SJB Planning

Marrickville Council
PO Box 14
Petersham NSW 2049

Attn: Kendall Banfield – Team Leader Urban Services

7 August 2013

Re: 31-41 Bridge Road, Stanmore –Draft Amendment No.2 – Marrickville LEP 2011 (L-LZN-7)

Dear Kendall,

Further to our previous discussions on this matter, please find enclosed 3 x copies and 1 x CD copy of the Pre-Gateway submission for 31-41 Bridge Road, Stanmore.

The submission addresses Council's resolution of 16 April 2013 and is supported by a Massing Study and Traffic Impact Study.

We trust the information addresses Council's requirements for documentation to support the formal exhibition of the Planning Proposal.

Should you require any further information, please do not hesitate to contact me on (02) 9380 9911 or by email at sbarwick@sjb.com.au.

Yours sincerely

Scott Barwick
Associate Director

Encl.

Pre Gateway Submission

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SJB Planning

Pre Gateway Submission

31-41 Bridge Road, Stanmore

7 August 2013

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Executive Summary

This submission to Marrickville Council has been prepared on behalf of Bridge 3141 Pty Ltd, owners of 31-41 Bridge Road, Stanmore ("the subject site").

The site is part of an isolated industrial pocket, stretching from Parramatta Road to the north down to Salisbury Road to the south that is surrounded by low and medium density residential uses.

The site represents the largest non-strata subdivided land holding within the precinct.

Marrickville Local Environmental Plan 2012 (MLEP 2012) identifies the site as being within zone IN2 Light Industrial, with a FSR of 0.85:1. The land opposite the site is zoned R4 High Density Residential, B4 Mixed Use and B5 Business Development.

Council on 16 April 2013 resolved relative to the subject site:

> *"**Recommendation L-LZN-7**: That all lots on the eastern side of Bridge Road, Stanmore (i.e. No's 5 to 43 Bridge Road) be rezoned from IN2 Light Industrial to B5 Business Development and the FSR be increased from 0.85:1 to 2:1. This is contingent upon a study being prepared by the submitter and placed on public exhibition with MLEP 2011 Amendment 2 that assesses built form, traffic and other key impacts associated with the proposed zoning and FSR changes. The final zoning and FSR will depend on the outcomes of this study. Should the study not be exhibited with MLEP 2011 Amendment 2, this proposal is to be considered in a subsequent round of MLEP 2011 amendments."*

Accordingly, this submission has been prepared in conjunction with built form massing studies and traffic assessment to test the implication of the proposed FSR from local context and traffic generation perspectives.

The massing exercise has demonstrated that the resulting built form from a FSR of 2:1 is consistent with the predominant three (3) and four (4) storey form of development on the eastern and western sides of Bridge Road.

The concepts demonstrate the provision of a part two, part three level form of development.

In regards to parking provision and traffic generation, the assessment has identified that the site, developed to a FSR of 2:1 is:

- Capable of accommodating the required car parking; and
- The traffic generation can be accommodated within the existing network.

This submission therefore supports the proposed B5 Business Development zone to be applied to the site, with a FSR of 2:1.

The submission requests that Council proceed to exhibit the Draft LEP consistent with any Gateway determination received.

1.0 Site Context and Description

1.1 Site Context

The site is located at 31-41 Bridge Road, Stanmore and is identified as Lot 1 in DP 816629.

The site is located on the western side of Bridge Road, and has a frontage to Bridge Road, Cruikshank Street, and Johnston Creek. The site is part of an isolated industrial pocket, stretching from Parramatta Road to the north to Salisbury Road to the south and is surrounded by low and medium density residential uses.

The site represents the largest land holding within the industrial precinct that has not been strata subdivided.

The site is located within 200 metres of the Parramatta strategic bus corridor and within 800 metres of the Stanmore train station.

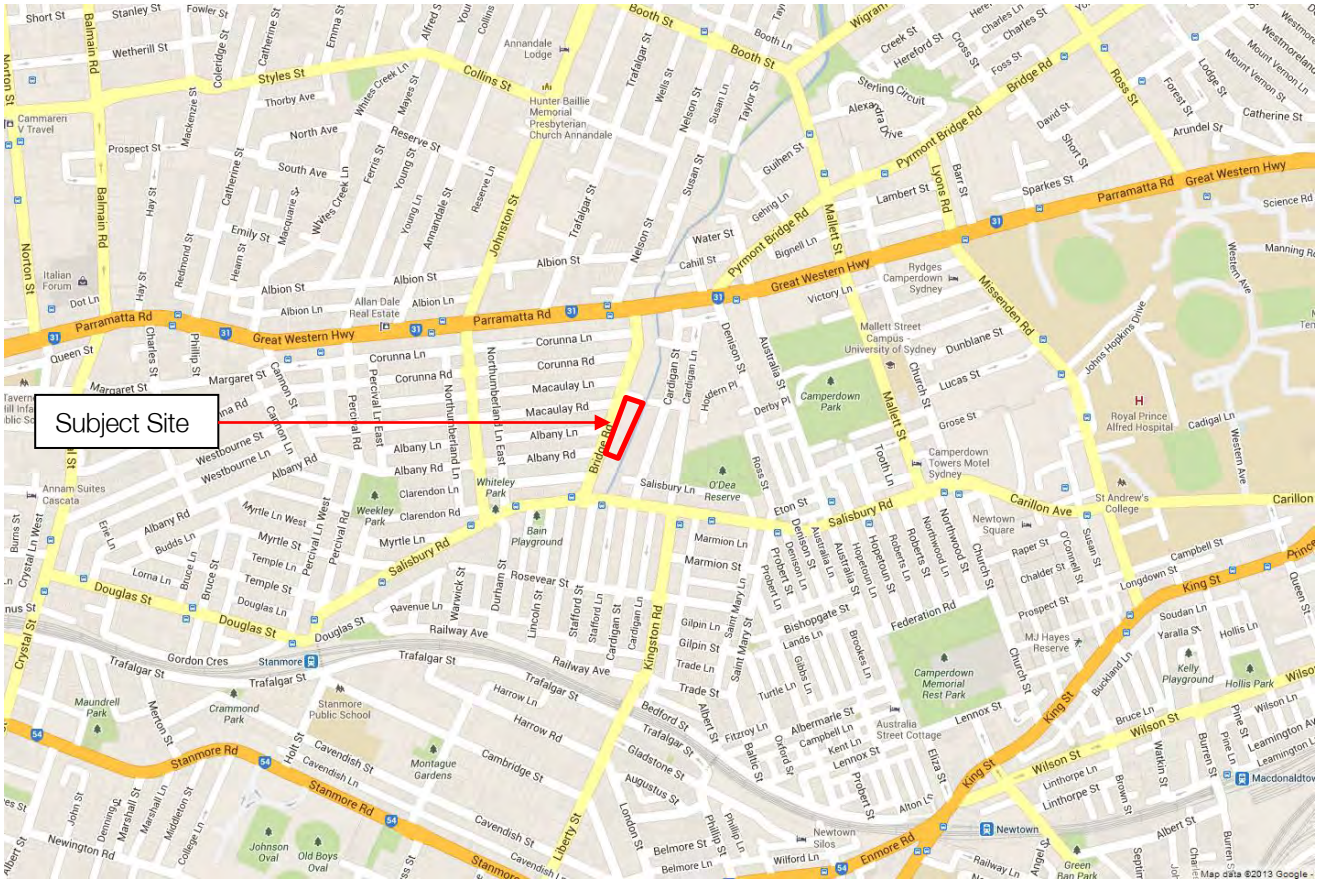


Figure 1: Location plan (Source: Google Maps)

Figure 2: Aerial Photography of the site and surrounding locality (Source: http://maps.six.nsw.gov.au/)

1.2 Site Description

The site is rectangular in shape and has a frontage to Bridge Road, Cruikshank Street, and Johnston Creek.

