PLANNING PROPOSAL FOR MIXED USE DEVELOPMENT

311 HUME HIGHWAY, LIVERPOOL

Assessment of Traffic and Parking Implications

January 2015
(Rev D)

Reference 14303

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1. INTRODUCTION

This report has been prepared to accompany a Planning Proposal to Liverpool City Council to permit an envisaged residential apartment based mixed use development on a site at 311 Hume Highway in the southern sector of the Liverpool City Centre (Figure 1).

Development activity in Liverpool CBD in recent times has largely been focused on the northern sector, while development in the western and southern sectors has been limited and many sites remain underutilised. The Liverpool City Centre offers considerable advantages for major residential based development of underutilised sites due to:

∗ the close proximity of primary public transport services (rail and buses)

∗ the convenient proximity to employment, shopping and entertainment facilities available in the centre along with the nearby educational and hospital/medical services

There have been two previous consents granted for development on the site and the now envisaged development scheme, subject to approval of the Planning Proposal, comprises:

- 304 residential apartments
- Retail floor space (163 m^2)
- Basement parking

The purpose of this report is to:

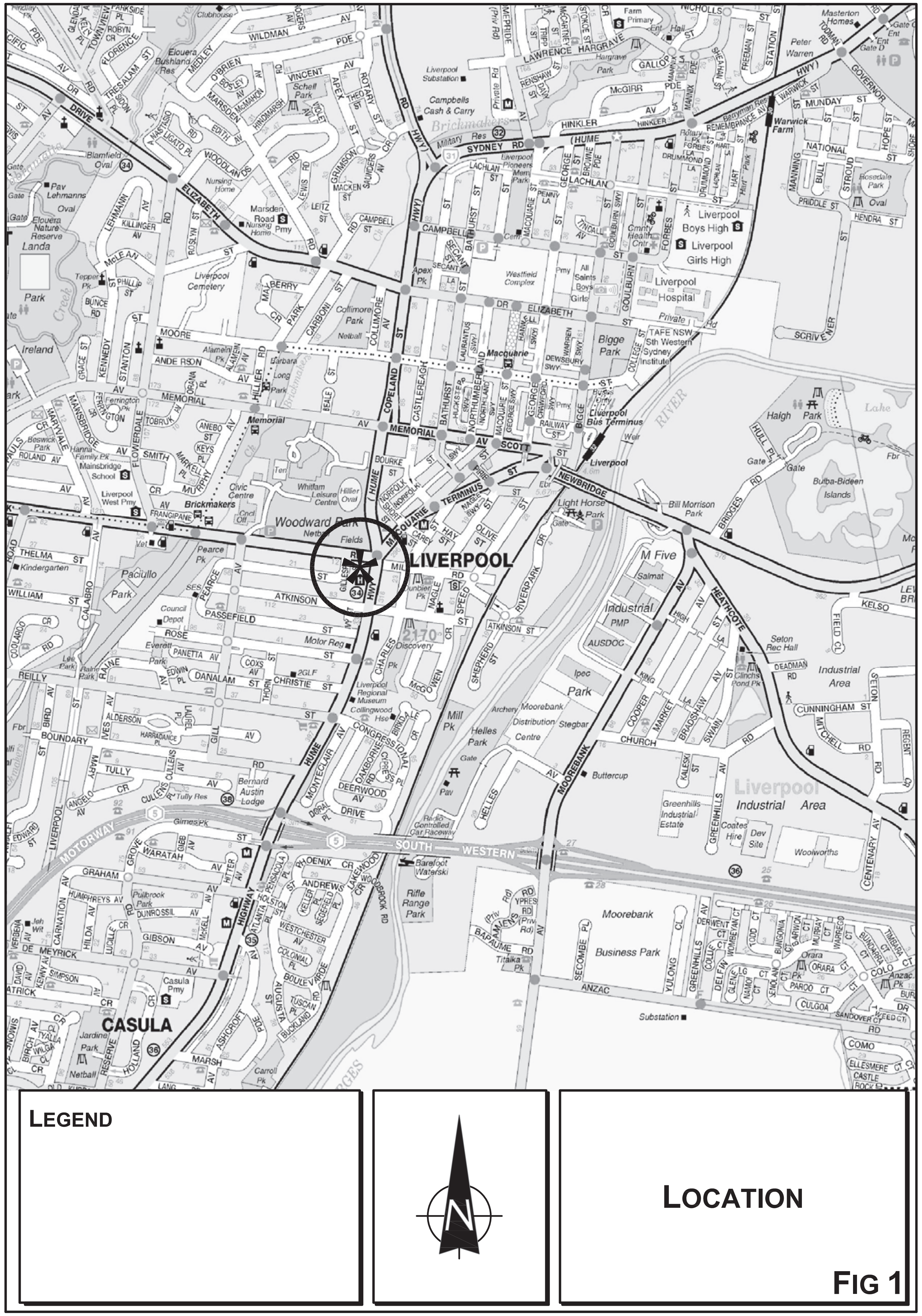
∗ describe the proposed development

∗ describe the road network serving the site and the prevailing traffic conditions

∗ assess the adequacy of the proposed parking provision

∗ assess the potential traffic implications

∗ assess the proposed vehicle access, internal circulation and servicing arrangements



LEGEND

LOCATION

FIG 1

2. PROPOSED PLANNING PROPOSAL

2.1 SITE, CONTEXT AND EXISTING USE

The site (Figure 2), being Lot 71 of DP 1004792, occupies an area irregular shaped all with frontages to Hume Highway, Hoxton Park Road and Gillespie Street located on the southern edge of the CBD.

The site is cleared and partially excavated while the surrounding landuses comprise:

* the Collingwood Hotel which adjoins to the south
* the vacant commercial building which adjoins to the west
* the commercial uses which extend along the highway and the residential areas extending to the south and west
* the Liverpool CBD and medical precinct which is located just to the north-east

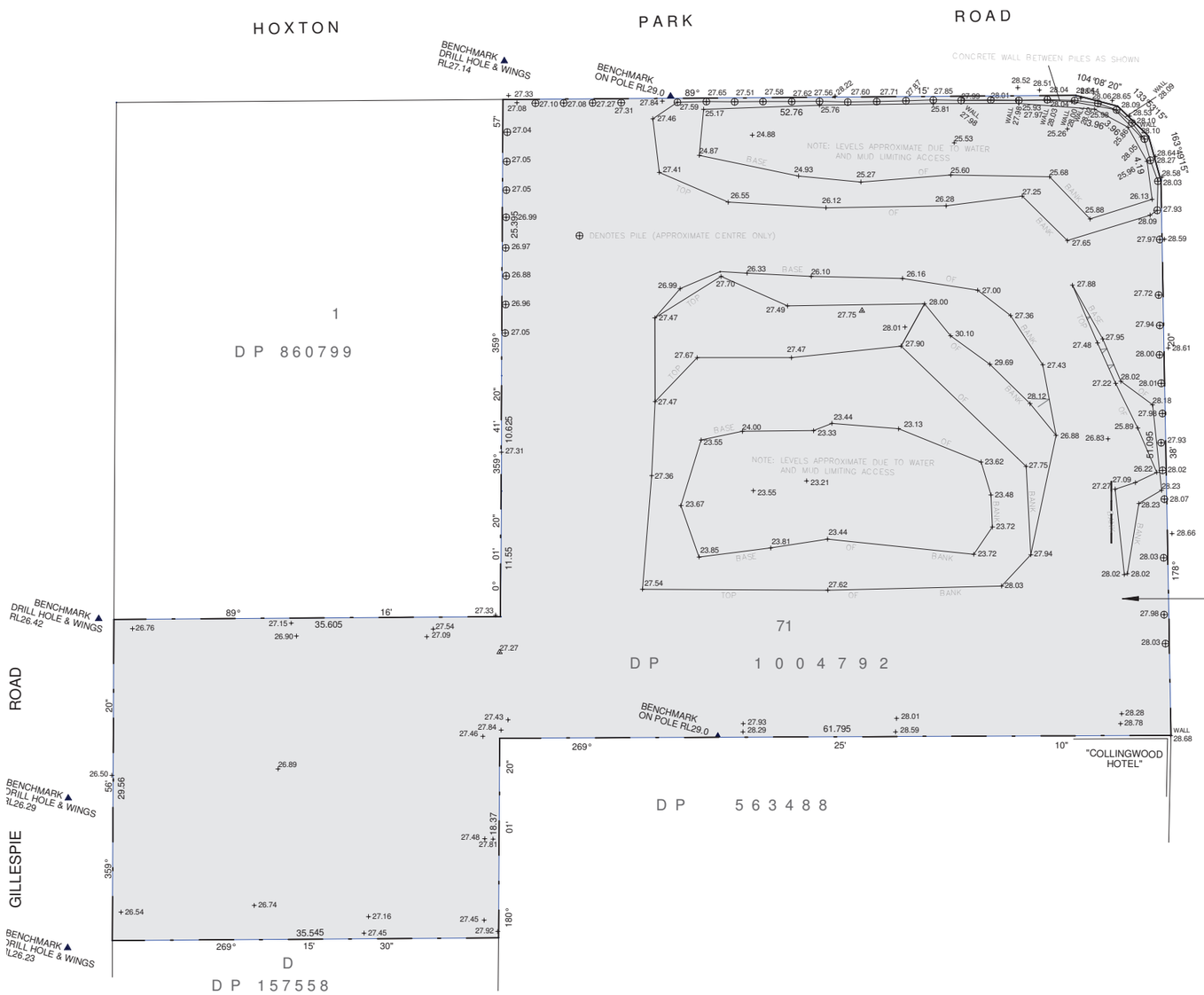
2.2 APPROVED DEVELOPMENT

Two Consents have been previously granted for proposed developments on the site with the most recent (which was substantially commenced with basement excavation) comprising:

Retail	3,036m^2 GLFA (supermarket & shops)
Commercial	800m^2
Residential	124 apartments
Parking	277 spaces

Vehicle access was located on Gillespie Street and there was a Consent Condition for the provision of traffic signals at the Hoxton Park Road and Gillespie Street intersection.

FIG 2



NOTE:
4 LEVEL BASEMENT EXCAVATION CURRENTLY ONSITE

SITE SURVEY

1 : 500

PREPARED BY --

PRELODGEMENT

REF.	DATE	AMENDMENT
A	26.08.2014	PRELODGEMENT

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ADDRESS: 311 HUME HWY, LIVERPOOL
DRAWING NAME: SITE SURVEY

DATE: JULY 14
DRAWN: KKC
SCALE: 1 : 500
QA: RG
PROJECT No. 1020
DWG No. 05-A

A3

Details of the approved development are provided on the architectural plans provided in part in Appendix A.

2.3 ENVISAGED DEVELOPMENT

It would be proposed to complete the excavation of the site to provide for basement car parking and a level building platforms to enable construction of a 30 storey tower and two 7 storey buildings.

