"EPPING PARK"
STAGE 2 RESIDENTIAL DEVELOPMENT
BUILDINGS 6, 9, 10 & 17
MOBBS LANE, EPPING

Assessment of Traffic and Transport Implications

May 2011
(Revision C)

Reference 10118

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1. INTRODUCTION

This report has been prepared for Meriton Apartments to accompany an application to the Department of Planning for Epping Park Stage 2 residential development involving Buildings 6, 9, 10 & 17 in Mobbs Lane at Epping (Figure 1).

Approval modifications to the Concept Plan MP05-0086 provides for the construction of up to 800 dwellings together with a Child Care Centre, neighbourhood shop and a new access road system. A number of applications have already been submitted and approved including the Early Works Package and Stage 1 of development and Director General's Requirements have been issued in relation to the Stage 2 scheme.

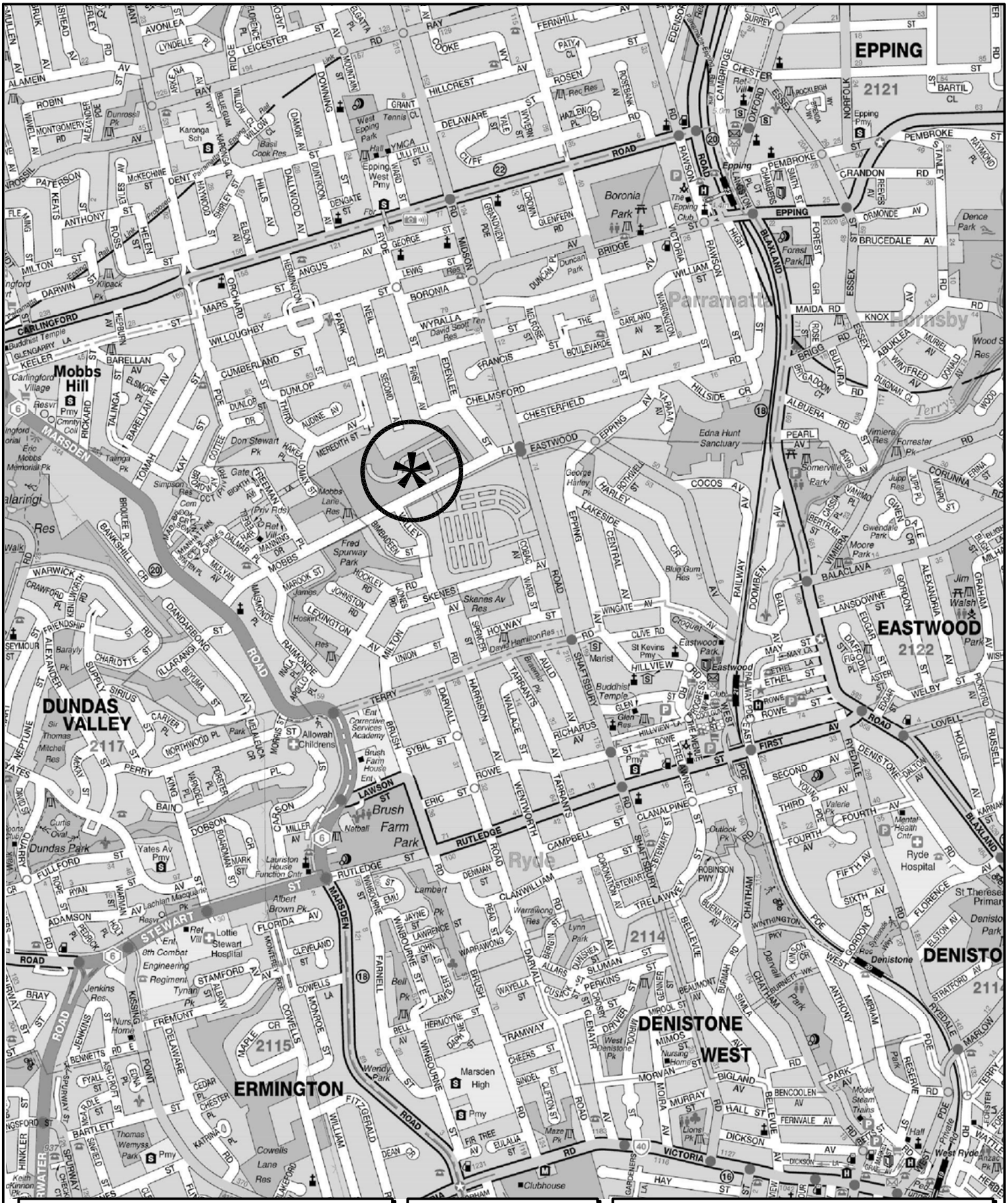
The proposed scheme for Buildings 6, 9, 10 & 17 involve 221 apartments and a café/ shop unit in the central part of the site. The Director General's Requirements include:

> ***Transport and Accessibility Impacts (Construction and Operational)***
> *The EA shall provide details on transport and accessibility generation, access, loading areas, carparking arrangements, pedestrian and bicycle linkages associated with the proposed works.*

The purpose of this report is to:

- describe the site, the approved Concept Plan and the Stage 2 proposal for Buildings 6, 9, 10 & 17 development
- describe the road network serving the site and the prevailing traffic conditions
- assess the potential traffic implications of development in the context of the approved scheme

- assess the proposed parking provision
- assess the proposed access, internal circulation and servicing arrangements
- respond to the Director General's Requirements.



LEGEND

LOCATION

FIG 1

2. PROPOSED DEVELOPMENT SCHEME

2.1 SITE AND CONTEXT

The total development site (Figure 2) occupies an area of some 89,190m² and is situated some 1.4 kms to the west of both Epping and Eastwood Railway Stations with a frontage to Mobbs Lane midway between Marsden Road and Midson Road.

The site was occupied by Channel 7 for some 50 years and was more recently utilised as its broadcast facility before vacating the site. Previously there were some 540 permanent employees engaged at the facility, and this increased significantly at times of heightened production activity. The number of staff on the site has reduced significantly in recent years as a result of the cessation of production activity.

The only vehicle access is via Mobbs Lane and the site is generally surrounded by detached dwellings, medium density and small lot housing with the notable exceptions being:

- the Eastwood Brickworks site located opposite the site on the southern side of Mobbs Lane which is currently being redeveloped to comprise 241 dwellings with detached dwellings and townhouses

- the Fred Spurway Reserve located a short walk to the west of the site which has frontages to both Valley Road and Mobbs Lane

- the small neighbourhood shopping centre on Mobbs Lane in the vicinity of Mulyan Avenue to the west of the site

- the Eastwood commercial centre and railway station, both located approximately 800 metres to the south-east.

LEGEND

SITE

FIG 2

The site is located within the catchment of the Eastwood Primary and Epping West Primary Schools whilst secondary schooling opportunities are immediately available at the Carlingford, Epping and Marsden High Schools as well as a number of denominational and private high schools.

2.2 APPROVED APPLICATIONS

Concept Plan MP05-0086 is subject to an approved Section 75W Modification which permits:

- 800 (maximum) residential dwellings
- building heights of 2 – 6 levels
- a dwelling mix of:
  - 1 bed – 5% (min)
  - 2 bed – (var)
  - 3 bed – 15% (max)
- a child care centre
- a 120m^2 neighbourhood shop
- 1,138 parking spaces
- Access road system, parks and open space areas.

The projected traffic generation of the scheme was 377 vtph in the morning and afternoon peak periods. The consent conditions included requirements (subject to threshold criteria) for:

- the widening of Mobbs Lane
- the provision of traffic signals at the Marsden Road/Mobbs Lane intersection
- the modification of traffic signals at the Mobbs Lane/Midson Road intersection.

Applications have also been approved for an early works package (including construction of the access road system) and Buildings 1, 2, 3, 4 and 5 while an application has been submitted for buildings 7 and 8 comprising 292 apartments. Work has commenced on a number of these elements which are indicated on the plans overleaf.

NSW GOVERNMENT
Planning

Issued under the Environmental Planning and Assessment Act 19

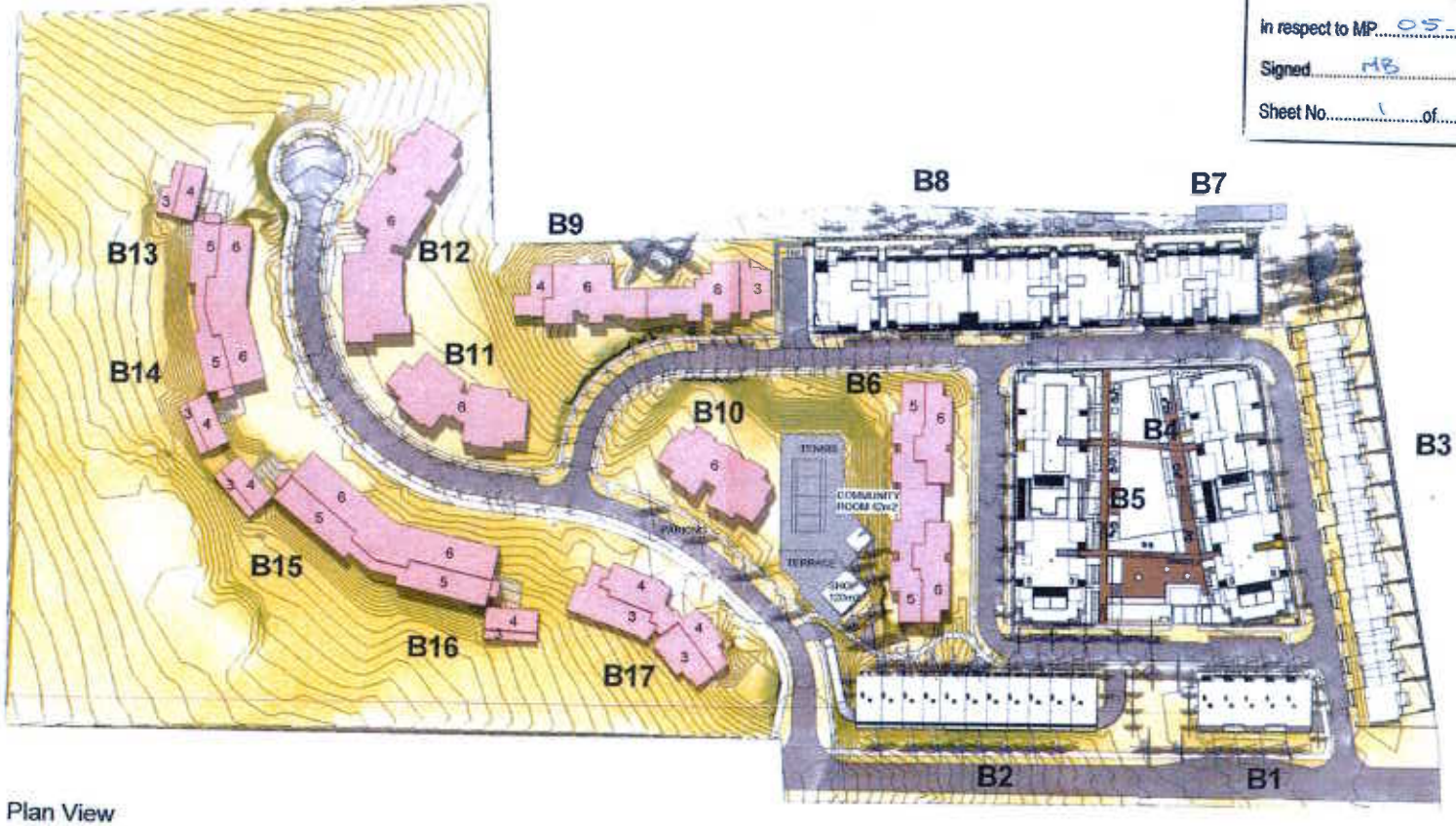
Approved Section 75W Modification Application

No. 2 granted on the 21.2.2011

in respect to MP 05_0086

Signed MB

Sheet No. 1 of 2

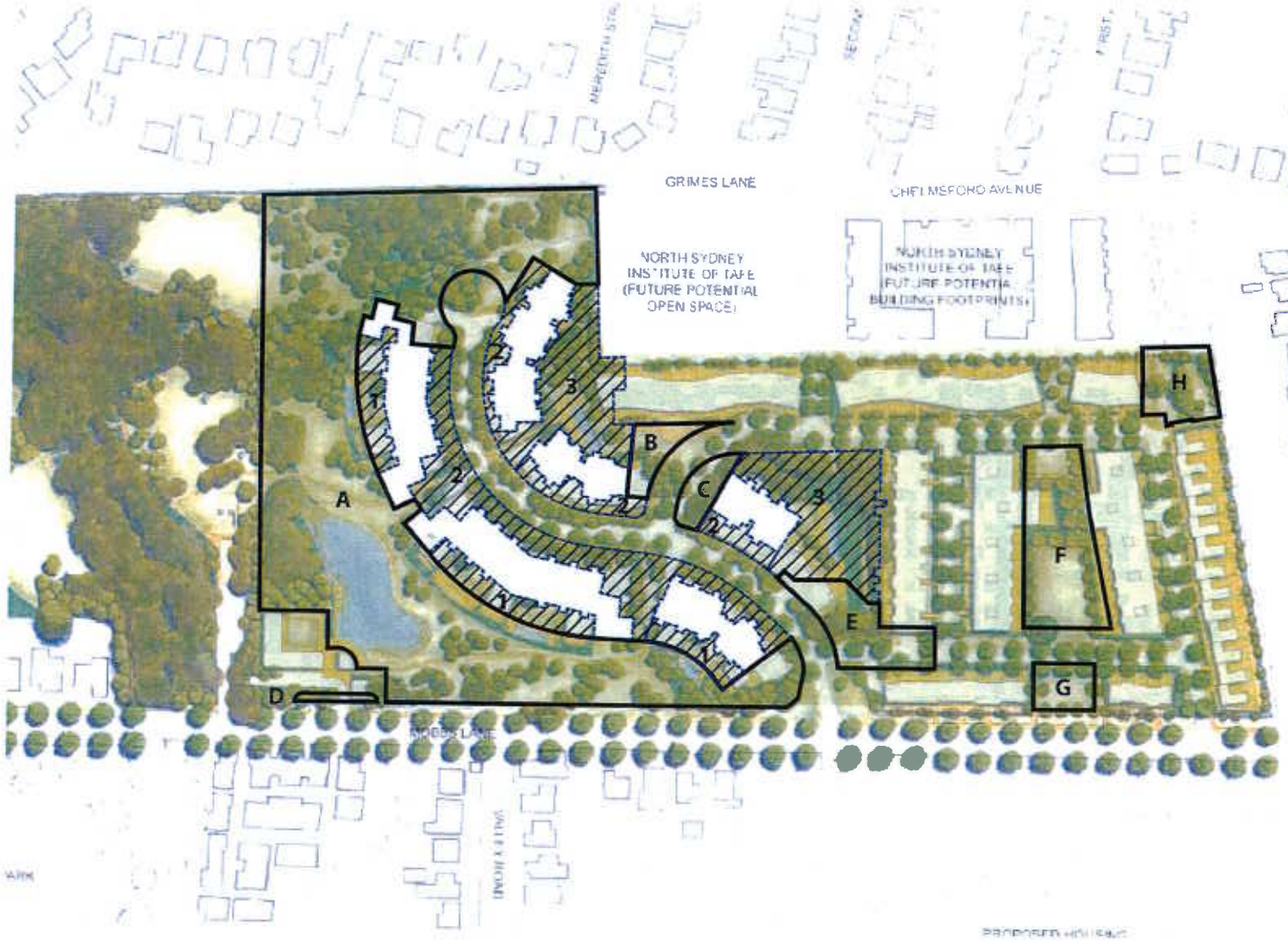


Plan View

Project: Epping Park Masterplan | Client: Mission | 26.11.2010 | Job No | Dwg No: SK-1008 | Key Plan | 1:1000 @ A2

PTW

architectus



NSW GOVERNMENT
Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Section 75W Modification Application

No. 2 granted on the 21.2.2011

in respect to MP CS.0056

Signed AB

Sheet No. 2 of 2

Proposed Common Open Space

1	2,229 sqm
2	4,880 sqm
3	5,856 sqm
	12,965 sqm

Area Schedule

Common Open Space	**12,965 sqm**
Publicly Accessible Open Space	**31,394 sqm**

Diagram is indicative and should only be used as a guide

N

Open Space Diagram_Rev D

Mobbs Lane Parklands

ISSUED: 6th December, 2010

2.3 PROPOSED DEVELOPMENT

The scheme for Buildings 6, 9, 10 & 17 will comprise a total of 221 apartments as follows:

	Building 6	**Building 9**	**Building 10**	**Building 17**
One-bedroom apartments	-	6	7	1
Two-bedroom apartments	74	62	35	32
Three-bedroom apartments	2	-	-	2

A residential tennis court facility with club house, café and shop will also be provided.

The proposed parking provision of 322 spaces will comprise:

	Building 6	**Building 9**	**Building 10**	**Building 17**
Resident spaces	97 (8)	84 (7)	51 (5)	44 (4)
Visitor spaces	16	14	9	7

( ) accessible

These will include 24 accessible space and 15 on-street visitor spaces while there will be 1 carwash bay in each building.

Vehicle access will involve:

- the internal road system constructed as part of the early works package
- individual ingress/egress driveways for each building connection.

Details of the proposed development scheme are provided on the architectural plans prepared by PTW which accompany the application and are reproduced in Appendix A.

