Acoustic Report

Residential Development
390-398 Pacific Highway, Lane Cove

Project 214 138

October 2014

File : *214 138 R01 v1.2 Acoustic Report.docx*

Prepared For
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Document Information

File: *214 138 R01 v1.2 Acoustic Report.docx*

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Revision: **1.0**

Distribution:

Date	Copies	Version	To:	By:
10/10/2014	1	1.0	Tepazo Pty Ltd	hugolin@nettletontribe.com.au

Contents

1 Introduction

The purpose of this report is to assess the potential noise impacts from road traffic onto the proposed residential development at 390-398 Pacific Highway, Lane Cove.

This report has been prepared to accompany a Development Application for a residential development made up 7 levels, located at 390-398 Pacific Highway, Lane Cove, backing onto Mafeking Avenue.

Noise intrusion from road traffic has been assessed against *State Environmental Planning Policy (Infrastructure) 2007* (the SEPP) and the NSW Department of Planning's *Development near Rail Corridors and Busy roads – Interim Guideline.*

It is proposed in this report to provide acoustic rated building elements including glazing to reduce the traffic noise from Elizabeth Drive.

The findings of this report are based on architectural drawings 4336_DA_1 to 13 and 4336_DA_72 Dated 29th September 2014 prepared by Nettleton Tribe Partnership Pty Ltd and calculation by PKA Acoustic Consulting.

2 Summary

The site has been assessed for noise intrusion from road traffic impacts from the Pacific Highway and partially Gore Hill Freeway

Noise from road traffic was identified as impacting the site, with some areas of the new buildings requiring architectural treatment to satisfy the internal noise goals from the State Environmental Planning Policy (Infrastructure) 2007. Details of these requirements are set out in Section 7 of this report.

3 Site Description

The site is bounded by Pacific Highway to the north and Makefing Avenue to the south. Directly adjacent the site to the east and west are commercial premises. The nearest residential premises are located on the south western side on Makefing Avenue, approximately 30m from the site boundary.

The front of the site directly adjoins the Pacific Highway and is subject to significant road traffic noise.

The development comprises a 7 level apartment block including 3 basement levels

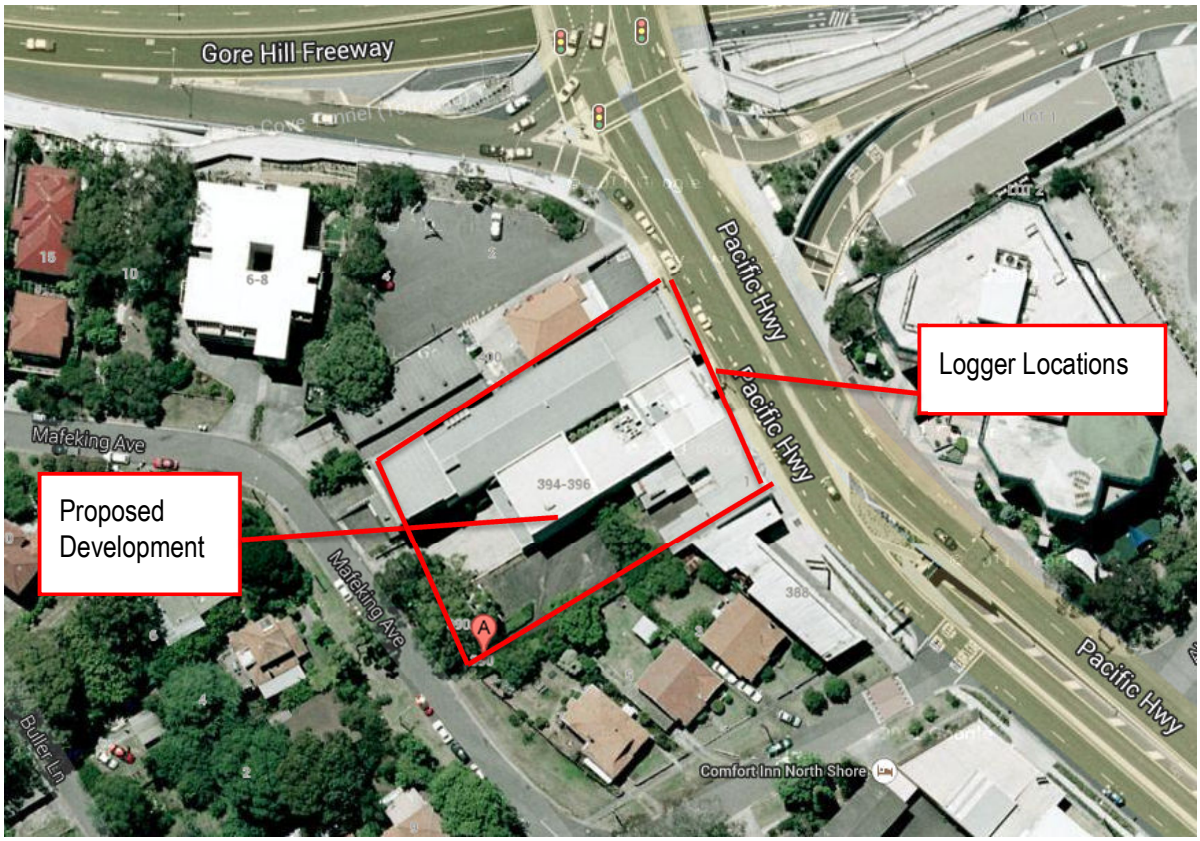


Figure 1: Site and measurement locations

4 Measurement Results

4.1 Unattended Noise Loggers

Existing background noise levels were measured at the site via the installation of two noise data loggers over a period of 10 consecutive days. One logger was located adjacent the Pacific Highway, on top of the ground floor awning of the existing commercial building at 394 Pacific Highway.

The logger recorded from 11:30am on Tuesday 30th September 2014 to 1:30pm on Thursday 9th October 2014. The logger was of ARL manufacture Type Ngara with the microphone positioned at 1.2 metres above the awning, sampling in 15 minute periods, using an A-weighting curve before converting the information to statistical quantities and commencing a new period.

The average Leq noise levels for traffic noise assessment, calculated in accordance with the EPA Road Noise Policy (RNP), are shown below.

	$Leq_{(15h)}$ Day 0700-2200	**$Leq_{(9h)}$ Night 2200-0700**
Pacific Highway logger	71	67

Table 4.1: Noise logger results - RNP descriptors

Daily noise logger graphs are presented in Appendix A

4.2 Attended Measurements

Attended traffic noise measurements were carried at the proposed facades to correlate the noise levels recorded by the noise logger.

The measurements were carried out on Wednesday 8th October 2014 using a NTI XL2 TA and Svantek Svan949 Sound Level Analysers. The meters were calibrated prior to and following the measurements using a Bruel & Kjaer type 4230 Sound Level Calibrator and exhibited no significant drift. Temperature during the measurements was 21ºC, wind speed was 2.3 m/s coming from the south-east, scattered cloud cover.

The results of the attended measurements and corrections are presented in table 2 below:

Elevation	**Measured at Rear of Site L_{eq} dBA**	**Measured at Side of Site L_{eq} dBA**	**Measured at Front of Site L_{eq} dBA**	**Level Difference dB (Front to Rear)**	**Level Difference dB (Front to Side)**
Ground	43	62	74	31	12
6 meters	46	64	73	28	10

Table 4.2 Attended Measurement Results

Traffic noise levels recorded by the noise logger have been corrected to account for the distance from the road and existing shielding at the logger location. This was determined by relating the logger location noise levels to the attended noise levels during the site visit. These noise level are more representative of the traffic noise that the proposed rear façade will encounter.

Table 4.3 below shows the external noise levels at each façade of the building, due to road traffic noise.

Façade	Level	Day Time	Night Time
North	Ground - 7	71-63	67-59
North	B1	60	55
East (Front)	Ground - 7	71	67
South	Ground - 7	71-62	67-57
South	B1	60	65
West (Rear)	All Levels	51	47

Table 4.3: Façade noise levels due to road traffic

5 Criteria

Noise intrusion from road traffic has been assessed against State Environmental Planning Policy (Infrastructure) 2007 (the SEPP) and the NSW Department of Planning's *Development near Rail Corridors and Busy roads – Interim Guideline.*

5.1 Road traffic noise

Clause 102 of State Environmental Planning Policy (Infrastructure) 2007 must be applied for sites adjacent roads with AADTs in excess of 40,000 and may also be applied for best practice for sites with AADTs exceeding 20,000.

Guidelines to the application of the Infrastructure SEPP criteria are published by the NSW Department of Planning in their document titled *Development Near Rail Corridors and Busy Roads – Interim Guideline.*

Section 13.6.1 of the DoP guidelines sets internal noise criteria for residences with windows closed. It also states that:

> *"if internal noise levels with windows or doors open exceed the criteria by more than 10dB(A), the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also meet the ventilation requirements of the Building Code of Australia"*

The measurement metrics applied in the DoP criteria are the $L_{eq(15hr)}$ Day and $L_{eq(9hr)}$ Night levels. From this the following criteria would apply to the site:

Internal Space	Time Period	Internal Noise Level – Windows Closed	Measurement Descriptor
Sleeping areas (bedroom)	Night (10pm to 7am)	35 dB(A)	Leq(9hr) Night
Other habitable rooms (excl. garages, kitchens, bathrooms & hallways)	Day or Night	40 dB(A)	Leq(15hr) Day or Leq(9hr) Night

Table 5.1: Internal noise goals from DoP guidelines / SEPP Clause 102

6 Discussion.

6.1 Road Traffic Noise

From Table 4.3 the Daytime $L_{eq(15h)}$ traffic noise levels at the building façade range from 71dB(A) at the facades fronting directly onto the Pacific Highway to 51dB(A) at the rear of the site.

It is typically accepted that an open window (partially open to meet ventilation requirements) results in an attenuation of external noise of approximately 10dB. Where external noise levels are below 60dB(A) $Leq_{(15h)}$ Day and 55dB(A) $Leq_{(9h)}$ Night the SEPP internal noise criteria will be satisfied without any acoustic treatment to the building façade. This is the case for some facades, particularly towards the rear of the site, away from the Pacific Highway.

Where external noise levels are above 60dB(A) $Leq_{(15h)}$ Day or 55dB(A) $Leq_{(9h)}$ Night the affected facade will need to be acoustically upgraded to achieve the internal noise levels required by the SEPP. Section 7 sets out the required works for such areas.

7 Recommendations

The traffic noise levels measured on site are sufficiently high to require acoustic treatment to parts of the external building envelope most exposed to the Pacific Highway.

In calculating the recommendations we have assumed the following:

- All external walls having a minimum performance of Rw 50 (to be designed and verified prior to CC)
- All roof /ceiling having a minimum performance of Rw 55 (to be designed and verified prior to CC)
- All connections between wall and windows, roof and walls to acoustically sealed to future detail.

The recommendations are based on measurements taken from the DA drawings. As these drawings are general and not to construction detail it is recommended that the recommended Rw ratings for the glazing be reviewed by PKA against relevant dimensioned schedules when available. This may alter some of the Rw ratings.

7.1 Windows

The Rw rating required for each window will vary from room to room. Recommendations for windows also apply to any other item of glazing located on the external facade of the building in a habitable room unless otherwise stated.

Where double glazing is selected, the minimum airspace between the panes should be 150mm.

Note that the Rw rating is required for the complete glazing and frame assembly. The minimum glazing thicknesses will not necessarily meet the required Rw rating without an appropriate frame system. It will be therefore necessary to provide a window glass and frame system having a laboratory tested acoustic performance meeting that required in the above table.

The window systems must be tested in accordance with both of the following:

- Australian Window Association Industry Code of Practice Window and Door – Method of Acoustic Testing.

- AS 1191 Acoustics – Method for laboratory measurement of airborne sound insulation of building elements

It is necessary to submit such Laboratory certification for the proposed glazing systems (ie windows and framing systems) (eg NAL or CSIRO) for approval by PKA prior to ordering or commitment.

The entire frame to the glazing must be sealed into the structural opening using acoustic mastics and backer rods. Normal weather proofing details do not necessarily provide the full acoustic insulation potential of the window system. The manufacturers' installation instructions for the correct acoustic sealing of the frame must be followed.

It is possible that structural demands for wind loading or fire rating or the like may require more substantial glass and framing assemblies than nominated above. Where this is the case the acoustic requirements must clearly be superseded by the structural or fire rating demands.

The following table presents the required Rw glazing values:

Location		Required Rw Ratings	
Unit	**Room Title**	**Window or sliding door**	**Required minimum Rw**
Basement 1			
B01	Living	W-105	<23
B01	Bedroom 1	W-102	25
B01	Bedroom 2	W-101	27
B02	Living	W-104	26
B02	Bedroom 1	W-103	24
B03	Living	W-107	<23
B03	Bedroom 1	W-108	<23
B03	Bedroom 2	W-106	<23
B03	Bedroom 3	W-109	<23
Ground Floor			
G01	Living	W-109,W-110	<23
G01	Living	W-111	30
G01	Bedroom 1	W-113	32
G01	Bedroom 2	W-112	32
G02	Living	W-114	30
G02	Bedroom 1	W-115	30
G03	Living	W-114	33
G03	Bedroom 1	W-103	34
G04	Living	W-111	32
G04	Bedroom 1	W-116	35

G05	Living	W-109	35
G05	Living	W-113	36
G05	Bedroom 1	W-116	37
G06	Living	W-113	36
G06	Bedroom 1	W-116	37
G07	Living	W-113	35
G07	Bedroom 1	W-116	37
G08	Living	W-109	33
G08	Living	W-113	37
G08	Bedroom 1	W-116	37
G09	Living	W-114	28
G09	Bedroom 1	W-116	28
G09	Bedroom 2	W-102	35
G10	Living	W-119	<23
G10	Bedroom 1	W-108, W-115	<23
G10	Bedroom 2	W-106	<23
G10	Bedroom 3	W-109	<23
Level 1			
101	Living	W-109, W-110	<23
101	Living	W-116	30
101	Bedroom 1	W-116	31
101	Bedroom 2	W-116	32
102	Living	W-114	31
102	Bedroom 1	W-115	30

103	Living	W-107	32
103	Bedroom 1	W-124	30
103	Bedroom 2	W-124	30
104	Living	W-119	<23
104	Bedroom 1	W-108	<23
104	Bedroom 1	W124	26
104	Bedroom 2	W-106	<23
104	Bedroom 3	W-109	25
105	Living	W-111	33
105	Bedroom 1	W-116	35
106	Living	W-109	34
106	Living	W-113	38
106	Bedroom 1	W-116, W-121	36
107	Living	W-113	35
107	Bedroom 1	W-116	37
108	Living	W-113	36
108	Bedroom 1	W-120	33
109	Living	W-113	37
109	Living	W-109	35
109	Bedroom 1	W-116, W-122	41
110	Living	W-107	32
110	Bedroom 1	W-124	30
110	Bedroom 2	W-124	30

Level 2			
201	Living	W-109, W-110	<23
201	Living	W-116	30
201	Bedroom 1	W-116	31
201	Bedroom 2	W-116	32
202	Living	W-114	31
202	Bedroom 1	W-115	30
203	Living	W-107	32
203	Bedroom 1	W-124	30
203	Bedroom 2	W-124	30
204	Living	W-119	<23
204	Bedroom 1	W-108, W124	<23
204	Bedroom 2	W-106	26
204	Bedroom 3	W-109	<23
205	Living	W-111	25
205	Bedroom 1	W-116	33
206	Living	W-109	35
206	Living	W-113	34
206	Bedroom 1	W-116, W-121	38
207	Living	W-113	36
207	Bedroom 1	W-116	35
208	Living	W-113	37
208	Bedroom 1	W-120	36
209	Living	W-113	33

209	Living	W-109	37
209	Bedroom 1	W-116, W-122	35
210	Living	W-107	41
210	Bedroom 1	W-124	32
210	Bedroom 2	W-124	30
Level 3			
301	Living	W-109, W-110	<23
301	Living	W-116	30
301	Bedroom 1	W-116	31
301	Bedroom 2	W-116	32
302	Living	W-114	31
302	Bedroom 1	W-115	30
303	Living	W-107	32
303	Bedroom 1	W-124	30
303	Bedroom 2	W-124	30
304	Living	W-119	<23
304	Bedroom 1	W-108, W124	<23
304	Bedroom 2	W-106	26
304	Bedroom 3	W-109	<23
305	Living	W-111	25
305	Bedroom 1	W-116	33
306	Living	W-109	35
306	Living	W-113	34
306	Bedroom 1	W-116, W-121	38

307	Living	W-113	36
307	Bedroom 1	W-116	35
308	Living	W-113	37
308	Bedroom 1	W-120	36
309	Living	W-113	33
309	Living	W-109	37
309	Bedroom 1	W-116, W-122	35
310	Living	W-107	41
310	Bedroom 1	W-124	32
310	Bedroom 2	W-124	30
Level 4			
401	Living	W-109, W-110	<23
401	Living	W-116	30
401	Bedroom 1	W-116	31
401	Bedroom 2	W-116	32
402	Living	W-114	31
402	Bedroom 1	W-115	30
403	Living	W-107	32
403	Bedroom 1	W-124	30
403	Bedroom 2	W-124	30
404	Living	W-119	<23
404	Bedroom 1	W-108, W124	<23
404	Bedroom 2	W-106	26
404	Bedroom 3	W-109	<23

405	Living	W-111	25
405	Bedroom 1	W-116	33
406	Living	W-109	35
406	Living	W-113	34
406	Bedroom 1	W-116, W-121	38
407	Living	W-113	36
407	Bedroom 1	W-116	35
408	Living	W-113	37
408	Bedroom 1	W-120	36
409	Living	W-113	33
409	Living	W-109	37
409	Bedroom 1	W-116, W-122	35
410	Living	W-107	41
410	Bedroom 1	W-124	32
410	Bedroom 2	W-124	30
Level 5			
501	Living	W-109, W-110	<23
501	Living	W-116	30
501	Bedroom 1	W-116	31
501	Bedroom 2	W-116	32
502	Living	W-114	31
502	Bedroom 1	W-115	30
503	Living	W-107	32
503	Bedroom 1	W-124	30

503	Bedroom 2	W-124	30
504	Living	W-119	<23
504	Bedroom 1	W-108, W124	<23
504	Bedroom 2	W-106	26
504	Bedroom 3	W-109	<23
505	Living	W-111	25
505	Bedroom 1	W-116	33
506	Living	W-109	35
506	Living	W-113	34
506	Bedroom 1	W-116, W-121	38
507	Living	W-113	36
507	Bedroom 1	W-116	35
508	Living	W-113	37
508	Bedroom 1	W-120	36
509	Living	W-113	33
509	Living	W-109	37
509	Bedroom 1	W-116, W-122	35
510	Living	W-107	41
510	Bedroom 1	W-124	32
510	Bedroom 2	W-124	30
Level 6			
601	Living	W-105-W-125	33
601	Bedroom 1	W-112	32
601	Bedroom 2	W-112	33

601	Bedroom 3	W-113	33
602	Living	W-126, W-127	39
602	Living	W-109	35
602	Lounge	W-113	34
602	Bedroom 1	W-129	37
602	Bedroom 2	W-106	35
603	Living	W-127	38
603	Lounge	W-113	30
603	Bedroom 1	W-129	36
603	Bedroom 2	W-106	31
604	Living	W-127	38
604	Lounge	W-113	30
604	Bedroom 1	W-129	36
604	Bedroom 2	W-106	31
605	Living	W-126, W-127	39
605	Living	W-109	35
605	Lounge	W-113	30
605	Bedroom 1	W-129	37
605	Bedroom 2	W-106	35
606	Living	W-108, W128	32
606	Bedroom 1	W-112	32
606	Bedroom 2	W-112	33
606	Bedroom 3	W-106	26

Table 7.1: Rw Ratings Required

We have assumed that the floor coverings are carpet in the bedrooms and tiles or timber in the living and lounge rooms. We note that Rw ratings for bedroom will be higher if hard floor covering are used.

Rw values might be reduced if the living and lunge rooms are carpeted.

Where an Rw of <23 is specified above and for windows not listed in the table (i.e. for bathrooms) standard glazing is sufficient. i.e. no specific acoustic requirements apply for windows.

7.2 Roof/Ceiling Rw Rating

All recommendations must be checked by others to ensure compliance with other non acoustic requirements that Council or other authority may impose (e.g. Thermal requirements for BASIX compliance)

A minimum Rw rating of 55 is required, no further acoustic upgrade is required where standard cement roof/ceiling construction is specified.

7.3 External Wall Rw Rating

All recommendations must be checked by others to ensure compliance with other non acoustic requirements that Council or other authority may impose (e.g. Thermal requirements for BASIX compliance)

7.4 Masonry Wall Types

A minimum Rw rating of 50 is required, no further acoustic upgrade is required where standard brick veneer wall construction is specified.

7.5 Penetrations in façade and roof

Penetrations in the building façade, and to a lesser extent the roof, will provide an ingress path for intruding traffic noise. Such penetrations frequently appear for kitchen and toilet exhaust fans, outside air intakes etc., particularly those that directly serve an apartment. In these instances the penetrations and associated ductwork must be acoustically designed and detailed such that the specified acoustic performance of the façade is not compromise. This must be checked prior to CC.

