Type 1, GLS Type 3	04
SD-T-5002	ROOM ELEVATIONS 02 - Multipurpose, Learning Commons	04
SD-T-5003	ROOM ELEVATIONS 03 - Collaboration Space	04
SD-T-5004	ROOM ELEVATIONS 04 - Canteen, Canteen Office	04
SD-T-5005	ROOM ELEVATIONS 05 - Public & Student Reception, Admin Clerical	04
SD-T-5006	ROOM ELEVATIONS 06 - Staff Study Areas, Office & Interview	04
SD-T-5007	ROOM ELEVATIONS 07 - Building A & C - Staff Areas	04
SD-T-5008	ROOM ELEVATIONS 08 - Clinic, Test Bench, Student Waiting, Corridor	04
SD-T-5009	ROOM ELEVATIONS 09 - Thoroughfare	04
SD-T-5010	ROOM ELEVATIONS 10 - Staff Amenities Types 1-3, EOT Facilities	04
SD-T-5011	ROOM ELEVATIONS 11 - Student Amenities Types 1-4	04
SD-T-5012	ROOM ELEVATIONS 12 - Student Amenities Types 5 & Cleaners Typ...	04
SD-T-5013	ROOM ELEVATIONS 13 - Building D - Staff Areas	02

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the designers. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 PLAN
PROPOSED SITE PLAN
 SCALE: 1:500

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	2004/22	LW / NE
02	CONSULTANT COORDINATION	05/09/22	NE
03	CONSULTANT COORDINATION	10/09/22	NE
04	CONSULTANT COORDINATION ISSUE	10/09/22	LW / NE / JP
06	SCHEMATIC DESIGN ISSUE - DRAFT	01/08/22	LW / JP / SZ / NE
08	Consultant Coordination	20/08/22	LW
07	Consultant Coordination	24/08/22	LW
08	SCHEMATIC DESIGN ISSUE	04/07/22	LW

PROPOSED SITE PLAN LEGEND

EXISTING BUILDINGS		EXISTING EASEMENT		PROPOSED BUILDINGS		PROPOSED TURNING ZONE	
EXISTING BUILDINGS TO BE REFURBISHED		PERMANENT DEMOUNTABLES		PROPOSED TURF		RELOCATED SHADE STRUCTURE	
EXISTING PAVING TO BE RETAINED		PROPOSED FIRE HYDRANTS		PROPOSED ENTRY FORECOURT PAVING		ROOF OVER	
EXISTING BITUMEN		PROPOSED TREE		PROPOSED CONCRETE PATH		FENCE	
EXISTING TREES TO BE RETAINED				PROPOSED GRAVEL PATH		PROPOSED GARDEN	

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 1, 25 King Street
 PO Box 1026
 North Sydney, NSW 2022
 t: (02) 8283 5151
 e: info@fultontrotter.com.au

BRISBANE
 Greg Biscoe: mob 081 2322 013 313
 Justin Blaney: mob 081 2322 013 313
 John Ward: mob 081 2322 013 313
 Katherine Edwards: mob 081 2322 013 313
 Mark Tordella: mob 081 2322 013 313
 Paul Eastman: mob 081 2322 013 313
 Paul Trotter: mob 081 2322 013 313
 Ryan Lonsdale: mob 081 2322 013 313

www.fultontrotter.com.au

PHASE
SCHEMATIC DESIGN

CLIENT
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS
 INFRASTRUCTURE)
 CRONULLA HIGH SCHOOL

ADDRESS
 Captain Cook Dr
 Cronulla, NSW

DRAWING
PROPOSED SITE PLAN

PROJECT NUMBER
7068CR04

DIRECTOR
JW

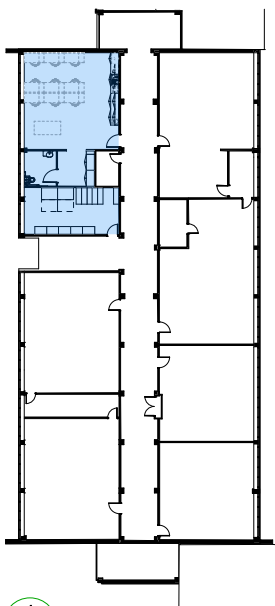
CHECKED

DRAWING NUMBER
SD-1003

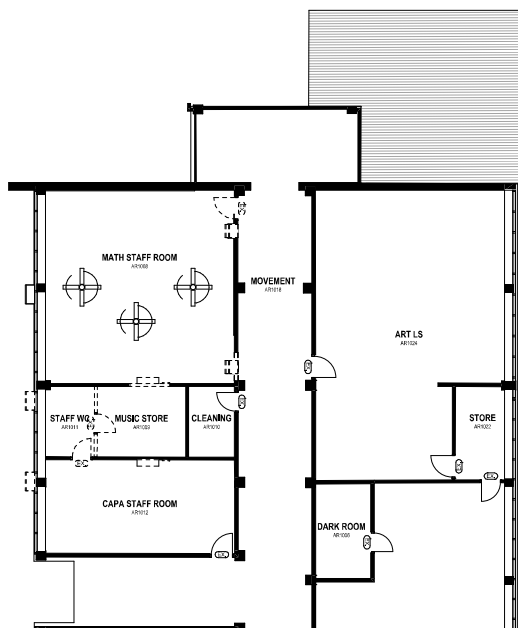
REVISION
08

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



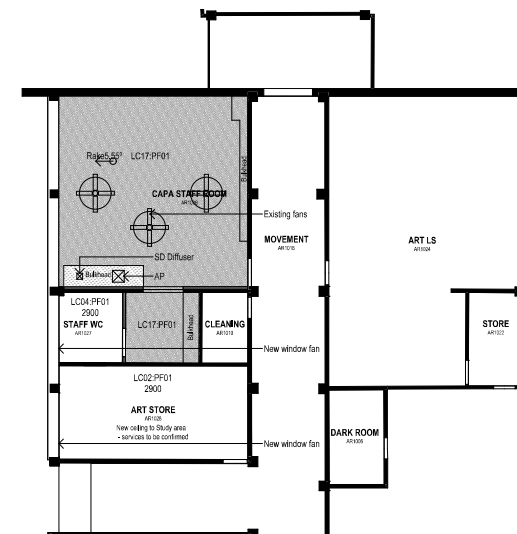
1 PLAN
 FIRST FLOOR LOCATION PLAN - BUILDING A
 SCALE: 1:200



2 PLAN
 FIRST FLOOR PLAN - EXISTING/DEMOLITION - BUILDING A
 SCALE: 1:100



3 PLAN
 FIRST FLOOR PLAN - PROPOSED - BUILDING A
 SCALE: 1:100



4 PLAN
 FIRST FLOOR CEILING PLAN - BUILDING A
 SCALE: 1:100

115mm @ A1

100

100

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	28/04/22	LW / NE
02	CONSULTANT COORDINATION	06/05/22	LW
03	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NE / JP
04	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW / JP / SE / NE
05	CONSULTANT COORDINATION	24/06/22	LW
06	SCHEMATIC DESIGN ISSUE	04/07/22	LW

PLAN LEGEND

	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

FLOOR PLAN FINISHES LEGEND

fulton trotter
 ARCHITECTS

SYDNEY
 Level 4, 25 Spring Street
 PO Box 1026
 Spring Street, NSW 2022
 T: (02) 8283 5151
 F: +61 2 9299 9200
 www.fultontrouter.com.au

DIRECTORS

Greg Ince - rtd	NSW 0850	QLD 2820
Julian Ebbury - rtd	NSW 8371	QLD 3813
John Ward - rtd	NSW 8371	QLD 3847
Kathleen Energy - rtd	VIC 18004	QLD 4524
Mark Trotter - rtd	NSW 4421	QLD 1870
Paul Trotter - rtd	VIC 17861	NSW 7165
Paul Trotter - rtd	NSW 7177	QLD 2848
Ryan Lonsdale - rtd		QLD 4502

www.fultontrouter.com.au

PHASE
SCHEMATIC DESIGN
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS)
INFRASTRUCTURE
 CRONULLA HIGH SCHOOL

ADDRESS: PROJECT CLIENT
 Captain Cook Dr
 Cronulla, NSW

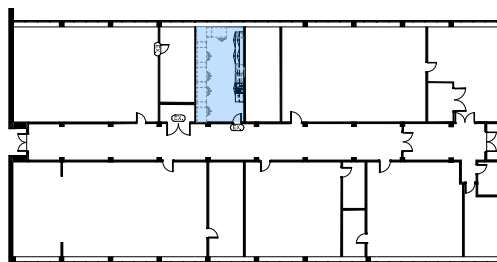
BUILDING A - FIRST FLOOR PLAN & CEILING PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: **7068CR04** DIRECTOR: **JW** CHECKED: **[Signature]**

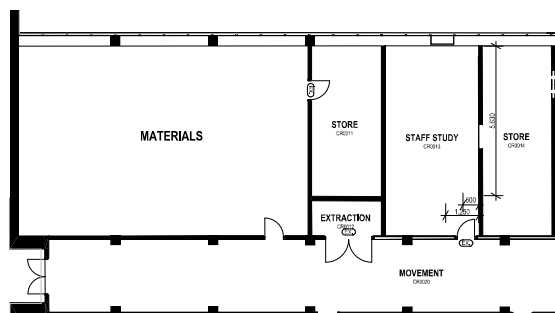
DRAWING NUMBER: **SD-A-2002** REVISION: **06**

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the designers. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.

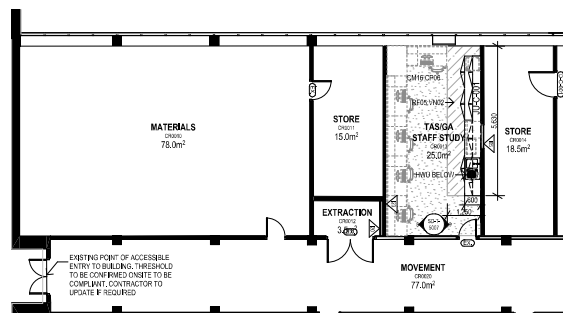


1 PLAN
GROUND FLOOR LOCATION PLAN - BUILDING C
 SCALE: 1:200

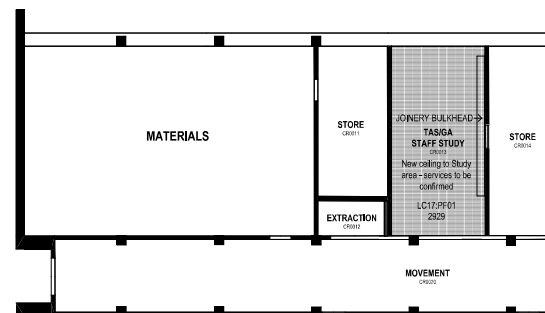
TYPE	TYPE 01
QUANTITY	1
OVERALL SIZE	1,050mm W x 2,100mm H
LEAF SIZE	Leaf: 1 x 950mm x 2,040mm
FRAME TYPE	DH01 - DOOR FRAME - ALUMINIUM
FRAME FINISH	TO MATCH EXISTING
DOOR TYPE	DH20 - DOOR - INTERNAL SOLID CORE PAINTED
DOOR FINISH	SK01 - WHITE
GLASS	WG73 - SAFETY GLASS - COLOUR TBC LAMINATED - 2,38MM w ACOUSTIC SEALS TO PERIMETER
HARDWARE	REFER TO HARDWARE SCHEDULE
NOTES	TO MATCH EXISTING MINIMUM R10



