

ATTACHMENTS.

Special Council Meeting

18 October 2016

ATTACHMENTS TO AGENDA ITEMS

Special Council Meeting - 18 October 2016

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Form 1 - Responsible Authority Report

(Regulation 12)

Property Location:	Lots 2-20 (No. 74) Mill Point Road, South Perth
Application Details:	Proposed Mixed Use Development Within a 34 Storey Building Plus 3 Basement levels and a Mezzanine level
DAP Name:	Metro Central JDAP
Applicant:	Hillam Architects
Owner:	Edge Holdings Pty
LG Reference:	MI3/74 – 11.2016.2.2
Responsible Authority:	City of South Perth
Authorising Officer:	Vicki Lummer, Director Development and Community Services, City of South Perth
Reporting Officer	Erik Dybdahl, Senior Strategic Planning Officer
Department of Planning File No:	DAP/16/00974
Report Date:	11 October 2016
Application Receipt Date:	11 April 2016
Application Process Days:	90+ Days
Attachment(s):	<ol style="list-style-type: none"> 1. Amended Development Application Report (Revision D – August 2016). 2. Architect Supporting Letter – 26 August 2016. 3. Amended and Final Proposed Development Plans: <ul style="list-style-type: none"> - Floor Plans A2-00 through A2-17 (latest revisions 29 September 2016) - Elevation Plans A3-01 through A3-04 (latest revisions 25 August 2016) 4. Revised and Final Car Bay Summary (latest revision 29 September 2016). 5. Revised and Final Plot Ratio Summary (latest revision 29 September 2016). 6. Summary of Submissions and Applicant Responses. 7. Infrastructure Services Comment 8. Environmental Health Services Comment 9. Water Corporation Comment 10. Traffic Impact Assessment (Shawmac) 11. Construction Management Plan (Jaxon) 12. Waste Management Plan (Talis) 13. Economic Impact Assessment (AEC) 14. Economic Impact Assessment Review (Pracsys) 15. Wind Impact Assessment (VIPAC) 16. Serviced Apartment Management Plan 17. Serviced Apartment Operator Statement (Seashells)

	18. ESD Strategy (CADDs Energy) 19. Additional Overshadowing Diagrams 20. Landscaping Plans 21. 3D perspective render
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Officer Recommendation:

That the Metro Central JDAP resolves to:

Reconsider its decisions dated 28th April 2016 and 13 July 2016 and **refuse** DAP Application reference DAP/16/00974 and associated development floor plans, A2-00 through A2-17 (latest revisions 29 September 2016) and elevation plans, A3-01 through A3-04 (latest revisions 25 August 2016), in accordance with Clause 7.9 of the City of South Perth Town Planning Scheme No. 6 and Schedule 2 Part 9 of the Planning and Development (Local Planning Schemes) Regulations 2015, for the following reasons:

Reasons for Refusal:

1. As the development cannot meet all of the Design Considerations in Table B, specifically Design Consideration No. 5 – Vehicle Management, the residential plot ratio greater than 1.5 (2,706m²) and the building height greater than 25 metres (measured to the finished floor level of the upper-most storey) are unable to be approved:

- Proposed Residential Plot Ratio: 10,008m² (5.55)
- Proposed Building Height: 116.65m

2. It is considered that the proposed height of the development at approximately 116.65 metres, if approved would significantly impair the effective achievement of the approach to height (proposed height limit of 25 metres) that is contained within proposed Town Planning Scheme amendment No.46.

3. It is considered that the proposed zero street setback, if approved would significantly impair the effective achievement of the approach to street setbacks for this section of Mill Point Road that is contained within proposed Town Planning Scheme amendment No.46

4. The development does not satisfy the relevant matters to be considered under Schedule 2 Clause 67 of the Planning and Development (Planning Regulations) 2015 for the following reasons:

- a) the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving; and
- b) the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety.

Advice Notes

nil

Background:

Property Address:	Lots 2-20 (No. 74) Mill Point Road, South Perth
Zoning	MRS: Urban
	TPS: Special Control Area 1 – South Perth Station Precinct
Use Class:	Multiple Dwellings, Café/Restaurant, Commercial Office, Serviced Apartments and Community Meeting Room
Strategy Policy:	N/A
Development Scheme:	City of South Perth Town Planning Scheme No. 6
Lot Size:	1,804m ²
Existing Land Use:	Vacant Site (grouped dwellings previously)
Value of Development:	\$90 Million

On the 25th of May 2015, the Metro Central JDAP resolved to conditionally approve a proposed 29 storey mixed use development, on Lots 7-20 (No. 74) Mill Point Road, South Perth. Furthermore, a minor amendment application (Form 2) was conditionally approved on the 1st of December 2015 which provided an additional basement level and modification of the basement levels and canopy to accommodate the root ball and branches of the existing street trees. However, this approval was subsequently *set aside* in a Supreme Court of Western Australia ruling *Nairn -V- Metro-Central Joint Development Assessment Panel [2016] WASC 56*, dated 26 February 2016, which concluded that “in order to vary the requirements of Element 3 [of TPS6 Schedule 9] in relation to plot ratio and building height, it must be demonstrated to the satisfaction of the council.....that the development consists of predominantly non-residential uses before the discretion in development requirement 13.1 is enlivened.”

Subsequent to this ruling the applicant prepared a revised 44 storey mixed use development proposal, similar in overall design yet posing significant amendments to the plot ratio and land use mix of the development to produce a predominantly non-residential land use mix. When considered at the Metro Central JDAP meeting held on the 28th of April 2016 the application was deferred on the following basis:

“To provide the applicant with more time to address traffic management issues associated with the application. The application as presented has insufficient information to allow the Panel to properly determine this aspect.”

Once such information had been prepared and the item was reconsidered at the Metro Central JDAP meeting held on 13 July 2016, the City’s recommendation of refusal was upheld by DAP members and the application was ultimately refused for the following reasons:

1. Due to the high proportion of serviced apartments in this application, the proposed mix of non-residential land uses is not considered to meet the guidance statement (3(a) of Table A Schedule 9 – TPS6) which requires the precinct to consolidate its role as an employment destination.
2. It is considered that the proposed height of the development at approximately 143 metres, if approved would significantly impair the effective achievement of the approach to height (proposed height limit of 25 metres) that is contained within proposed Town Planning Scheme amendment No.46.

3. The development does not satisfy the relevant matters to be considered under Clause 7.5 of the City of South Perth Town Planning Scheme No. 6 and Schedule 2 Clause 67 of the Planning and Development (Planning Regulations) 2015 for the following reasons:

a) The development by virtue of its scale is not compatible with its setting including its relationship with development on adjoining land and other land in the locality including, but not limited to, the likely negative effect of the height, bulk and scale, of the development;

b) The adverse amenity impacts of the development on the locality including the following:

I. Environmental impacts of the development including, the negative impacts associated with increased traffic volumes and overshadowing;

II. The existing character of the locality;

III. The excessive amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety, including as outlined in the Cardno Report and included in the Responsible Authority Report.

Following this refusal and as a result of subsequent SAT proceedings the applicant revised the proposal, reducing the overall building height from 44 Storeys (143 metres to top of roof) to 34 storeys plus a mezzanine (116.65 metres to top of roof) as is the subject of this report. While the overall building design remained relatively consistent with previous proposals, a reduced building height and internal modifications were made to floor plans and the land use mix/proportions. The latest and final proposed revisions were made on the 29th August 2016; this revised and latest proposal is summarised as follows:

- A proposed 34 storey (plus 3 basement levels and an upper level mezzanine), 116.65 metre, mixed use development located at 74 Mill Point Road, South Perth and contained on a site 1,804 metres squared in area with a 40.1 metre frontage to Mill Point Road.
- The development contains 1 Café/Restaurant, 4 Commercial Office tenancies, 100 Serviced Apartments and 83 Residential Dwellings with associated amenity floors for the residential and serviced apartment components of the development.
- Three levels of basement providing car parking, bicycle parking and residential storerooms.
- The ground floor consists of a proposed Café/Restaurant, commercial (serviced apartment and office) lobbies, the residential lobby, 4 residential visitor bays, secure bicycle storage, scooter parking, end-of-trip facilities, fire pump and tanks, bin store and other building services.
- Levels 01 – 02 contain a total of 4 Office tenancies fronting Mill Point Road with residential and non-residential car parking allocations including visitor parking behind, bicycle parking and residential stores.
- Level 03 contains 14 serviced apartments and a commercial laundry
- Level 04 contains 6 serviced apartments, the serviced apartment amenity floor including a gym, lounge and deck as well as a community meeting room.
- Levels 05 – 14 consist of 8 serviced apartments each.

- Level 15 consists of 2 residential dwellings and the residential amenity floor containing a lounge, theatre, gym, pool, spa, sauna, steam room, kitchen, BBQ and decking/seating area.
- Levels 16 – 26 consist of 5 residential dwellings each, varying from 1x1 Bed (64 square metres) to 3x2 Bed (125 square metres).
- Levels 27 – 30 consist of 4 residential dwellings each, varying from 2x2 Bed (92 square metres) to 3x2.5 Bed (174 square metres).
- Levels 31 – 32 consist of 3 residential dwellings each, varying from 3x2 Bed (130 square metres) to 3x3.5 Bed (164 square metres).
- Level 33 consists of two sub-penthouses each 3x3.5 bed, 232 and 224 square metres respectively.
- Level 34 and the upper mezzanine contain two, two-storey penthouse apartments with a total of 401 and 397 square metres respectively.
- Egress and ingress to the site is to be limited to the right-of-way from directly off Mill Point Road only. Planned upgrades to the right-of-way see it widened to 6.9m at a minimum and 7.7m for the front portion to accommodate a waste removal truck.
- A total of 18 residential unit types are provided throughout the development including 11 single bedroom apartments and achieving a residential density of 460 units per gross hectare.
- A summary of the plot ratio proportions and car parking provisions can be found as part of **Attachments 4 & 5** of this report.

The proposal is also discussed further in the applicants supporting report and architects letter (**Attachments 1 & 2**) of this report. Consultation, assessment and discussion of all significant elements of the proposed development in relation to the compliance and appropriateness of the proposal in accordance with provisions of Schedule 9 of the City's Town Planning Scheme No. 6, city objectives and other relevant legislation/policy are discussed in detail in the following sections of this report.

Legislation & policy:

Legislation

Planning and Development Act 2005.

Planning and Development (Local Planning Schemes) Regulations 2015, specifically Schedule 2. [Regulations]

City of South Perth Town Planning Scheme No. 6, specifically Parts VII and IX, Schedules 1 and 9 and proposed Schedule 9A[^]. [TPS6]

[^] *Proposed Schedule 9A (Amendment 46) was considered by Council on 26 April 2016 and at the time of writing this report is pending final approval by the WAPC and Minister.*

State Government Policies

State Planning Policy 2.10 'Swan-Canning River System' (2006).

State Planning Policy 3.1 'Residential Design Codes' (2013), specifically Part 6 and Appendix 1. [R-Codes]

Local Policies

The following local planning policies are relevant to this application:

Council Policy P312 'Serviced Apartments'

Council Policy P316 'Developer Contribution for Public Art'

Council Policy P318 "South Perth Station Precinct Application Requirements"

Council Policy P350.01 'Environmentally Sustainable Building Design'

Council Policy P350.03 'Car Parking Access, Siting, and Design'^

Council Policy P350.09 'Significant Views'

South Perth Station Precinct Plan (WAPC, January 2011)

Consultation:

Public Consultation

Public consultation has been undertaken for this proposal to the extent and in the manner required by City Policy P301 'Consultation for Planning Proposals'. Under the "Area 3" consultation method, strata bodies as well as individual property owners and occupiers were invited to inspect the plans and to submit comments during a minimum 21-day period. A physical sign was also required to be placed on the site for the duration of the consultation period. All revised plans and associated documentation/reports including those from previous proposals were placed on the City's *Your Say* web page and made available for viewing. While these documents are still available the formal consultation period went from the 1st of September until conclusion on the 27th of September.

A total of 792 consultation notices were issued and over the course of the period the City received a total of 123 formal submissions were received. These submissions have been summarised as part of **Attachment 6** of this report. The applicant has provided written response to the summarised submissions as seen in blue following each submission category/topic in the attached document. Detailed City Officer response to all categories/topics of submissions is found throughout this associated responsible authority report.

All submissions were considered in the recommendations for this proposal and many of the elements are discussed in greater detail in the assessment section of this report

Consultation with other Agencies or Consultants

Department of Parks and Wildlife – River and Estuary Division:

In accordance with the WAPC Notice of Delegation, this application was referred to the Department of Parks and Wildlife (DPAW) – River and Estuary Division to provide commentary on the proposal, primarily in relation to the management of ground and stormwater during excavation, construction and the lifetime of the development.

As per the revised proposal, no modification was made to the basement level designs and as such, should the DAP choose to approve this application, all previous recommended conditions of approval and advice notes stipulated by DPAW shall be carried over and imposed in their entirety.

Water Corporation:

This application was also referred to the Water Corporation to provide commentary on the proposal, primarily in relation to the water and wastewater.

The complete response is found as part of **Attachment 9** to this report in regards to potential system upgrading in order to meet the demand and the developer would be expected to fund all necessary upgrades to water, sewerage and drainage systems.

The matters raised by the Water Corporation can and shall be resolved through the implementation of appropriate conditions should DAP choose to approve this application.

Perth Airport:

The application was referred to Perth Airport to provide comment on potential impacts to aircraft movements from the proposed development. However, the City has not received written comment at the time this Responsible Authority Report was lodged.

It is observed that the proposed building height of 116.65m AHD including any plant equipment may not infringe on Perth Airport's prescribed airspace based on their previous comments which indicated concern would only be generated once buildings reached a height on or above 150.00m

Internal City Departmental Consultation

City Environment Services:

City Environment provided comment in relation to the trees within the City's verge and any associated landscaping on the site. Given the amenity values of the London Plane trees within the City's verge, large bonds have been imposed as part of the recommended conditions should the DAP choose to approve the development. Furthermore the establishment of a Tree Protection Zone (TPZ) is also required to ensure the protection of these trees during construction and will be required should the development be approved.

Landscaping plans were also submitted to the City on the 29th of August 2016 (**Attachment 20**) and will require approval of City Environment prior to implementation should the development be approved.

The matters raised by the department can and shall be resolved through the implementation of appropriate conditions should DAP choose to approve this application.

Environmental Health:

Environmental Health provided comment in relation to a number of health related aspects of the development, the full comments can be found as part of **Attachment 8** of this report.

Environmental Health have endorsed the proposed *Talis* waste management plan (**Attachment 12**) and it shall be required to be implemented as such, should the development be approved. All amendments in relation to the laundry provisions and café freezer and dry store have been addressed in the latest revisions of plans received 29th August 2016 (**Attachment 3**) and all other matters raised by the

department can and shall be resolved through the implementation of appropriate conditions should DAP choose to approve this application.

Infrastructure Services:

Infrastructure Services were asked to provide comment on aspects such as stormwater design, dewatering management, waste management, parking layout, construction management, the traffic impact assessment and crossover. The full comments can be found as part of **Attachment 7** to this report.

In summary, should the application be approved, the applicant will have to comply with all requirements of Infrastructure Services as detailed in the attachment, including but not limited to:

- Having the *Construction Management Plan* (see **Attachment 11**) modified, approved and implemented in accordance with Infrastructure Services requirements.
- A *Dewatering Management Plan* prepared, approved and implemented in accordance with all requirements of Infrastructure Services and the Department of Parks and Wildlife
- The *Waste Management Plan* (**Attachment 12**) which has been endorsed by Environmental Health is also to comply with any additional requirements of Infrastructure Services
- A *Crossing Application* is to be prepared, approved and implemented in accordance with Infrastructure Service Requirements
- With respect to *Stormwater Design* all facilities are to comply with Policy P354 and Management Practice M354 as well as incorporate principles of Water Sensitive Urban Design (WSUD). An application for private drainage connection (PDC) is also required to be prepared, approved and implemented in accordance with Infrastructure Services requirements.

The above matters raised by the department can and shall be resolved through the implementation of appropriate conditions should DAP choose to approve this application.

With regard to traffic, the applicant has provided a traffic impact assessment (**Attachment 10**) which supports the development, in combination with others, in terms of the traffic impacts on the local road networks. However, significant to this application was Infrastructure Services review of this assessment and their own traffic impact assessment, with particular regard to Design Consideration No. 5 – Vehicle Management in Table B of Schedule 9. As per the comments, this consideration was seen NOT to be achieved which therefore has significant implications for variations sought in relation to elements 3 (plot ratio) and 5 (building height) of Schedule 9 Table A (see **Attachment 7**). These matters are discussed in detail in the following sections of the report.

Design Advisory Consultants

Given the overall design of the revised proposal remained unaltered, notwithstanding the reduction in height, additional comments from the DAC were not sought for the revised 34 storey proposal. As such, previous comments relating to the design of the building were upheld, detailed as follows:

- *The building design eclipses other approved buildings within the South Perth Station Precinct.*
- *The new design is improved relative to the previous approval e.g. improved sightlines around the building due to smaller footprint of the tower.*
- *It was observed that the proposed building is designed like the Vancouver and Seattle ideology of development – small footprints and large thinner towers.*
- *The design quality criteria listed in TPS6 has been met in the DAC's opinion.*

Note: The Office of the Government Architect reviewed the initial proposal for 74 Mill Point (29 Storey) and made some key recommendations in terms of design of which the applicant adopted, the overall design of the current proposal remains consistent, notwithstanding changes to the building height and internal plot ratio / land use mix amendments. These recommendations and the applicants response/amendments are contained within the agenda of the Metro Central JDAP meeting, dated 25th May 2015.

Planning assessment:

The proposed development is considered to be generally compliant with the provisions of Town Planning Scheme No. 6 (TPS6), the Residential Design Codes (R-Codes) and Council policies where applicable. The following planning aspects have been assessed, and were found to be compliant with the relevant provisions:

- Podium Height: TPS6 Schedule 9 Table A 4.
- Essential Facilities: TPS6 Schedule 9 Table A 3.6 and R-Codes cl. 6.4.6.
- Side Setbacks: TPS6 Schedule 9 Table A 7.1 and R-Codes Table 5
- Dimensions of Car Parking Bays and Accessways: TPS6 cl. 6.3(8) and Schedule 5.
- Vehicular Crossovers: TPS6 Schedule 9 Table A 10, R-Codes cl. 6.2.3 and Policy P350.07.
- Land Use and Ground Floor Uses: TPS6 Schedule 9 Table A 1-2
- Driveway Gradient: TPS6 cl. 6.10(2).
- Minimum Floor Levels: TPS6 cl. 6.9(2) and (3).
- Landscape and Outdoor Living Areas: TPS6 Schedule 9 Table A 11 and R-Codes cl. 6.3.1.
- Heritage: TPS6 Schedule 9 Table A 12
- Landscape and Outdoor Living Areas: TPS6 Schedule 9 Table A 11 and R-Codes cl. 6.3.1.
- Designing Out Crime: TPS6 Schedule 9 Table A 14.
- Road and Rail Transport Noise: TPS6 Schedule 9 Table A 15
- Stormwater Management: TPS6 cl. 6.8(2).
- Maximum Ground and Floor Levels: TPS6 cl. 6.10(1) and (3).
- Developer Contribution for Public Art: Policy P316.
- Dwelling Size: TPS6 Schedule 9 Table B 3.5

The following matters, which require the exercise of discretion, are considered acceptable subject to recommended conditions should the development be approved and are discussed further below:

- Non-Residential Land Use Proportion (Serviced Apartments) TPS6 Schedule 9 Guidance Statement 3(a)

- 'Serviced Apartments' - Council Policy P312
- Rear Setback: TPS6 Schedule 9 Table A 7.1 and R-Codes Table 5
- Parking: TPS6 Schedule 9 Table A 8. (Specifically, reciprocal arrangement proposed for 6 of required 14 residential visitor bays).
- Dwelling Size: TPS6 Schedule 9, R-Codes cl. 6.4.3. Table B 3.5
- Sustainable Design: Policy P350.01.
- Canopies: TPS6 Schedule 9 Table A 9.1.
- South Perth Station Precinct Application Requirements Council Policy P318.

The following matters, which require the exercise of discretion, are considered unacceptable and are discussed further below:

- Plot Ratio and Land Use Proportions: TPS6 Schedule 9 Table A 3.1-3.4, 13 and Table B.
- Building Height: TPS6 Schedule 9 Table A 5.1 and cl. 6.1A (AMD 46)
- Relationship to the Street: (Amendment 46) TPS6 Schedule 9 Table A 7.3.
- Traffic Impact Assessment TPS6 Schedule 9 Table B Design Consideration 5.

Applicable Scheme Provisions within Special Control Area 1:

TPS6 Schedule 9 was gazetted on 18 January 2013, applicable to any comprehensive new developments within Special Control Area 1, including the development site. Schedule 2 clause 67(b) of the Regulations requires the local government and DAP to have due regard to any proposed local planning scheme or amendment that has been advertised under the Regulations or any other proposed planning instrument that the local government is seriously considering adopting or approving.

Amendment No. 46 (AMD 46) to TPS6 proposed to rectify anomalies and ambiguities in Schedule 9 by replacing the current provisions with proposed Schedule 9A. The new Schedule 9A in proposed Amendment 46, would replace the existing Schedule 9 provisions applicable to comprehensive new developments in the South Perth Station Precinct. Council has made its final recommendation to the WAPC and the Minister for Planning on 26 April 2016.

The modified Amendment No. 46 (AMD 46) included major changes and so was endorsed by Council for further public advertising on 27 October 2015, with the amendment advertised and the public submission period commencing on 4 November 2015 and concluded on 5 February 2016.

In considering whether the application is consistent with the planning objective or approach of Amendment 46, the officers will have regard to the following:

a) Where there is inconsistency between a development application and one or more aspects of Amendment 46 the officers will consider how significant the inconsistencies are in relation to the Amendment 46 provisions. If the inconsistencies are significant, they will be "likely to impair the effective achievement of the planning objective or planning approach embodied or reflected in Amendment 46 and will be likely to render more difficult the ultimate decision as to whether the Amendment should be made or its ultimate form". If inconsistencies have this result, they are unlikely to be supported by officers, and may be recommended as a ground for refusal.

b) If the inconsistencies are thought to be minor and approval can be granted under the current Scheme without impairing the achievement of the planning

objectives or approach of Amendment 46 the development is more likely to be supported notwithstanding the minor inconsistencies with Amendment 46.

While the officers express their professional opinion on these matters it is ultimately a matter for the relevant decision maker (Council, JDAP or SAT) to consider and reach a view about these matters in determining each development application.

The following assessment tables demonstrate the proposed development's compliance or variance from the provisions of Schedule 9 of the TPS6. Where development controls are to be potentially varied via Amendment 46, these elements are shown in italics and all elements of significance, as listed above, will be discussed further in the following sections of the report.