7.6 Alternative ventilation

Where internal noise levels with windows open exceed the SEPP criteria by more than 10dBA the design of ventilation for these rooms must be such that the occupants can leave windows closed and still meet the ventilation requirements of the Building Code of Australia. This generally requires the provision of alternate ventilation

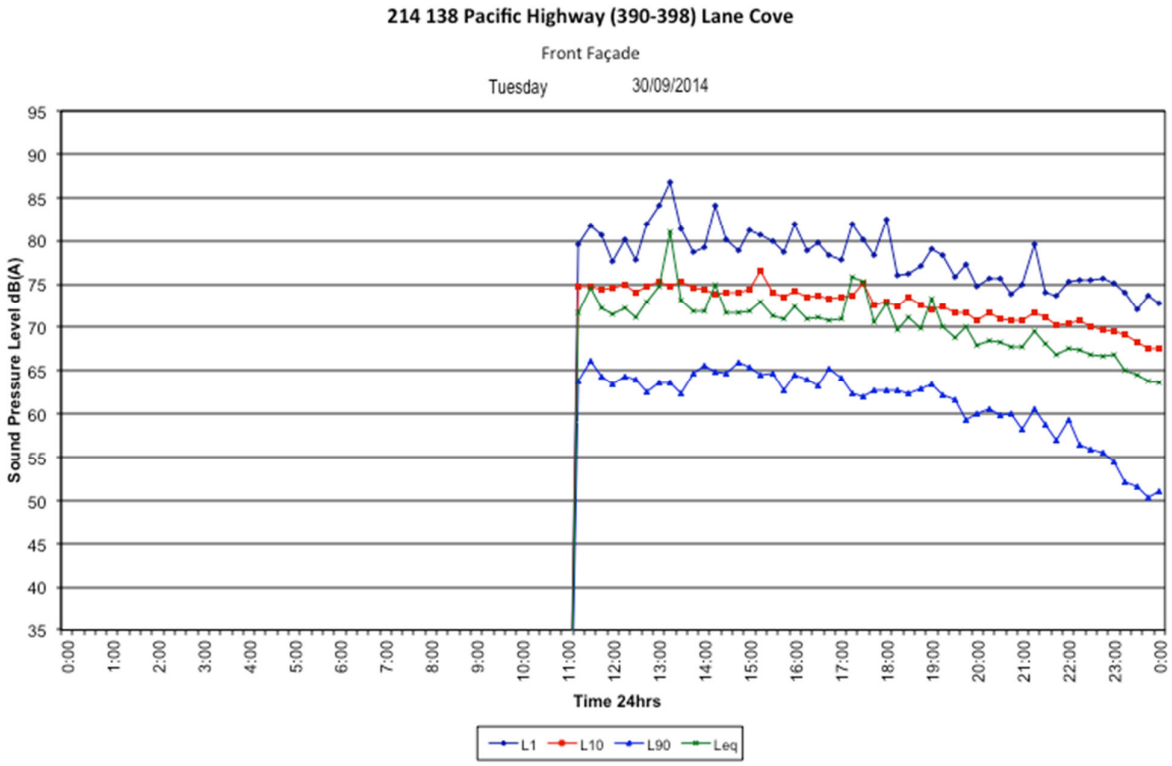
Alternate ventilation is **NOT** required in the following Units/Rooms:

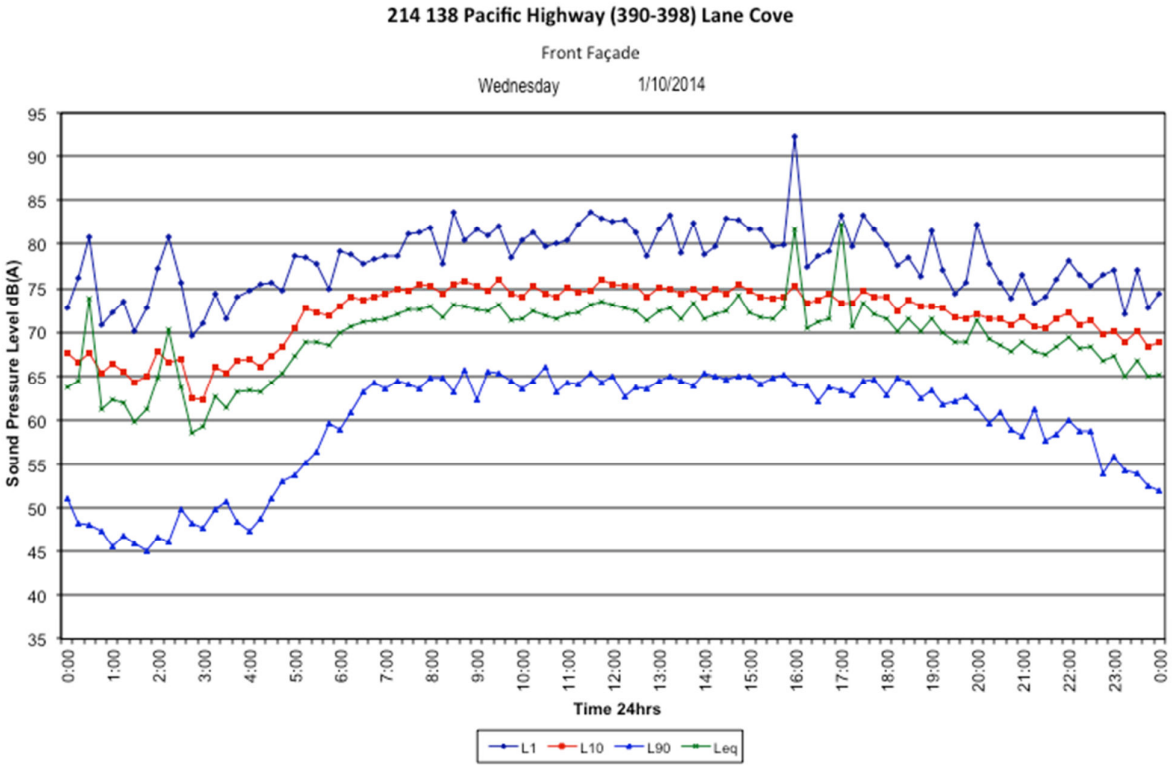
- Unit B1
- Unit B2
- Unit B3
- Living Rooms and western bedroom (W-106) in Units104 – 204 -304 – 404 – 504
- Western bedroom (W-106) in Unit 606

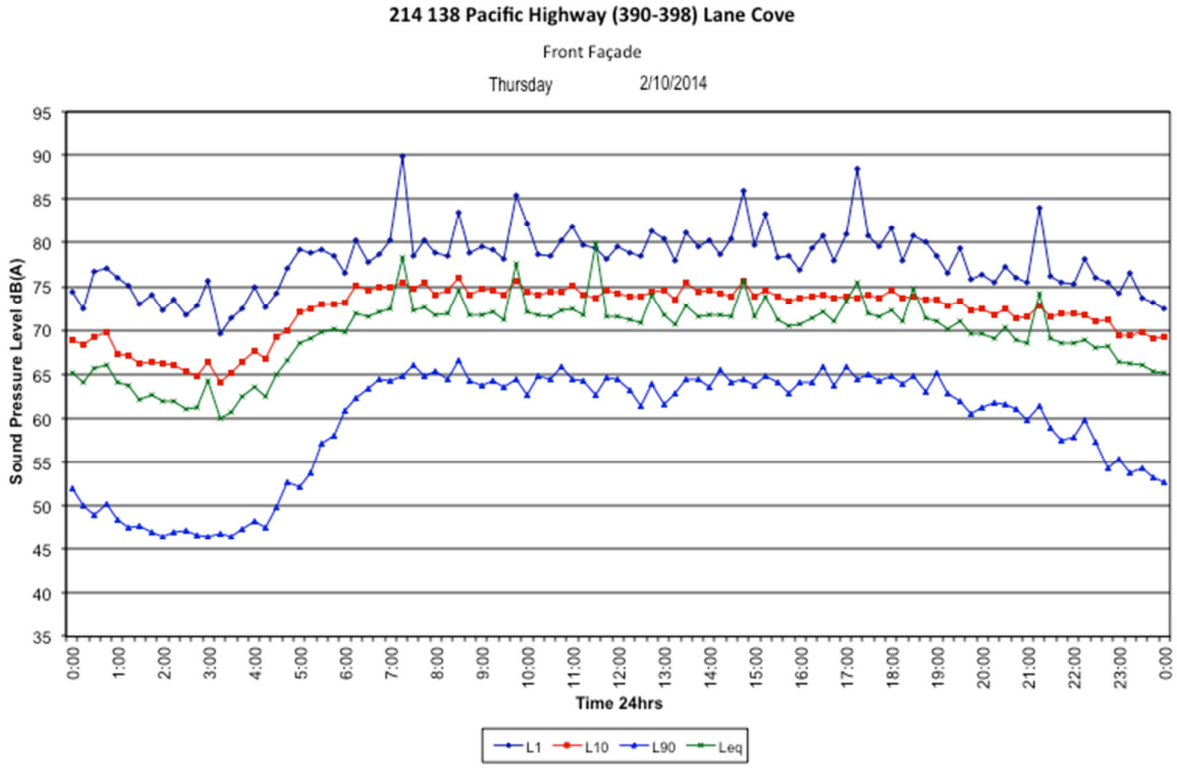
Alternate ventilation is required in the remainder Units, any ventilation penetration in elements such as walls or ceilings must be acoustically detailed to coordinate with the required Rw rating.

Any mechanical plant provided for the provision of alternate ventilation would need to comply with any relevant noise criteria for the operation of such plant

APPENDIX A - Noise logger at Pacific Highway Boundary



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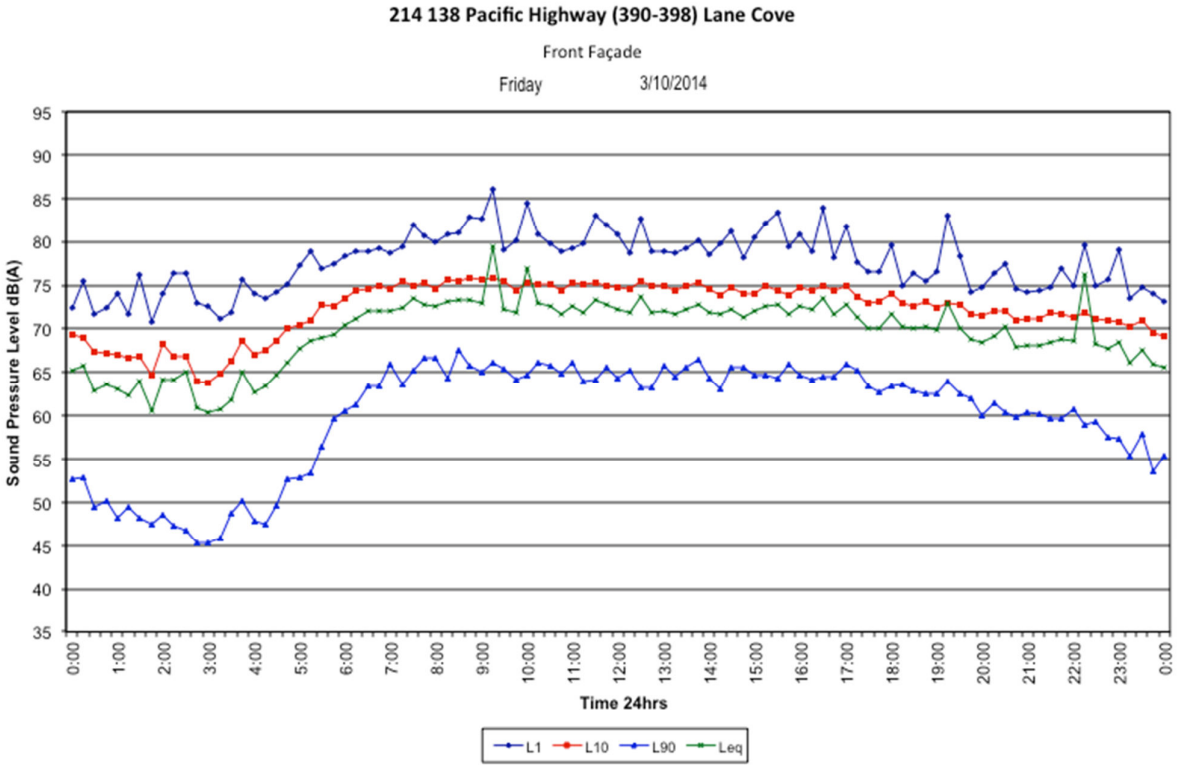
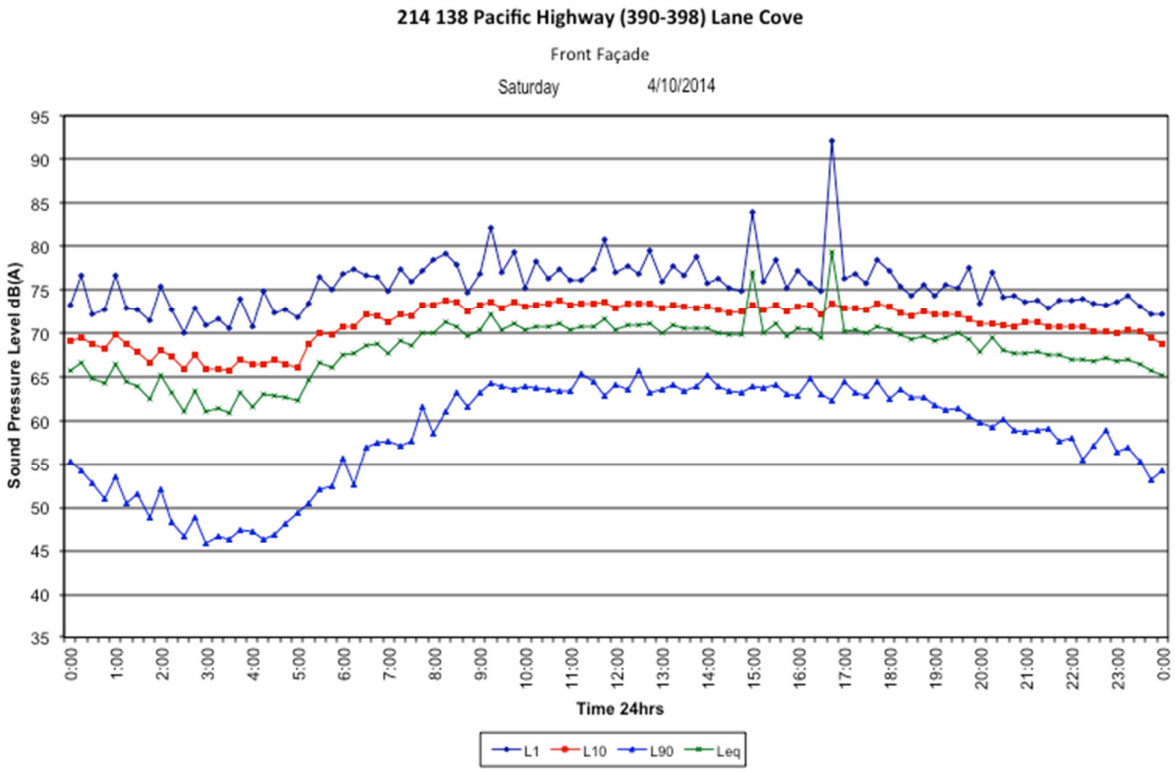
Front Façade
Thursday 2/10/2014
Sound Pressure Level dB(A)
95
90
85
80
75
70
65
60
55
50
45
40
35
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time 24hrs
L1 L10 L90 Leq


214 138 Pacific Highway (390-398) Lane Cove
Front Façade
Friday 3/10/2014
Sound Pressure Level dB(A)
95
90
85
80
75
70
65
60
55
50
45
40
35
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time 24hrs
L1 L10 L90 Leq


214 138 Pacific Highway (390-398) Lane Cove
Front Façade
Saturday 4/10/2014
Sound Pressure Level dB(A)
95
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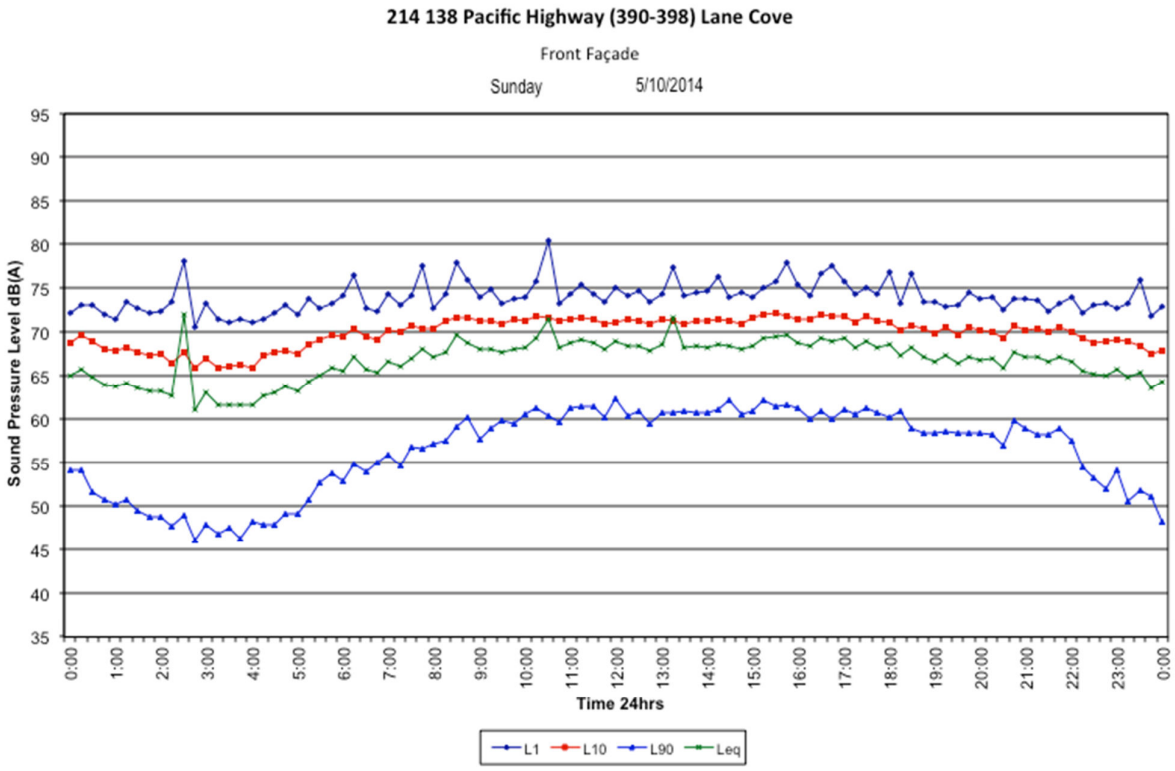
Time 24hrs
L1 L10 L90 Leq


214 138 Pacific Highway (390-398) Lane Cove
Front Façade
Sunday 5/10/2014
Sound Pressure Level dB(A)
95
90
85
80
75
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60
55
50
45
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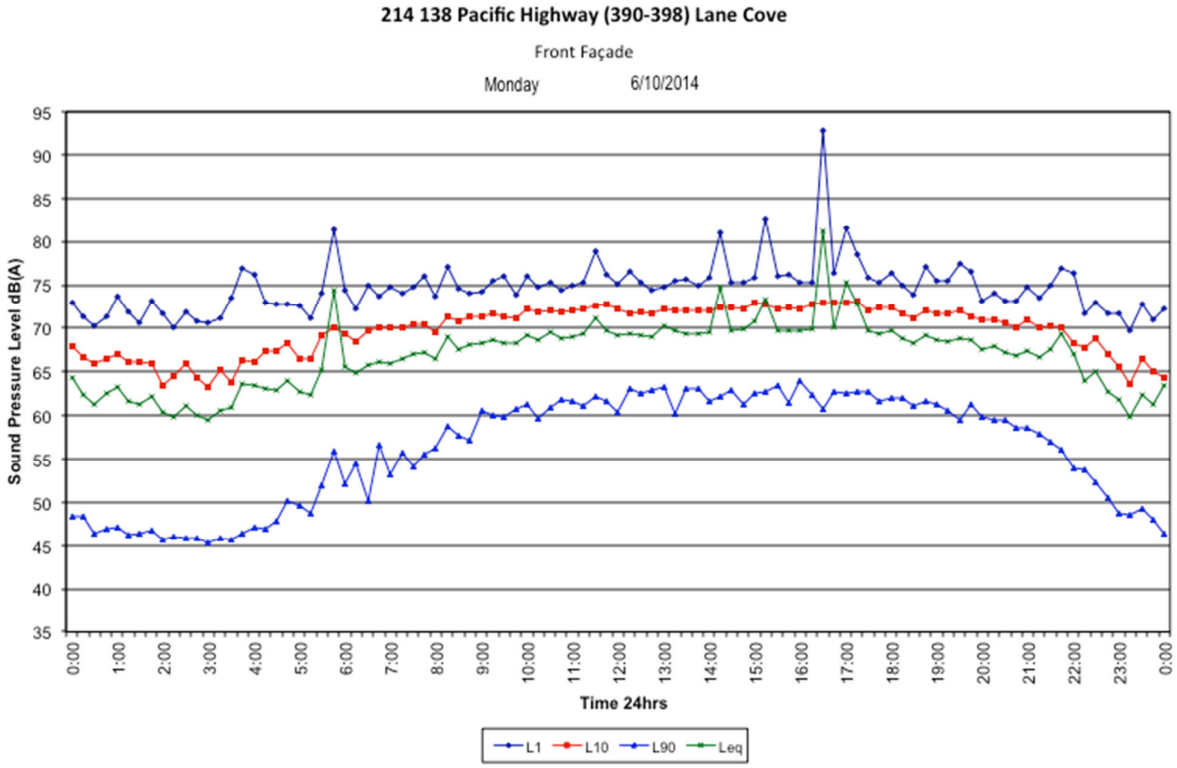
35
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time 24hrs
L1 L10 L90 Leq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Front Façade
Monday 6/10/2014
Sound Pressure Level dB(A)
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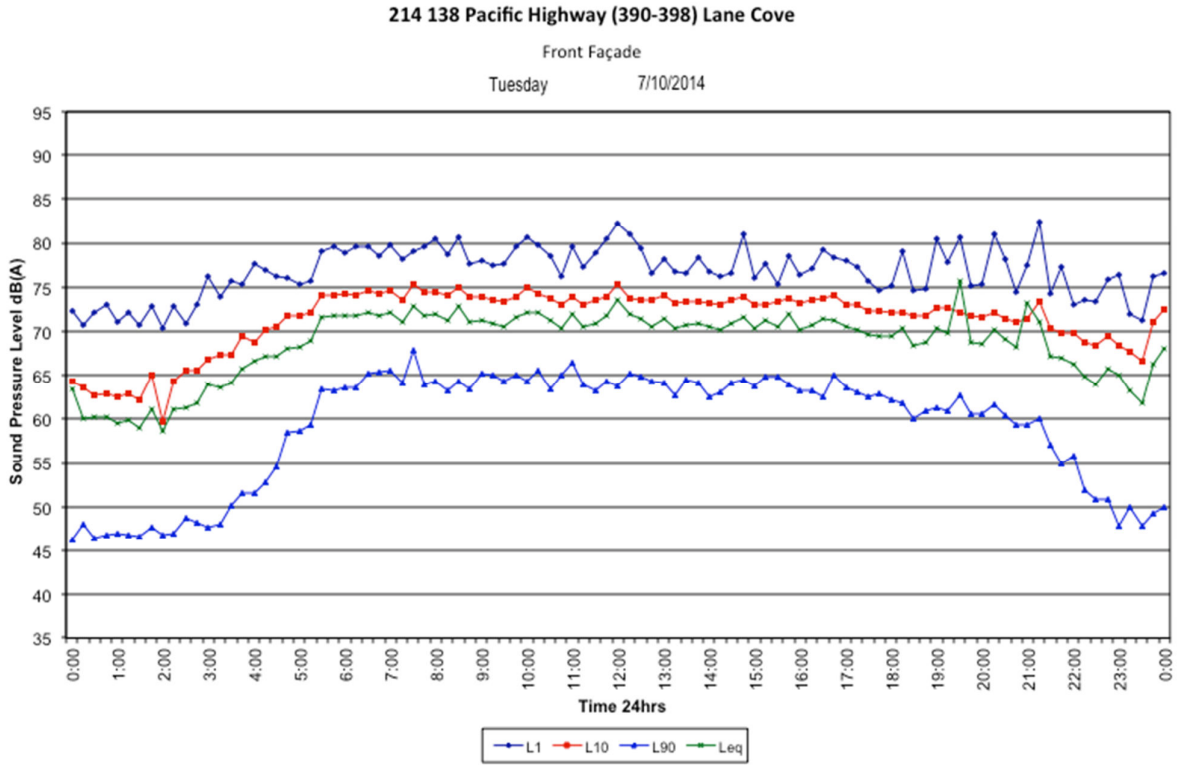
Time 24hrs
L1 L10 L90 Leq