3. EXISTING ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

The road network serving the site (Figure 3) comprises:

- *Pennant Hills Road* – part of the Cumberland Highway arterial system linking between Hornsby and Liverpool

- *Carlingford Road* – an east/west State Road and arterial route connecting Pennant Hills Road at Carlingford with Beecroft Road at Epping

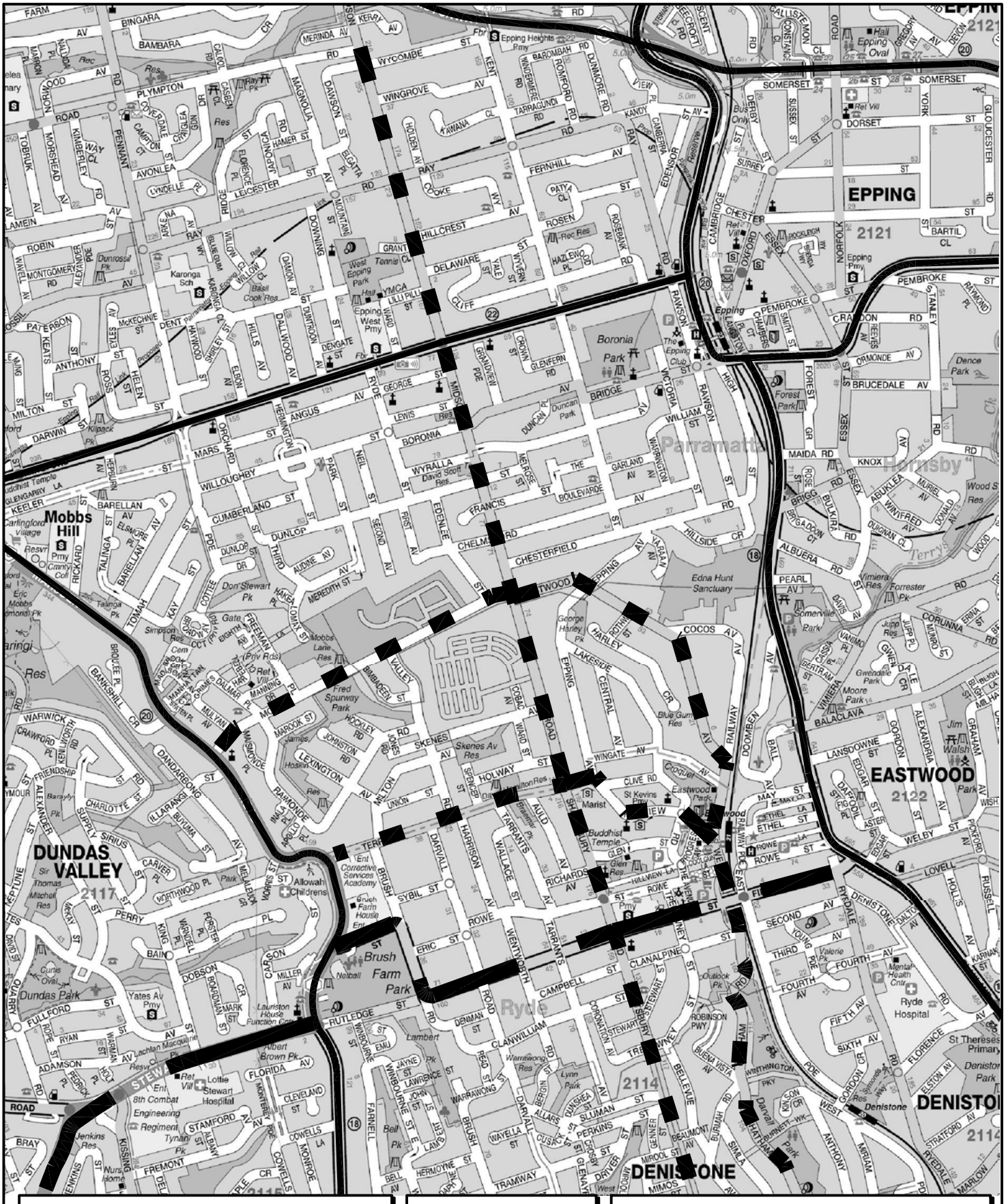
- *Blaxland Road* – a State Road and arterial route linking between Epping and Ryde

- *Rutledge Street/Lawson Street* – a Regional Road and sub-arterial route connecting between Blaxland Road in the east with Marsden Road to the west via Eastwood

- *Midson Road/Shaftsbury Road* – a major north/south collector route which functions between Victoria Road at Denistone West and Beecroft Road at Cheltenham

- *Mobbs Lane/Eastwood Avenue* – a minor east/west collector route connecting Marsden Road with the Eastwood commercial centre

- *Terry Road/Hillview Road* – a minor east/west collector route to the south of the Mobbs Lane corridor which also functions between Marsden Road and the Eastwood commercial centre.



LEGEND

- ARTERIAL
- SUB-ARTERIAL
- COLLECTOR

N

ROAD NETWORK

FIG 3

Mobbs Lane has a variable carriageway width with kerb and gutter provided between Midson Road and the main entrance to the Channel 7 studios. A narrow 6.6 metre wide carriageway (with no kerb and gutter) is provided between the television studio entrance and Valley Road.

3.2 TRAFFIC CONTROLS

The existing traffic controls which have been applied to the street system in the vicinity of the site (Figure 4) comprise:

* the 50 kmph speed limit on the local access roads and 60 kmph restriction on Midson Road and Marsden Road

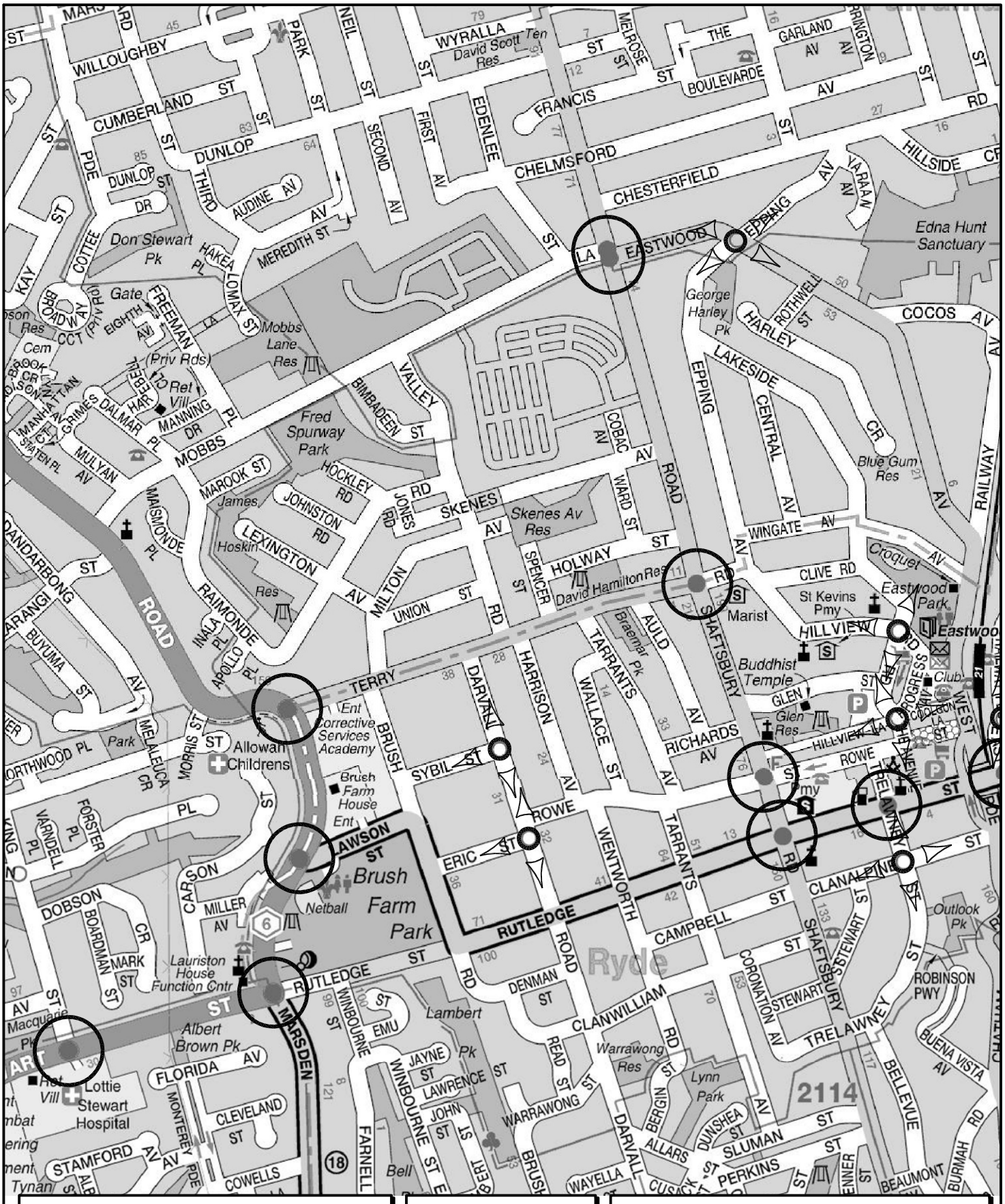
* the 3 tonne load limit restriction on Mobbs Lane

* the traffic control signals at the intersection of Midson Road/Mobbs Lane and Eastwood Avenue with NO RIGHT TURN restrictions from Midson Road to Eastwood Avenue

* the traffic control signals at:
    - Terry Road and Marsden Road
    - Terry Road and Midson Road
    - Midson Road and Carlingford Road

* the roundabout control at:
    - Eastwood Avenue and Epping Avenue
    - Midson Road and Boronia Avenue

* the GIVE WAY control on Mobbs Lane at Marsden Road.



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT

N

TRAFFIC CONTROLS

FIG 4

3.3 TRAFFIC CONDITIONS

An indication of the traffic conditions on the arterial roads in the vicinity of the site are provided by data published by the RTA[1] and surveys undertaken in June 2010 for this study. The data is expressed in terms of Annual Average Daily Traffic (AADT) and details of the latest data is provided in the following:

Location	AADT
Marsden Road north of Stewart Street	46,299
Marsden Road south of Pennant Hills Road	26,469
Carlingford Road east of Midson Road	21,123
Rutledge Street east of Trelawney Street	37,777

The traffic surveys were undertaken in the vicinity of the site at the intersection of Mobbs Lane/Midson Road and Marsden Road/Mobbs Lane during both the morning and afternoon peak periods. Details of the results of these surveys are provided in Appendix A and summarised as follows:.

		AM	PM
Midson Road	Northbound	157	464
	Left-turn	7	48
	Southbound through	443	256
	Right-turn	54	74
	Left-turn	113	51
Mobbs Lane	Through	132	45
	Right-turn	60	33
	Left-turn	119	92
Eastwood Avenue	Through	16	49
	Right-turn	43	143
	Left-turn	6	9

[1] *Traffic Volume Data for Sydney Region*
Roads and Traffic Authority of NSW

		AM	PM
Marsden Road	Northbound	698	1315
	Right-turn	179	148
	Southbound	1292	866
	Left-turn	78	74
Mobbs Lane	Right-turn	12	29
	Left-turn	108	96

Comparison with previous traffic surveys reveals a reduction in traffic movements along Mobbs Lane (a factor also recognised in a 2005 assessment for the site). It is apparent that this circumstance is largely due to the reduction in staff working at the Channel 7 site as compared to earlier years.

The operational performance of these intersections has been assessed with SIDRA. The results of that assessment are summarised in the following:

	AM		PM	
	LOS	**AVD**	**LOS**	**AVD**
Marsden/Mobbs (GW)	C	33.4	B	21.4
Midson/Mobbs (TCS)	C	28.3	C	31.8

3.4 TRANSPORT SERVICES

Rail

The site is approximately 1.4 kms from Eastwood from Epping Railway Stations and is therefore within the accepted 1.5 kms walking catchment of both stations. Access to these stations also provides links to the metropolitan rail network which connects to Parramatta CBD and Sydney CBD. The opening of the Epping to Chatswood rail link improved services at these stations providing a link to the Chatswood CBD.

Bus

Mobbs Lane is a Sydney Buses route which links Eastwood and Epping Stations. Sydney Buses operate the following routes in the vicinity of the site:

- *Route 521 Parramatta – Eastwood Station.* These buses travel along Mobbs Lane and Eastwood Avenue. The service operates Monday to Saturday

- *Route 541 Epping Station – Eastwood Station*. These buses travel along Chesterfield Road, Midson Road, Dunlop Street, Edenlee Street, Mobbs Lane and Eastwood Avenue. The service operates Monday to Saturday

- *Route 545 Parramatta Station – Eastwood – Macquarie Centre – Chatswood.* These buses travel along Terry Road and Hillview Road. The service operates Monday to Saturday

- *Route 550 Parramatta – Macquarie Park*. These buses operate along Terry Road and Hillview Road. The service operates seven days per week

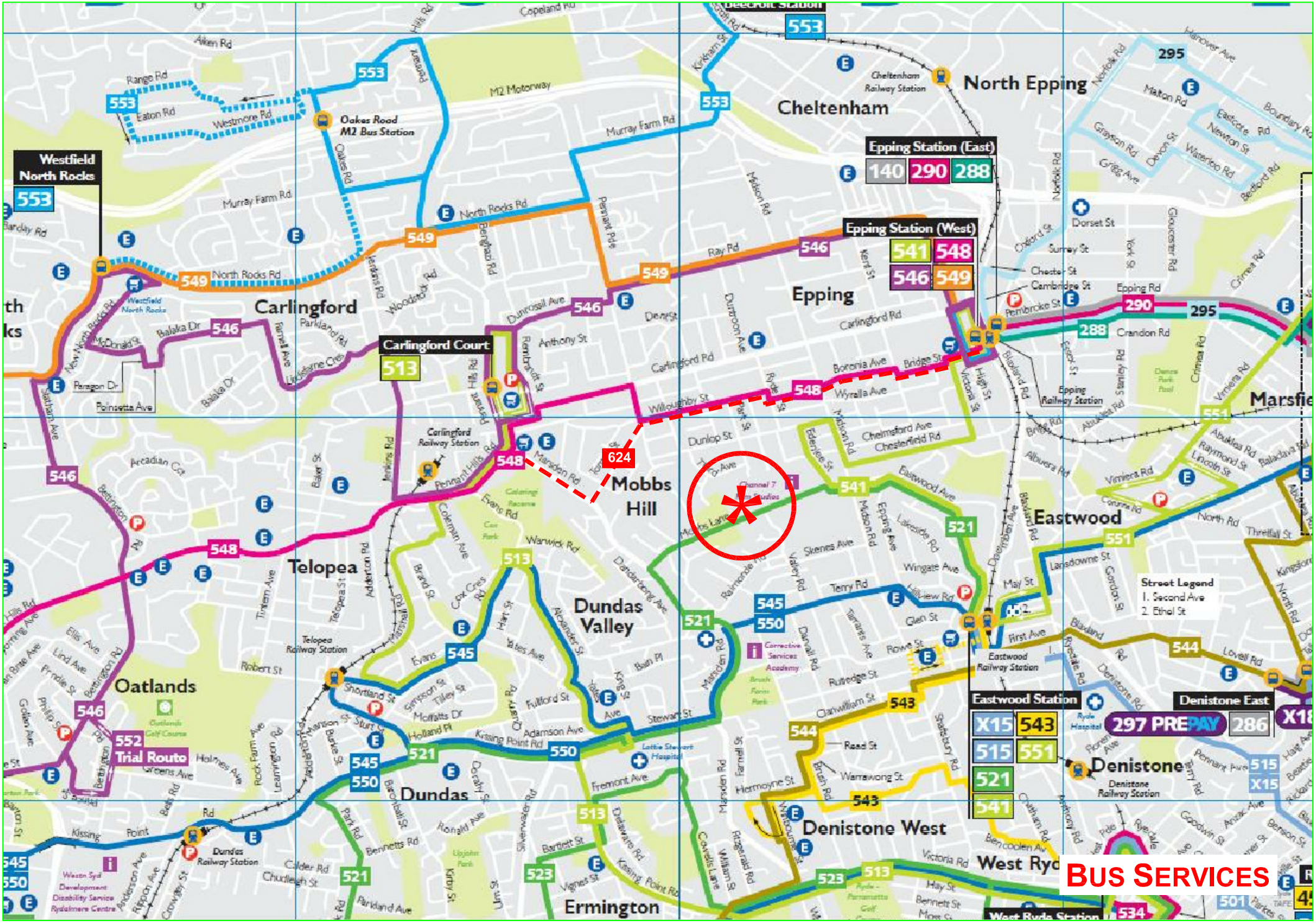
There are numerous bus stops for these routes close to the site. On Mobbs Lane, there are bus stops near Edenlee Street, at the entrance to Channel 7, and just west of Valley Road, for Routes 521 and 541. There are bus stops on Eastwood Avenue near its intersection with Midson Road, for Routes 521 and 541.

There are also bus stops in Edenlee Street near Mobbs Lane for Route 541 buses. For Routes 545 and 550, there are bus stops on Hillview Road near Midson Road, and on Terry Road near Shaftsbury Road, Tarrants Avenue, and near Valley Road. These stops are all within reasonable walking distance of the site. The frequency of buses on the various routes are summarised in the following:

BUSES STOPPING IN VICINITY OF THE SITE

	To Parramatta or Epping				**From Parramatta or Epping**			
	521	**541**	**545**	**550**	**521**	**541**	**545**	**550**
7.00am – 9.00am	0	2	2	4	1	2	2	4
10.00am – 2.00pm	4	4	4	0	4	4	4	0
4.00pm – 6.00pm	2	3	3	3	1	3	3	4
Daily total	9	15	17	11	10	15	18	12

Note: Route 541 to/from Epping, all other routes to/from Parramatta


Westfield North Rocks
553
Oakes Road M2 Bus Station
Cheltenham
North Epping
Epping Station (East)
140 290 288
Epping Station (West)
541 548
546 549
Carlingford
Carlingford Court
513
Epping
Carlingford Railway Station
624
Mobbs Hill
Eastwood
Telopea
Dundas Valley
Oatlands
552 Trial Route
Dundas
Dundas Railway Station
Telopea Railway Station
Eastwood Railway Station
Eastwood Station
Denistone East
297 PREPAY 286
Denistone
Denistone Railway Station
Denistone West
West Ryde
Ermington
Street Legend
1. Second Ave
2. Ethel St
BUS SERVICES

3.5 PEDESTRIANS AND CYCLISTS

Pedestrians

A network of local streets provides relatively direct walking access to Epping and Eastwood railway stations and commercial centres.