TABLE A		
Development Requirement	Proposal	Comment
Land use		
Preferred land uses in the Mends sub-precinct include: Café/Restaurant, Cinema/Theatre, Convenience Store, Hotel, Local Shop, Mixed Development, Office, Tourist Accommodation, Specialty Retail, Multiple Dwelling, Single Bedroom Dwelling, Residential Building	A Mixed Development including Café/Restaurant, Single Bedroom Dwelling, Tourist Accommodation (Serviced Apartments), Office and Multiple Dwelling Land Uses	Development incorporates preferred land uses for sub-precinct. See further discussion on plot ratio / land uses below
Ground Floor Uses		
Preferred Ground Floor Uses in the Mends sub-precinct include: Café/Restaurant, Office, Convenience Store, Hotel, Local Shop Specialty Retail and Tourist Accommodation	Café/Restaurant	Development incorporates preferred ground floor land use for the Mends sub-precinct.
Plot Ratio and Land Use Proportions		
There is no maximum plot ratio within the precinct.	Total plot ratio of approx. 11.1	Complies
All comprehensive new development to have a non-residential component with a minimum plot ratio of 1.0. <i>(AMD 46 requires minimum non-res plot ratio of 1.5)</i>	Non – residential plot ratio 5.56 (10,023m ²) as per latest revisions	Complies <i>(Complies with potential AMD46 provisions of min 1.5 plot ratio non-res component)</i>

Where the total plot ratio exceeds 3.0, the residential plot ratio is not to exceed 1.5 unless the Council approves a higher plot ratio under Table B of this Schedule.	Residential plot ratio 5.55 (10,008m ²) as per latest revisions	Applicant is seeking residential plot ratio variation under Table B of Schedule 9. This is discussed in greater detail below
The provisions of the Codes relating to dwelling size in activity centres shall apply.	Comprises a range of dwellings sizes including 13% (11) 1 bed, 51.8% (43) 2 bed, 34.9% (29) 3+ Bed. (Total 83 Res Units)	Min. dwelling size complies Min. 40% 2 bed dwelling complies Min. 20% 1 bed dwellings does not comply – seek variation via Dwelling Density and Type section of Table B below due to overall dwelling density, >100 dwellings per hectare at 460 dwellings per hectare
For comprehensive new development that includes residential dwellings, the provisions of the Codes relating to essential facilities in activity centres shall apply.	Each dwelling is provided with at least the minimum size storage unit and outdoor living area. A waste management plan has been provided and laundry facilities are considered acceptable. See plot ratio summary in Attachment 5.	Complies Proposal provides slightly greater non-residential plot ratio than residential, satisfying guidance statement 3(a) - see further discussion of plot ratio and land uses in following sections of report.
Podium Height		
The podium height shall be 9 metres minimum and 13.5 metres maximum.	The podium height is 13.5 metres measured to the level 4 floor level.	Complies
Building Height		
Building heights shall be limited to the heights shown on Plan 3 Building Heights contained in this Schedule unless the Council approves a variation as provided for elsewhere in this	The building height is measured to be 116.65 metres in height in lieu of the prescribed 25 metre height limit as per Plan 3 of Schedule 9 – however, subject site within special design area and therefore	The applicant is seeking additional building height for the tower under Table B of Schedule 9, see following Table. See further discussion on building height in following sections of

<p>Schedule.</p> <p>The height limit for sites within the Special Design Area may be varied subject to all of the relevant performance criteria in Table B of this Schedule being met.</p>	<p>eligible for variations via Table B</p>	<p>report.</p> <p><i>Potential implications to consider if AMD46 is adopted as proposed would mean this site is removed from the Special Design Area so the 25m building height would apply and that a maximum permissible building height of 55m would apply if the site was to remain in the Special Design Area and 9 of the revised Table B performance criteria were met, this development exceeds the maximum permissible height potentially specified by AMD46 by 61.65 metres. See further discussion below.</i></p>
<p>Relationship to the street</p>		
<p>All development shall incorporate a podium with a nil setback to the street.</p>	<p>Nil podium setback proposed along Mill Point frontage;</p>	<p>Complies</p> <p><i>AMD 46 Clause 7.3 suggests that properties with frontage to specified streets incorporate a 4 metre front setback from the street to the podium, including the eastern side of Mill Point Road between Harper Terrace and Fraser Lane. See further discussion below.</i></p>
<p>The street setback to the podium shall be zero for a minimum of 60% of the street frontage unless otherwise approved by the Council, where the development meets the intent of the guidance statement.</p>	<p>Nil podium setback for 100% of frontage</p>	<p>Complies.</p>
<p>For storeys above the podium, the minimum street setback shall be 4.0 metres.</p>	<p>All street setbacks above podium achieve minimum 4m setback from the Mill Point Road frontage.</p>	<p>Complies</p>

Ground floor street facades shall comprise at least one pedestrian entrance and a minimum of 60% clear glass with a maximum sill height of 450mm above the floor level, and no obscure screening is permitted higher than 1.2 metres above the ground floor level.	Proposal contains two pedestrian entrances (commercial and residential) predominantly glass, only 1 blank wall to the substation all areas heavily landscaped with design and public features. Ground floor facades are predominantly made up of clear glass (>60%). (see landscaping plan Attachment 20)	Complies
Ground level walls with no openings and adjacent to the street must not exceed 5 metres in length, unless otherwise approved by the Council, where the development is consistent with the guidance statements.	Blank wall to substation / office entry yet heavily landscaped with pond, bike racks, artwork and planting; visually permeable glass facades to remaining frontages	Complies with guidance statements
Side and Rear Setback		
Nil setback at podium level	Nil side and rear setbacks provided.	Complies
Side and rear setback above podium 3.0 metres for non-residential. Residential setback above podium shall be 4.0 metres as per Table 5 of the R-Codes	All side setbacks achieve a minimum 4.0m for serviced apartment section of tower above the podium; residential tower above achieve greater side setbacks to north and west with min. setbacks of 9.6m and 5.0m respectively. There is incursion into the rear 4.0m setback area to a minimum of 2.2m for both tower portions of the development.	All Side setbacks achieve or exceed minimum for both tower levels above podium Rear setback incursion supported via design principles and objectives, see further discussion below
Parking		
The minimum provision of on-site car parking shall be: a) 0.75 bays per	a) Required: 8 (11 Single	Proposal provides 141

<p>dwelling for Single Bedroom Dwellings;</p> <p>b) 1 occupier bay per dwelling;</p> <p>c) 1 bay per 50 square metres of gross floor area for non-residential land uses;</p> <p>d) 0.5 bays per tourist accommodation;</p> <p>e) 1 visitor bay per 6 dwellings;</p> <p>f) for non-residential land uses, 2 bays for visitors or 10% of the required occupiers' bays, whichever is the greater, marked for the exclusive use of visitors;</p> <p>g) 1 bicycle bay per 3 dwellings in addition to the required car parking bays;</p> <p>h) 1 bicycle bay per 200 square metres of gross floor area of non-residential plot ratio area, together with end-of-trip lockers and showers.</p>	<p>Bed)</p> <p>Provided: 11</p> <p>b) Required: 72 (72 x 2+Bed)</p> <p>Provided: 130</p> <p>c) Required: 15 (738sqm /50)</p> <p>Provided:15</p> <p>d) Required: 50 (100 Appts.)</p> <p>Provided: 50</p> <p>e) Required: 14</p> <p>Provided: 14 (6 recip.)</p> <p>f) Required:6</p> <p>Provided: 6</p> <p>g) Required:28</p> <p>h) Required:4</p> <p>87 total bicycle bays provided throughout development in lieu of required 32 total; end-of-trip facilities by way of 2 male and 2 female showers provided on ground floor for non-residential employees and all visitors.</p> <p>See car parking summary in Attachment 4</p>	<p>residential bays in lieu of the 80 required.</p> <p>Supplementary scooter parking and secure bike store provided at ground floor, commended.</p> <p>Longer bays (than standard) provided to some residential allocations, commended</p> <p>Complies</p> <p>See further discussion on reciprocal residential visitor parking below</p>
Canopies		
<p>Where a building abuts the street boundary, a canopy with a minimum projection depth of 2.5 metres shall be provided over the street footpath.</p>	<p>Development provides canopy, modified where necessary to avoid impact on street trees as suggested by arborist report for previous similar proposal for site.</p>	<p>As pedestrian entries are setback from street alignment development provides canopies in excess of 2.5m, canopy over footpath modified (as per arborist recommendation) to accommodate street trees which is supported to</p>

		ensure street trees are not affected by the development – satisfies objectives.
Vehicle Crossovers		
Only one vehicle crossover per lot per street is permitted.	Single crossover and vehicle entry via upgraded/widened right-of-way proposed from Mill Point Road; all ingress and egress from site to be from Mill Point Road	Complies
Two-way crossovers to a maximum width of 6 metres are permitted for parking areas containing 30 car bays and parking areas predominantly providing for short-term parking.	The proposed crossover is 5.0 metres wide. Upgrade/widening to existing ROW proposed.	Complies
For comprehensive new development that includes residential dwellings, the provisions of the Codes relating to sight lines at vehicle access points and street corners in activity centres shall apply.	Truncation provided via area made for Waste Truck deliveries, >1.5m	Complies
Landscape and Outdoor Living Areas		
Any landscaping works proposed for the development requires a landscape plan to be submitted as part of the application for comprehensive new development. Any proposed landscaping works shall be consistent with the guidance statement.	See landscaping plans as part of Attachment 20	Landscaping plans will require the prior approval of the City Environment section before implementation – conditions of approval are recommended should the development be approved
For comprehensive new development that includes residential dwellings, the provisions of the Codes relating to outdoor living areas in activity centres shall apply.	Each dwelling is provided with an outdoor living area of 10m ² or greater and minimum dimensions of at least 2.4m	The proposed development provides balconies and stores of at least the minimum size to each dwelling - Complies

Special Design Area		
<p>For sites within the Special Design Area comprising lots depicted on Plan 2 Special Design Area, the requirements of Element 3. 'Plot Ratio and Land Use Proportions' and Element 5 'Building Height' of this Table A may be varied where it can be demonstrated to the satisfaction of the Council that the development:</p> <p>a) is consistent with the Guidance Statements applicable to those Elements; and</p> <p>b) Specifically meets all of the relevant Performance Criteria in Table B of this Schedule.</p>		<p>See following table and further discussion below.</p>
Designing Out Crime		
<p>Primary pedestrian access points shall be visible from buildings and the street.</p>	<p>Three pedestrian entries, including commercial (serviced apartment and office) and Residential lobbies are visually prominent from the street façade.</p>	<p>Complies</p>
<p>Comprehensive new developments shall, when relevant, incorporate illumination in accordance with the following Australian Standards:</p> <p>(a) AS 1680 regarding safe movement;</p> <p>(b) AS 1158 regarding lighting of roads and public spaces; and</p> <p>(c) AS 4282 Control of obtrusive effects of outdoor lighting.</p>	<p>Pedestrian entries and lobbies will be illuminated to ensure safe pedestrian movement</p>	<p>Complies - Condition of Approval to be applied</p>
<p>Storage areas shall be</p>	<p>All proposed stores are</p>	<p>Complies</p>

sited in a location that will not facilitate access to upper level windows and balconies.	located internally and are fully enclosed	
Public and Private areas shall be differentiated by the use of differing materials.	No private areas are proposed fronting the street.	Complies
Security grilles and other security devices that have potential to adversely affect the streetscape are not permitted unless the Council is satisfied that the device meets the intent of the guidance statement.	No security measures are to impact the streetscape See also element 6.6 of the applicants supporting report, Attachment 2 , relating to designing out crime.	Complies
Road and Rail Transport Noise		
Development in proximity to the Kwinana Freeway should be designed having regard to noise mitigation measures.	N/A	N/A - Property removed from Kwinana Freeway

As the development seeks variations to the *Building Height* and *Plot Ratio and Land Use Proportions* elements above, the proposal is required to satisfy TPS6 Schedule 9 Table B performance criteria as assessed in the below table and discussed further where relevant in the following sections of the report.

Table B: Performance Criteria for Special Design Area Assessment

Special Design Area (TPS6 Schedule 9 Table B)		
Design	Consideration/Performance Criteria	Comments
Minimum lot area and frontage – The development site is to have a minimum area of 1700m ² and a minimum lot frontage of 25 metres unless otherwise approved by the Council as a minor variation.		The development site has an area of 1,804m ² and a 40.1m frontage to Mill Point Road. <i>Criterion Satisfied</i>
Design Quality – The proposed development is of an exceptional architectural design quality as determined by Council.		The Design Advisory Consultants consider that the proposed development meets this requirement, as conveyed in the consultation section above. <i>Proposed Amendment No. 46 expands this criterion, listing points to consider in arriving at an opinion. The City notes the following:</i>

	<p>(a) <i>The podium façade is seen to provide a high quality presentation, dominated by a Café/Restaurant tenancy open during daytime and night time hours.</i></p> <p>(b) <i>The visual presentation of the tower is seen to pose a positive contribution to the locality.</i></p> <p>(c) <i>The materials and finishes identified on the submitted drawings are seen to make a beneficial contribution to the overall design quality.</i></p> <p><i>The design of the proposed tower is considered to meet this criterion.</i></p> <p>Criterion Satisfied</p>
<p>Overshadowing – The proposed development has been designed with regard for solar access for neighbouring properties taking into account ground floor outdoor living areas, major openings to habitable rooms, solar collectors and balconies.</p>	<p>In accordance with P318 The applicant has supplied additional overshadowing diagrams, based upon various times throughout the day 10AM, 12PM and 2PM on 22 August, 22 September and 22 October. (See Attachment 19 overshadowing diagrams).</p> <p>The applicant has supplied an overshadowing diagram, based upon 12 noon on 21 June (winter solstice) (see section 3.3 of Attachment 1). At this time, the shadow is cast over parts of nearby residential and commercial buildings on Mill Point Road. The most impacted site is that immediately adjoining the development site at 76-78 Mill Point Road. This development is primarily a commercial development and has large northern facing blank wall and existing balconies that overshadow other openings. Furthermore as discussed prior, the building envelope has not been maximised as could have been which has served to increase sight lines and reduce shadow impacts generally. See also section 3.3 of Attachment 1).</p> <p><i>The equivalent provision in Proposed Amendment No. 46 restricts the portion of the building above the Building Height Limit, to overshadowing an adjoining property by up to 80 per cent of its site area. The current proposal is compliant with this proposed provision, as the additional height does not result in the additional shadow cast causing more than 80% overshadowing over any affected site</i></p> <p><i>None of the affected properties are overshadowed by 80% by the forecast shadow at noon on June 21st (see section 3.3 of Attachment 1)</i></p>

	<i>Criterion Satisfied</i>
<p>Dwelling Density and Type – Residential development must have a minimum residential density of 100 dwellings per gross hectare OR provide a minimum of 20% single bedroom dwellings (rounded up to the next whole number of dwellings).</p>	<p>Only 13% 1 bedroom dwellings provided (11 Units) however;</p> <p>Over 100 dwellings per hectare proposed (460 units per gross hectare are proposed by the development).</p> <p><i>Criterion Satisfied</i></p>
<p>Vehicle Management – The applicant shall submit a traffic engineer's impact assessment report confirming that additional traffic and on-street parking demand resulting from the additional floor space produced by the variation of Elements 3 and 5 does not cause an unacceptable impact on the surrounding street network.</p>	<p>The Micro-Simulation modelling completed by Cardno and the on-going work continues to raise concerns relating to the ability of the road network to cope with a development of this size (in this location) directly accessing Mill Point Road (a "local" distributor road).</p> <p>The modelling has identified that the right turn movements out of Mill Point Road north and from Mends Street into Mill Point Road to enter the Kwinana Freeway on-ramp will result in extensive queue lengths and significant time delays in both those streets and has demonstrated the inability of the network to support developments of this scale in this location.</p> <p>A suite of road infrastructure upgrades have been identified for the area that will assist with the movement of traffic through the area. While the upgrade to the signals at Labouchere Road and Mill Point Road remains the single most important project to reduce the impact of development in this part of the precinct other works along Mill Point Road north (of the Labouchere Road intersection) that could be implemented with a developer contribution would include a continuous central median (with appropriate widening and adequate at-grade pedestrian access points) and roundabouts at the intersections of Scott Street and Stirling Street with Mill Point Road north.</p> <p>However, while a number of counter measures have been investigated for Mill Point Road there are still too many identified risks to propose that any suite of "local" measures would provide the solutions required for the efficient movement of traffic through the area.</p> <p>The safety and congestion risks of direct access</p>

	<p>onto Mill Point Road from a “shared” thoroughfare without guaranteed improvements upstream at the intersection cannot be discounted. Accordingly it is not seen as reasonable to expect that the identified traffic issues would be resolved purely on the installation of “local area traffic management measures”.</p> <p>The applicant contests this view point, providing their own traffic impact assessment (Attachment 10) and in response to submissions on this topic provided the following:</p> <p><i>“The applicant and their respective traffic consultants has satisfied the vehicle management requirements of Schedule 9, TPS No. 6. It should be noted that there are less car bays proposed with the current development application than the previously approved scheme (Nov 2015) on the same site.</i></p> <p><i>The applicant acknowledges that there is an ongoing precinct wide traffic issue, however refutes many of the submissions that suggest this proposed development is a major contributor. The relative traffic impact caused by the proposed development at 74 Mill Point Road is considered to be minor in comparison to general background flow increases. The applicant strongly contests any submission that suggests preventing an individual development for the sake of a precinct wide traffic issue.”</i></p> <p>Criterion is considered NOT to be Satisfied</p>
<p>Car Parking –</p> <p>(a) The development site shall not have car parking bays at the ground level within 10 metres of a road frontage, unless allowed by Council.</p> <p>(b) At least 60% of the primary street frontage is to be an active street frontage.</p>	<p>(a) The development does not propose any car bays at ground level within 10m of the Mill Point frontage nor are any car parking areas to be visible from the public realm.</p> <p>(b) The mill point road frontage is composed of both non-residential and residential entry lobbies, a large café and hard and soft landscaping including public seating, art, bike racks, water features and planting which is seen to provide at least a 60% active frontage.</p> <p>Criterion Satisfied</p>
<p>Additional Benefits –</p>	<p>Community</p>

The proposed development provides a community benefit above and beyond a development complying with the requirements of Table A, by meeting at least 3 of the following 7 criteria:

- (a) High quality active street frontages, street art, furniture and landscape features.
- (b) Landscaped spaces and/or other facilities accessible to the public such as gym equipment and public art.
- (c) A range of dwelling sizes and costs.
- (d) Improvements to pedestrian networks and public security.
- (e) Provision of view corridors and/or mid-winter sunlight to adjacent land/buildings.
- (f) Community, communal and/or commercial meeting facilities.
- (g) Car parks for public use beyond the users of the building.

The applicant is of the opinion that the minimum 3 criteria required to be met has been achieved, specifically criteria (a), (b), (c), (d), (e) and (f) described as follows (section 3.8 of **Attachment 1**):

- (a) "The façade at ground floor level along Mill Point Road has been designed to fully activate the footpath, encouraging both residents and the public to interact with the development in a pedestrian friendly environment. Offices at the podium levels also contribute to the activation of the Mill Point Streetscape through the use of balconies and glazing. Refer to Section 4.1 of this report (**Attachment 1**) that addresses Ground Floor Uses and Streetscape. Also to refer to Section 4.3 Public Art"

*The city agrees that this criterion is satisfied; additionally a condition is recommended which requires a \$900,000.00 (or 1% of development cost) public art contribution as per City Policy. Refer also to proposed landscaping plans **Attachment 20**.*

- (b) "Landscaped spaces and/or other facilities accessible to the public such as gym equipment and public art. Extensive hard and soft landscaping and public art pieces will benefit the wider community. Refer to Section 4.1 of this report that addresses Ground Floor Uses and Streetscape. Also to refer to Section 4.3 Public Art".

*The city agrees that this criterion is satisfied; additionally a condition is recommended which requires a \$900,000.00 (or 1% of the development cost) public art contribution as per City Policy. See proposed landscaping plans **Attachment 20** for the ground floor and public interface. Applicant has also indicated serviced apartment gym could be available to public – this will also form a recommended condition of approval should the application be approved*

- (c) "The proposed development has an apartment mix of one, two, three and four bedroom units that vary greatly in size, cost and amenity. Refer section 1.3 Project Summary (of **Attachment 1**).

	<p><i>The City agrees this criterion has been met, the development provides a range of dwellings from single bedroom dwellings through to 3+ bedroom penthouses, 18 different dwelling types/sizes are provided.</i></p> <p>(d) “The activated street frontage, widening of the right-of way for vehicle access and the passive surveillance from the residential and commercial components all contribute to an improved pedestrian network and public security. Refer to Section 4.1 Ground Floor Uses and Streetscape” (of Attachment 1).</p> <p><i>The City agrees this criterion has been met, the proposal includes an upgrade of the pedestrian network, with public art and furniture provisions (see Attachment 20) at the frontage to 74 Mill Point as well as upgrading/widening and upgrade of the ROW and vehicle access – satisfies criterion.</i></p> <p>(e) “Provision of view corridors and/or mid-winter sunlight to adjacent buildings. The tower has been deliberately designed to allow for improved views from neighbouring Lots. Refer to Section 4.4 Views and Vistas” (of Attachment 1).</p> <p><i>The City agrees this criterion has been met, the DAC are supportive of the additional height as the building envelope is thinner and the design allows greater view corridors around the building and sunlight as opposed to a shorter, wider building envelope.</i></p> <p>(f) “The development will provide a community meeting room incorporated into level 4 that can be hired to the public”.</p> <p><i>The City consider this criterion to be satisfied, Community Meeting Room provided on level 4</i></p> <p>(g) No public car parking provided</p> <p><i>No public parking provided, therefore criterion NOT satisfied</i></p> <p><i>As above the City consider 6 of the 7 criterion to be satisfied therefore achieving the minimum 3 required.</i></p> <p>Criterion Satisfied</p> <p><i>AMD 46 seeks to expand these criteria and</i></p>
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	<i>Element 6 of Table A of AMD46 identifies the minimum number of Design Consideration 8 Performance Criteria which must be met according to the extent of building height variation sought by an applicant. The Current proposal exceeds the maximum height variation; this will be discussed in the Building Height discussion below.</i>
Resource Efficiency – The proposed development exceeds the requirements of the Building Code of Australia with respect to optimizing solar access to the proposed development and adjoining sites; maximizing energy efficiency; use of passive cooling techniques and cross-ventilation opportunities; and conserving water.	<p>Section 7.0 of the applicants DA report, Attachment 1, outlines the energy efficiency measures the building is to incorporate to achieve environmental outcomes well above the building code requirements. As per Attachment 18, CADDs Energy have provided a letter statement of intent and ESD strategy which provides:</p> <p><i>“As an industry benchmark the intent of the building is to achieve a 4 Star Green Star Rating. Additionally it will target a Seven Star Average NatHERS Rating (thermal comfort) for all residential apartments”.</i></p> <p>A condition of approval is recommended should the development be approved ensuring the strategy is implemented and the development will be required to demonstrate and achieve a 4 Star Green Star Rating (or equivalent) prior to granting any building permit.</p> <p><i>Criterion satisfied</i></p>

All elements requiring further discussion are detailed below:

Non-Residential Land Use Proportion - (Serviced Apartments) TPS6 Schedule 9 Guidance Statement 3(a)

In the previous proposal for the site (44 Storey), which was ultimately refused at the respective Metro Central JDAP meeting, one reason for refusal was based on the proposals inability to satisfy the abovementioned Guidance Statement (3a) specifically relating to underperformance of the proposed majority non-residential plot ratio, serviced apartments (97.19% proportionally), in delivering direct employment and in turn having a poor contribution to *consolidating the precincts role as an employment destination*.

As part of this revised and current application, the applicant has submitted a revised Economic Impact Assessment (**Attachment 13**) prepared by AEC which provides that “a total of 60 FTE [Full Time Employment] jobs are estimated to be directly supported by this economic activity [of the development], including 37 direct FTE jobs at the serviced apartments [based on plot ratio area of 9,713 sq. metres] and 10 FTE jobs at the café/ restaurant [based on plot ratio area of 224 sq. metres] (with the remainder supported directly through visitor expenditure)” - see section 3.2.2 of **Attachment 13**.

Further to this, the Department of Planning commissioned an independent review of the economic impact assessment (full document at **Attachment 14**) prepared by Pracsys which indicated that the methodology employed may not have been the most accurate and that employment figures in relation to serviced apartment numbers may have been somewhat overstated when compared with the benchmarks seen as being most applicable. AEC results were seen at the upper end of the range (see section 4.2 of **Attachment 14**) which varied from and between 15, 29, 32, 40 and AEC's 45 FTEs on the basis of the originally proposed 147 serviced apartments of the previous application.

What is clear from both reports is that serviced apartments performed very poorly in terms of employment generation, particularly when compared with other preferred non-residential land uses within Schedule 9 such as café/restaurant and the highest performing, office, which is expected to provide 1 FTE per 25 sq. metres of floor space (while conceding current demand is low).

Given the above, the City requested the applicant adopt their proposed office tenancies in the podium levels of the development which was discussed as an option by the applicant in their supporting letter for the application (**Attachment 2**). Revised plans submitted on the 29th of September incorporated the office tenancies (considered an appropriate proportion in current market conditions)(**Attachment 3**) and therefore, in the City's opinion, has diversified the economic base of the development and would deliver greater levels of direct employment when considered in conjunction with the café/restaurant on the ground level as well as the serviced apartments, therefore satisfying guidance statement 3(a) of Schedule 9.

'Serviced Apartments' - Council Policy P312

One of the issues raised in the submissions is that the serviced apartments (tourist accommodation) once approved could be converted and sold as residential dwellings. City Policy P312 provides the following provisions with regards to addressing this concern and ensuring the proposed tourist accommodation is used as approved:

(a) In accordance with the TPS6 definition of 'serviced apartments', accommodation of this kind may only be occupied on a temporary basis. 'Temporary occupancy', as defined in this policy is a period of 6 months or less. A serviced apartment is not permitted to be occupied by the same temporary tenant for more than 6 months within any 12 month period.

(b) Any planning approval granted for serviced apartments will be conditional upon the applicant registering on the Certificate of Title for the lot, a notification informing prospective purchasers that serviced apartments are not permitted to be occupied by the same temporary tenant for more than 6 months within any 12 month period.

(c) The City will not issue a building licence for proposed serviced apartments until such time as the applicants, at their cost, have registered the required notification on the Certificate of Title relating to the occupancy restriction.

(d) When the owner of a serviced apartment no longer intends to provide any laundry or cleaning services for temporary tenants; and wishes to extend the period of occupancy beyond the limit referred to in paragraph (b), it is the owner's responsibility to obtain planning approval from the City for a change of use of the premises.

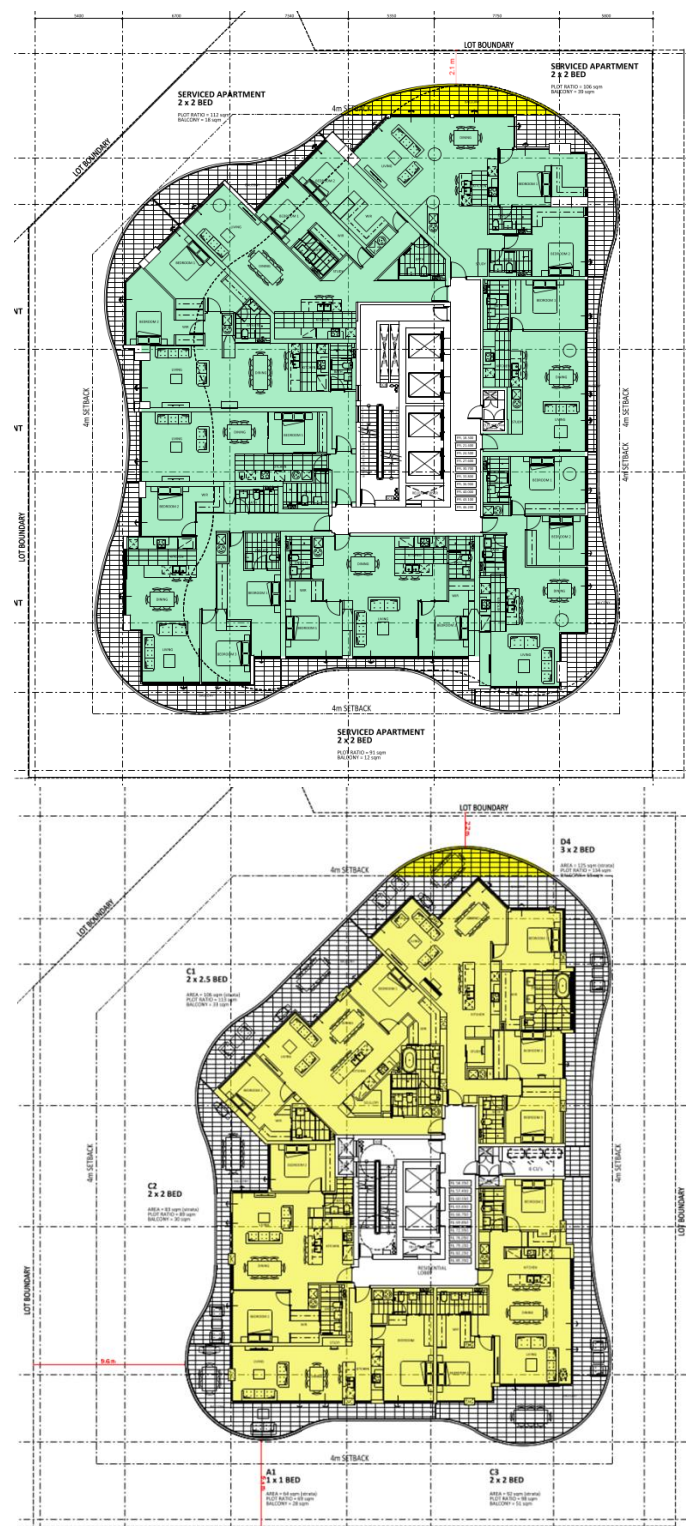
The above requirements shall be applied as recommended conditions should DAP choose to approve the application, ensuring any approved serviced apartments are not used and sold as residential dwellings once approved.