214 138 Pacific Highway (390-398) Lane Cove
Front Façade
Tuesday 7/10/2014
Sound Pressure Level dB(A)
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50
45
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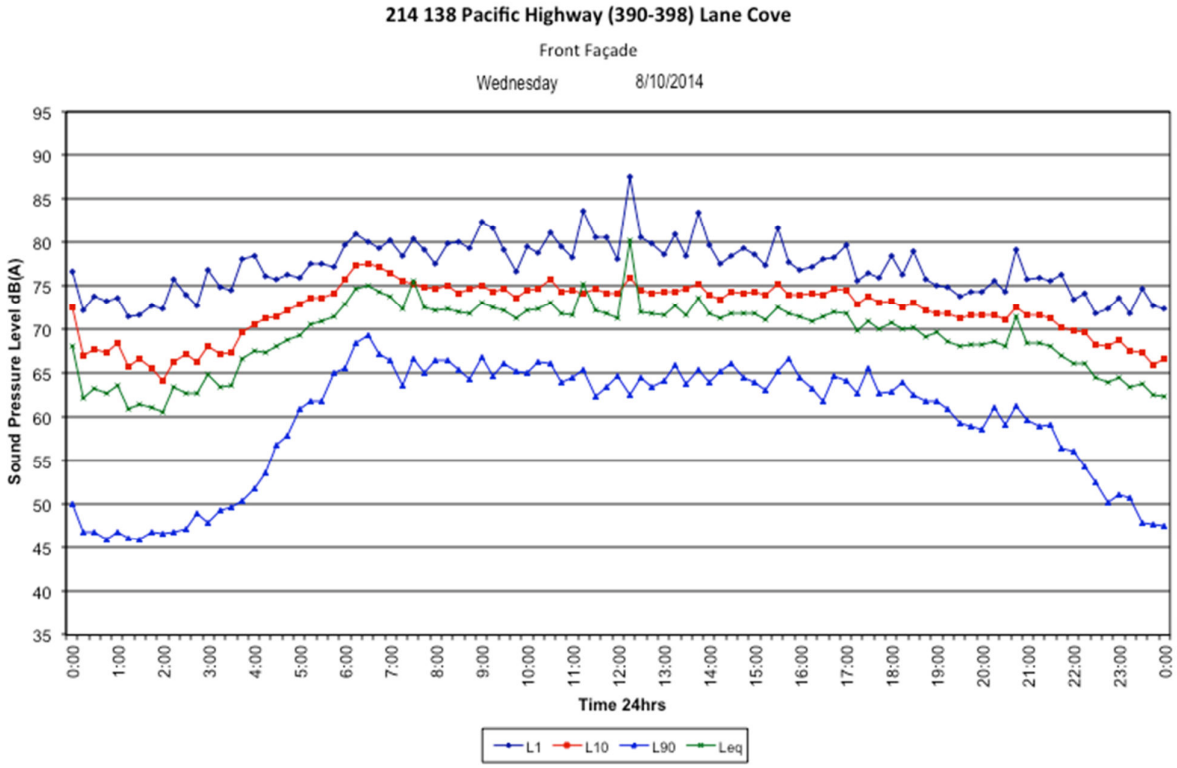
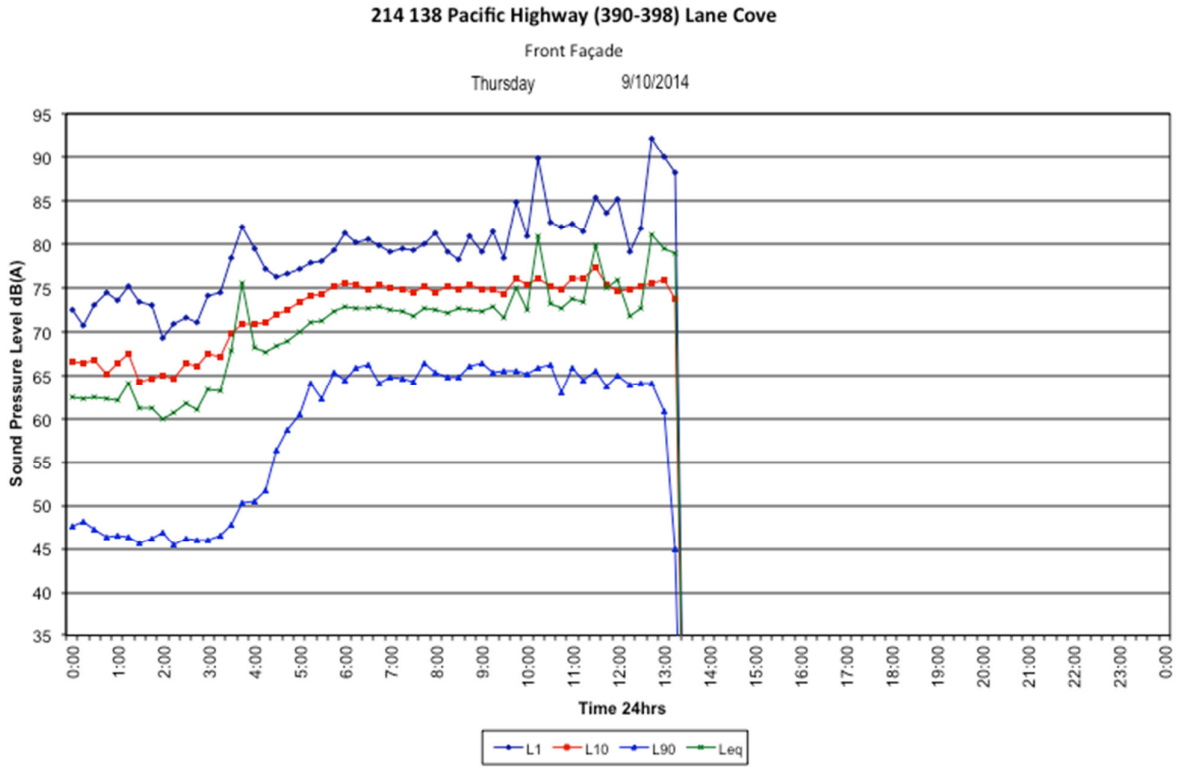
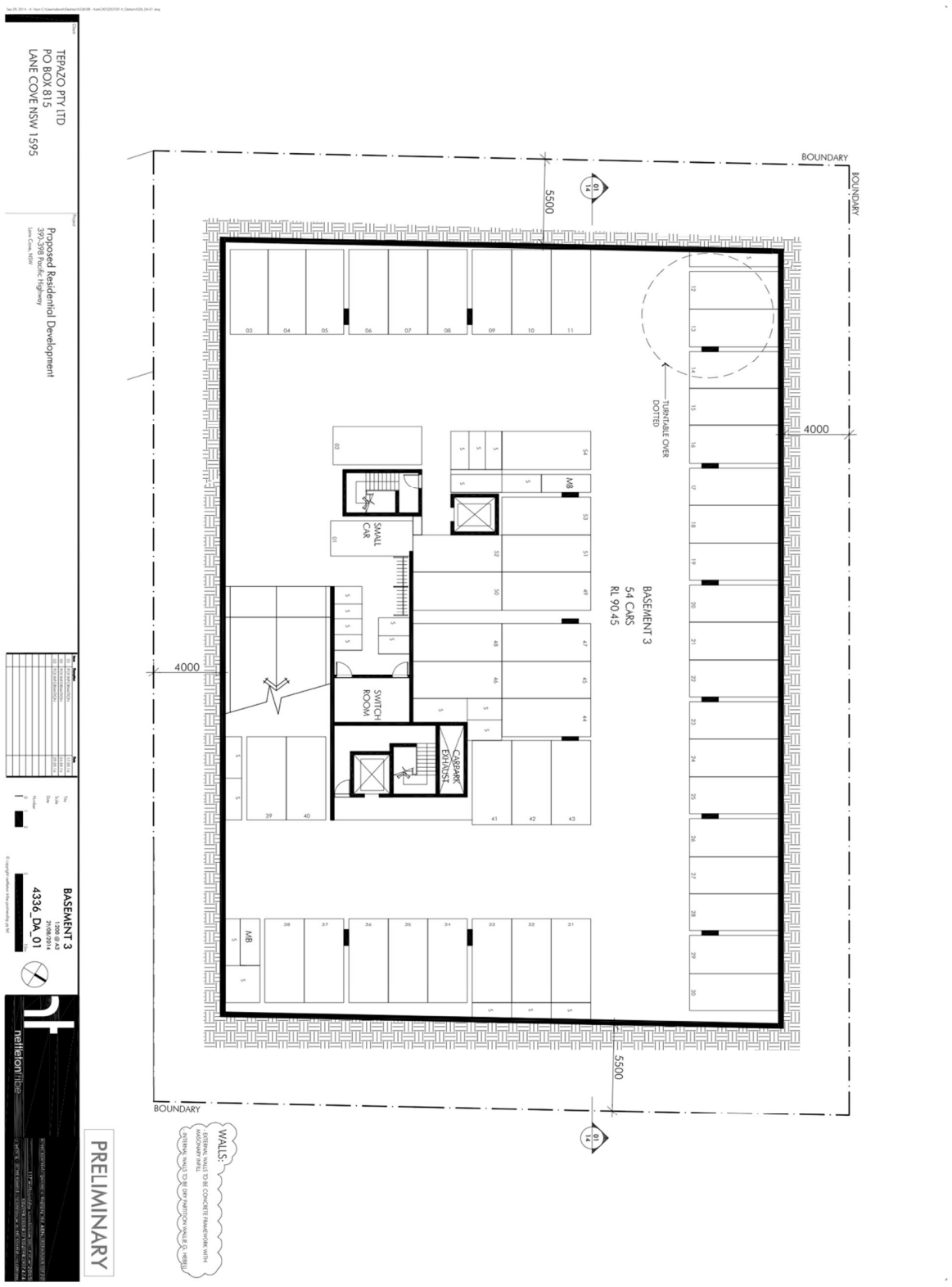
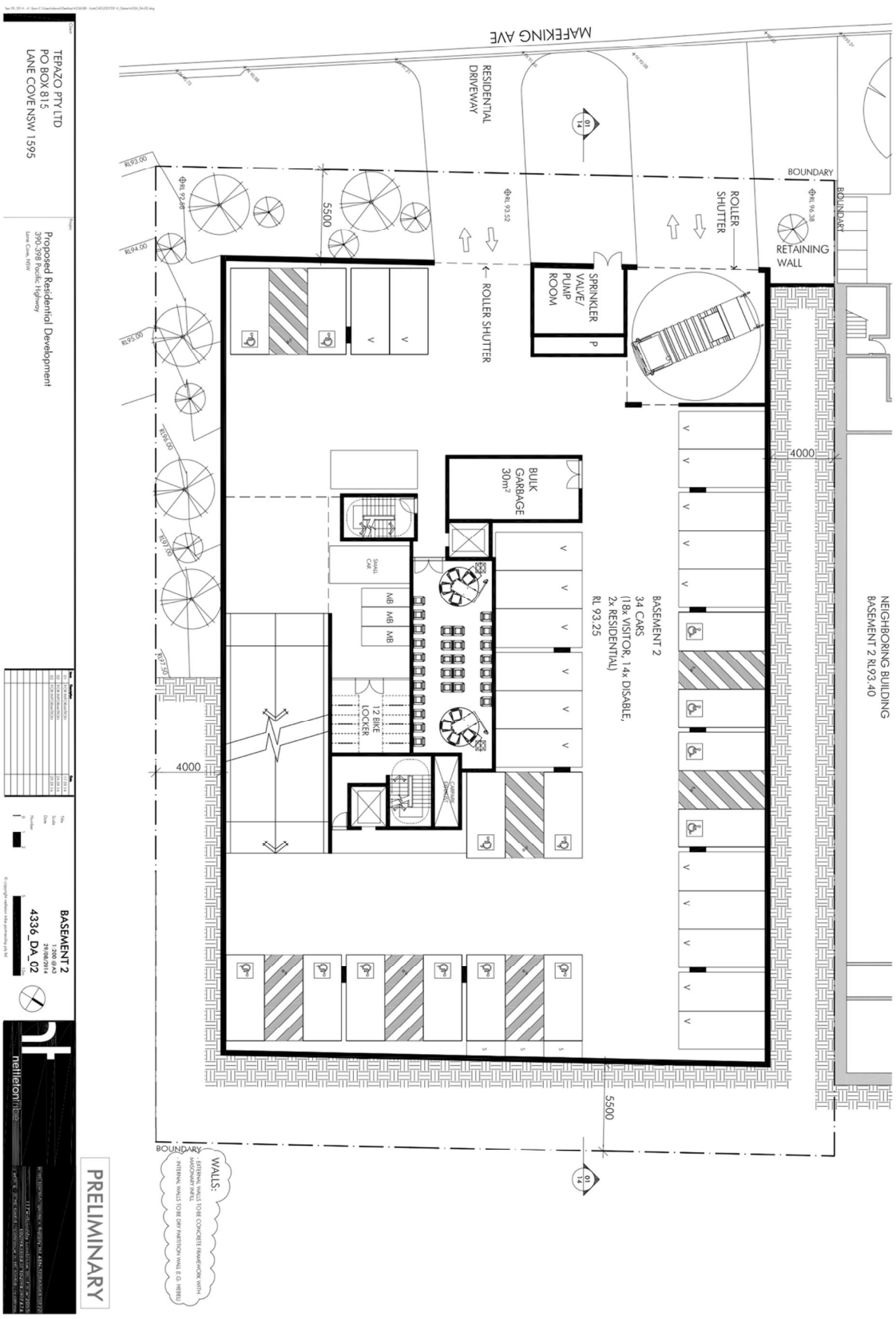
Time 24hrs
L1 L10 L90 Leq

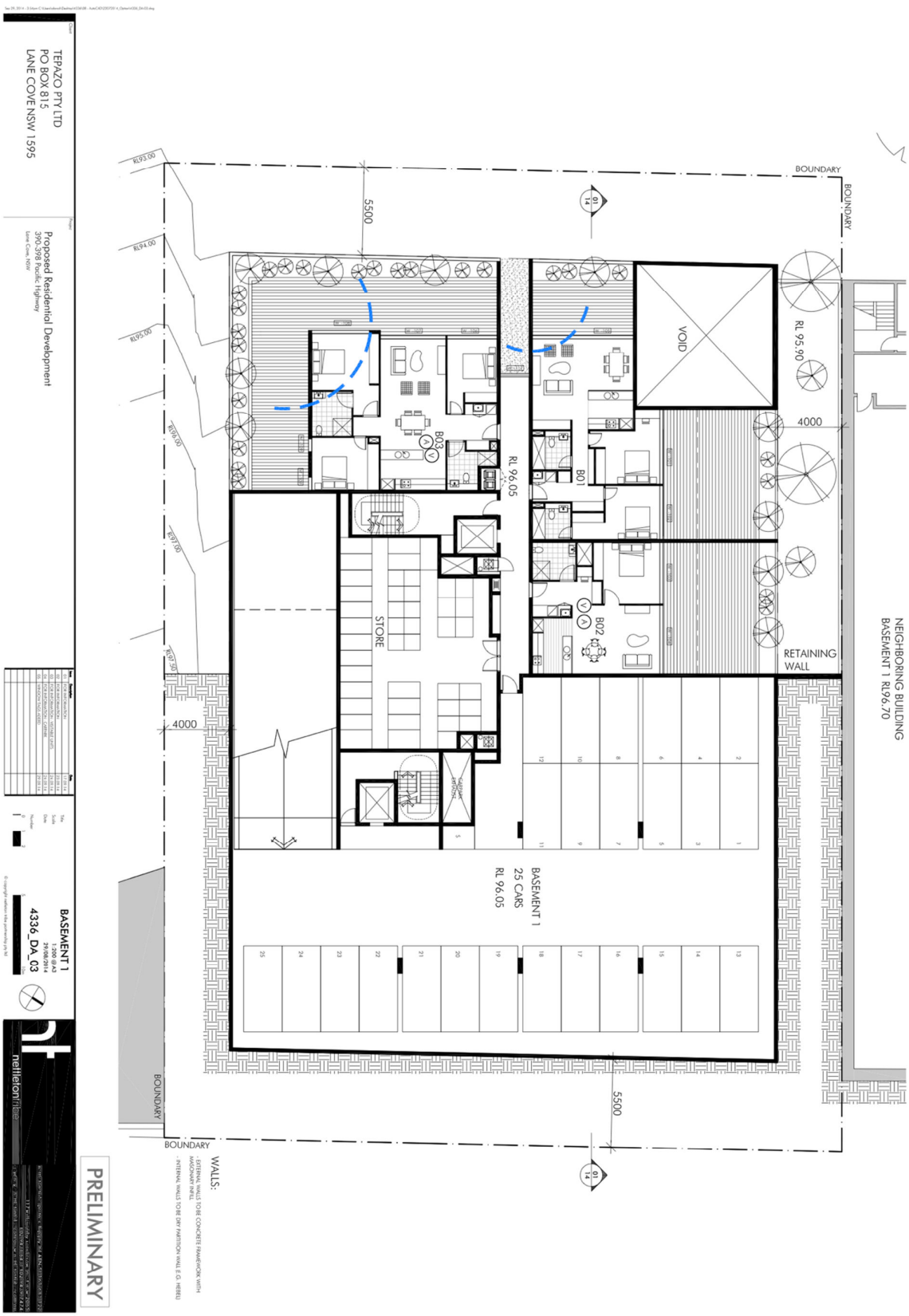

214 138 Pacific Highway (390-398) Lane Cove
Front Façade
Wednesday 8/10/2014
Sound Pressure Level dB(A)
95
90
85
80
75
70
65
60
55
50
45
40
35
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time 24hrs
L1 L10 L90 Leq

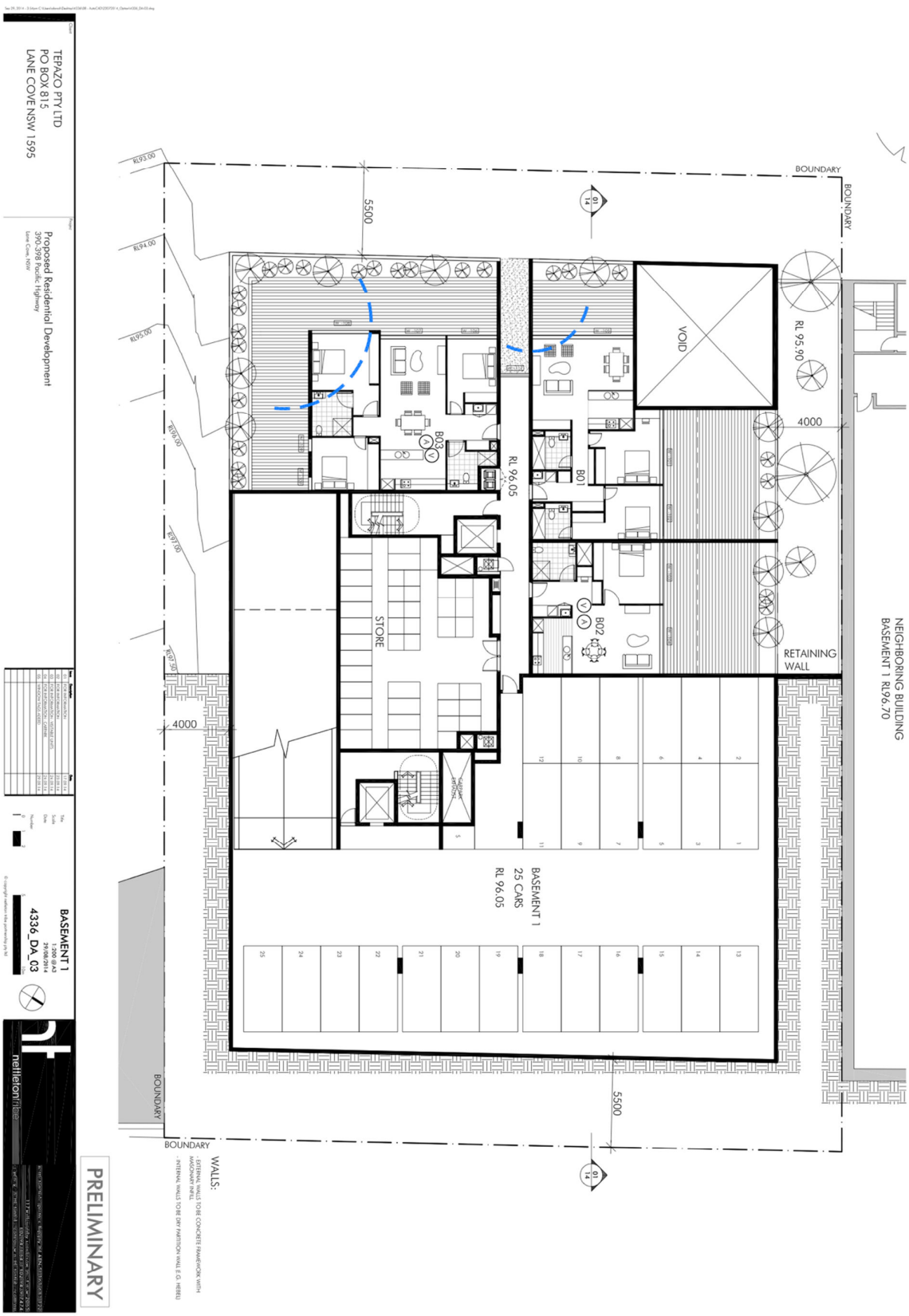

214 138 Pacific Highway (390-398) Lane Cove
Front Façade
Thursday 9/10/2014
Sound Pressure Level dB(A)
95
90
85
80
75
70
65
60
55
50
45
40
35
0:00 1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time 24hrs
L1 L10 L90 Leq

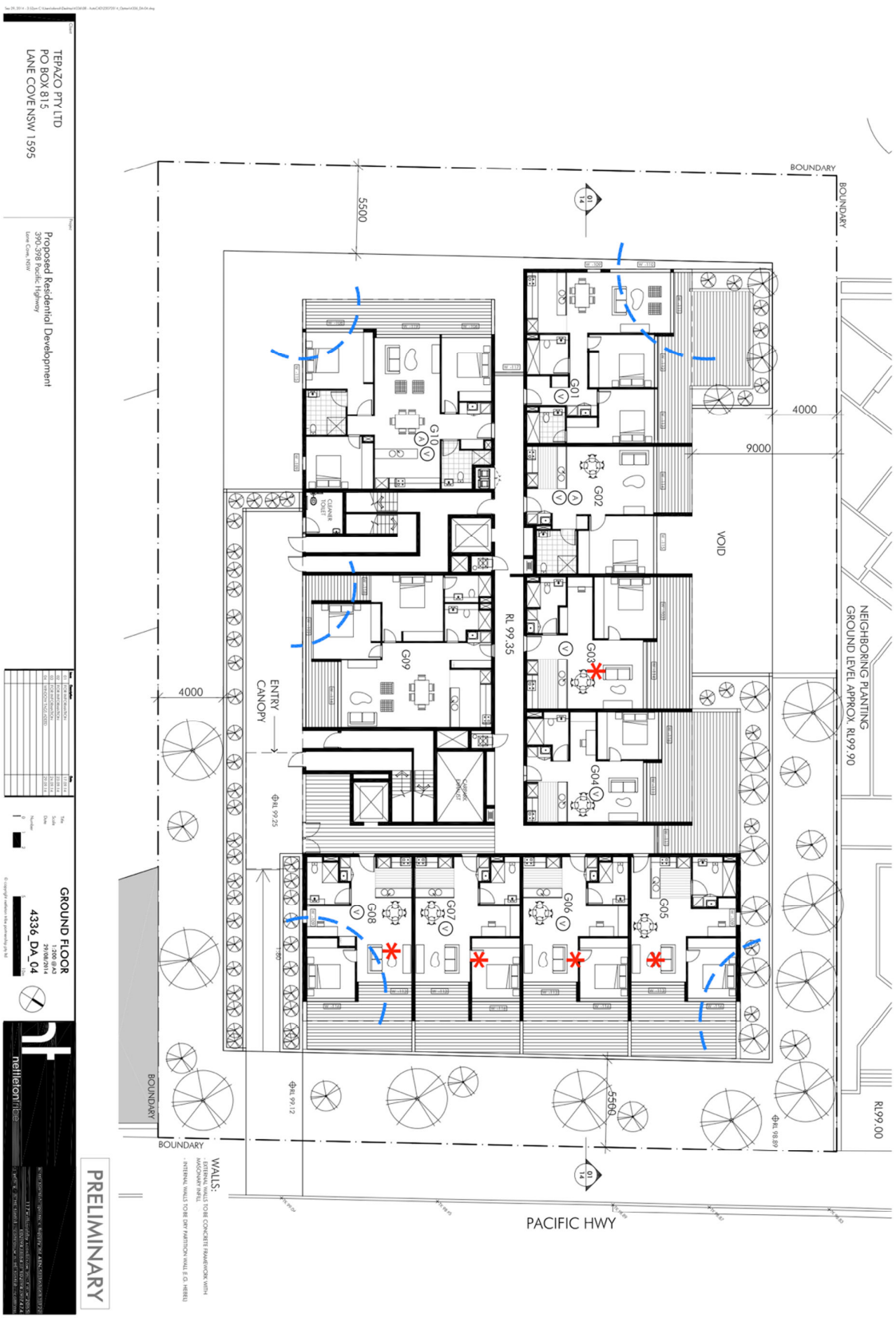
APPENDIX B:

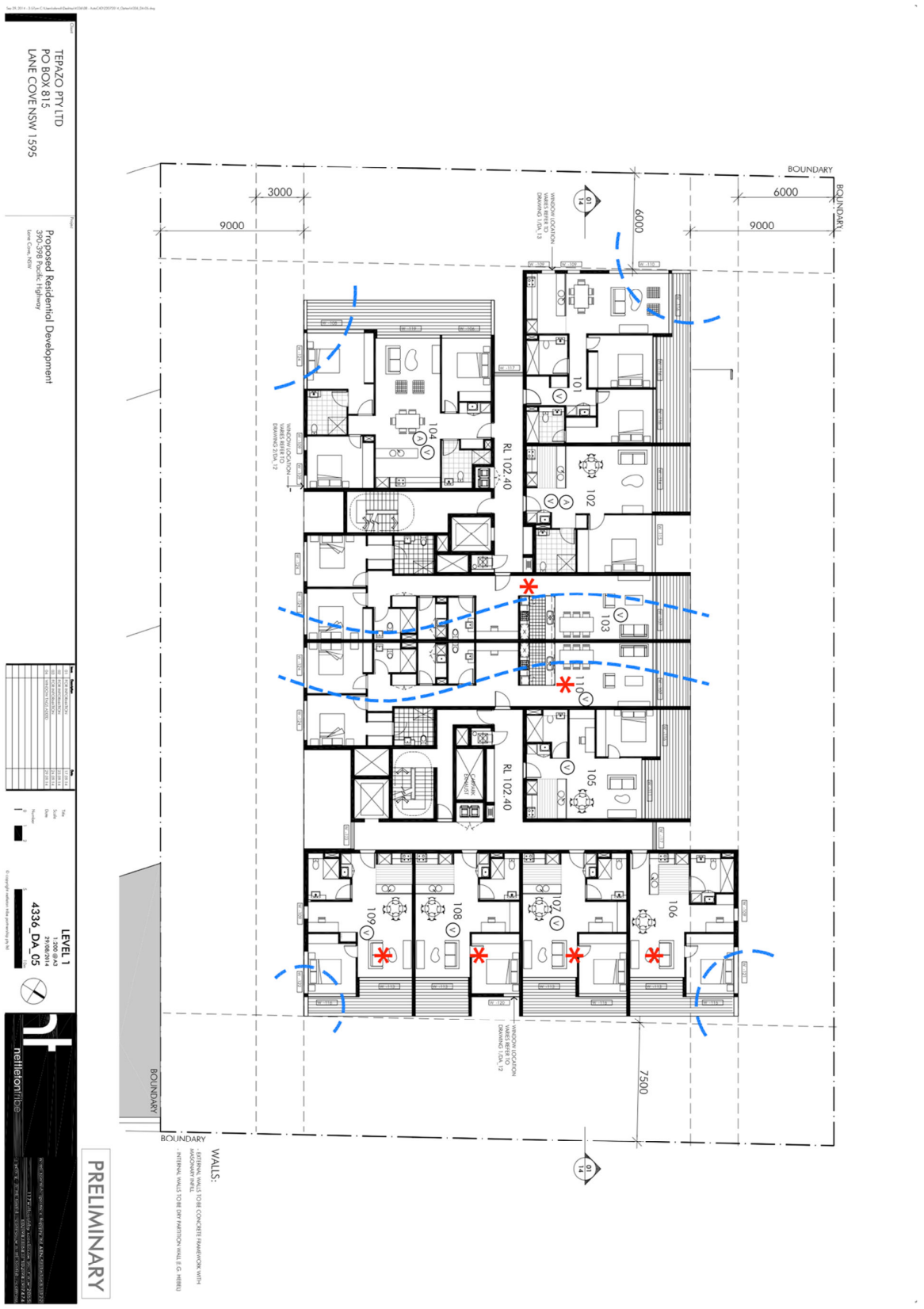

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
BASEMENT 3
4336_DA_01
PRELIMINARY
BOUNDARY
BOUNDARY
BOUNDARY
5500
5500
4000
4000
TURNTABLE OVER DOTTED
BASEMENT 3
54 CARS
RL 90.45
SMALL CAR
SWITCH ROOM
CARPARK EXHAUST
MB
MB
WALLS:

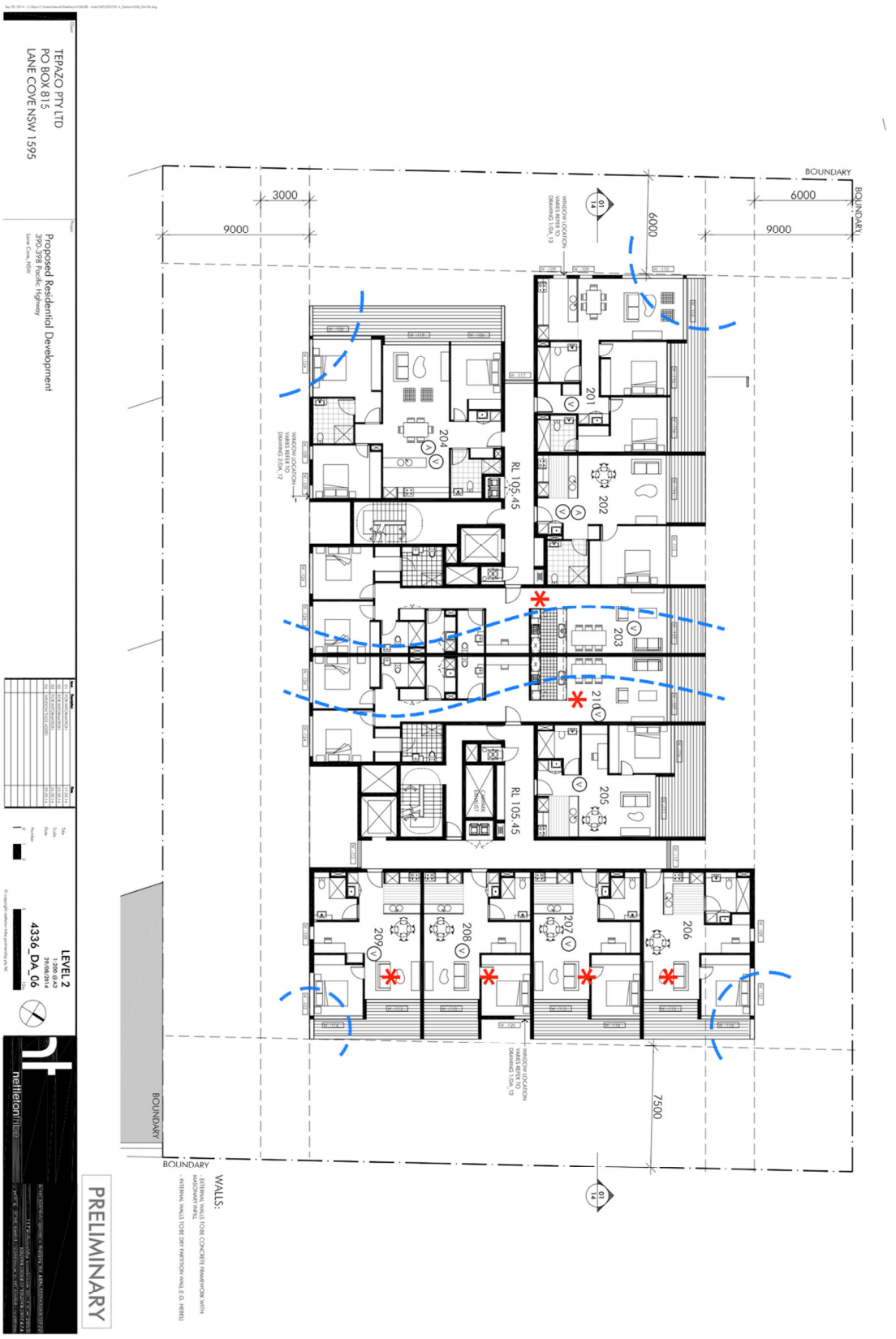

MAFEKING AVE
RESIDENTIAL DRIVEWAY
BOUNDARY
ROLLER SHUTTER
RETAINING WALL
SPRINKLER VALVE/ PUMP ROOM
ROLLER SHUTTER
BULK GARBAGE 30m²
BASEMENT 2
34 CARS
(18x VISITOR, 14x DISABLE, 2x RESIDENTIAL)
RL 93.25
12 BIKE LOCKER
4000
5500
NEIGHBORING BUILDING
BASEMENT 2 RL93.40
WALLS:
TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
BASEMENT 2
4336_DA_02
PRELIMINARY


TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
BASEMENT 1
4336_DA_03
PRELIMINARY
BOUNDARY
BOUNDARY
BOUNDARY
BOUNDARY
5500
5500
4000
4000
VOID
RL 95.90
RL 96.05
B03
B01
B02
STORE
RETAINING WALL
NEIGHBORING BUILDING
BASEMENT 1 RL96.70
BASEMENT 1
25 CARS
RL 96.05
WALLS:
- EXTERNAL WALLS TO BE CONCRETE FRAMEWORK WITH MASONARY INFILL
- INTERNAL WALLS TO BE DRY PARTITION WALL E.G. HEBEL

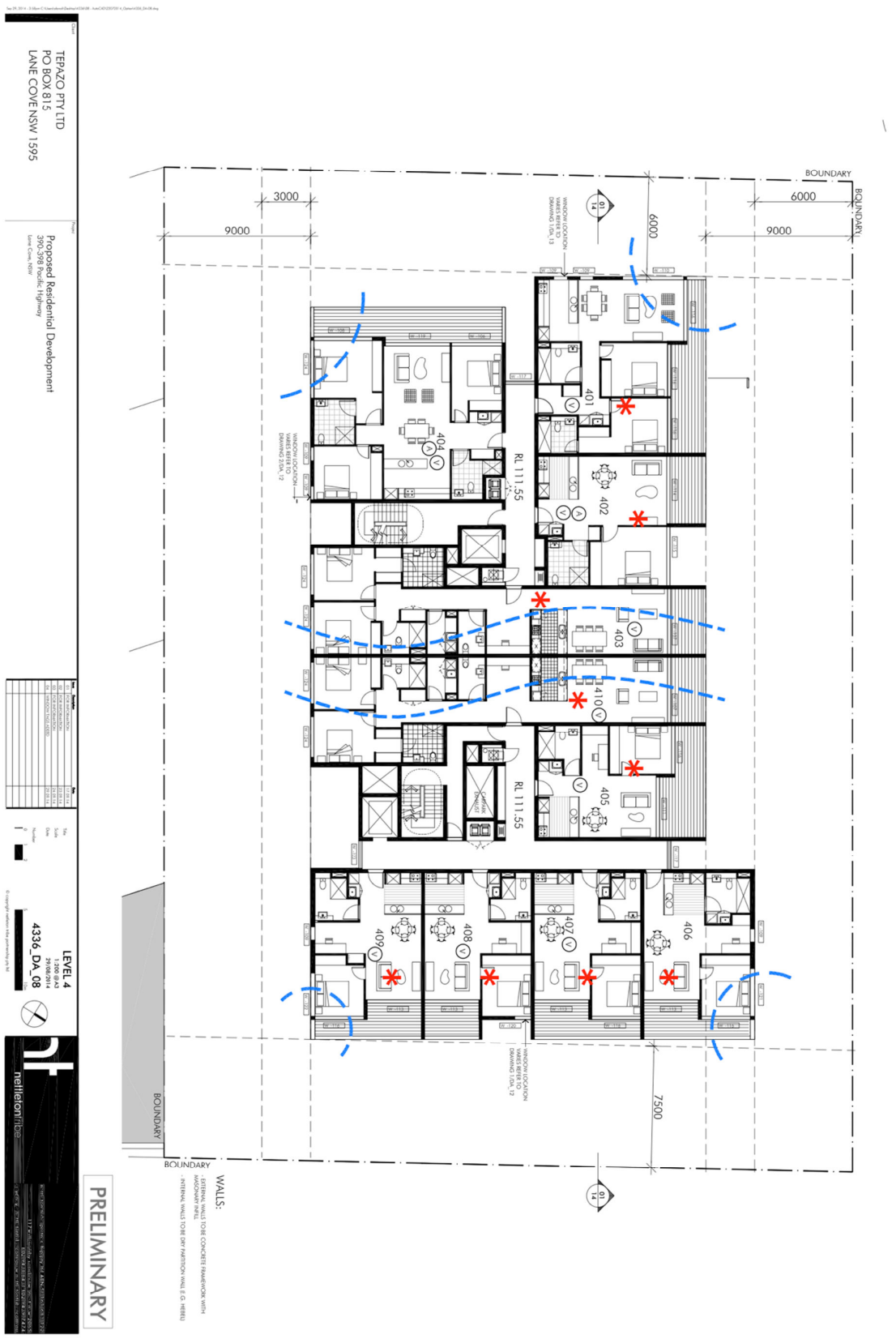

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
BASEMENT 1
4336_DA_03
PRELIMINARY
BOUNDARY
BOUNDARY
BOUNDARY
BOUNDARY
5500
5500
RL93.00
RL94.00
RL95.00
RL96.00
RL97.00
RL97.50
4000
4000
VOID
RL 95.90
RL 96.05
B03
B01
B02
STORE
RETAINING WALL
NEIGHBORING BUILDING
BASEMENT 1 RL96.70
BASEMENT 1
25 CARS
RL 96.05
WALLS:

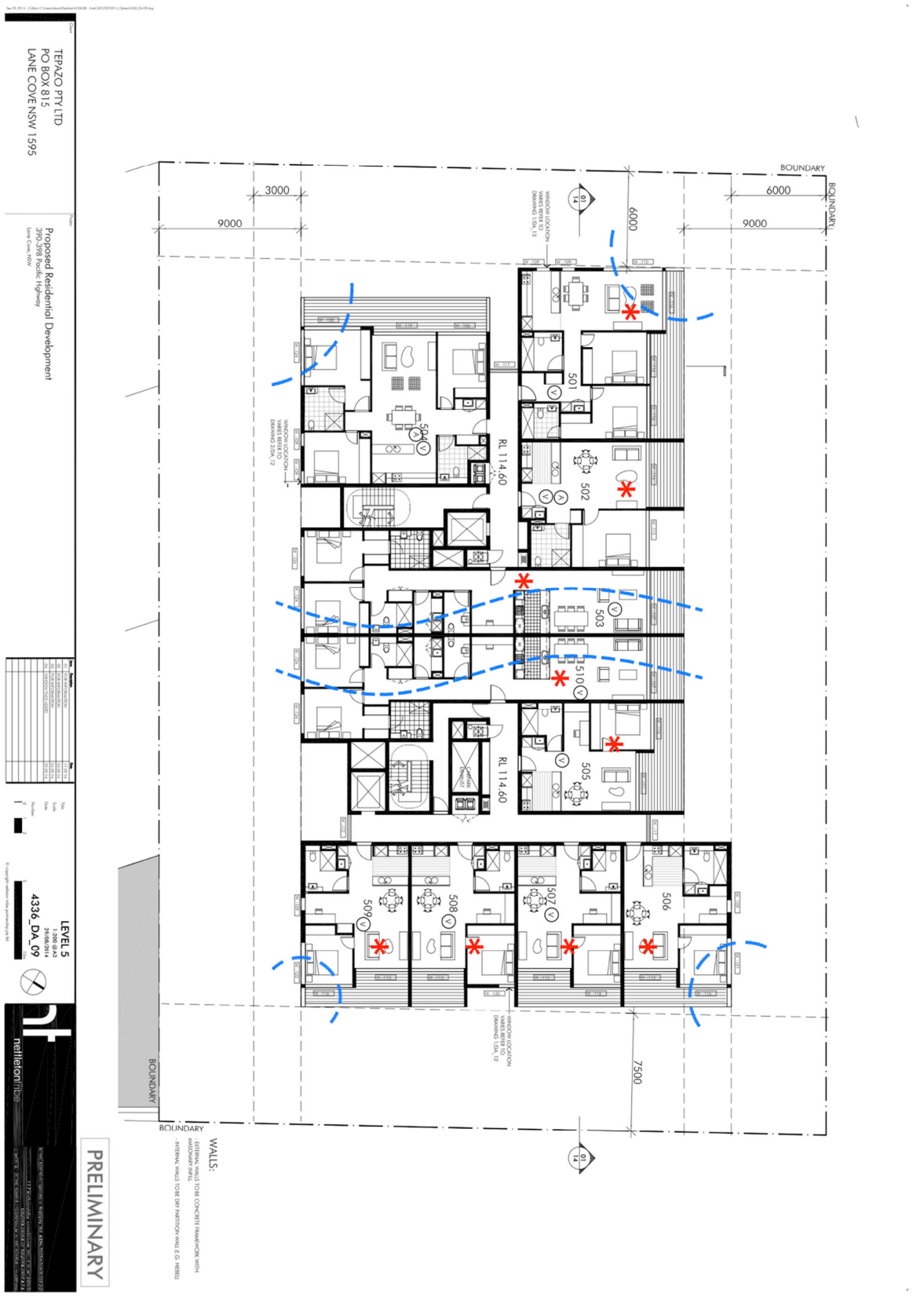

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
GROUND FLOOR
4336_DA_04
PRELIMINARY
BOUNDARY
5500
4000
9000
VOID
ENTRY CANOPY
RL 99.35
RL 99.25
RL 99.12
RL 98.87
NEIGHBORING PLANTING
GROUND LEVEL APPROX. RL99.90
RL99.00
PACIFIC HWY
WALLS:

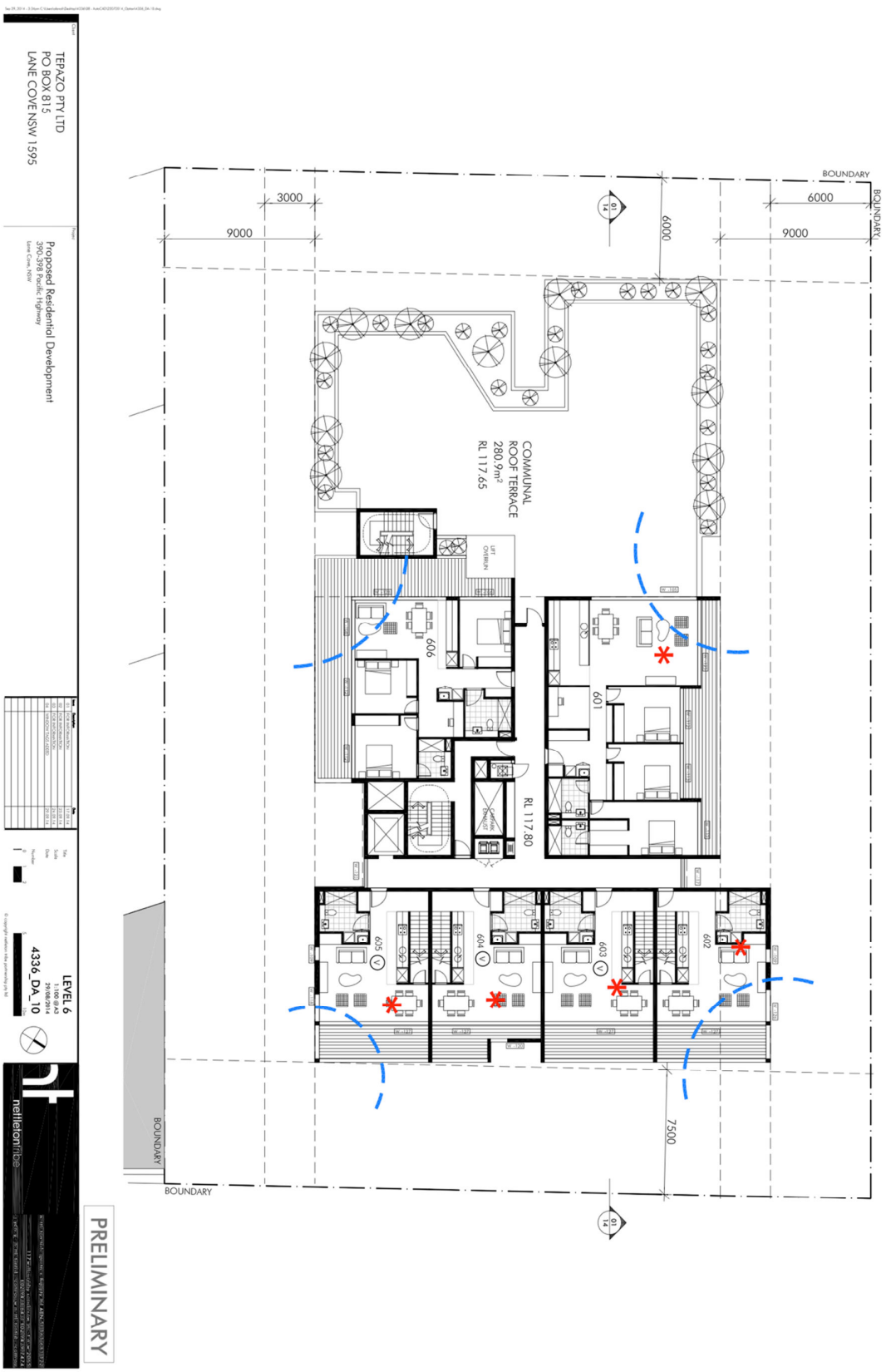

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 1
1:200 @ A3
4336_DA_05
PRELIMINARY
BOUNDARY
3000
9000
6000
9000
6000
BOUNDARY
RL 102.40
RL 102.40
101
102
103
104
105
106
107
108
109
110
7500
BOUNDARY
WALLS:

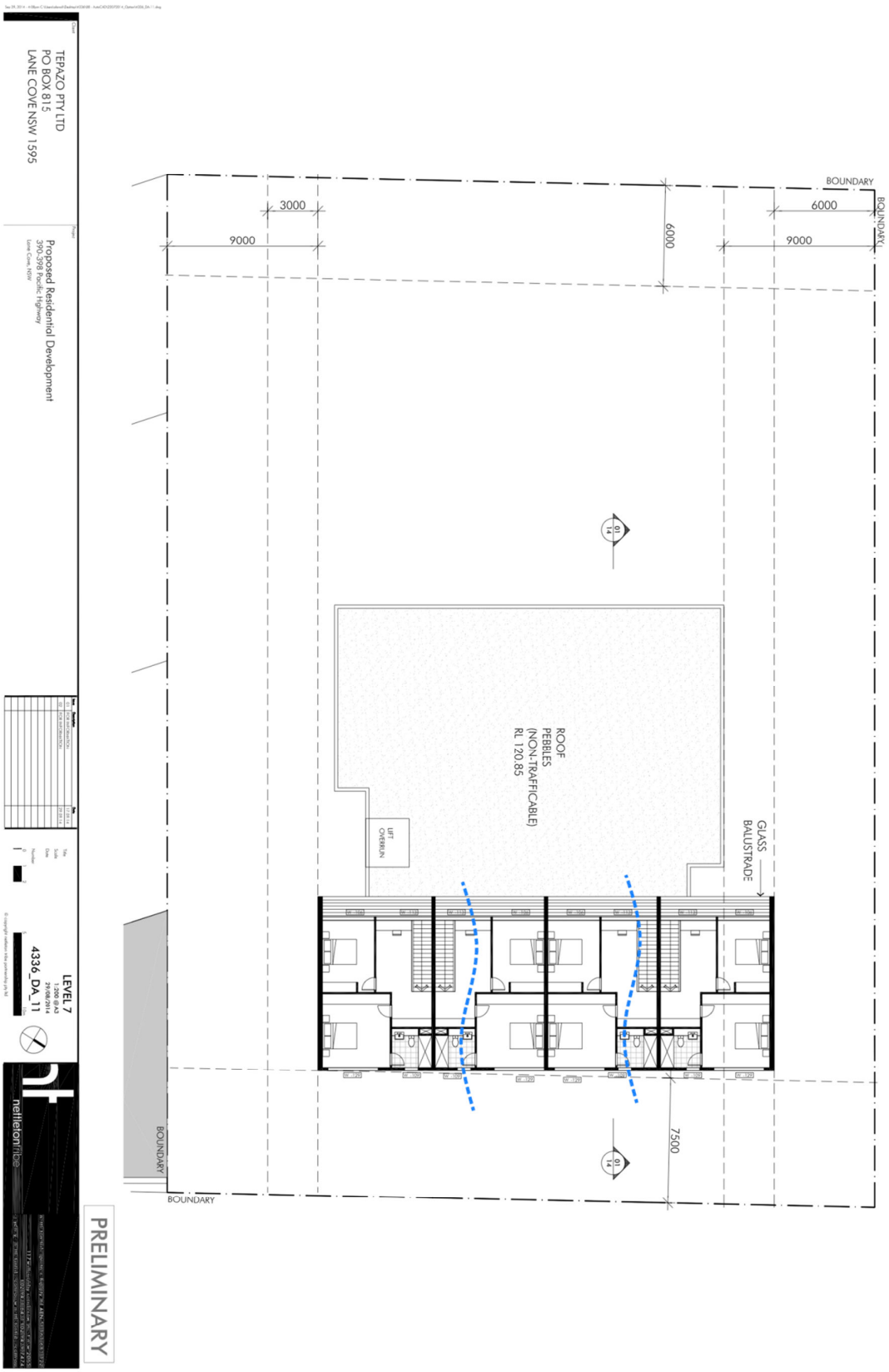

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 2
4336_DA_06
PRELIMINARY
BOUNDARY
3000
9000
6000
9000
6000
BOUNDARY
201
202
203
204
205
206
207
208
209
210
RL 105.45
RL 105.45
7500
BOUNDARY
WALLS:

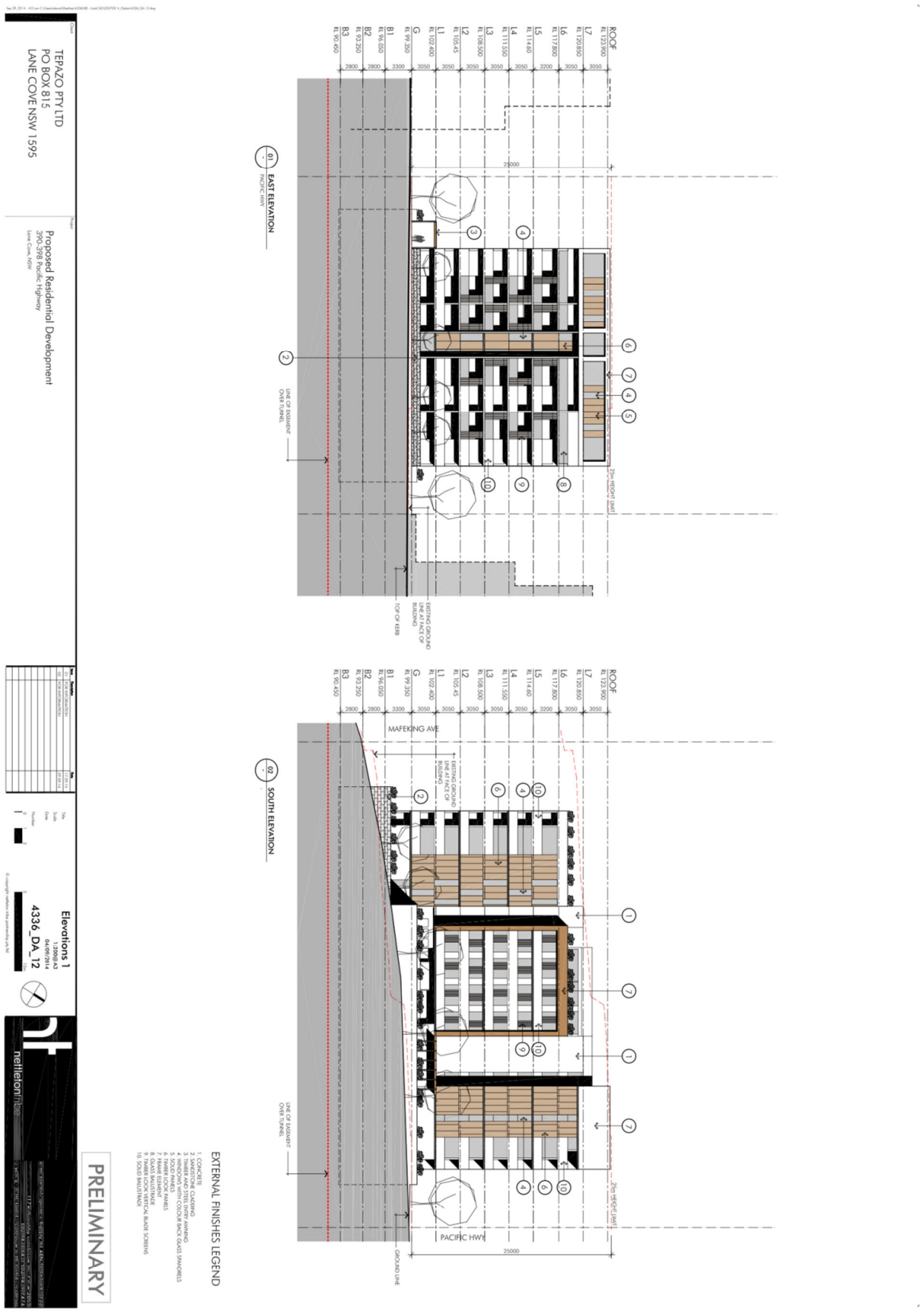

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 3
1:200 @ A3
4336_DA_07
PRELIMINARY
BOUNDARY
3000
9000
6000
9000
6000
7500
RL 108.50
RL 108.50
301
302
303
304
305
306
307
308
309
310
WALLS:

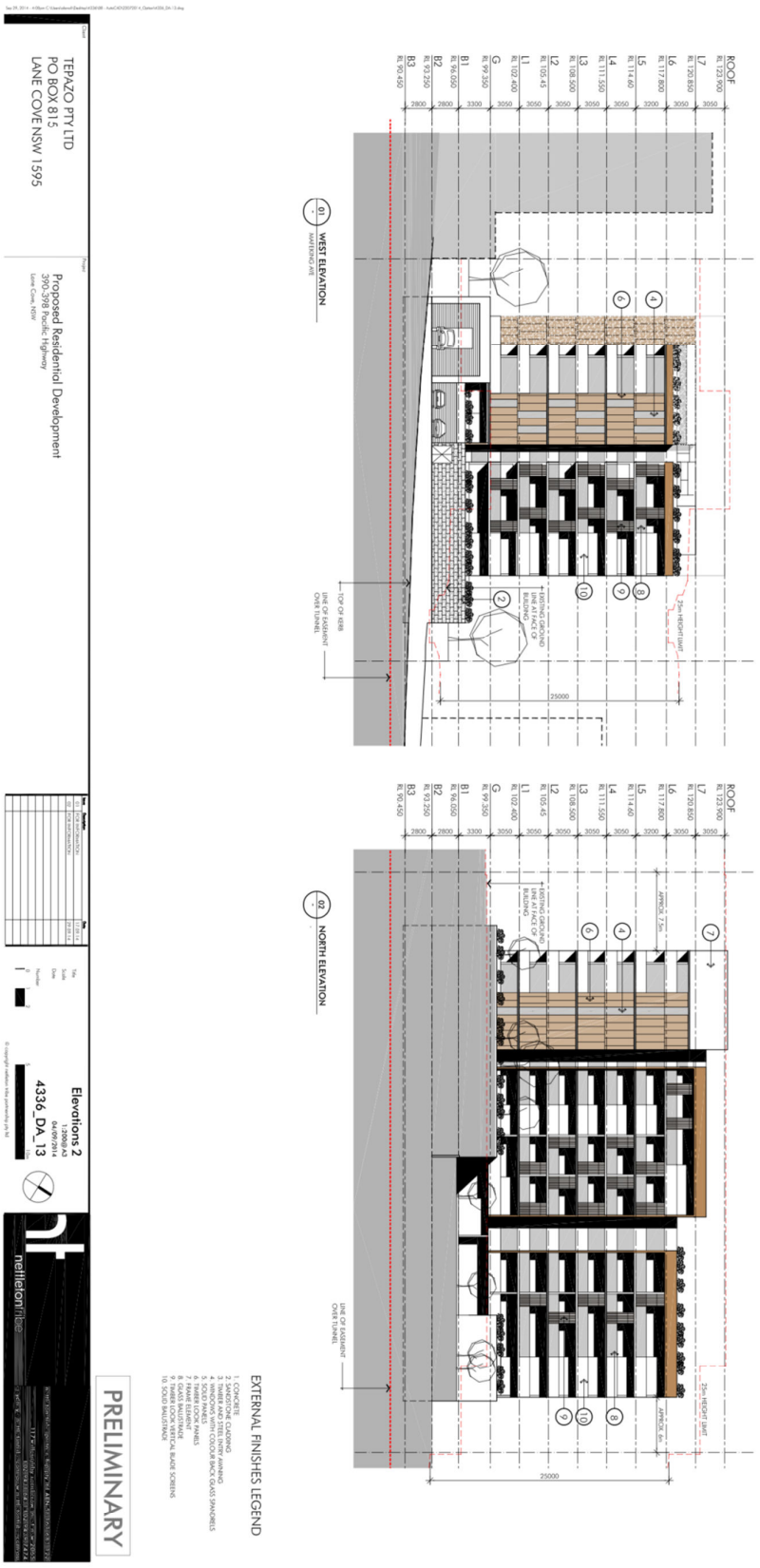

TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 4
1:200 @ A3
4336_DA_08
BOUNDARY
3000
9000
6000
9000
6000
BOUNDARY
401
402
403
404
405
406
407
408
409
410
RL 111.55
RL 111.55
7500
BOUNDARY
BOUNDARY
WALLS:
PRELIMINARY


TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 5
1:200 @ A3
4336_DA_09
PRELIMINARY
BOUNDARY
3000
9000
6000
9000
6000
BOUNDARY
501
502
503
504
505
506
507
508
509
510
RL 114.60
RL 114.60
7500
BOUNDARY
WALLS:


TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 6
4336_DA_10
PRELIMINARY
BOUNDARY
3000
9000
6000
9000
6000
BOUNDARY
COMMUNAL ROOF TERRACE
280.9m²
RL 117.65
LIFT OVERRUN
606
605
601
RL 117.80
695
604
603
602
7500
BOUNDARY


TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
LEVEL 7
1:200 @ A3
4336_DA_11
BOUNDARY
3000
9000
6000
6000
9000
BOUNDARY
ROOF
PEBBLES
(NON-TRAFFICABLE)
RL 120.85
LIFT
OVERRUN
GLASS
BALUSTRADE
7500
BOUNDARY
BOUNDARY
PRELIMINARY


TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
Elevations 1
4336_DA_12
PRELIMINARY
EAST ELEVATION
SOUTH ELEVATION
ROOF
MAFEKING AVE
PACIFIC HWY
EXTERNAL FINISHES LEGEND


TEPAZO PTY LTD
PO BOX 815
LANE COVE NSW 1595
Proposed Residential Development
390-398 Pacific Highway
Lane Cove, NSW
Elevations 2
4336_DA_13
PRELIMINARY
01 WEST ELEVATION
02 NORTH ELEVATION
EXTERNAL FINISHES LEGEND
1. CONCRETE
2. SANDSTONE CLADDING
3. TIMBER AND STEEL ENTRY AWNING
4. BALUSTRADE WITH COLOUR BACK GLASS SPANDRELS
5. SOLID PANELS
6. TIMBER LOOK PANELS
7. PLANTER BOXES
8. GLASS BALUSTRADE
9. TIMBER LOOK VERTICAL BLADE SCREENS
10. SOLID BALUSTRADE
ROOF
RL 123.900
L7
RL 120.850
L6
RL 117.800
L5
RL 114.60
L4
RL 111.550
L3
RL 108.500
L2
RL 105.45
L1
RL 102.400
G
RL 99.350
B1
RL 96.650
B2
RL 93.350
B3
RL 90.450
2800
2800
3300
3050
3050
3050
3050
3050
3200
3050
3050
APPROX. 7.5m
APPROX. 6m
25m HEIGHT LIMIT
EXISTING GROUND LEVEL AT FACE OF BUILDING
TOP OF 450Ø LINE OF EASEMENT OVER TUNNEL
25000

PKA ACOUSTIC CONSULTING

BUILDING ACOUSTICS INDUSTRIAL ACOUSTICS MECHANICAL ACOUSTICS

OCCUPATIONAL NOISE SURVEYS VIBRATION AUDIO VISUAL LEGAL ACOUSTICS

PO BOX 345, LANE COVE, NSW, 1595 SUITE 12, 401 PACIFIC HIGHWAY ARTARMON 2064
Tel 612 9460 6824 Fax 612 9460 6823 admin@pka.com.au

nettleton tribe partnership pty ltd ABN 58 161 683 122

117 willoughby road, crows nest nsw 2065
t 02 9431 6431 w nettletontribe.com.au
e sydney@nettletontribe.com.au

nettletontribe

390 – 398 Pacific Highway, Lane Cove
REPSONSE TO COUNCIL ISSUES (refer letter dated 26 November 2014)
18 December 2014

No.	Council	Response	Action
1.	Date to be nominated on shadow diagrams	Plans amended and noted for 21 June	NT
2.	Traffic report to refer to Part R of DCP	Traffic response letter prepared by John Coady Consulting Pty Ltd	JCC
3.	Adaptable units to be provided across all dwelling types	Adaptable units provided as follows: 7 x 1B 1 x 2B 6 x 3B Plans amended to comply	NT
4.	Provide Council with floor areas of existing buildings	Floor areas provided (see attached plans)	T
5.	Notate storage areas on unit plans and basement to comply with DCP Part C3.14	Plans amended to comply	NT
6.	7.5m street setback to Mafeking Avenue	The car park podium has been setback minimum 6m from the boundary on Mafeking Avenue to align with the podium approved on the adjacent development at 9 Mafeking Avenue. The setback to the building above varies from 6m to 8.3m for architectural articulation	NT
7.	Car park podium to be setback 6m from the side boundaries and 7.5m from Mafeking Avenue	The car park podium has been setback minimum 6m from the southern side boundary. The northern side has a zero setback to align with the approved basement setback to 9 Mafeking Avenue. Also see point 6 above.	NT
8.	Terraces to units G04 and G09 to be 4m deep and 16m2 area	Plans amended to comply	NT
9.	Balconies to units to be increased to 102 and 2m depth	Balconies to units G02, 102, 103, 110, 202, 203, 210, 302, 303, 310, 402, 403, 410, 502, 503, 510 have been amended to comply Balconies facing the highway have not been adjusted. These balconies have a depth of 2m for 6.6m2 and a depth of 1m for 3.2m2. Total rea 9.8m2 which is considered adequate given the exposure and limited amenity of the highway frontage	NT

	Consultant Architect		
10.	Confirm solar access with more accurate modelling of adjacent development	Adjacent approved development re-modelled and revised Solar Access assessment prepared by Steve King (see attached)	SK
11.	Confirm access to communal open space to north-west corner of the site	Access door from corridor added to revised landscape plans (see attached landscape plans)	SDS
12.	Increase balcony areas to nominated apartments	See item 9 above	NT
13.	Provide a range of adaptable units with good cross ventilation and solar access	See item 3. A variety of cross ventilation and solar access is provided to these units	NT
14.	Provide safe play areas for children	Landscape plans amended to comply	SDS
	Building Surveyor		
15.	Each sole occupancy unit to have a choice of 2 exits (BCA C1.D1.2)	Fire engineer to be engaged to address this issue via an alternative solution at CC stage	FE
16.	Sprinkler valve room to have direct access to a road or open space	Plans amended to comply	NT
17.	Protection of openings located within 6m from path of travel to a road	Fire engineer to be engaged to address this issue via an alternative solution at CC stage	FE
18.	Address extended travel distances from certain units	Fire engineer to be engaged to address this issue via an alternative solution at CC stage	FE
19.	Door to communal roof terrace to comply with AS1428.1-2009 Fig 31 d + h	Plans amended to comply	NT
	Waste		
20.	Label Garbage chutes and compaction units	Plans amended to comply	NT
21.	Revise Waste and Recycling Storage rooms	Plans amended to comply	NT
22.	Indicate path of travel for bin collection	Plans amended to comply	NT
23.	Provide composting / worm farm container	Landscape plans amended to comply	NT
24.	Identify internal waste / recycling cupboard	Plans amended to comply	NT
	Environmental Health		
25.	Prepare acoustics report addressing potential impacts of construction noise on the surrounding residents	Report prepared (see attached)	
	Landscape Architect		
26.	Revise landscape plans to reflect the prominent site and streetscape presence	Landscape plans amended to comply	SDS
27.	Provide significant planting to ground floor podium planters	Landscape plans amended to comply	SDS
28.	Provide cross sectional on-structure planting details	Landscape plans amended to comply	SDS
29.	Clearly delineate between POS to units G09 and 601 and communal open space	Landscape plans amended to comply	SDS

	Traffic		
30. I.	Coordinate plans and text in the Construction Traffic Management Plan	Construction Traffic Management Plan amended to comply	T
II.	Detail construction worker traffic and parking limitation measures in the Construction Traffic Management Plan	Construction Traffic Management Plan amended to comply	T
III.	Include construction truck swept path diagrams in the report	Construction Traffic Management Plan amended to comply	T
IV.	Indicate work zones on Mafeking Avenue	Construction Traffic Management Plan amended to comply	T
V.	Undertake new traffic counts on a typical Thursday not affected by school holidays	This item address in traffic response letter prepared by John Coady Consulting Pty Ltd	JCC
31.	Provide analyses for Mafeking / Gatacre and Mafeking / Kimberley intersection operations	This item address in traffic response letter prepared by John Coady Consulting Pty Ltd	JCC
32. I.	Revise motorcycle, bicycle, visitor and accessible parking in accordance with DCP Part R	Plans amended to comply	NT/JCC
II.	Revise tandem parking numbers	Plans amended to comply	NT/JCC
III.	Remove small car spaces	Plans amended to comply	NT/JCC
IV.	Car Park Design to comply with AS 2890.1-2004	Plans amended to comply	NT/JCC
33.	Provide table showing public transport frequency of existing services and estimated trips once development occupied	This item address in traffic response letter prepared by John Coady Consulting Pty Ltd	JCC
34. I.	All footpaths to be upgrade to PAMP guidelines	To be included in CC documentation	Note
II.	Provide additional bike storage facilities to comply with DCP Part R	Plans amended to comply. Refer traffic response letter prepared by John Coady Consulting Pty Ltd	NT/JCC

AL: P:\4336\01 - Admin\01.4 - Authorities\01.04.1 Local Council\response to council issues.docx

Statement of Environmental Effects
Development Application for Demolition and Construction of a new Residential Flat Building
390 – 398 Pacific Highway, Lane Cove

October 2014

Mersonn Pty Ltd
6/20 Wylde Street
Potts Point NSW 2011

Contents

1.0 Introduction

This report is submitted to Lane Cove Council in support of a development application for the demolition of the existing commercial buildings and the construction of a residential flat building with basement parking at 390 – 398 Pacific Highway, Lane Cove. The proposal comprises 69 units being 38 x 1 bed, 22 x 2 bed and 9 x 3 bed units with four levels of basement parking for 114 cars.

The subject site is located on the Pacific Highway corridor at the Junction of the Gore Hill Freeway and the Lane Cove tunnel providing excellent access to the CBD, Chatswood and the St Leonards/North Sydney centres. The site is very well served by public transport and is within easy walking distance of the Lane Cove town centre with a high level of services and amenities.

This report addresses the nature of the proposed development and the characteristics of the site and surrounding area. It also provides an assessment of the proposed development under the provisions of Section 79C of the Environmental Planning and Assessment Amendment Act 1997.

This report should be read in conjunction with architectural drawings prepared by Nettleton Tribe Architects:

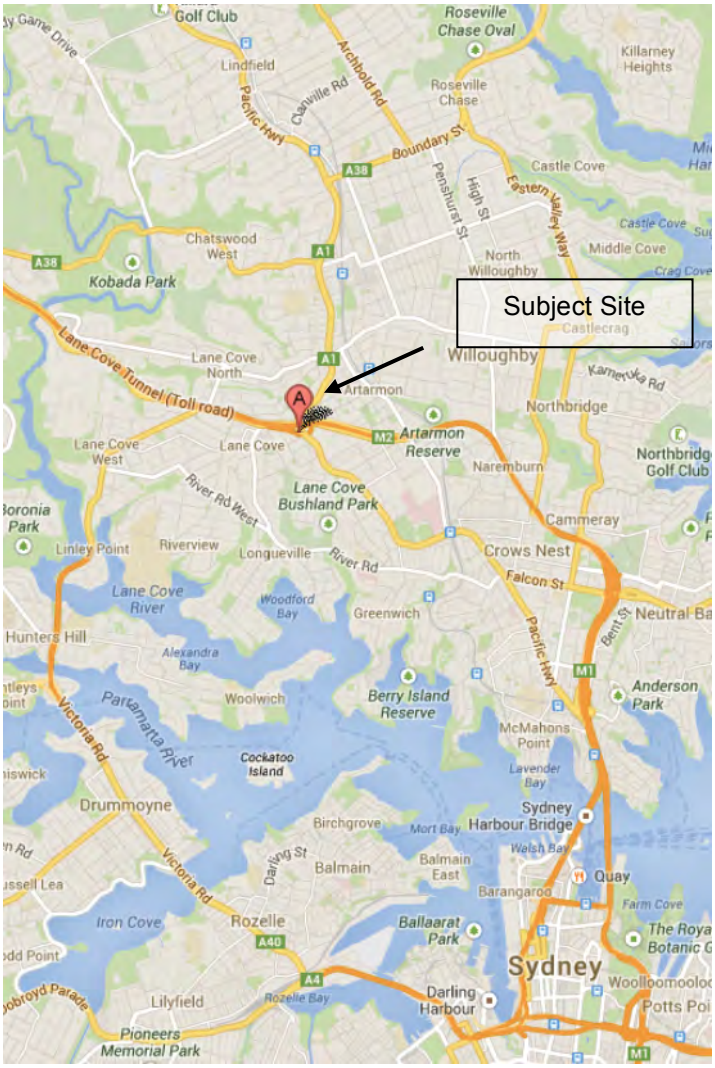
Drawing DA 02 Issue 1 dated October 2014 Site Analysis Plan
Drawing DA 03 Issue 1 dated October 2014 Site Plan
Drawing DA 04 Issue 4 dated October 2014 Basement 3
Drawing DA 05 Issue 4 dated October 2014 Basement 2
Drawing DA 06 Issue 6 dated October 2014 Basement 1
Drawing DA 07 Issue 5 dated October 2014 Ground Floor
Drawing DA 08 Issue 5 dated October 2014 Level 1
Drawing DA 09 Issue 5 dated October 2014 Level 2
Drawing DA 10 Issue 5 dated October 2014 Level 3
Drawing DA 11 Issue 5 dated October 2014 Level 4
Drawing DA 12 Issue 5 dated October 2014 Level 5

Drawing DA 13 Issue 5 dated October 2014 Level 6
Drawing DA 14 Issue 3 dated October 2014 Level 7
Drawing DA 15 Issue 1 dated October 2014 Roof Plan
Drawing DA 21 Issue 3 dated October 2014 Elevations - East & South
Drawing DA 22 Issue 3 dated October 2014 Elevations - West & North
Drawing DA 31 Issue 2 dated October 2014 Sections A & B

Aerial photo of the subject site and surrounding development.
Source: RPData 2014

2.0 Site and Context

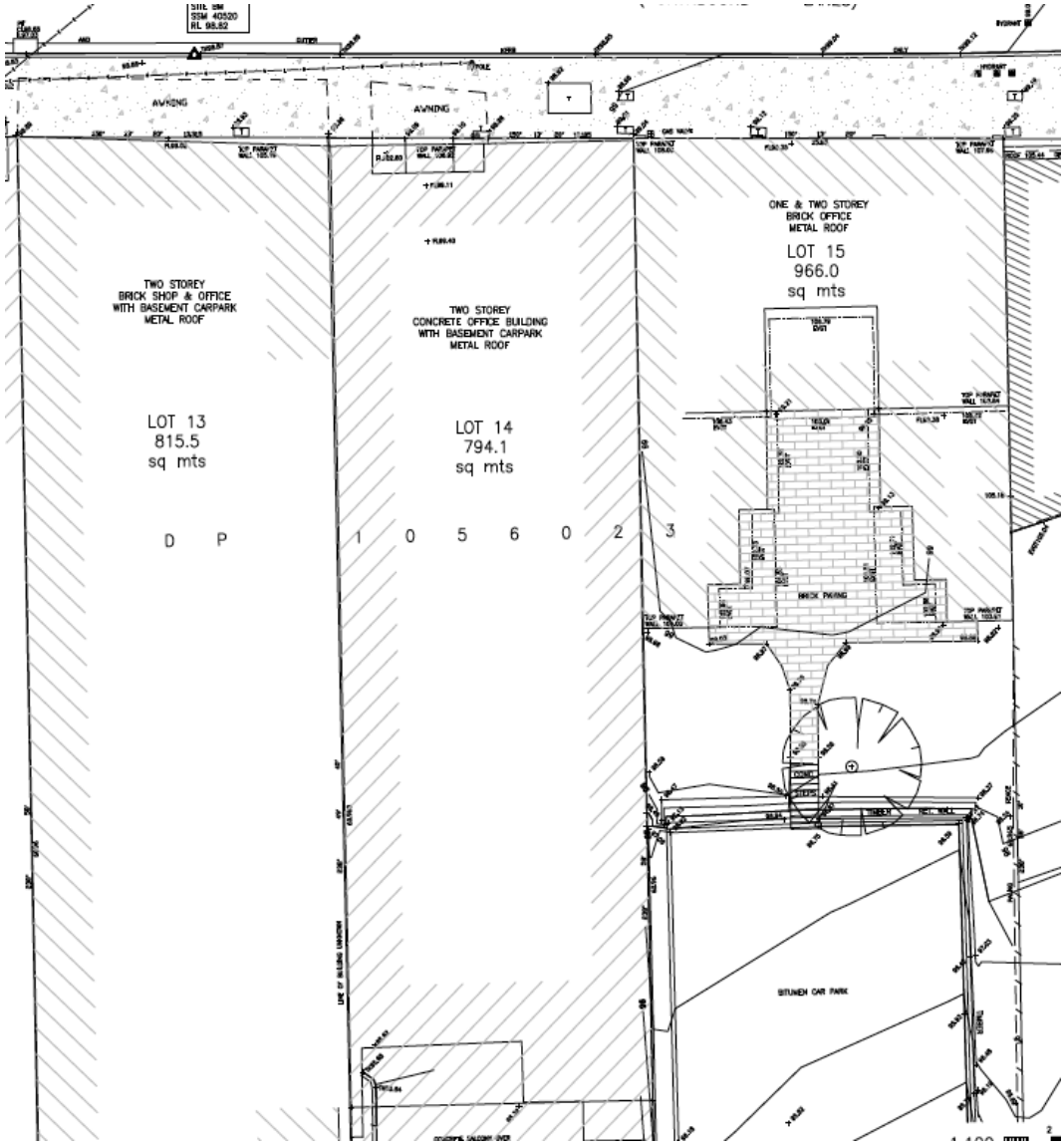
The site is located on the western side of the Pacific Highway, south of its intersection with the Gore Hill Freeway and lane Cove Tunnel. The site comprises the amalgamation of three allotments each with frontage to the pacific Highway on the east and Mafeking Avenue on the west. The sites are known as 390 – 398 Pacific Highway, Lane Cove. It has a total site area of 2,575.6m^2 and is rectangular in shape. The site is known as Lots 13 DP1056023, Lots 14 DP1056023, Lots 15 DP1056023.