The envisaged development comprises:

Residential Apartments
Tower
One-bedroom apartments x 34
Two-bedroom apartments x 233
Three-bedroom apartments x 37

Total:	**304 apartments**
Retail Floor Space	163 m^2
Carpark	348 spaces

Vehicle access will be located on the Gillespie Street frontage.

Architectural details of the development scheme are shown on the plans prepared by Design Workshop Australia which accompany the Development Application and are reproduced in part in Appendix B.

3. ROAD NETWORK AND TRAFFIC CONTROLS

3.1 ROAD NETWORK

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

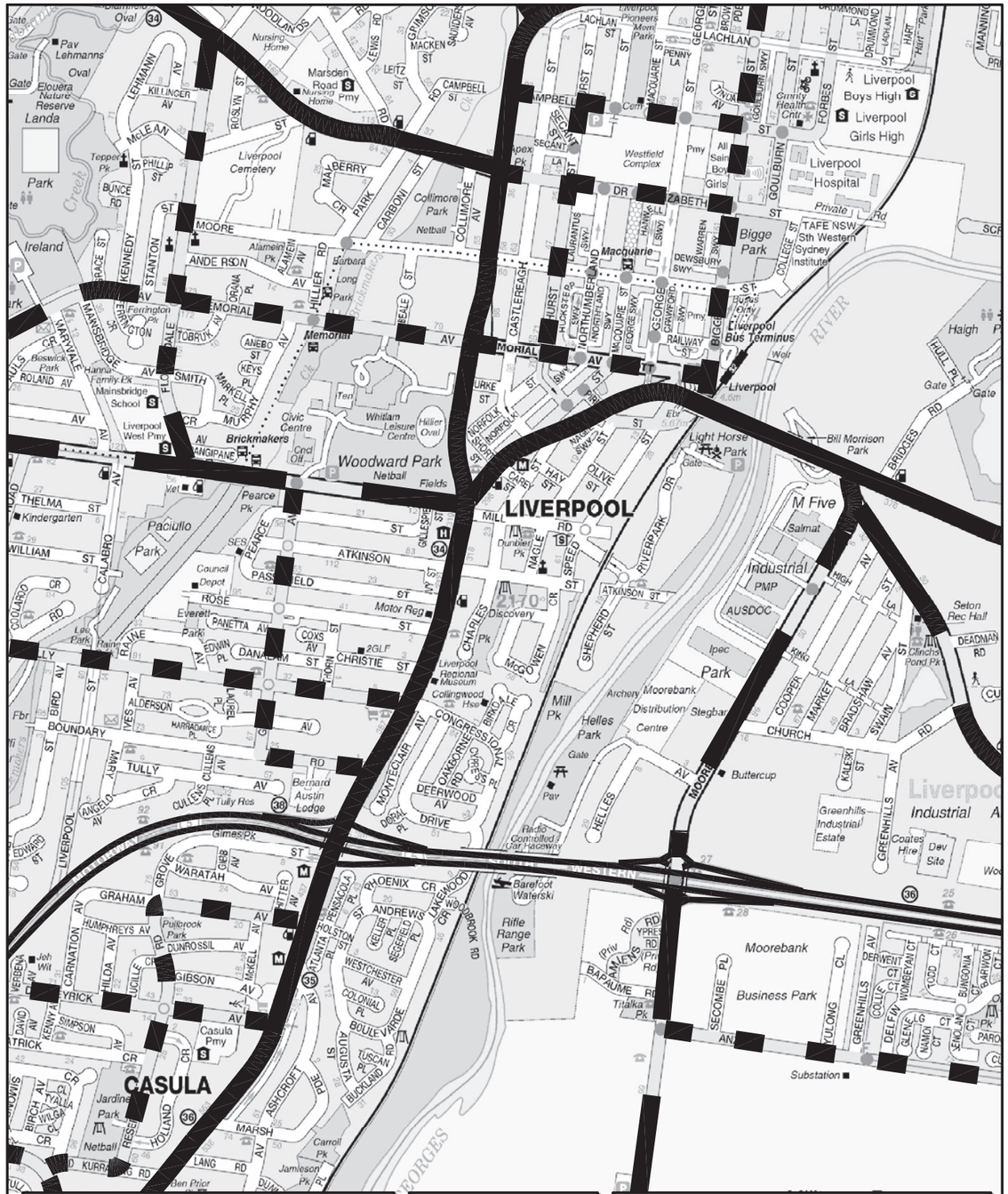
* *South-western (M5) Motorway* – a State Road and arterial route
* *Hume Highway* – a State Road and arterial route
* *Cumberland Highway* – a State Road and arterial route
* *Elizabeth Drive* – a State Road and arterial route
* *Newbridge Road/Terminus Street/Macquarie Street* – a State Road and arterial route
* *Hoxton Park Road* – a State Road and sub-arterial route linking between Hume Highway and Cowpasture Road
* *Gill Avenue and Reilly Street* – minor collector road routes connecting to Hoxton Park Road and Hume Highway

Gillespie Street and Pearce Avenue are local access roads being some 13m wide.

3.2 TRAFFIC CONTROLS

The existing traffic controls on the road system in the vicinity of the site (Figure 4) comprise:

* the traffic control signals at the Macquarie Street/Hume Highway/Hoxton Park Road intersections
* the traffic control signals at the Macquarie Street/Terminus Street and Bathurst Street/Memorial Avenue intersections



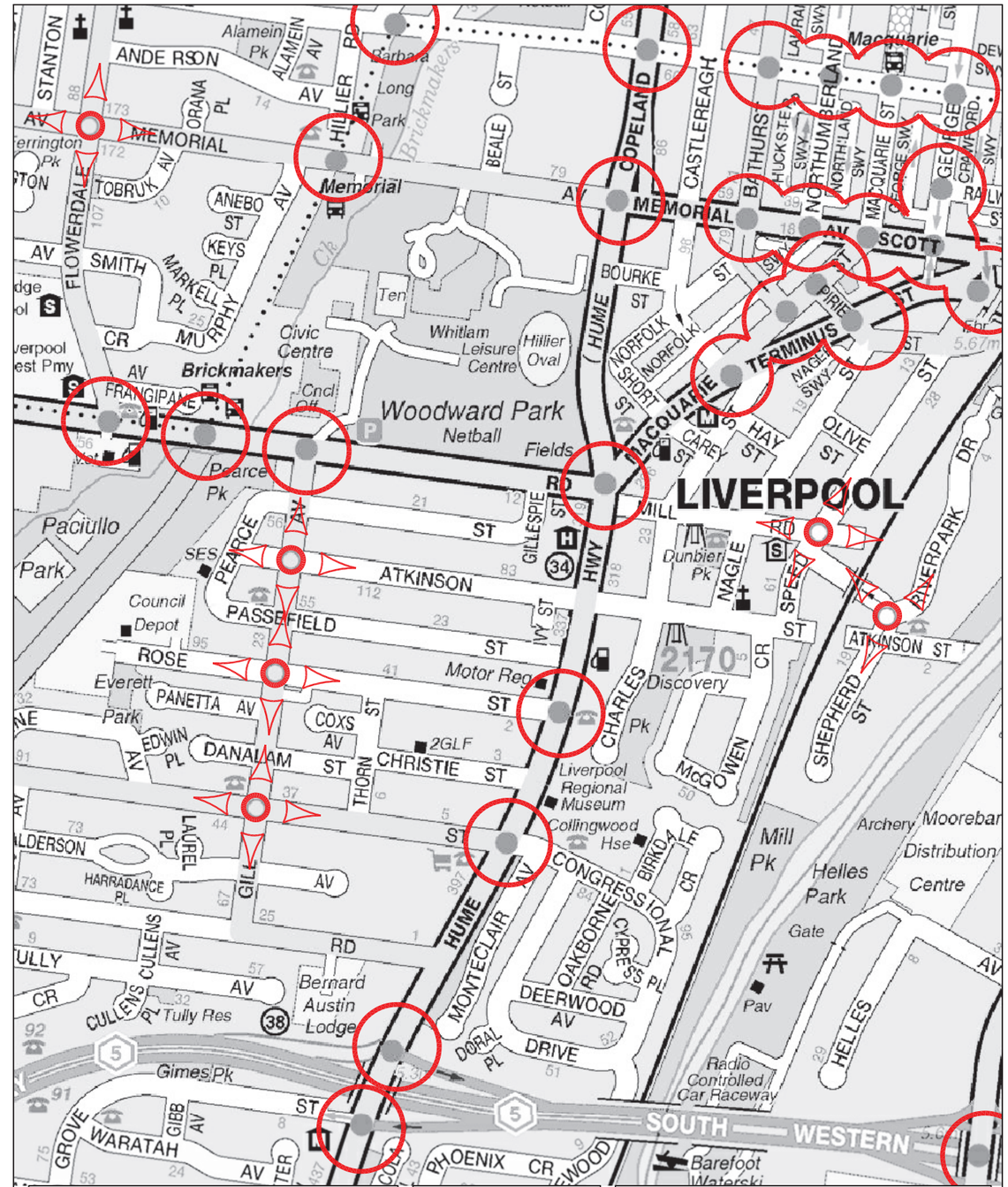
LEGEND

- ARTERIAL
- SUB-ARTERIAL
- COLLECTOR

N

ROAD NETWORK

FIG 3



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT

N

TRAFFIC CONTROLS

FIG 4

- the central median island along the Hume Highway which restricts movements to left-turn IN/OUT of Atkinson Street and Passefield Street
- the traffic signal control at the Hoxton Park Road and Gill Avenue intersection
- the roundabouts along Gill Avenue at the Atkinson Street, Rose Street and Reilly Street intersections
- the GIVEWAY sign controls at the Gill Avenue and Pearce Street intersection
- the NO STOPPING and CLEARWAY restrictions along Hume Highway and Hoxton Park Road
- the 50 km/h speed restriction within the local road network and 60 kmph on Hume Highway and Hoxton Park Road

3.3 TRAFFIC CONDITIONS

An indication of the traffic conditions on the road system serving the site is provided by the most recently published Roads and Maritime Services (RMS) traffic data. The data is expressed in Average Annual Daily Traffic (AADT) and is provided as follows:

	AADT
Copeland Street, West of Memorial Avenue	72,450
Hoxton Park Road, West of Hume Highway	27,150
Terminus Street, East of Hume Highway	30,222

Available traffic surveys of intersections in the vicinity of the site provide the generalised peak traffic flows at intersections as indicated on Figure 5.

3.4 TRANSPORTATION SERVICES

The development site is ideally located in relation to high capacity and frequent public transport services. Liverpool City Centre (CBD) is the transport 'hub' for south-west Sydney comprising extensive railway and bus network connections and the development site is located within easy walking distance to bus services connecting to the CBD.

Numerous bus services including Westbus, Busabout and Liverpool Transport pass the site along Hume Highway while other services along the transitway are only a short distance away to the west.

4. TRAFFIC

The Roads and Maritime Services Development Guidelines[1] provide indicative traffic generation rates in relation to specific landuse types based on surveys of a wide range of locations and circumstances which are aggregated.