2 PLAN
GROUND FLOOR PLAN - EXISTING/DEMOLITION - BUILDING C
 SCALE: 1:100



2 PLAN
GROUND FLOOR PLAN - PROPOSED - BUILDING C
 SCALE: 1:100



3 PLAN
GROUND FLOOR CEILING PLAN - BUILDING C
 SCALE: 1:100

1150mm @ A1

100

100

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	28/04/22	LW / NE
02	Consultant Coordination	06/05/22	LW
03	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NE / JP
04	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW / JP / SE / NE
05	Consultant Coordination	24/06/22	LW
06	SCHEMATIC DESIGN ISSUE	04/07/22	LW

PLAN LEGEND	
	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

FLOOR PLAN FINISHES LEGEND

fulton trotter

ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 1, 25 Spring Street
 PO Box 1026
 Liverpool NSW 2150
 t: (02) 8283 5151
 e: info@fultontrotter.com.au

www.fultontrotter.com.au

SCHEMATIC DESIGN
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS)
INFRASTRUCTURE
 CRONULLA HIGH SCHOOL

PROJECT NUMBER: **7068CR04** DIRECTOR: **JW** CHECKED: **06**

DRAWING NUMBER: **SD-C-2001** REVISION: **06**

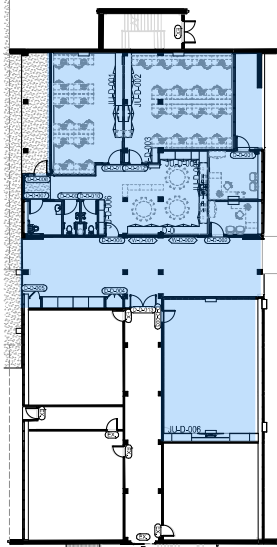
ADDRESS: PROJECT CLIENT: FRAME
 Captain Cook Dr
 Cronulla, NSW

BUILDING C - GROUND FLOOR PLAN & CEILING PLAN

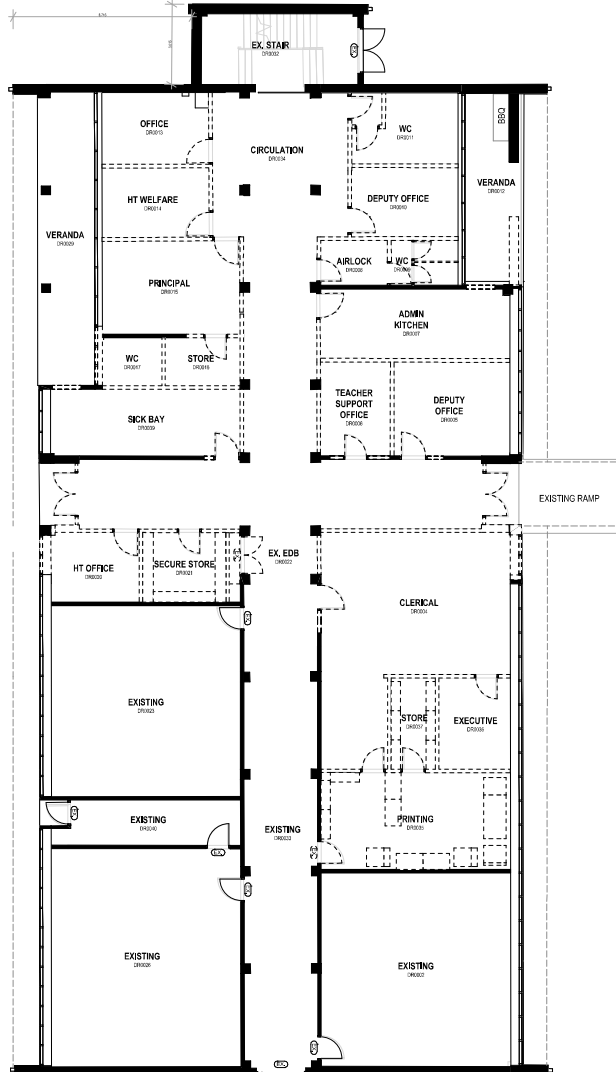
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.



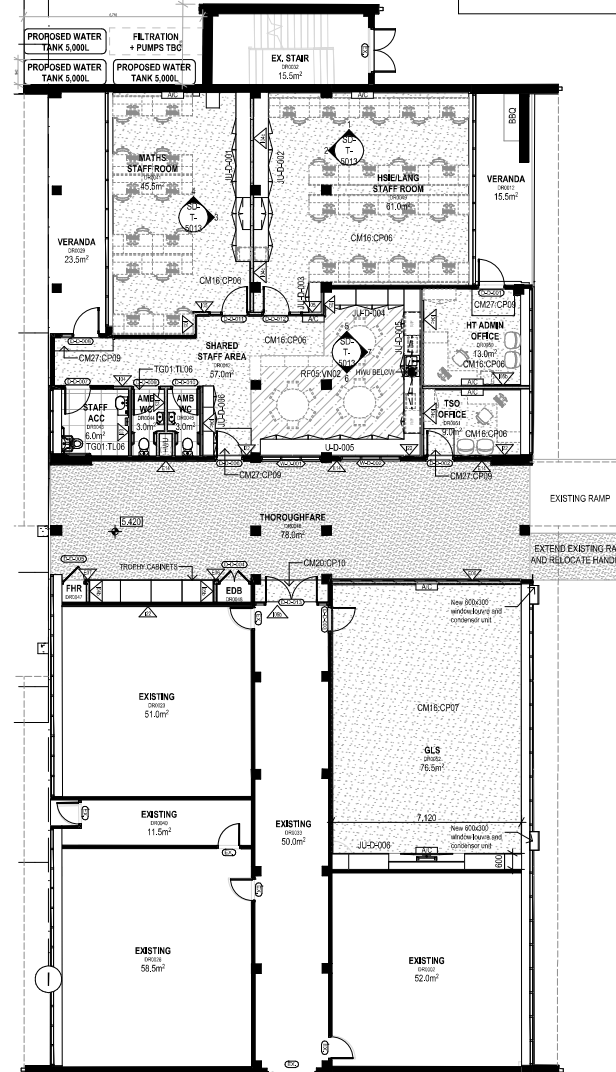
Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



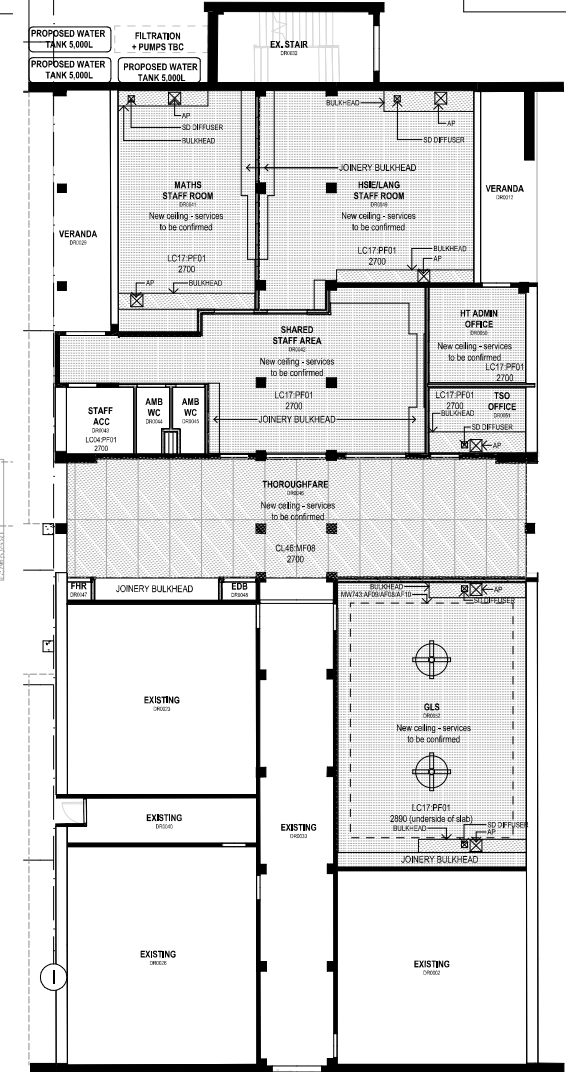
1 PLAN
GROUND FLOOR LOCATION
PLAN - BUILDING D
 SCALE: 1:200



2 PLAN
GROUND FLOOR PLAN - EXISTING/DEMOLITION - BUILDING D
 SCALE: 1:100



3 PLAN
GROUND FLOOR PLAN - PROPOSED - BUILDING D
 SCALE: 1:100



4 PLAN
GROUND FLOOR CEILING PLAN - BUILDING D
 SCALE: 1:100

115mm @ A1

100

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	28/04/22	LW / NE
02	Consultant Coordination	06/05/22	LW
03	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NE / JP
04	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW / JP / SE / NE
05	Consultant Coordination	24/06/22	LW
06	SCHEMATIC DESIGN ISSUE	04/07/22	LW

PLAN LEGEND

	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

	Material 1
	Material 2

FLOOR PLAN FINISHES LEGEND

	Finish 1
	Finish 2

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 1, 15 Spring Street
 PO Box 1056
 Spring Street, NSW 2022
 t: (02) 8283 5151
 e: info@fultontritter.com.au

PROJECT TEAM

Group Leader	NSW 6950	QLD 2020
Julianne Blaney	NSW 1804	QLD 3813
John Ward	NSW 8371	QLD 3847
Katherine Energopoulos	NSW 17891	QLD 4528
Matt Torralba	NSW 4421	QLD 1870
Paul Eastman	NSW 7152	QLD 3128
Paul Torralba	NSW 7177	QLD 2848
Ryan Lonsdale	NSW 4102	QLD 3402

www.fultontritter.com.au

PHASE
SCHEMATIC DESIGN

NSW DEPARTMENT OF EDUCATION (SCHOOLS) INFRASTRUCTURE)
CRONULLA HIGH SCHOOL

Project Number: 7068CR04
 Director: JW
 Drawing Number: SD-D-2001
 Address: Captain Cook Dr Cronulla, NSW

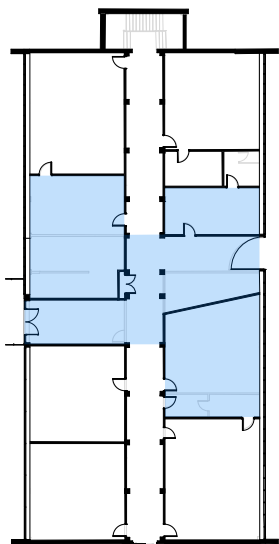
BUILDING D - GROUND FLOOR PLAN & CEILING PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