There are sealed footpaths on each side of Midson Road that connect the site to the adjoining neighbourhood. At present there are no paved footpaths on either side of Mobbs Lane along the frontage of the site at the present time.

Pedestrians are able to cross Mobbs Lane/Midson Road or Midson Road/Terry Road at the traffic signals.

Cyclists

A regional cycleway between Parramatta and Eastwood passes near the site along Terry Road and Hillview Road. Parramatta Council proposes a link from this route to Epping via Midson Road (directly past the site) then Boronia Avenue, Kent Street, Bridge Street into Epping. Council's Transport Management and Accessibility Plan includes the proposal for shared pedestrian and cyclist paths along Mobbs Lane.

4. FUTURE ROAD NETWORK CIRCUMSTANCES

Road Network and Traffic Controls

The Major Project consent requires:

* Marsden Road and Mobbs Lane: Road widening for right-turn bay and installation of traffic signals 'Trigger 150 dwellings with Child Care Centre or 225 dwellings'.

* Midson Road and Edenlee Street (Mobbs Lane): Traffic signal upgrade (pedestrian crossings). Completion for the Stage 1 development.

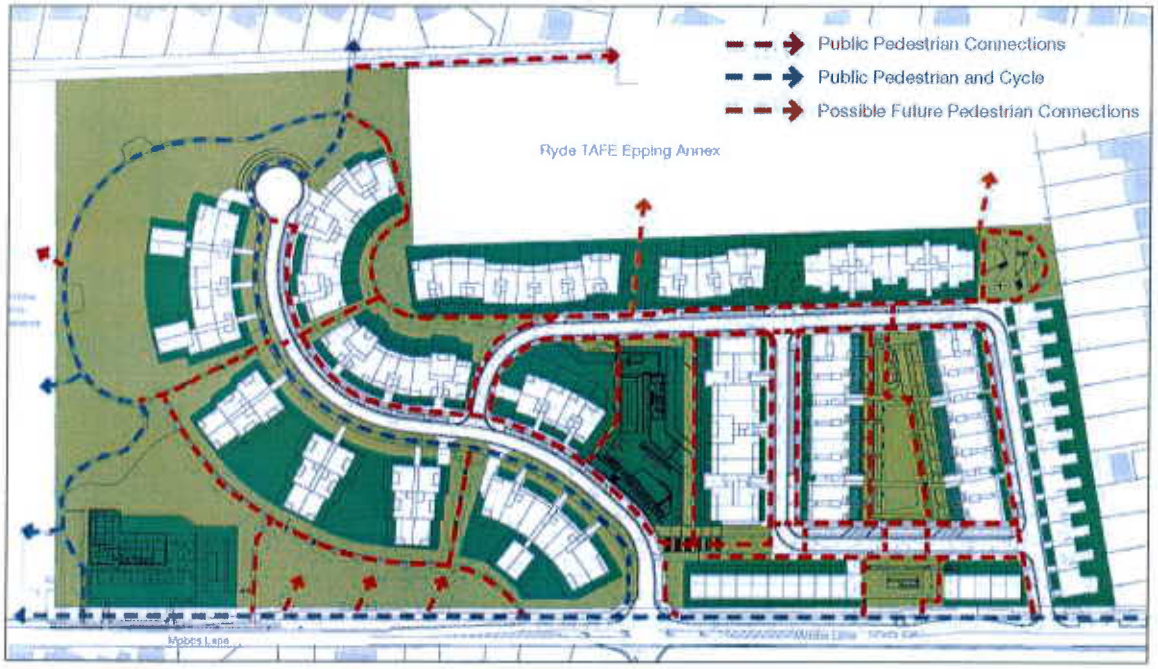
* Mobbs Lane: Road widening along the site frontage with an indented bus bay.

Details of these future works are provided on the intersection plans reproduced in Appendix B.

Pedestrian and Cyclist Network

Provision of a shared footway along Mobbs Lane to Midson Road together with cyclist signals and additional pedestrian signals at the Midson Road/Mobbs Lane intersection. The proposed pedestrian and cyclist provisions are indicated on the Open Space Connectivity/Pathway Network diagram overleaf where the building envelopes indicated are conceptual and the final building footprints are subject to Planning Approval.

A network of pathways connect the open spaces of the site. The character and function of these open spaces varys across the site, some are intended for children and are furnished with play equipment, others form part of a jogging track sequence and are furnished with exercise equipment.



OPEN SPACE CONNECTIVITY / PATHWAY NETWORK

Note: This plan reflects earlier building footprints which have been revised

5. TRAFFIC ASSESSMENT

Traffic Assessment undertaken for the Concept Plan Application relied on the criteria contained in the RTA Development Guidelines to project the potential traffic generation.

The RTA traffic generation criteria for 'medium density' is:

Two-bedroom and smaller	0.4 – 0.5 vtph/dwelling
Three-bedroom + larger units and townhouses	0.5 – 0.65 vtph/dwelling

On this basis the proposed Stage 2 development will generate the following:

217 x one/two-bedroom	-	87 to 109 vtph
4 x three-bedroom +	-	2 to 3 vtph
Total	**-**	**89 to 112 vtph**

The worst case movements would be distributed as follows:

AM		**PM**	
IN	**OUT**	**IN**	**OUT**
22	90	90	22

These vehicle movements will be entirely consistent with the assessment undertaken for the approved Concept Plan modification.

The access connections to Mobbs Lane and the internal road system will be completed as well as:

* the widening of Mobbs Lane

- the roadworks and provision of traffic signals at the Marsden Road and Mobbs Lane intersections

- the upgrade of the Midson Road and Edenlee Street intersection traffic signals.

6. TRANSPORT ASSESSMENT

The existing public transport services available to residents on the site will comprise:

* 4 bus routes with a multitude of destinations including Epping and Eastwood Railway Stations and the major centres of Parramatta, Chatswood and Macquarie

* Epping and Eastwood Railway Stations which are within reasonable walking distance.

Existing bus services in the area include:

* Route 541 – travels via Edenlee Street to key destinations of Epping and Eastwood Train Stations. The bus route has 32 weekday between 6.00am and 7.00pm. The existing route frequencies for Route 541 have 40 minute intervals during the peak.

* Route 521 – travels via Mobbs Lane to key destinations of Eastwood, Dundas and Parramatta. The bus route has 22 weekday services between 8.00am and 6.00pm and 12 Saturday services between 9.00am and 6.00pm. The existing route frequencies for Route 521 have 45 minute intervals during the peak and 180 minute intervals on the weekend.

* Route 545 / 550 – travels via Terry Road to key destinations of Chatswood, Macquarie University, Eastwood and Parramatta. Route 545 detours via Dundas. The bus route has 68 services weekday between 4.30am and 11.30pm and 39 Saturday services between 6.30am and 9.30pm. The existing route frequencies for Route 545/550 have 10 minute intervals during the peak and 20 minute intervals on the weekend.

- Route 624 – travels via Willoughby Road to key destinations of Parramatta, Carlingford and Epping. The bus route has some 60 services weekday between 6.00am and 9.00pm and 27 Saturday services between 6.00am and 7.00pm. The existing route frequencies for Route 624 have 30 minute intervals during the peak and 60 minute intervals on the weekend.

The potential additional bus patronage resultant to development under the Concept Plan has been assessed[2] and it is apparent that because of the convenience, capacity and availability of the existing public transport services there will be no adverse transport implications.

[2] *Residential Concept Plan*
Mobbs Lane, Epping – Bus Servicing Report
Masson Wilson Twiney – June 2005

7. PARKING ASSESSMENT

The parking provision criteria specified by Council and the RTA for residential apartments (not within 400 metres of a railway station or transit corridor) is as follows:

	Council	**RTA (minimum)**
One-bedroom	1 space	0.60 space
Two-bedroom	1.25 space	0.90 space
Three-bedroom	1.50 space	1.40 space
Visitors	1 space per 4 apartments	1 space per 5 apartments

The proposed carparking provision in relation to the Stage 2 development is as follows:

One-bedroom	-	1 space
Two-bedroom	-	1.25 space (generally)
Three-bedroom	-	2 spaces
Visitors	-	1 space/5 apartments
Bicycle storage	-	1 space per 3 apartments

Application of this criteria to the proposed development indicates the following:

14 x one-bedroom	-	14 spaces
203 x two-bedroom	-	254 spaces
4 x three-bedroom	-	8 spaces
Total	**-**	**276 spaces**
Visitors	-	44 spaces
Total	**-**	**320 spaces**

It is proposed to provide a total of 307 spaces in the basement levels (276 resident and 31 visitor) while 15 visitor spaces will be located in the indented bays along the access road. The proposed parking provision will be adequate and appropriate while a total of 75 bicycle spaces will also be provided in the basement levels (ie 1 per 3 apartments) together with 1 carwash bay in each building. Application of Council's criteria to the proposed apartments would equate to 274 spaces (14 for one-bedroom, 254 for two-bedroom and 6 for three-bedroom) whereas 276 are proposed while the proposed provision for visitors reflects the more realistic RTA rate which in fact is qualified in the guideline document as a recommended 1 space per 5 to 7 apartments.

8. ACCESS, INTERNAL CIRCULATION AND SERVICING

Access

There will be a single ingress/egress access driveway provided for each building on the internal access road system in accordance with the Concept Plan diagram. These access driveways will be located where the roads are relatively straight and level and the design provisions will accord with the AS 2890.1 criteria.

Internal Circulation

The design of the basement carpark areas will be quite generous and will comply with the AS 2890.1 design criteria particularly in relation to bay dimensions, aisle widths, grades and height clearances.

Servicing

Refuse will be removed from the street by Council's collection service. Service vehicles and deliveries etc will be reliant on the on-street parking provisions as is normal for small residential buildings of this nature.

9. PEDESTRIANS AND CYCLISTS

Details of the proposed linkages for pedestrians and cyclists are provided in Section 4 of this report. These linkages will become available in a staged process.

The Stage 2 development is located on the central and eastern part of the site and the works relevant to this area are:

* the upgrading of the Midson Road/Edenlee Street traffic signals
* the widening and provision of a shared footway along Mobbs lane
* the internal pedestrian and cyclist network.

The provision for cyclists will include 75 bicycle spaces for residents and visitors in the basement levels.

10. CONSTRUCTION TRAFFIC MANAGEMENT

A detailed Construction Traffic Management Plan will be prepared in response to a Consent Condition, however the general principles will include:

* compliance with the approved working hours
* vehicle access via the access road connection to Mobbs Lane
* all unloading/loading and construction activity confined to the site
* worker parking on the site with encouraged use of public transport
* appropriate site induction
* prescribed truck routes
* site fencing.

11. CONCLUSION

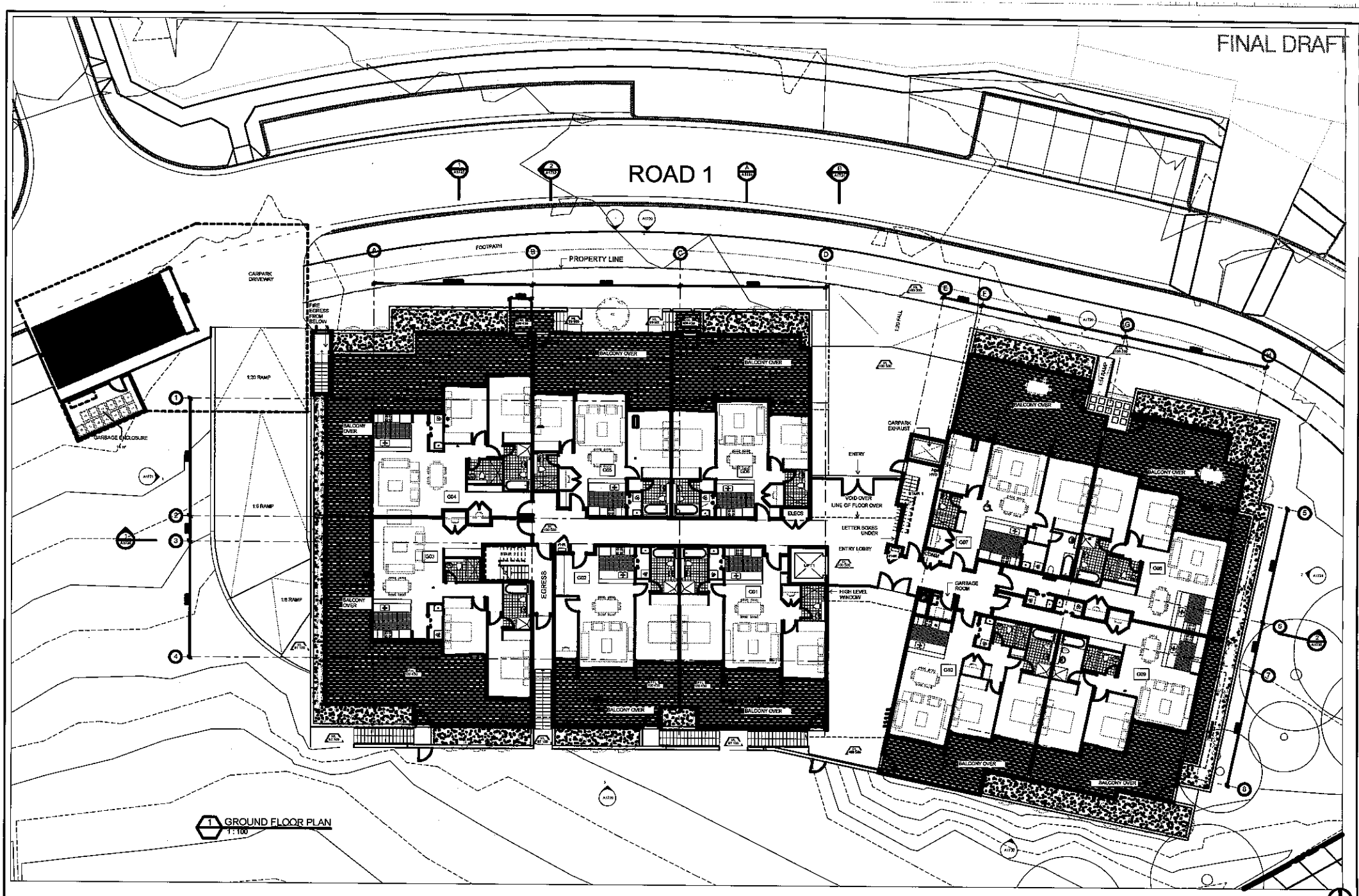
This assessment has considered the proposed Stage 2 development scheme in the context of the Director General's Requirements. It is concluded that:

- there will be no adverse traffic implications as the potential traffic generation will be no greater than that under the existing consent
- there will be no adverse implications for transport services due to the existing convenience, capacity and frequency of bus and rail services
- there will be an adequate and appropriate parking provision
- pedestrians, cyclists and bus patrons will be suitably encouraged and facilitated with the provisions proposed under the approved Concept Plan
- the Director General's Requirements are fully complied with in relation to Transport and Accessibility Impacts.