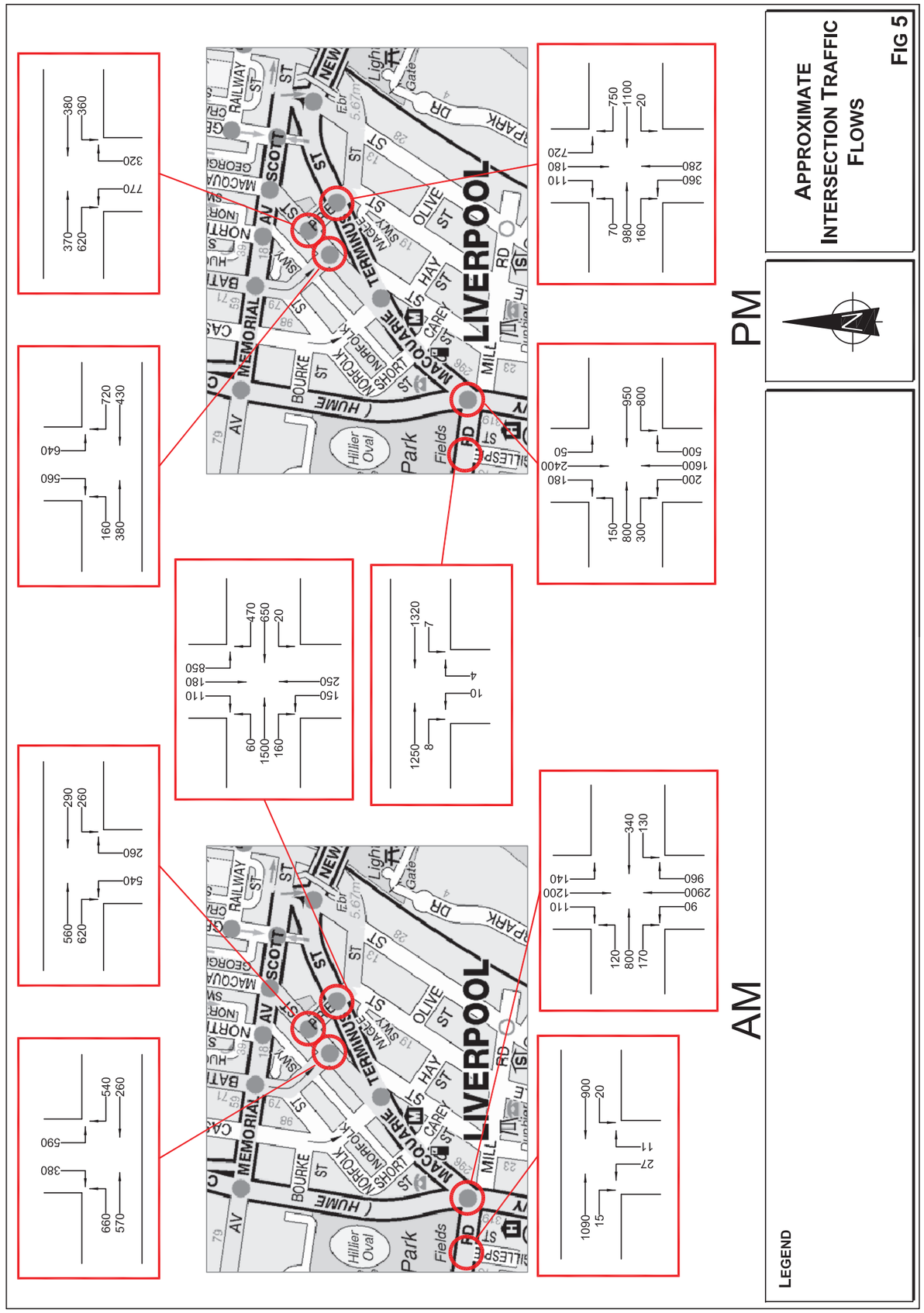
The recent RMS Technical Direction (TDT 2013-4b) in relation to 'high density' residential apartments with good access to public transport services specify a traffic generation characteristic of 0.19 and 0.15 vtph per unit during the on-street peak periods (AM and PM respectively). Application of these rates to the proposed residential element of the envisaged development scheme (304 apartments) would indicate a traffic generation during the peak traffic periods of some 58 vtph and 46 vtph during the AM and PM peaks respectively.

The RMS rate for retail traffic generation is for retail centres and therefore is not appropriate to the retail floorspace and it is only envisaged that there will be 2 retail parking spaces utilised by tenants indicating an arrival/departure rate of only 1 vtph in the peak periods.

Application of these factors to the development scheme indicates generation of:

	AM		PM	
	IN	**OUT**	**IN**	**OUT**
Residential	11	47	37	9
Retail	1	-	-	1
Total:	**12**	**47**	**37**	**10**

[1] *RMS Technical Direction TDT-2013 (4b)*

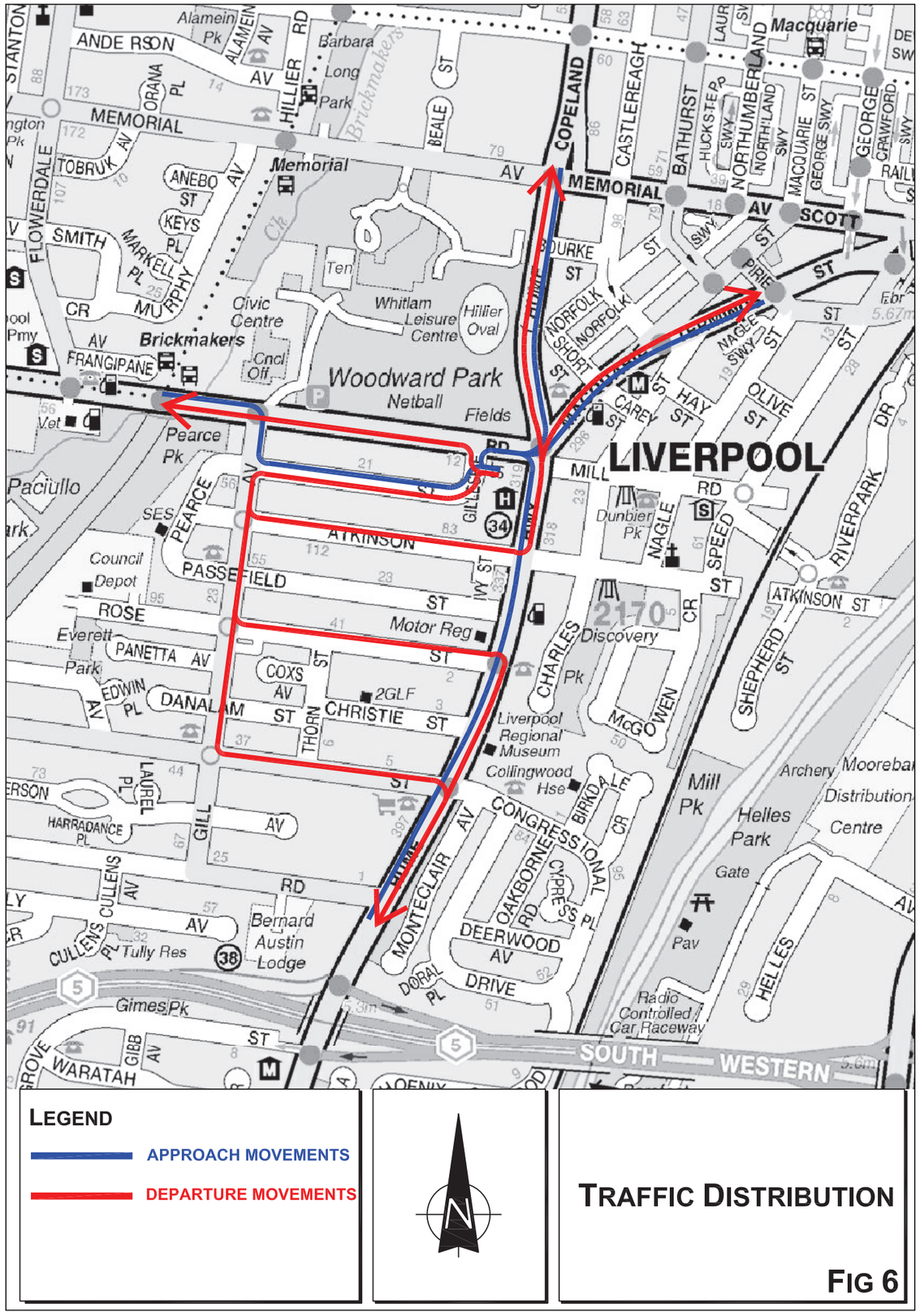


Prior to the demolition of existing buildings for the previously approved development there was a mixture of commercial uses on the site which generated a moderate level of vehicle activity. The traffic assessment[2] undertaken for the most recently approved development on the site established projected peak generation rates of 113 vtph in the morning and 451 vtph in the afternoon (see extracts in Appendix C).

Consent for the previous development involved the provision of traffic signals at the Hoxton Park Road and Gillespie Street intersection as indicated on the design plan which incorporates peak period right turn prohibition (refer to Appendix D). Recent discussions with Council in relation to the now envisaged development indicate that Council (and presumably RMS) would prefer to formerly prohibit the right turn movements to/from Gillespie on this basis:

- vehicles departing the site to travel north, south or east will either access the highway via Rose Street or Reilly Street or access Hoxton Park Road via Gill Avenue
- vehicles approaching the site from the west will turn into Gill Avenue from Hoxton Park Road

The distribution of the projected 59 vtph in the morning and 47 vtph in the afternoon (two way) as indicated on Figure 6 will be diverse and will not result in any adverse traffic implications (particularly when compared with that of the previously approved development on the site).



2 *Proposed Residential and Retail Development*
Cnr Hume Highway and Hoxton Park Road, Liverpool
Traffic and Parking Assessment
Traffic Solutions, Sept 2002

5. ACCESS, INTERNAL CIRCULATION AND SERVICING

ACCESS

Vehicle access for the site will be provided by a combined ingress/egress driveway on the Gillespie Street frontage. This access point will be located where there are excellent sight distances and will comply with the design requirements of AS2890.1.

INTERNAL CIRCULATION

A simple and efficient one way access ramp and aisle circulation system will be provided through the carpark levels. The aisles, ramps, parking bays and manoeuvring areas will be designed to accord with AS2890.1 and 6.

SERVICING

Refuse will be removed from the street by Council's collection service. Small vehicles (eg service personnel/couriers etc) will be able to use the visitor parking spaces while occasional needs of larger service vehicles (eg furniture pantechnicons etc) will be accommodated on the available on-street kerbspace as is normal for a residential apartment development of this nature.

6. PARKING

Car Parking

Car parking for retail and commercial developments within the Liverpool CBD are subject to the Liverpool Local Environmental Plan (LLEP) 2008 while Liverpool Development Control Plan (LDCP) 2008 applies to residential components of all developments.