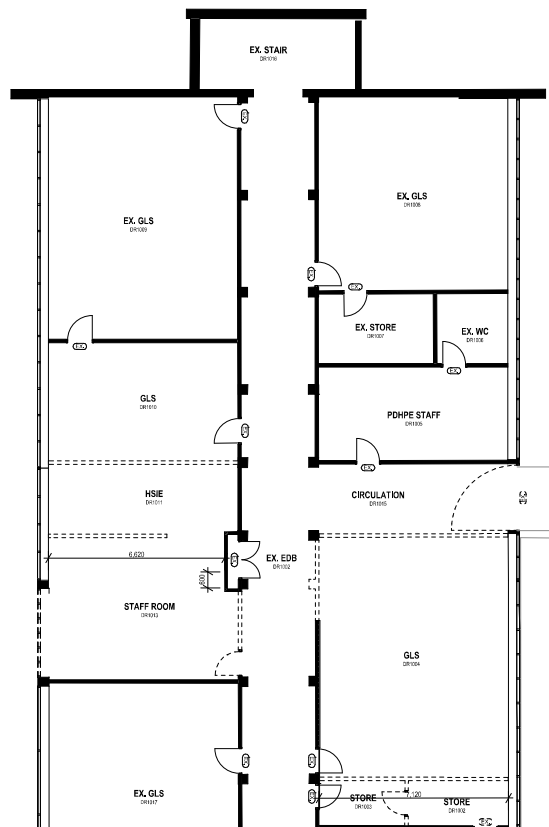
Project Number: 7068CR04
 Director: JW
 Drawing Number: SD-D-2001
 Checked: [Signature]
 Revision: 06

Copyright

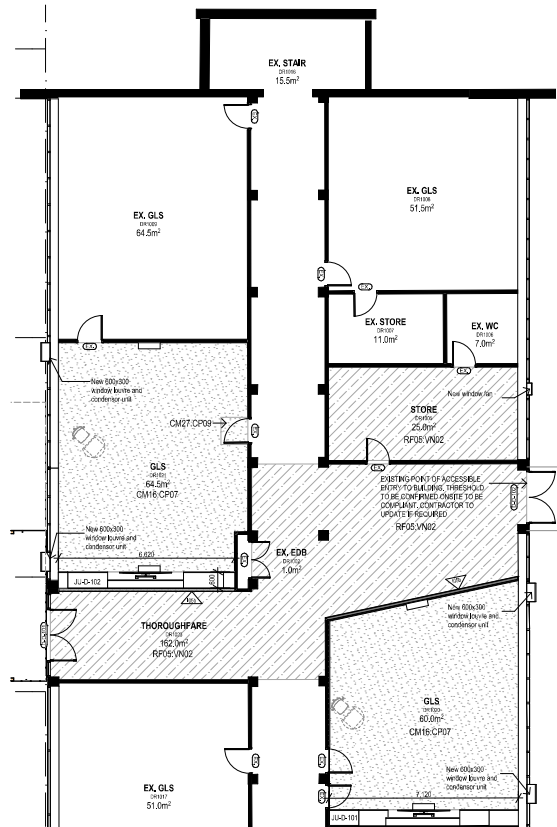
This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the designers. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



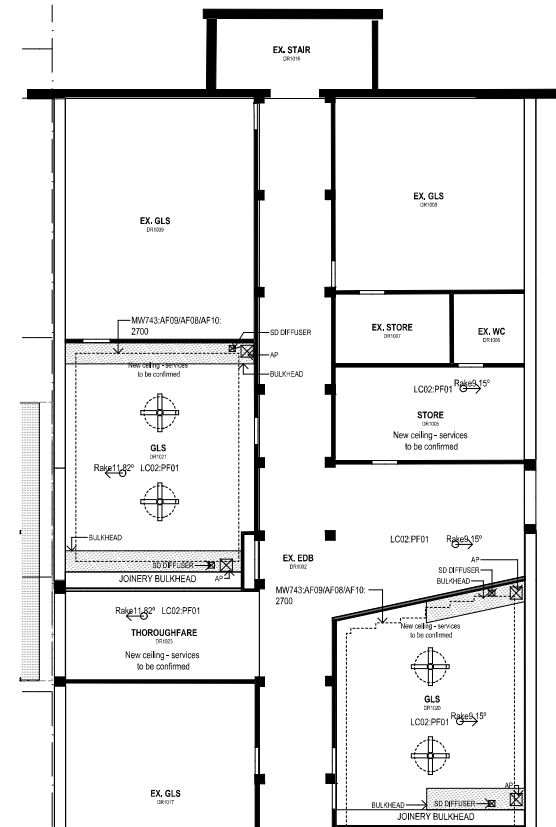
1 PLAN
FIRST FLOOR
LOCATION PLAN - BUILDING D
SCALE: 1:200



2 PLAN
FIRST FLOOR PLAN - EXISTING/DEMOLITION - BUILDING D
SCALE: 1:100



3 PLAN
FIRST FLOOR PLAN - PROPOSED - BUILDING D
SCALE: 1:100



4 PLAN
FIRST FLOOR CEILING PLAN - BUILDING D
SCALE: 1:100

115mm @ A1
100
150

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	28/04/22	LW / NE
02	Consultant Coordination	06/05/22	LW
03	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NE / JP
04	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW / JP / SE / NE
05	Consultant Coordination	24/06/22	LW
06	SCHEMATIC DESIGN ISSUE	04/07/22	LW

PLAN LEGEND	
	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

FLOOR PLAN FINISHES LEGEND

fulton trotter
ARCHITECTS
BRISBANE
SYDNEY

SYDNEY
Level 4, 25 Spring Street
PO Box 1068
Bourke Junction, NSW 2022
t: (02) 8283 5151
e: info@fultontrrotter.com.au

DESIGNERS	NSW 0850	QLD 2320
Greg Ince - rca	NSW 8371	QLD 3813
Justine Blaney - rca	NSW 4221	QLD 3847
John Ward - rca	NSW 4221	QLD 4528
Kathleen O'Connell - rca	NSW 4421	QLD 1873
Mark Torrey - rca	NSW 7191	QLD 3128
Paul Faulkner - rca	NSW 7177	QLD 2848
Paul Trotter - rca		QLD 4002

www.fultontrrotter.com.au

PHASE
SCHEMATIC DESIGN
NSW DEPARTMENT OF
EDUCATION (SCHOOLS)
INFRASTRUCTURE
CRONULLA HIGH SCHOOL

PROJECT CLIENT
Captain Cook Dr
Cronulla, NSW

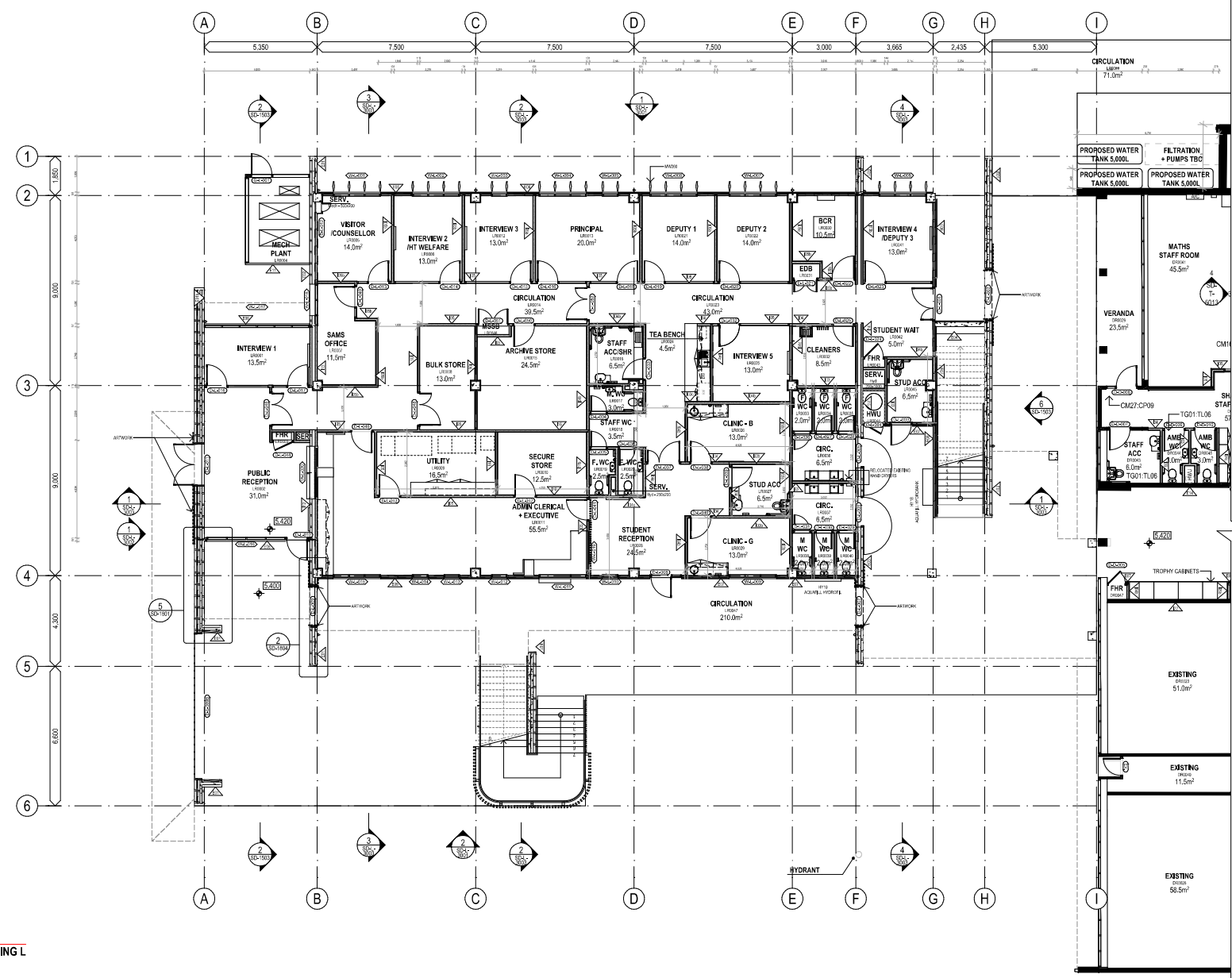
BUILDING D - FIRST FLOOR PLAN & CEILING PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068CR04	JW	
DRAWING NUMBER	REVISION	
SD-D-2002	06	

HYDRANT TBC

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 PLAN
GROUND FLOOR PLAN - BUILDING L
 SCALE: 1:100

02	Consultant Coordination	09/03/22	LW
03	Consultant Coordination	19/03/22	LW
04	CONSULTANT COORDINATION ISSUE	19/03/22	LW / NET / JP
05	Wall Types Update	23/05/22	LW
06	CONSULTANT COORDINATION ISSUE	25/03/22	JP
07	Consultant Coordination - Wall Types	01/06/22	LW
08	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW, JP / SE, NE
09	Consultant Coordination	24/06/22	LW
10	SCHEMATIC DESIGN ISSUE	04/07/22	LW
REV.	DESCRIPTION	DATE	INT.