Furthermore, both economic impact assessments (**Attachments 13 & 14**), acknowledge that there is market demand for serviced apartments (tourist accommodation) within the region.

City Policy P312 also requires the proponent of Serviced Apartments to submit a management plan which is prepared and implemented by the manager/operator of the serviced apartments. The applicant has submitted an *indicative* management plan as per **Attachment 16** of this report. As the management plan is only indicative some submitters have suggested the proposal is not genuine. To further address this, the applicant has also submitted a statement of intent and information from a serviced apartment operator, *Seashells*, which can be found as part of **Attachment 17**. While the City does acknowledge the management plan is not complete, the City also understands it is difficult to secure an operator before formal approval has been issued and therefore accepts the statement of intent and proposes a suite of recommended conditions to ensure that a management plan is revised and distributed accordingly should the development be approved and the operator formalised.

Rear Setback: TPS6 Schedule 9 Table A 7.1 and R-Codes Table 5

As with previous proposals small portions of the serviced apartment and residential tower balconies project into the 4m setback area as depicted in the floor level plans as part of **Attachment 3**. This setback variation is seen to have no impact upon the streetscape given the variation is at the rear of development with the street setback of the tower in excess of what is required. The completely open nature of the proposed residential balconies, with glass and perforated metal balustrades is considered to provide ample articulation to reduce any perceived bulk impacts.



The rear or eastern setback variation is supported as it is viewed to have a negligible impact upon adjoining property at the rear, 53 South Perth Esplanade, which is already overshadowed by large tree, which is to remain. No habitable room windows face the proposed building, nor are any sensitive outdoor living areas within proximity to the development and therefore amenity impact is also considered negligible in terms of building bulk.

Parking: TPS6 Schedule 9 Table A 8. - Specifically, reciprocal arrangement proposed for 6 of required 14 residential visitor bays.

As part of the revised proposal, 6 of the required 14 residential visitor bays for this development have been provided in a reciprocal arrangement, as have similar arrangements been proposed and approved in previous proposals for the site and other approved developments in the precinct.

This variation is to be considered under the context that the demand for visitor parking is anticipated to be predominantly outside of normal business hours and serviced apartment occupiers (tourists) are not expected to have high rates of vehicle usage nor visitors, therefore ensuring minimal conflict between commercial and residential visitor usage of the reciprocal bays.

While the City is willing to consider the applicant justifications, some concerns require careful attention:

- Not all non-residential uses operate on standard business hours and days; how is the applicant to ensure the bays are reciprocal from those commercial uses which primarily operate within standard business hours and days?
- How are the bays to be marked and delineated from other commercial bays?
- How are residential visitors expected to be directed and know such reciprocal bays are available?

While the City is generally accepting of the reciprocal parking arrangement, having approved lesser dedicated visitor bays to number of units previously, it does still hold some reservations with the reciprocal parking idea. As such, while the City is willing to support the variation, recognising the matter as an on-site management issue, it will be requiring a formal car parking management plan which pays particular attention to the reciprocal arrangement as part of a recommended condition of approval should the development be approved.

Dwelling Size: TPS6 Schedule 9, R-Codes cl. 6.4.3. Table B 3.5

In accordance with the R-Codes clause 6.4.3 where a development contains more than 12 dwellings, no less than 20% of all proposed shall be one bedroom dwellings. The proposed development, having 83 dwellings, provides 11 one bedroom dwellings or 13% and therefore does not comply.

However, where a development is seeking variations to the plot ratio and building height under Table B of Schedule 9, the development must have a minimum residential density of 100 dwellings per gross hectare OR provide a minimum of 20% single bedroom dwellings (rounded up to the next whole number of dwellings). Should these variations be approved the development would provide a residential density of 460 dwellings per hectare, exceeding the required residential density.

Sustainable Design: Policy P350.01

As per the City's Sustainable Design policy the development is required to achieve a minimum 4 star Green Star rating (or equivalent rating tool).

Section 7.0 of the applicants DA report, **Attachment 1**, outlines the energy efficiency measures the building is to incorporate to achieve environmental outcomes above

the building code requirements. As per **Attachment 18**, CADDs Energy have provided a letter statement of intent and ESD strategy which provides:

“As an industry benchmark the intent of the building is to achieve a 4 Star Green Star Rating. Additionally it will target a Seven Star Average NatHERS Rating (thermal comfort) for all residential apartments”.

The above shall be required to be achieved through the implementation of appropriate conditions should DAP choose to approve this application, prior to the issue of any building permit.

Canopies: TPS6 Schedule 9 Table A 9.1.

In accordance with Table A provisions, where a development abuts the street boundary, a canopy with a minimum projection depth of 2.5 metres shall be provided over the street footpath.

The proposed development has modified the buildings canopy, on recommendation of the City and arborist, to avoid conflict with the existing street trees within the verge abutting the site.

Given the great amenity value placed on the trees within the verge by the City and residents alike, the canopy requirement has been waived in the interest of protecting these valuable assets.

South Perth Station Precinct Application Requirements Council Policy P318

This policy which was adopted by the Council in July 2016 applies to developments within SCA 1 – South Perth Station Precinct, as defined in Schedule 9 of the City of South Perth TPS 6. While the City acknowledges that this planning application was lodged before the policy was adopted, it is expected that sufficient information is available for proper evaluation of both compliance with development standards and qualitative aspects of amenity and design quality for a development of this scale and complexity.

There are four (4) major components of submission requirements:

- *Context Analysis* - to ensure that proposed developments are not unfairly assessed as having a negative impact when they may actually improve or not affect certain pre-existing conditions in the environment;
- *Proposal and Response to Context* – to demonstrate how the proposed development responds to the identified context;
- *Proposal and Development Quality and Amenity* - to enable an assessment of the design quality and amenity proposed; and
- *Other Elements* - Other information required to support the application.

The applicant has submitted relevant revised drawings which include Cadastral Base Survey, Site Plan relating to existing features on site, Streetscape Elevations and Overshadowing Diagram at noon on 21 June. Scaled and colour coded floor plans for each proposed land use and elevations with relevant dimensions, material finished including 3D coloured renders of the exterior of the development were also received as part of the development application. (**See Attachments 1, 3 & 21**).

Additionally, the policy requires the following additional information/plans to be submitted which have been reviewed and considered acceptable to the City:

- Context Analysis – see section 3.4 of **Attachment 1**
- Wind Impact Assessment – see **Attachment 15**
- Additional overshadowing diagrams for specified dates – see **Attachment 19**
- 3D perspective render – see **Attachment 21**.

One of the new requirements is submission of 3D computer model of the exterior of the development, in electronic format to enable input into the City's 3D model of the precinct. This enables 3D model visualisation of the proposed development within the existing local context, providing a valuable presentation and resource for the decision maker. It is expected the City's officers will be able to utilise the software and provide an invaluable visualisation and resource for the decision maker in October 2016. (The anticipated date is after the consideration of this report) These files have been prepared and submitted by the applicant and ready to input should the development be approved.

As stated in the Policy Statement, it is the City's expectation that proposed development will also not prejudice the opportunities for future comprehensive and high quality development on other sites, or the ultimate realisation of the objectives for the precinct as a destination for employment and recreation as well as a quality residential environment. The new development should not prejudice the options for future redevelopment of other sites north of the subject sites particularly in terms of possible loss of significant views (Perth City skyline and Swan River).

Accordingly, a Notification is to be registered on Certificate of Titles for the new strata lots created to notify prospective purchasers about the changing nature of the surrounding area and that the significant view/s may be adversely affected. The above matters raised can be resolved through the implementation of appropriate conditions should DAP choose to approve this application.

Plot Ratio and Land Use Proportions: TPS6 Schedule 9 Table A 3.1-3.4, 13 and Table B:

As mentioned in the background section of this report, the supreme court decision (*Nairn -V- Metro-Central Joint Development Assessment Panel [2016] WASC 56* dated 26 February 2016) set aside the previous approval for the site in concluding that "in order to vary the requirements of Element 3 in relation to plot ratio and building height, it must be demonstrated to the satisfaction of the council.....that the development consists of predominantly non-residential uses before the discretion in development requirement 13.1 is enlivened". In response to this ruling, the applicant prepared significant amendments to the previous proposals plot ratio/ land use mix which have also been applied to this current proposal for the site in terms of plot ratio. The latest amendments, dated 29th August 2016 (**Attachment 3**), provide a non-residential plot ratio of 5.56 (10,023m²) compared to a slightly lower residential plot ratio of 5.55 (10,008m²). Given the slightly greater non-residential plot ratio it is considered that the guidance statement has been met; however, TPS6 Schedule 9 Table A clause 3 prescribes a maximum residential plot ratio of 1.5 (2,706m²) can only be exceeded where ALL relevant performance criteria in schedule 9 Table B are achieved.

As the table B assessment above demonstrates, the design consideration No. 5 – Vehicle Management has not been met and therefore such variations cannot be

granted to this development and hence the proposed residential plot ratio (5.55) is not compliant.

Building Height: TPS6 Schedule 9 Table A 5.1 and cl. 6.1A (AMD 46)

Under the provisions of Clause 5 of gazetted scheme, building heights are limited to the heights shown on the Building Height plan unless the site is located in the Special Design Area and meets the provisions of Table B.

The proposed residential tower is situated on Lot 2-20 No. 74 Mill Point Road which has building height limit of 25.0 metres (measured to the finished floor level of the upper-most storey) as depicted in Plan 3 of schedule 9. As the site is located within the Special Design Area, a higher building height is permitted if the development is consistent with the applicable Guidance Statements and meets all of the relevant Performance Criteria in Schedule 9 Table B.

The proposed roof tower height is measured as 116.60 metres AHD and as such a variation is being sought under the criteria of Table B.

In accordance with Clause 13.1 of Special Design Area of Schedule 9 states that:

*“For sites within the Special Design Area comprising lots depicted on Plan 2 Special Design Area, the requirements of Element 3. ‘Plot Ratio and Land Use Proportions’ and **Element 5 ‘Building Height’** of this Table A may be varied where it can be demonstrated to the satisfaction of the Council that the development:*

*(a) is consistent with the Guidance Statements applicable to those Elements; and
(b) specifically meets all of the relevant Performance Criteria in Table B of this Schedule.”*

As Table B, specifically Design Consideration No. 5 – Vehicle Management is not considered to have been met; the proposed variations to height are not able to be granted.

Furthermore, under the proposed AMD46 Schedule 9A Building Height the subject lot is proposed to be removed from the special design area, ensuring that no variation to the prescribed 25 metre building height limit could be granted. Therefore the proposed building height, being 116.60 metres AHD, significantly exceeds the proposed permitted building height limit. It is considered that approval of a building that significantly exceeds the maximum height limit prescribed in Amendment 46 is likely to impair the effective achievement of the planning objective and planning approach embodied or reflected in the amendment.

Additionally, the proposal also does meet with *car parking design* considerations as required under AMD46 Schedule 9A Table B. It proposes a total of 141 bays in lieu of maximum permissible number of 112 bays for residential parking bays.

The application is recommended for refusal for this reason, amongst others.

Council Recommendation

The Council of the City of South Perth had not provided comments on this application at the time this Responsible Authority Report was prepared.

Conclusion

While many aspects of the proposed development are considered compliant in terms of the current Town Planning Scheme and AMD 46 schedule 9A provisions, the development does not satisfy the performance criteria relating to Traffic Management.

The proposed development therefore exceeds the maximum residential plot ratio as well as building height and the ability to exercise of discretion is not considered to be available.

It is acknowledged that AMD 46 provisions are not certain nor imminent at this stage, however the proposed building height is a significant variation from the potential maximum permissible building heights in AMD 46 and would therefore be out of scale for this part of the precinct.

For these reasons, the City recommends refusal of the proposal.



DEVELOPMENT APPLICATION

74 MILL POINT RD, SOUTH PERTH
REVISION D - AUGUST 2016

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1.0 INTRODUCTION

1.0 DEVELOPMENT APPLICATION

This report forms the Development Application in support of the proposed commercial and residential thirty four (including penthouse mezzanine) storey mixed use development at 74 Mill Point Road, South Perth within the Mends Sub-Precinct.

The proposed development comprises of a large ground floor café and 104 serviced apartments, 83 residential apartments together with shared resident’s pool terrace and an amenity area featuring lounge, cabana, gymnasium and pool.

This report accompanies the design drawings and details the proposed development addressing relevant planning issues in relation to City of South Perth Town Planning Scheme No.6 with particular reference to Schedule 9: Special Control Area SCA1- South Perth Station Precinct.

Hillam Architects have met with planning staff so as to understand council’s aspirations for the precinct. Edge Visionary Living and Hillam Architects are adept to deliver an excellent project which we believe will become a benchmark for future developments in the precinct. Further to meetings with council, we have met with traffic and waste consultants to ensure these important functions are well handled with minimum impact on the streetscape.

1.1 SITE INFORMATION & PLANNING DATA

Address	74 (recently changed to 72) Mill Point Road
Developer	Edge Holdings Number 6 (Edge Visionary Living Pty Ltd)
Architect	Hillam Architects
Local Council	City of South Perth
Site Area	1804m2
Zoning	Mixed-Use
R-Coding	R100
Plot Ratio	No Max
Boundary Setback	As per Schedule 9 of City of Perth Town planning Scheme No. 6
Building Height	Refer to Element 5.2 of Table A, Schedule 9 of City of Perth Town Planning Scheme No. 6.
Finished Floor Levels	Various; refer Architects Drawings in Appendix
Access & Service	Refer to Planning Requirements Section

1.0 INTRODUCTION

1.2 DESIGN SUMMARY

Hillam Architects is a progressive design practice dedicated to achieving excellence in architecture.

In the design of the commercial spaces and apartments for Lot 74 Mill Point Road we believe the project will enhance the public domain and streetscape, whilst providing a range of dwelling sizes and costs in a desired location that is close to the river, city and major transport infrastructure.

In keeping with the requirements of the South Perth Special Control Area 1, the proposed design is intended to embody the objectives set out in the South Perth Station Precinct Scheme Amendment 25.

We note the key objectives of Amendment 25 are:

- a) Commercial land use to support the increased residential population, provide greater employment self-sufficiency in the City and patronage for a 'destination' rail station.
- b) New development to create a destination that offers commercial office space, cafes, restaurants, hotels and tourist accommodation.
- c) Increased commercial and retail opportunities within pre-determined sub precincts.
- d) Promotion of quality urban development with zero front setback and awnings to create a liveable and accessible environment for visitors and residents.
- e) Increased building height limits throughout the precinct to allow taller and larger buildings to maximise river and city views while maintaining view corridors.
- f) Further increased height in selected areas if certain criteria are met including exceptional quality architecture sustainable design, community benefits such as public art among other criteria.

The project consists of some 83 one, two, three and four bedroom apartments of varying designs and sizes. In addition to the residential component some 104 serviced apartments will provide for the commercial plot ratio in line with the requirements of the City's Town Planning Scheme.

The proposed development is also provided with 220 parking bay allocations including one disabled bay which is in excess of the 162 parking bays required.



1.0 INTRODUCTION

1.2 DESIGN SUMMARY (CONT'D)

Significant points of interest are:

Design Quality

The vision for the project is to provide the high quality of building design demonstrated in other apartment projects designed by Hiram Architects. The highly articulated building form coupled with a diverse range of materials will be a positive addition to the streetscape.

Compliance

Section 3 of Schedule 9 outlines that there is no maximum plot ratio within the precinct offering more flexibility in terms of car parking, open space, building setbacks and height than those prescribed by the R Codes. The proposed development therefore reflects the development controls and performance criteria outlined in Schedule 9.

We believe the podium and tower arrangement responds well and fits with the City's vision for a higher residential population with taller buildings providing community benefits. The design proposes minor variations to the rear setback and overshadowing requirements for reasons explained later in this report. The proposed variations improve the design outcome, particularly in reference to sustainability measures and streetscape response. Particular care has been taken to ensure where variations occur the impact on the amenity of the street or neighbouring lots is minimised.

Diverse Housing

The provision of 83 residential apartments and 104 serviced apartments in this location is an excellent outcome given the dwelling targets set out in the State Government's 2031 Policy. There are five typical residential floor plate designs with varying mixes of apartments types incorporated into the design with an additional penthouse level. The inclusion of compact one and two bedroom apartments provides a diverse range of affordable housing options. The development also contains 25 three bed apartments of varying sizes that further expands the diversity and cost range of the unit mix. There are 4 four bed penthouses at the highest levels that include private lifts and an upper mezzanine floor to cater for the top end buyer.

It should be noted that the development complies with the Performance Criteria outlined under Table B: Dwelling Density and Type; the residential density equates to 460 units per gross hectare.

Sustainability

Hiram Architects have an excellent track record in providing highly sustainable apartment buildings. Hiram designed Verde Apartments in East Perth to set a new benchmark in sustainable design and have maintained a strong focus on sustainability and energy efficiency on all projects ever since. Various progressive systems are proposed to ensure appropriate and practical sustainable outcomes are provided for this proposed development and it is the intention of the applicant to achieve 4 Green Star rating as outlined in the letter of intent and sustainability strategy provided by CADDIS Group (Appendix G)



1.0 INTRODUCTION

1.3 PROJECT SUMMARY

The application seeks approval for a thirty four (34) storey (including penthouse mezzanine) mixed used development comprising 83 residential apartments configured over thirty four levels with parking provided on three levels of basement, ground, first and second levels. The proposed design provides good mix of apartment types with a primary focus on providing a diverse range of housing that is also affordable. In addition to the residential component there are also 104 serviced apartments and a large café at ground floor.

Careful attention has been given to comply with the Performance Criteria outlined under Table B of Schedule 9 in order to achieve additional height and plot ratio. The proposed development has an overall height and plot ratio greater than that outlined under the City's Table A: Development Controls, however we ask these variations are supported by council considering the high degree of compliance with Table B.

In summary the proposed design consists of:

- Three levels of basement providing residential stores, residential and commercial parking bay allocations.
- Ground floor consists of a proposed café, commercial (serviced apartments) and residential lobbies, bicycle storage, residence mail room, Telstra communication room, fire pump room, fire tanks, bin store, and Western Power Sub Station.
- Levels 01 - 02 has 4 serviced apartments units facing the street with residential and non-residential car parking allocations configured behind.
- Level 3 has 14 serviced apartments across the entire floor.
- Level 4 has 6 serviced apartments, a community meeting room and amenities for the serviced apartments which includes a lounge, kitchen and dining areas, and an outdoor amenity/ bbq deck.
- Levels 05 - 14 comprises of 80 serviced apartments varying between 66 - 114 sqm.
- Level 15 comprises of communal amenities for the building's residents. A large gym, sauna and steam room, pool and sun deck promote exercise and healthy living. Further, the applicant is willing to open paid gym membership to general public in response to the Government Architect's recommendation. There is also a generously sized resident's lounge and theatre room. The dining area has BBQ and cooking facilities both inside and out. These amenities are coupled with carefully designed hard and soft landscaping to offer a break in the building form and help articulate the elevation.
- There are 18 unit types across the development, refer to the summary of apartment mix table below for a breakdown of type. The areas of these apartments vary significantly providing for both entry level and high end apartment buyers with many options which are both affordable and also of higher amenity.

MIX	APARTMENT NUMBERS	PERCENTAGE
1 Bed / 1 Bath (i.e >= 45 sqm)	11	13%
2 Bed / 2 Bath (i.e <= 100 sqm)	28	34%
2 Bed / 2 Bath (i.e >= 100 sqm)	15	18%
3 Bed / 2 Bath (all)	25	30%
4 Bed / 4 Bath (all)	4	5%
Total	83	100%

LEVEL	COMMERCIAL TENANCY	SERVICED APARTMENT	TOTAL AREA sqm
Ground Floor	1		288 sqm
Level 1 - 2		2 per floor	354 sqm
Level 3		14	1220 sqm
Level 4	1	6	682 sqm
Level 5 - 14		8 per floor	8245 sqm
Total	2	104	10014 sqm

Table 1.2 Summary of Commercial and Serviced Apartments.

2.0 SITE PLANNING

2.1 SITE CONTEXT AND PLAN ANALYSIS



Figure 2.1 Site Context Plan

The proposed development is situated within the northern boundary of the Special Control Area SCA1- South Perth Station Precinct. The site is directly accessed off Mill Point Road and a rear adjoining access way that connects through to Frasers Lane. The site has a land area of 1804m² with a significant street frontage to Mill Point Road. There were seven double storey brick townhouses on the site that don't contribute to The City's aspirations of lively street frontages and a 'thriving inner-city precinct.'

Refer also to the attached Appendix E for copies of the Certificate of Titles.

The site is ideally situated one block back from the South Perth peninsula foreshore. Only two kilometres across the Swan River from the Perth CBD it is well serviced by an excellent transport network including the freeway, bus and ferry links. The site also has the potential to benefit from planned future railway station at Richardson Street.

Adjoining properties are medium density residential and mixed use tenancies but projects like the Finbar Civic Triangle and other significant mixed used projects, there is a strong demand for well-designed residential and mixed use developments that meet the objectives of Scheme Amendment 25.



Figure 2.2 Location Plan

LOT	VOLUME / FOLIO	AREA	LAND OWNER
2, 3	1549 / 135	354 sqm	Gary Glen Carlton & Geraldine Alice Carlton
4, 5, 6	1515 / 593	247 sqm	Gary Glen Carlton & Geraldine Alice Carlton
7, 8, 9	1581 / 910	218 sqm	Promam Pty Ltd (Michael McKee)
10, 11, 12	1549 / 133	254 sqm	Peter John Blunt
13, 14, 15	1581 / 909	272 sqm	Paola Adrian Ferroni
16, 17, 18	1548 / 700	272 sqm	Lee Francis Burgin & Linda Anne Burgin
19, 20	1581 / 907	411 sqm	Wayne Kitchener Binbey
TOTAL		2028 sqm	

Table 2.1 Lot Owners

2.0 SITE PLANNING



Image 2.1 Mill Point Road frontage viewed from the South-West corner of the subject site.

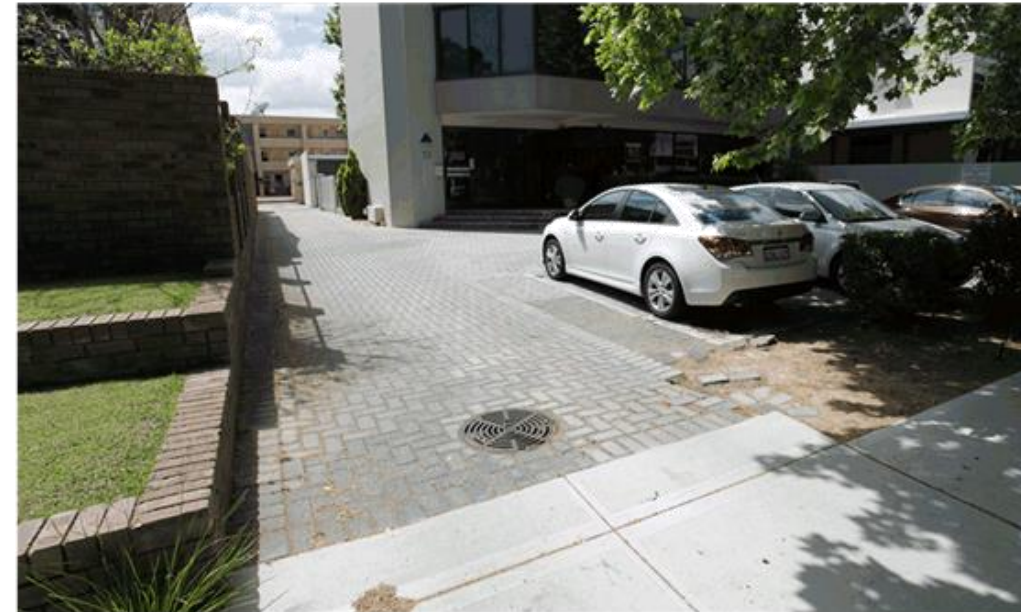


Image 2.3 Existing vehicle crossover and adjacent property to the south of the subject site.



Image 2.2 View south down right-of-way at east of subject site.



Image 2.4 Existing adjacent property to the East of subject site.

2.0 SITE PLANNING

2.2 DESIGN RESPONSE

Our design responds to the proposed identity for the precinct with a thirty four storey commercial (serviced apartments) and residential tower that is setback above a four storey podium which contains the residential and commercial entries, ground level commercial tenancy, access to on grade parking and two levels of upper parking.