The LLEP specifies a minimum parking provision for development as follows:

> '*Development consent must not be granted to development on land in the Liverpool city centre that is in Zone B3 Commercial Core or B4 Mixed Use that involves the erection of a new building or an alteration to an existing building that increases the gross floor area of the building unless:*
>
> (a) *at least one car parking space is provided for every 200 m^2 of any new gross floor area that is on the ground floor level of the building, and*
>
> (b) *in respect of any other part of the building:*
> - *at least one car parking space is provided for every 100 m^2 of any new gross floor area that is to be used for the purposes of retail premises, and*
> - *at least one car parking space is provided for every 150 m^2 of any new gross floor area that is to be used for any other purpose.*'

Application of the above criteria to the retail component would indicate a minimum parking requirement as follows:

	Minimum Requirement
Retail (163 m^2)	2 spaces

The residential component of the development is subject to LDCP control, which is provided in the following:

	Minimum Requirement
1-bed	1 space per unit
2-bed	1 space per unit
3-bed	1.5 space per unit

Application of the above criteria indicates the following requirements:

	No. of spaces
34 x 1-bed	34 spaces
233 x 2-bed	233 spaces
37 x 3-bed	56 spaces
Total	**323 spaces**

The quantum of visitor spaces becomes skewed in larger developments and significant urban renewal and infrastructure developments within the Liverpool CBD have resulted in similar 'city' characteristics to the Sydney CBD, in particular the convenience of public transport services along with increased reliance on these services. It is therefore proposed to provide visitors' parking in accordance with the Sydney LEP rates which largely reflect a CBD locality and accessibility.

The City of Sydney LEP 2012 rate for visitor parking are as follows:

	Rate
0-30 apartments	0.167 space per unit
30-70 apartments	0.1 space per unit
70 and above apartments	0.05 space per unit

Application of the above criteria to the proposed 304 apartments would indicate a requirement of 21 visitor spaces.

Having regard to both the LLEP and LDCP requirements along with the 'CBD' nature of the site location it is proposed to provide a total of 348 car parking spaces within the car park with the following composition:

Residents	323 spaces
Visitors	23 spaces
Retail	2 spaces
Total	**348 spaces**

The proposed provision of 23 spaces for visitors in a conveniently located site with close proximity to city centre and excellent transport services is considered to be satisfactory and will not result in adverse parking implications. It is apparent that the overall provision of 348 spaces will essentially provide a balanced outcome which will be adequate for the proposed development.

Bicycles and Motorcycles

There is no specification for bicycle provision within the LLEP therefore assessment in relation to the appropriate provision for motorcycles and bicycles is made with reference to LDCP 2008 as follows:

		Bicycles	Motorcycles
All developments	-	1 per 200 m^2 GFA	1 per 20 car spaces

It is proposed to provide 134 bicycle storage spaces (residents bicycles could be in store areas) and 18 motorbike spaces in the basement carpark and this will be entirely compliant with Council's code.

7. CONCLUSION

The envisaged development (subject to approval of the Planning Proposal) reflects a contemporary outcome for the Liverpool CBD reflecting other nearby current development processes. The development scheme will take advantage of the excellent public transport services which are available and the convenient access available to the arterial road system.

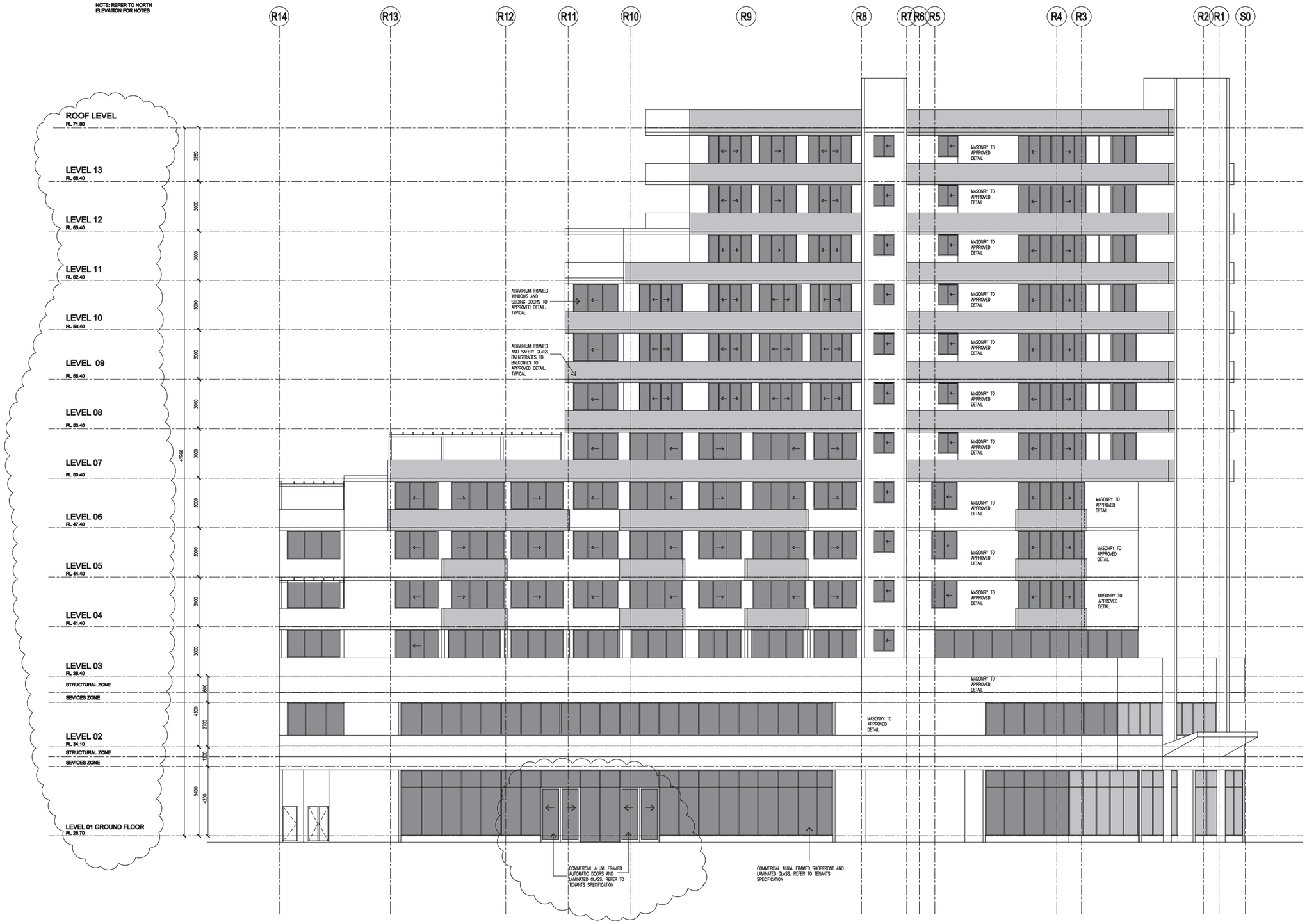
The assessment provided in this report confirms that:

* the potential traffic generation of the development will be satisfactorily accommodated on the road system (and will be substantially less than that of the previously approved development on the site)
* the envisaged vehicle access, internal circulation and turning arrangements will be satisfactory
* there will not be any unacceptable road safety and traffic related environmental implications
* a suitable and appropriate parking provision can be made in relation to the needs of the development

Appendix A

APPROVED PLANS

NOTE: REFER TO NORTH ELEVATION FOR NOTES



01 EAST ELEVATION
ALONG HUME HIGHWAY

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TD TENDER DRAWING
WD WORKING DRAWING
AB AS BUILT

REV.	AMENDMENTS	BY
A	19.04.07 - TENDER ISSUE	
B	17.05.07 – LEVELS REVISED, O/A HEIGHT OF BUILDING MAINTAINED NOTES ADDED, AUTO DOOR ADDED	

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RETAIL - RESIDENTIAL DEVELOPMENT
311 HUME HIGHWAY cnr. HOXTON PARK RD- LIVERPOOL

DRAWING TITLE
EAST ELEVATION
.
.

DWG No **A.16**

REV **B**

SCALE	PLOT DATE	JOB No	STATUS
1:100	17.05.07	.B16	TD

02 - SECTION D
CROSS SECTION

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TD TENDER DRAWING
WD WORKING DRAWING
AB AS BUILT

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1	11.05.07 - ISSUED FOR TENDER ADDENDUM	
A	17.05.07 - LEVELS REVISED, O/A HEIGHT OF BUILDING MAINTAINED	

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RETAIL - RESIDENTIAL DEVELOPMENT
311 HUME HIGHWAY cnr. HOXTON PARK RD- LIVERPOOL

DRAWING TITLE
SECTION D-D
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DWG No
A.21

REV
A

SCALE	PLOT DATE	JOB No	STATUS
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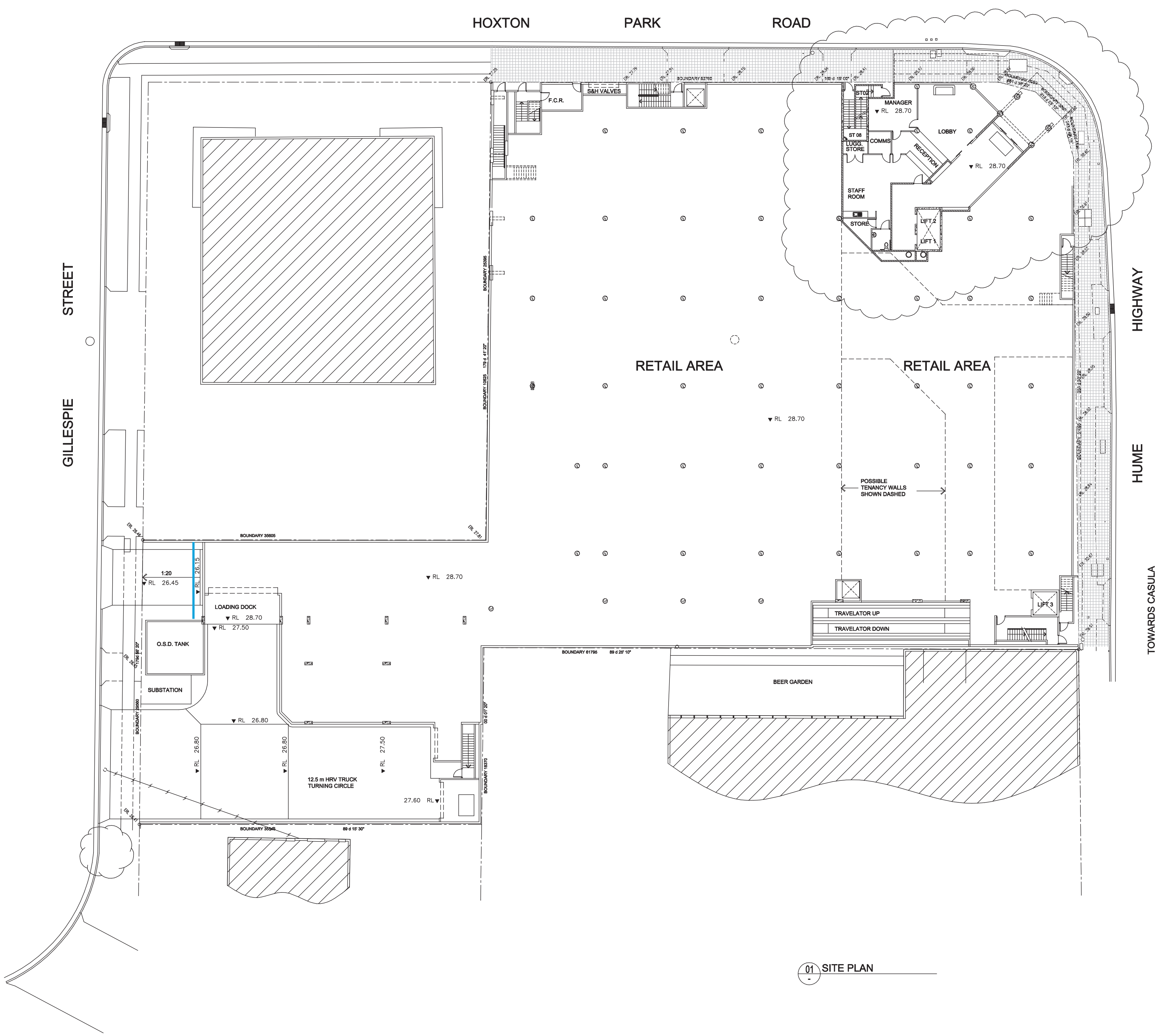