APPENDIX A

ARCHITECTURAL PLANS

FINAL DRAFT



1 GROUND FLOOR PLAN
1 : 100

DRAWING LIST		
A1700	GROUND FLOOR PLAN	
A1701	LEVEL 1 FLOOR PLAN	
A1702	LEVEL 2 FLOOR PLAN	
A1703	LEVEL 3 FLOOR PLAN	
A1704	LEVEL 4 FLOOR PLAN	
A1705	LEVEL 5 FLOOR PLAN	
A1706	LEVEL 6 FLOOR PLAN	
A1707	LEVEL 7 FLOOR PLAN	
A1708	LEVEL 8 FLOOR PLAN	
A1709	ROOF PLAN	
A1710	SECTIONS	
A1711	SECTIONS	
A1712	GROUND FLOOR PLAN	
A1713	LEVEL 1 FLOOR PLAN	
A1714	LEVEL 2 FLOOR PLAN	
A1715	LEVEL 3 FLOOR PLAN	
A1716	LEVEL 4 FLOOR PLAN	
A1717	LEVEL 5 FLOOR PLAN	
A1718	LEVEL 6 FLOOR PLAN	
A1719	LEVEL 7 FLOOR PLAN	
A1720	LEVEL 8 FLOOR PLAN	
A1721	ROOF PLAN	
A1722	SECTIONS	
A1723	SECTIONS	

Rev	Date	Description
A	11.03.2011	PRELIMINARY ISSUE FOR DISCUSSION
B	18.09.2011	FINAL DRAFT FOR DA ISSUE
C	06.04.2011	FINAL DRAFT FOR DA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	13.05.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants			
Landscape Arch	Sturt Associates	Suite 81, Level 8, 330 Wattle Street, Ultimo NSW 2007	Tel / 9211 3744
Solar Access	Heggies	2 Lincoln Street, Lane Cove NSW 2066	Tel: 9427 8100
Traffic	TTF	Suite 603, Level 6, 260 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5660
Waste Mgmt	Elephant Living	240/170 South Creek Road, Dee Why NSW 2099	Tel: 8543 0000
Acoustic	Acoustic Logic	5 Smith Street, Naremb NSW 2065	Tel: 9965 5095

Client:

PTW Architects
Level 17, 8 Chifley Square
Sydney NSW Australia 2000
T: +61 2 8233 9222
F: +61 2 8251 4130

PTW

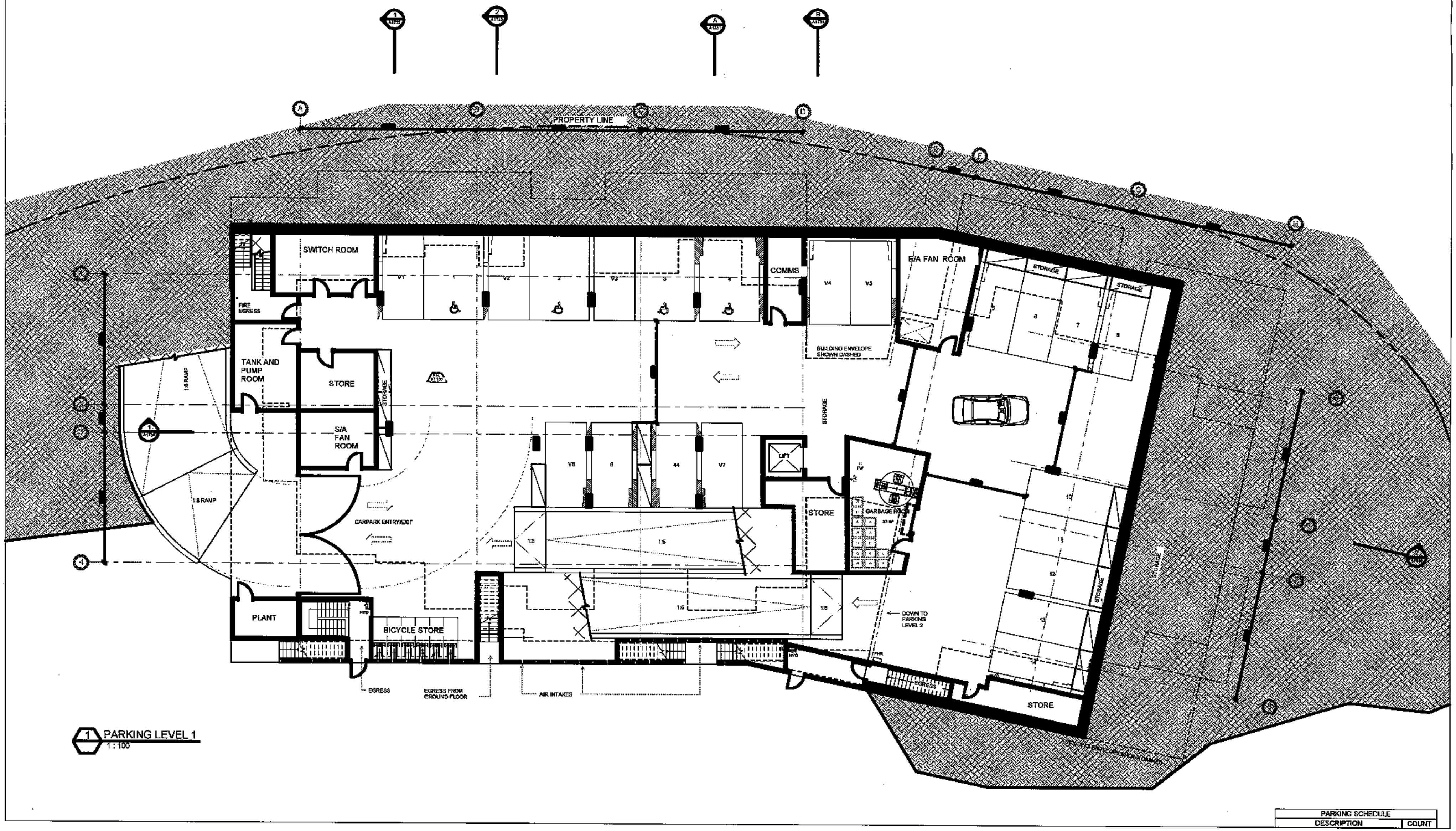
Key Plan:

Project: EPPING PARK - STAGE 2
BUILDING 17
PUBLIC DWG'S 6 & 10.17

Title: GROUND FLOOR PLAN

Scale: 1 : 100 @A1
Plot Date: 17/05/2011 8:10:27 PM
Job No: 211.009
Dwg No: A1712
Drawn By: BH/JMA
Checked By: RBC
Revision: E
Status: PRELIMINARY

FINAL DRAFT



1 PARKING LEVEL 1
1 : 100

PARKING SCHEDULE	
DESCRIPTION	COUNT
CAR WASH BAY	1
DISABLED CAR SPACE	4
RESIDENT PARKING	40
VISITOR PARKING	7
	52

Rev	Date	Description
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	18.03.2011	FINAL DRAFT FOR PA ISSUE
C	08.04.2011	FINAL DRAFT FOR PA ISSUE
D	10.04.2011	REVISED FINAL DRAFT ISSUE
E	17.06.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants:

Landscape Arch	Stuart Associates	Suite 91, Level 6, 300 Wattle Street Ultimo NSW 2007	Tel: 9211 3766
Solar Access	Haggie	2 Lincon Street, Lane Cove NSW 2066	Tel: 9427 6100
Traffic	TTP	Suite 603, Level 6, 252 Victoria Ave, Chatswood NSW 2067	Tel: 9411 6659
Nathers/Basix	Efficient Living	240/176 South Creek Road, Cromer NSW 2099	Tel: 9044 0332
Acoustic	Acoustic Logic	9 Sarah Street, Mascot NSW 2020	Tel: 8038 0888

Client

PTW Architects
PTW
Level 17, 9 Castlereagh St
Sydney NSW Australia 2000
T +612 9232 5877
F +612 9221 4139

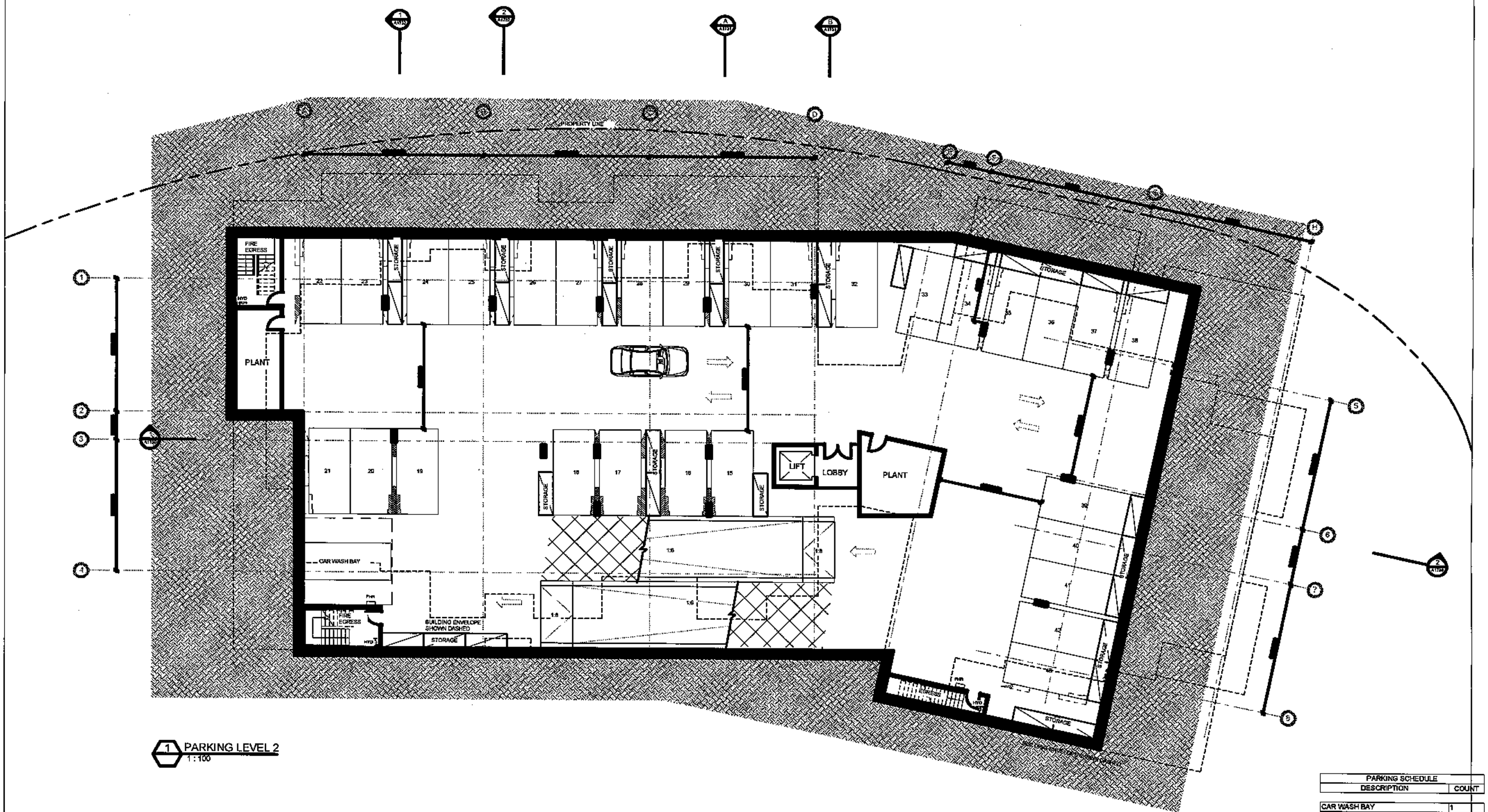
Key Plan

Project: EPPING PARK - STAGE 2
BUILDING 17
BUILDINGS 8,9,10,17

Title: PARKING LEVEL 1 PLAN

Scale: 1 : 100 @A1
Plot Date: 17/06/2011 5:09:20 PM
Job No: 211.006
Dwg No: A1710
Drawn By: BH/LMA
Checked By: PSC
Revision: E
Status: PRELIMINARY

FINAL DRAFT



PARKING LEVEL 2
1 : 100

PARKING SCHEDULE	
DESCRIPTION	COUNT
CAR WASH BAY	1
DISABLED CAR SPACE	4
RESIDENT PARKING	40
VISITOR PARKING	7
	52

Rev	Date	Description
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	16.03.2011	FINAL DRAFT FOR PA ISSUE
C	08.04.2011	FINAL DRAFT FOR PA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants

Landscape Arch	Sturt Associates	Suite 91, Level 5, 330 Wattle Street, Ultimo NSW 2007	Tel : 9211 0744
Bldg. Access	Heggies	2 Lincoln Street, Lane Cove NSW 2066	Tel: 9427 8100
Traffic	TTP	Suite 603, Level 6, 282 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5000
Hydraulics	Efficient Living	240/170 South Creek Road, Cromer NSW 2099	Tel:
Acoustic	Acoustic Logic	9 Sarah Street, Mascot NSW 2020	Tel:

Client

PTW Architects

PTW

Level 17, 9 Castlereagh St. Sydney NSW Australia 2000
T +612 9232 5877
F +612 9221 4100

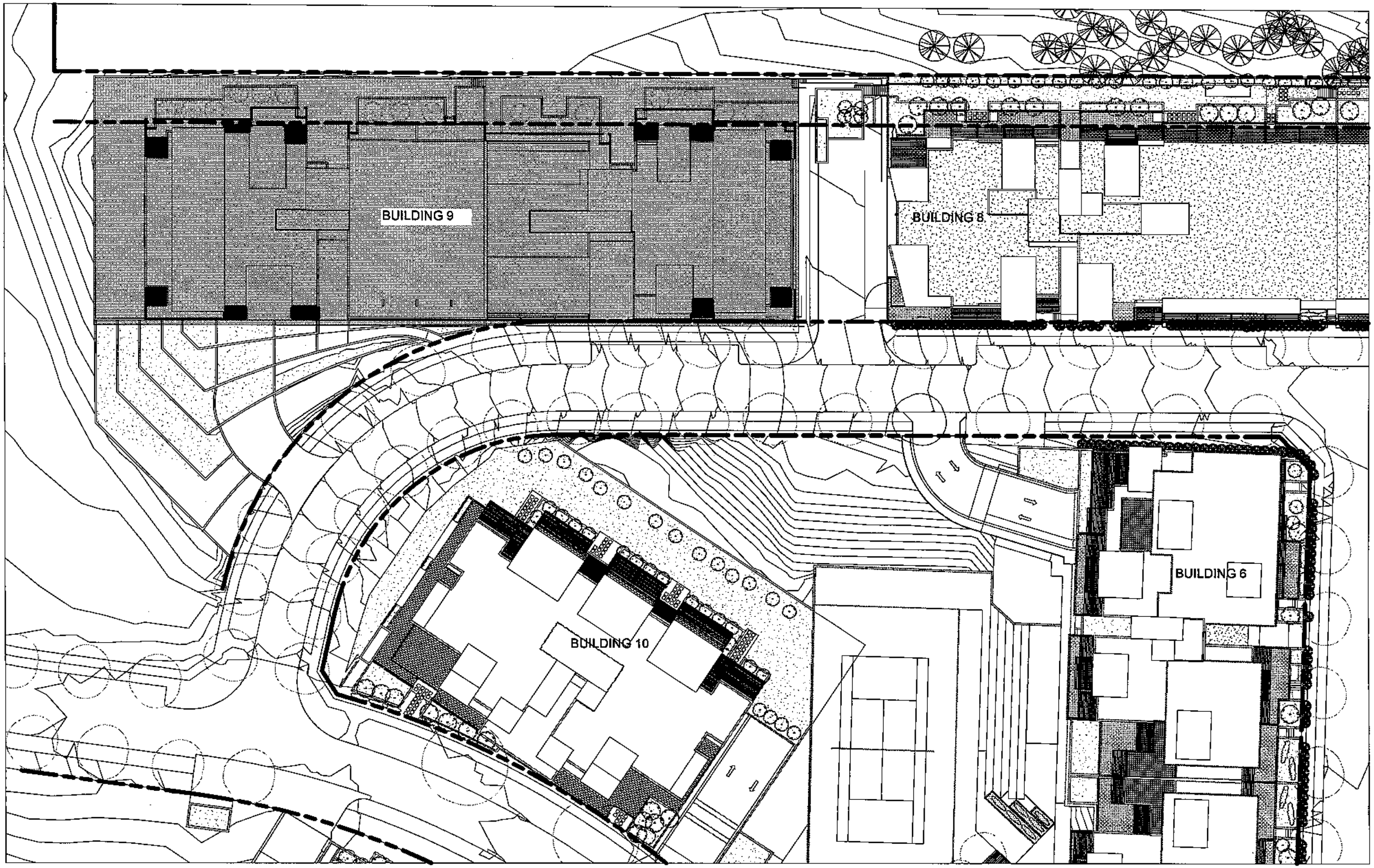
Key Plan

Project: EPPING PARK - STAGE 2
BUILDING 17
BUILDINGS 9,10,17

Title: PARKING LEVEL 2 PLAN

Scale: 1 : 100
Plot Date: 17/05/2011 5:59:47 PM
Job No: 211.006
Dwg No: A1711
Drawn By: BH/LMA
Checked By: PSC
Revision: E
Status: PRELIMINARY

FINAL DRAFT



1 SITE PLAN
1 : 200

Issue	Date	Amendment
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	18.03.2011	FINAL DRAFT FOR PA ISSUE
C	08.04.2011	FINAL DRAFT FOR PA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.06.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants

Landscape Arch.	Sturt Associates	Suite 91, Level 5, 330 Wattle Street, Ultimo NSW 2007	Tel: 9211 3944
Solar Access	Heggies	2 Lincoln Street, Lane Cove NSW 2066	Tel: 9427 8100
Traffic	TTP	Suite 803, Level 8, 282 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5660
Nathers/Basix	Efficient Living	248/178 South Creek Road, Crows NSW 2099	Tel: 99440332
Acoustic	Acoustic Logic	9 Sarah Street, Mascot NSW 2020	Tel: 83308000

Client

PTW Architects
Level 17, 88 Cumberland St
Sydney NSW Australia 2000
T +612 9232 5877
F +612 9221 4139