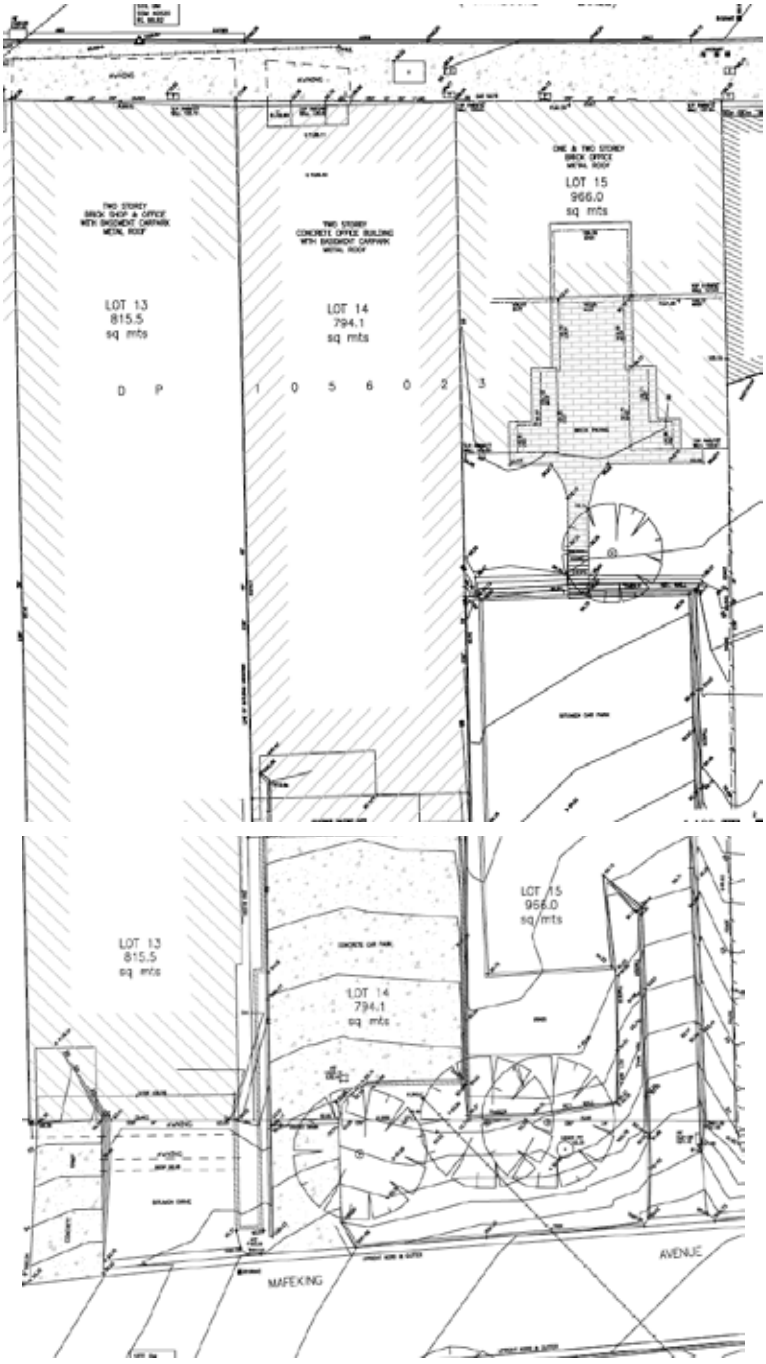
Location Plan

Source: GoogleMaps 2014

The site has a frontage of 42.27m to Pacific Highway and a depth of 60.965m. The frontage to Mafeking Avenue is 42.25m. The site falls from east to west by approximately 6.84m (RL99.19 to RL92.35). The landform of the site has been significantly modified to accommodate the existing improvements.



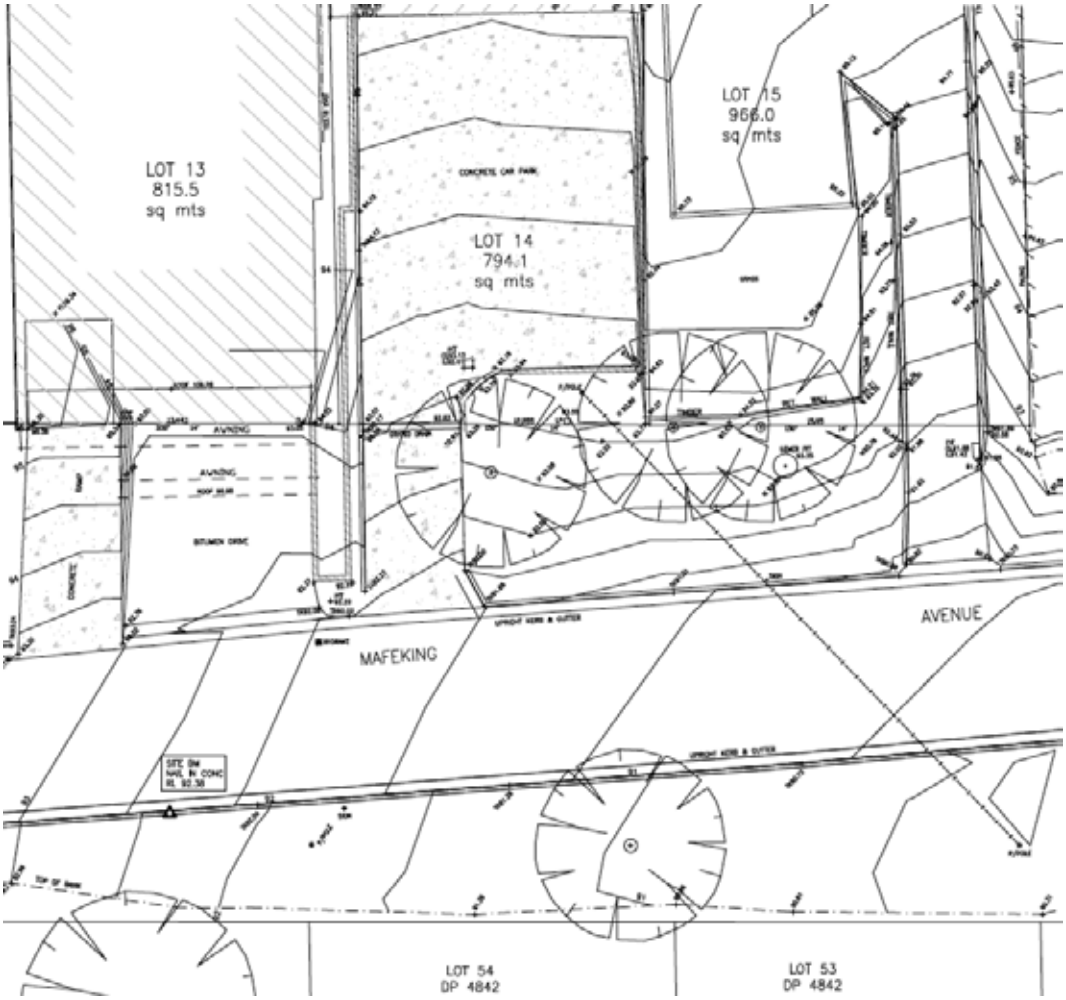
Survey extract prepared by Geomat Engineering Pty Ltd 2013



Survey extract prepared by Geomat Engineering Pty Ltd 2013

The site features three separate commercial buildings. Each is oriented to the Pacific Highway but gains access from the rear via Mafeking Avenue. The buildings are unremarkable multi-level commercial buildings varying in height and site coverage. Vehicular and pedestrian

access to each site is from Mafeking Avenue with lesser used pedestrian access from the Pacific Highway. The buildings are not considered to have any architectural merit or to be of any heritage significance.



Survey extract prepared by Geomat Engineering Pty Ltd 2013

The Lane Cove Tunnel passes below the subject site in a stratum below RL88.91. This stratum is located at approximately 3.5m below the lowest portion of the site. The tunnel construction is significantly below the top of the stratum but no works can occur below RL88.91. Any development on the site requires concurrence of the RMS to ensure loadings above the tunnel can be appropriately accommodated.

Aerial photo of the subject site.
Source: RPData 2013

The property at 398 Pacific Highway is the northern most allotment and accommodates a furniture show room, warehouse and offices. It is constructed with 100% site coverage and presents as high volumes single storey to the Pacific Highway and extends to the rear utilizing the fall of the land to provide a three storey volume. This allotment has an area of 815.5m^2.

The property at 396 Pacific Highway accommodates a two storey commercial building above a large volume above ground car park. The building occupies the eastern two thirds of the site with the remainder of the site a raised hard stand parking area. This allotment has an area of 794.1m^2.

The property at 390 - 392 Pacific Highway accommodates a two storey

commercial building which occupies the eastern half of the site with the remainder of the site a raised hard stand parking area. This allotment has an area of 966m^2.

Existing vegetation on the site is generally limited to perimeter planting on the Mafeking Avenue boundary and generally includes trees and shrubs.

The area has recently been rezoned R4 High Density and has been subject to a number of recent development applications for high density residential development. The area is in transition towards a desired future character which is reflected in the planning instruments rather than the character of development currently in existence.

9 Mafeking Avenue (also known as 400 Pacific Highway and 2 Longueville Rd)

Source: RPData 2014

The adjoining property to the north is subject of a development approval. The approval comprises the demolition of the structures on the site and the construction of a residential flat building containing 58 apartments. The proposal comprises 7 residential levels above parking within a podium and part basement accessed from Mafeking Avenue. The proposal has a height of 27m.

The proposal is generally oriented away from the subject site in a northerly direction although there are a number of dwellings oriented to the common boundary.

North elevation (Longueville Road)

Source: Urbis SEE Lane Cove Council 2013

Approved South east elevation (common boundary)

Source; Notification Lane Cove Council 2014

388 Pacific Highway

Source: RPData 2014

The adjoining properties to the south-east is a commercial building with frontage and access from the Pacific Highway and a secondary access to Gatacre Avenue.

The existing building is constructed with a nil setback to the common boundary and a nil setback to its other common boundary.

The building is of little merit and has recently been rezoned as Residential High Density with a floor space ratio of 2.4:1. It is considered that the improvements on the site do not reflect the desired future character of the area and that the site is considered as in transition to a high density residential character.

3 – 7 Gatacre Avenue

Source: RPData 2014

The adjoining properties to the south-west are three single dwellings with frontage and access from Gatacre Avenue. The dwelling at 7 Gatacre Avenue also has a frontage to Mafeking Avenue.

The existing buildings are constructed in the front half of their sites and oriented to Gatacare Avenue with a setback of approximately 15m to the common boundary and a 6m setback to their front boundary.

These dwellings are of little merit and have recently been rezoned as Residential High Density with a floor space ratio of 2.4:1. It is considered that the current improvements on the site do not reflect the desired future character of the area and that the site is considered as in transition to a high density residential character.

It is considered that these sites together with 388 Pacific Highway form a development parcel of approximately 1800m^2 with three street frontages and views to the south-east.

There is no current application for the redevelopment of this or the adjoining sites although the planning controls would encourage residential flat buildings with an FSR of 2.4:1

Anticipated development site 1800m^2
Source: RPData 2014

2 – 8 Mafeking Avenue

Source: RPData 2014

The adjacent properties to the west are single dwellings with frontage and access from Mafeking Avenue. The dwellings are oriented generally north-east to south-west addressing the street but are relatively deep blocks with large rear gardens and access from Buller Lane at the rear.

The existing buildings are constructed in the front half of their sites and are generally setback from front boundary creating a separation from the boundary from the subject site of 25 – 40m. There is a significant level change between the subject site and these properties as the land falls towards the south-west.

Separation distance Source:
RPData 2014

5m Contour Overlay Source: RPData 2014

These dwellings retain a zoning of R2 Low Density Residential with a height limit of 9.5m. The character of these dwelling are unlikely to change in the near future.

9 – 13 and 4 – 10 Gatacre Avenue

Source: RPData 2014

The properties to the south-west are single dwellings with frontage and access from Gatacre Avenue. The dwellings are generally oriented to address the street and are less deep blocks with gardens at the rear.

The existing buildings are constructed in the front half of their sites and generally have a reduced setback from front boundary. There is a significant level change between the subject site and these properties as the land falls towards the south-west.

5m Contour Overlay Source: RPData 2014

These dwellings retain a zoning of R2 Low Density Residential with a height limit of 9.5m. The character of these dwelling are unlikely to change in the near future.

3.0 Proposed Development

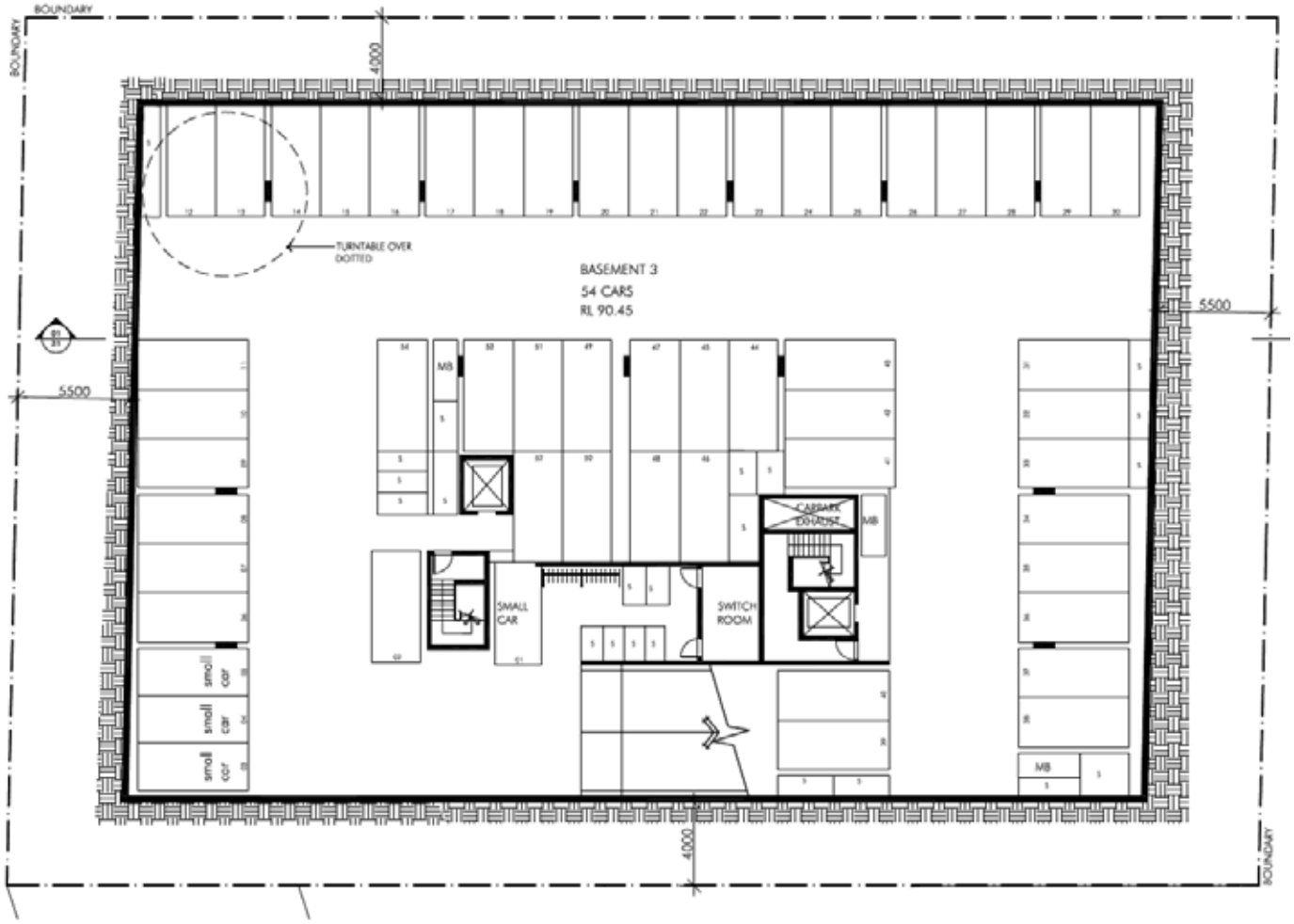
The development application proposes to demolish the existing commercial buildings and construct a residential flat building comprising 69 units and parking levels for 114 cars.

The proposal comprises 69 units being 38 x 1 bed, 22 x 2 bed and 9 x 3 bed units and attendant landscaping.

The proposal has been designed to address the Pacific Highway with pedestrian access from that frontage and parking accessed from Mafeking Avenue at the rear. The proposed building is oriented to the north to maximise solar access and views and is setback from the boundaries consistent with the controls and requirements.

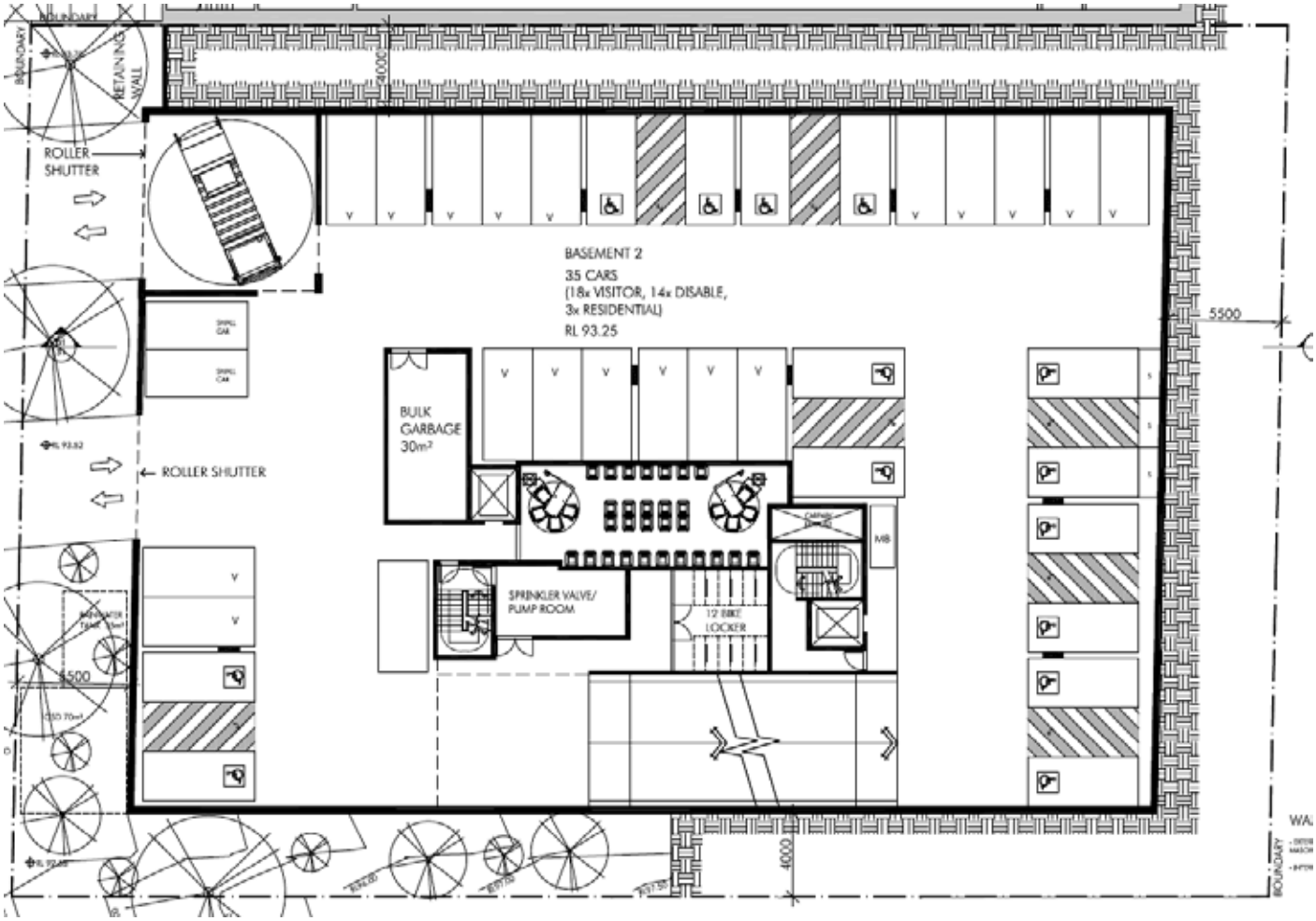
Proposed Pacific Highway frontage

Basement 3 Plan



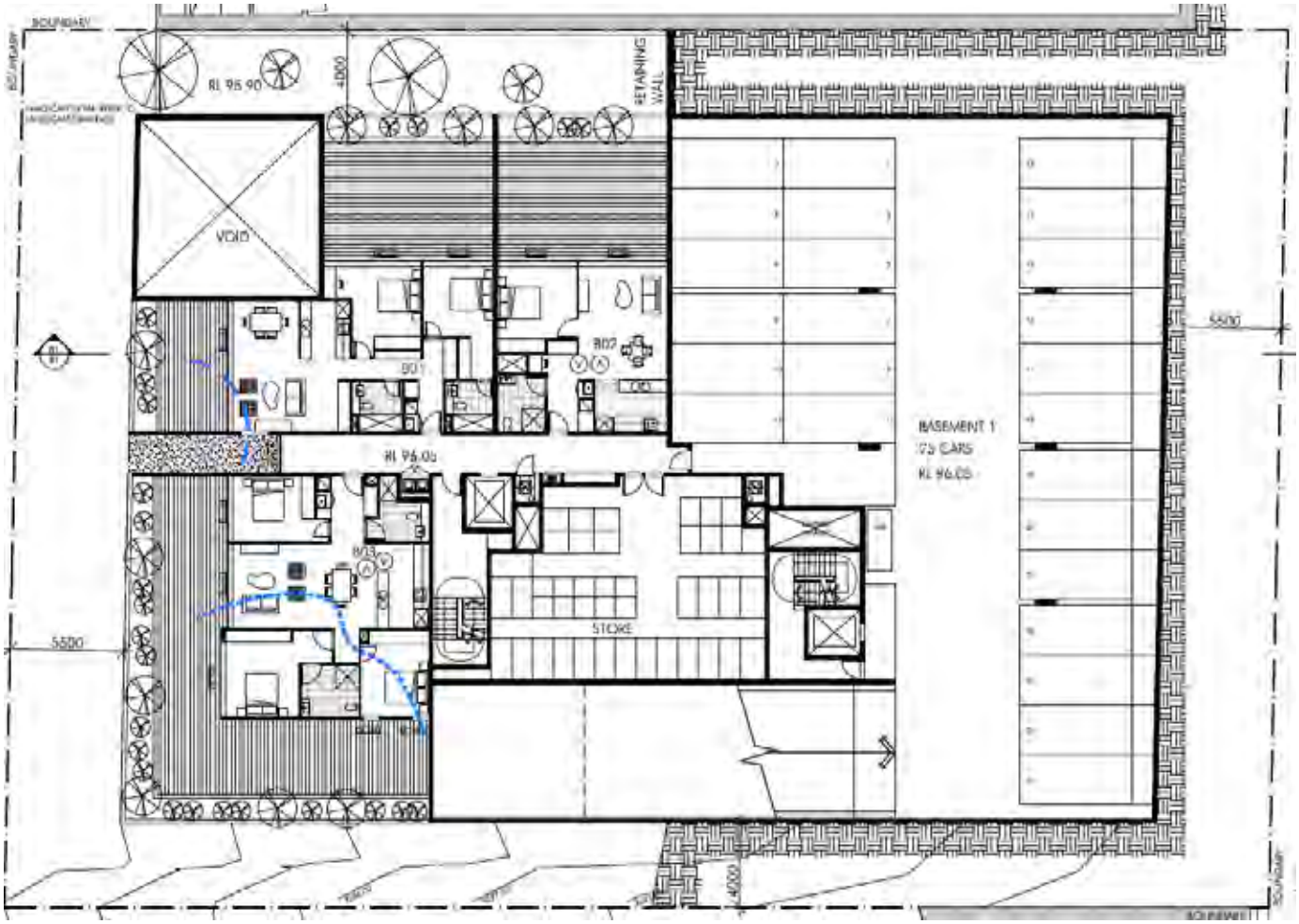
- RL90.45
- 54 car spaces;
    - 4 x small car spaces;
- 3 x Motorcycle;
- Bicycle store;
- Ramp from levels above;
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Switch room;
- 24 x store (7.2 – 11.3m^3);

Basement 2 Plan



- RL93.25
- 35 car spaces;
    - 14 x accessible spaces;
    - 18 x visitor spaces;
    - 2 x small car;
- 1 x Motorcycle;
- 12 x Bike locker;
- Ramp from levels above and below;
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- 3 x store (4.5 – 5.5m^3);
- Garbage loading and turntable;
- Garbage pickup;
- Garbage chute;
- Garbage room;
- Bulk waste store;

Basement 1 Plan



- RL96.05
- 25 car spaces;
- Ramp from levels below;
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- 56 x store (4.5 – 5.5m^3);
- 1 x 1 bed unit;
    - 1 x adaptable;
- 1 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Ground Floor Plan

- RL99.35;
- Entry lobby;
- Communal open space 1 (353.8m^2);
- Communal open space 2 (257.2m^2);
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 7 x 1 bed unit;
    - 1 x adaptable;
- 2 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Level 1 Plan


BOUNDARY
6000
9000
6000
7500
101
102
103
104
105
106
107
108
109
110
RL 102.40
RL 102.10
3000
9000
BOUNDARY

- RL102.40
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 7 x 1 bed unit;
    - 1 x adaptable;
- 2 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Level 2 Plan

- RL105.45
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 6 x 1 bed unit;
    - 1 x adaptable;
- 3 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Level 3 Plan


6000
9000
7500
3000
9000
301
302
303
304
305
306
308
309
RL 108.50
RL 108.50

- RL108.50
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 6 x 1 bed unit;
    - 1 x adaptable;
- 3 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Level 4 Plan