01 SITE PLAN

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APPROVED	GR		

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A	26.03.07 - SECTION 96 ISSUE TO CITADEL	
B	22.10.07 - QUEST TENANCY D.A. ISSUE	

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NORTH

KEY PLAN

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ISSUED FOR
SECTION 96 APPLICATION
APPROVAL
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RETAIL - RESIDENTIAL DEVELOPMENT
311 HUME HIGHWAY cnr. HOXTON PARK RD- LIVERPOOL

DRAWING TITLE
OVERALL SITE PLAN

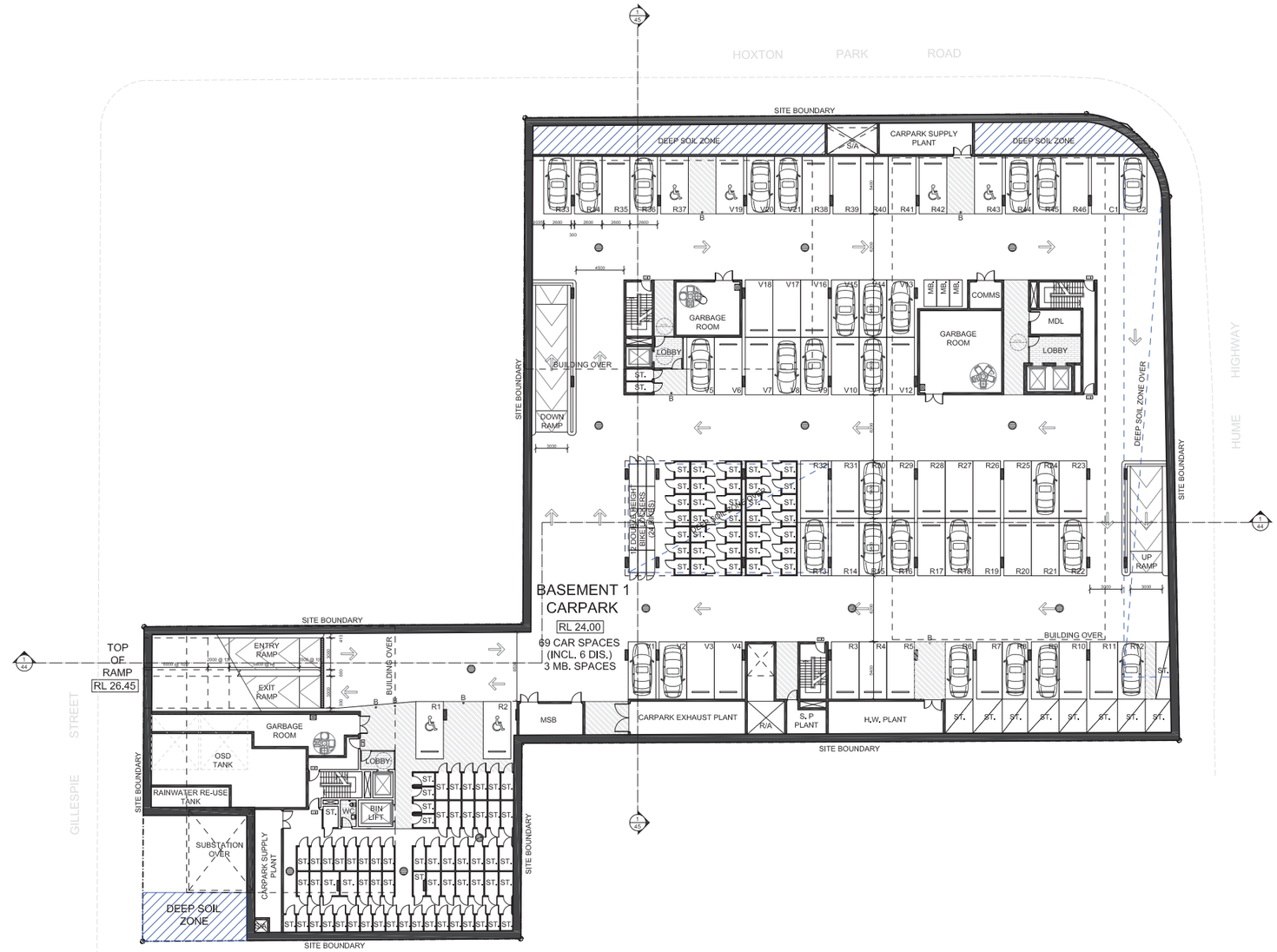
DWG No A01

REV B

SCALE	PLOT DATE	JOB No	STATUS
1:200	22.10.07	B16	S96

Appendix B

PLANS OF ENVISAGED DEVELOPMENT



PLAN - BASEMENT LEVEL 1

1:250

CONSULTANT ISSUE

REF.	DATE	AMENDMENT
E	13.01.2015	CONSULTANT ISSUE

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CLIENT: HUME DEVELOPMENTS

MIXED USE DEVELOPMENT

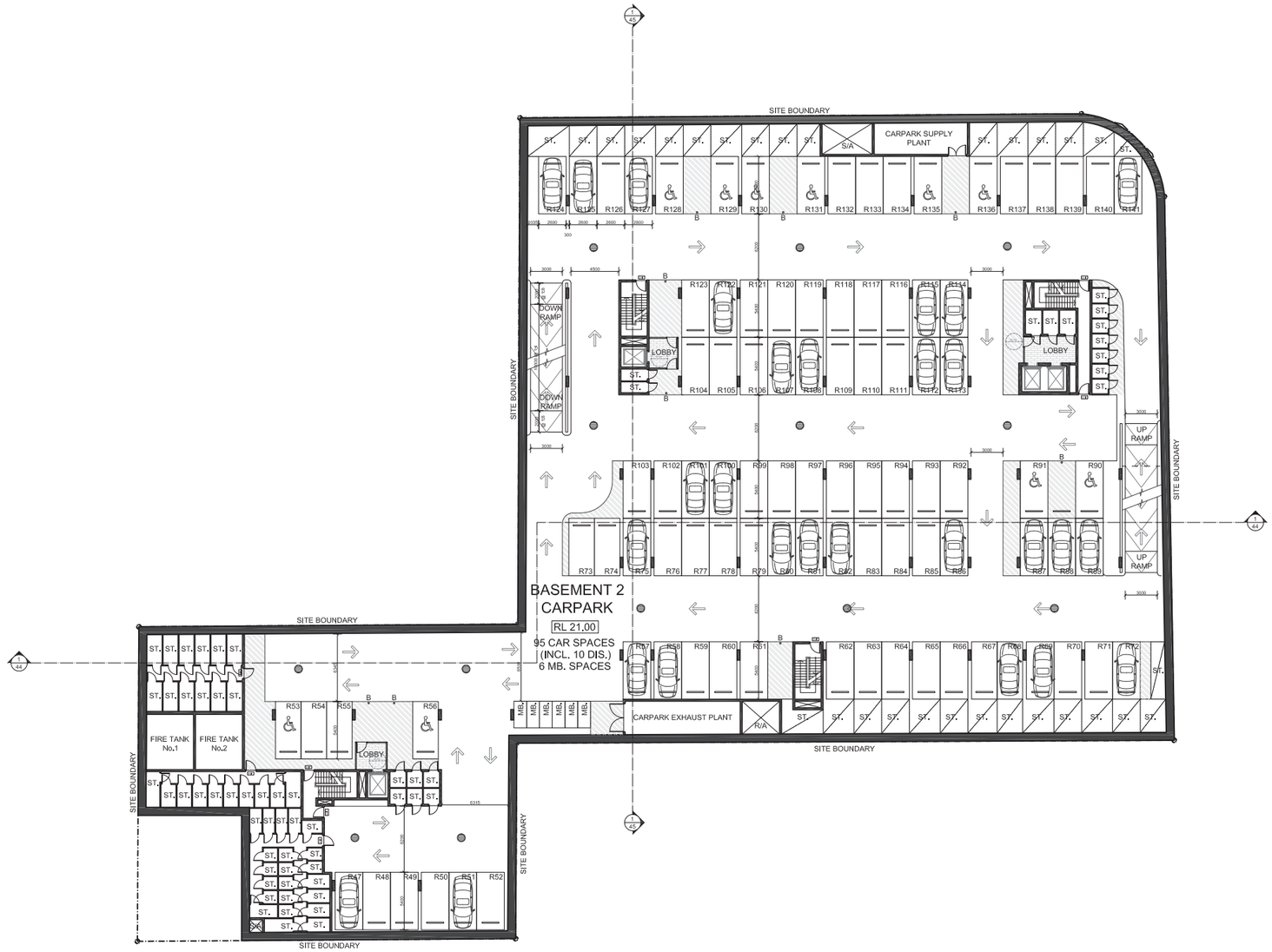
ADDRESS: LOT NO. AND D.P.1004792
311 HUME HIGHWAY, LIVERPOOL

DRAWING NAME: PLAN - BASEMENT 1

DATE: DEC 14
DRAWN: SWG
SCALE: 1:250
QA:

PROJECT No. 1086
DWG No. 04-E

A1



PLAN - BASEMENT LEVEL 2

1:250

CONSULTANT ISSUE

REF.	DATE	AMENDMENT
E	13.01.2015	CONSULTANT ISSUE

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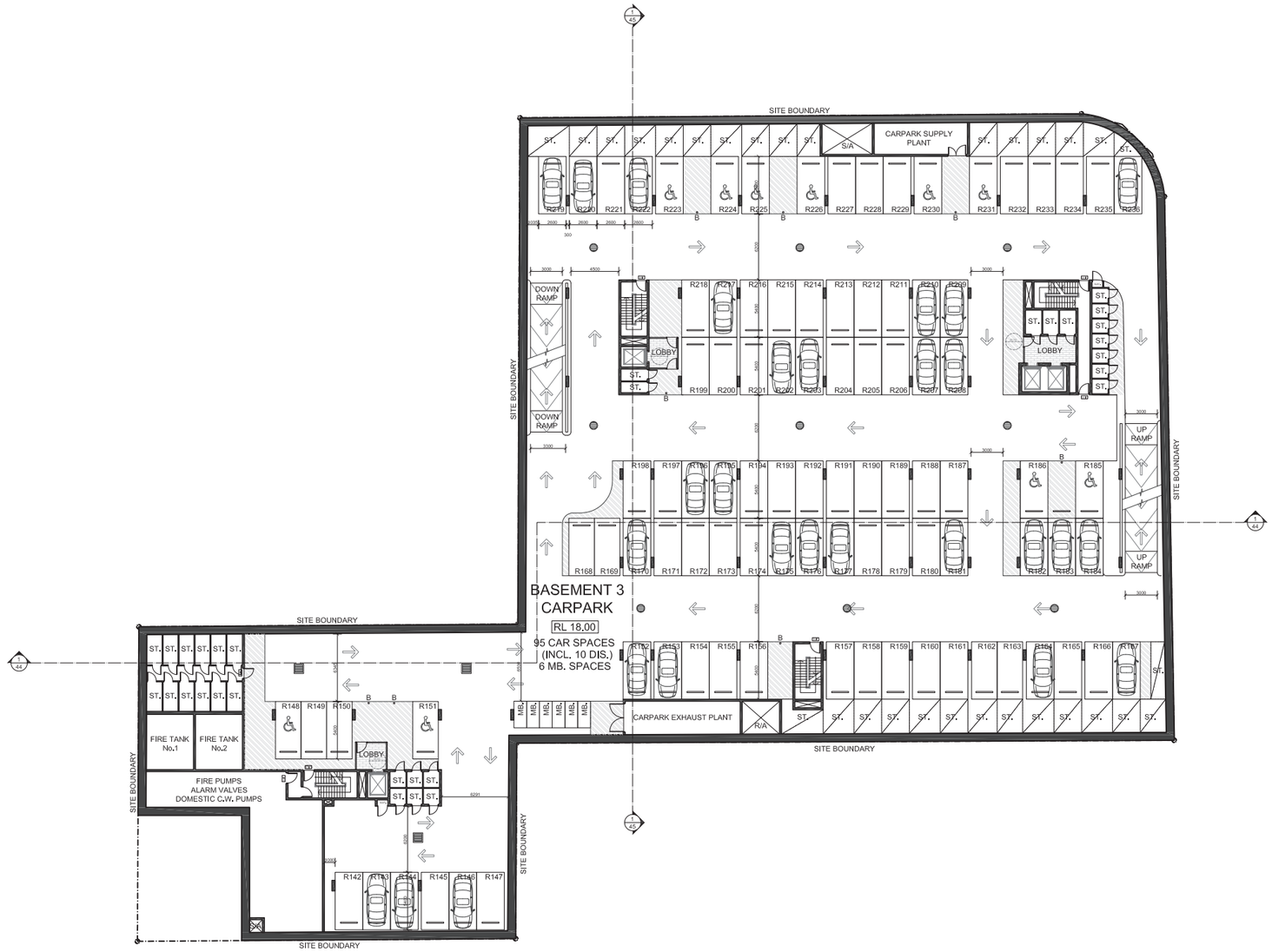
CLIENT:	HUME DEVELOPMENTS	DATE: DEC 14	PROJECT No. 1086
	MIXED USE DEVELOPMENT	DRAWN: SWG	
ADDRESS:	LOT NO. AND D.P.1004792 311 HUME HIGHWAY, LIVERPOOL	SCALE: 1:250	DWG No. 05-E
DRAWING NAME:	PLAN - BASEMENT 2	QA:	

A1



PLAN - BASEMENT LEVEL 3

1:250

CONSULTANT ISSUE

REF.	DATE	AMENDMENT
E	13.01.2015	CONSULTANT ISSUE

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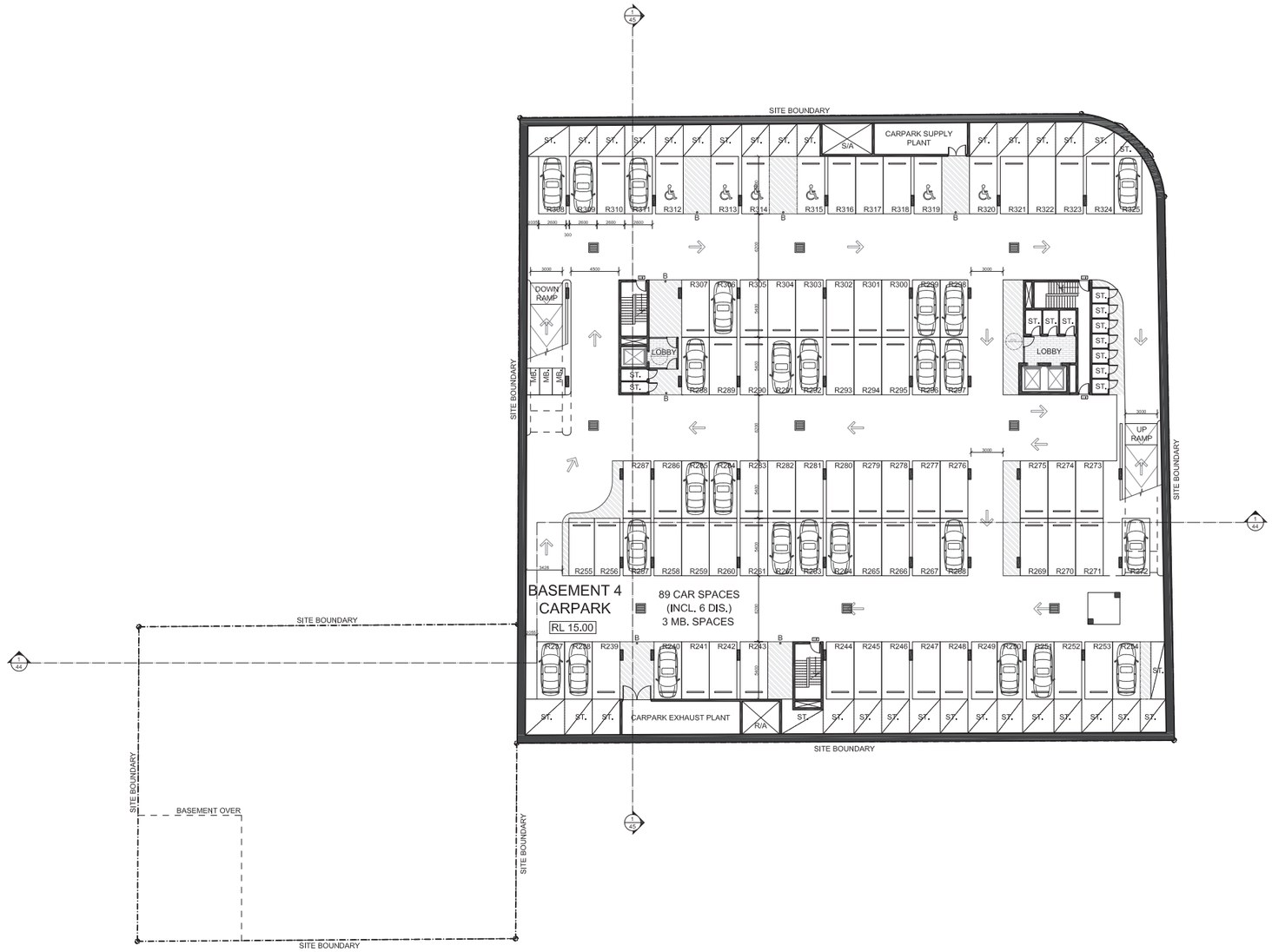
CLIENT:	HUME DEVELOPMENTS	DATE: DEC 14	PROJECT No. 1086
	MIXED USE DEVELOPMENT	DRAWN: SWG	
ADDRESS:	LOT NO. AND D.P.1004792 311 HUME HIGHWAY, LIVERPOOL	SCALE: 1:250	DWG No. 06-E
DRAWING NAME:	PLAN - BASEMENT 3	QA:	

A1



PLAN - BASEMENT LEVEL 4

1:250

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E	13.01.2015	CONSULTANT ISSUE