The site has a total site area of 5,721m^2, a frontage of approximately 126 metres to Bridge Road, and approximately 48 metres to Cruikshank Street.

The site presently accommodates industrial warehouse units. The warehouse units are approximately 12 metres in height, and generally occupy the whole site with the exception of some parking and truck access along Bridge Road. The warehouse units have a nil setback along Johnston Creek, Cruikshank Street and along the southern boundary with 43 Bridge Road.

The site is not strata subdivided and does not contain any restrictive covenants or easements that would hinder redevelopment of the site.

Vegetation on the site is limited to a landscaped strip along the Bridge Road frontage of the site.

The topography of the site where exposed, slopes towards Bridge Road, away from Johnston Creek.

2.0 Rezoning Submission

A submission was prepared in response to the exhibition of the then Draft Marrickville LEP 2010.

Council in considering the submission resolved that the request to amend the zoning applying to 31-41 Bridge Road should be further considered in subsequent amendments to the Marrickville LEP once gazetted.

Subsequent to that decision, the LEP was finally made on 12 December 2011. With the finalisation of the Comprehensive LEP, Council commenced the process of considering in further detail requests for alternate planning provisions received during the comprehensive LEP process. This culminated in the consideration by Council of a report on 16 April 2013. Council resolved in Recommendation L-LZN-7:

> *"**Recommendation L-LZN-7**: That all lots on the eastern side of Bridge Road, Stanmore (i.e. No's 5 to 43 Bridge Road) be rezoned from IN2 Light Industrial to B5 Business Development and the FSR be increased from 0.85:1 to 2:1. This is contingent upon a study being prepared by the submitter and placed on public exhibition with MLEP 2011 Amendment 2 that assesses built form, traffic and other key impacts associated with the proposed zoning and FSR changes. The final zoning and FSR will depend on the outcomes of this study. Should the study not be exhibited with MLEP 2011 Amendment 2, this proposal is to be considered in a subsequent round of MLEP 2011 amendments."*

The resolution specifically requires that the proponent prepare a study to address potential built form impacts and impacts upon traffic and transport of the proposed zoning and FSR. This study is required by Council to be placed on exhibition in support of the proposed zone and controls for the site.

In response to the recommendation, massing studies have been prepared by SJB Architects and a traffic and transport impact assessment has been prepared by Christopher Hallam & Associates Pty Ltd.

The results and outcomes of the two (2) studies are addressed in the following sections.

These two (2) studies are addressed in the following sections.

3.0 Built Form Analysis

The built form analysis has been prepared by SJB Architects to test the built form outcomes of the proposed 2:1 FSR. The resulting FSR has also been utilised by the traffic and transport assessment to test potential impact upon the traffic network.

In preparing the massing study, guidance has been taken from Part 6 of the Marrickville DCP, at Section 6.1.2.5 Building Height.

In particular, objective O18 which states:

> *"To ensure the form, scale, design and nature of the development enhances the streetscape and visual quality of the industrial area."*

Control C14 which states:

> *"The maximum height of an industrial building must be consistent with the height of other buildings in the immediate vicinity."*

Control C15 which stages:

> *"The maximum height of an industrial building must comply with other controls in this DCP relating to urban design, solar access, privacy and residential to industrial interface."*

The proposed massing is considered against these base criteria.

3.1 Consistency of Scale and Streetscape Improvement

The FSR of 2:1 results in a building mass of three (3) storeys to Bridge Road, and two (2) storeys to the rear.

The massing study accommodates ground level floor levels of 3.8m and 3.6m clearance for Levels 1 and 2.

Development in the vicinity of the site has a scale of three (3) to four (4) storeys. The massing study and perspectives demonstrate that the built form resulting from a FSR of 2:1 applied to the site is consistent with the existing local context.

In considering the building form that will result from the proposed 2:1 FSR, it considered to be consistent and compatible with the built form and height of existing development in the locality and consistent with the intent of Objective O18.

Further the opportunity for the redevelopment of the site will introduce an attractive building with active street front presentation to Bridge Road, adding a positive contribution to the quality of the built form in the locality.

3.2 Consistency of Existing Height

The massing exercise has been based on an expectation that the existing building height to Johnstons Creek would be maintained. This approach ensures that there would be no net change to the levels of solar access currently enjoyed by the properties to the east fronting Cardigan Street.

Similarly, the three (3) storey presentation to Bridge Road is of a height and presentation that is consistent with the height and scale of development in the locality.

The potential built form arising from the application of a FSR of 2:1 on the site is consistent with control C14.

3.3 Residential Interface

In preparing the massing diagrams, the interface with the residential properties east of Johnstons Creek was a major consideration. The design response is dictated by the requirement that there be no net change to the levels of solar access currently engaged by the residential properties in Cardigan Street. The response has been to maintain the height of current development on the site at the rear of the property. This approach ensures there is no change to existing levels of solar access to the properties in Cardigan Street.

Even with this restriction, a building for Bulky Goods Retail and Commercial uses comfortably accommodates a FSR of 2:1 and does not result in a built form that is out of scale or character in the locality.

With the approach of maintaining the rear building height, it is also clear that a future Development Application could be designed to avoid adverse impacts upon the amenity of adjacent residential properties in regards to solar access, privacy and urban design, yet maintains a functional development form.

The massing exercise confirms that a FSR of 2:1 is an appropriate control for the site which can accommodate:

- A building form and scale consistent with existing development in the locality;
- A building form that respects the interface with residential properties to the east;
- Will be a positive contribution to the streetscape; and
- Can address and respond to potential amenity considerations that may arise in the assessment of a Development Application.

The approach adopted for the massing exercise is reasonable and appropriate and demonstrates the ability to accommodate a building with an FSR of 2:1 on the site and which can comfortably address or avoid any adverse impacts in relation to residential amenity.

4.0 Traffic Assessment

A Traffic Impact Assessment has been undertaken to test the impact of potential traffic generation from the redevelopment of the site consistent with the proposed amended zoning. The assessment provided at Attachment 2, also considers the ability of a redeveloped site to cater for and respond to matters such as car parking provisions and safe access for traffic into and out of the site.