Surrounding development is generally medium density commercial and residential in nature and of varied architectural merit. The desire and intent for the South Perth Station Precinct is to bring about its redevelopment for mixed office and residential uses to cater for the increased residential population and providing greater employment self-sufficiency in the City. The proposed design represents an excellent opportunity to set a benchmark for a very high standard of design within the Precinct; that would also serve as a catalyst for future redevelopment elsewhere.

Streets and right-of-ways adjacent to all boundaries, mean the building has good access to natural light and ventilation. Further, the design of building with the bulk of the residential units being set back and placed above the podium create generous distances from existing and potential developments to enhance privacy and retain views. The height and position of the majority of the apartments will allow views to the Swan River and CBD with a wide northern aspect.

Access to the development's car and bicycle parking is from the southern corner of the site, directly off Mill Point Road. This allows for the maximum activation of street frontage along the Mill Point Road side with residential and commercial lobbies along with the café commercial tenancy.

The design acknowledges the existing footpath along Mill Point Road and it is intended that existing concrete crossovers are made good and incorporated into the adjacent concrete footpath. The café fronting Mill Point Road has been articulated to give an expansive al fresco area with associated landscaping to benefit the community and is set back to encourage public use.

The existing block paved driveway to the south of the site is currently 3m wide and provides vehicle access through to Frasers Lane. The proposal will improve this vehicle access way by widening the road to 7 meters, allowing a free flow of traffic into and around the development.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

The proposed development pays close attention to Table B: Performance Criteria of Schedule 9 in the City's Town Planning Scheme. Particular care has been made to comply with each outlined design consideration and there are many references back to this performance criteria within the body of this report however a detailed summary is listed below:

3.1 MINIMUM LOT AREA & FRONTAGE

The development site is to have a minimum area of 1700m2 and a minimum lot frontage of 25 metres unless otherwise approved by the Council as a minor variation.

The client, Edge Holdings No. 7 has recently acquired 2 adjacent lots (Lots 2 & 5, 74 Mill Pont Road) to the north of the existing site. This offers a unique opportunity for the applicant to amalgamate the lots and increase the overall site area to 1804sqm and increase the frontage to 40.1m, compared to the previous DAP approved development on the 25th May 2015 which had a site area of 1427sqm and street frontage of 33.1m. The applicants intent to increase the lot area along the northern boundary is to allow the current design to be shifted approximately 2 meters, clear of any services easements.

This frontage exceeds the requirements outlined in Table B which allows for both commercial and residential entries along with extensive landscaping to the front of the development. This wider frontage has enabled the design of integrated hard and soft landscaping, public art, a water feature, both lobby entries and a generous café. All of the above have contributed to significant street activation in what is currently an overlooked pedestrian way. We believe activating the Mill Point Road frontage is not only critical to the success of the project but will also be value the South Perth community for years to come.

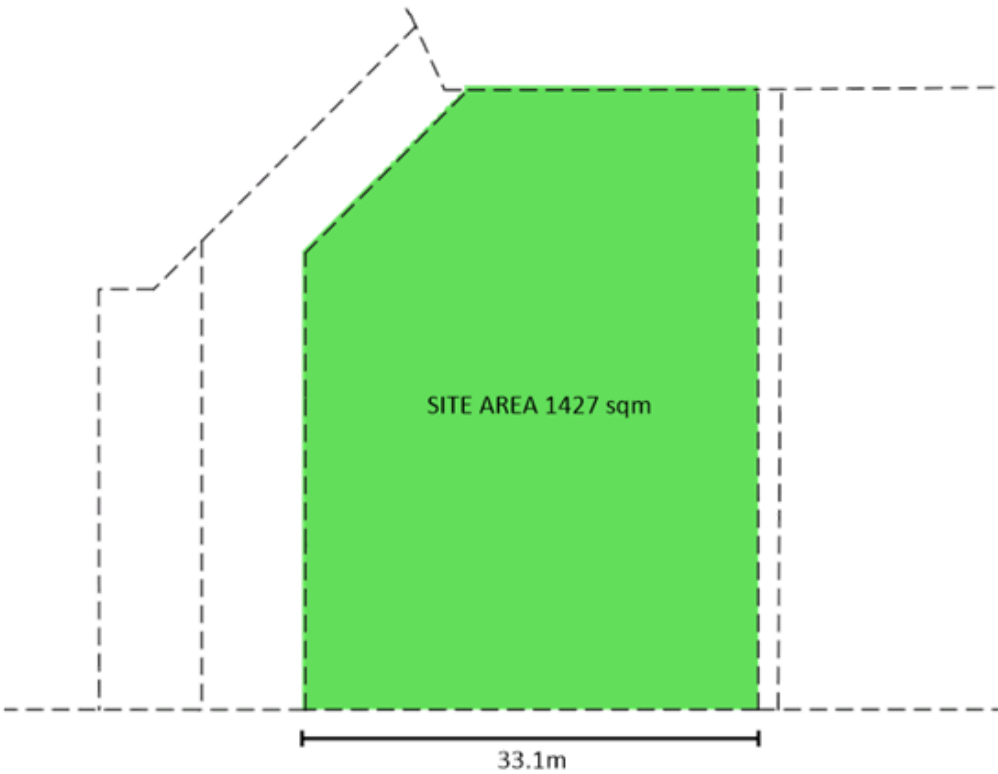


Diagram 3.1 Previous DAP approved development 25th May 2015.

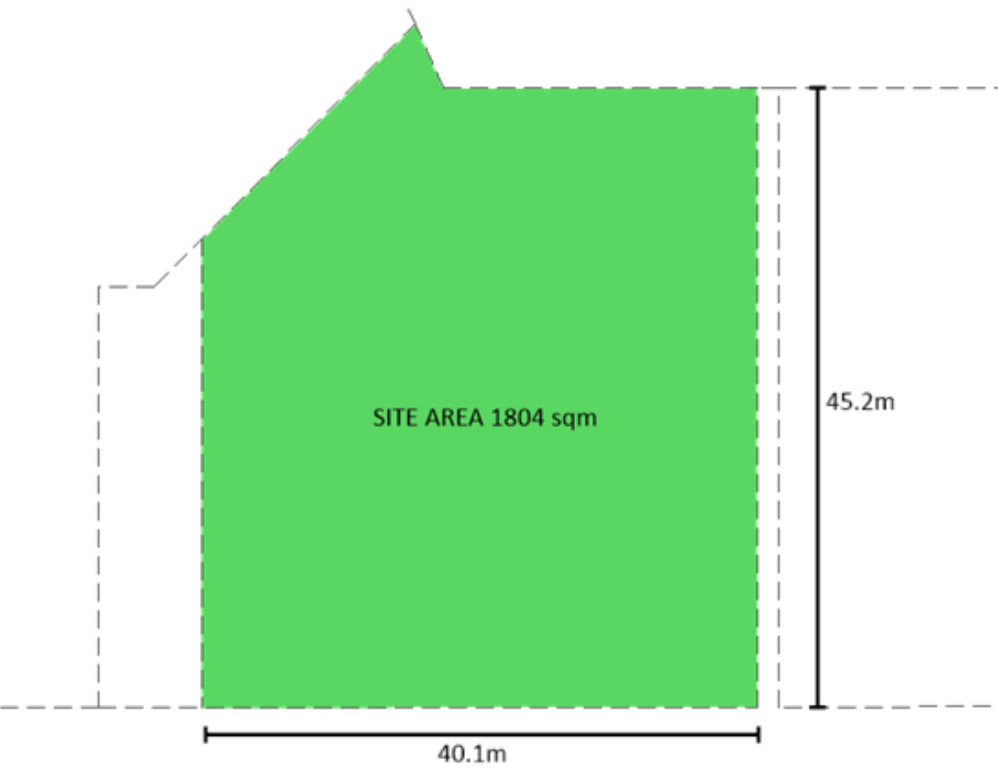


Diagram 3.2 Proposed site showing 25m minimum lot frontage requirement.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.2 DESIGN QUALITY

The proposed development is of an exceptional architectural design quality as determined by Council and the Design Advisory Committee.

The building has been conceived in a classic podium base and tower arrangement with all levels highly articulated to the benefit both the pedestrian experience and the views of the development in its greater context. A fluid design provides unique visual interest and complimentary architectural languages between the podium and tower. The innovative organic form and its dynamic façade have been developed to reduce bulk while creating a new benchmark for progressive design in the precinct.

Activation of the Mill Point Road frontage is integral to the design of the podium through articulation of canopies, entries and landscaping. Nine new serviced apartment units have been provided across the podiums West elevation facing Mill Point Road in lieu of architectural screening and car parking. These boutique 'tree top' apartments further activate the street frontage through the use of large balconies and glazing.

At the top of the podium extensive balconies will provide a platform for soft landscaping as well as an amenities area for the serviced apartments. The urban location and density of the development has reduced the areas available for natural landscaping, however the use of extensive planter boxes and an outdoor pool and seating areas at level 4 will create a dynamic natural component to the design. It is intentional that this planting will soften the view for residents looking down from balconies above. A Landscape architect will be engaged to provide further direction on tree and planting selections.

Both Podium and Tower use a consistent organic architectural language that will deliver a striking façade to Perth's built environment. A mix of refined edges, an undulating perforated skin, semi frame-less balustrades and extensive glazing break down the mass of the apartment levels. Elegant curves in the building's planning merge the boundaries between one elevation and the next further softening the overall bulk and scale.

The design also uses curves to express the elevations with a sweeping balustrade that alternates between glass and perforated screens around the perimeter of the tower. This homogeneous organic language extends the full height of the tower creating dynamic façades with movement and integrity.

Shading is achieved through deep balcony slab extensions so that apartments receive maximum daylight during the day in winter, while blocking the heat in summer. The revised design continues this reveal around the Southern facade improving consistency with the tower's overall envelope and feature balustrades. Interior floor materials will be selected to increase reflection of sunlight, decreasing the use of artificial light.

The vision for the project is to deliver premium quality apartments well suited to the vision of the overall precinct. The amenity within the project is at the top end of apartment projects in Perth. The highly articulated building form coupled with a diverse range of materials will be a positive addition to the streetscape and views from adjacent areas. This refined architectural form and rich material articulation will encourage a diverse range of residents and users who will contribute to the local community.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.3 OVERSHADOWING

The proposed development has been designed with regard for solar access for neighbouring properties taking into account ground floor outdoor living areas, major openings to habitable rooms, solar collectors and balconies.

The diagrams on the following page indicate the impact of the allowable building envelope in comparison to the previous DAP approved development on the 25th of May 2015 and the current proposed design.

It should also be noted that the current proposed development overshadows the site at 76 Mill Point Road 4% less than the previous DAP approved scheme due to the entire podium and tower being moved approximately 2m to the north.

We have also included photos of the northern elevation of existing mixed use building on Lot 76 Mill Point Road. The proposed development will predominately be casting its shadow across this buildings northern elevation which is devoid of any major openings, windows or amenity space. All residential units on Lot 76 are oriented on an east-west axis with balconies facing east and west respectively. These balconies configured as deep recesses only receiving direct sunlight in the morning and evening when the impact of any additional overshadowing from the proposed development on Lot 74 will be negligible.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.3 OVERSHADOWING

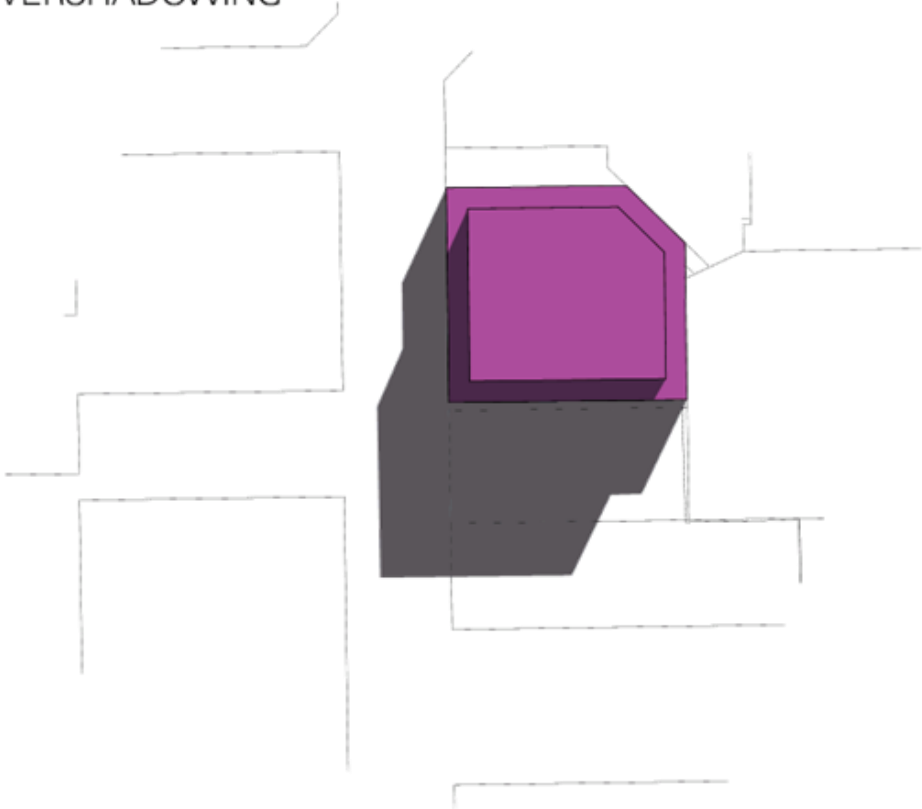


Diagram 3.3
Tower and podium based on City's Town Planning Scheme
Overshadowing at 12pm June 21st.

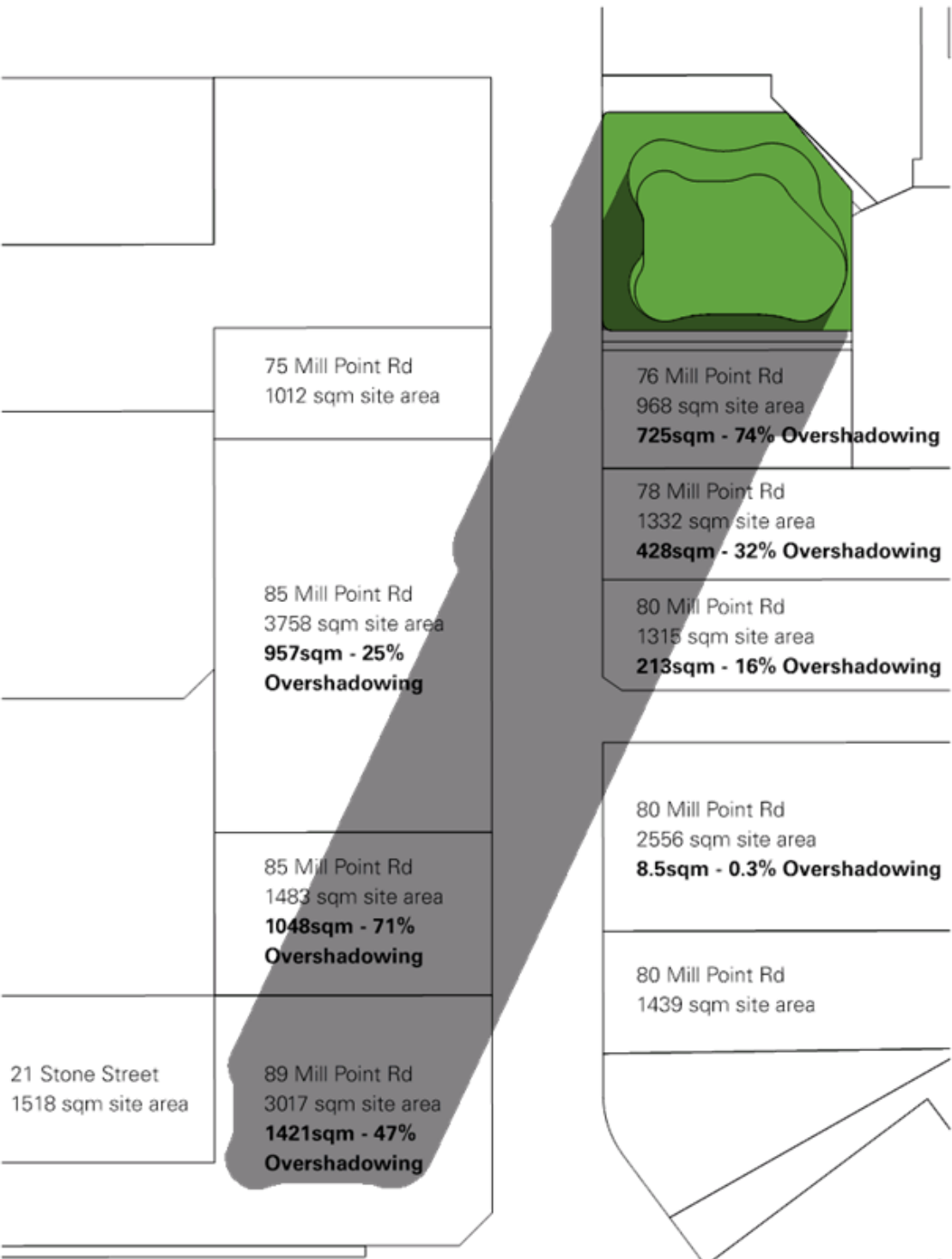


Diagram 3.4
Current development application
Overshadowing at 12pm June 21st.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.3 OVERSHADOWING

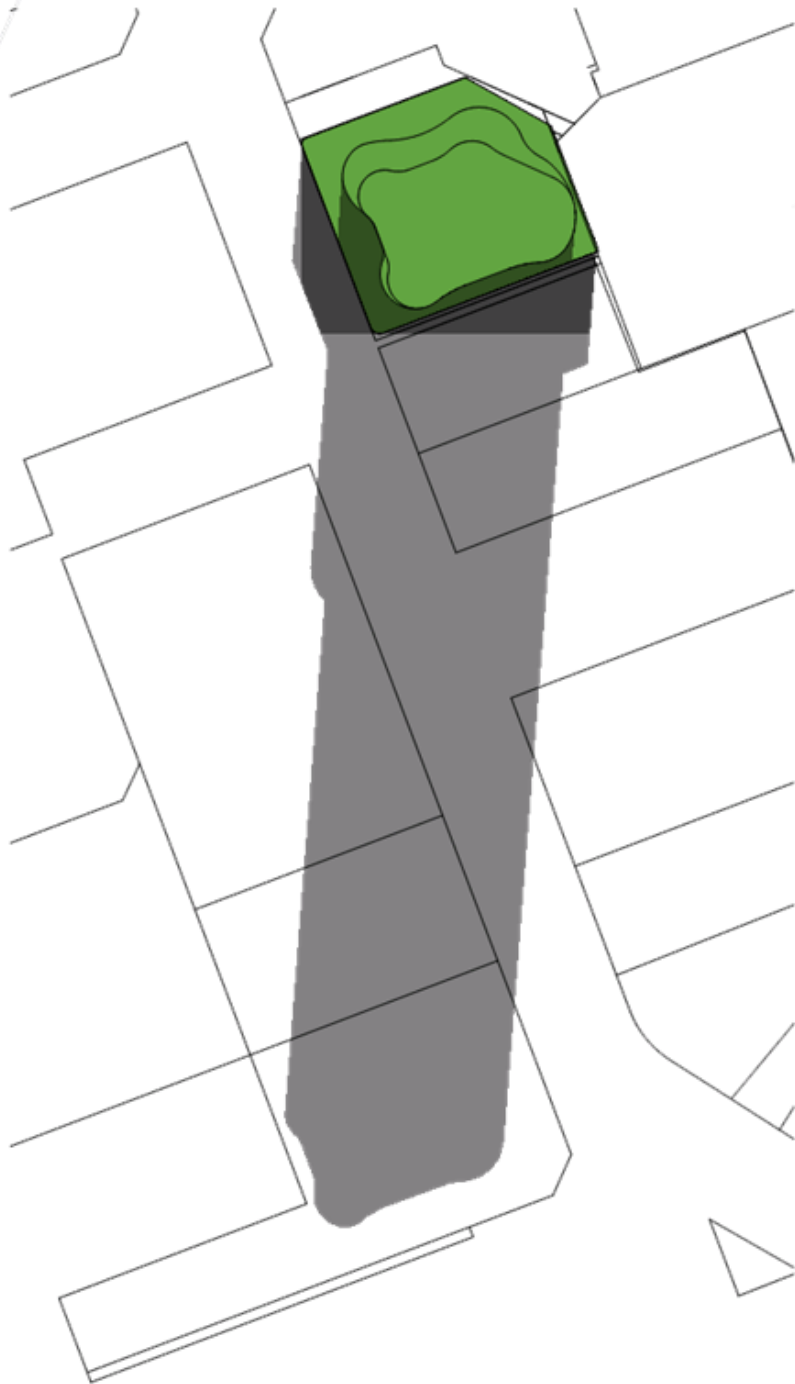


Diagram 3.5 Proposed Tower.
Overshadowing at 12pm June 21st.

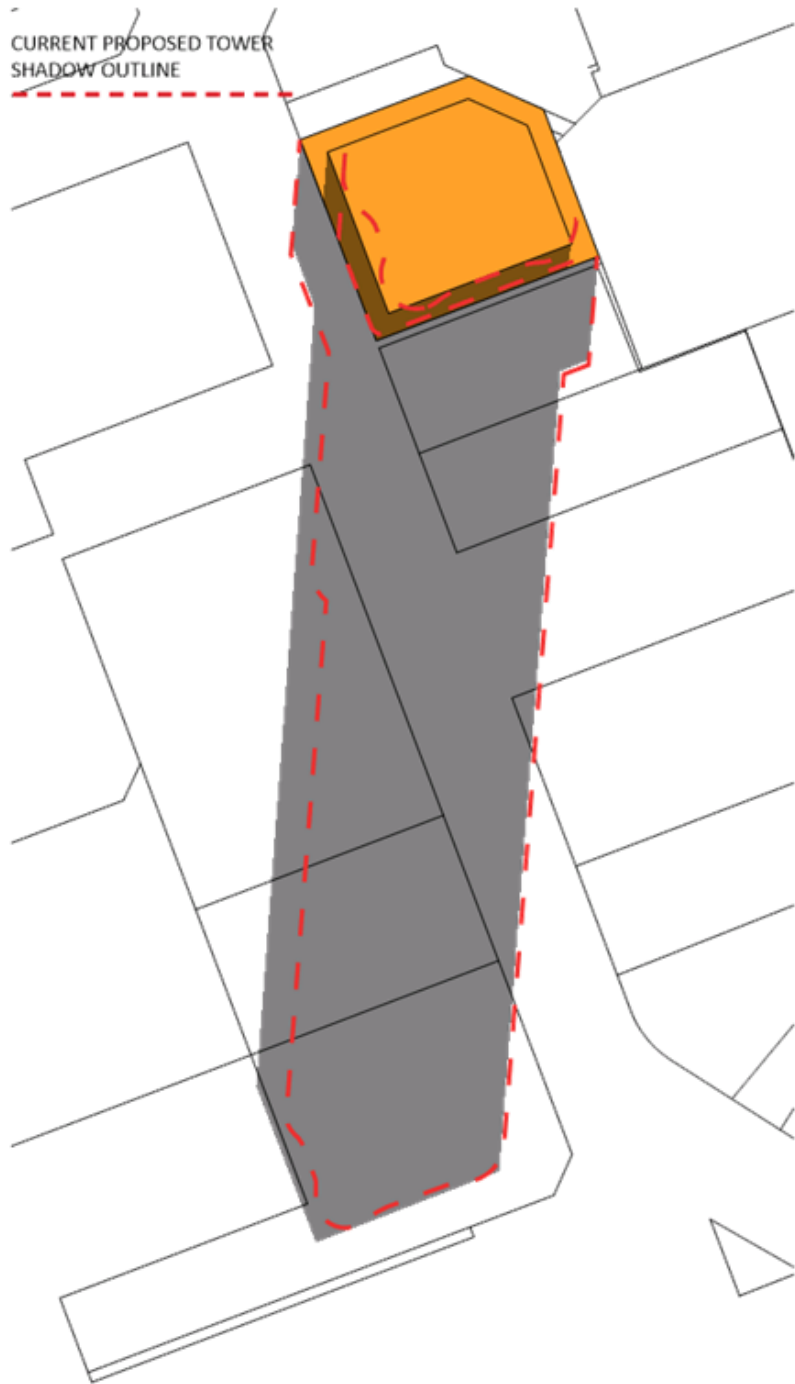


Diagram 3.6 Max podium and tower envelope.
Overshadowing at 12pm June 21st.