PLAN LEGEND

	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

FLOOR PLAN FINISHES LEGEND

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 2, 25 Spring Street
 PO Box 1026
 Spring Street, NSW 2022
 t: (02) 8283 5151
 e: info@fultontrrotter.com.au

DESIGNERS
 Greg Isaac - rlm
 Justin Blaney - rlm
 John Ward - rlm
 Katherine Oropoulos - rlm
 Mark Todorova - rlm
 Paul Farnham - rlm
 Paul Foster - rlm
 Ryan Lonsdale - rlm

CLIENT
 NSW 0850 QLD 2020
 NSW 8371 QLD 3947
 VIC 4524
 VIC 17891 NSW 4421 QLD 1870
 NSW 7152 QLD 3708
 NSW 7177 QLD 2848
 QLD 4302

www.fultontrrotter.com.au

PHASE
SCHEMATIC DESIGN
NSW DEPARTMENT OF
EDUCATION (SCHOOLS
INFRASTRUCTURE)
CRONULLA HIGH SCHOOL
 Captain Cook Dr
 Cronulla, NSW

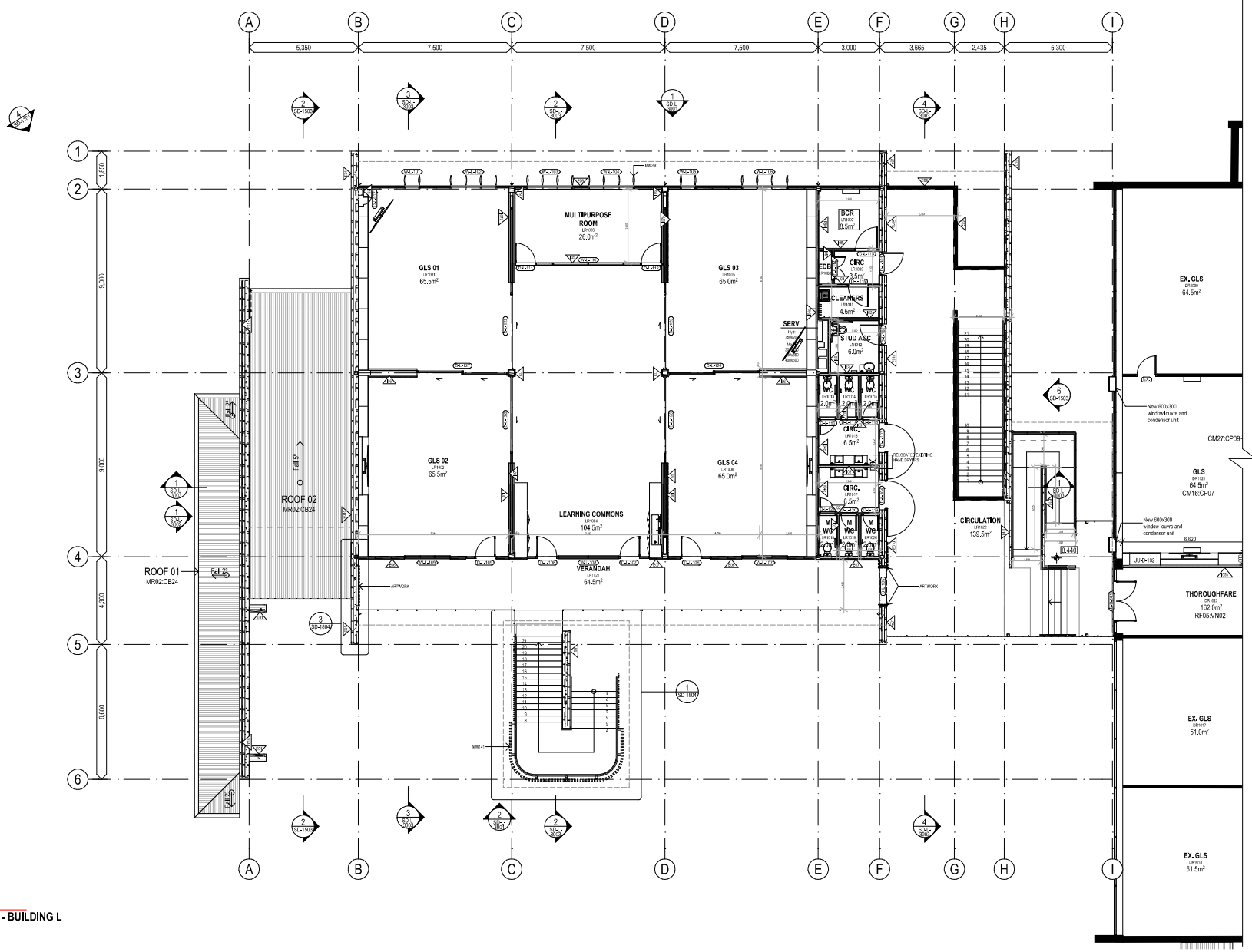
DRAWING BUILDING L - GROUND FLOOR PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068CR04	JW	
DRAWING NUMBER	REVISION	
SD-L-2001	10	

1150mm @ A1
100
100
100

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 PLAN
FIRST FLOOR PLAN - BUILDING L
 SCALE: 1:100

02	Consultant Coordination	09/03/22	LW
03	Consultant Coordination	19/03/22	LW
04	CONSULTANT COORDINATION ISSUE	19/03/22	LW / NEI / JP
05	Wall Types Update	23/05/22	LW
06	CONSULTANT COORDINATION ISSUE	25/03/22	JP
07	Consultant Coordination - Wall Types	01/06/22	LW
08	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW / JP / SE / NE
09	Consultant Coordination	24/06/22	LW
10	SCHEMATIC DESIGN ISSUE	04/07/22	LW
REV.	DESCRIPTION	DATE	INT.

PLAN LEGEND

	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

FLOOR PLAN FINISHES LEGEND

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 2, 25 Spring Street
 PO Box 1056
 Liverpool NSW 2222
 T: (02) 8383 5151
 E: info@fultontritter.com.au

DESCRIPTION

Greg Ince - rch	NSW 0850	QLD 2020
Justin Ebley - rch	NSW 5371	QLD 3313
John Ward - rch	NSW 3947	QLD 3947
Katherine O'Connell - rch	VIC 4524	QLD 4524
Matt Toubou - rch	NSW 4421	QLD 1870
Paul Eastman - rch	NSW 7155	QLD 7155
Paul Trotter - rch	NSW 7177	QLD 2848
Ryan Loxley - rch	QLD 4502	QLD 4502

www.fultontritter.com.au

SCHEMATIC DESIGN

NSW DEPARTMENT OF EDUCATION (SCHOOLS) INFRASTRUCTURE

CRONULLA HIGH SCHOOL

ADDRESS: PROJECT CLIENT: PHASE

Captain Cook Dr
 Cronulla, NSW

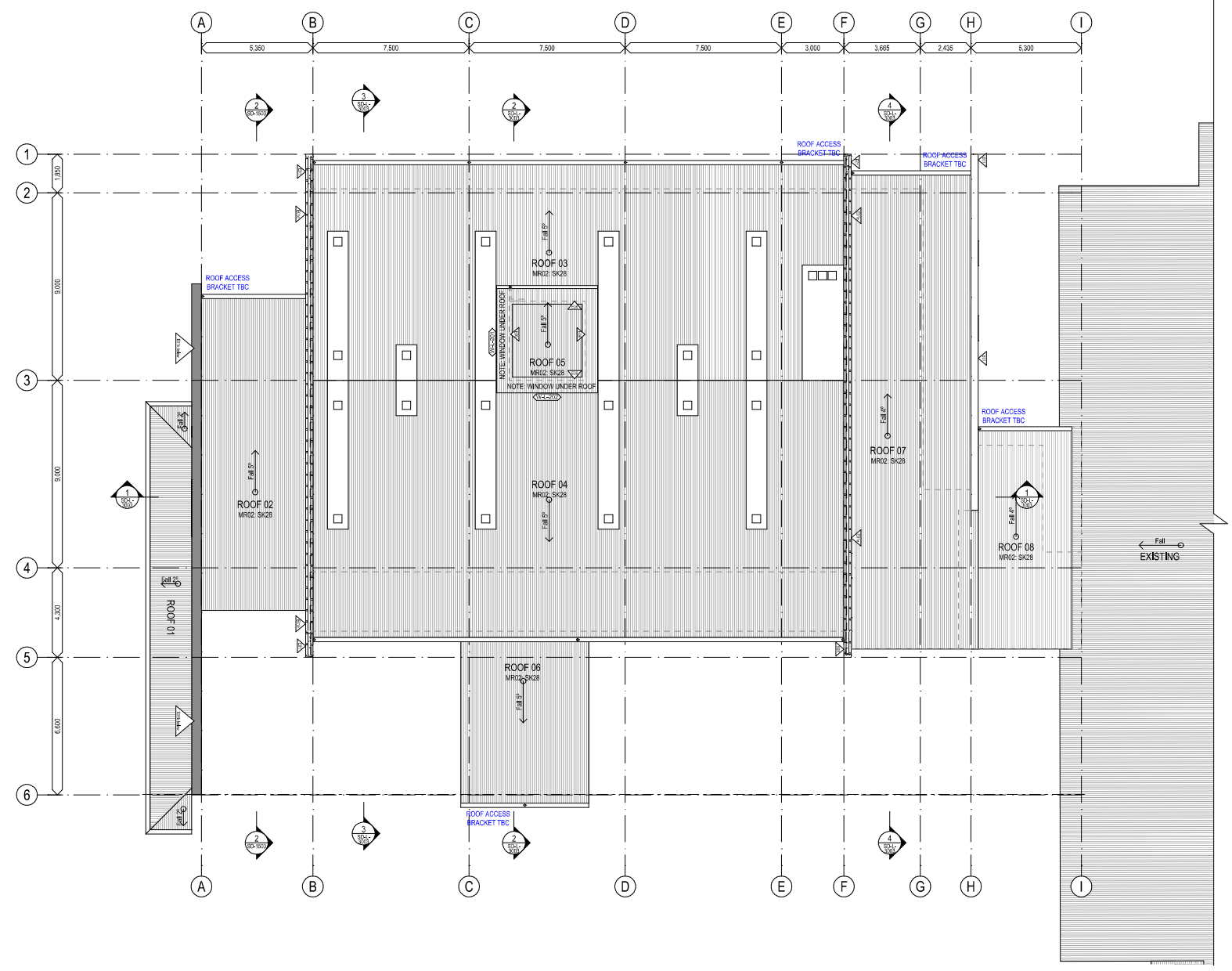
BUILDING L - FIRST FLOOR PLAN

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068CR04	JW	
DRAWING NUMBER	REVISION	
SD-L-2002	10	

Copyright
This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.