The assessment concludes that the site could be appropriately designed to be consistent with the proposed amended LEP provisions. The assessment confirms that based upon the modelling and analysis undertaken, that relevant intersections would continue to function at satisfactory levels of service. Further depending upon the final location of basement entries and loading areas, minor relocation of pedestrian crossings may be required to facilitate traffic flows on Bridge Road. These issues would be addressed and resolved through the Development Application process.

The analysis further confirms that car parking in accordance with Council's DCP requirements could be comfortably accommodated on-site.

The analysis and consideration confirms that there are no traffic and transport ground that preclude from the rezoning of the land as proposed to proceed to exhibition for public comment.

5.0 Conclusion

Council's resolution of 16 April 2013 supports continuing the statutory process towards rezoning the site from zone IN2 Light Industrial to zone B5 Business Development.

Council's resolution of placing the Draft LEP on exhibition was dependent upon the testing of the proposed FSR of 2:1 against urban design context and traffic impacts.

The massing analysis demonstrates that the FSR of 2:1 will accommodate a built form that is consistent with the existing context and can appropriately manage the interface with the residential properties to the east.

Similarly, the traffic and transport analysis of a building with a FSR of 2:1 does not generate a level of traffic that cannot be accommodated in the existing traffic network. Further, car parking and loading is able to be accommodated to serve a development in a manner consistent with Council's requirements.

The analysis prepared has demonstrated that:

- The proposed zoning of B5 Business Development is appropriate; and
- The proposed FSR of 2:1 can be accommodated without adverse impacts upon the streetscape or traffic generation.

It is requested that Council, subject to Gateway Determination, exhibit the Draft LEP and that this report and accompanying analysis be exhibited with the rezoning request.