BOUNDARY
804-1304
805-1303
802-1302
805-1305
806-1306
801-1301H
BOUNDARY

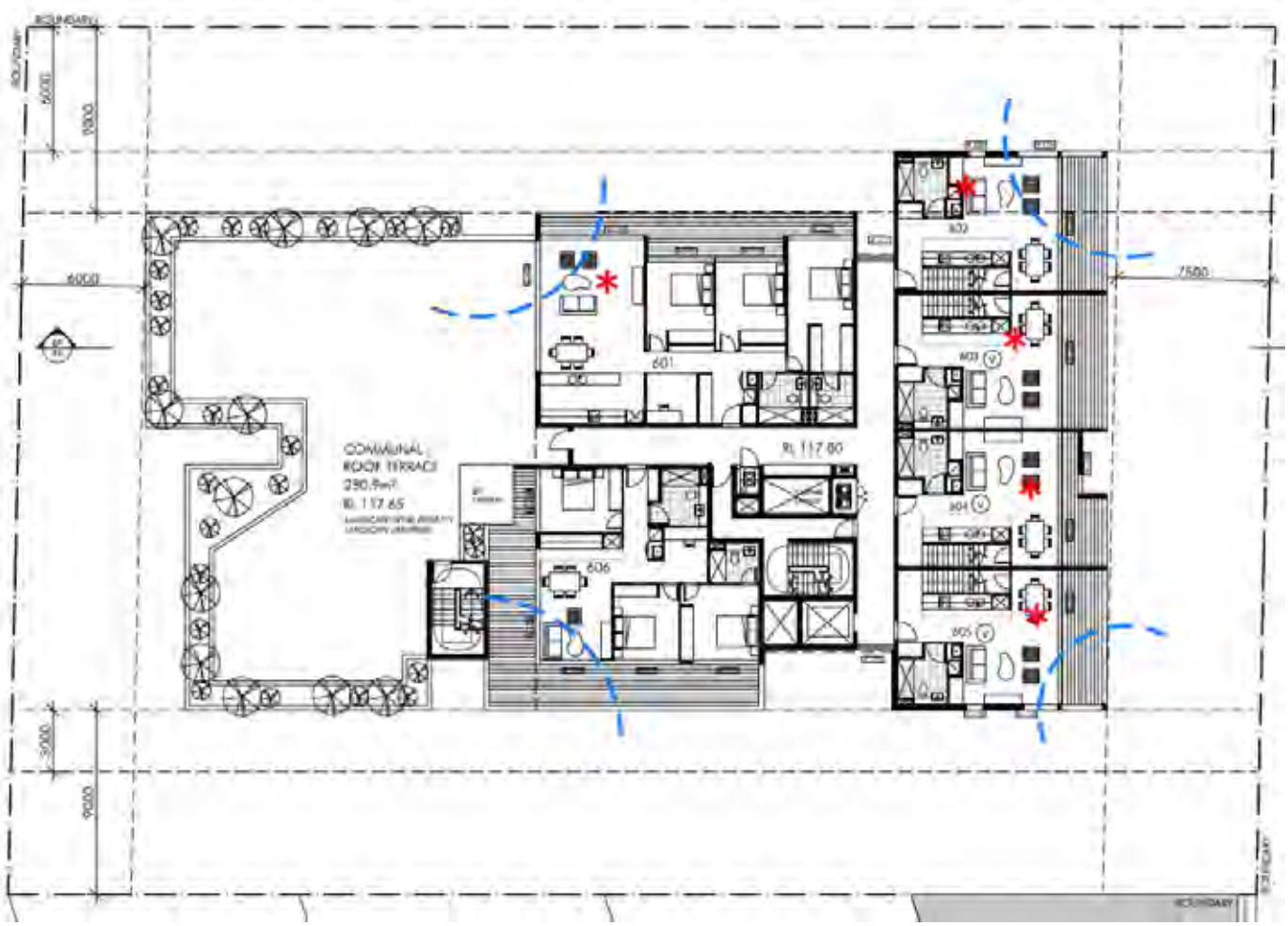
- RL111.55
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 6 x 1 bed unit;
    - 1 x adaptable;
- 3 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Level 5 Plan


BOUNDARY
3000
9000
6000
7500
501
502
503
504
505
506
507
508
509
510
RL 114.60
RL 114.60
3000
9000
BOUNDARY

- RL114.60
- Lift lobby 1;
- Lift 1;
- Stair 1;
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 6 x 1 bed unit;
    - 1 x adaptable;
- 3 x 2 bed unit;
- 1 x 3 bed unit;
    - 1 x adaptable;

Level 6 Plan

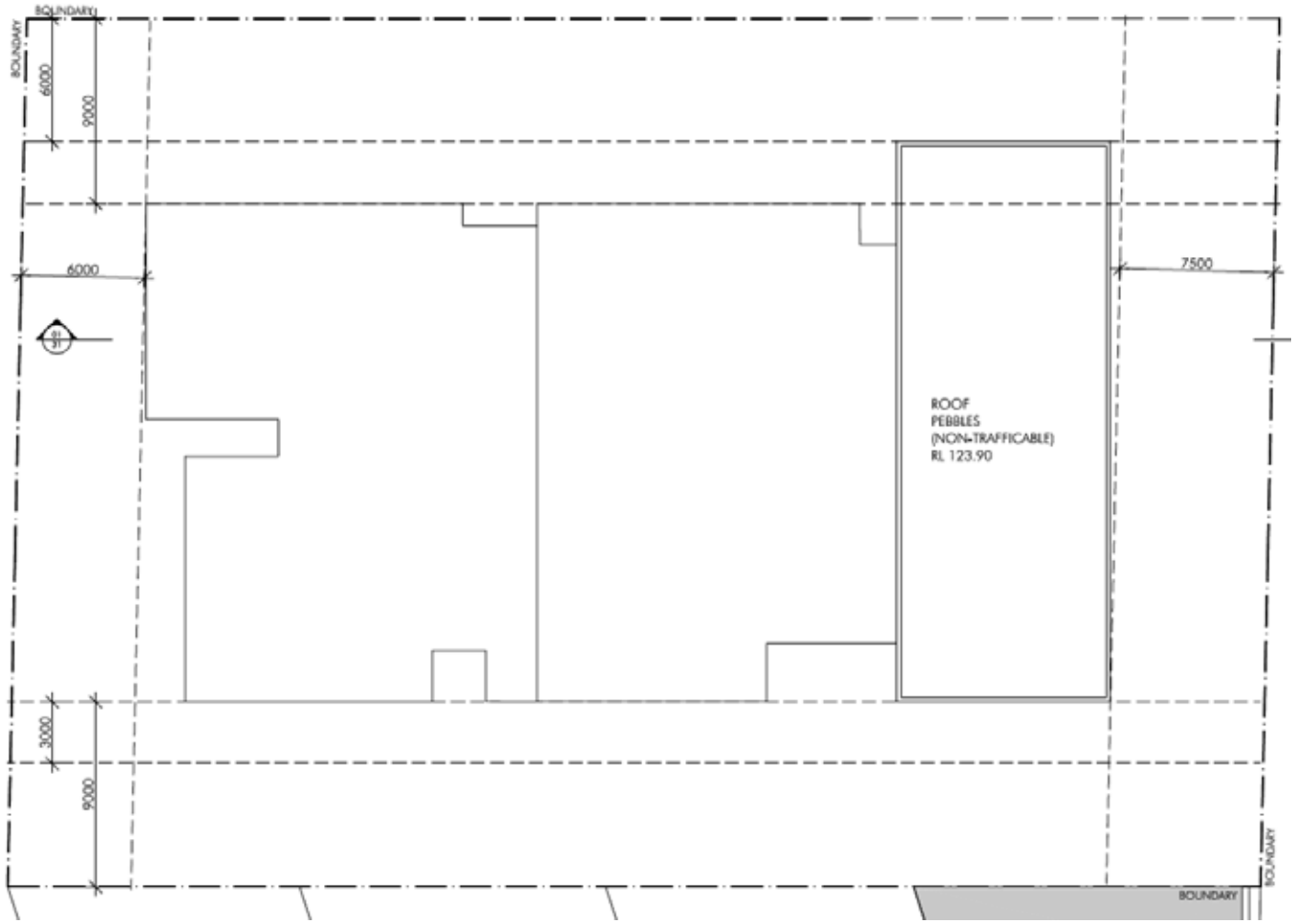

BOUNDARY
6000
1800
7500
601
602
603
604
605
606
RL 117.80
COMMUNAL
ROOF TERRACE
280.9m²
RL 117.65
3000
9000
BOUNDARY

- RL117.65
- Lift lobby 2;
- Lift 2;
- Stair 2;
- Garbage chute;
- Garbage room;
- 4 x 2 bed unit (lower level);
- 2 x 3 bed unit;
- Communal open space 280.9m^2;

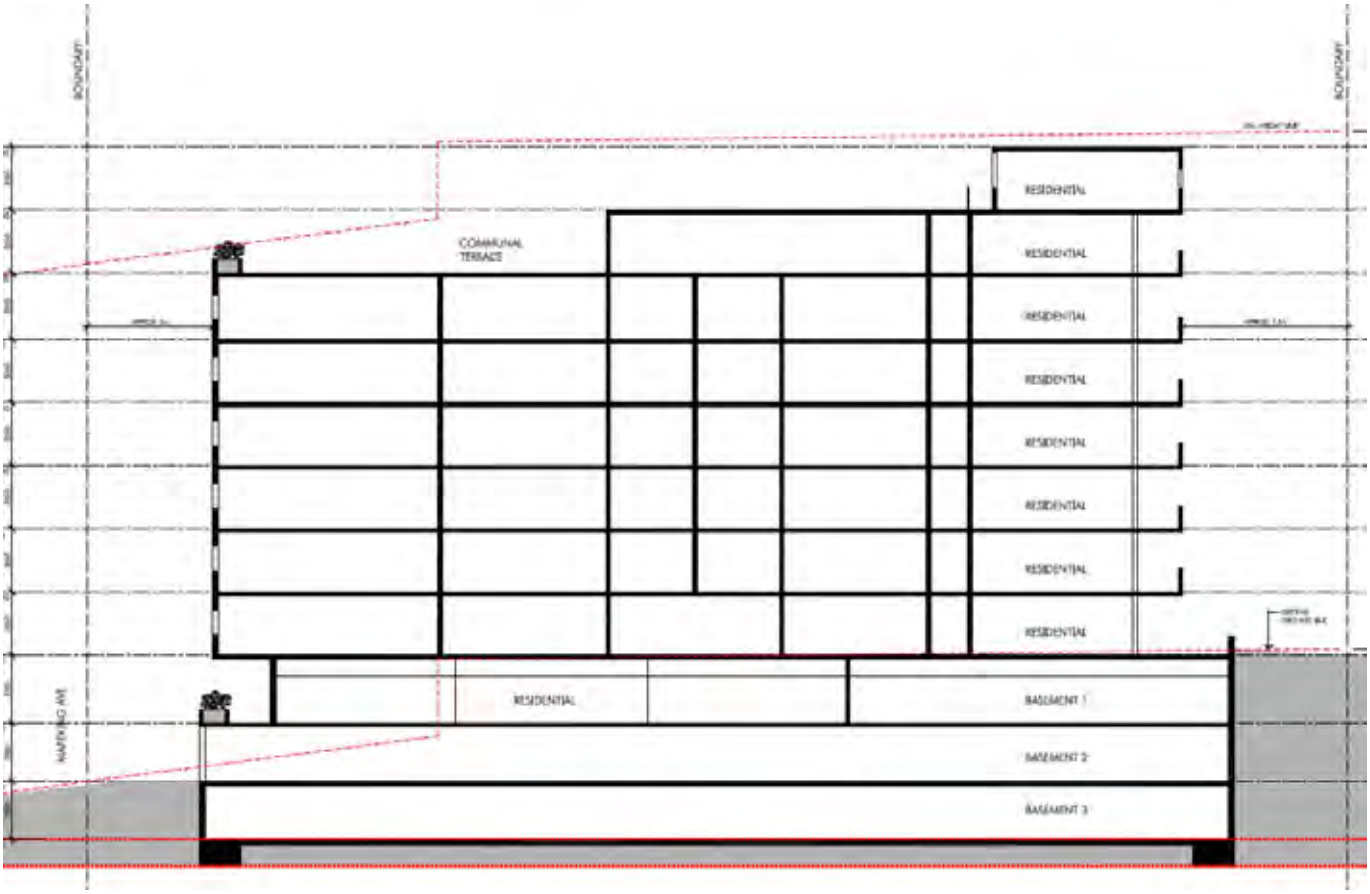
Level 7 Plan

- RL120.85
- 4 x 2 bed unit (upper level);
- Non-trafficable roof;

Roof Plan

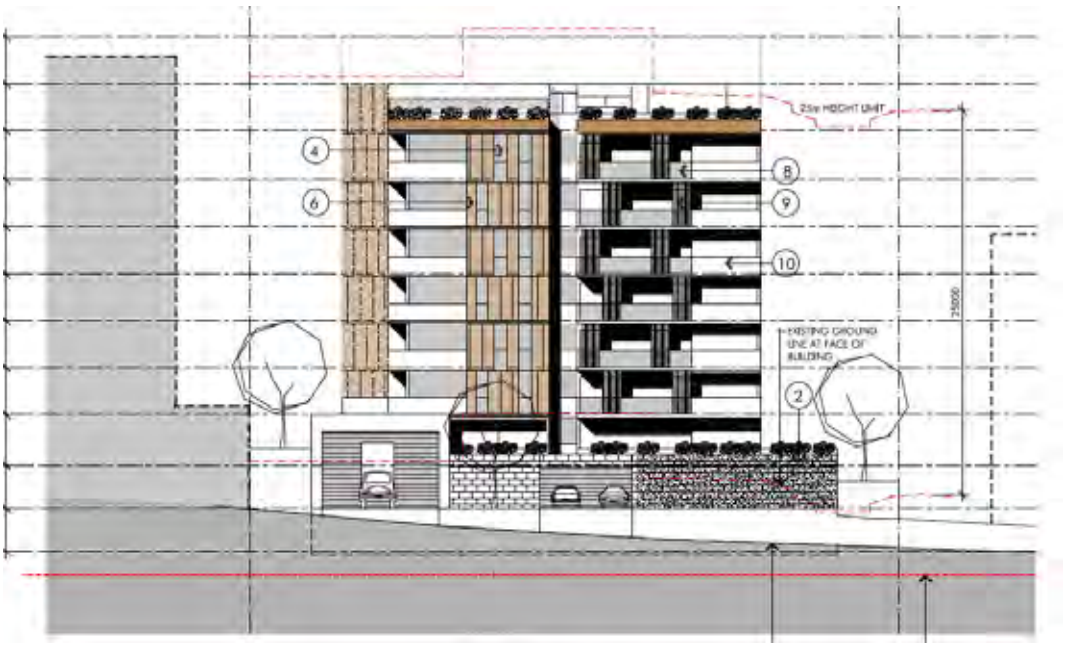


- RL123.90
- Non-trafficable roof;


BOUNDARY
BOUNDARY
COMMUNAL TERRACE
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
RESIDENTIAL
BASEMENT 1
BASEMENT 2
BASEMENT 3
HARRIS RD AVE

Section A

East Elevation (Pacific Highway)

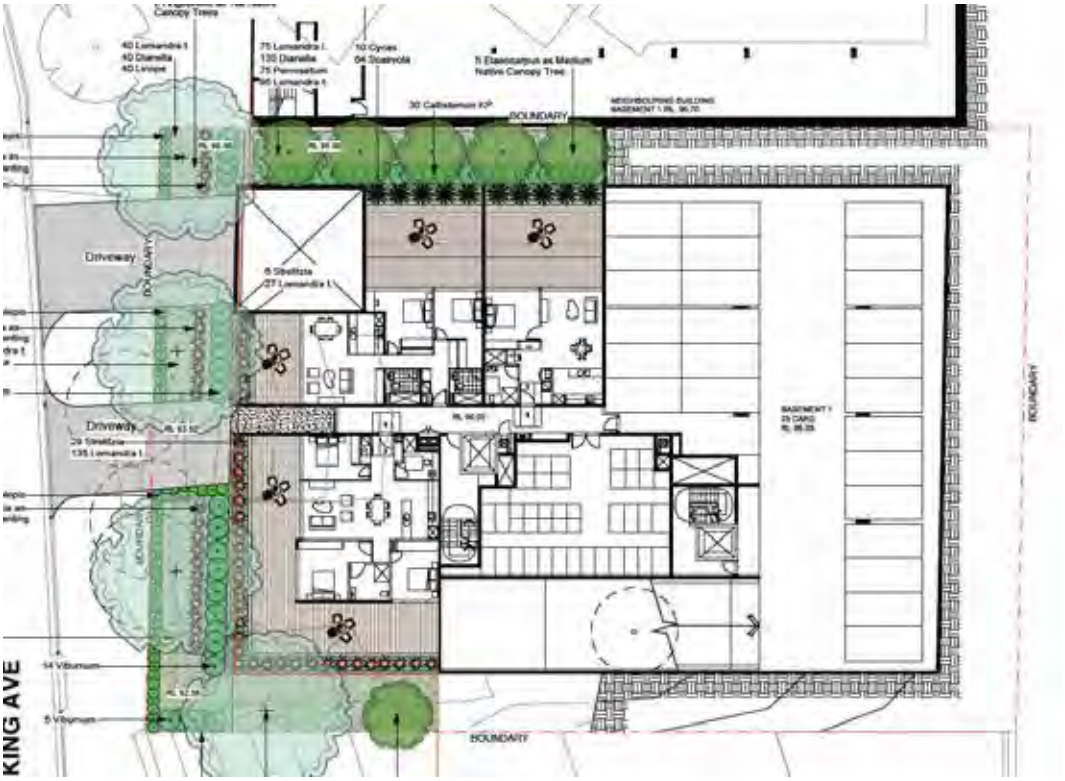


West Elevation (Mafeking Avenue)

North Elevation

South Elevation

Landscaping




BOUNDARY
95 Raphiolepis
60 Gazania
RL 117.65
Communal
Roof
Terrace
RL 117.80
1m Deep Planter Boxes
BOUNDARY
BOUNDARY
BOUNDARY

4.0 Planning Controls

The proposed development has been assessed against the relevant requirements and guidelines set by Lane Cove Council. These are contained within the:

- SEPP 55 - Remediation Of Land
- SEPP (BASIX) 2004
- SEPP 65 – Design Quality of Residential Flat Development
- State Environmental Planning Policy Infrastructure 2007
- Lane Cove Local Environmental Plan (LEP) 2009
- Lane Cove Development Control Plan (DCP) 2009

4.1 SEPP 55 - Remediation Of Land

Clause 7 (1) (A) of SEPP 55 requires Council to consider whether the land is contaminated. A phase 1 report has been prepared and is submitted with the application.

4.2 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The BASIX scheme requires residential flat development to stipulate ways in which that proposal can reduce energy and water consumption from the 'pre-BASIX' average home in NSW, as well as ensuring good levels of internal thermal comfort.

In accordance with the SEPP, a BASIX assessment has been undertaken for the proposal and a certificate issued for the proposal, confirming that the development can satisfy the BASIX requirements.

A detailed set of commitments are shown on the DA plans and listed within the BASIX report.

4.3 SEPP 65 – Design Quality of Residential Flat Development

The proposed development has been given consideration under the provisions of SEPP 65, which apply to the development. They are

considered in detail in the report prepared by Nettleton Tribe Architects. A copy of the report is submitted with the application and includes design verification statement demonstrating compliance with the controls.

Relating to local context

The proposal relates to the context in that building heights are commensurate with others in plan for the future of the area and other buildings in the vicinity; the architectural vocabulary draws from materials used in the area.

The use of the building is permitted by Council's planning instruments and is similar to developments nearby. The proposed building is designed to be neighbourly as it fits into its immediate context of the desired future character of the area. It is conceived as a development that will integrate into the form of the precinct as a whole, and become a dynamic part of the urban texture of the Pacific Highway corridor.

In general a depth of building 10-18m (glass-to-glass) wide is appropriate. If wider, demonstration of satisfactory daylighting and natural ventilation.

The depth of the building on a typical floor satisfies the 18m requirement. Given such a slender form, the apartments have both excellent natural ventilation and daylight access.

Distance between buildings:
Up to 4 storeys (up to 12m) 12m between habitable/balconies
9m habitable/balconies to non-habitable
6m non-habitable to non-habitable
5 to 8 storeys (up to 25m) 18m between habitable/balconies
13m habitable/balconies to non-habitable
9m non-habitable to non-habitable

The building form has been designed to reflect the building separation recommendations of the RFDC. A 6m and 9m side setback is provided to

the side boundaries to ensure adequate separation to any future redevelopment.

Minimum 25% open space area to be a deep zone

Of the 1,420m^2 of open space area, approximately 660m^2 is reserved as part of a deep soil zone. This is 46% of the open space, complying with the requirements of the RFDC.

Communal open space to be 25-30% of site area

The development contains approximately 892m^2 (2,575m^2 site area) of landscaped area. At around 34.6% of the site area, this complies with the recommendations of the RFDC.

Minimum recommended area of private open space for each apartment at ground level or on a structure such as podium or car park is 25m^2; minimum preferred dimension in one direction is 4 metres.

There are a number of apartments with ground floor terraces ranging from 25 to 45m^2. Typically, the terraces are sized at the RFDC recommendation or higher.

Site configuration – orientation

The design concept involves the recognition solar access, views and breezes. The majority of the apartments in the development have a north or north-east orientation.

Site amenity - safety

The RFDC requires secure ground level access, passive surveillance, reinforce the building boundary, orientating entrances to streets, providing clear lines of site from the lobbies to the street, provision of adequate illumination. The proposal responds positively to all of these

recommendations.

8m max to rear of kitchen from glass. If more, demonstration of satisfactory daylighting and natural ventilation.

All rear walls of kitchens are within 8m from a window in all of the apartments except for corner apartments with good daylighting and natural ventilation.

8m maximum depth to single aspect units. If more, demonstration of satisfactory daylighting and natural ventilation.

The apartments in the development which have a single aspect outlook comply with this requirement.

2m min balcony width, unless furniture layout can be demonstrated

All primary balconies are a minimum of 2m in depth.

2.7m min ceiling height in habitable areas
2.7m compliant
2.25-2.4m ceiling height in non-habitable

Storage provision:
1 bed: $6m^3$
2 bed: $8m^3$
3 bed $10m^3$
Minimum 50% within unit

Generally the apartments meet the storage requirement of the RFDC within the apartment and basement storage.

70% of units to receive 2 hours of direct sunlight in winter to living rooms and private open spaces. Limit the number of single-aspect apartments with a southerly aspect (SW-SE) to a maximum of 10 percent of the total units proposed.

71% of the units receive 2 hours of direct sunlight in mid-winter between 9am and 3pm.

60% of units to be cross-ventilated

60.9% of the apartments have cross ventilation by way of two or more aspects.

The proposal is considered to adequately address the provisions of the SEPP 65 and satisfy the rule of thumb requirements.

4.4 State Environmental Planning Policy Infrastructure 2007

The subject site is above the Lane Cove Tunnel and as such the SEPP requires referral to the Authority for comment. It is considered that the proposal adequately addresses the requirements of the SEPP.

4.5 Lane Cove Local Environmental Plan 2009

The site is zoned R4 High Density Residential under which the proposal is permissible with Council consent.

1 Objectives of zone

- *To provide for the housing needs of the community within a high density residential environment.*
- *To provide a variety of housing types within a high density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide for a high concentration of housing with good access to transport, services and facilities.*
- *To ensure that the existing amenity of residences in the*

neighbourhood is respected.

- *To avoid the isolation of sites resulting from site amalgamation.*

- *To ensure that landscaping is maintained and enhanced as a major element in the residential environment.*

The proposal achieves the zone objective to establish a residential flat building on the site and provide a variety of forms of residential accommodation. The amalgamation of the three properties to form a larger consolidated site, will not lead to isolation of sites. The precinct is currently dominated commercial buildings, while the proposal is consistent with the future intent of the area to transform into a higher density residential precinct with good access to services and facilities.

The proposal meets the required built form and will deliver the desired built outcome sought by the controls. The proposal has had careful consideration to the amenity of adjoining dwellings ensuring that solar access and outlooks are maintained. When combined with the proposed landscaping, visual and privacy impacts to adjoining developments have been minimised.

The design responds to the topographic conditions and consequently no significant overshadowing impacts will occur on adjoining properties.

The proposal is assessed under the relevant controls within the LEP as follows:

Table 1: Lane Cove Local Environmental Plan 2009

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
4.3 Height of buildings (1) The objectives of this	✓	The proposal complies with the 25m height control.