Note:
- All new roofs to be surmount to align with Green Star Star Absorbance requirement of 0.45
- Roof R Values to achieve R3.2
- Floor between corridor and unconditioned space to achieve R value R2.0



1 PLAN
ROOF PLAN - BUILDING L
SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
02	Consultant Coordination	09/03/22	LW
03	Consultant Coordination	19/05/22	LW
04	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NET / JP
05	Wall Types Update	23/05/22	LW
06	CONSULTANT COORDINATION ISSUE	25/05/22	JP
07	Consultant Coordination - Wall Types	01/06/22	LW
08	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW / JP / SE / NE
09	Consultant Coordination	24/06/22	LW
10	SCHEMATIC DESIGN ISSUE	04/07/22	LW

ROOF PLAN LEGEND	
ROOF LABEL	
ROOF 1<	ROOF NUMBER
XX00 - XX00	FINISH CODE (REFER TO FINISHES LEGEND)
---	MATERIAL CODE (REFER TO MATERIAL LEGEND)
FALL 1%	FALL IN ROOF

ROOF MATERIAL LEGEND

ROOF FINISHES LEGEND

fulton trotter
ARCHITECTS
BRISBANE SYDNEY

SYDNEY
Level 2, 25 Spring Street
PO Box 1058
Sydney Junction, NSW 2022
t: (02) 8383 5151
e: info@fultontrtoter.com.au

BRISBANE
Greg Bates - mba NSW 0850 QLD 2820
Justin Elliott - rna QLD 3313 QLD 3947
John West - rna VIC 18004 NSW 8371 QLD 4528
Katherine O'Connell - rna VIC 17861 NSW 4421 QLD 1875
Paul Fothergill - rna NSW 7155 QLD 3128
Paul Fothergill - rna NSW 7172 QLD 2848
Ayesha Looney - rna QLD 4502

www.fultontrtoter.com.au

SCHEMATIC DESIGN
NSW DEPARTMENT OF
EDUCATION (SCHOOLS)
INFRASTRUCTURE
CRONULLA HIGH SCHOOL

ADDRESS: PROJECT 1 VOL 1E - PHASE

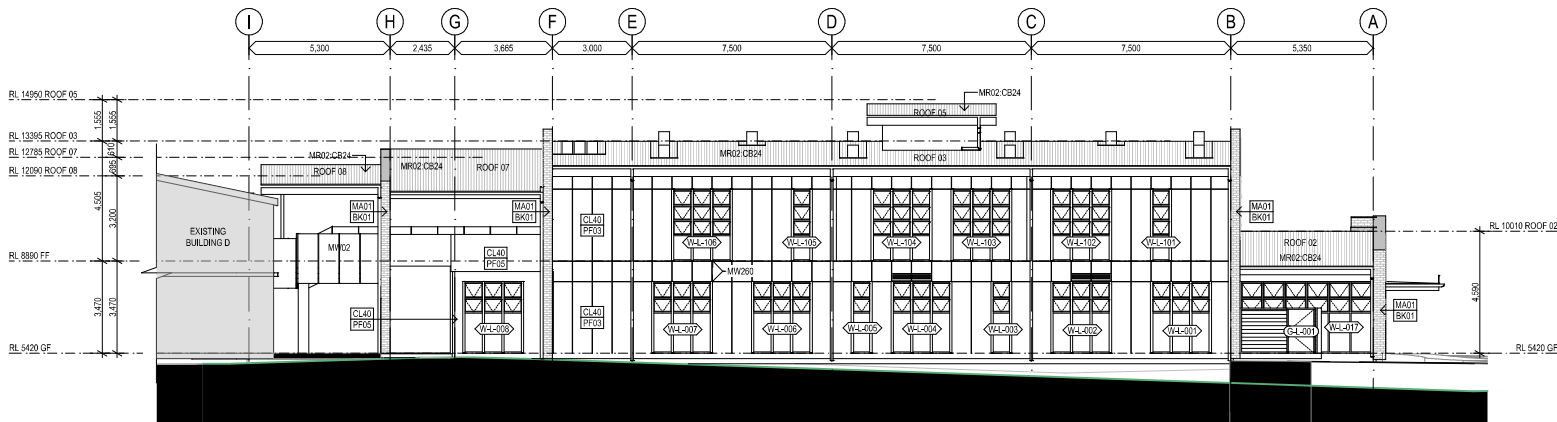
Captain Cook Dr
Cronulla, NSW

BUILDING L - ROOF PLAN

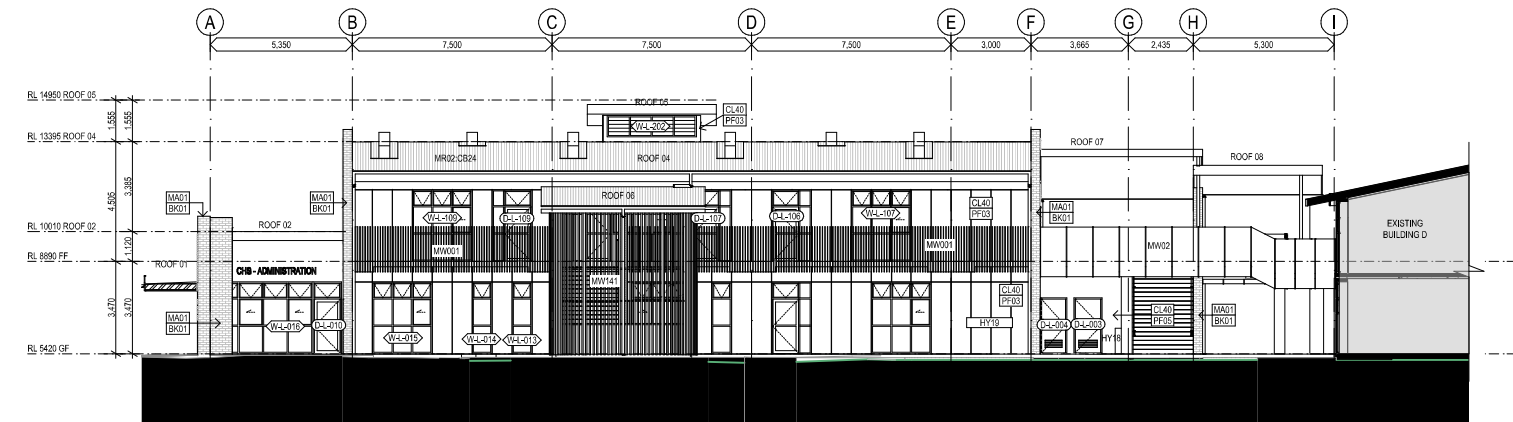
PROJECT NUMBER: **7068CR04** DIRECTOR: **JW** CHECKED: [Signature]

DRAWING NUMBER: **SD-L-2101** REVISION: **10**

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 ELEVATION
 Northern Elevation - Building L
 SCALE: 1:100



2 ELEVATION
 Southern Elevation - Building L
 SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	29/04/22	LW / NE
02	Consultant Coordination	05/09/22	LW
03	Consultant Coordination	13/05/22	LW
04	CONSULTANT COORDINATION ISSUE	19/03/22	LW / NE / JP
05	SCHEMATIC DESIGN ISSUE - DRAFT	02/09/22	LW / JP / SE / NE
06	Consultant Coordination	24/06/22	LW
07	SCHEMATIC DESIGN ISSUE	04/07/22	LW

fulton trotter
 ARCHITECTS

BRISBANE
 SYDNEY

SYDNEY
 Level 1, 25 Spring Street
 PO Box 1026
 South Brisbane, NSW 2022
 P: (02) 8283 5151
 E: sydney@fultontrouter.com.au

PROJECT TEAM
 Greg Bate: rns
 Justine Ebbury: rns
 John Ward: rns
 Katherine Engelopoulos: rns
 Mark Toubou: rns
 Paul Eastman: rns
 Paul Trotter: rns
 Ryan Lonsdale: rns

PHASE
 SCHEMATIC DESIGN

CLIENT
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS)

PROJECT NUMBER
 INFRASTRUCTURE

ADDRESS
 CRONULLA HIGH SCHOOL

DRAWING
 BUILDING L - ELEVATION 01

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

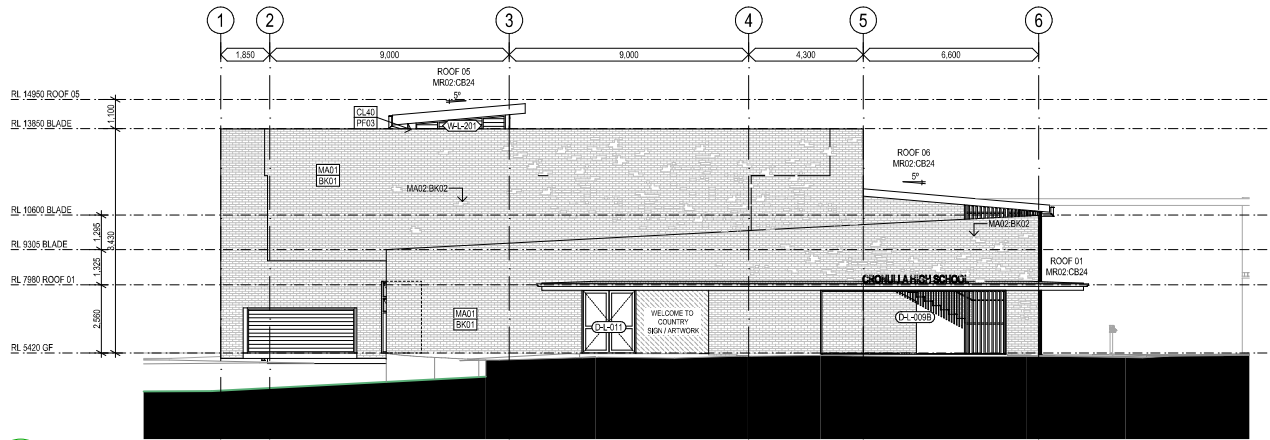
PROJECT NUMBER: **7068CR04** DIRECTOR: **JW** CHECKED: **JW**

DRAWING NUMBER: **SD-L-3001** REVISION: **07**

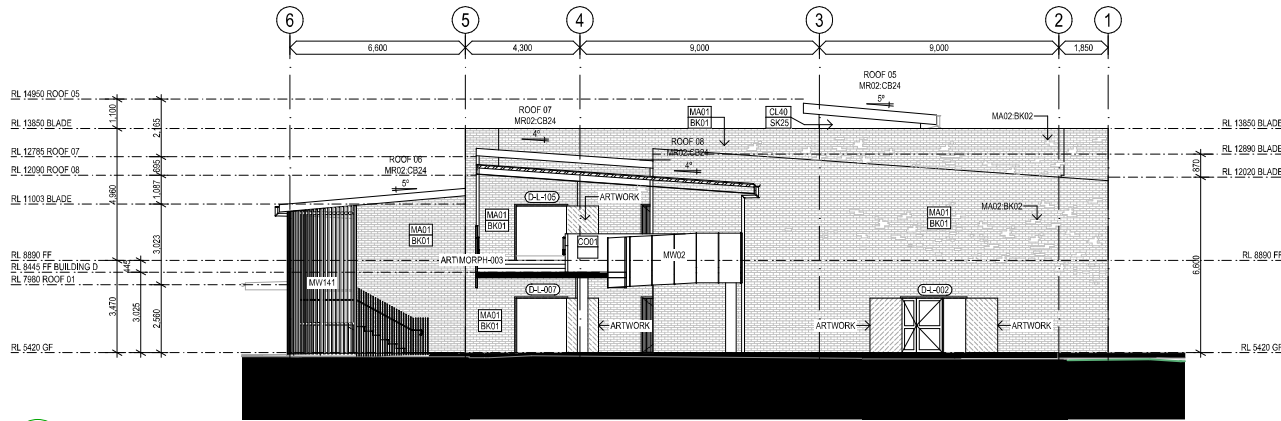
ADDRESS: Captain Cook Dr
 Cronulla, NSW

www.fultontrouter.com.au

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied, directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 ELEVATION
Western Elevation - Building L
 SCALE: 1:100