Attachments

Attachment 1: Massing Study – SJB Architects

SJB Planning (NSW) Pty Ltd ACN 112 509 501

Attachment 2: Traffic Impact Study – Christopher Hallam & Associates

SJB Architects

Bridge Road Industrial Estate - Massing Study

Date 25/06/2013

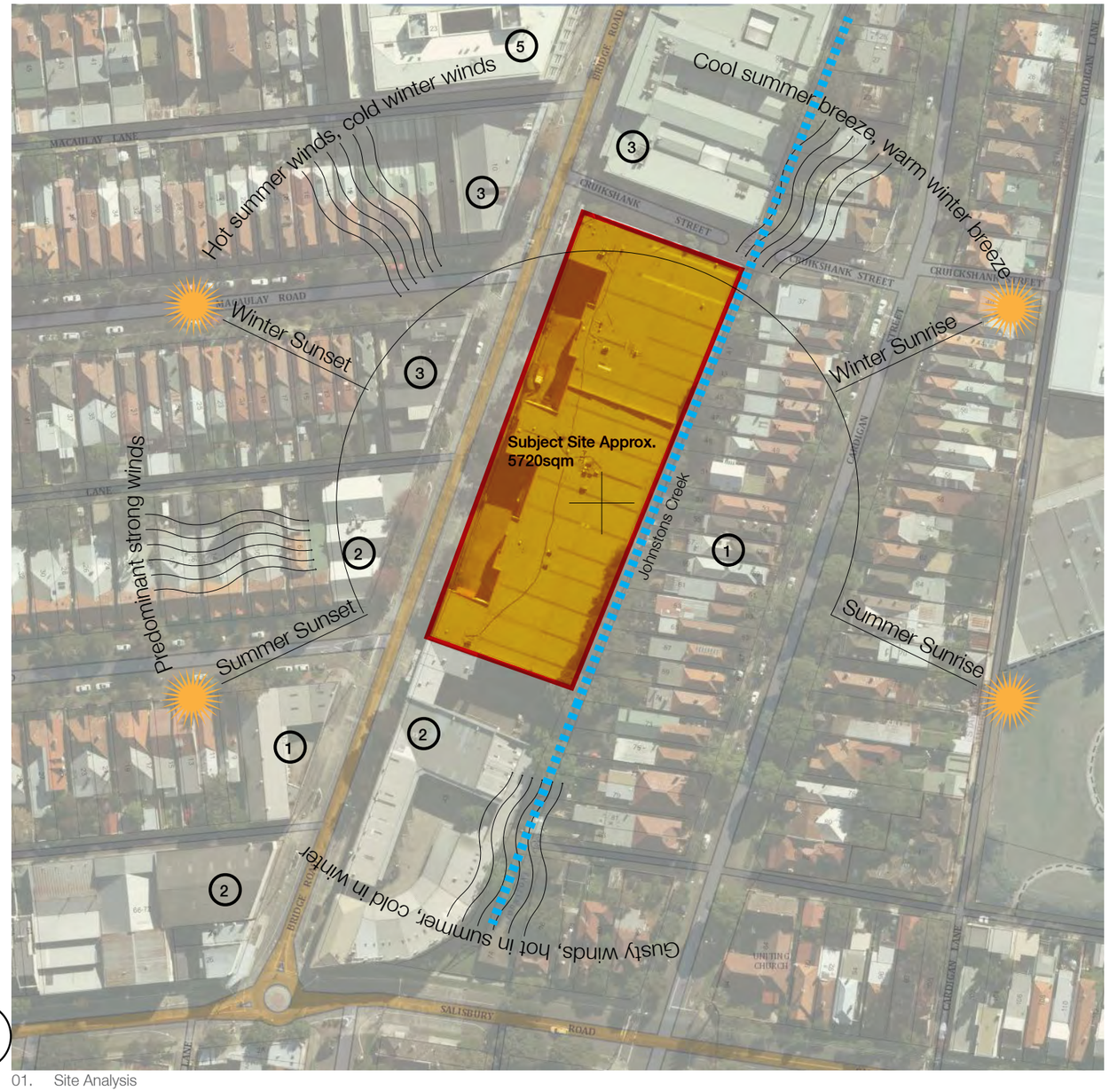
Site Analysis

3 no. of storeys

Creek

View along Bridge Road looking South

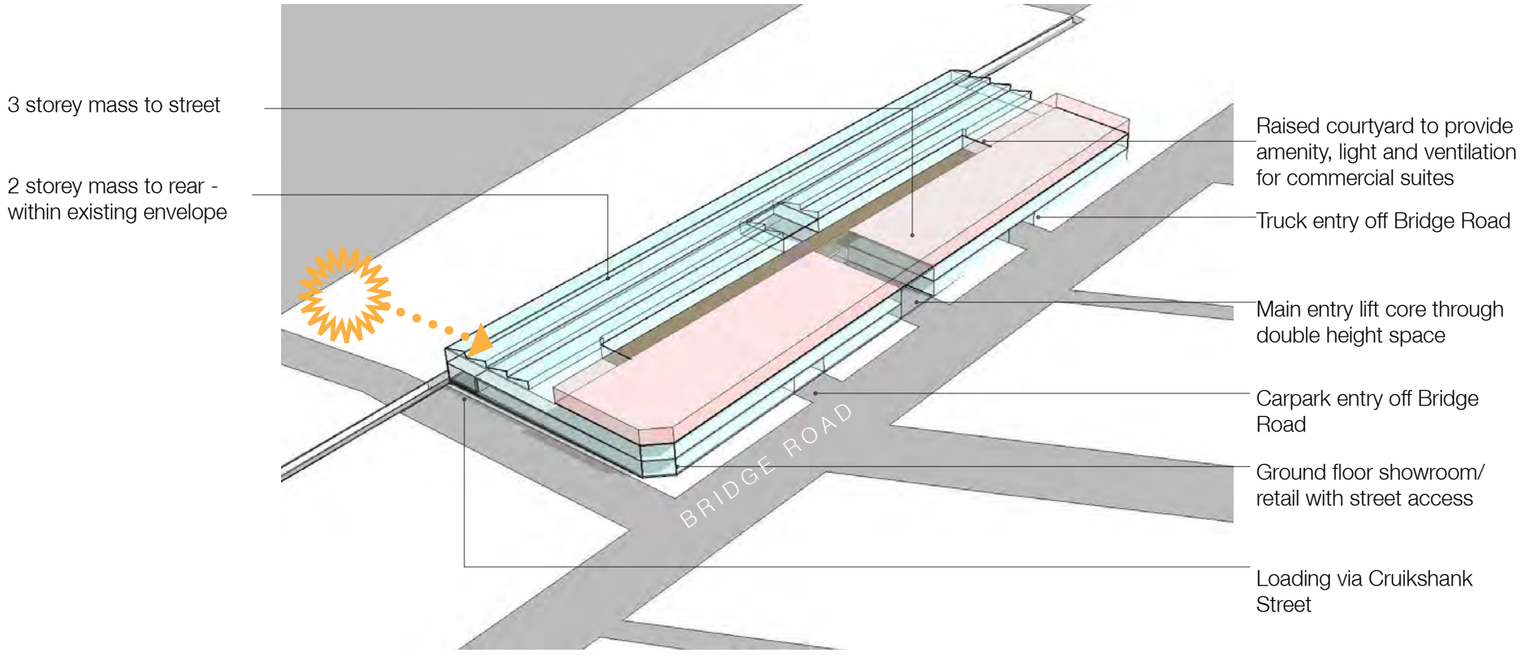
View along Bridge Road looking North

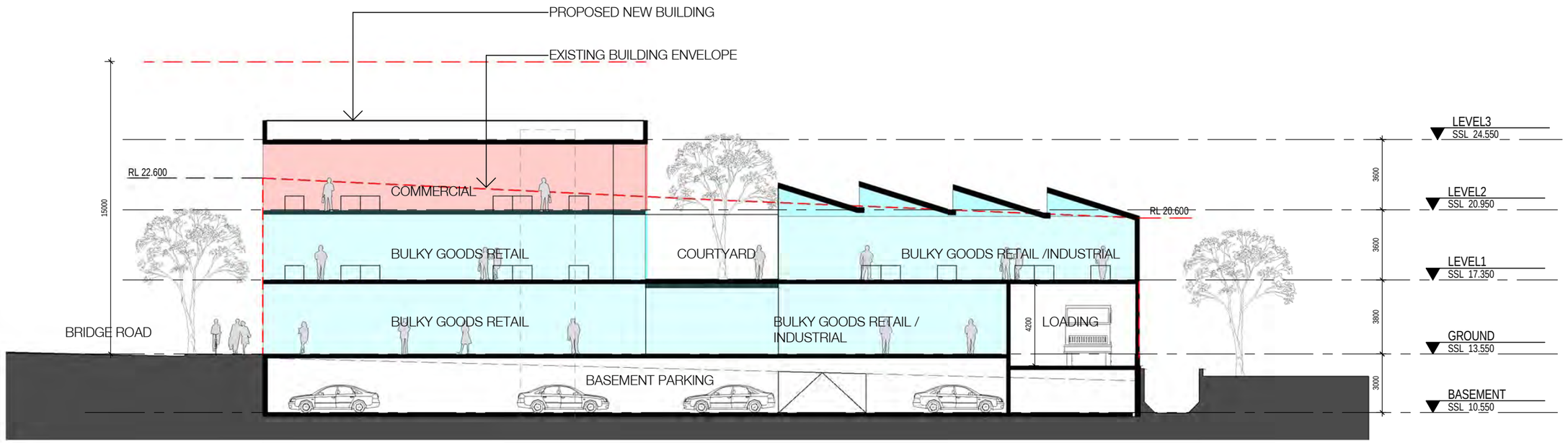


01. Site Analysis

Design Concept

Bridge Street - Massing





Areas

Site Area	5721			
Proposed Total GFA	11450	**FSR**	2.00	:1

Level	**Height**	**GFA**	**NSA**
G (Bulky goods)	3.8	4400	4048
L1 (Bulky goods)	3.3	4750	4370
L2 (Commercial)	3.3	2300	2116
			0
Sub Totals	**10.4**	**11450**	**10534**

Carparking Requirements	Area 2	Area 3	SQM	Required Area 2	Required Area 3
Bulky Goods	1/125 sqm GFA	1/100sqm GFA	9150	73	92
Office Premises	1/80 sqm GFA	1/60sqmGFA	2300	29	38
	Total Cars Required		11450	102	130

Parking provided	**130**	spaces - 1 level of basement

Street View Study

View looking south along Bridge Road - Existing condition

Street View Study

View looking south along Bridge Road - Proposed Massing

Street View Study

View looking north along Bridge Road - Existing Condition

Street View Study

View looking north along Bridge Road - Proposed Massing

TRAFFIC IMPACT STUDY OF PROPOSED RETAIL AND COMMERCIAL DEVELOPMENT, 31-41 BRIDGE ROAD, STANMORE, NSW

15th JULY 2013

CHRISTOPHER HALLAM & ASSOCIATES PTY LTD

PO BOX 265, KURRAJONG, NSW 2758

E-mail: chris@christopherhallam.com

JOB: 3310

1.0 INTRODUCTION

The site at 31-41 Bridge Road, Stanmore, is currently occupied by single level commercial/industrial units, with some basement parking accessed off Cruikshank Street, plus loading facilities and visitor parking accessed off the site frontage to Bridge Road. Figure 1 shows the location of this site.

Council has requested that a traffic report be prepared before considering the possible rezoning of the site to a B7 zoning to consider the potential impact a possible redevelopment will have on the surrounding area can be undertaken. On this basis a massing diagram has been submitted by the applicant identifying a possible solution which involves the construction of a building that would have three storeys fronting Bridge Road, two storeys to the eastern side and a single level basement parking area. The use proposed is primarily bulky goods retail, plus office/commercial. The gross floor area would be approximately 11,450 sq m. A total of 130 car parking spaces would be provided in the basement, accessed off Bridge Road.

Christopher Hallam & Associates Pty Ltd were commissioned to provide advice on the traffic and parking implications of this proposal and to prepare a traffic impact assessment report. This report is set out as follows:

- Section 2 reviews the current situation with regard to the road network and traffic flows;
- Section 3 describes the proposal, reviews the access, layout and car parking, and assesses the external traffic implications, and
- Section 4 sets out the conclusions.