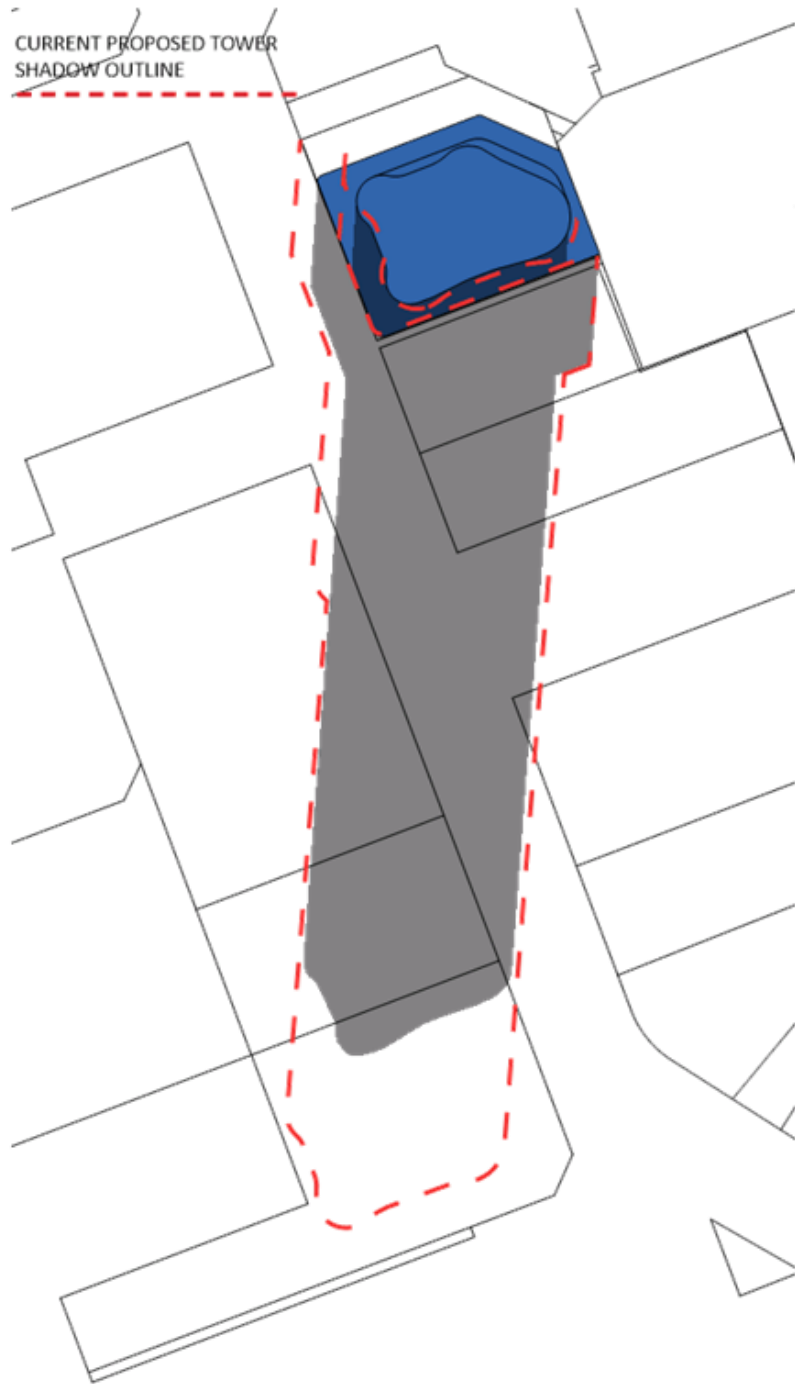


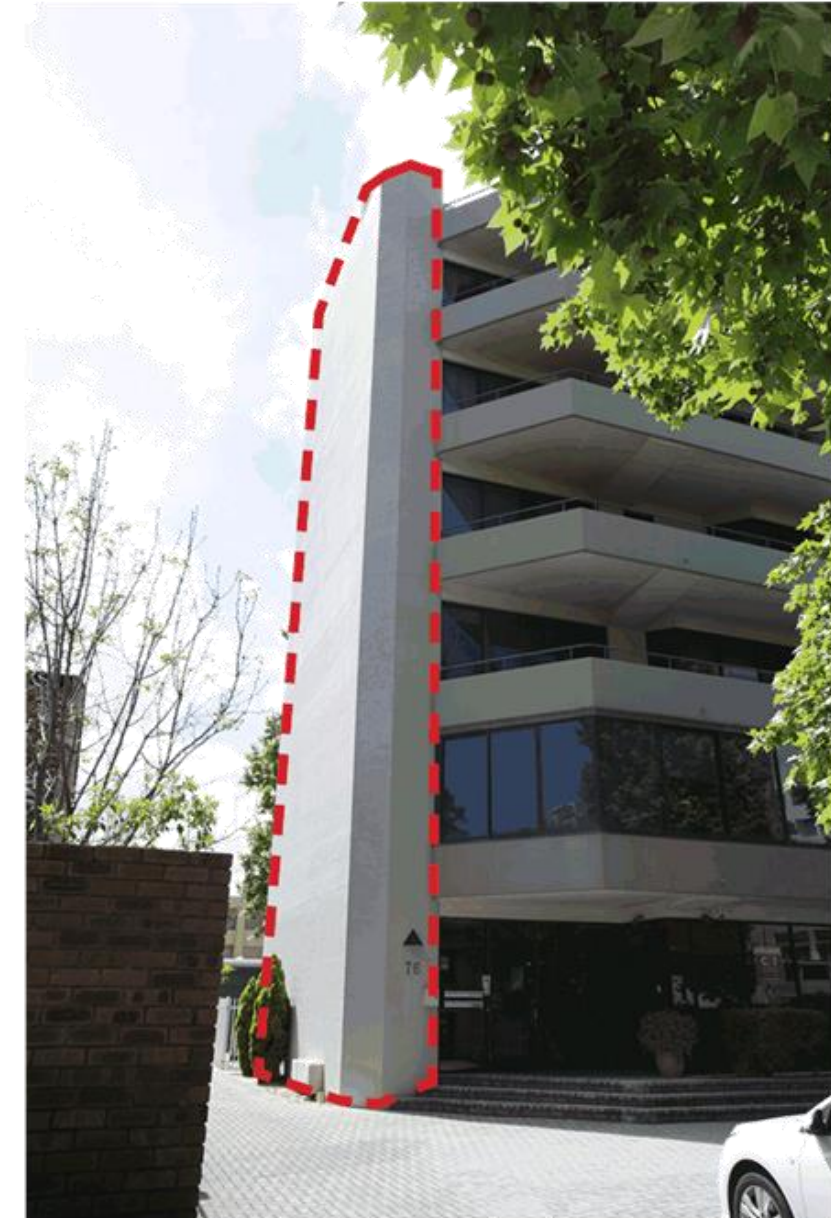
Diagram 3.7 Previous JDAP approved development 25th May 2015.
Overshadowing at 12pm June 21st.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.3 OVERSHADOWING (CONT'D)



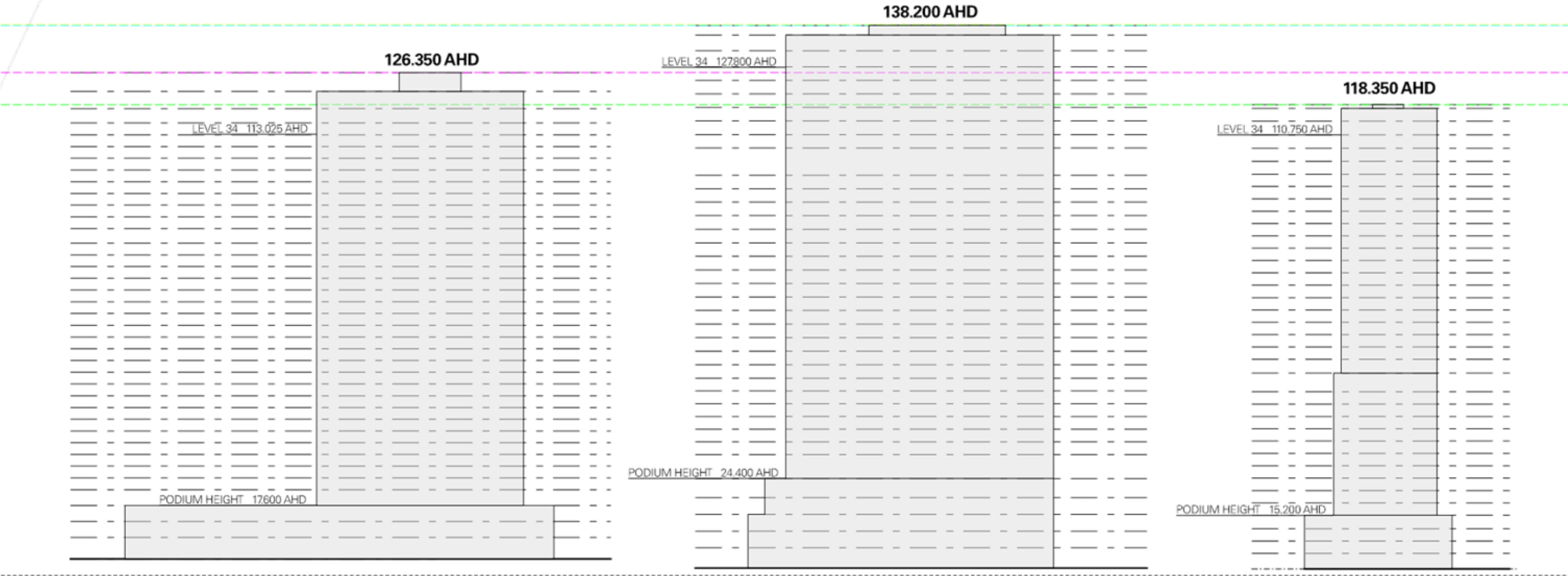
View of adjacent building's north-facing wall.



View of adjacent building's north-facing wall.

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.4 PROPOSED DEVELOPMENTS IN CONTEXT



CIVIC HEART

NGL	04.200 AHD
TOWER HEIGHT	122.150 m
	126.350 AHD
PODIUM HEIGHT	12.400 m
	17.600 AHD

EAST ELEVATION 1:1000

SOUTHLINK

(PENDING DEVELOPMENT APPLICATION
88-90 MILL POINT ROAD)

NGL	01.900 AHD
TOWER HEIGHT	136.300 m
	138.200 AHD
PODIUM HEIGHT	22.500 m
	24.400 AHD

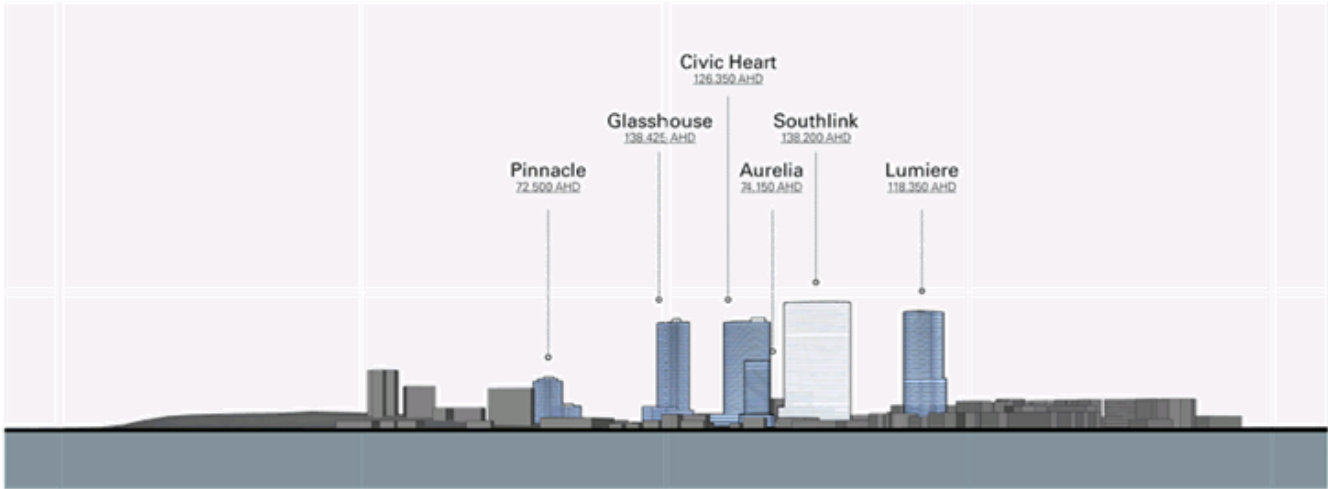
LUMIERE 34

(PENDING DEVELOPMENT APPLICATION
74 MILL POINT ROAD)

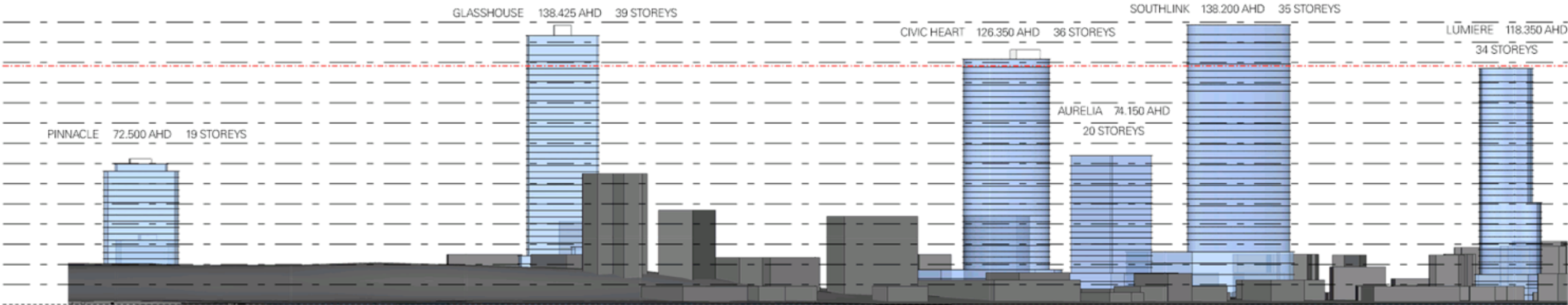
NGL	01.700 AHD
TOWER HEIGHT	116.650 m
	118.350 AHD
PODIUM HEIGHT	13.500 m
	15.200 AHD

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.4 PROPOSED DEVELOPMENTS IN CONTEXT



PERSPECTIVE VIEW FROM CITY
NTS



EAST ELEVATION 1:2000

3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.5 DWELLING DENSITY & TYPE

Residential development must have a minimum residential density of 100 dwellings per gross hectare or provide a minimum of 20% single bedroom dwellings (rounded up to the next whole number of dwelling).

The proposed development has an extensive apartment mix of floor and balcony areas along with number of bedrooms. Please refer to Table 1.1 of this report for a detailed breakdown of the apartment mix. It should be noted that the development includes 11 single bedroom dwellings.

It should also be noted that there is a dwelling density of 462 dwellings per gross hectare within the proposed development.

3.6 VEHICLE MANAGEMENT

The applicant shall submit a traffic engineer's impact assessment report confirming that additional traffic and on-street parking demand resulting from the additional floor space produced by the variation of Elements 3 and 5 does not cause an unacceptable impact on the surrounding street network.

The site enjoys excellent access to the public transport network with high frequency bus services within close walking distance to the site. The existing public transport services within the immediate area surrounding the development are considered to be sufficient to cope with the public transport demand to the site.

Based upon the results of the Transport Impact and Car Parking Assessment, no issues have been identified with regard to traffic operations of the proposed development with no road improvements or modifications to the proposed on-site car parking supply required.

Please refer to Appendix D-Traffic Management Report by Shawmac Consulting for a comprehensive assessment of forecasted traffic conditions created by the proposed development.

3.7 CAR PARKING

a) *The development site shall not have car parking bays at the ground level within 10 metres of a road frontage, unless allowed by Council.*

b) *At least 60% of the primary street is to be an active street frontage.*

The design provides parking allocations for 220 vehicles including 18 tandem bays. Parking at ground floor is set back sufficiently from Mill Point Road ensuring the design complies with requirements outlined under Item 6.0 of Table B. It should be noted that the parking at ground floor level has no adverse effect on the Mill Point Road street frontage being set back 25m along the right of way.

The remaining parking is across two levels of podium, masked by the serviced apartments fronting Mill Point Road, and below ground within three basement levels. Access to all parking is provided off Mill Point Road with secure automatic garage doors leading to upper and basement levels.

For further information on parking allocations please refer to Section 5.5 of this report.



Diagram 3.6 Ground floor plan showing active street frontage & carbay setback.

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3.0 PERFORMANCE CRITERIA - RESPONDING TO TABLE B

3.8 ADDITIONAL COMMUNITY BENEFITS

The proposed development addresses 6 of the possible 7 criteria listed in Element 7 of Table B: Performance Criteria. These community benefits are summarized below and expanded on in various sections of this DA report:

ii) Table B: 7(a). High quality active street frontages, street art, furniture and landscape features

The façade at ground floor level along Mill Point Road has been designed to fully activate the footpath, encouraging both residents and the public to interact with the development in a pedestrian friendly environment. Serviced apartments at the podium levels also contribute to the activation of the Mill Point Streetscape through the use of balconies and glazing.

Refer to Section 4.1 of this report that addresses Ground Floor Uses and Streetscape.

Also to refer to Section 4.3 Public Art

ii) Table B: 7(b). Landscaped spaces and/or other facilities accessible to the public such as gym equipment and public art.

Extensive hard and soft landscaping and public art pieces will benefit the wider community.

Refer to Section 4.1 of this report that addresses Ground Floor Uses and Streetscape. Also to refer to Section 4.3 Public Art

iii) Table B: 7(c). A range of dwellings sizes and costs.

The proposed development has an apartment mix of one, two, three and four bedroom units that vary greatly in size, cost and amenity.

Refer to Section 1.3 Project Summary

iv) Table B: 7(d) Improvements to pedestrian networks and public security.

The activated street frontage, widening of the right-of way for vehicle access and the passive surveillance from the residential and commercial components all contribute to an improved pedestrian network and public security.

Refer to Section 4.1 Ground Floor Uses and Streetscape.

v) Table B: 7 (e) Provision of view corridors and/or mid-winter sunlight to adjacent buildings.

The tower has been deliberately designed to allow for improved views from neighbouring Lots.

Refer to Section 4.4 Views and Vistas

vi) Table B: 7 (f) Community, communal and/or commercial meeting facilities.

The development will provide a community meeting room incorporated into level 4 that can be hired to the public.

Refer to Section 1.3 Project Summary

3.9 RESOURCE EFFICIENCY

The proposed development exceeds the requirements of the Building Code of Australia with respect to optimizing solar access to the proposed development and adjoining sites; maximizing energy efficiency; use of passive cooling techniques and cross-ventilation opportunities; conserving water.

Please refer to Section 6.0 of this report Resource Efficiency & Sustainability for a comprehensive outline of the principles and provision that the proposed development will adopt in exceeding the requirements of the BCA and meeting the required Green Star Rating. This is further discussed in Appendix G, CADD Letter of Intent & Sustainability Strategy.

4.0 URBAN DESIGN

4.1 GROUND FLOOR USES & STREETScape

The architectural design provides a striking tower element that will be visible from the CBD with the podium element addressing Mill Point Road and the vehicular access way. The building is highly articulated in a contemporary manner with a mix of solid, perforated and transparent materials composed in a cohesive manner.

Various cantilevered elements are formed to create highly attractive building façades. Careful and varied detailing between various floors provides an additional layer of articulation.

The façade at ground floor level along Mill Point Road has been designed to activate the footpath, encouraging both residents, office workers and public to interact with the development in a pedestrian friendly environment.

A highly articulated canopy wraps around the perimeter of the Mill Point Road elevation. This canopy exceeds the City's requirements with a depth of 2.5m providing an excellent degree of shelter and shade to pedestrians. The canopy folds up to heights of 6m to distinguish the entrances to both residential and commercial lobbies. The high soffits and ceilings at ground floor with large expanses of floor to ceiling glass further open the building to the street and public. It should be noted that the deeper recesses that form entrances to both commercial and residential lobbies will be well lit with movement sensors 24 hours a day.

The entrance to the residential lobby has been deliberately set back and located on the southern corner of the site to allow pedestrians to walk under and through an attractively landscaped area. Soft landscaping will be developed with a reputable Landscape Architect to create an urban oasis at the entrance to both entry lobbies. Sophisticated street furniture and cycle racks will further benefit the community at street level. The café has deliberately been set back inside the building envelope to provide sufficient cover for 60m² of alfresco dining. This will become a new meeting place for patrons on the way to the river from the Central Station Precinct.

The activation of the street frontage contributes to the greater improved pedestrian network and public security in the area as listed in Table B, item 7(d).

A commissioned sculpture by a local artist is also proposed adjacent to the commercial lobby. Consistent with the architectural intent, this sculpture is another gesture to the broader community.

The design has been carefully developed to conform to the requirements of Table A: 2. Ground Floor Uses and 6. Relationship to the Street.



Image 4.1 View of cafe and green corridor.

4.0 URBAN DESIGN

4.2 PODIUM & TOWER TYPOLOGY

The proposal adopts a classic podium and tower typology. Both elements are articulated in an appropriate manner providing either horizontal or vertical emphasis. The high level of architectural expression includes the use of varied materials and form to articulate the building. It is envisaged the podium level will enhance the pedestrian experience by setting back the upper levels to diminish the perception of the building bulk. Furthermore, the podium aspect serves to mitigate unwanted wind effects whilst consolidating the intended scale along Mill Point Road.

The podium is characterised by an organic undulating facade that creates a dialogue with the architectural treatment of the tower. The apartment balustrades create sweeping curves that run the length of the facade and wrap around both corners facing Mill Point Road.

Solid balustrades at podium levels create a subtle contrast to the perforated lightweight balustrades of the tower above and are more harmonious with the existing streetscape.

It should be noted that the podium height is compliant with the Element 4.1 of Table A.

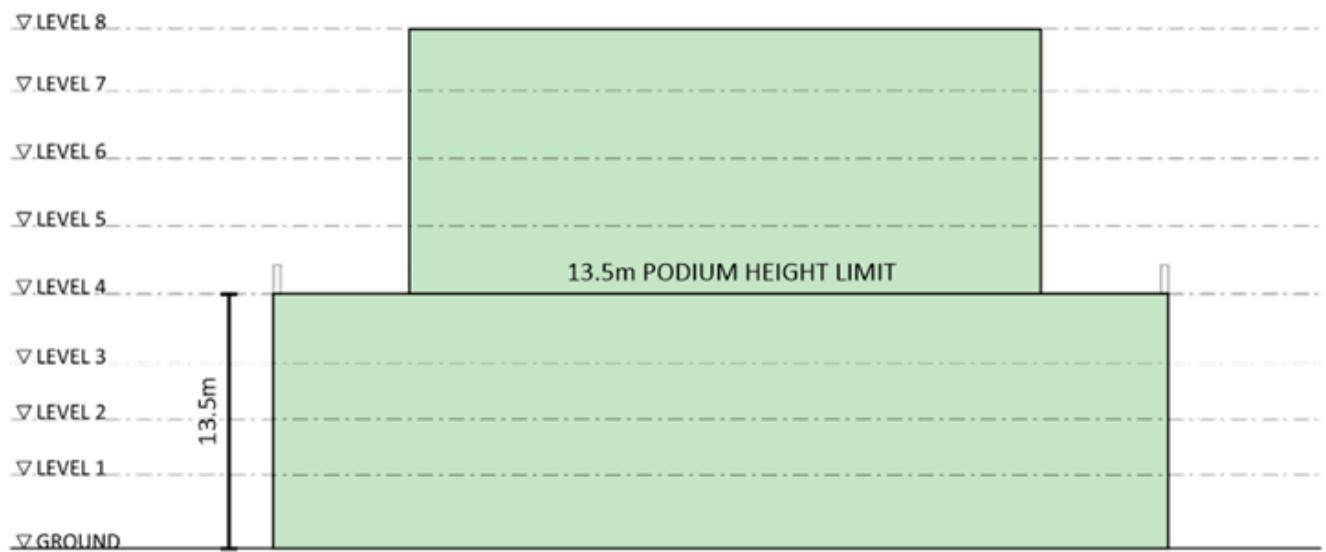


Diagram 4.1 Elevation showing podium height.

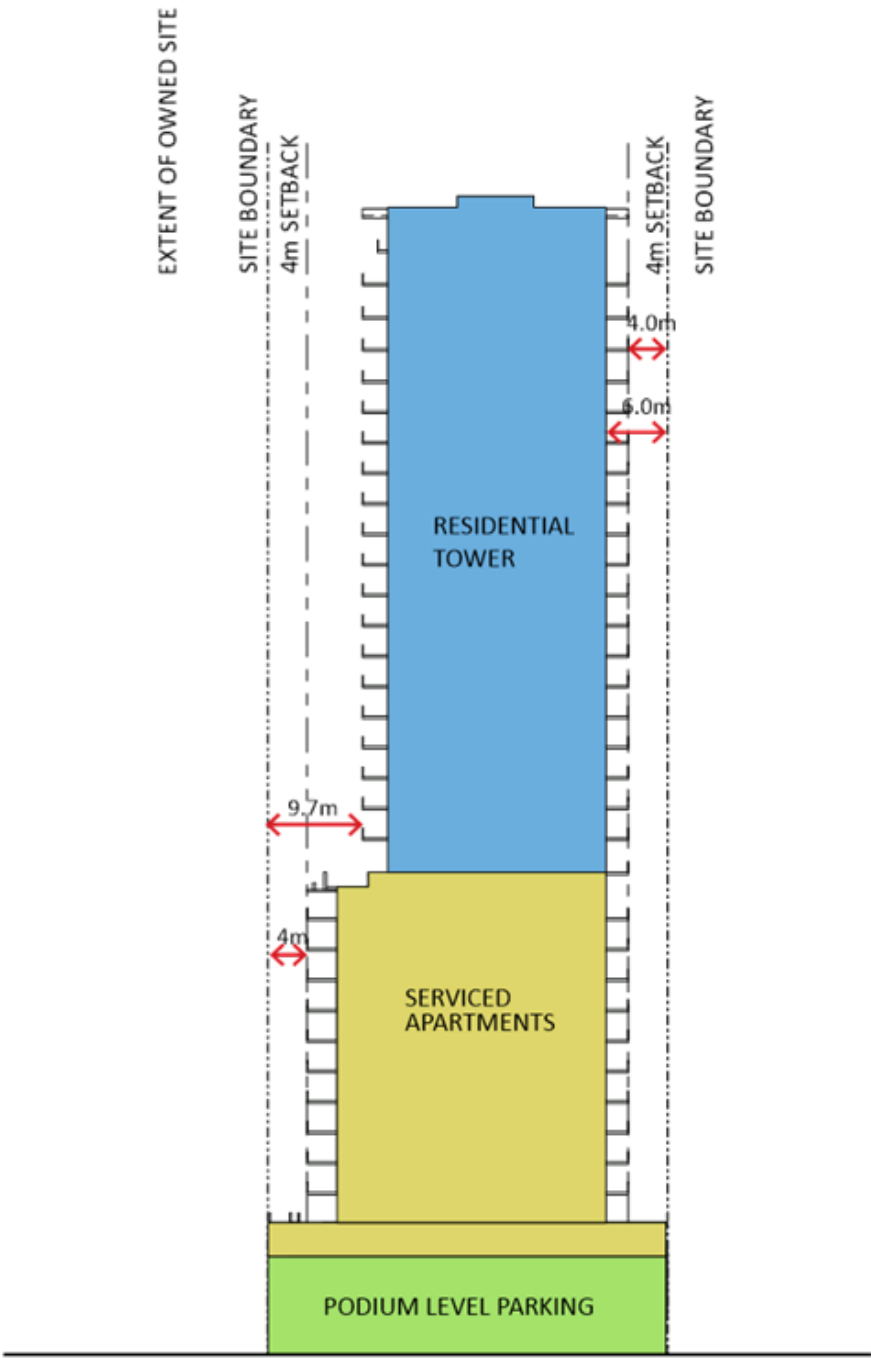


Diagram 4.2 Elevation showing 4m setback above podium.