2 ELEVATION
Eastern Elevation - Building L
 SCALE: 1:100

REV.	DESCRIPTION	DATE	INT.
01	CONSULTANT COORDINATION - PLANNER REVIEW	29/04/22	LW / NE
02	Consultant Coordination	05/09/22	LW
03	Consultant Coordination	13/05/22	LW
04	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NE / JP
05	SCHEMATIC DESIGN ISSUE - DRAFT	02/09/22	LW / JP / SE / NE
06	Consultant Coordination	24/06/22	LW
07	SCHEMATIC DESIGN ISSUE	04/07/22	LW

fulton trotter
 ARCHITECTS

BRISBANE
 SYDNEY

SYDNEY
 Level 1, 25 Spring Street
 PO Box 1026
 Liverpool NSW 2150
 t: (02) 8283 5151
 e: sydney@fultontrouter.com.au

www.fultontrouter.com.au

PHASE
SCHEMATIC DESIGN
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS)
INFRASTRUCTURE
 CRONULLA HIGH SCHOOL

Captain Cook Dr
 Cronulla, NSW

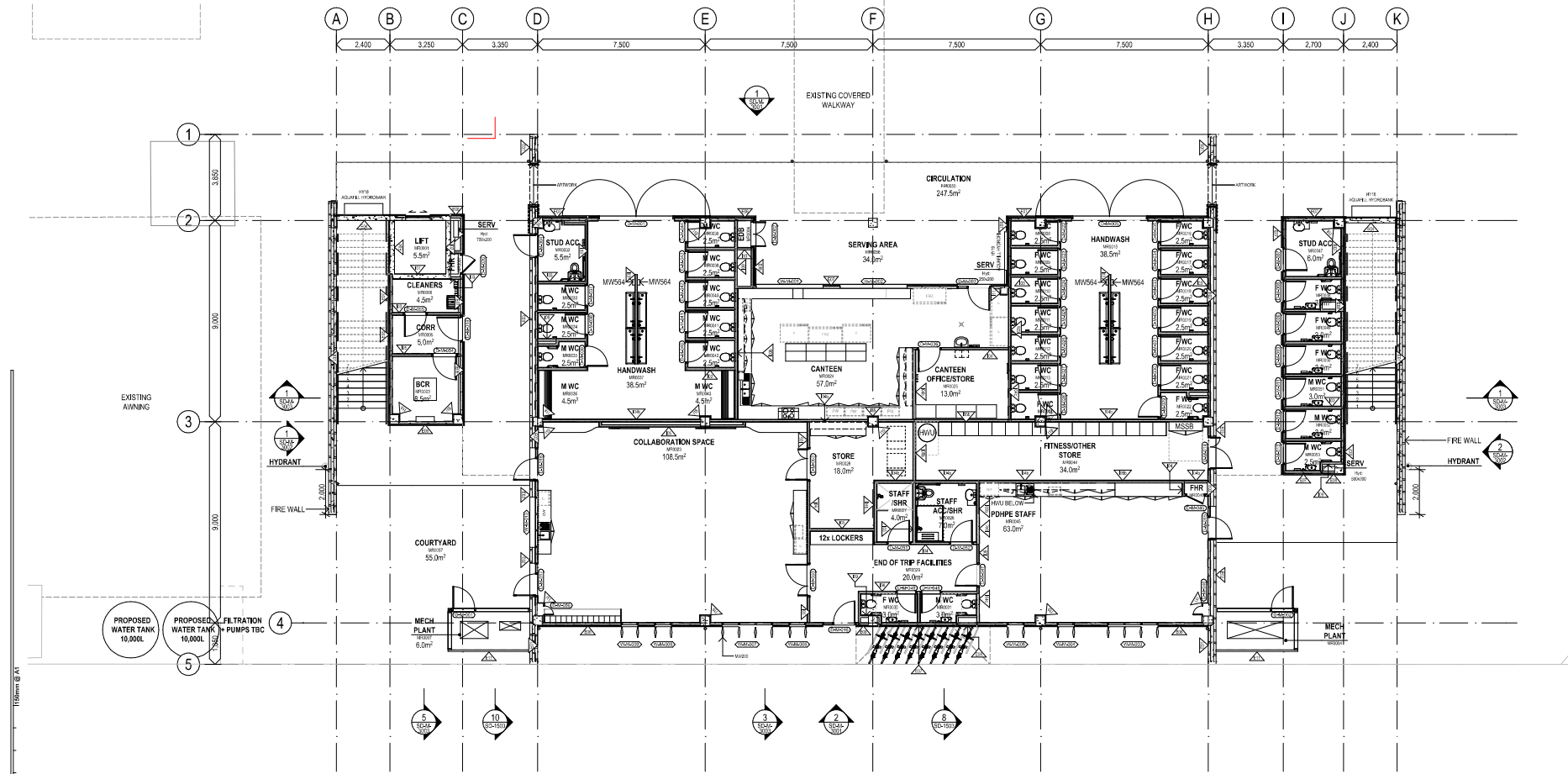
DRAWING
BUILDING L - ELEVATION 02

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER: **7068CR04** DIRECTOR: **JW** CHECKED:

DRAWING NUMBER: **SD-L-3002** REVISION: **07**

Copyright
 This drawing shows design features and elements of a design prepared by
 Fulton Trotter Architects and is to be used only for work authorised in
 writing by the copyright owner. It cannot be copied directly or indirectly, in whole
 or in part, nor shall it be used for any other building purposes. Unauthorised
 use will be considered an infringement of these rights.



1 PLAN
FLOOR PLAN GROUND FLOOR - M
 SCALE: 1:100

01	Consultant Coordination	08/03/22	LW
02	Consultant Coordination	13/03/22	LW
04	CONSULTANT COOPERATION ISSUE	19/03/22	LW / NE / JP
05	CONSULTANT COOPERATION ISSUE	25/03/22	JP
06	Consultant Coordination - Wall Types	01/06/22	LW
07	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW, JP / SE, NE
08	Consultant Coordination	24/06/22	LW
09	SCHEMATIC DESIGN ISSUE	04/07/22	LW
REV.	DESCRIPTION	DATE	INT.

PLAN LEGEND

	DOOR LABEL
	WINDOW LABEL
	EXTERNAL WALL TYPE LABEL
	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

	Material 1
	Material 2

FLOOR PLAN FINISHES LEGEND

	Finish 1
	Finish 2

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 4, 25 Spring Street
 PO Box 1056
 Spring Street, NSW 2022
 t: (02) 8283 5151
 e: info@fultontrrotter.com.au

DIRECTORS
 Greg Bates: rba
 Justine Blaney: jba
 John Ward: jwa
 Katherine Evangelou: kea
 Mark Torbay: mta
 Paul Eastman: pea
 Paul Trotter: pta
 Ryan Lonsdale: rla

NSW 0850 QLD 2020
 QLD 3313 QLD 3947
 QLD 4524 QLD 4524
 NSW 4421 QLD 1875
 VIC 17891 NSW 7155 QLD 3028
 NSW 7177 QLD 2848
 QLD 4502

www.fultontrrotter.com.au

PHASE
SCHEMATIC DESIGN

NSW DEPARTMENT OF EDUCATION (SCHOOLS) INFRASTRUCTURE
CRONULLA HIGH SCHOOL

PROJECT NUMBER
7068CR04

DIRECTOR
JW

CHECKED
09

DRAWING NUMBER
SD-M-2001

ADDRESS
 Captain Cook Dr
 Cronulla, NSW

DRAWING
BUILDING M - GROUND FLOOR PLAN

FIGURED DIMENSIONS
 Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER
7068CR04

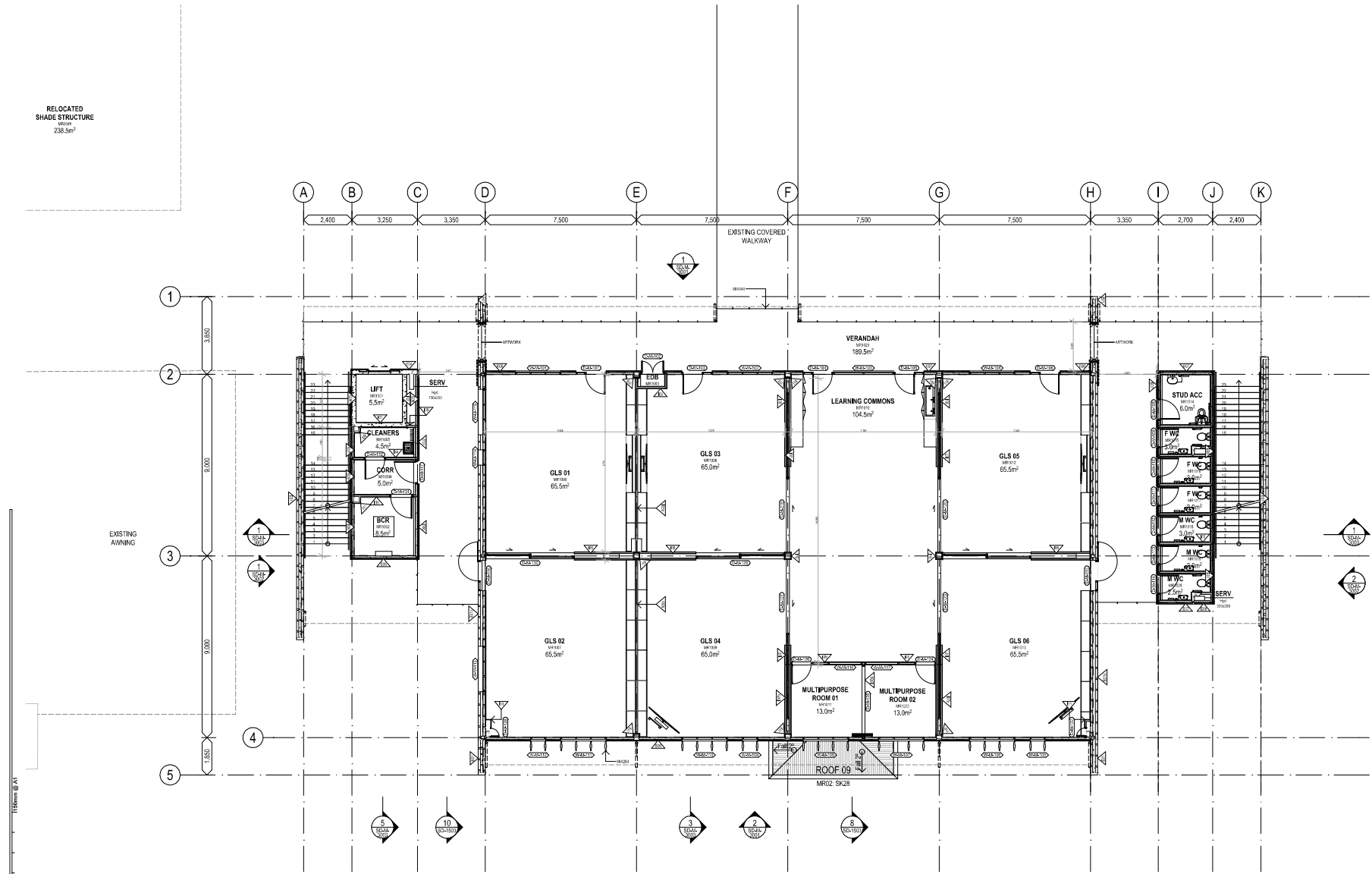
DIRECTOR
JW

CHECKED
09

DRAWING NUMBER
SD-M-2001

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.