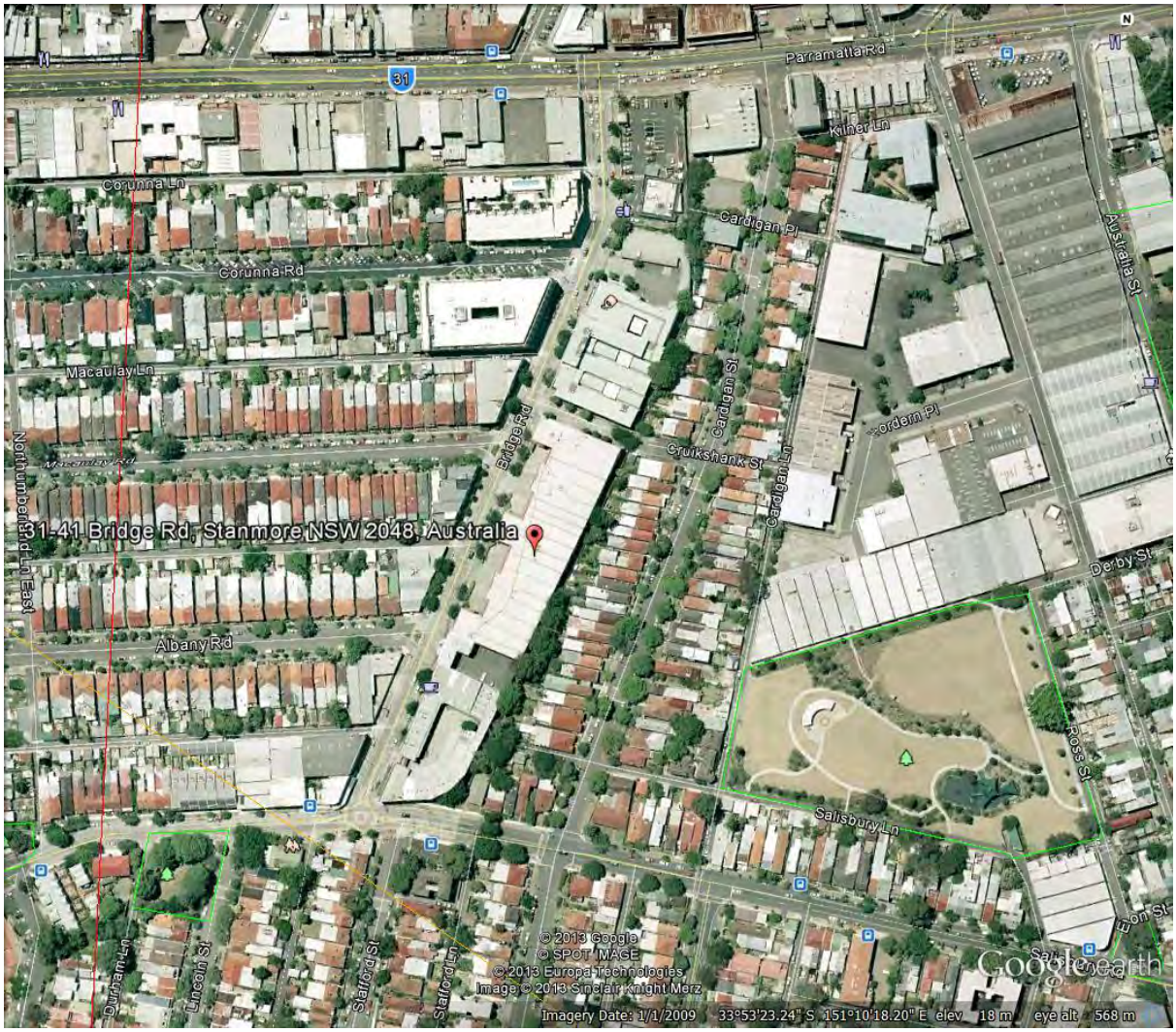


FIGURE 1 SITE LOCATION

2.0 CURRENT SITUATION

2.1 Road Network

As seen on Figure 1, the site is located on the eastern side of Bridge Road, between Parramatta Road and Salisbury Road. The northern edge of the site is bounded by Cruikshank Street, which is a short street between Bridge Road and Cardigan Street, but is blocked at the eastern end of the subject site, so that it acts as a cul-de-sac, providing access to the site and to the site to the immediate north.

Bridge Road has one traffic lane per direction, with kerbside parking on both sides. Along the site frontage and opposite, the kerbside parking restrictions are "No Stopping, 9pm-5am", seven days a week. This allows unrestricted parking during business hours, but no overnight parking. Along the site's frontage to Bridge Road there are approximately 15 car parking spaces. The site currently has two driveways to Bridge Road.

Bridge Road has a speed limit of 50 km/hr. Between Cruikshank Street and Macauley Street there is a marked footcrossing. The junction of Bridge Road with Macauley Street has a No Right Turn restriction on the turn from Bridge Road North into Macauley Street. Macauley Street is subject to a 3 tonne load limit.

The northern end of Bridge Road meets Parramatta Road at a traffic signal controlled T-junction. All movements are permitted, with a right turn bay in Parramatta Road for the right turn into Bridge Road. The northbound approach of Bridge Road has two traffic lanes, with a Right Turn lane and a Left+Right Turn lane. Traffic conditions and capacity at this intersection are dictated by the high traffic flow along Parramatta Road and the consequent traffic signal co-ordination.

Immediately south of Macauley Street there is a minor road, Albany Lane, heading westwards from Bridge Road. It is approximately 5m in width, and has a 3 tonne load limit. To its south, Albany Road provides access to residential properties. The junction of Bridge Road and Albany Road is restricted to left turn movements only.

Bridge Road at its southern end is a roundabout-controlled junction with Salisbury Road, with one lane approaches and movements through the roundabout.

2.2 Traffic Flows

Traffic counts were undertaken on a weekday afternoon and on a Saturday morning period, at the roundabout of Bridge Road/Salisbury Road and Bridge Road/Macauley Road/Cruikshank Street. Figure 2 sets out the traffic movements in the peak hours of Thursday 4-5pm and Saturday 12.15-1.15pm.