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CLIENT: HUME DEVELOPMENTS

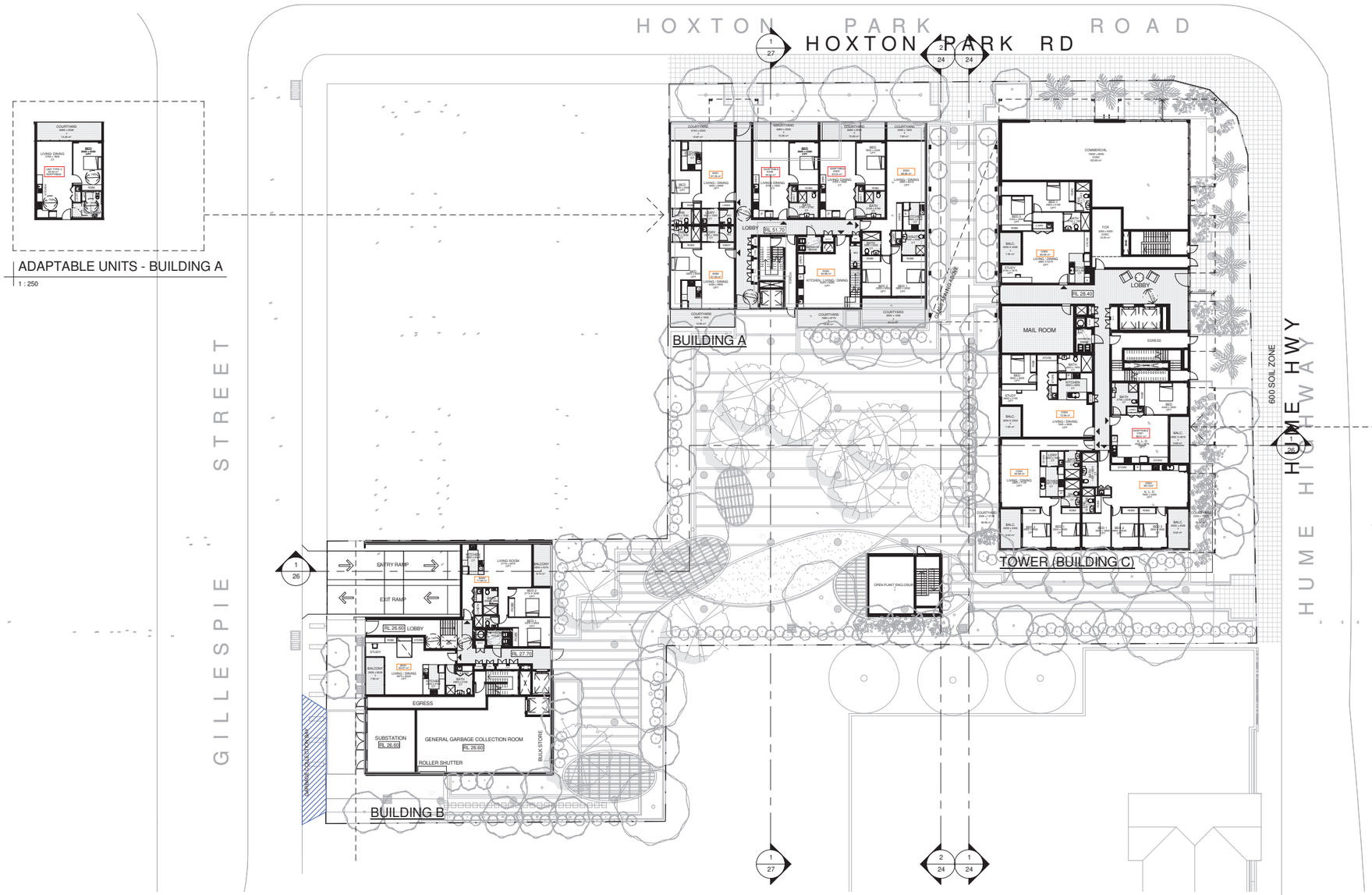
MIXED USE DEVELOPMENT

ADDRESS: LOT NO. AND D.P.1004792
311 HUME HIGHWAY, LIVERPOOL

DRAWING NAME: PLAN - BASEMENT 4

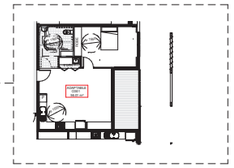
DATE:	DEC 14	PROJECT No.	1086
DRAWN:	SWG		
SCALE:	1:250	DWG No.	07-E
QA:			

A1



GROUND FLOOR PLAN
1 : 250

ADAPTABLE UNITS - BUILDING A
1 : 250



ADAPTABLE UNITS - TOWER
1 : 250

UNIT BEDROOM NUMBERS

TOWER		BUILDING A	
1 BED	= 31	1 BED	= 4
2 BED	= 176	2 BED	= 33
3 BED	= 30		= 37
	= 237	BUILDING B	
		1 BED	= 1
		2 BED	= 29
			= 30

TOTAL UNITS = 305

CONSULTANT ISSUE

REF.	DATE	AMENDMENT
F	14.01.2015	CONSULTANT ISSUE

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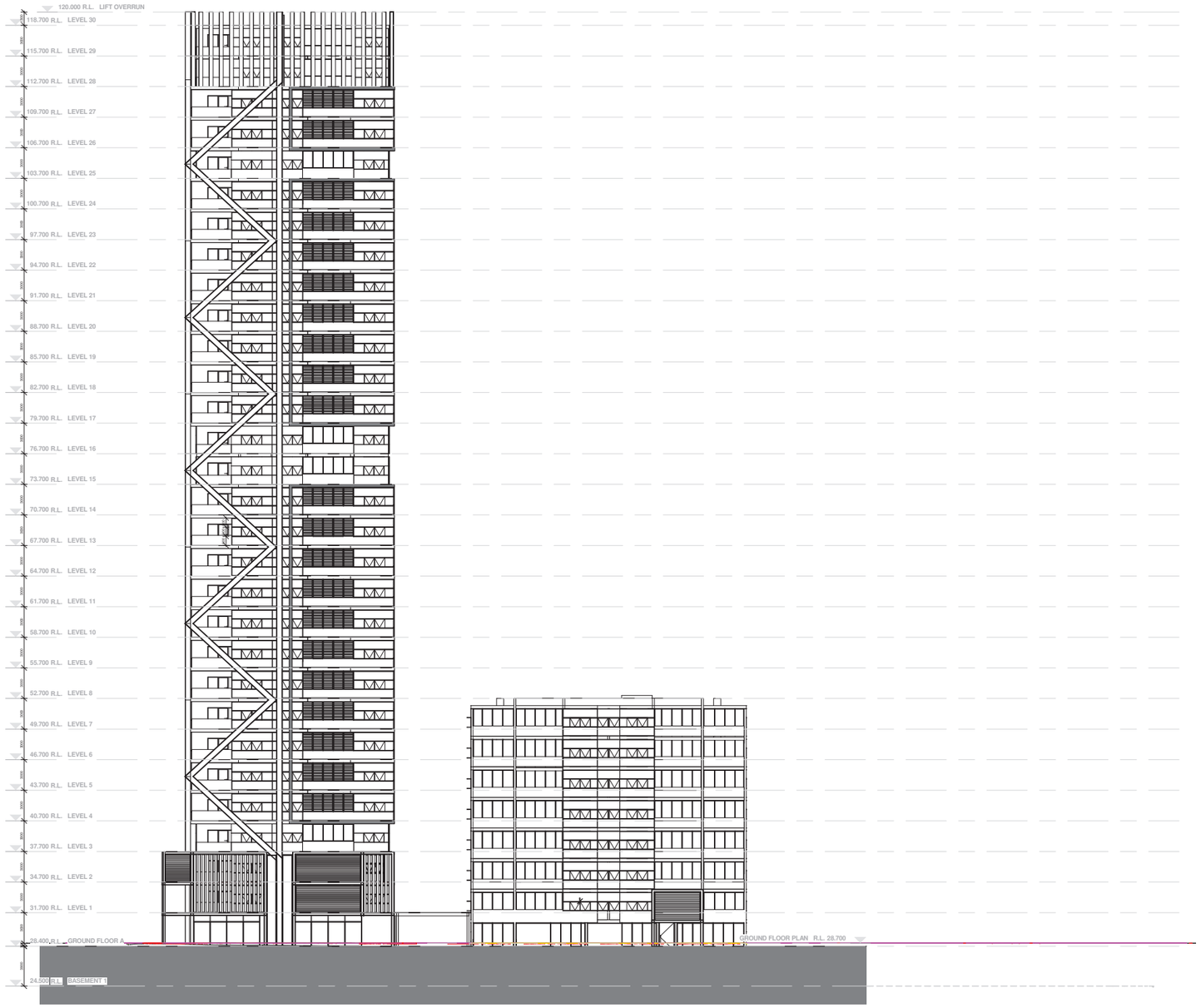
CLIENT: HUME DEVELOPMENTS
MIXED USE DEVELOPMENT
ADDRESS: LOT NO. AND D.P1004792
311 HUME HIGHWAY, LIVERPOOL
DRAWING NAME: GROUND FLOOR PLAN

DATE:	DEC 14	PROJECT No.	1086
DRAWN:	HD, KKC		
SCALE:	As indicated	DWG No.	08 F
QA:	RG, SG		

A1



NORTH ELEVATION

1 : 250

CONSULTANT ISSUE

REF.	DATE	AMENDMENT
F	14.01.2015	CONSULTANT ISSUE

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Web: http://www.designworkshop.com.au

CLIENT:	HUME DEVELOPMENTS MIXED USE DEVELOPMENT	DATE: DEC 14	PROJECT No. 1086
ADDRESS:	LOT NO. AND D.P1004792 311 HUME HIGHWAY, LIVERPOOL	DRAWN: HD, KKC SCALE: 1 : 250	DWG No. 21 F
DRAWING NAME:	NORTH ELEVATION	QA: Checker	

A1

Appendix C

EXTRACTS FROM TRAFFIC REPORT

TRAFFIC PLANNING & ENGINEERING CONSULTANTS

PROPOSED RESIDENTIAL AND RETAIL DEVELOPMENT CORNER HUME HIGHWAY AND HOXTON PARK ROAD, LIVERPOOL

TRAFFIC AND PARKING ASSESSMENT

September 2002

Ref: 01.02.110

P.O. Box 170 Hazelbrook NSW 2779 • Phone: (02) 4758 8863 • Fax: (02) 4758 9856 • Email: trafficsolutions@ozemail.com.au

1. INTRODUCTION

This report has been prepared to accompany a development application to Liverpool City Council for a proposed residential and retail development located on the corner of Hume Highway and Hoxton Park Road, Liverpool. (Figure 1)

The development proposes a Coles shopping centre, 9 specialty shops, 4 offices and 124 residential units, comprising 96 x 2 and 28 x 3 bedroom units. Parking for 277 cars is proposed on 5 basement levels. Vehicle access to/from the development is to be via a shared entry/exit driveway off Gillespie Street.

This report examines the traffic and parking implications of the proposed development and will assess the:

- Adequacy of the off-street parking provision.
- The proposed access arrangements.
- Estimated traffic generation of the proposal.
- Impacts on the existing road network of the estimated traffic generation.
- Loading arrangements.

The supermarket and specialty shops have been the subject of a previous development application approval. This approval included the provision of Traffic Signals at the intersection of Hoxton Park Road and Gillespie Street. Recent correspondence with the Roads and Traffic Authority indicates that the traffic signals approval is still current.

therefore have less parking requirements.

The proposed development is located on the fringe of the Liverpool CBD midway between Liverpool Railway Station and the proposed Transitway Station adjacent Liverpool City Council. The development is approximately 960m from Liverpool Rail Station and 600m from the Transitway Station. Consequently, it is considered appropriate to use the RTA's car parking rates at this location.

Accordingly, the proposed residential development exceeds the RTA's suggested parking requirements with the provision of **277** off-street parking spaces.

LOADING FACILITIES

A loading dock is proposed for the sole use of the proposed supermarket (Coles) and is unchanged from the previously approved application. Access to the dock is via a separate driveway off Gillespie Street. The proposed loading dock is sufficient to cater for up to two (2) large rigid vehicles simultaneously. This number of docks is considered sufficient by Coles to adequately service the proposed supermarket.

An additional service vehicle dock is proposed directly off Hume Highway for the collection of refuse generated by the residential, shopping and office components of this development. The garbage collection will be by private contractor and due to the location on the highway will be carried out in the early hours of the morning prior to peak Clearway hours. In this regard the applicant has held discussions with contractors SITA who have provided details of their dock dimension requirements.

Notwithstanding, the previous approval of the supermarket loading docks, an assessment of the supermarket loading dock has been undertaken to determine if they are sufficient in size to enable a large rigid vehicle to manoeuvre on site and enter/exit in a forward direction. This assessment is achieved by overlaying the *"Australian Standard Off-Street parking – Part 2 – Commercial vehicle facilities, AS 2890.2 – 1989"* service area manoeuvring template upon the design plans. This procedure indicates that the subject vehicles can access the loading area from Gillespie Street and leave the site in a forward direction.