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
clause are as follows: (a) to minimise any overshadowing, loss of privacy and visual impacts of development on neighbouring properties, particularly where zones meet, and (b) to maximise sunlight for the public domain, and (c) to relate development to topography. (2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map. Height 25m		
4.4 Floor space ratio (1) The objectives of this clause are as follows: (a) to ensure that the bulk and scale of development is compatible with the character of the locality. (2) The maximum floor space ratio for a building on any land is not to exceed the floor space ratio shown for the land on the Floor Space Ratio Map. Floor Space Ratio 2.4:1	✓	The proposal has a gross floor area of: Total GFA: 6,192m^2 Site Area 2,575m^2 FSR: 2.4:1 The proposal complies with the FSR for the site.

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
5.9 Preservation of trees or vegetation (1) The objective of this clause is to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation. (2) This clause applies to species or kinds of trees or other vegetation that are prescribed for the purposes of this clause by a development control plan made by the Council. Note. A development control plan may prescribe the trees or other vegetation to which this clause applies by reference to species, size, location or other manner. (3) A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by: (a) development consent, or (b) a permit granted by the Council. (4) The refusal by the Council to grant a permit to a person	✓	Not required.

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
who has duly applied for the grant of the permit is taken for the purposes of the Act to be a refusal by the Council to grant consent for the carrying out of the activity for which a permit was sought. (5) This clause does not apply to a tree or other vegetation that the Council is satisfied is dying or dead and is not required as the habitat of native fauna. (6) This clause does not apply to a tree or other vegetation that the Council is satisfied is a risk to human life or property. (7) A permit under this clause cannot allow any ringbarking, cutting down, topping, lopping, removal, injuring or destruction of a tree or other vegetation: (a) that is or forms part of a heritage item or that is within a heritage conservation area, or (b) that is or forms part of an Aboriginal object or that is within an Aboriginal place of heritage significance, unless the Council is satisfied that the proposed activity: (c) is of a minor nature or is for the maintenance of the heritage		

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
item, Aboriginal object, Aboriginal place of heritage significance or heritage conservation area, and (d) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or heritage conservation area. Note. As a consequence of this subclause, the activities concerned will require development consent. The heritage provisions of clause 5.10 will be applicable to any such consent. (8) This clause does not apply to or in respect of: (a) the clearing of native vegetation: (i) that is authorised by a development consent or property vegetation plan under the *Native Vegetation Act 2003*, or (ii) that is otherwise permitted under Division 2 or 3 of Part 3 of that Act, or (b) the clearing of vegetation on State protected land (within the meaning of clause 4 of Schedule 3 to the *Native Vegetation Act 2003*) that is		

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
authorised by a development consent under the provisions of the *Native Vegetation Conservation Act 1997* as continued in force by that clause, or (c) trees or other vegetation within a State forest, or land reserved from sale as a timber or forest reserve under the *Forestry Act 1916*, or (d) action required or authorised to be done by or under the *Electricity Supply Act 1995*, the *Roads Act 1993* or the *Surveying and Spatial Information Act 2002*, or (e) plants declared to be noxious weeds under the *Noxious Weeds Act 1993*. Note. Permissibility may be a matter that is determined by or under any of these Acts. (9) [Not adopted]		
6.1 Acid sulfate soils (1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage. (2) Development consent is	N/A	The site is not affected by acid sulphate soils.

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
required for the carrying out of works described in the Table to this subclause on land shown on the Acid Sulfate Soils Map as being of the class specified for those works. (3) Development consent must not be granted under this clause for the carrying out of works unless an acid sulfate soils management plan has been prepared for the proposed works in accordance with the *Acid Sulfate Soils Manual* and has been provided to the consent authority. (4) Despite subclause (2), development consent is not required under this clause for the carrying out of works if: (a) a preliminary assessment of the proposed works prepared in accordance with the *Acid Sulfate Soils Manual* indicates that an acid sulfate soils management plan is not required for the works, and (b) the preliminary assessment has been provided to the consent authority and the consent authority has confirmed the assessment by notice in writing to the person proposing to carry out the works.		

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
(5) Despite subclause (2), development consent is not required under this clause for the carrying out of any of the following works by a public authority (including ancillary work such as excavation, construction of access ways or the supply of power): (a) emergency work, being the repair or replacement of the works of the public authority that is required to be carried out urgently because the works have been damaged, have ceased to function or pose a risk to the environment or to public health and safety, (b) routine maintenance work, being the periodic inspection, cleaning, repair or replacement of the works of the public authority (other than work that involves the disturbance of more than 1 tonne of soil), (c) minor work, being work that costs less than $20,000 (other than drainage work). (6) Despite subclause (2), development consent is not required under this clause to carry out any works if: (a) the works involve the disturbance of less than 1 tonne		

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
of soil, such as occurs in carrying out agriculture, the construction or maintenance of drains, extractive industries, dredging, the construction of artificial water bodies (including canals, dams and detention basins) or foundations, or flood mitigation works, or (b) the works are not likely to lower the watertable.		
6.1A Earthworks (1) The objectives of this clause are as follows: (a) to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land, (b) to allow earthworks of a minor nature without requiring separate development consent. (2) Development consent is required for earthworks unless: (a) the work is exempt development under this Plan or another applicable environmental planning	✓	The proposal minimises earthworks by utilising the existing excavations between Mafeking Avenue and the Pacific Highway and providing a single additional basement level. The provisions of this clause are considered to be satisfied.

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
instrument, or (b) the work is ancillary to other development for which development consent has been given. (3) Before granting development consent for earthworks, the consent authority must consider the following matters: (a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality, (b) the effect of the proposed development on the likely future use or redevelopment of the land, (c) the quality of the fill or the soil to be excavated, or both, (d) the effect of the proposed development on the existing and likely amenity of adjoining properties, (e) the source of any fill material and the destination of any excavated material, (f) the likelihood of disturbing relics, (g) the proximity to and potential for adverse impacts on any watercourse, drinking water catchment or		

Relevant Development Controls under Lane Cove Local Environmental Plan 2009	Compliance	Comments
environmentally sensitive area.		

4.6 Lane Cove Development Control Plan 2009

The relevant development controls within the DCP are listed below:

Table 3: Relevant Controls Under The Lane Cove Development Control Plan 2009

B7 Development near busy Roads and Rail Corridors LAeq levels: (i) In any bedroom 35dB(A) 10.00pm to 7.00am. (ii) anywhere else 40dB(A)
Verification that acoustic impacts have been addressed in the design will be submitted with the construction certificate.
B8 Safety and Security
Crime Prevention Through Environmental Design (CPTED) principles considered and satisfactorily addressed in the design.
3.1 General Objectives Objectives The objectives for residential flat buildings are: 1 To achieve a reasonable level of amenity for the residential flat buildings, neighbouring properties and the surrounding area. 2 To achieve sustainable development whilst providing a concentration of residents close to public transport and facilities. 3 To create entrances which provide a desirable residential identity for the development, orient visitors and contribute

positively to the streetscape and building facade design. 4 To provide opportunities for lifestyle choice and dwelling mix.
The proposed development provides for a reasonable level of amenity for the occupants and the residents of the surrounding buildings while providing sustainable development close to public transport and facilities. The proposal provides identifiable entries positively contributing to the streetscape and façade design. The proposal provides opportunities for lifestyle choice and dwelling mix and is considered consistent with the objectives.
3.2 Density Minimum site area 1,500m^2.
The proposal has a site area of 2,575m^2, which satisfies the control.
3.3 Building Depth The objectives for building depth are: 1 To ensure that the bulk of the development is in scale with the existing or desired future context. 2 To provide adequate amenity for building occupants in terms of sun access, daylight and natural ventilation. 3 To provide for dual aspect dwellings. Maximum building depth 18m.
This results in dwellings having a dual aspect frontage and achieving high levels of amenity in terms of sun access, daylight and natural ventilation. It is considered that the proposal meets the objectives of the controls for the site.
3.4 Building Width The objectives for building width are: 1 To avoid large continuous building bulk and massing. 2 To ensure that residential flat building responds to the

character of the area. The maximum overall width of the building fronting the street shall be 40m. Greater widths may be permissible if the proposed building articulation is satisfactory in the streetscape.
The proposal is 26.5m to the Pacific Highway and 23.5m to Mafeking Avenue. It is considered that the proposal is compliant and that it meets the objectives with satisfactory articulation in the streetscape.
3.5 Setbacks The objectives for setbacks are: 1 To establish the desired spatial proportions of the street and define the street edge and provide a transition between public and private space. 2 To assist in achieving visual privacy to dwellings from the street. 3 To allow for street landscape character. Front/Street Setback 7.5m Side and Rear 6m 9m 12m
The proposal satisfies the front setback of the building to Pacific Highway of 7.5m required and 6m – 8m to Mafeking. The proposal provides for side setbacks increasing with as required.

The proposal provides for compliant 6m and 9m side setbacks. It is considered that the proposed setbacks meet the objectives of the control.
3.5.3 Parking Podium height Maximum 1.2m
The basement parking podium is exceeds 1200mm above ground level on the Mafeking Avenue frontage matching that of the adjoining approval to the north. The podium has been stepped and landscaped to address this condition appropriately. The site has the Lane Cove tunnel directly below it so that it is limited to a single basement from Mafeking Avenue frontage and then the parking steps up the site to the Pacific Highway frontage. This is considered to be an appropriate and contextual solution which will be also required in the redevelopment of the surrounding sites. For these reasons it is considered satisfactory.
3.6 Building Separation
There is only one building proposed in the development so that this requirement does not apply. The proposal observes the required separation from the neighbouring sites.
3.7 Fences
Timber fences at 1800mm are provided to the side boundaries consistent with this clause.
3.8 Excavation

a) All development is to relate to the existing topography of the land at the time of the adoption of this DCP.

b) Excavation for major development is to be contained as close as practicable to the footprint of the development.

c) For development within Centres, Council may consider full site coverage for underground excavation and podium footprints where it is demonstrated that mature landscaping, landscaped area and rainwater retention is able to be provided as roof terraces on podium structures.

d) Uses at ground level are to respond to the slope of the street by stepping frontages and entries to follow the slope.

e) The extent of excavation proposed for underground uses should not compromise the provision of deep soil areas or landscaped areas for residential flat buildings.

The proposal utilises the excavation already extant on the site and provides an additional basement but retains the excavation within 2m of the building setback as required. The proposal is considered to be consistent with the provisions of this clause.

3.9 Design of Roof Top Areas

a) Roof top areas including podium area are to be designed for use as recreation facilities where practicable and should be of high standard of finish and design. A detailed landscape design and plan of roof top design is to be submitted with the DA.

b) The design of exterior private open space such as roof top gardens is to address visual and acoustic privacy, safety, security, and wind effects.

The roof top and podium areas are incorporated into the recreation areas and finished to a high level as shown in the landscape plan.

A communal open space is provided on Levels 6 and private open space on the roof level.
3.10 Size and Mix of Dwellings Studio Minimum 40m^2 Minimum of 10% each 1 bed 2 bed and 3 bed.
There are no studios proposed. The proposal provides for a total of 69 units being 38 x 1 bed; 22 x 2 bed and 9 x 3 bedroom units; being 55% 1 bed and 32% 2 bed and 13% 3 bed.
3.11 Private Open Space The objectives for private open space are: 1 To provide all dwellings with functional private open space. 2 To ensure that balconies and terraces are integrated into the overall architectural form and detail of residential flat buildings. 3 To contribute to the safety and liveliness of the street by allowing for casual overlooking of the street. Balconies 2m deep and 10m^2 Terraces 4m deep and 16m^2
The proposed apartments are generally able to provide the required balcony and terrace areas. A schedule of these areas is provided with the application.
3.12 Number of Car parking, Motorcycle and Bicycle Spaces a) The number of car parking spaces for residential flat buildings and residential component of mixed use in other areas (with any number of 0.5 or above rounded to the nearest whole number):

Studio 0.5 spaces 1 bedroom dwelling 1 space 2 bedroom dwelling 1.5 space 3 and more bedroom dwelling 2 spaces Visitors 1 car space per 4 dwellings b) Motorcycle parking is to be provided at the rate of 1 motorcycle space per 25 car spaces. These spaces are to have an area of 1.2m x 3 m. c) Bike lockers are to be provided at the rate of 1 locker per 10 dwellings. Bike rail/racks are to be designed in accordance with AS 2890.3 and be provided at the rate of 1 rail/rack per 12 dwellings. d) A Transport and Accessibility Report may be required by Council's Traffic Manager.
The proposal complies with these requirements for resident provision as detailed in the traffic and parking report. 114 spaces are provided with 14 are accessible spaces. The development provides the required 5 motorcycle spaces. The development provides 7 bicycle lockers and 6 bicycle racks which is in excess of the requirements.
3.13 Ceiling heights a) In residential flat buildings, including residential apartments in mixed use buildings, the floor to ceiling height shall be:

. for non-habitable rooms, a preferred minimum of 2.4m, however a minimum of 2.25m will be permitted . for the upper level of a 2 storey apartment, a minimum of 2.4m provided at least 50% of the apartment has a minimum of 2.7m height and . for all single level apartments, a minimum of 2.7m.
The proposal will complies with this requirement.
3.14 Storage b) In addition to kitchen cupboards and bedroom wardrobes, provide accessible storage facilities at the following rates: studio dwellings $6m^3$ one-bedroom dwellings $6m^3$ two-bedroom dwellings $8m^3$ three plus bedroom dwellings $10m^3$ A minimum of 50% of this storage volume is to be provided within the dwelling accessible from the hall or living area as hall cupboards.
The proposal will complies with the storage volume requirement. All storage allocation is detailed in the submitted schedule.
3.15 Solar access Provisions These provisions apply to proposed developments and any residential development beyond the site. a) Habitable rooms in at least 70 percent of dwellings in high

density residential developments, should receive a minimum of three hours direct sunlight between 9 am and 3 pm on 21st June, in total between any portions of those rooms. A reasonable proportion of both the common and private open space in those sites is also to receive sunlight during that period, according to the circumstances of the sites.

b) The number of single-aspect dwellings with a southerly aspect (SW-SE) should be limited to a maximum of 10 percent of the total dwellings within a high density residential development. Developments varying from the minimum standard due to site constraints and orientation must demonstrate how energy efficiency is addressed.

c) Where adjacent dwellings and their open space already receive less than the standard hours of sun, new development should seek to maintain this solar access where practicable.

d) Council may accept a reduction in solar access for the subject site and adjacent development if the topography and lot orientation (as distinct from a preferred design) are such that the standard is considered unreasonable.

Shadow diagrams are required with the development application to show solar access and the extent of overshadowing.

The proposal has been analysed in detail for solar access compliance in the report included with the application.

The report demonstrates that 71% achieve the required solar access within the development.

The southerly single aspect apartments comprise 0%.

All surrounding properties retain their required solar access.

3.16 Natural Ventilation

a) Sixty percent (60%) of dwellings should be naturally cross ventilated.

b) Ventilation provided to one end of a dwelling via windows onto an open access corridor does not satisfy this requirement due to privacy and acoustics' impacts.

c) Twenty five percent (25%) of kitchens within a development should have access to natural ventilation.

The proposal satisfies these requirements with 61% cross ventilated units.

3.17 Visual Privacy.

a) Locate and orient new development to encourage visual privacy between buildings on site and adjacent buildings.

b) Use detailed site and building design elements to increase privacy without compromising access to light and air. Detailing may include:

Offset windows of dwellings in new developments in relation to adjacent development windows

Recessed balconies and/or vertical fins between adjacent balconies

Solid or semi-solid balustrades to balconies

Louvres or screen panels to windows and/or balconies

Incorporating planter boxes into walls or balustrades to increase the visual separation between areas

Utilise pergolas or shading devices to limit overlooking of lower dwellings or private open space.

The proposal satisfies these requirements offsetting windows and providing screening where necessary.
3.18 Communal Open Space a) A minimum of 25% of the site area is to be provided as communal open space. b) For mixed use sites, communal open space can be provided on podiums and roof terraces subject to achieving privacy for adjoining users.
The proposal provides for in excess of 892m^2 or 34.6% of the site as communal open space consistent with the requirements of this clause.
3.19 Landscaped Area a) A minimum of 40% of the site area is to be planted, comprising 25% landscaped area and a further minimum of 15% planting on structures or landscaped area. b) Exceptions may be made in centres for mixed use developments only. In these instances, stormwater treatment measures must be integrated with the design of the residential flat building and sufficient soil depth and volumes to be provided to ensure that mature trees are achievable. c) Landscaping to front boundaries shared with bicycle routes should be less than 900mm in height and should not impede pedestrian and bicycle routes or reduce visibility to these pathways.
The proposal provides for 40% of the site as landscaped area with 15% planted on structure and 25% as deep soil landscaped area comfortably satisfying the provisions.
3.10 Planting on structures The following are recommended as minimum standards for a range of

plant sizes:

a) Large trees (canopy diameter of up to 16m at maturity)

minimum soil volume 150m3

minimum soil depth 1.3m

minimum soil area 10m x 10m area or equivalent

b) Medium trees (8m canopy diameter at maturity)

minimum soil volume 35m3

minimum soil depth 1m

approximate soil area 6m x 6m or equivalent

c) Small trees (4m canopy diameter at maturity)

minimum soil volume 9m3

minimum soil depth 800mm

approximate soil area 3.5m x 3.5m or equivalent

d) Shrubs

minimum soil depths 500-600mm

e) Ground cover

minimum soil depths 300-450mm

f) Turf

minimum soil depths 100-300mm

Any subsurface drainage requirements are in addition to the minimum soil depths mentioned above.

The proposed achieves these requirements as demonstrated in the landscape plan.
Locality 4 Mafeking Precinct Objectives: 1 To provide new gateway development to mark the southern gateway into Longueville Road from Pacific Highway. 2 To provide improved safety and amenity for pedestrians and cyclists along Pacific Hwy and Longueville Rd. 3 To provide activation to Pacific Highway and Gatacre Avenue and improved amenity to Mafeking Avenue. 4 To provide improved and flexible amalgamation opportunities for development. 5 To provide high quality communal open spaces to the western boundary to Mafeking Ave 6 To provide a noise buffer, while maintaining reasonable solar access, for the residents to the south-west. 7 To provide appropriate transition to the adjoining residential uses.
The proposal meets these objectives in providing a gateway development to mark the southern entry to Longueville Road from the Pacific Highway. The proposal is setback 7.5m from the Pacific Highway and the setback is landscaped to improve pedestrian amenity. Mafeking Avenue amenity is similar improved with a 6 - 8m setback and landscape screening. The current proliferation of at grade parking, driveways and service facilities are rationalised to a single crossing and all servicing and parking is accommodated on site within the basement and all vehicles are able to leave the site in a forward direction and with good sight lines. The proposal amalgamates three sites consistent with the minimum site requirement and demonstrates that no sites are left isolated by the proposal. The proposal provides a significant noise buffer to the lower density residential fabric and has been designed to minimise solar impacts to

those properties.

The proposal provides for an appropriate transition between the high rise and high density Pacific Highway corridor and Gore Hill freeway intersection to the lower scale and lower density fabric beyond.

The proposal is considered to meet the objectives of the Mafeking Precinct.

5.0 Environmental Planning Assessment

Section 79C(1) of the Environmental Planning and Assessment Act 1979 as amended specifies the matters which a consent authority must consider when determining a development application.

5.1 s.79C(1)(a)(i) the provision of any Environmental Planning Instrument (EPI)
Consideration of SEPP 55, SEPP (BASIX) 2004 and Local Environmental Plan 2009 are discussed under Section 4.

5.2 s.79C(1)(a)(ii) the provision of any draft Environmental Planning Instruments
Not applicable.

5.3 s.79C(1)(a)(iii) any development control plan
Consideration of Development Control Plan 2009 is discussed under Section 4.

5.4 s.79C(1)(a)(iv) any matters prescribed by the regulations
Not applicable to this application.

5.5 s.79C(1)(b) the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Context and Setting
The site is located in a high density residential area, which is in transition to a high density desired future character. The proposal meets the requirements of the planning controls to produce a building, which fits very comfortably within the context and setting of future development in the surrounding area. The quality of the design and landscaping of the proposal will enhance the area.

Access, Transport and Traffic

The proposal provides for parking needs on site in four parking levels.

Public Domain
The proposal will be located on private land and will not impact adversely upon the public domain.

Utilities
Adequate utility services are currently provided on the site to cater for the proposed development.

Heritage
Not applicable to this application.

Other Land Resources
Not applicable to this application.

Water
Appropriate water saving fittings will be included in the new dwellings. Rainwater storage tanks are proposed to be located in the building.

Soils
Some excavation will be required to accommodate the lower levels of the proposed building. This will be sited well away from development on adjoining properties so as to prevent any adverse impacts.

Air and Microclimate
It is not considered the proposal will give rise to any significant air or microclimate impacts.

Flora and Fauna
The impact on trees on site is minimised through appropriate siting of the building.

Waste

Appropriate waste management practices will be undertaken during the construction phase. The Council garbage truck will pick up waste from the upper basement. Please refer to the Waste Management Plan submitted with the application.

Energy

A BASIX Assessment of the proposed building's energy efficiency has been prepared and is submitted with the application. The proposal has been designed to maximise daylight access and permit cross ventilation.

Noise and Vibration

Appropriate measures will be adopted during the construction stage to manage noise and vibration levels in accordance with Council requirements. After the initial construction period the residential development is not expected to cause any additional noise impacts.

Natural Hazards

Not applicable to this application.

Technological Hazards

Not applicable to this application.

Safety, Security and Crime Prevention

The proposal has been deigned for security and surveillance of public and common areas.

Social Impact in the Locality

The proposal is consistent with the plan to increase densities in this well serviced location. It is considered that the social impact is acceptable.

Economic Impact in the Locality

The proposed development will create employment during the construction stage. Once construction is completed the building will have no significant economic impact on the locality.

Site Design and Internal Design

The proposal has been sited with its orientation primarily to the north and is well setback from the boundaries of the site. Due to the slope of the site, it has been possible to utilise the existing excavation and topography to accommodate the parking levels. The articulation of the proposed building will ensure that it does not present as having undue bulk or height. The variation of external forms and finishes will create an attractive modern building. The internal design provides appropriately dimensioned, contemporary living areas which is desirable for modern living.

Construction

The building process will be managed so as to minimise disruption to neighbours, the local community and the environment. The development proposal incorporates durable materials with low maintenance requirements.

Cumulative Impacts

The ability of the site to absorb the new building is demonstrated by the size of the allotment, the context of the property, general compliance with the objectives of Council's development controls, and the minimal impact on adjoining development. Accordingly, the cumulative impact of the development on the character of the neighbourhood is expected to be negligible. The proposal will enhance the neighbourhood.

5.6 s.79C(1)(c) suitability of the site for development

Having regard to the location of the proposal, the site will adequately accommodate the development of the additions to the dwelling.

5.7 s.79C(1)(d) submissions made in accordance with the Act or the Regulations

The Consent authority will need to consider the submissions received in response to the public exhibition of the proposed development.

5.8 s.79C(1)(e) the public interest

There are no known Federal and/or state Government policy statements and/or strategies other than those discussed in this report that are of relevance to this particular case. We are not aware of any other

circumstances that are relevant to the consideration of this development application.

6.0 Conclusion

The proposal comprises the demolition of the existing commercial buildings and the construction of a residential flat building with basement parking at 390 – 398 Pacific Highway, Lane Cove. The proposal comprises 69 units being 38 x 1 bed, 22 x 2 bed and 9 x 3 bed units with four levels of basement parking for 114 cars.

The subject site is located on the Pacific Highway corridor at the Junction of the Gore Hill Freeway and the Lane Cove tunnel providing excellent access to the CBD, Chatswood and the St Leonards/North Sydney centres. The site is very well served by public transport and is within easy walking distance of the Lane Cove town centre with a high level of services and amenities.

The proposal complies with the objectives and planning controls contained in the Lane Cove LEP and DCP. The application is considered to be well considered in the context of the suite of planning controls, the objectives of those controls and the context of the Pacific Highway corridor and Gore Hill freeway intersection. The proposal has also been assessed under the relevant matters for consideration under Section 79C(1) of the Environmental Planning and Assessment Act, 1979 as amended and is considered to be an appropriate development.

Statement of Environmental Effects prepared by:

Name:	Andrew Darroch of Mersonn Pty Ltd
Qualification:	BA (Enviro. Sc.) Master City and Regional Planning Grad. Dip Urban Estate Management MPIA, MEPLA, MPCA
Address:	6/20 Wylde Street, Potts Point

In respect of the following Development Application:

Land to be developed:	390 - 398 Pacific Highway, Lane Cove
Proposed development:	Demolition and construction of residential flat building.

Declaration: I declare that I have prepared this Report and to the best of my knowledge:

1. The Statement has been prepared in accordance with clause 78A of the EP & A Act and Clause 50 of the EP & A Regulations.
2. The Statement contains all available information that is relevant to the environmental assessment of the development to which this Statement relates, and
3. That the information contained in the Statement is neither false nor misleading.
4.

Signature: 

Name: Andrew Darroch

Date: October 2014