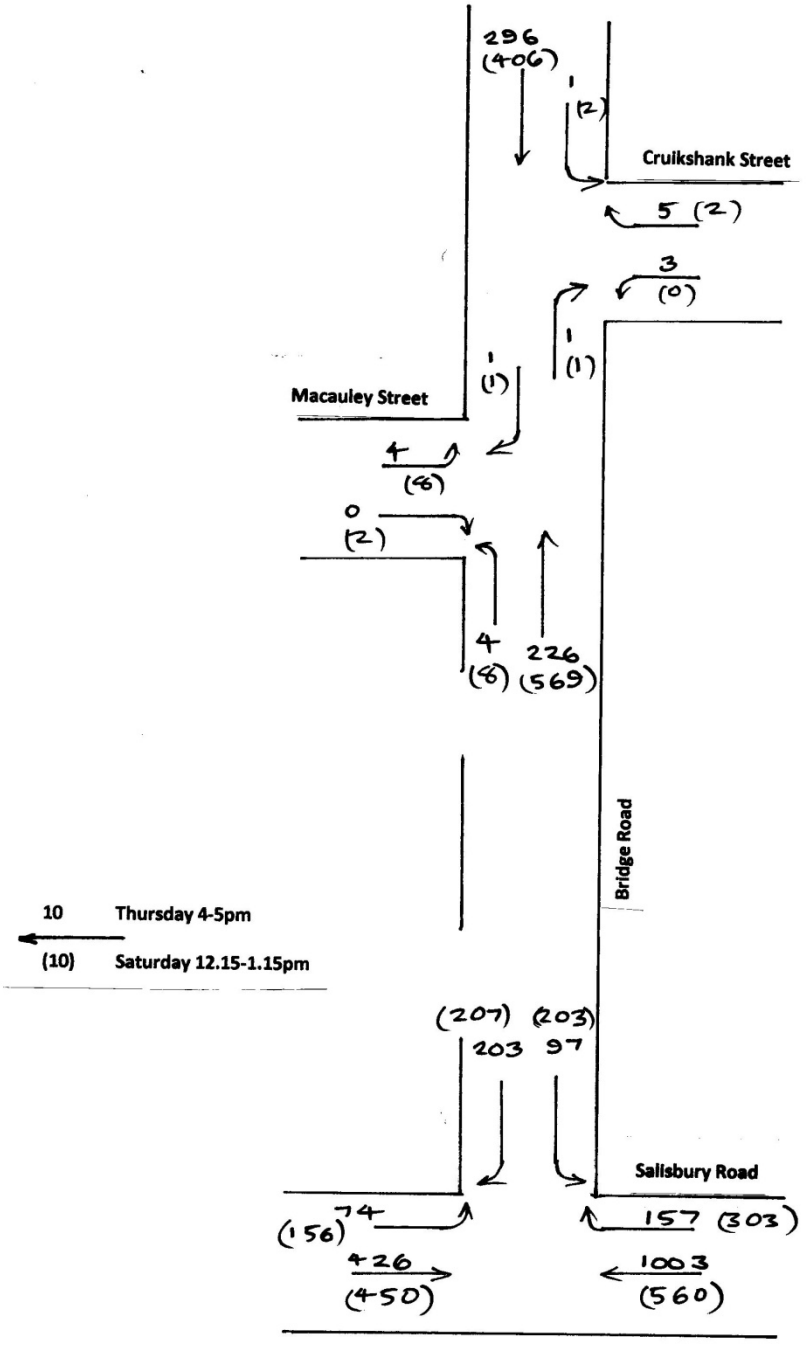


FIGURE 2 CURRENT PEAK HOUR TRAFFIC FLOWS

On the weekday, the peak hour adopted for the traffic impact assessment was 4-5pm, based on the likely peak hour of a bulky goods store. Salisbury Road showed a very high westbound flow, of 1,000 veh/hr, with426 veh/hr eastbound. Bridge Road had about 230 veh/hr northbound and 300 veh/hr southbound. There were minimal movements into and out of Cruikshank Street and Macauley Road.

Looking at the Saturday flows, the Salisbury Road flows are lower than on the weekday, although the two-way total is still approximately 1,000 veh/hr. The turning movements into and out of Bridge Road are in the range 150-300 veh/hr, with the total northbound flow in Bridge Road about 460 veh/hr and the southbound flow 410 veh/hr. There were minimal movements into and out of Cruikshank Street and Macauley Road.

The current operation of the roundabout junction of Salisbury Road and Bridge Road can be reviewed through use of the SIDRA program. A guide to the significance of the SIDRA outputs can be seen in Table 2.1, taken from the RMS *Guide to Traffic Generating Developments.*

TABLE 2.1 LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabouts	Give Way & Stop signs
A	<14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident Study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

From the peak hour traffic flows shown on Figure 2, the current roundabout operation was assessed, with the results set out in Table 2.2.

TABLBE 2.2 CURRENT OPERATION OF SALISBURY & BRIDGE ROADS ROUNDABOUT

Approach	Move	Thursday Avg Delay (secs/veh)	Thursday Level of Service	Thursday 95%Queue (m)	Saturday Avg Delay (secs/veh)	Saturday Level of Service	Saturday 95% Queue (m)
Salisbury	Thru	114	F	753	14.5	A	118
Rd East	Right	116	F	753	17.2	B	118
Bridge	Left	10	A	2	11.8	A	32
Road	Right	13	A	2	14.3	A	32
Salisbury	Left	9	A	4	12.8	A	61
Rd West	Thru	8	A	4	12.7	A	61
ALL	All	71.5	F	(753)	14.0	A	(118)

On the Thursday, delays are experienced by westbound traffic in Salisbury Road, conflicting with traffic coming from Bridge Road. The theoretical 95%ile Back of Queue length would not be realised in practice because the traffic signals further to the east along Salisbury Road would break up queues and platoon traffic.

On the Saturday, all movements are currently operating with acceptable delay levels and a good level of service.

The above results provide a means of assessing the relative change due to the proposed development.

3.0 TRAFFIC IMPACT ASSESSMENT

3.1 Description

The proposed rezoning comprises the demolition of the existing buildings on the site at 31-41 Bridge Road, Stanmore, which would facilitate the construction of a part two and part three-storey building, plus a basement parking level. The Ground and First Floor levels would be used for bulky goods retail, while the Second Floor would be used for office/commercial. The proposed floor areas are:

Level	Use	Gross Floor Area	Net Floor Area
Ground	Bulky goods retail	4400 m2	4048 m2
First	Bulky goods retail	4750 m2	4370 m2
Second	Office/commercial	2300 m2	2116
Total		11,450 m2	10,534 m2

The Basement parking area would contain 130 car parking spaces, proposed to be accessed off a driveway onto Bridge Road. Service vehicle access would be via a driveway on Bridge Road to the southern end of the site and off a driveway on Cruikshank Street.

3.2 Access and Layout

The proposed location of the main basement parking area driveway in Bridge Road will be between Macauley Road and Albany Lane. It needs to be a minimum of 6m away from the southern kerb tangent point of Macauley Road where it meets Bridge Road, to comply with Figure 3.1 of AS/NZS *Parking facilities Part 1: Off-street car parking.*

To comply with Table 3.1 of this Standard, for access to 130 parking spaces off a Local Road a Category 3 driveway is required, which is to have an entry 6.0m wide and an exit 4-6m wide, with a separation of 1-3m. This would provide for easy movement to and from the site. For the 12m of kerb on the northern left-turn approach to the site and for at least 3m on the southern side we would recommend “No Stopping” restrictions, to facilitate easy and safe access.

However, for the most efficient traffic access and circulation past the site, and at the same time to minimise any on-street parking lost by a driveway onto Bridge Road, we recommend that the main driveway to the basement parking area be off Cruikshank Street. This will mean that the existing junction of Bridge Road and Cruikshank Street will provide the main access to the site. As shown on Figure 2, there are currently minimal traffic movements into or out of Cruikshank Street, so the

current operation of this junction has minimal constraints. The affect of adding development traffic is tested in Section 3.4.