4.0 URBAN DESIGN

4.3 PUBLIC ART

In accordance with City of South Perth's Town Planning Scheme, Schedule 9 we support the vision for the inclusion of public art within the Central Core Precinct should be strongly encouraged.

In previous apartment projects including The Foundry Apartments Subiaco and Verde Apartments in Wittenoom Street, East Perth we have successfully worked with nationally acclaimed local artist Stuart Green who has created excellent artworks integrated into the publicly visible elements of these projects.

Collaboration with artists Rick Vermey at The Collective Apartments, Rivervale and John Terry at Fusion Apartments, Burswood have created unique responses that are reflective of each site.

In keeping with this approach we will work with an artist whose work fits with the design philosophy and who has demonstrated an appropriate understanding for the facade treatments.

It is currently envisaged that the proposed perforated screens to the ground floor transformer room provide an opportunity for a collaborative process to be established with a local artist and diminish the often overlooked substation facing onto the street.

The screens will provide an opportunity to potentially reflect a theme which is relevant to the precinct, embracing the location's heritage and history. It is envisaged that this will enrich the pedestrian experience offering occupants, visitors and passers-by an insight into local heritage. It is also anticipated that key parts of these screens will be back lit to create an alternative impact and interest at night.

In addition to the screens there will be a sculpture located at the residential lobby entry. This will also be designed and fabricated by a local artist that is incorporated into the landscape design of the street front. Our intention is that the sculpture responds to the contemporary aesthetic of the architecture but also has a concept that connects with the broader community.

There are no specific 'percentage for art' requirements outlined under Schedule 9 of the City's Town Planning Scheme. It should be noted that the extensive artwork to be commissioned is in addition to the statutory developer contributions outlined under Schedule 10. The proposed development encompasses artwork to engage with the community up close and in its wider context.

As a further contribution to public art, the applicant proposed that the solid concrete balustrades at podium level have an integrated pattern. This patterning is also to be developed with an artist, intending to create a de-bossed effect with recessed form-work. Even though subtle, this will provide further interest at street level.



Image 4.2 - Verde Apartments, East Perth - Hillam Architects & Stuart Green.



Diagram 4.3 Location of screens and sculpture by selected artist.



Image 4.3 - Roydhouse Apartments, Subiaco - Hillam Architects & Stuart Green.



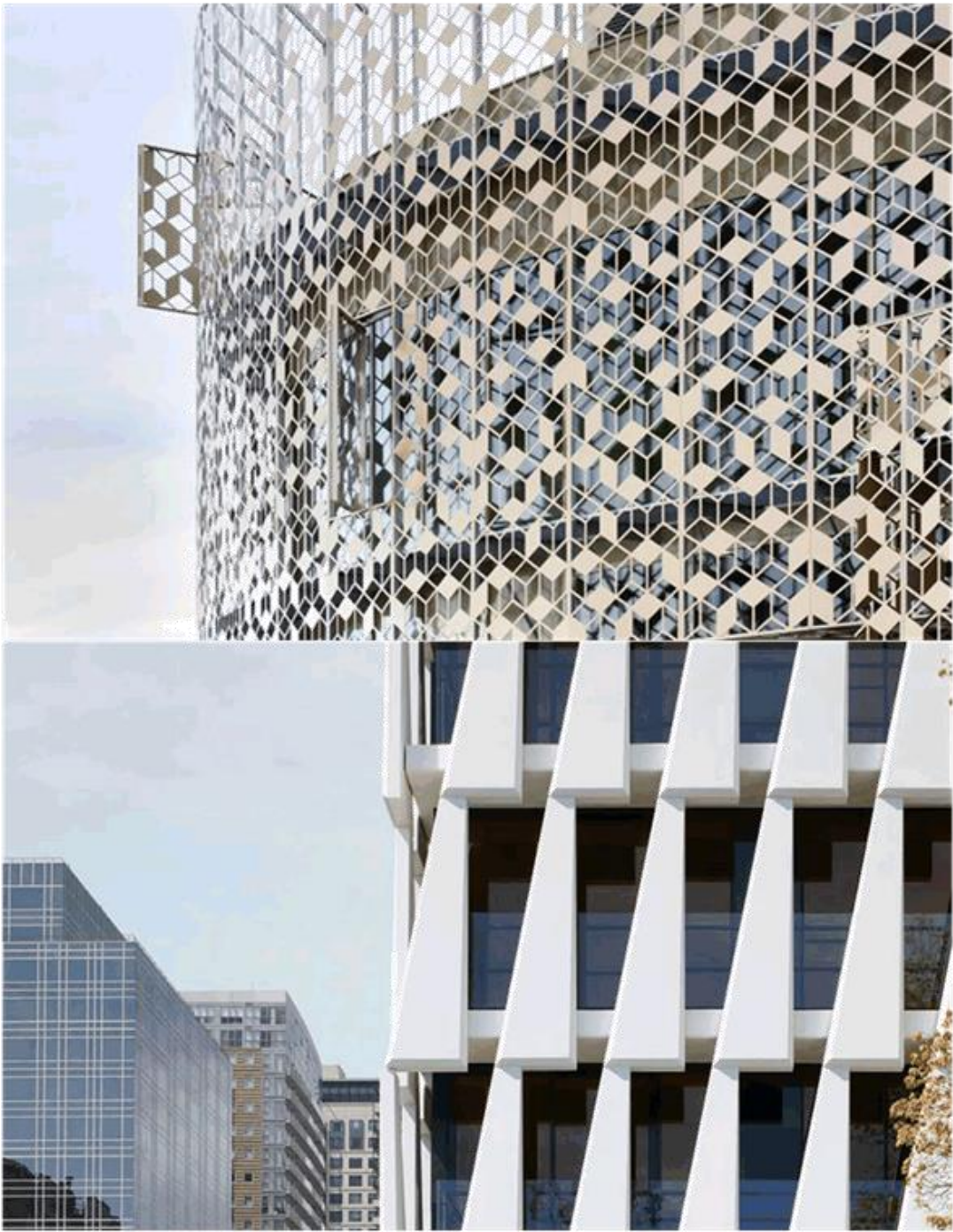
Image 4.3 - Haven Apartments - Hillam Architects & Stuart Green.

4.0 URBAN DESIGN

4.3 PUBLIC ART (CONT'D)



Image 4.5 Examples of architectural screening elements.



MIXED USE DEVELOPMENT // 74 MILL POINT RD | SOUTH PERTH

4.0 URBAN DESIGN

4.4 VIEWS & VISTAS

The proposed development has been designed with respect to the view corridors of neighbouring buildings and future developments. Diagram 4.4 illustrates the increased tower setbacks across both northeast, northwest and southwest elevations. The tower has been deliberately planned to reduce overall bulk with a narrower form than what is permissible under Schedule 9.

Deep balconies, floor to ceiling glazing and extensive glass balustrades also contribute to a more transparent elevation. This allows for view corridors to be maintained through parts of the building envelope.

The proposed development also looks to maximise the view opportunities towards the CBD and Swan River while responding to Mill Point Road. The curved organic plan of the tower together with continuous perimeter balconies ensures the development maintains an expansive outlook in virtually all directions.

In accordance with the objectives of Scheme Amendment 25 we believe there is an opportunity to create an identity and sense of place by connecting the proposed development with the available views and vistas.

Noting the proposed development will become one of the highest buildings within the South Perth Station Precinct, there are opportunities to maximise the views and vistas:

- City views to the northeast.
- Expansive panoramic river views to the north, east & west.
- Views over Kings Park to the west.
- Potential ocean views from the highest levels.

The proposed development has also been designed with respect to the view corridors of neighbouring buildings and future developments. Diagram 4.4 illustrates the increased tower setbacks across both northeast, northwest and southwest elevations. The tower has been deliberately planned to reduce overall bulk and have a more slender form than what has been allowed for under Schedule 9.

Deep balconies, floor to ceiling glazing and extensive glass balustrades also contribute to a more transparent elevation. This allows for view corridors to be maintained through parts of the building envelope.



Image 4.6 Aerial view looking north at proposed site, Perth CBD and Kings Park.

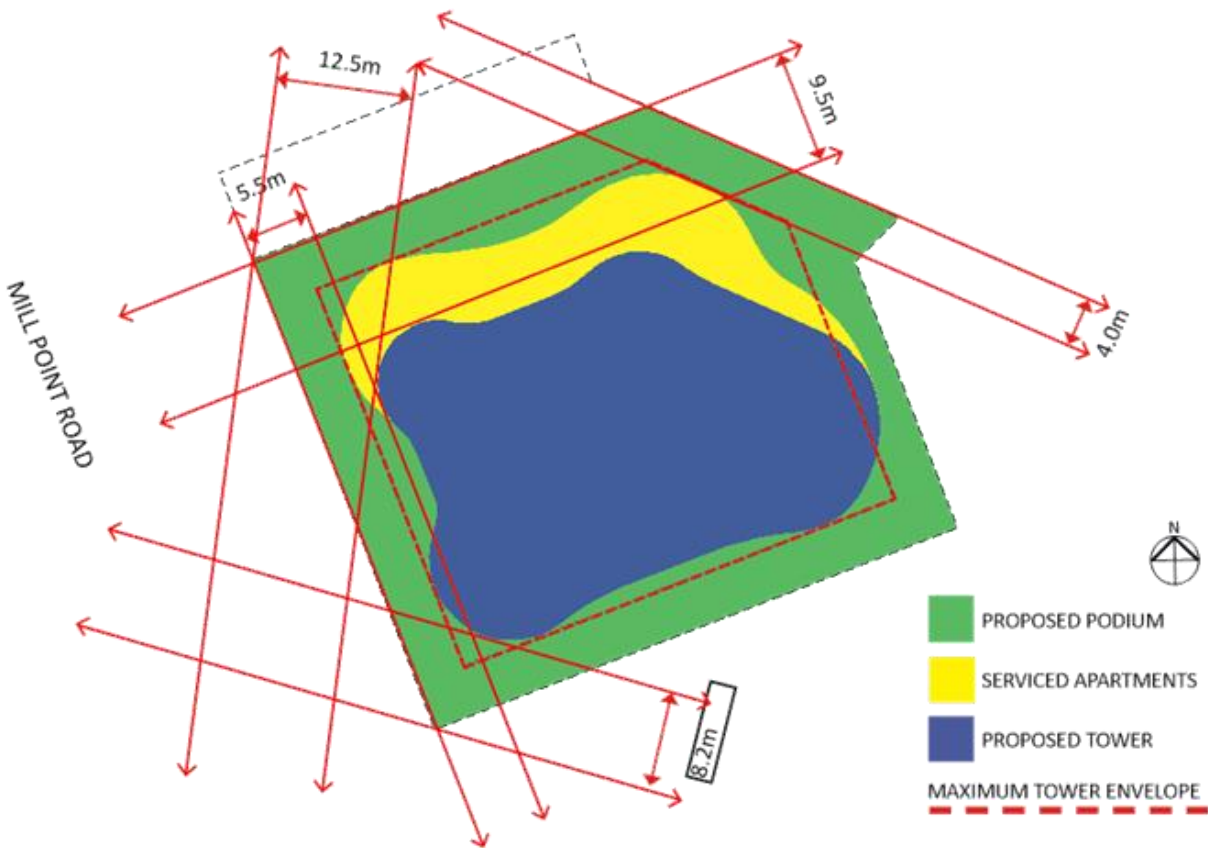


Diagram 4.4 View corridors between setback and proposed building.



Diagram 4.5 View direction diagram of surrounding landmarks.

5.0 ARCHITECTURAL DESIGN

5.1 BALCONIES

In recognition of outdoor lifestyle opportunities afforded by the Perth climate, apartments are provided with generous private outdoor balconies with dimensions exceeding minimum requirements set out in the design guidelines with the majority of these areas are significantly orientated north.

The balconies that face the street encourage passive surveillance as well as express the sophistication of the facade by their integration into the building envelope. The cantilevered and curved balconies have been used to articulate the façade creating drama and interest.

Each residential unit in the development has a balcony depth of at least 2.5m however many units have up to 4m. This allows many units to have both dining and lounge areas on balconies, encouraging outdoor living and passive surveillance of the area. Obscurely glazed fins separate each balcony from neighbouring units to provide visual and acoustic privacy while maintaining the lightweight aesthetic of the building's façade.

5.2 MATERIALS & FINISHES

A varied pallet of materials and finishes articulates the development. A combination of light and dark renders, stone, tile, perforated metal (also incorporating artwork) and glass provide a cohesive and sophisticated mix. These materials and their subsequent finishes have been selected for their inherent beauty with particular focus being the contrast between solid, porous and transparent.

Rich and refined materials signpost the residential areas while the perforated metal and artwork around the podium provides a vibrancy to the elevations at street level. Examples of the proposed materials are shown throughout this document and the coloured elevations provided in the appendix have the proposed external materials noted.



Image 5.1 Design and material references.

5.0 ARCHITECTURAL DESIGN

5.3 POOL TERRACE

The proposed infinity pool projects out to the north of level 23 and rivals the quality reserved for five-star resorts. The Pool Deck will have dedicated leisure activities additional to the infinity pool including relaxation zones, fully equipped fitness centre, sauna and steam room, outdoor yoga, private dining room, catering kitchen, lounge areas and meeting facilities.

Shaded areas will be created by the apartments above, while other areas allow direct sunlight for cooler times of the year. Balconies from several apartments directly overlook the space providing good amenity and passive surveillance, yet privacy is maintained by appropriate soft landscaping in planter boxes.

The Pool Deck Lounge incorporates river views into this exclusive space for quiet contemplation or entertaining guests whilst the Gymnasium allows you to maintain well-being and fitness, day or night, overlooking the foreshore. A generous theatre room can also be booked by residents for movie watching. Hillam Architects have a well established reputation for creating highly attractive and functional outdoor spaces within its developments and again this is the focus here.

Access will be provided by the building security system and controls in place to ensure use is within appropriate times.

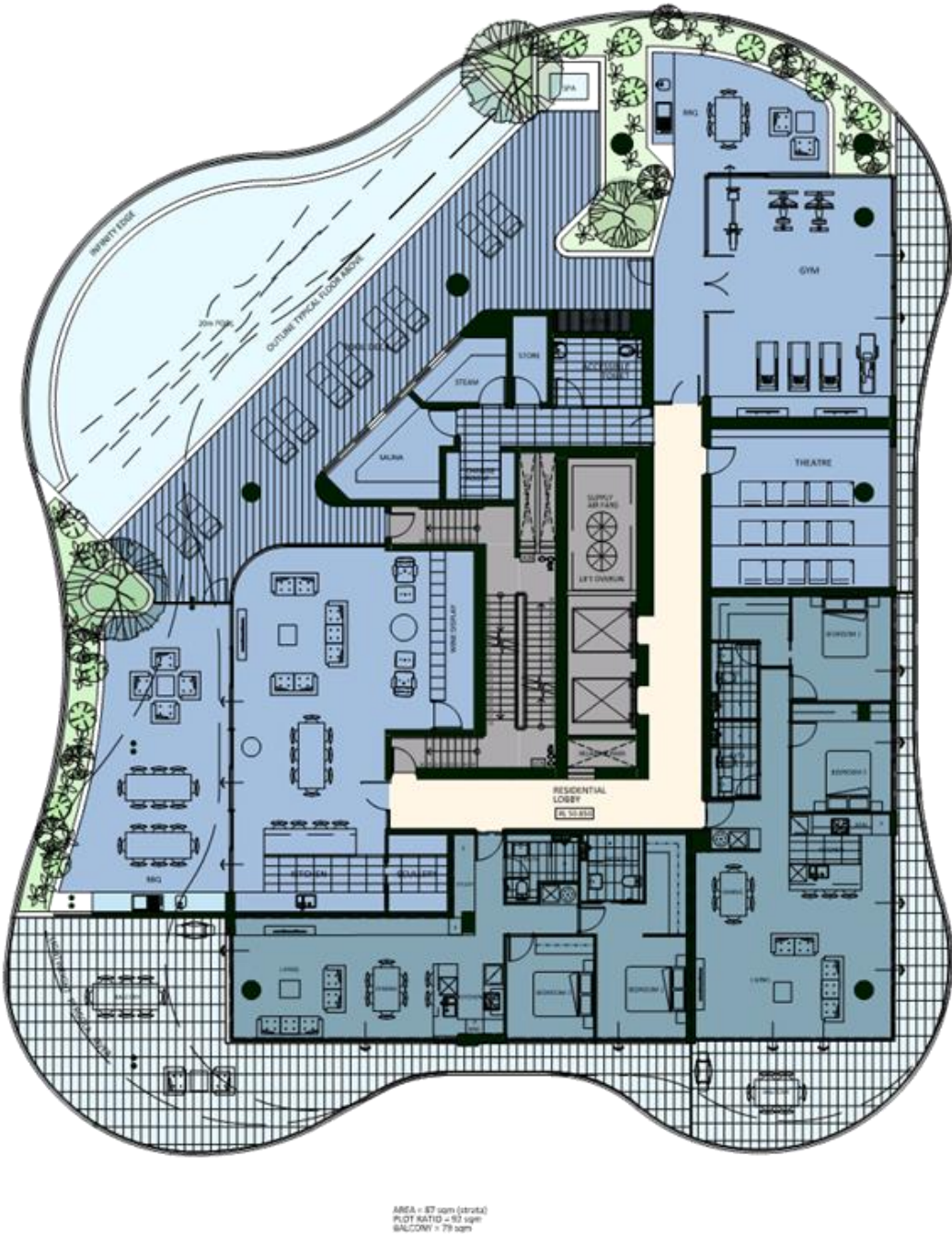


Image 5.2 Coloured plan of Residential Amenities Level



6.0 DEVELOPMENT REQUIREMENTS

6.1 PLOT RATIO

Lot 74 Mill Point Roads falls under the Special Control Area SCA1 where there is no maximum plot ratio as per Element 3.1 of Schedule 9 of City of South Perth Town Planning Scheme No. 6.

In accordance with the schedule, the development provides sufficient commercial plot ratio, diversity in dwellings including single bedroom dwellings and provision has been made for amenity facilities for residential dwellings.

6.2 PODIUM HEIGHT

The proposed development has a podium level set at 4 storeys or 13.5m and all of the podium building elements of the proposed development sit between the requirements outlined in Schedule 9.

6.3 BUILDING HEIGHT

With reference to item 5.2 of Schedule 9 'height limit for sites within the Special Design Area may be varies subject to all of the relevant performance criteria in Table B being met' we ask council to support the variation to the height limits outlined on plan 3 of schedule 9 considering the degree of compliance with Table B of the schedule.

The proposed 145m development strives to meet the objectives set out in Scheme Amendment 25 which allows for further increases in height with the inclusion of sustainable design, community benefits and exceptional quality architecture; all of which are outlined in this report.

6.4 SETBACKS

In response to Scheme 9 the proposed development incorporates NIL side and rear set back to the podium levels. Also in response to Element 6.6.1 the proposed development has a NIL street set back to podium levels across the extent of its frontage.

For storeys above the podium the minimum street setback outlined at Element 6.6.2 of Schedule 9 is 4m; the street setback to the tower portion of the proposed development (above podium level) is ranges from 4m to 6.7m.

Careful attention has been given the City's Town Planning Scheme ensuring that the side setbacks for the tower are a minimum of 4m. At the rear of the proposed development we are proposing a minimum setback of 2.2m. It should be noted that only a small portion of the unit balconies project through the setback requirement. These balconies will be completely open with glass and perforated metal balustrades with a curved plan contributing to the organic form of the overall design. Deep, spacious balconies have also been intended to provide sufficient shade and amenity their respective units.

It should also be acknowledged that the tower portion of the proposed development is consistently inside of setback requirements across both north and east elevations.

The applicant has revised the design to the southern elevation by up to 1500mm to enhance the facades articulation and depth. Refer to the drawings and visuals attached.

In respect to the above we ask that council support this minor variation to the requirements outlined in Scheme 9.

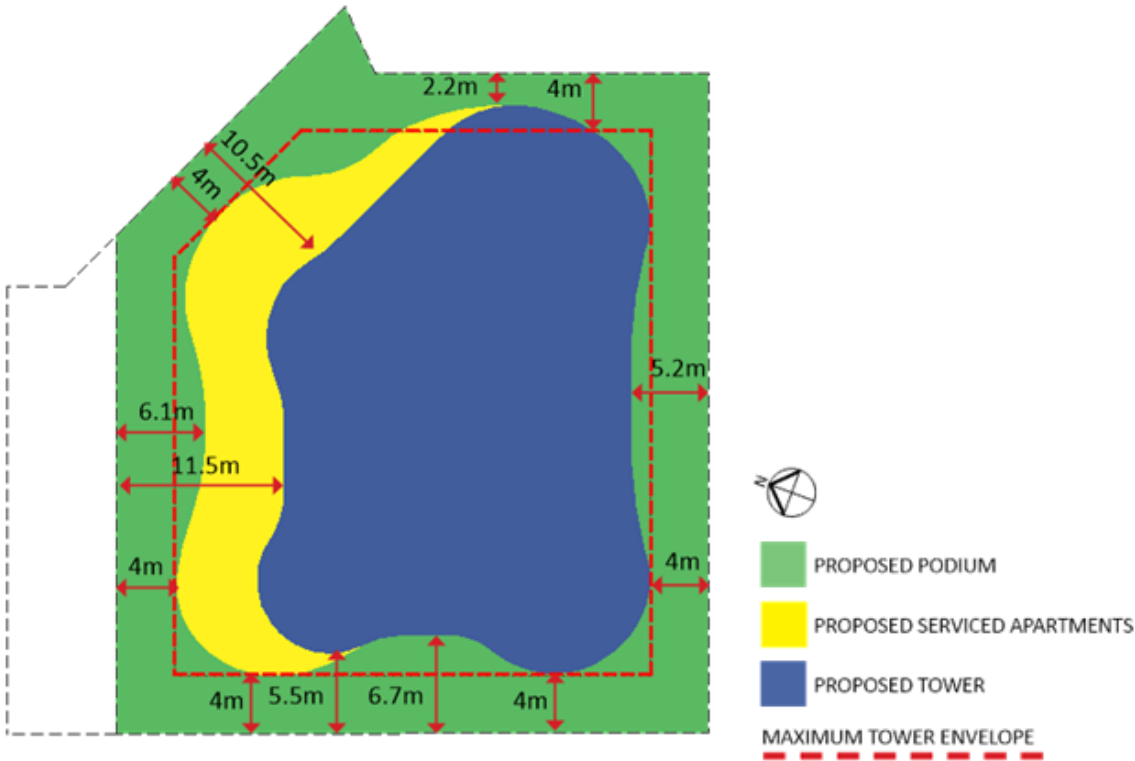


Diagram 6.1 Plan Setback Diagram

6.0 DEVELOPMENT REQUIREMENTS

6.5 PARKING

The six levels of car parking are designed for efficient use and provided with adequate lighting, visibility and subsequent safety for users, drivers, cyclists and pedestrians alike. All designated visitor and commercial bays will be appropriately signposted as such with all bays located internally of the building envelope on the upper and basement levels.

The car parking is further divided into the following provisions:

- 144 Residential bays
- 8 Residential visitor bays
- 52 Serviced apartment bays (incl. 1 Disabled)
- 5 Serviced apartment visitor bays
- 10 Bays for the café and community meeting room.
- 1 Commercial visitor bays.

The design proposes a minor variance to the number of visitor parking allocations. In accordance with our approach to promote sustainable methods of transportation and Element 8.1 of Schedule 9, 87 secure bicycle bays are located at both ground, basement and podium levels. It should be noted that the amount of bicycle bays exceeds that required and that these facilities have been annotated on the attached development plans. Also to note are the 5 scooter bays provided on ground floor to suit demand and reflect the development's urban locality.

74 Mill Point Road - Amended Development Application - August 2016						
34 Storey Scheme_18.08.16						
Apartment Type	Required No. of Bays per Apartment / Area	Number of Apartments	Required Carbays	Carbay Allocations	Tandems	Total Carbays Including Tandem
1 Bed / 1 Bath	0.75	11	8	11		11
2 Bed / 2 Bath	1	43	43	57	10	67
3 Bed / 2 Bath	1	25	25	50		50
Subs & Pents	1	4	4	8	4	12
Residential Apartments		83				
Serviced Apartments	0.5 carbays per serviced apt	103	52	52		52
Non Residential Land Use - Not Serviced Apartments	1 per 50sqm	420 sqm	8	4	4	8
Residential Visitors	1 per 6 dwellings		14	13		13
Serviced Apt Visitors	0.1 per number of bays required		6	6		6
Commercial Visitors	0.1 per number of bays required		1	1		1
Total			161	202	18	220

Table 6.1 Carbay breakdown.