PTW

Key Plan

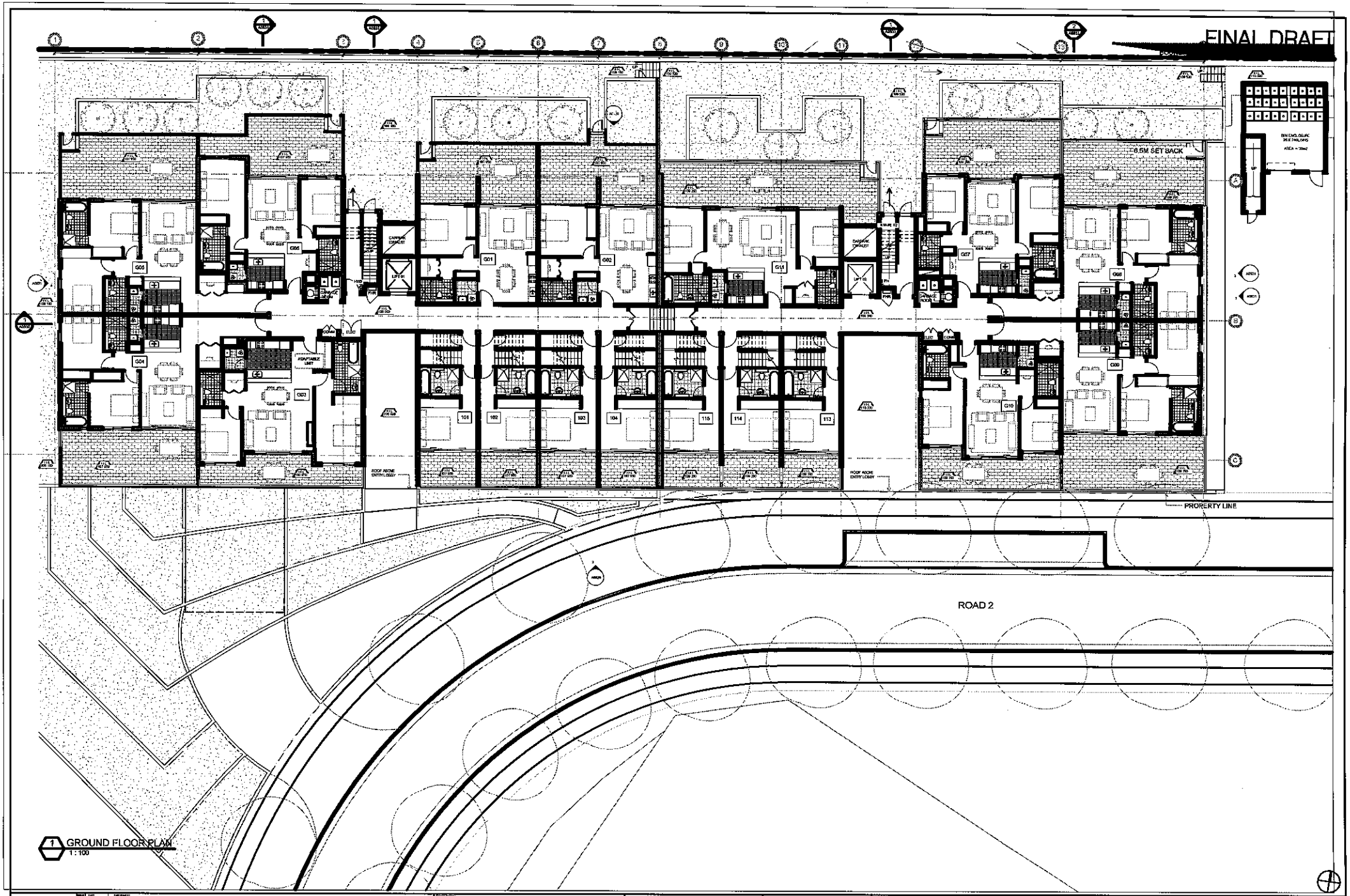
Project: EPPING PARK - STAGE 2
61 HOBBS LANE, EPPING
BUILDINGS 6,8,10,17

Title: SITE PLAN

Scale	Plot Date	Job No.
1 : 200 @B1	17/06/2011 4:33:34 PM	211 006

Dwg No:	Drawn By:	Checked By:	Revision
A0902	Author	Checker	E

Status: PRELIMINARY



1 GROUND FLOOR PLAN
1 : 100

Issue	Date	Comment
A	15.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	18.03.2011	FINAL DRAFT FOR PI ISSUE
C	08.04.2011	FINAL DRAFT FOR PA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH DA REDUCTION

Consultants			
Landscape Arch	Stuart Pittendrigh	Suite 6R, Level 6, 330 Wattle Street, Ultimo NSW 2007	Tel : 9211 3744
Solar Access	Steggles	21 Lincoln Street, Lane Cove NSW 2066	Tel: 9427 6522
Traffic	TTPP	Suite 603, Level 6, 307 Kent St Ave, Chatswood NSW 2067	Tel: 9411 2411
Mechanical/Elect.	Efficient Living	245A/B South Creek Road, Cromer NSW 2099	Tel: 9981 0332
Acoustic	Acoustic Logic	9 Sarah Street, Mascot NSW 2020	Tel: 8339 8000

Client:

PTW Architects
Level 17, 8 Castlereagh St
Sydney NSW Australia 2000
T +612 9232 5977
F +612 9221 4139

PTW

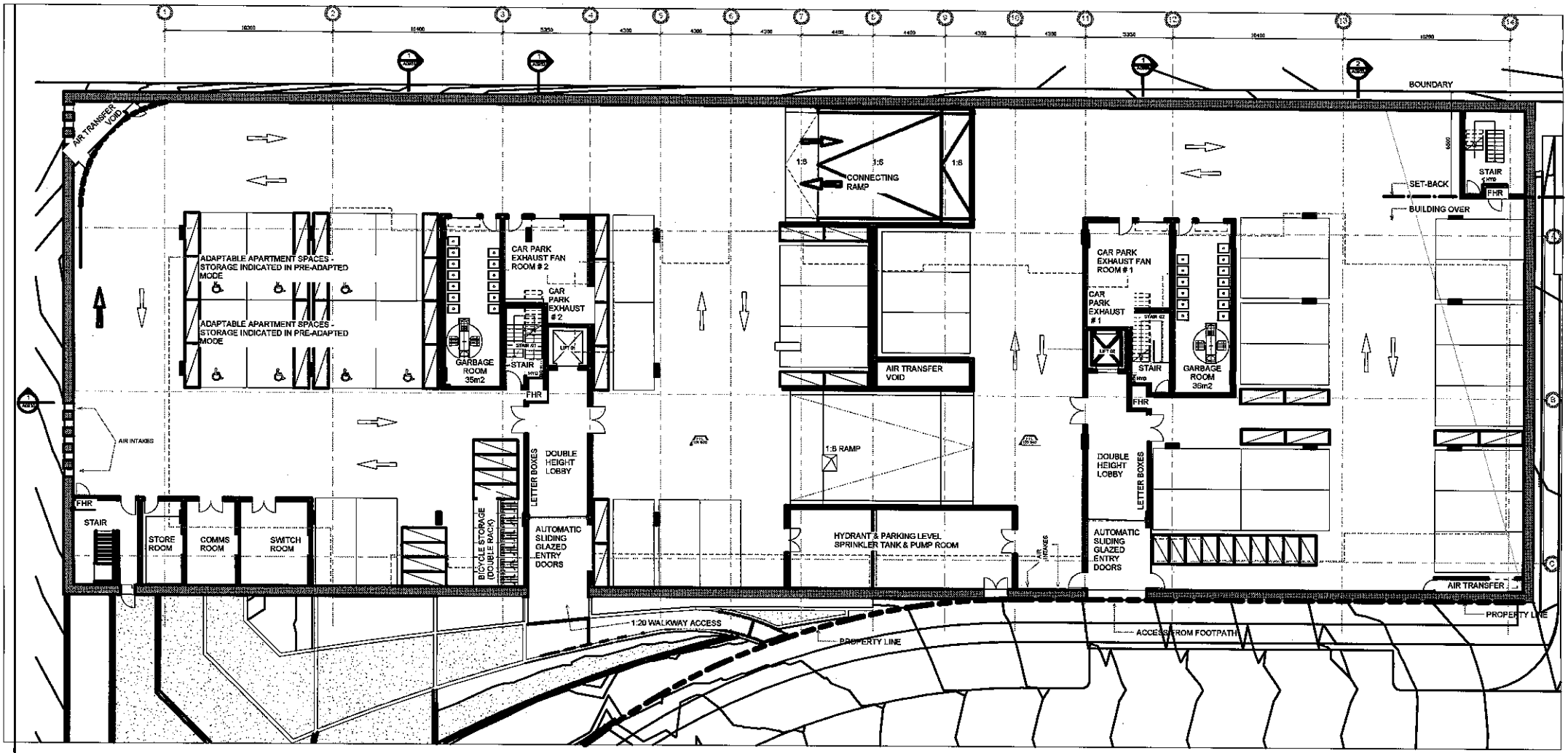
Key Plan:

Project: EPPING PARK - STAGE 2
61 MORRES LANE, EPPING
BUILDINGS 6A/6/7

Title: BUILDING 9 GROUND FLOOR PLAN

Scale:	Plot Date:	Job No:
1 : 100 @A1	17/05/2011 4:34:32 PM	211.006
Drawing No: 3012	Drawn by: Author	Checked by: Checker
		Revision: E

PRELIMINARY



1 PARKING LEVEL1
1 : 100

Parking Schedule	
Description	Count
Adaptable Space	7
Car Wash Bay	1
Resident Carpark Bay	77
Visitor (Off Street)	5
Grand total: 90	90

Issue	Date	Description
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	18.03.2011	FINAL DRAFT FOR PI ISSUE
C	09.04.2011	FINAL DRAFT FOR PI ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants			
Landscape Arch	Oliver Associates	Suite 81, Level 6, 330 Wattle Street, Ultimo NSW 2007	Tel : 9211 4744
Solar Access	Heggies	2 Union Street, Lane Cove NSW 2066	Tel: 9427 8100
Traffic	TTP	Suite 605, Level 6, 262 Victoria Ave, Chatswood NSW 2067	Tel: 9411 6660
Hydrology/Flood	Enquiem Living	240/170 South Creek Road, Dee Why NSW 2099	Tel: 0944 0550
Acoustic	Acoustic Logic	6 Mount Street, Mascot NSW 2020	Tel: 9310 2000

Client

PTW Architects
PTW
Level 13, 3 Castlereagh St
Sydney NSW Australia 2000
T +612 8223 8777
F +612 8221 4003

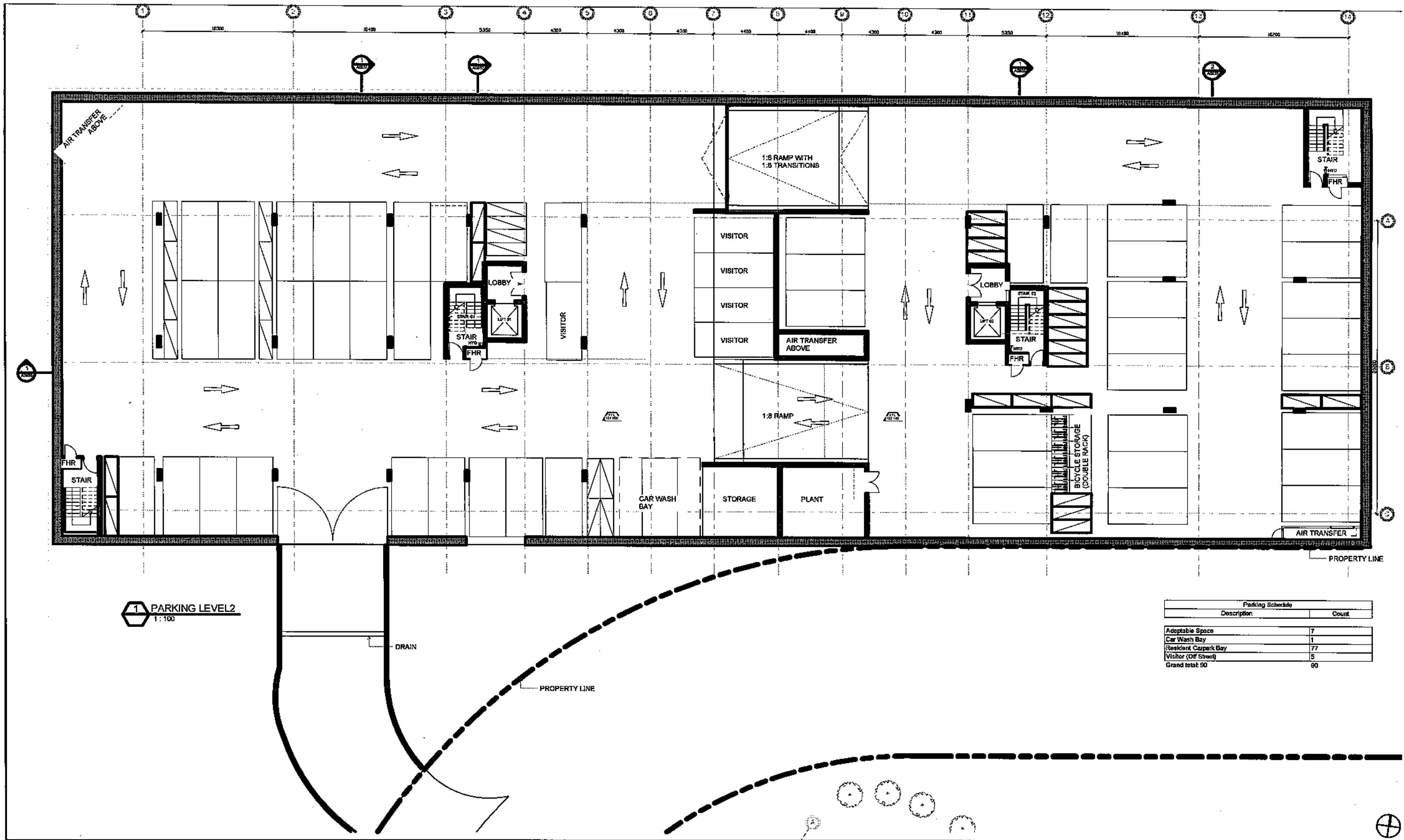
Key Plan

Project: EPPING PARK - STAGE 2
81 NORFOLK LANE, EPPING
BUILDINGS 9,10,11,12

Title: BUILDING 9 PARKING LEVEL 1 PLAN

Scale: 1 : 100 @ISO
Plot Date: 12/05/2011 4:23:47 PM
Job No: 211.008
Drawing No: 010
Drawn by: Author
Checked by: Checker
Revision: E

PRELIMINARY



1 PARKING LEVEL2
1 : 100

Parking Schedule	
Description	Count
Adaptable Space	7
Car Wash Bay	1
Resident Carpark Bay	77
Visitor (Off Street)	5
Grand total: 90	90

Rev	Date	Amendment
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	10.03.2011	FINAL DRAFT FOR PA ISSUE
C	08.04.2011	FINAL DRAFT FOR PA ISSUE
D	10.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants

Landscape Arch.	Sturt Associates	Suite 81, Level 5, 330 Wattle Street Ultimo NSW 2007	Tel: 0211 3744
Solar Access	Haggies	2 Lincon Street, Lane Cove NSW 2066	Tel: 9427 0100
Traffic	TTP	Suite 803, Level 8, 282 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5660
Nathers/Basix	Efficient Living	240/178 South Creek Road, Cromer NSW 2099	Tel: 9844 0332
Acoustic	Acoustic Logic	8 Sarah Street, Mascot NSW 2020	Tel: 8338 0888

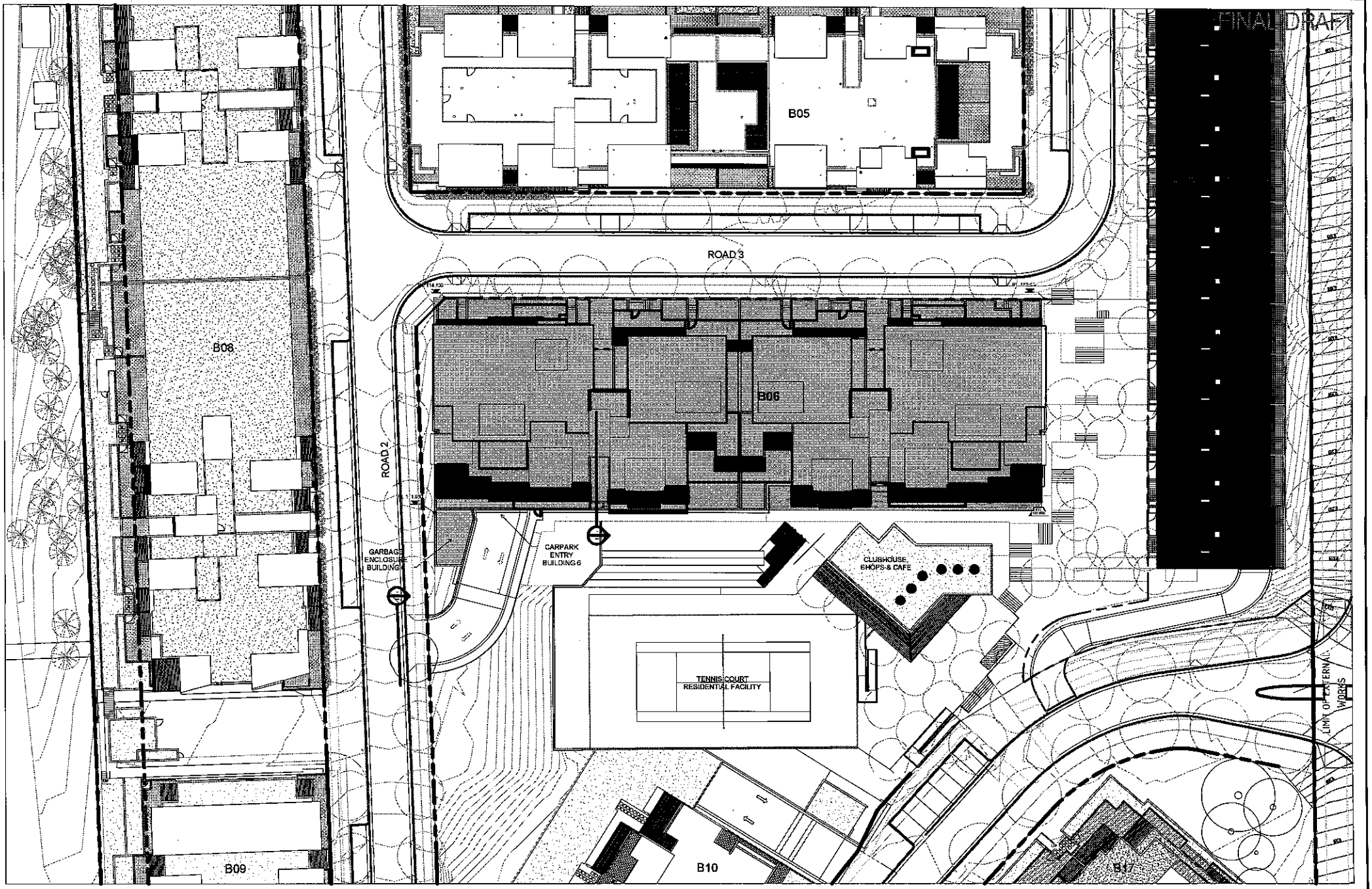
PTW Architects
PTW
Level 17, 9 Castlereagh St Sydney NSW Australia 2000
T +612 9232 5877 F +612 9221 4139