RELOCATED SHADE STRUCTURE
 AREA: 238.5m²



1 PLAN
FLOOR PLAN FIRST FLOOR - M
 SCALE: 1:100

NO.	DESCRIPTION	DATE	INT.
02	Consultant Coordination	09/02/22	LW
03	Consultant Coordination	19/05/22	LW
04	CONSULTANT COORDINATION ISSUE	19/05/22	LW / NET / JP
05	CONSULTANT COORDINATION ISSUE	25/05/22	JP
06	Consultant Coordination - Wall Types	01/06/22	LW
07	SCHEMATIC DESIGN ISSUE - DRAFT	01/06/22	LW / JP / SZ LINE
08	Consultant Coordination	20/06/22	LW
09	Consultant Coordination	24/06/22	LW
10	SCHEMATIC DESIGN ISSUE	04/07/22	LW

PLAN LEGEND

[Symbol]	DOOR LABEL
[Symbol]	WINDOW LABEL
[Symbol]	EXTERNAL WALL TYPE LABEL
[Symbol]	INTERNAL WALL TYPE LABEL

FLOOR PLAN MATERIAL LEGEND

[Symbol]	[Material Name]
[Symbol]	[Material Name]
[Symbol]	[Material Name]

FLOOR PLAN FINISHES LEGEND

[Symbol]	[Finish Name]
[Symbol]	[Finish Name]
[Symbol]	[Finish Name]

fulton trotter
 ARCHITECTS
 BRISBANE SYDNEY

SYDNEY
 Level 4, 25 Spring Street
 PO Box 1066
 Liverpool NSW 2160
 T: (02) 8383 5151
 E: sydney@fultontritter.com.au

BRISBANE
 Greg Bates: mob
 Justine Ellery: mob
 John Ward: mob
 Katherine Evangelou: mob
 Mark Toubou: mob
 Paul Fadden: mob
 Paul Trocher: mob
 Ryan Louchery: mob

NSW 0850 QLD 2020
 QLD 3113 QLD 3947
 QLD 4524 VIC 4628
 NSW 4421 NSW 1870
 VIC 17861 NSW 7165 QLD 3108
 NSW 7172 QLD 2848
 QLD 4003

www.fultontritter.com.au

SCHEMATIC DESIGN

NSW DEPARTMENT OF EDUCATION (SCHOOLS) INFRASTRUCTURE
 CRONULLA HIGH SCHOOL

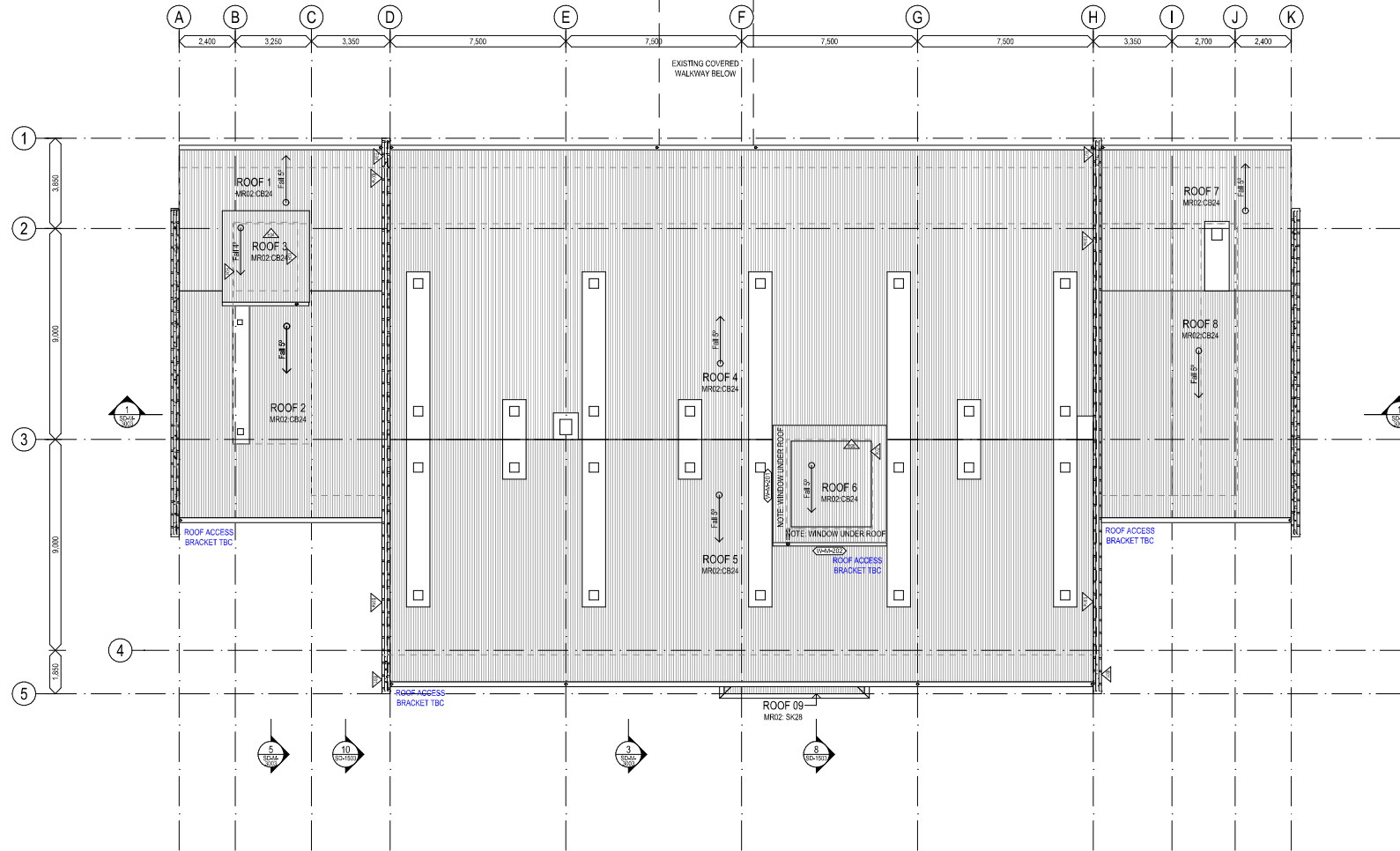
PROJECT NUMBER: **7068CR04** DIRECTOR: **JW** CHECKED: [Signature]

DRAWING NUMBER: **SD-M-2002** REVISION: **10**

ADDRESS: Captain Cook Dr Cronulla, NSW

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.

Note:
 - All new roofs to be surmised to align with Green Star Star Absorbance requirement of 0.45
 - Roof R Values to achieve R3.7
 - Floor between corridor and unconditioned space to achieve R value R2.0



1 PLAN
ROOF PLAN - M
 SCALE: 1:100

01	Consultant Coordination	06/03/22	LW
02	Consultant Coordination	13/03/22	LW
04	CONSULTANT COOPERATION ISSUE	19/09/22	LW / NEP / JP
05	CONSULTANT COOPERATION ISSUE	20/09/22	JP
06	Consultant Coordination - Wall Types	01/06/22	LW
07	SCHEMATIC DESIGN ISSUE - DRAFT	02/06/22	LW, JP / SE / NE
08	Consultant Coordination	24/06/22	LW
09	SCHEMATIC DESIGN ISSUE	04/07/22	LW
REV.	DESCRIPTION	DATE	INT.

ROOF PLAN LEGEND

ROOF LABEL
 ROOF 1 ← ROOF NUMBER
 XXXX ← FINISH CODE (REFER TO FINISHES LEGEND)
 MATERIAL CODE (REFER TO MATERIAL LEGEND)
 FALL IN ROOF

ROOF MATERIAL LEGEND

ROOF FINISHES LEGEND

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 4, 25 Spring Street
 PO Box 1026
 Spring Junction, NSW 2022
 T: (02) 8283 5151
 E: info@fultontrotter.com.au

DESIGNERS
 Greg Bate: nsw
 Justine Blaney: nsw
 John Ward: nsw
 Katherine Evangelou: nsw
 Mark Toubur: nsw
 Paul Easton: nsw
 Paul Trotter: nsw
 Ryan Lonsdale: nsw

NSW 0850 QLD 2020
 QLD 3113 QLD 3947
 VIC 18004 NSW 8371 QLD 4526
 VIC 17661 NSW 4421 QLD 1870
 NSW 7165 QLD 3128
 NSW 7175 QLD 2848
 QLD 4503