Car parking provided with the proposal is designed in accordance with Australian Standards. A traffic impact statement is attached as an appendix to this document.

The following points are made with regard to the assessment of the proposed development by the City and the minor variance:

a) Type, number and size of dwellings

The development comprises a mix of one, two, three and four bedroom units with floor spaces ranging between 64m² and 400m². It is proposed to provide all penthouse and sub-penthouse units and selected three bedroom units will be allocated 2 car bays.

It should be noted that there is no shortfall of parking allocations to meet the City's requirements of 0.75 bays per single bedroom dwelling. The units that have not been provided with an allocation becomes insignificant when offset against the total number of bays provided including tandems & long bays across the development.

b) Public transport

Given the access to public transport within the immediate vicinity there is a focus on promoting pedestrian and cycle transport within the proposed design.

The sites proximity to high frequency public transport including bus and a ferry link to the CBD, the provision of end of trip facilities and on street parking all contribute to a varied parking demand during a typical day.

In accordance with our approach to sustainability, end of trip facilities to promote sustainable methods of transportation have been included. Specifically, this includes a unisex toilet and restroom facility for commercial tenancies, with a total of 65 bike bays located at both ground and basement levels.

d) Tandem and Long bays

The proposed development includes a number of both compliant tandem and long bays. Every dwelling in the development that has been assigned a parking allocation.

Further to these points relating to parking, a full traffic impact statement is attached in the appendix of this document.

6.0 DEVELOPMENT REQUIREMENTS

6.5 PARKING (CONT'D)

	Smart Car	Micro Car (Suzuki Alto)	Light Car (Volkswagen Polo)	Small Hatchback (Volkswagen Golf)	Compact SUV (Volkswagen Tiguan)	Medium SUV (Toyota RAV4)	Small Sedan (Toyota Corolla)	Large Sedan (Holden Commodore)	Large 4x4 (Toyota Prado)	
8.5m Length Car Bay	Length (mm)	2,690	3,500	3,750	4,250	4,427	4,570	4,620	4,894	4,930
Smart Car	2,690									
Micro Car (Suzuki Alto)	3,500									
Light Car (Volkswagen Polo)	3,750									
Small Hatchback (Volkswagen Golf)	4,250									
Compact SUV (Volkswagen Tiguan)	4,427									
Medium SUV (Toyota RAV4)	4,570									
Small Sedan (Toyota Corolla)	4,620									
Large Sedan (Holden Commodore)	4,894									
Large 4x4 (Toyota Prado)	4,930									

Table 6.2 Car Length Comparison Matrix.

6.6 SAFETY & SECURITY: DESIGNING OUT CRIME

The ground level contains a cafe adjacent to the commercial lobby which provides for an appropriate level of surveillance to the south face of the building. The ground floor is generally open creating safe public spaces with clear sight-lines. The frontage is well protected from adverse weather with a continuous canopy while the transparent nature of the commercial tenancy and residential lobby enhance surveillance.

The proposed development contains high quality articulated elevations to both primary and secondary street frontages. The inclusion of major openings, balconies, varied materials and colours and detailed features in design afford activity and surveillance around the entire site and create an attractive and interesting development.

Habitable rooms and balconies address all sides of the development providing a continuous passive surveillance of the area. This passive security is further enhanced by the street-facing apartments at podium level in the revised design.

The right of way is activated with the car park entry and visitors parking. In these areas light levels will be boosted by artificial lighting activated by light level sensors. At night additional lighting will be activated by movement sensor.

Access control systems will provide secure access to apartments and parking areas. Clear signage of pathways, entrances and exits will differentiate public and private spaces.

Providing a sense of place that is responsive to CPTED (Crime Prevention Through Environmental Design) principles is critical to the design of the project.

Principles adopted are:

- Building form to visually link and create interaction, providing for informal surveillance of adjacent public areas.
 - Integrated specialist lighting design that provides well illuminated spaces that create ambience while eliminating uncontrolled shadow areas.
 - Selection of robust and textured materials to prevent anti-social behaviour, vandalism and graffiti.
 - Areas designated for passive recreational uses to incorporate safe and accessible activities for all age groups.
 - Universal accessible design.
- Vandal proof and passive security measures, robust in materials to prevent vandalism and graffiti.

7.0 RESOURCE EFFICIENCY & SUSTAINABILITY

Hillam Architects have an excellent track record in providing sustainable apartment buildings in Perth.

A highly successful example of this is Verde Apartments in East Perth provides various passive and active sustainable systems delivering positive environmental outcomes.

This project offers an excellent opportunity to showcase how a large mixed use building can utilise design features, materials and good quality finishes and selections to achieve a sustainable outcome. By focussing on the solar passive principles and incorporating sustainable features and systems, a strong environmental outcome will be achieved that occupants and surrounding residence will embrace.

It is the intent of the applicant to achieve a 4 Green Star rating to set the benchmark for future developments in the area and, further to the following summary, appendix G contains CADDIS Group's letter of intent and sustainability strategy that outline how these best practices will be implemented.

7.1 ENERGY EFFICIENCY

Some measures that will be implemented as part of the proposed development include but will not be limited to the following:

- Centralised hot water system using heat pump technology.
- The building has been designed to maximise solar access, facilitate cross ventilation and reduce energy consumption.
- All landscaped areas to be designed for low water requirements in compliance with Water Corporation's Water Wise Development Criteria, a minimum of 60% local native flora will be used in any garden areas.
- Natural light and ventilation to common corridors.
- Highly insulated structure including if necessary roof, walls and slabs.
- Sensor controlled lighting to car parking and common corridors.
- Car park ventilation system controlled by CO2 sensors.
- Electrical sub-metering provided for substantial energy uses (eg major plant) to allow for the monitoring and management of significant consumption patterns.
- Electrical sub-metering of major building services to allow for effective management of power usage with a view to using off peak power where possible.
- Maximisation of natural ventilation to ground floor car park and car park ventilation systems minimised through natural ventilation and controlled by CO2 sensors.
- Deep set external facing balconies provide significant shading to glazing to living areas in apartments.
- Provision of water-wise fixtures and fittings that comply with BCA requirements for WELS star ratings.
- Implementation of low energy hot water heating services.

- High level metering strategy
- High performance glazing
- Provision of energy efficient appliances and light fittings to apartment and commercial units.
- A grid-connected solar photovoltaic (PV) system to provide the majority of energy needed for common area lighting, which includes compact fluorescent lamps and automatic movement sensors in common areas to ensure lights are not left on unnecessarily, whilst also providing security.
- Provision of bicycle storage facilities to encourage tenants to use more environmentally friendly transport alternatives and live an active lifestyle.
- Effective shading of glazed areas and increases in glazing specification where deemed necessary.

7.2 PASSIVE SOLAR DESIGN / SOLAR ACCESS & SHADING

The apartment layout minimises west facing apartments and prioritises the north south orientation.

Good solar orientation and appropriate opening sizes and locations have also been considered in determining the apartment layout with an emphasis given to the northern orientation, where the deep set external facing balconies provide significant shading to glazing to living areas in apartments.

7.3 CROSS VENTILATION PRINCIPLES

Bedrooms are supplied with operable windows and the interior living spaces open out to the balconies.

As a fundamental requirement all habitable rooms are provided with direct access to fresh air. The overall design maximises the building perimeter, providing many corner apartments with cross ventilation.

Mechanical ventilation will be incorporated into the bathroom spaces that do not have an external facing wall. A large south facing window will provide internal circulation corridors on upper levels with great views and natural ventilation.

7.0 RESOURCE EFFICIENCY & SUSTAINABILITY

7.4 WATER MANAGEMENT

Each apartment will also be installed with water-wise fixtures and fittings complying with BCA requirements for WELS star ratings along with reduced waste piping runs where possible.

The swimming pool will incorporate measures to diminish evaporation and water use.

Grey water recycling will be employed in the irrigation of communal landscaped areas.

7.5 SOLAR DESIGN

A grid-connected solar photovoltaic (PV) system to provide the majority of energy needed for common area lighting, which includes compact fluorescent lamps and automatic movement sensors in common areas to ensure lights are not left on unnecessarily, whilst also providing security.

It is envisaged there will be a 5 KW photovoltaic solar energy system to provide on-site renewable power for the communal components of the building, together with the light fixtures for these spaces embodying low energy efficiency. .

7.6 VEGETATION & OUTDOOR SPACE

Landscape and the connection with outdoor spaces is a key element of the project.

The inclusion of garden and planter boxes within the communal spaces is seen as a means of articulating and softening these spaces to encourage use and create amenity. It is proposed to have a strong focus on water wise plantings providing seasonal indicators with elements such as flower, foliage and scent being critical to create unique outdoor 'rooms' for the residents. The proposed soft landscaping at ground floor level has been designed as a buffer that enhances and softens the contemporary building form.

The podium terrace offers a modern twist on the urban paradise. The garden is designed to include built in seating with a balance of private spaces for reflection and a large cabana area with BBQ for group meetings. Fragrant and floral planting along with frangipani trees will enhance the rooftop and offer a unique space for the residents to relax.

It is proposed a minimum of 60% local native fauna will be introduced with a specific use of plants indigenous to the immediate area.

The design and incorporation of any irrigation and rainwater management will be in line with the Water Corporations Water Wise Development criteria.

7.7 TRANSPORT

This project offer high levels of parking along with cyclist facilities and scooter bays, well above the minimum requirements as set by the planning policy. The surrounding areas include abundant amenities that enable the occupants to utilise alternative transport methods such as public transport, walking or cycling along with offering a variety of social spaces including cafés, restaurants, parks and shops.

This location achieves a Walk Score of 63 and a Transit Score of 51. This denotes that numerous errands can be accomplished on foot and has good transportation options.

Outlined below are some of the copious facilities located nearby:

- South Perth Ferry Terminal;
- Perth Zoo;
- IGA Shopping centre
- Richardson Park;
- Windsor Park;
- Windsor Hotel;
- Post office; and
- Multiple bus routes.

7.8 MATERIALS

Due to the large volume of built form within this project, a detailed review of the materials, layouts and construction shall be undertaken. All materials, where applicable, shall have environmental certifications and manufacturing quality certification, shall have low VOC and formaldehyde content, shall seek to have recycled or eco preferred content and product stewardship.

By imposing these criteria to the materials of this project will vastly reduce the environmental impact this building has.

- Environmental materials selections
- Reused or recycled content
- Minimal airborne toxins

8.0 PRIVACY

8.1 VISUAL PRIVACY

Appropriate screening will be introduced between apartment balconies to ensure privacy without adversely impacting the architectural façade. Lightweight obscurely glazed 'fins' will be installed that provide visual and acoustic separation without adding bulk to the elevation. The details of the screening will be provided with the Building License application, with schematic planning for the screening indicated on the attached development plans.

8.2 ACOUSTIC SEPARATION

Sound attenuation treatments will be in accordance with National Construction Code Volume One and referenced Australian Standards.

State Planning Policy 5.4 'Road and rail transport noise and freight considerations in land use planning' will be adhered to prior to building license.

9.0 SITE FACILITIES

9.1 STORAGE FOR DWELLINGS

All dwellings are provided with lockable storage rooms. These spaces are located on a designated storage and services level along with parking levels throughout the development. Each apartment is provided with a functional, lockable and accessible storage satisfying the minimum 4m² requirement.

Refer also to Appendix C and the Waste Management Plan prepared by the Consultant Tals Consultants attached.

Traffic management strategies have been developed following an assessment of the impacts associated with parking and traffic generation resulting from the proposed development.

9.2 STORM WATER

Storm water will be designed to meet Australian Standards, NCC and The City of South Perth requirements.

The assessment followed the recommended outline contained in the West Australian Planning Commission draft guideline "Transport Statement Guidelines for Developments". Traffic flow from the site was estimated by applying generation rates recommended by the New South Wales Roads and Traffic Authority publication "Guide to Traffic Generating Developments" and the Institute of Transportation Engineers, "Trip Generation".

Car parking is proposed to be located on the basement, ground, first and second floor levels with at grade access proposed off Mill Point Road. Based on Schedule 9 of the City's Town Planning Scheme the car parking provisions for the proposed development are in excess of the requirements.

9.3 BUILDING SERVICES

Air Conditioning and Plant

All services are positioned to ensure they provide no adverse visual impact on the overall aesthetic of the development and streetscape. On this basis air-conditioning units have been located on a services level set back within screening elements to ensure they are unobtrusive from adjacent residential developments and the public view. The screening has been intentionally articulated as a continuation of the façade pattern from the commercial tenancies below to become integrated within the overall development.

Vehicle access at the south western corner of the site has been widened to 6m to ensure adequate space for the waste collection vehicle can park without causing conflict with vehicles entering or exiting the site. Given the low frequency of movements by rubbish collection vehicles together with the low speed and number of movements to and from the site will result in a low likelihood of conflict.

Refer also to Appendix D and the Traffic Management Plan prepared by Shawmac attached.

Remaining condenser units are located on a screened services deck that have been incorporated into the design of the southern elevation.

Waste Collection

Waste minimisation strategies have been developed including the provision of a large bin store located off the southern access way. The residential bin store is located at ground level that is concealed with a bin layout area that is contained within the property. Typically the transporting of bins from the bin store to the verge layout area will be addressed by the Body Corporate in accordance with the Private Waste Contractor pick-up schedule.

It is proposed the Commercial Tenancies will store waste within the individual tenancy and arrange for a private contractor collection.

9.0 SITE FACILITIES

9.3 BUILDING SERVICES (CONT'D)



Diagram 9.1 Proposed waste truck parking for bin collection.

9.4 LETTERBOXES

Letter boxes are conveniently provided at the residential lobby entrance off Mill Point Road.

APPENDIX

- A. Architectural Drawings
- B. Perspectives
- C. Waste Management Report
- D. Traffic Management Report
- E. Land Title

A. ARCHITECTURAL DRAWINGS

B. PERSPECTIVES



Exterior view looking south.



View of lobby.



Exterior view looking north.



Balcony view looking north.



View of cafe.



View of pool deck

C. WASTE MANAGEMENT REPORT

D. TRAFFIC MANAGEMENT REPORT

E. LAND TITLES



1/15 Roydhouse St,
Subiaco WA 6008
08 638 1877
tom@hillam.com.au

hillam.com.au

26 August 2016

**Mr Erik Dybdahl- Development Services,
City of South Perth,
Civic Centre,
Cnr Sandgate Street & South Terrace,
South Perth WA 6151**

Dear Erik,

RE: Lots 2-20 (No.74) Mill Point Road, South Perth

Following State Administrative Tribunal (SAT) orders made at mediation on 18 August 2016, we have revised plans for the aforementioned development application. In addition to the City of South Perth's further assessment, enclosed drawings and supporting documentation will also be filed with the SAT. This is a revised development application of the formerly proposed mixed use development within a 44 storey building that was refused approval by JDAP on 13 July 2016.

We understand that in asking JDAP to reconsider the application, proposed amendments to the design will need to be readvertised by the City in order to ensure that the development application, as amended, has complied with the statutory advertising requirements.

Summary of Revisions:

1. Building Height & Plot Ratio

In response to discussions at mediation, we have lowered the building height by approximately 25 meters to 34 storeys including a penthouse mezzanine. With a relative roof level of 118.350 AHD, the building has become significantly lower than the previously approved development Civic Heart at the corner of Mill Point Road and Labouchere Road. The proposed building height is now lower than two previously approved developments with the City's Special Control Area SCA1 and therefore fits firmly within its context.

Reducing building height has resulted in a decreased plot ratio of over 1000m². The applicant has been mindful of the non-residential plot ratio requirement of Schedule 9, Town Planning Scheme No.6 and has ensured that this predominates over the residential component. Both residential and serviced apartment numbers have been reduced from the previous application.

2. Building Form and Setbacks

The applicant has made some relatively minor modifications to the lower tower to distinguish between the serviced and residential apartments. This has resulted in a stepped form that pushes out to the north of the site and has been broken at the residential amenities on level 15. While minor in nature, the step at lower levels is a significant improvement by creating a more dynamic façade increased garden space and allows for a shorter tower. Deeper balconies have also been proposed to the southern elevation that provides

distribution	Erik Dybdahl	City of South Perth
	David Hillam	Edge Visionary Living
	Gavin Hawkins	Edge Visionary Living

more consistency to the architectural treatment of the tower. The applicant has been respectful of the required building setbacks and ensured that there are no substantial encroachments from the previous application.

3. Non-residential Plot-Ratio.

Re-configured serviced apartments from level 1-14 make up the majority of required non-residential plot ratio area within the proposed development. The applicant firmly believes that this proposed non-residential land use does contribute to the consolidation of the precinct as an employment destination and an updated economic impact assessment will be included with this application. Notwithstanding these views, additional plans have been enclosed for the City's consideration that include commercial offices within the podium levels 1 & 2 as an alternative option. The applicant is willing to provide commercial offices in lieu of the serviced apartments on these levels if the City deems it compulsory to meet the requirements of guidance statement 3(a) of Table A Schedule 9-TPS6.

We are conscious of ensuring that the proposed development meets the requirements of all key stakeholders at the City of South Perth. We trust that the above meets with this objective, and provides you with the additional detailed information you are seeking. Should you require any further information we are of course ready to assist.

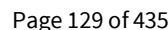
We look forward to working with you to bring this high quality and exciting project to realisation for both Edge Visionary Living and the City of South Perth.