Project: EPPING PARK - STAGE 2
61 MOBBS LANE, EPPING
BUILDINGS 8,9,10,17

Title: BUILDING 9 PARKING LEVEL 2 PLAN

Scale: 1 : 100 @A1
Plot Date: 17/05/2011 4:30:52 PM
Job No: 211.006
Drawing No: 311
Drawn By: Author
Checked By: Checker
Revision: E

PRELIMINARY



REV	DATE	REMARKS
A	13.03.2011	PRELIMINARY ISSUE FOR RECONCILIATION
B	15.03.2011	FINAL DRAFT FOR ISSUE
C	06.04.2011	FINAL DRAFT FOR ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH GFA INCLUSION

Consultants

Landscape Arch	Site7 Associates	Suite 9/1, Level 6, 330 Wattle Street, Ultimo NSW 2007	Tel : 9211 2144
Solar Access	Steggles	9 Lovers Street, Lane Cove NSW 2066	Tel: 0427 841
Traffic	TTP	Suite 603, Level 6, 282 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5660
Hydraulic	Efficient Living	249-253 South Creek Road, Cromer NSW 2099	Tel: 9144 0222
Acoustic	Acoustic Logic	9 Smith Street, Alexandria NSW 2015	Tel: 9310 5855

Client

Meriton Apartments Pty. Ltd.
Builders & Developers

Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777

PTW Architects

PTW

Level 17, 9 Castlereagh St Sydney NSW Australia 2000

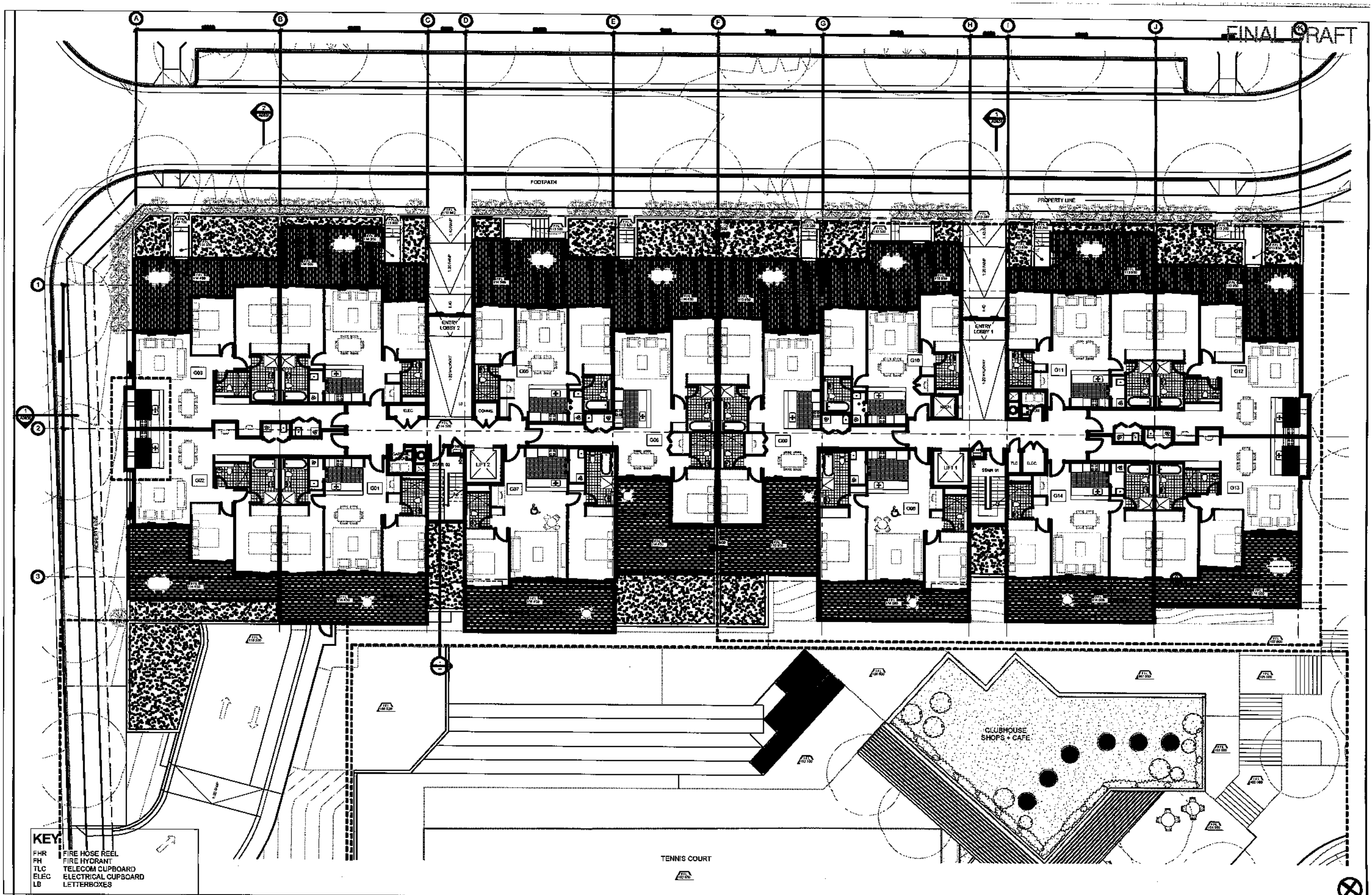
T +612 82428377
F +612 9221 4139

Key Plan

Project
EPPING PARK - STAGE 2 B6
51 MOUSE LANE, EPPING
BUILDING 6

Title
B6 - SITE PLAN

Scale: 1 : 200 @ B1 (1:100 @ A1 / 1:400 @ A3)
Plot Date: 17/05/2011 5:49 PM
Job No: 211.006
Dwg No: A0602
Drawn By: Author
Checked By: Checker
Revision: E



Rev	Date	Amendment
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	10.03.2011	FINAL DRAFT FOR PA ISSUE
C	08.04.2011	FINAL DRAFT FOR PA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH GFA REDUCTION

Client: **Meriton Apartments Pty. Ltd.**

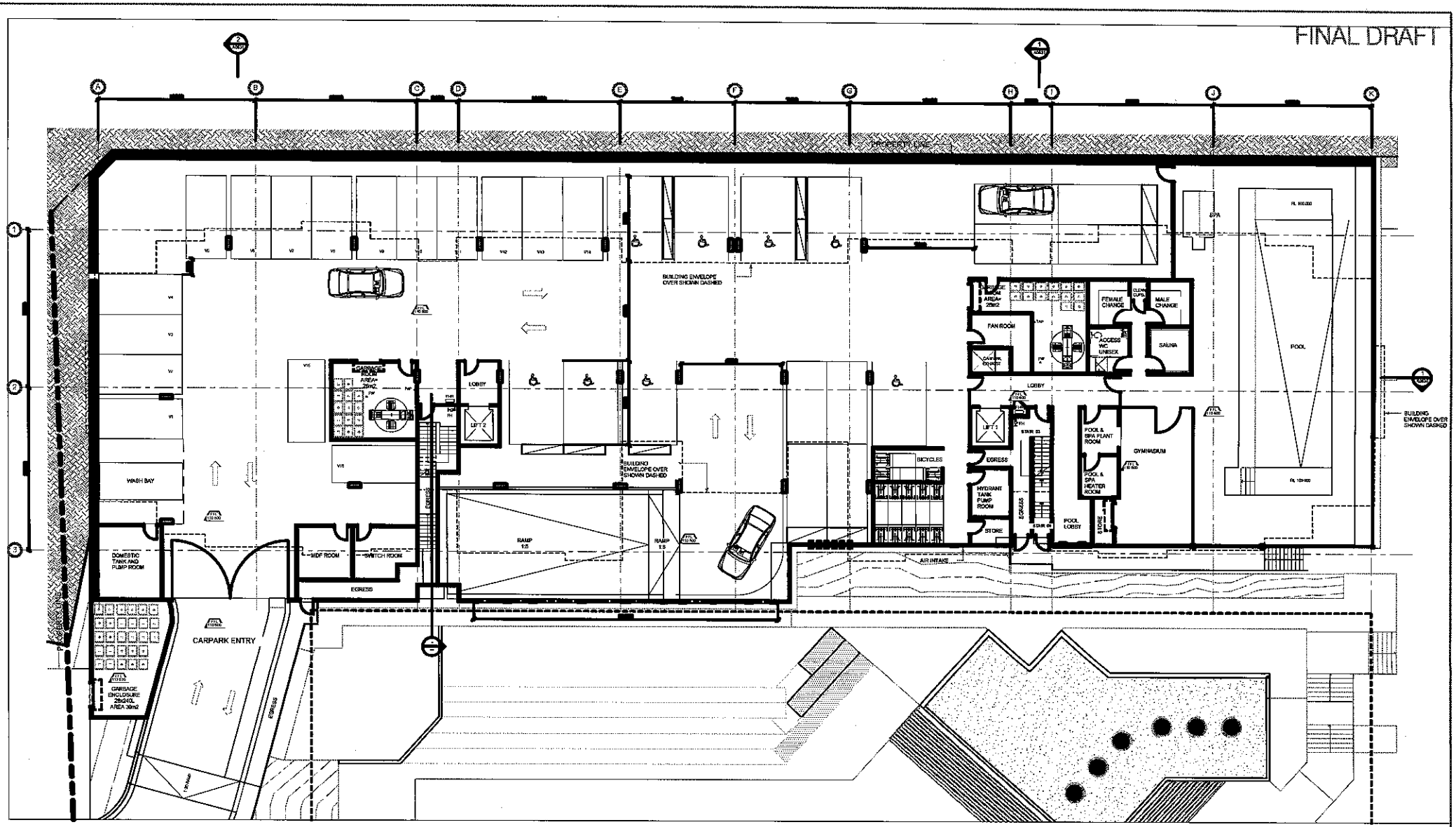
PTW — PTW Architects

Project: EPPING PARK - STAGE 2 B6
61 MOBBS LANE, EPPING
BUILDING B6

Title: B6 - GROUND FLOOR PLAN

Scale: 1 : 100 @A1
Plot Date: 17/05/2011 5:51:44 PM
Job No: 211.005
Dwg No: AD613
Drawn By: Author
Checked By: Checker
Revision: E
Status: PRELIMINARY

FINAL DRAFT



PARKING LEVEL1
1 : 100

KEY

FHR	FIRE HOSE REEL
FH	FIRE HYDRANT
TLC	TELECOM CUPBOARD
ELEC	ELECTRICAL CUPBOARD
LB	LETTERBOXES

Issue	Date	Description
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	18.03.2011	FINAL DRAFT FOR PANEL ISSUE
C	07.04.2011	FINAL DRAFT FOR PANEL ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	12.05.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants

Landscape Arch	Sturt Australasia	Suite 91, Level 9, 330 Wattle Street, Ultimo NSW 2007	Tel: 9211 3744
Civil/ Hydraulic	Haggie	2 Lincoln Street, Lane Cove NSW 2066	Tel: 9427 0100
Traffic	TTP	Suite 803, Level 8, 280 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5660
Mechanical/Elect.	Efficient Living	3/60-72A South Creek Road, Dee Why NSW 2099	Tel: 9984 5522
Acoustic	Acoustic Logic	9 Small Street, Mascot NSW 2020	Tel: 9700 9000

Client
Meriton Apartments Pty. Ltd.
Builders & Developers
Level 11, 528 Kent Street, Sydney NSW 2000
Tel: (612) 9287 2888 Fax: (612) 9287 2777

PTW Architects
PTW
Level 17, 8 Castlereagh St
Sydney NSW Australia 2000
T +612 8233 9927
F +612 9221 4139

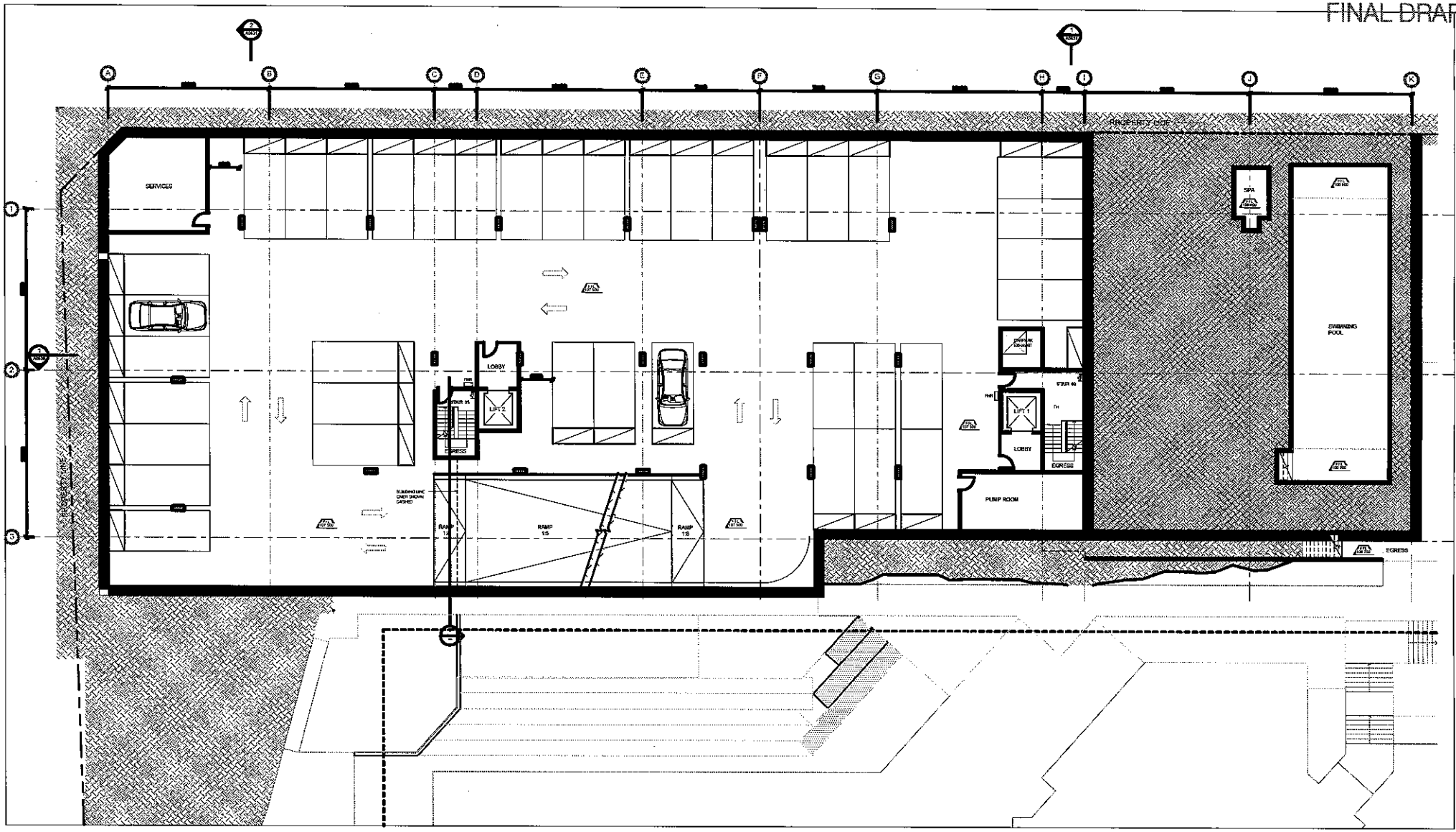
Key Plan

Project
EPPING PARK - STAGE 2 B6
81 MOSS LANE, EPPING
D/A/DWG/210

Title
B6 - PARKING LEVEL P1 & POOL PLAN

Scale: 1 : 100 @ B1
Plot Date: 17/05/2011 9:51:16 PM
Job No: 211 006
Drawing No: A0612
Drawn By: Author
Checked By: Checker
Revision: E
Status: PRELIMINARY

FINAL DRAFT



1 PARKING LEVEL2
1 : 100

KEY

FHR	FIRE HOSE REEL
FH	FIRE HYDRANT
TLC	TELECOM CUPBOARD
ELEC	ELECTRICAL CUPBOARD
LB	LETTERBOXES

No.	Date	Amendment
A	11.09.2011	PRELIMINARY ISSUE FOR COORDINATION
B	16.09.2011	FINAL DRAFT FOR PA ISSUE
C	06.01.2011	FINAL DRAFT FOR PA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH EPA REDUCTION

Consultants			
Landscape Arch	Site Landscapes	Suite 01, Level 6, 300 Wattle Street, Ultimo NSW 2007	Tel : 9211 3744
Solar Access	Heggies	2 Lincoln Street, Lane Cove NSW 2066	Tel: 9427 0100
Traffic	TTP	Suite 903, Level 9, 292 Victoria Ave, Chatswood NSW 2067	Tel: 9411 5660
Stationary Loss	Efficient Living	24/01 Pl South Creek Road, Dee Why NSW 2099	Tel: 9844 0272
Acoustic	Acoustic Logic	6 Gerish Street, Mascot NSW 2020	Tel: 9339 9999