www.fultontrotter.com.au

SCHEMATIC DESIGN
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS)
 INFRASTRUCTURE
 CRONULLA HIGH SCHOOL

ADDRESS: PROJECT VIC: INT: PHASE:
 PROJECT NUMBER: DIRECTOR: CHECKED:
7068CR04 **JW**

DRAWING NUMBER: REVISION:
SD-M-2101 **09**

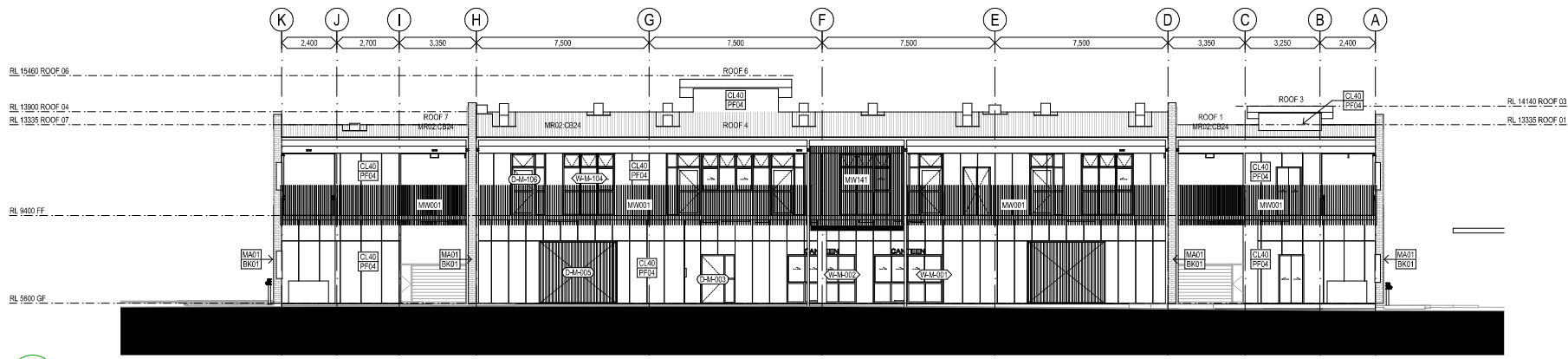
Captain Cook Dr
 Cronulla, NSW

BUILDING M - ROOF PLAN

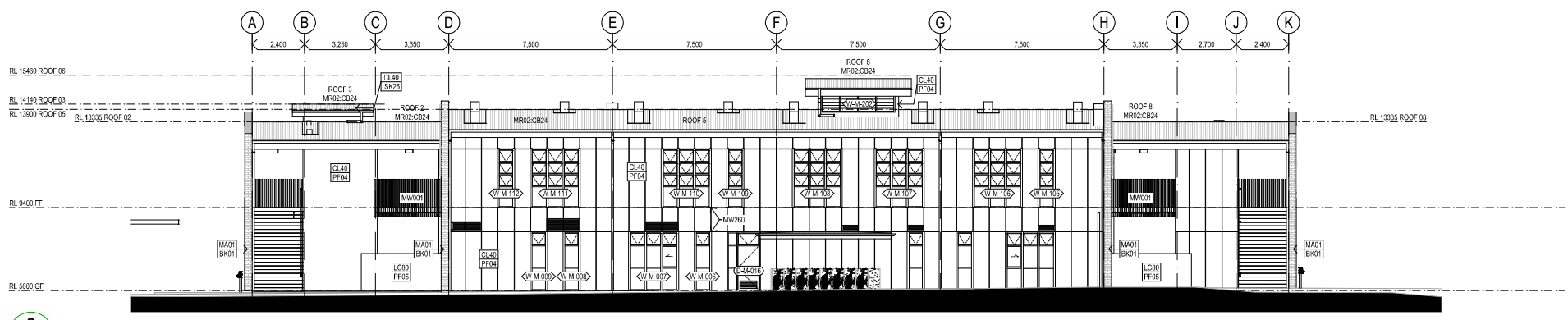
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

A1: 115mm @ A1
 100
 150
 100
 115mm @ A1

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the copyright owner. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 ELEVATION
 Northern Elevation - Building M
 SCALE: 1:100



2 ELEVATION
 Southern Elevation - Building M
 SCALE: 1:100

115mm @ A1

01	CONSULTANT COORDINATION - PLANNER	2004/22	LW / NE
02	CONSULTANT COORDINATION	0509/22	LW
03	CONSULTANT COORDINATION	10/02/22	NE
04	CONSULTANT COORDINATION	13/05/22	LW
05	CONSULTANT COORDINATION ISSUE	18/05/22	LW / NE / JP
06	SCHEMATIC DESIGN ISSUE - DRAFT	02/09/22	LW / JP / SE / NE
07	CONSULTANT COORDINATION	24/06/22	LW
08	SCHEMATIC DESIGN ISSUE	04/07/22	LW
REV.	DESCRIPTION	DATE	INT.

ELEVATION LEGEND	
	DOOR LABEL
	WINDOW LABEL
	MATERIAL CODE (REFER TO MATERIAL LEGEND)
	WALL MATERIAL / FINISH LABEL
	FINISH CODE (REFER TO FINISHES LEGEND)

ELEVATION MATERIAL LEGEND

ELEVATION FINISH SCHEDULE

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 1, 55 Spring Street
 PO Box 1026
 Spring Junction, NSW 2022
 P: (02) 8283 5151
 E: info@fultontrotter.com.au

DESIGNERS
 Greg Isaac: nsw
 Justine Blaney: nsw
 John Ward: nsw
 Katherine Engelopoulos: nsw
 Mark Toubou: nsw
 Paul Eastman: nsw
 Paul Trotter: nsw
 Ryan Lonsdale: nsw

NSW 0850 QLD 2020
NSW 8371 QLD 3813
NSW 8347 QLD 4524
NSW 4421 QLD 1875
NSW 7155 QLD 3128
NSW 7177 QLD 2848
QLD 4503

www.fultontrotter.com.au

PHASE
SCHEMATIC DESIGN

CLIENT
 NSW DEPARTMENT OF
 EDUCATION (SCHOOLS
 INFRASTRUCTURE)

PROJECT
 CRONULLA HIGH SCHOOL

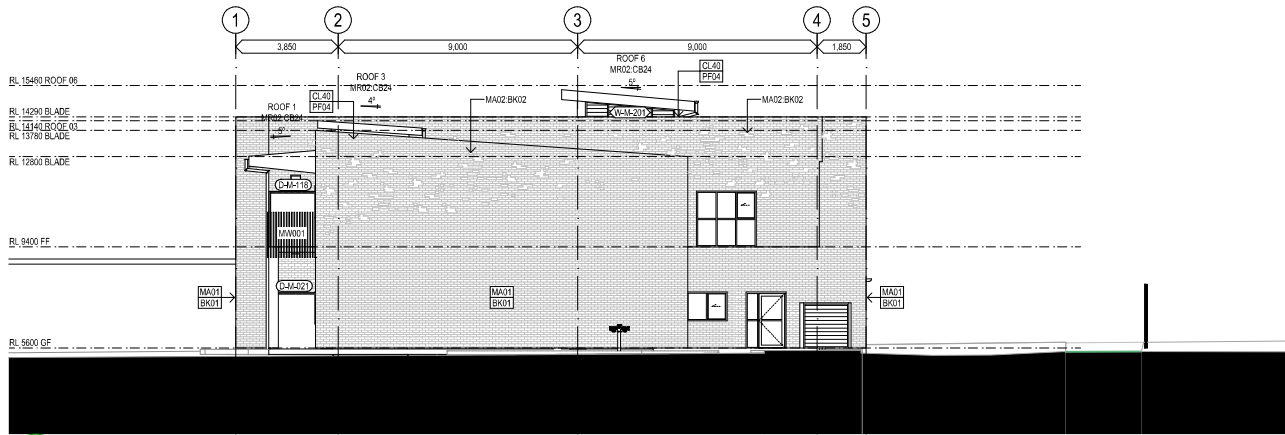
ADDRESS
 Captain Cook Dr
 Cronulla, NSW

DRAWING
BUILDING M - ELEVATION 01

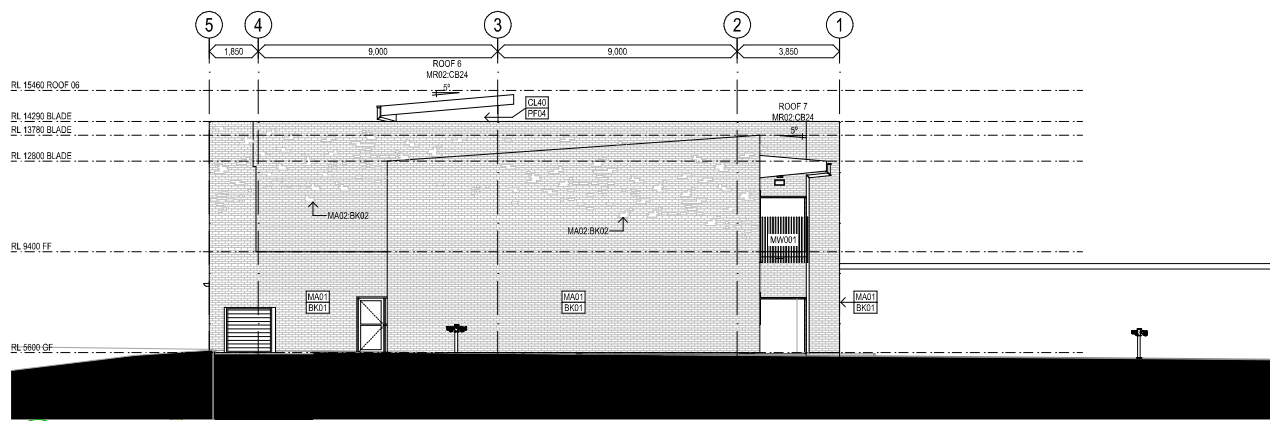
Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER 7068CR04	DIRECTOR JW	CHECKED
DRAWING NUMBER SD-M-3001	REVISION	08

Copyright
 This drawing shows design features and elements of a design prepared by Fulton Trotter Architects and is to be used only for work authorised in writing by the designers. It cannot be copied directly or indirectly, in whole or in part, nor shall it be used for any other building purposes. Unauthorised use will be considered an infringement of these rights.



1 ELEVATION
Western Elevation - Building M
 SCALE: 1:100



2 ELEVATION
Eastern Elevation - Building M
 SCALE: 1:100

01	CONSULTANT COORDINATION - PLANNER REVIEW	2004/22	LW / NE
02	Consultant Coordination	0509/22	LW
03	CONSULTANT COORDINATION	10/09/22	NE
04	Consultant Coordination	13/09/22	LW
05	CONSULTANT COORDINATION ISSUE	18/09/22	LW / NE / JP
06	SCHEMATIC DESIGN ISSUE - DRAFT	02/09/22	LW / JP / SE / NE
07	Consultant Coordination	24/06/22	LW
08	SCHEMATIC DESIGN ISSUE	04/07/22	LW
REV.	DESCRIPTION	DATE	INT.

ELEVATION LEGEND	
	DOOR LABEL
	WINDOW LABEL
	MATERIAL CODE (REFER TO MATERIAL LEGEND)
	WALL MATERIAL / FINISH LABEL
	FINISH CODE (REFER TO FINISHES LEGEND)

ELEVATION MATERIAL LEGEND

ELEVATION FINISH SCHEDULE

fulton trotter
 ARCHITECTS
 BRISBANE
 SYDNEY

SYDNEY
 Level 4, 25 Spring Street
 PO Box 1056
 Spring Street, NSW 2022
 t: (02) 8283 5151
 e: sydney@fultontrotter.com.au

DESIGNERS
 Greg Isaac - nsw
 Justin Ellery - nsw
 John Ward - nsw
 Katherine Evangelou - nsw
 Mark Toubou - nsw
 Paul Eastman - nsw
 Paul Trotter - nsw
 Ryan Lonsdale - nsw

NSW 0850 QLD 2020
 QLD 3313 QLD 3947
 QLD 4520 QLD 1870
 VIC 17861 NSW 7155 QLD 3128
 NSW 7175 QLD 2848
 QLD 4502

www.fultontrotter.com.au

PHASE SCHEMATIC DESIGN

NSW DEPARTMENT OF EDUCATION (SCHOOLS) INFRASTRUCTURE

CRONULLA HIGH SCHOOL

ADDRESS: PROJECT 1 CLIENT: FRAME

Captain Cook Dr
 Cronulla, NSW

DRAWING BUILDING M - ELEVATION 02

Figured dimensions take precedence over scale dimensions. Contractors must verify all dimensions on site before commencing any work or making shop drawings.

PROJECT NUMBER	DIRECTOR	CHECKED
7068CR04	JW	
DRAWING NUMBER	REVISION	
SD-M-3002	08	