TRAFFIC

An estimation of the traffic generation of the proposed development can be calculated by again referring to the Roads and Traffic Authority's *'Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation'* of December 1993. The guide specifies 0.24 peak hour vehicle trips per unit for high density residential flat buildings in Metropolitan Regional (CBD) Centres.

In addition the RTA guidelines provide the following evening peak hour generation formula for retail and commercial developments:

Shopping Centres

V(P) = 20 A(S) + 51 A(F) + 155 A(SM) + 46 A(SS) + 22 A(OM)
(vehicle trips per 1000m)

where:

A(S): **Slow Trade gross leasable floor area (Gross Leasable Floor Area in square metres) includes major department stores such as David Jones and Grace Bros., furniture, electrical and whitegoods stores.**

A(F): **Faster Trade GLFA - includes discount department stores such as K-Mart and Target, together with larger specialist stores such as Fosseys.**

A(SM): **Supermarket GLFA - includes stores such as Franklins and large fruit markets.**

A(SS): **Specialty shops, secondary retail GLFA - includes speciality shops and take-away stores such as McDonalds. These stores are grouped as they tend to not be primary attractors to the centre.**

A(OM): **Office, medical GLFA: includes medical centres and general business offices.**

Accordingly, the estimated residential traffic generation of this development calculates as:

124 units @ 0.24 trips/unit = 30 am & pm peak hour trips

And the commercial/retail component of the development calculates as:

V(P) = 20 A(S) + 51 A(F) + 155 A(SM) + 46 A(SS) + 22 A(OM)
(vehicle trips per 1000m2)

$= 20\ A(S) + 51\ A(F) + 155\ (2419m^2) + 46\ (616.5m^2) + 22\ (798.2m^2)/1000m^2$

$= 374.9 + 28.4 + 17.6$

= 421 evening peak hour vehicle trips

As the RTA does not provide a morning peak hour traffic generation, it will be assumed that the office, shop and 10% of the supermarket (estimated morning staff) component of the evening peak hour traffic generation will approach the site in the morning peak hour.

Accordingly, the estimated potential traffic generation of the proposed development is **113** morning and **451** evening peak hour trips.

Appendix D

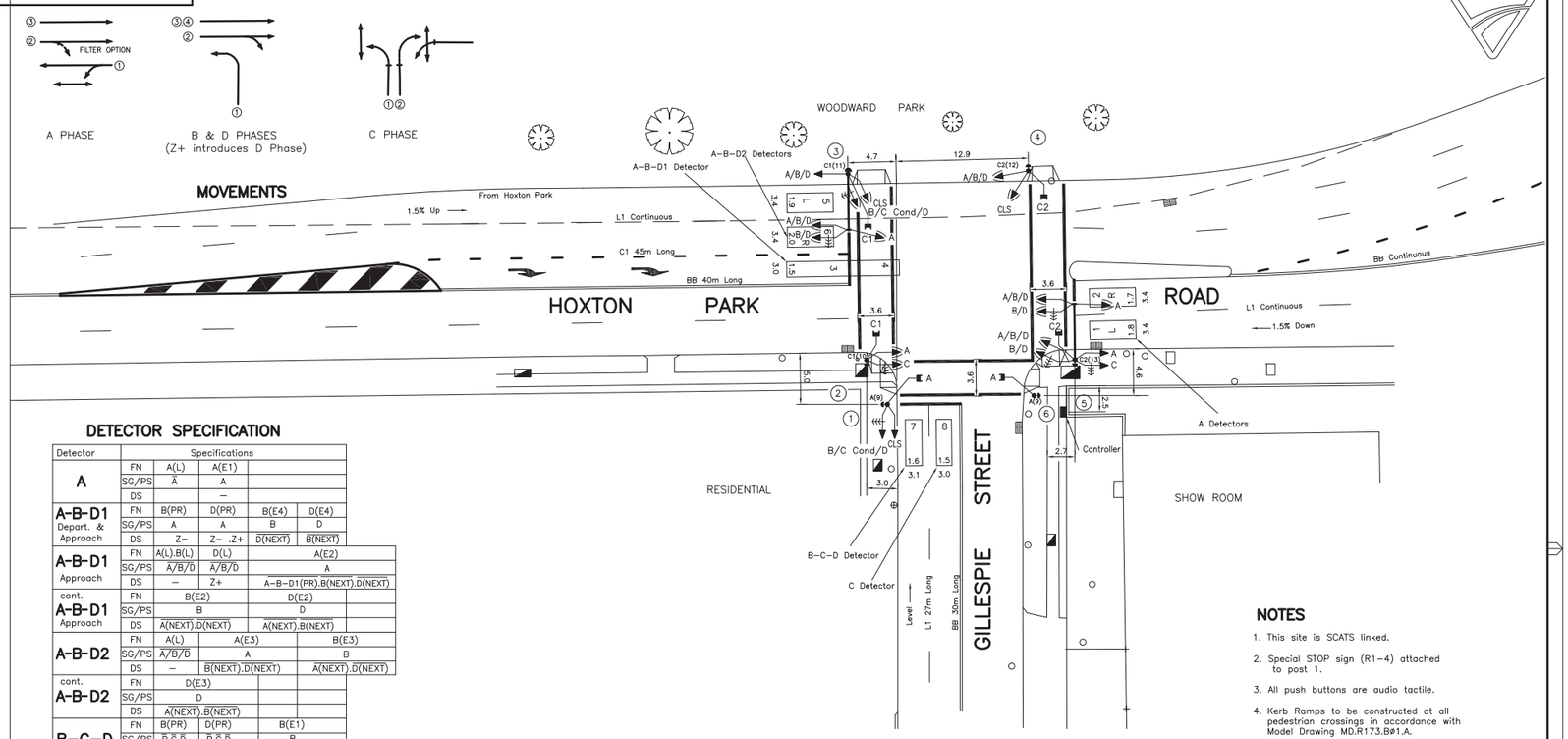
INTERSECTION PLAN

PROPOSED 0000.000.W.0000

DRAWN BY CADD
DO NOT AMEND MANUALLY

Date in Service

RTA



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–	Z– .Z+	$\overline{D(NEXT)}$	$\overline{B(NEXT)}$
A-B-D1 Approach	FN	A(L).B(L)	D(L)	A(E2)	
	SG/PS	$\overline{A/B/D}$	$\overline{A/B/D}$	A	
	DS	–	Z+	A–B–D1(PR).$\overline{B(NEXT)}$.$\overline{D(NEXT)}$	
cont. A-B-D1 Approach	FN	B(E2)		D(E2)	
	SG/PS	B		D	
	DS	$\overline{A(NEXT)}$.$\overline{D(NEXT)}$		$\overline{A(NEXT)}$.$\overline{B(NEXT)}$	
A-B-D2	FN	A(L)	A(E3)	B(E3)	
	SG/PS	$\overline{A/B/D}$	A	B	
	DS	–	$\overline{B(NEXT)}$.$\overline{D(NEXT)}$	$\overline{A(NEXT)}$.$\overline{D(NEXT)}$	
cont. A-B-D2	FN	D(E3)			
	SG/PS	D			
	DS	$\overline{A(NEXT)}$.$\overline{B(NEXT)}$			
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+.$\overline{C}$	$\overline{C(NEXT)}$.$\overline{D(NEXT)}$	
B–C–D	FN	C(E1)		D(E1)	
	SG/PS	C		D	
	DS	$\overline{B(NEXT)}$.$\overline{D(NEXT)}$		$\overline{B(NEXT)}$.$\overline{C(NEXT)}$	
C	FN	C(L)	C(E2)		
	SG/PS	$\overline{C}$	C		
	DS	–	–		
A P.B.	FN	A(PB)	C(L)		
	SG/PS	$\overline{A(WALK)}$	A.$\overline{A(WALK)}$		
	DS	–	$\overline{B.C.D}$		
C1 P.B.	FN	C(PB)	A(L)		
	SG/PS	$\overline{C1(WALK)}$	C.$\overline{C1(WALK)}$		
	DS	–	$\overline{A.B.D}$		
C2 P.B.	FN	C(PB)	A(L)		
	SG/PS	$\overline{C2(WALK)}$	C.$\overline{C2(WALK)}$		
	DS	–	$\overline{A.B.D}$		

SPECIAL SIGNAL GROUP DISPLAY SEQUENCE

SIGNAL GROUP	TABLE TYPE	REMARKS
A/B/D	3	
B/D (RT)	39	Z–signal allows right turn filter movement Timed R.A. protection for 'A' pedestrian
B/C COND/D (LT)	14	Timed R.A. protection for 'C1' pedestrian
C (LT)	73	Timed R.A. protection for 'A' pedestrian
C (LS)	23	Timed protection for 'C2' pedestrian

POSTS

POST	TYPE	LENGTH	REMARKS
1	2	4.1	New
2	2	4.1	New
3	5XL	–	New
4	2	4.1	New
5	5XL	–	New
6	2	3.2	New

NOTES

1. This site is SCATS linked.
2. Special STOP sign (R1–4) attached to post 1.
3. All push buttons are audio tactile.
4. Kerb Ramps to be constructed at all pedestrian crossings in accordance with Model Drawing MD.R173.B01.A.
5. Supply to be determined on site by Class 2/3 service provider.

A ORIGINAL ISSUE

PUBLIC UTILITY LEGEND		REFERENCE PLANS	
HYDRANT		SYMBOLS/ABBS.	V0003–6
STOP VALVE		STD POSIT	V0001–5
GAS VALVE		OCT SCHED EXP	V0018–10
SEWER MANHOLE		PRES. DETECT	V0205–17
TELECOM PIT		SSG DIS. SEQ.	V0018–8
ELECT LIGHT POLE			
POWER POLE			
STAY POLE			
TELEPHONE BOX		SURVEYOR : Clement & Reid	
TELECOM PILLAR		DATE : 2007	

U.B.D. Ref. Map 269, B6
I.S.G. E: 384 647
CO-ORDS N: 1 243 896
DESIGNED JS
CHECKED AM
AM SITE CHECKED
RW RECOMMENDED

DESIGN APPROVAL APPROVED
R.NUTTLE
POSITION DIRECTOR
DATE 24.4.07
DESIGN PREPARED BY
TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

RTA ACCEPTANCE RECOMMENDED
POSITION .....
DATE .....
ACCEPTED
POSITION .....
DATE .....

Roads and Traffic Authority,N.S.W
LIVERPOOL CITY COUNCIL AREA
TRAFFIC SIGNALS AT THE INTERSECTION OF
HOXTON PARK ROAD AND GILLESPIE STREET
LIVERPOOL
DESIGN LAYOUT
TCS No 000

EXISTING ☐ PROPOSED ☑
CADD FILE: W0000–00A.DGN
SCALE 5 0 (1:200) 5 10
ISSUE A
FILE 000 TS 000
SUPERSEDES SHEET/ISSUE 00A
SHEET 00
REGN. 0000.000.W.0000

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