A truck/service vehicle driveway is proposed off Bridge Road, close to the southern site boundary. This driveway should not be less than 6m from the northern kerb tangent point of the Albany Road junction with Bridge Road. This driveway should be of sufficient width to accommodate a large heavy rigid vehicle, turning from and to the through traffic lane of Bridge Road. Access to loading docks is also proposed off Cruikshank Street.

The Basement car parking area is to comply with AS/NZS 2890.1-2004 and AS/NZS 2890.2-2002.

3.3 Car Parking

Within *Marrickville Development Control Plan 2011,* the site is in Parking Area 3. It is adjacent to sites in Parking Area 2. The car parking requirements of this DCP for Area 3 for the proposed development are:

Use	Parking Rate	Gross floor area	Parking required
Bulky goods premises	1 per 100 m2 GFA	9150 m2	91.5 spaces
Office premises	1 per 60 m2 GFA	2300 m2	38.3 spaces
Total			129.8 spaces

The Basement will provide 130 car parking spaces, to conform with the DCP. If assessed as in Parking Area 2, the parking requirement would be 102 spaces.

3.4 External Traffic Impact

The RMS *Guide to Traffic Generating Developments* provides recommended traffic generation and car parking rates. The two sets of rates go hand in hand. Where parking is constrained by policy, this is reflected in constrained traffic generation. The RMS recommended parking rate for Office premises is one space per 40 m2 in unconstrained locations. In this regard, Marrickville DCP represents a constrained location, with the Office parking rate of one space per 60 m2. The RMS office parking for this development would be 58 spaces. The ratio (38/58 = 0.655) reflects the degree of constraint.

For Office peak weekday traffic generation, the RMS Guide recommends a rate of 2 veh/hr per 1000 m2 gross floor area. For 2300 m2 this is 46 veh/hr. However when the degree of constraint due to parking is taken into account, the figure becomes 46 x 0.655 = 30 veh/hr.

For Bulky goods premises, the RMS Guide is less prescriptive, indicating ranges of parking and traffic generation, but still suggesting average figures. Using the car parking average rate of 1.9 spaces per 100 m2 leasable floor area, the RMS parking for the 8418 m2 of leasable area would be 160 spaces. The DCP requires 92 spaces, so the degree of constraint is 92/160 = 0.575.

The Bulky goods premises weekday evening peak hour traffic generation mean rate is 2.5 veh/hr per 100 m2 of leasable floor area, so for 8418 m2 this calculates to 210 veh/hr. The weekend (Saturday) mean rate is higher, at 6.6 veh/hr per 100 m2 of leasable floor area, so for 8418 m2 this calculates to 556 veh/hr. Applying the degree of constraint due to the parking supply, the projections become:

Weekday PM peak: 210 x 0.575 = 121 veh/hr; Weekend: 556 x 0.575 = 320 veh/hr

For the weekday afternoon peak hour, the total traffic generation will be 150 veh/hr. For the weekend, the office premises will not be open, and hence it will only be the bulky goods premises, at 320 veh/hr. As to the traffic distribution, this has been assumed to split 50/50 North/South along Bridge Road, and 50/50 East/West at the junctions with Salisbury Road and Parramatta Road.

With the timing of the weekday peak hour used in the assessment, this should coincide with the weekday peak hour of the primary traffic generator, the bulky goods retail. Looking at the original *Bulky Goods Retail Stores Data Report,* prepared in May 1990 for the Roads & Traffic Authority, the weekday hour of highest traffic generation varied from mid afternoon to mid evening. In the development of the commuter peak hour generation rate, the traffic movements from the following hours were used:

Site	Weekday Afternoon Peak Hour
Nick Scala, Auburn	4-5pm
Keith Lord, Ashfield	5-6pm
Mills & Moore, Chatswood	4.45-5.45pm
IKEA, Gordon	4-5pm
Brodie Lighthouse, Manly Vale	4-5pm
BBQ Galore, Kogarah	4.30-5.30pm
Harvey Norman, Fairfield	4.15-5.15pm
Bing Lee, Eastwood	2.15-3.15pm
BBC Hardware, Marrickville	4-5pm
Betta Stores, Kingsford	4.45-5.45pm

Based on these figures, the Thursday 4-5pm period has been chosen for the weekday afternoon analysis.

The junction of Bridge Road with Parramatta Road has not been assessed because Parramatta Road is an arterial road, carrying high volumes of regional through traffic. It currently has full traffic signal

control covering all traffic movements, with minimal opportunities for any changes or improvements in capacity. Its capacity for access to and from Bridge Road is primarily defined by traffic signal co-ordination parameters.

The roundabout junction of Bridge Road with Salisbury Road needs to be considered, to see if the one-lane roundabout has adequate capacity. Additional throughput capacity could probably be provided by traffic signals, but this depends on the need. Table 3.1 sets out the results of the SIDRA analysis for the weekday afternoon, for Current and for With Development, while Table 3.2 sets out the results for the Saturday peak hour.

TABLE 3.1 OPERATION OF SALISBURY & BRIDGE ROADS ROUNDABOUTS WEEKDAY PM PEAK

Approach	Move	Current Avg Delay (secs/veh)	Current Level of Service	Current 95%Queue (m)	+ Devt Avg Delay (secs/veh)	+ Devt Level of Service	+ Devt 95%Queue (m)
Salisbury	Thru	114	F	753	156	F	948
Rd East	Right	116	F	753	159	F	948
Bridge	Left	10	A	16	10	A	19
Road	Right	13	A	16	13	A	19
Salisbury	Left	9	A	28	9	A	30
Rd West	Thru	8	A	28	9	A	30
ALL	All	71.5	F	(753)	94.8	F	(948)

TABLE 3.2 OPERATION OF SALISBURY & BRIDGE ROADS ROUNDABOUTS SATURDAY MORNING PEAK HOUR

Approach	Move	Current Avg Delay (secs/veh)	Current Level of Service	Current 95%Queue (m)	+ Devt Avg Delay (secs/veh)	+ Devt Level of Service	+ Devt 95%Queue (m)
Salisbury	Thru	14.5	A	118	25.2	B	208
Rd East	Right	17.2	B	118	27.9	B	208
Bridge	Left	11.8	A	32	13.6	A	48
Road	Right	14.3	A	32	16.2	B	48
Salisbury	Left	12.8	A	61	16.0	B	84
Rd West	Thru	12.7	A	61	15.9	B	84
ALL	All	14.0	A	(118)	20.3	B	(208)

Looking at Table 3.1, the current Thursday afternoon peak hour sees delay levels to westbound traffic on Salisbury Road. Any additional traffic joining Salisbury Road via a right turn from Bridge Road will add to these delays because westbound Salisbury Road traffic gives way to right-turning traffic out of Bridge Road. Thus, any development in Bridge Road, or any additional through traffic moving from Parramatta Road into Bridge Road and then right-turning into Salisbury Road will increase delays to Salisbury Road westbound traffic through the roundabout. The 95% Back of Queue will not be exactly as modelled because of the influence of the traffic signal controlled junctions in Salisbury Road east of Bridge Road. In summary, any significant development in areas feeding Bridge Road or Salisbury Road (East) will increase traffic flows and delays, as part of on-going

development in the Inner West. Options to increase intersection capacity could be considered, in the context of the continuing development of the area.