Client
Meriton Apartments Pty. Ltd.
Builders & Developers
Level 14, 528 Kent Street, Sydney NSW 2000 Tel: 9287 2888 Fax: 9287 2777

PTW Architects
PTW
Level 17, 8 Chifley Square, Sydney NSW Australia 2000 T +612 9232 6622 F +612 9221 4139

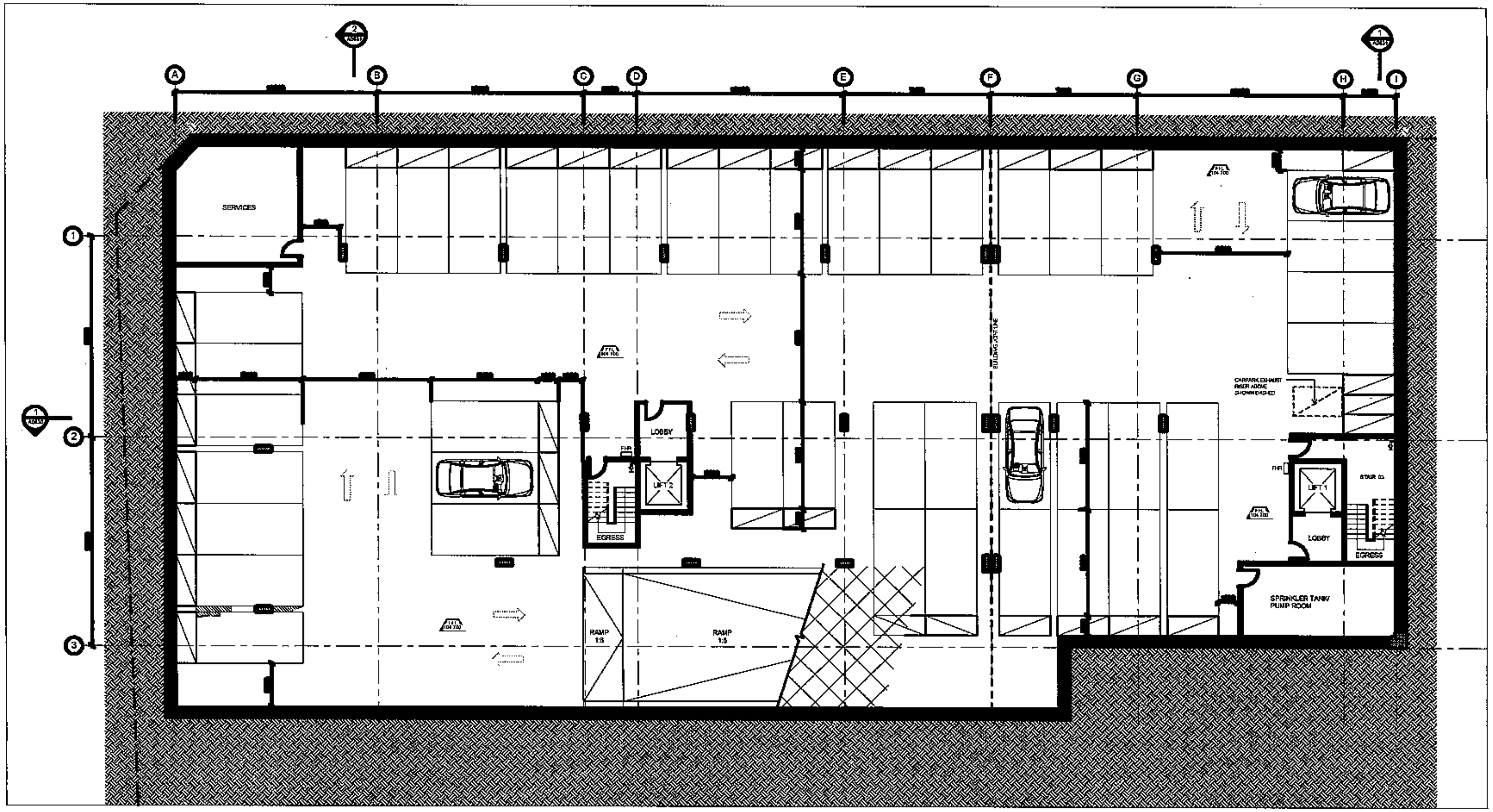
Key Plan

Project
EPPING PARK - STAGE 2 B6
81 MODEL LANE, EPPING
BUILDING B

Title
B6 - PARKING LEVEL P2 PLAN

Scale	1 : 100 @ A1	Print Date	17/05/2011 5:50:30 PM
Job No	211.008		
Drawn By	Author	Checked By	Checker
Revision	E		
Status	PRELIMINARY		

FINAL DRAFT



PARKING LEVEL 3
1 : 100

Issue	Date	Amendment
A	11.03.2011	PRELIMINARY ISSUE FOR COORDINATION
B	16.03.2011	FINAL DRAFT FOR PA ISSUE
C	06.04.2011	FINAL DRAFT FOR PA ISSUE
D	19.04.2011	REVISED FINAL DRAFT ISSUE
E	17.05.2011	FINAL DRAFT WITH GFA REDUCTION

Consultants

Landscape Arch	Sturt Associates	Suite 91, Level 6, 330 Wattle Street, Ultimo NSW 2007	Tel : 9211 3744
Solar Access	Haggies	2 Lincoln Street, Lane Cove NSW 2066	Tel : 9427 8100
Traffic	TTP	Suite 603, Level 6, 202 Victoria Ave, Chatswood NSW 2067	Tel : 9411 5660
Nathers/Basix	Efficient Living	249/178 South Creek Road, Cromer NSW 2099	Tel : 9944 0332
Acoustic	Acoustic Logic	9 Sarah Street, Mascot NSW 2020	Tel : 8338 9888

Client:
Meriton Apartments Pty. Ltd.
Builders & Developers

PTW Architects
PTW
Level 17, 9 Castlereagh St
Sydney NSW Australia 2000

Key Plan

Project:
EPPING PARK - STAGE 2 B6
61 MOBBS LANE, EPPING
BUILDINGS 6

Title:
B6 - PARKING LEVEL P3 PLAN

Scale:	Plot Date:	Job No.
1 : 100 @B1	17/06/2011 5:50:19 PM	211.006

Dwg No:	Drawn By:	Checked By:	Revision:
610	Author	Checker	E

Status: PRELIMINARY

APPENDIX B

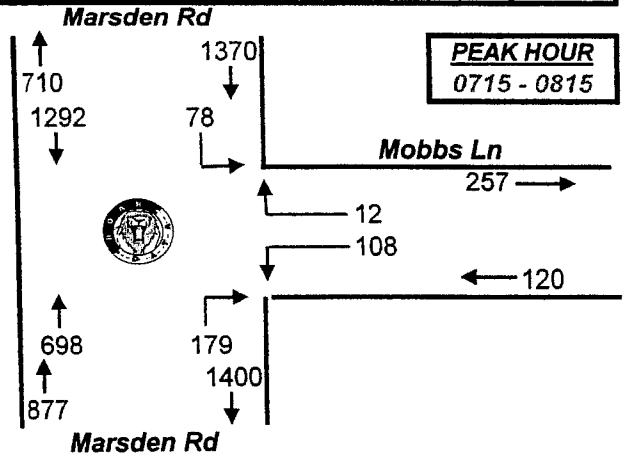
TRAFFIC SURVEYS

R.O.A.R. DATA
Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849, Mob.0418-239019

Client : T.T.P.A
Job No/Name : 3194 EPPING Mobbs Lane
Day/Date Thursday 10th June 2010

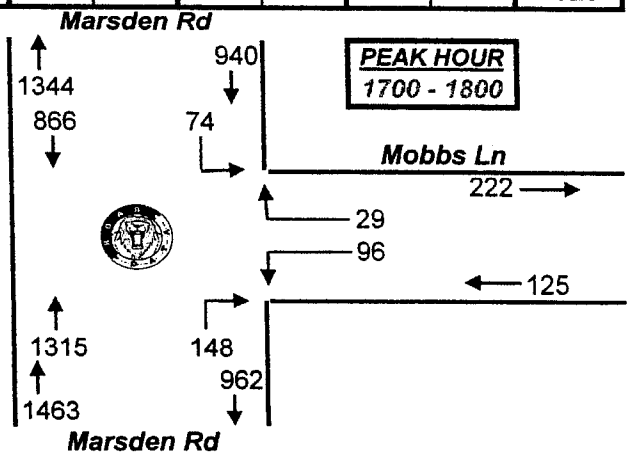
All Vehicles	NORTH		EAST		SOUTH		
	Marsden Rd		Mobbs Ln		Marsden Rd		
Time Per	T	L	R	L	R	T	TOTAL
0700 - 0715	319	14	2	20	20	165	540
0715 - 0730	320	23	1	22	44	172	582
0730 - 0745	353	23	0	22	36	173	607
0745 - 0800	296	16	4	23	52	190	581
0800 - 0815	323	16	7	41	47	163	597
0815 - 0830	300	15	6	29	54	164	568
0830 - 0845	299	28	4	28	35	164	558
0845 - 0900	234	16	7	20	42	143	462
Period End	2444	151	31	205	330	1334	4495

	NORTH		EAST		SOUTH		
	Marsden Rd		Mobbs Ln		Marsden Rd		
Peak Per	T	L	R	L	R	T	TOTAL
0700 - 0800	1288	76	7	87	152	700	2310
0715 - 0815	1292	78	12	108	179	698	2367
0730 - 0830	1272	70	17	115	189	690	2353
0745 - 0845	1218	75	21	121	188	681	2304
0800 - 0900	1156	75	24	118	178	634	2185
PEAK HR	1292	78	12	108	179	698	2367



All Vehicles	NORTH		EAST		SOUTH		
	Marsden Rd		Mobbs Ln		Marsden Rd		
Time Per	T	L	R	L	R	T	TOTAL
1600 - 1615	172	10	5	18	25	267	497
1615 - 1630	202	15	11	21	21	296	566
1630 - 1645	207	19	8	24	21	305	584
1645 - 1700	176	13	9	25	30	288	541
1700 - 1715	211	19	9	21	33	324	617
1715 - 1730	203	17	4	23	34	339	620
1730 - 1745	244	19	7	24	39	353	686
1745 - 1800	208	19	9	28	42	299	605
Period End	1623	131	62	184	245	2471	4716

	NORTH		EAST		SOUTH		
	Marsden Rd		Mobbs Ln		Marsden Rd		
Peak Per	T	L	R	L	R	T	TOTAL
1600 - 1700	757	57	33	88	97	1156	2188
1615 - 1715	796	66	37	91	105	1213	2308
1630 - 1730	797	68	30	93	118	1256	2362
1645 - 1745	834	68	29	93	136	1304	2464
1700 - 1800	866	74	29	96	148	1315	2528
PEAK HR	866	74	29	96	148	1315	2528



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : T.T.P.A

Job No/Name : 3194 EPPING Mobbs Lane

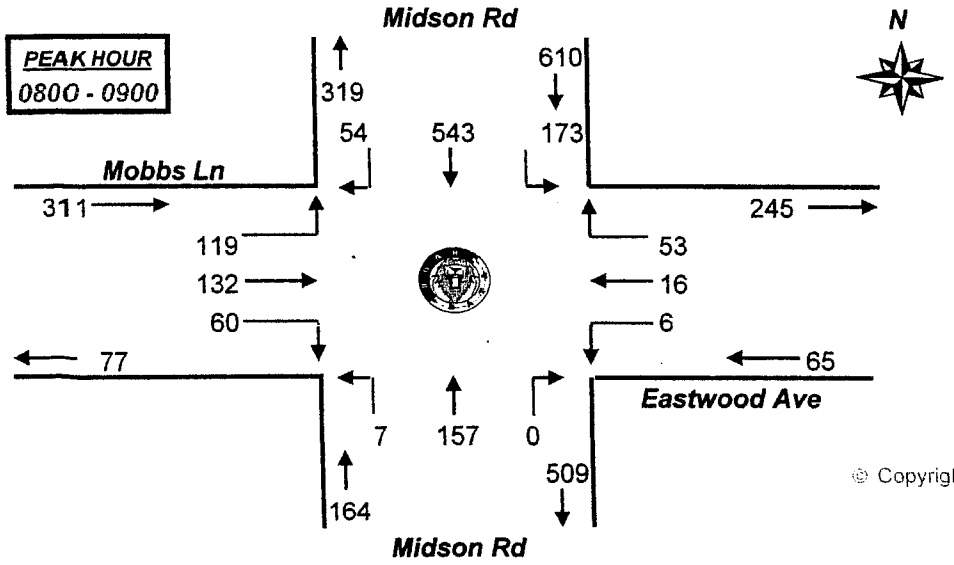
Day/Date Thursday 10th June 2010

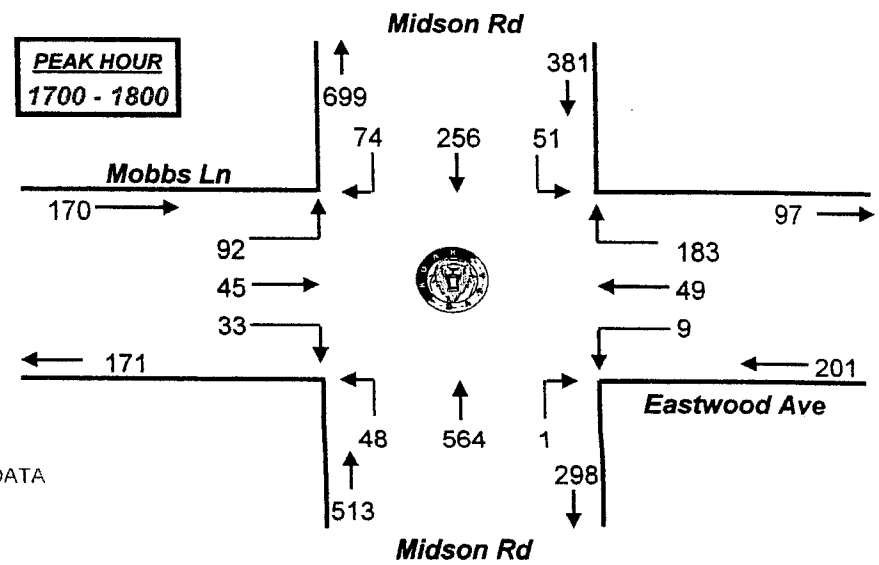
All Vehicles	NORTH Midson Rd			WEST Mobbs Ln			SOUTH Midson Rd			EAST Eastwood Ave			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0715	21	96	19	14	30	5	1	17	1	0	7	9	220
0715 - 0730	22	97	22	18	31	18	3	24	0	2	3	10	250
0730 - 0745	25	117	20	17	38	14	1	30	0	0	2	8	272
0745 - 0800	28	129	20	29	49	12	4	27	0	1	8	12	319
0800 - 0815	29	125	25	26	40	16	2	36	0	4	3	22	328
0815 - 0830	31	131	30	30	32	11	0	37	0	1	4	12	319
0830 - 0845	31	143	20	31	32	12	4	37	0	1	5	11	327
0845 - 0900	22	144	19	32	28	21	1	47	0	0	4	18	336
Period End	209	982	175	197	280	109	16	255	1	9	36	102	2371

All Vehicles	NORTH Midson Rd			WEST Mobbs Ln			SOUTH Midson Rd			EAST Eastwood Ave			
Time Per	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1600 - 1615	9	81	20	28	10	6	8	106	0	6	7	31	312
1615 - 1630	11	69	19	23	5	4	17	118	0	2	7	42	317
1630 - 1645	11	71	20	21	12	2	9	104	0	3	8	40	301
1645 - 1700	12	55	14	20	7	3	9	130	0	2	5	38	295
1700 - 1715	12	63	14	21	19	15	10	126	0	5	12	40	337
1715 - 1730	10	74	26	23	12	5	13	147	0	1	11	44	366
1730 - 1745	14	61	16	22	8	6	15	147	0	3	13	60	365
1745 - 1800	15	58	18	26	6	7	10	124	1	0	13	39	317
Period End	94	532	147	184	79	48	91	1002	1	22	76	334	2610

	NORTH Midson Rd			WEST Mobbs Ln			SOUTH Midson Rd			EAST Eastwood Ave			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
0700 - 0800	96	439	81	78	148	49	9	98	1	3	20	39	1061
0715 - 0815	104	468	87	90	158	60	10	117	0	7	16	52	1169
0730 - 0830	113	502	95	102	159	53	7	130	0	6	17	54	1238
0745 - 0845	119	528	95	116	153	51	10	137	0	7	20	57	1293
0800 - 0900	113	543	94	119	132	60	7	157	0	6	16	63	1310
PEAK HOUR	113	443	54	119	132	60	7	157	0	6	16	43	1150

	NORTH Midson Rd			WEST Mobbs Ln			SOUTH Midson Rd			EAST Eastwood Ave			
Peak Time	L	T	R	L	T	R	L	T	R	L	T	R	TOT
1600 - 1700	43	276	73	92	34	15	43	458	0	13	27	151	1225
1615 - 1715	46	258	67	85	43	24	45	478	0	12	32	160	1250
1630 - 1730	45	263	74	85	50	25	41	507	0	11	36	162	1299
1645 - 1745	48	253	70	86	46	29	47	550	0	11	41	182	1363
1700 - 1800	51	256	74	92	45	33	48	544	1	9	49	183	1385
PEAK HOUR	51	256	74	92	45	33	48	464	1	9	49	143	1265