For the Saturday morning peak hour (12.15-1.15pm) the current roundabout operation is satisfactory, with a very good level of service. The addition of the development traffic would see this level of service generally change from A to B, the next highest level, with the average intersection delay increasing from 14.0 to 20.3 seconds. This is still an acceptable level, as reflected by the level of service of B. Westbound traffic queues in Salisbury Road would occasionally extend, as they do now.

With the site access from Bridge Road, this was modelled using SIDRA, assuming single approach lanes, so that any advantage of a short kerbside left turn lane at the site was not included. The northbound Bridge Road traffic lane had to cater for both through and right turn traffic. This assumes no kerbside parking restrictions along the western side of Bridge Road. Table 3.3 sets out the results.

TABLE 3.3 SITE ACCESS JUNCTION ON BRIDGE ROAD WITH DEVELOPMENT

Approach	Move	Weekday Avg Delay (secs/veh)	Weekday Level of Service	Weekday 95%Queue (m)	Saturday Avg Delay (secs/veh)	Saturday Level of Service	Saturday 95%Queue (m)
Bridge Rd	Thru	1.4	A	7	3.4	A	25
South	Right	8.2	A	7	10.2	A	25
Site	Left	9.3	A	3	15.6	B	12
Access	Right	9.7	A	3	16.0	B	12
Bridge Rd	Left	6.4	A	0	6.4	A	0
North	Thru	0	A	0	0.0	A	0
ALL	All	2.4	na	(7)	4.6	na	(25)

For the weekday afternoon peak hour, the delay levels and level of service for all movements would be satisfactory. A very minor delay to northbound traffic in Bridge Road is indicated.

For the Saturday morning peak hour, the overall level of service for all movements would be satisfactory, with low delay levels. The site driveway would need at least 12m of internal queuing space. With the Bridge Road northbound flow, it would suffer some delays and queuing. If there were kerbside parking restrictions along the western side of Bridge Road near the site driveway, northbound traffic could bypass right turning vehicles waiting for a southbound traffic gap before turning into the site. This would mean no delays for both northbound and southbound Bridge Road traffic, which would be a desirable outcome. The cost would be the loss of some public on-street parking. This was modelled, assuming a through lane for the northbound travel and a 24m long right turn lane. The average delay for the intersection reduced to 3.0 seconds, the delay to the Bridge Road northbound traffic became zero and consequently this movement had no queue. The 95%ile Queue for the right turn into the site became 8.9 seconds, with a 95% queue of 2.4m. This is a more satisfactory situation.

The alternative for site access to the basement parking is to access this parking via Cruikshank Street. This could reduce the impact of kerbside parking loss, but would require the relocation of

the existing marked foot crossing. If this crossing was relocated so that it lined up directly with the central pedestrian entry into the building, it would facilitate safe access to the development, while retaining a safe crossing of Bridge Road for all pedestrians. With this crossing relocated and the basement parking access relocated to be off Cruikshank Street, the minimum available two lane section for northbound traffic on Bridge Road would be 24m approaching this Cruikshank Street junction. This distance would be greater if the triangular island at the throat of the Macauley Street junction with Bridge Road was cut back so that its eastern edge followed the kerb line. This would provide a minimum of 35m of two lane northbound carriageway approaching the Cruikshank Street junction. This site access is preferred. With the current layout of Bridge Road, but with the marked footcrossing moved to the South, there is an effective two northbound lanes in Bridge Road between the southern kerb of Macauley Street and the southern kerb of Cruikshank Street. This means that there is an effective right turn bay at least 24m long, assuming parking is not allowed on the western side of Bridge Road (it is not allowed at present). Table 3.4 presents the results of the SIDRA analysis of development traffic added to this intersection.

TABLE 3.4 BRIDGE ROAD & CRUIKSHANK STREET WITH SITE ACCESS

Approach	Move	Weekday Avg Delay (secs/veh)	Weekday Level of service	Weekday 95%Queue (m)	Saturday Avg Delay (secs/veh)	Saturday Level of service	Saturday 95%Queue (m)
Bridge Rd	Thru	0	A	0	0	A	0
South	Right	8	A	1	9	A	2
Cruikshank	Left	9	A	3	14	A	11
St	Right	10	A	3	15	B	11
Bridge Rd	Left	6	A	0	6	A	0
North	Thru	0	A	0	0	A	0
ALL	All	1.9	Na	(3)	3.0	Na	(11)

Table 3.4 indicates satisfactory operation of this intersection in both peak periods.

We recommend that the access into the basement parking area be via Cruikshank Street, and that the marked footcrossing be relocated to the South, ideally opposite the main pedestrian entrance to the site.

If t is not possible to relocate the marked footcrossing, the alternative is to have access to the basement parking area directly off Bridge Road. This will also perform in a satisfactory manner. To minimise any delays to northbound traffic in Bridge Road, some removal of kerbside parking along the western side of Bridge Road opposite the site driveway is recommended.

4.0 CONCLUSIONS

1. The redevelopment of the subject site, located at 31-41 Bridge Road, Stanmore, would see the current light industrial uses replaced with a bulky goods retail plus office/commercial use. Vehicular access could be via both Bridge Road and Cruikshank Street.
2. From the point of view of minimising delays to passing traffic on Bridge Road, site access to the basement parking area is preferred off Cruikshank Street. This would ideally require the relocation of the existing marked footcrossing in Bridge Road further to the South, possibly opposite the main pedestrian entrance into the site.
3. If the current location of this marked footcrossing is to be retained, direct access off Bridge Road would be preferred. To minimise any delays to northbound traffic on Bridge Road, some removal of on-street parking on the western side of Bridge Road opposite the site entrance would be desirable. Site access design is a matter to be refined during the development application process.
4. Under either access option, the weekday afternoon and Saturday morning peak hour operation of the access intersection, with Cruikshank Street or alternatively directly into the site, would be very satisfactory.
5. Car parking will be provided in accordance with the Council DCP, with approximately 130 spaces to be provided.
6. With regard to external traffic impacts, the existing traffic signal controlled intersection of Bridge Road with Parramatta Road has not been modelled, because this intersection is part of the co-ordinated traffic signal system along Parramatta Road, in which regional through traffic movements along Parramatta Road dominate. There are no options to increase the capacity of this intersection.
7. The southern end of Bridge Road intersects with Salisbury Road in a one-lane roundabout. The current Thursday afternoon peak hour operation sees delays to westbound traffic along Salisbury Road, but with minimal delays to other movements. Adding any right-turn traffic out of Bridge Road will further delay westbound Salisbury Road traffic, as the modelling presented indicates. Other traffic movements would not be unduly affected. In the Saturday morning peak hour, the current and future operations would be satisfactory.

15th July 2013