APPENDIX C

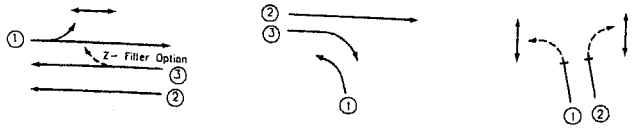
INTERSECTION WORKS

DRAWN BY CADD
DO NOT AMEND MANUALLY

DATE IN SERVICE: 00/00/00

RTA

0000.000.VV.0000

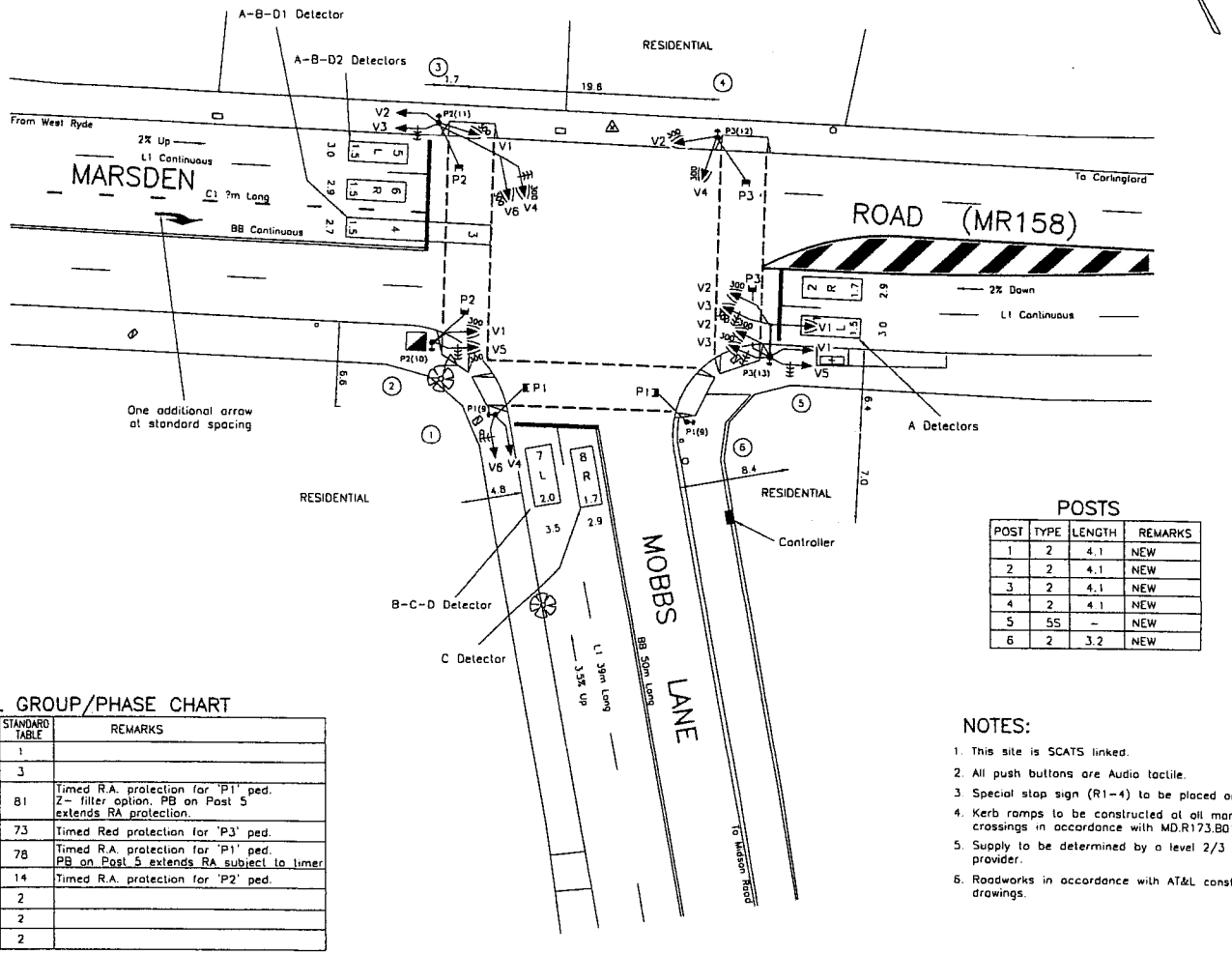


A PHASE

B & D PHASES
Z+ Introduces D Phase

C PHASE

MOVEMENTS



DETECTOR SPECIFICATION

Detector		Specifications			
A	FN	A(L)	A(E1)		
	SG/PS	$\overline{A}$	A		
	DS	–	–		
A–B–D1 Depart. & Approach	FN	B(PR)	D(PR)	B(E4)	D(E4)
	SG/PS	A	A	B	D
	DS	–	Z+	A(NEXT)	A(NEXT)
Cont. A–B–D1 Approach	FN	A(L).B(L)	D(L)	A(E3)	
	SG/PS	$\overline{A/B/D}$	$\overline{A/B/D}$	A	
	DS	–	Z+	A–B–D1(PR).B(NEXT).D(NEXT)	
Cont. A–B–D1 Approach	FN	B(E3)		D(E3)	
	SG/PS	B		D	
	DS	A(NEXT).D(NEXT)		A(NEXT).B(NEXT)	
A–B–D2	FN	A(L)	A(E2)	B(E2)	D(E2)
	SG/PS	$\overline{A/B/D}$	A	B	D
	DS	–	B(NEXT).D(NEXT)	A(NEXT).D(NEXT)	A(NEXT).B(NEXT)
B–C–D	FN	B(PR)	D(PR)	B(E1)	
	SG/PS	$\overline{B.C.D}$	$\overline{B.C.D}$	B	
	DS	$\overline{C}$	Z+.C	C(NEXT).D(NEXT)	
cont. B–C–D	FN	C(E1)		D(E1)	
	SG/PS	C		D	
	DS	B(NEXT).D(NEXT)		B(NEXT).C(NEXT)	
C	FN	C(L)	C(E2)		
	SG/PS	$\overline{C}$	C		
	DS	–	–		
P1 P.B.	FN	A(PB)	C(L)		
	SG/PS	P1(WALK)	A.P1(WALK)		
	DS	-	$\overline{B.C.D}$		
P2 P.B.	FN	C(PB)	A(L)		
	SG/PS	P2(WALK)	C.P2(WALK)		
	DS	–	$\overline{A.B.D}$		
P3 P.B.	FN	C(PB)	A(L)		
	SG/PS	P3(WALK)	C.P3(WALK)		
	DS	–	$\overline{A.B.D}$		

SIGNAL GROUP/PHASE CHART

SIGNAL GROUP	PHASES WHEN GREEN A	B	C	D	STANDARD TABLE	REMARKS
V1	X				1	
V2	X	X		X	3	
V3		X		X	81	Timed R.A. protection for 'P1' ped. Z– filter option. PB on Post 5 extends RA protection.
V4			C		73	Timed Red protection for 'P3' ped.
V5			C		78	Timed R.A. protection for 'P1' ped. PB on Post 5 extends RA subject to timer
V6		X	C	X	14	Timed R.A. protection for 'P2' ped.
P1	X				2	
P2			X		2	
P3			X		2	

POSTS

POST	TYPE	LENGTH	REMARKS
1	2	4.1	NEW
2	2	4.1	NEW
3	2	4.1	NEW
4	2	4.1	NEW
5	5S	–	NEW
6	2	3.2	NEW

NOTES:

1. This site is SCATS linked.
2. All push buttons are Audio tactile.
3. Special stop sign (R1–4) to be placed on post 1.
4. Kerb ramps to be constructed at all marked foot crossings in accordance with MD.R173.B01.A.1.
5. Supply to be determined by a level 2/3 service provider.
6. Roadworks in accordance with AT&L construction drawings.

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND: HYDRANT, STOP VALVE, GAS VALVE, SEWER MANHOLE, TELECOM PIT, ELECT LIGHT POLE, POWER POLE, STAY POLE, TELEPHONE BOX, TELECOM PILLAR

REFERENCE PLANS: SYMBOLS/ABBS. VD003-8; STD. POST VD001-5

U.S.D.Ref Map 192 J8
LEG. E 305 517
CO-ORDS N 1 354 556

DESIGNED VCT
CHECKED AM
AM SITE CHECKED
RW RECOMMENDED

SURVEYOR: YSCO
DATE: June 2008

DESIGN APPROVAL: APPROVED ROSS METTLE, DIRECTOR, POSITION, DATE 28.07.10
DESIGN PREPARED BY: TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

RTA ACCEPTANCE: RECOMMENDED, POSITION, DATE; ACCEPTED, POSITION, DATE

Roads and Traffic Authority, N.S.W

PARAMATTA CITY COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF MARSDEN ROAD (MR158) AND MOBBS LANE
EPPING

DESIGN LAYOUT TCS No 0000

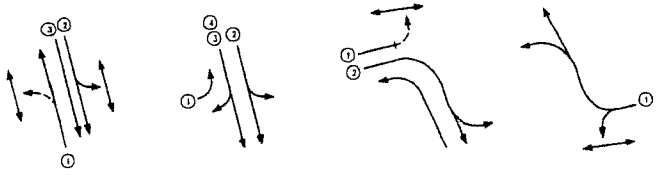
EXISTING ☐ PROPOSED ☑
CADD FILE: VV0000_1A.dgn
SCALE 5 0 (1:200) 5 10
FILE 000 TS 000
SUPERSEDES SHEET/ISSUE –
ISSUE A
REGN. 0000.000.VV.0000
SHEET 1

DRAWN BY CADD
DO NOT AMEND MANUALLY

Date in Service 17/6/87

RTA

PROPOSED 7000.354.VV.1067



MOVEMENTS

POSTS

POST	TYPE	LENGTH	REMARKS
1	2	3.2	New
2	ELP	–	Existing
3	ELP	–	Existing
4	2	4.1	Existing
5	ELP	–	Existing
6	2	3.2	Existing
7	ELP	–	Existing
8	2	3.2	Existing
9	2	4.1	Existing
10	SL	–	Existing

DETECTOR SPECIFICATION

Detector		Specifications		
A	FN	A(L)	A(E2)	
	SG/PS	$\overline{A}$	A	
	DS	–	–	
A–B1 Approach	FN	A(L).B(L)	A(E1)	B(E1)
	SG/PS	$\overline{A/B}$	A	B
	DS	–	$\overline{A–B(PR).B(NEXT)}$	A(NEXT)
A–B1 Approach & Depart	FN	B(PR)	B(E2)	
	SG/PS	A	B	
	DS	–	A(NEXT)	
A–B2	FN	A(L)	A(E3)	B(E3)
	SG/PS	$\overline{A/B}$	A	B
	DS	–	$\overline{B(NEXT)}$	$\overline{A(NEXT)}$
B–C	FN	B(L)	B(E4)	C(E1)
	SG/PS	$\overline{B.C}$	B	C
	DS	$\overline{C}$	$\overline{C(NEXT)}$	$\overline{B(NEXT)}$
C	FN	C(L)	C(E2)	
	SG/PS	$\overline{C}$	C	
	DS	–	–	
D	FN	D(L)	D(E2)	
	SG/PS	$\overline{D}$	D	
	DS	–	–	
P1 P.B.	FN	A(PB)	B(L)	
	SG/PS	P1(WALK)	$\overline{A.P1(WALK)}$	
	DS	–	$\overline{B.C.D}$	
P2 P.B.	FN	A(PB)	B(L)	
	SG/PS	P2(WALK)	$\overline{A.P2(WALK)}$	
	DS	–	$\overline{B.C.D}$	
P3 P.B.	FN	C(PB)	A(L)	
	SG/PS	P3(WALK)	$\overline{C.P3(WALK)}$	
	DS	–	$\overline{A.B.D}$	
P4 P.B.	FN	D(PB)	A(L)	
	SG/PS	P4(WALK)	$\overline{D.P4(WALK)}$	
	DS	–	$\overline{A.B.C}$	

SIGNAL GROUP PHASE CHART

SIGNAL GROUP	PHASE A	B	C	D	STANDARD TABLE	REMARKS
V1	X				1	
V2	X	X			3	
V3		X			2	
V4			X		1	
V5				X	1	
V6			X		78	Timed RA protection for P1 Pedestrian
V7			X		14	Timed RA protection for P3 Pedestrian
P1	X				2	
P2	X				2	
P3			X		2	
P4				X	2	

NOTES

1. This site is SCATS linked.
2. Special STOP signs (R1–4) attached to post 2 and 7.
3. All push buttons are audio tactile
4. Kerb ramps are to be constructed at all crossings in accordance with Model Drawing MD.R173.Bo1.A.1.

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT		SYMBOLS/ABBS.	V0001-6
STOP VALVE		STD POST	V0001-5
GAS VALVE		DET SIGNED EXP	V0078-10
SEWER MANHOLE		PROG. DETECT	V0205-17
TELECOM PIT		SIG. DES. SEQ.	V0078-6
ELECT LIGHT POLE			
POWER POLE			
STAY POLE			
TELEPHONE BOX		SURVEYOR : N/A	
TELECOM PILLAR		DATE : N/A	

U.B.D. Ref. Map 192, P4
LGA: C: 305 588
CO-ORDS N: 1 280 720
DESIGNED JS
CHECKED AM
AM "SITE CHECKED"
RW "RECOMMENDED"

DESIGN APPROVAL
APPROVED
POSITION DIRECTOR
DATE 21.7.10
DESIGN PREPARED BY TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

RTA ACCEPTANCE
RECOMMENDED
POSITION REGIONAL OPERATIONS LEADER
DATE
ACCEPTED
POSITION
DATE

Roads and Traffic Authority, N.S.W

PARRAMATTA CITY COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF MIDSON ROAD, EASTWOOD AVENUE AND EDENLEE STREET
EASTWOOD

DESIGN LAYOUT TCS No. 1067

EXISTING ☐ PROPOSED ☑
CADD FILE: VV1067-??A.DGN
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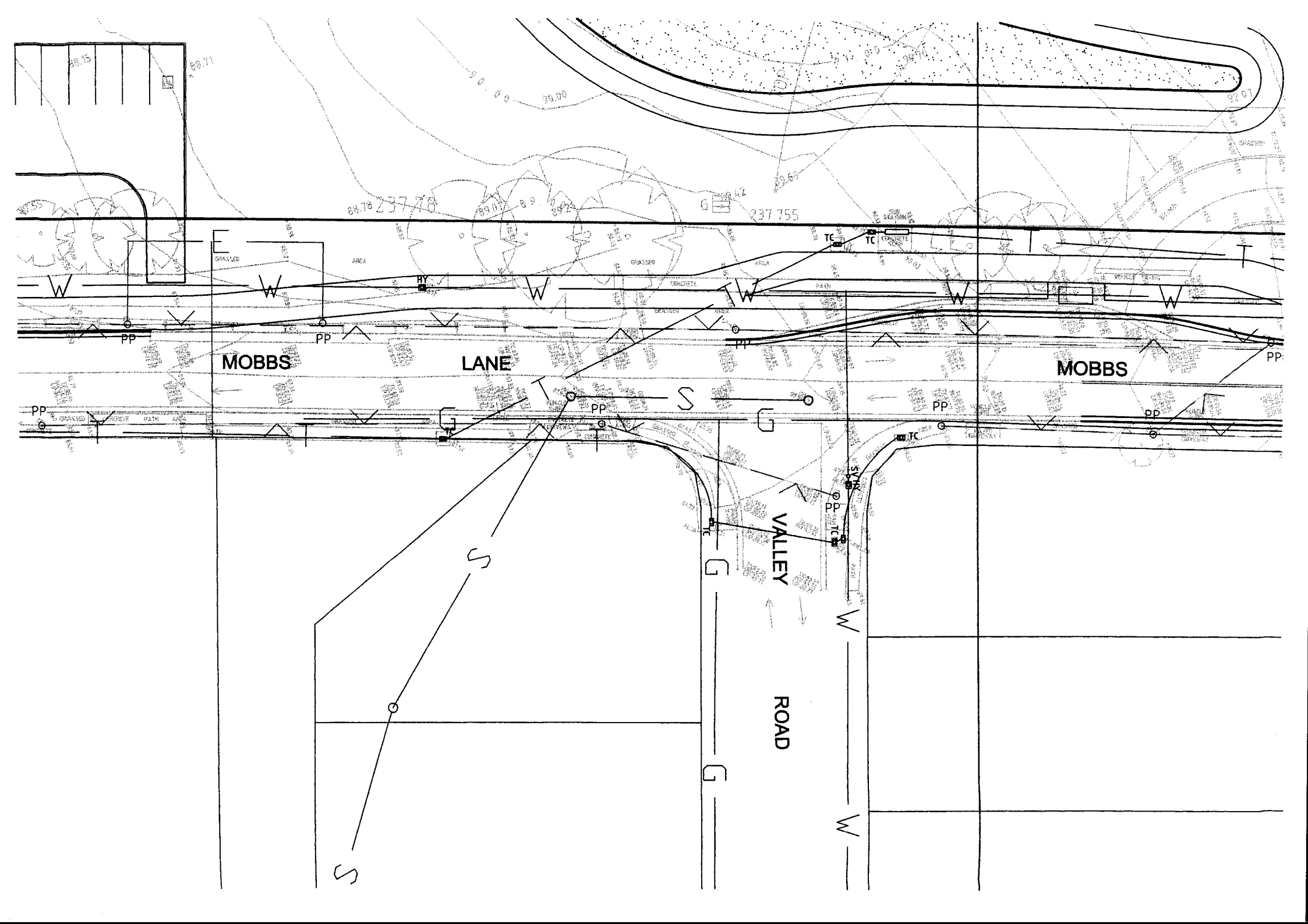
ISSUE ?
FILE 354 TS 513
SUPERSEDES SHEET/ISSUE 4A
REGN. 7000.354.VV.1067
SHEET ?


MOBBS
LANE
MOBBS
VALLEY
ROAD
237 755
PP
TC
HY