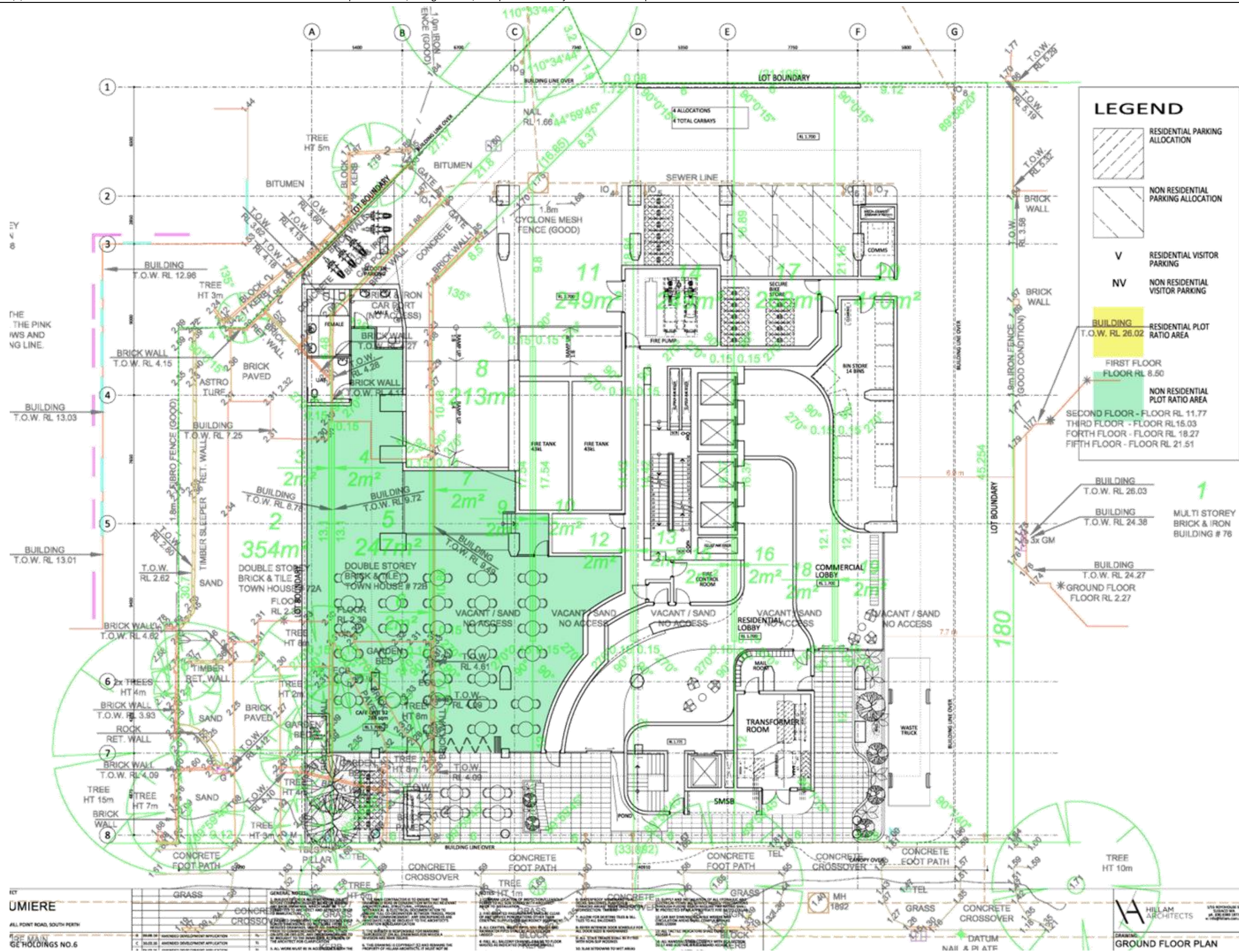
Yours Sincerely,

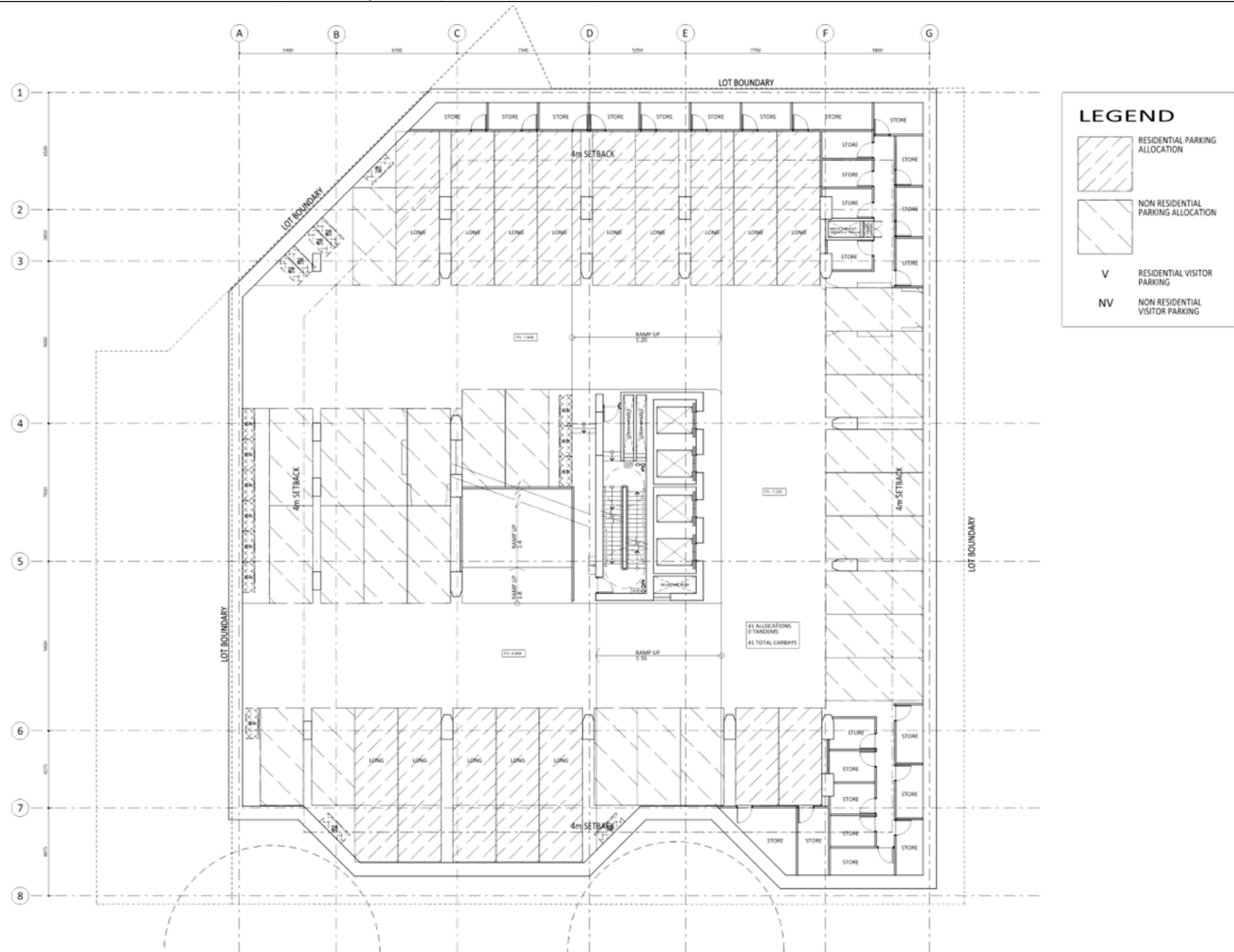


Tom Letherbarrow
Hillam Architects

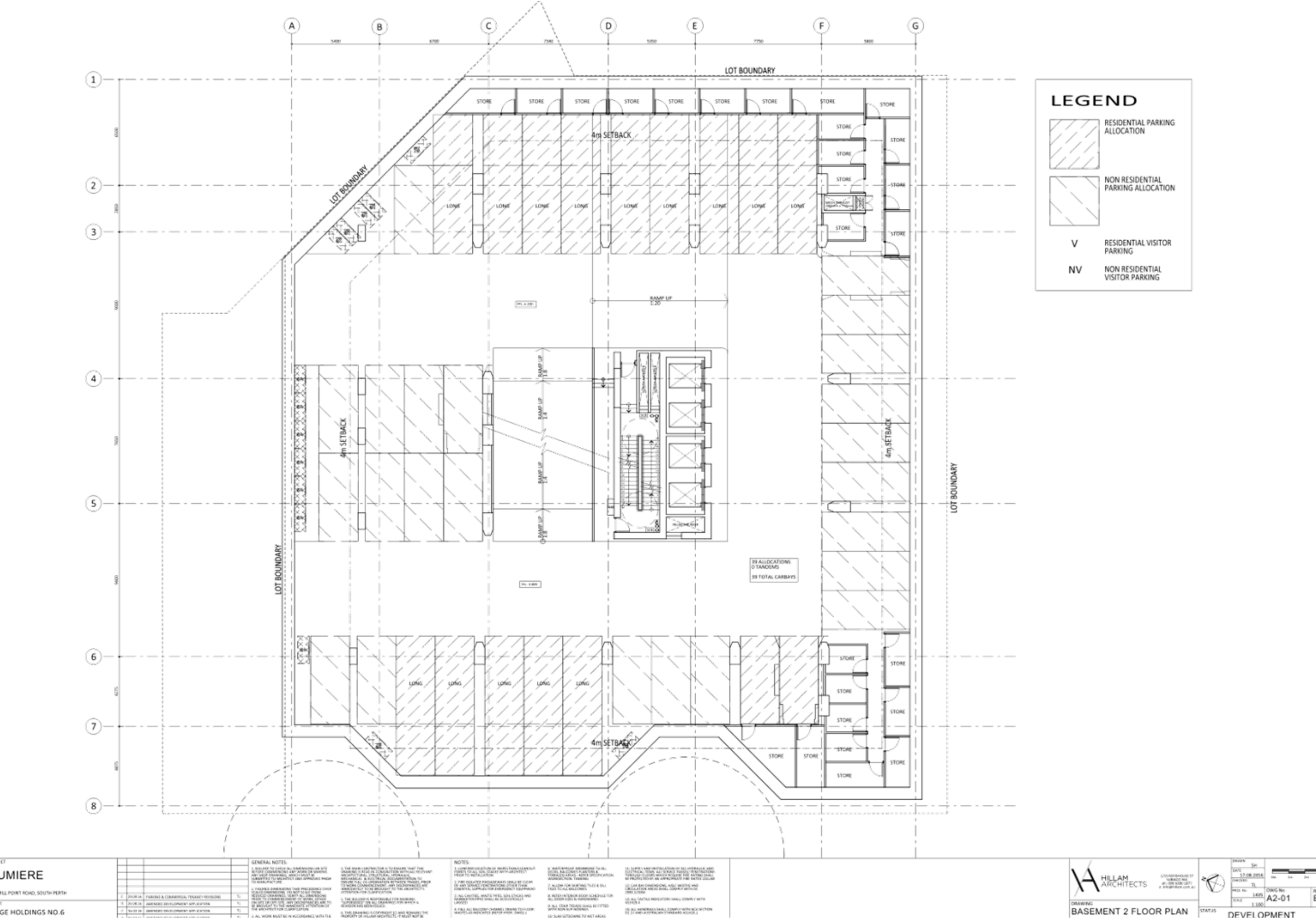
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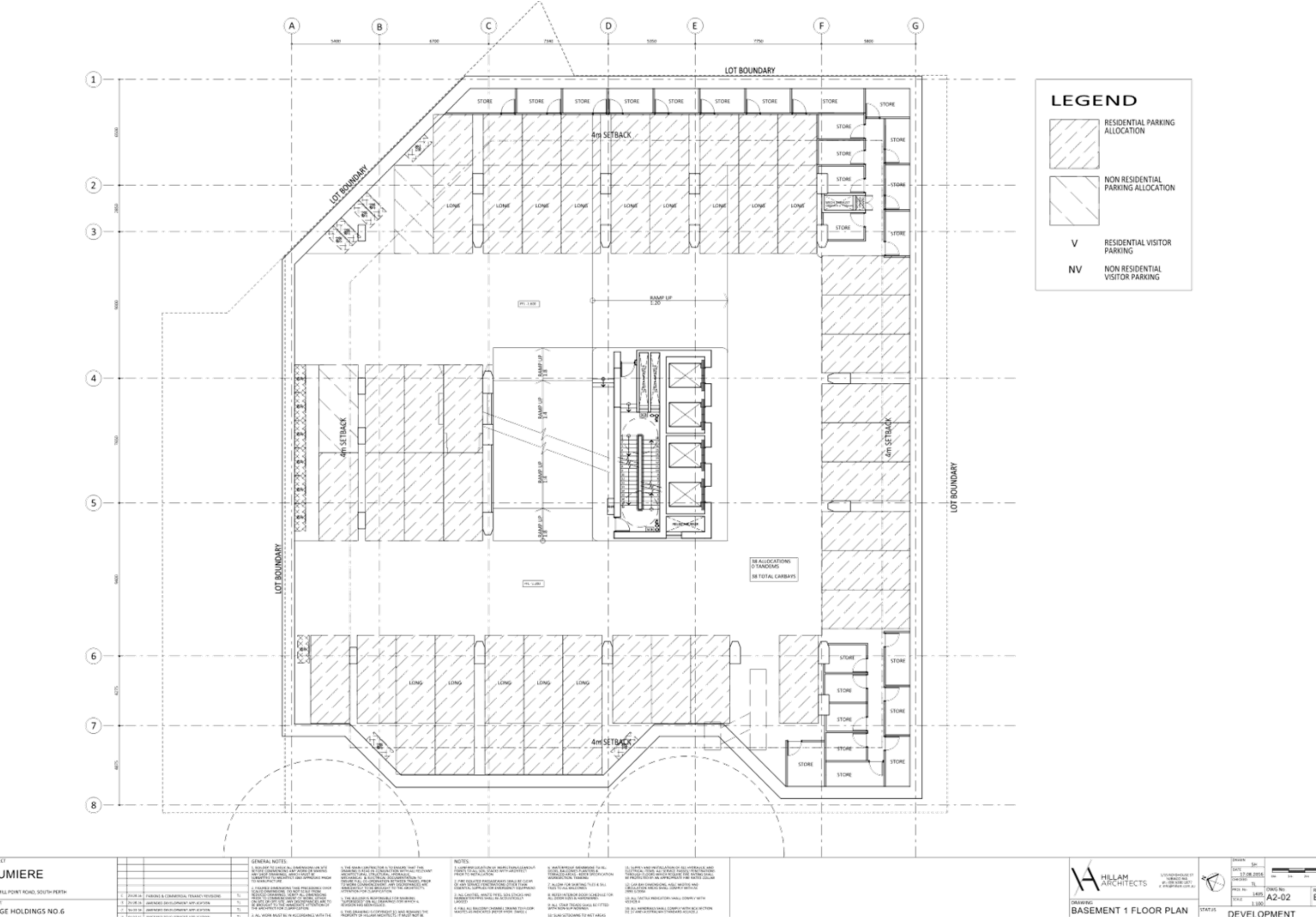




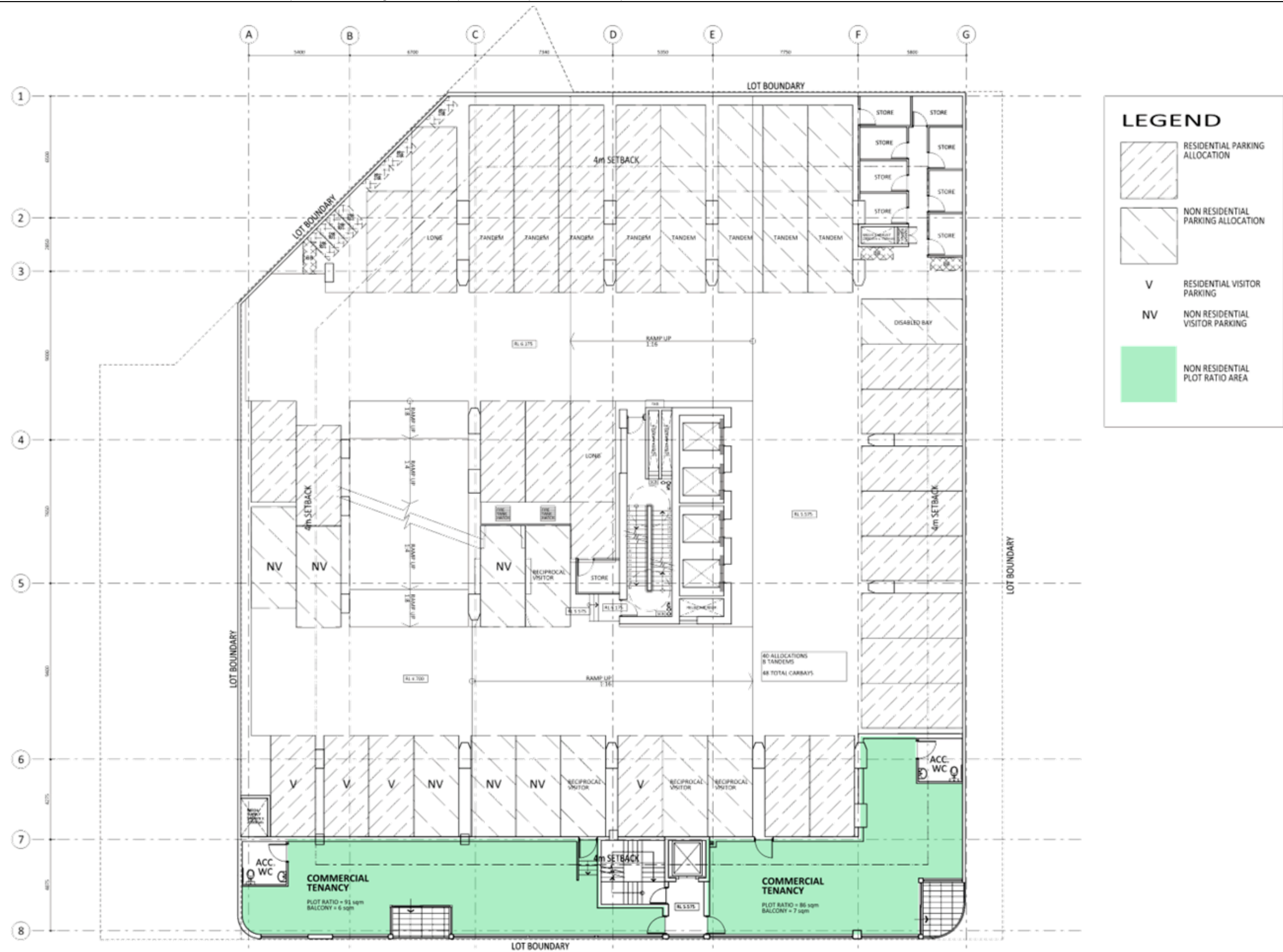


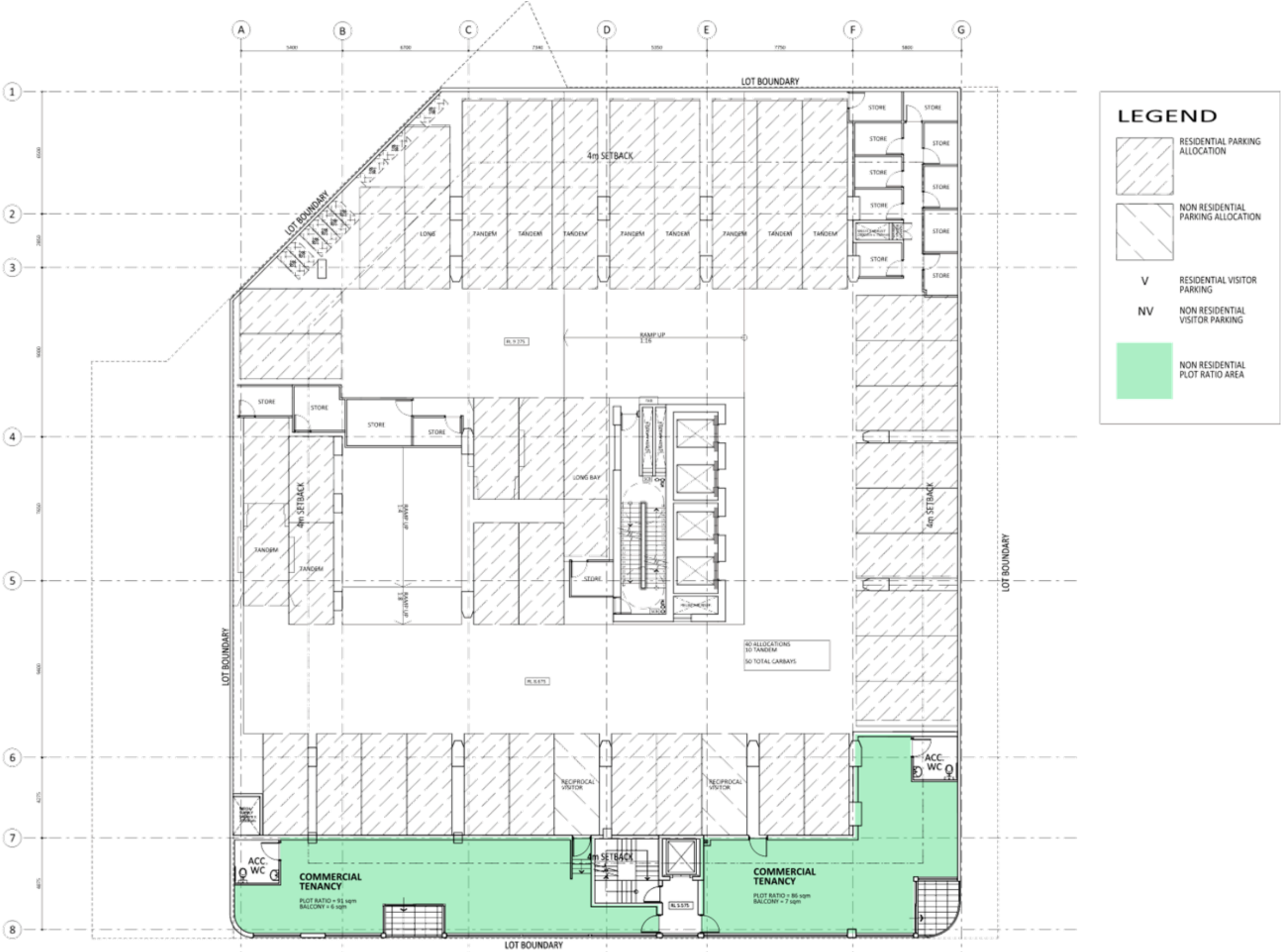
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2. THE ARCHITECT IS NOT RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURE OR FOR THE DESIGN OF ANY MECHANICAL, ELECTRICAL, PLUMBING, OR OTHER SPECIALTY SYSTEMS, NOR FOR THE DESIGN OF ANY LANDSCAPE OR OTHER SITEWORK.	
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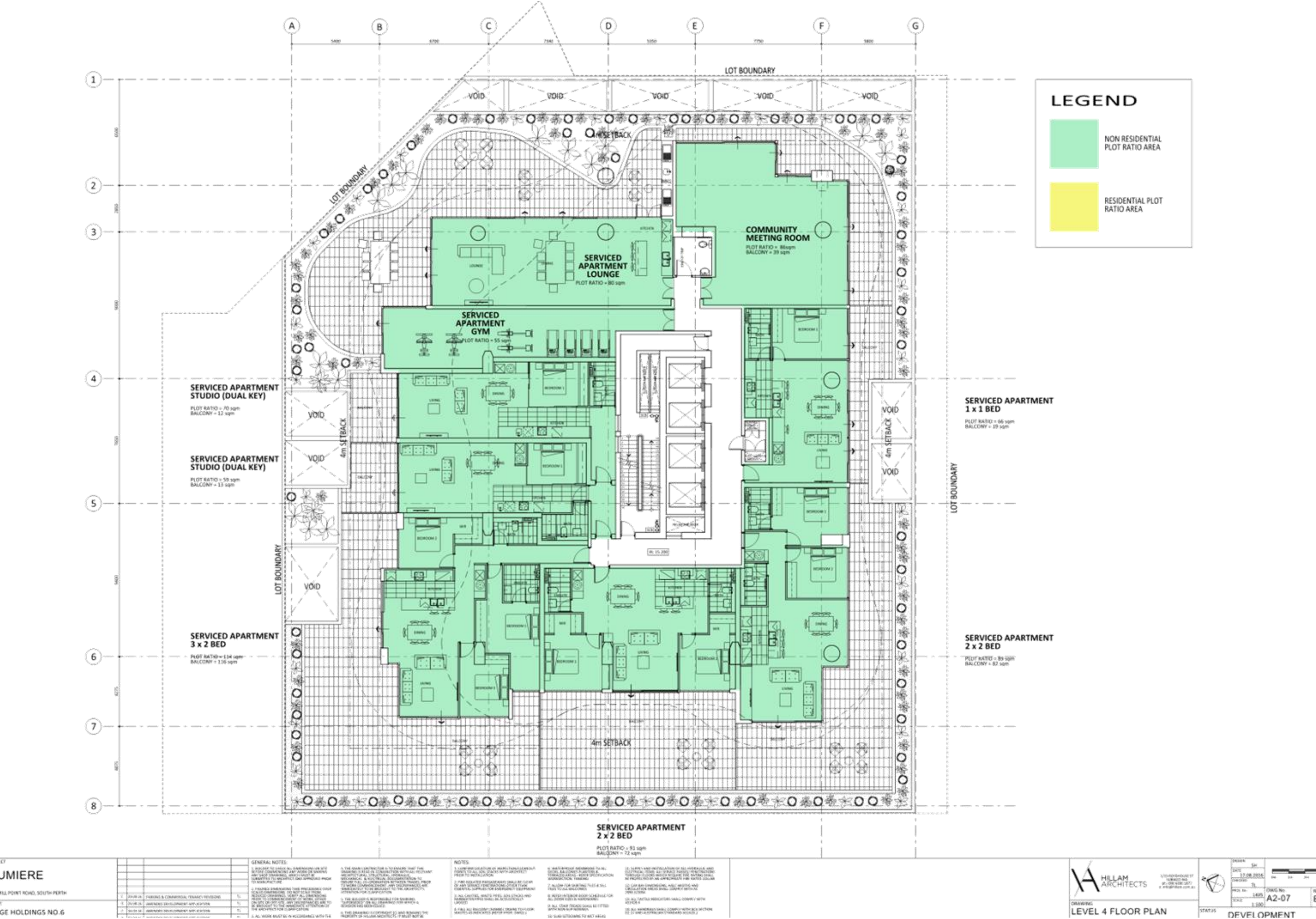
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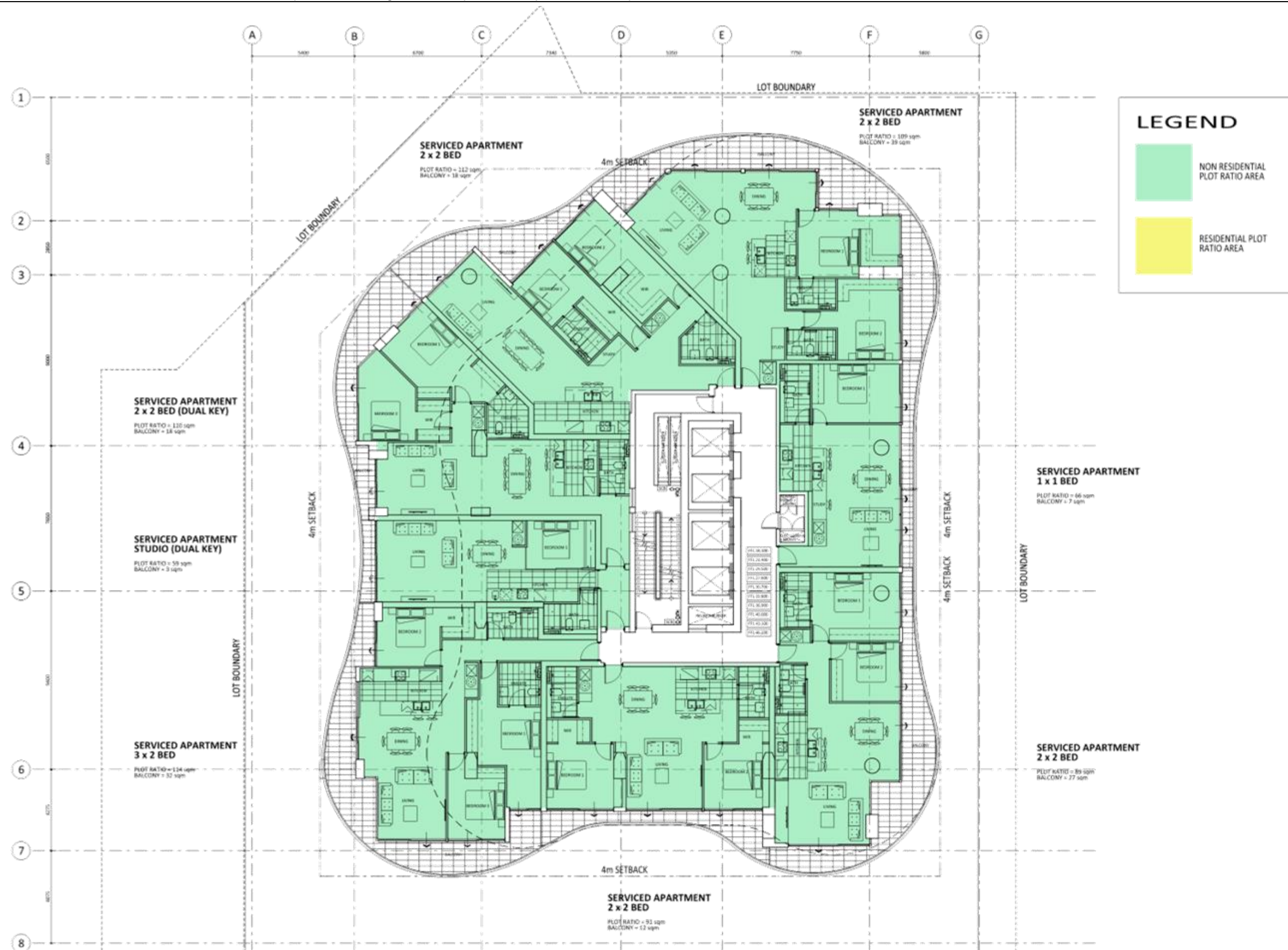
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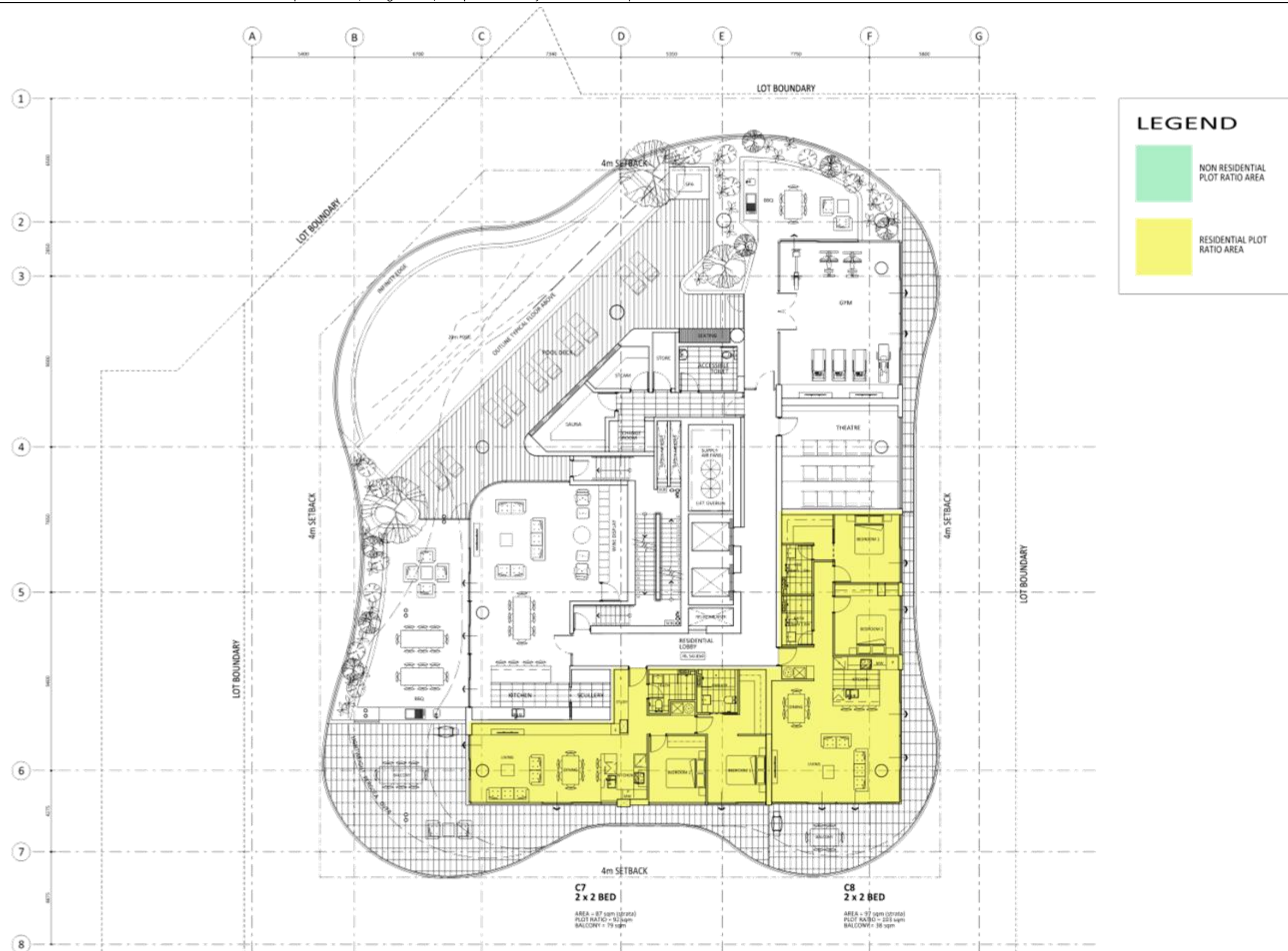
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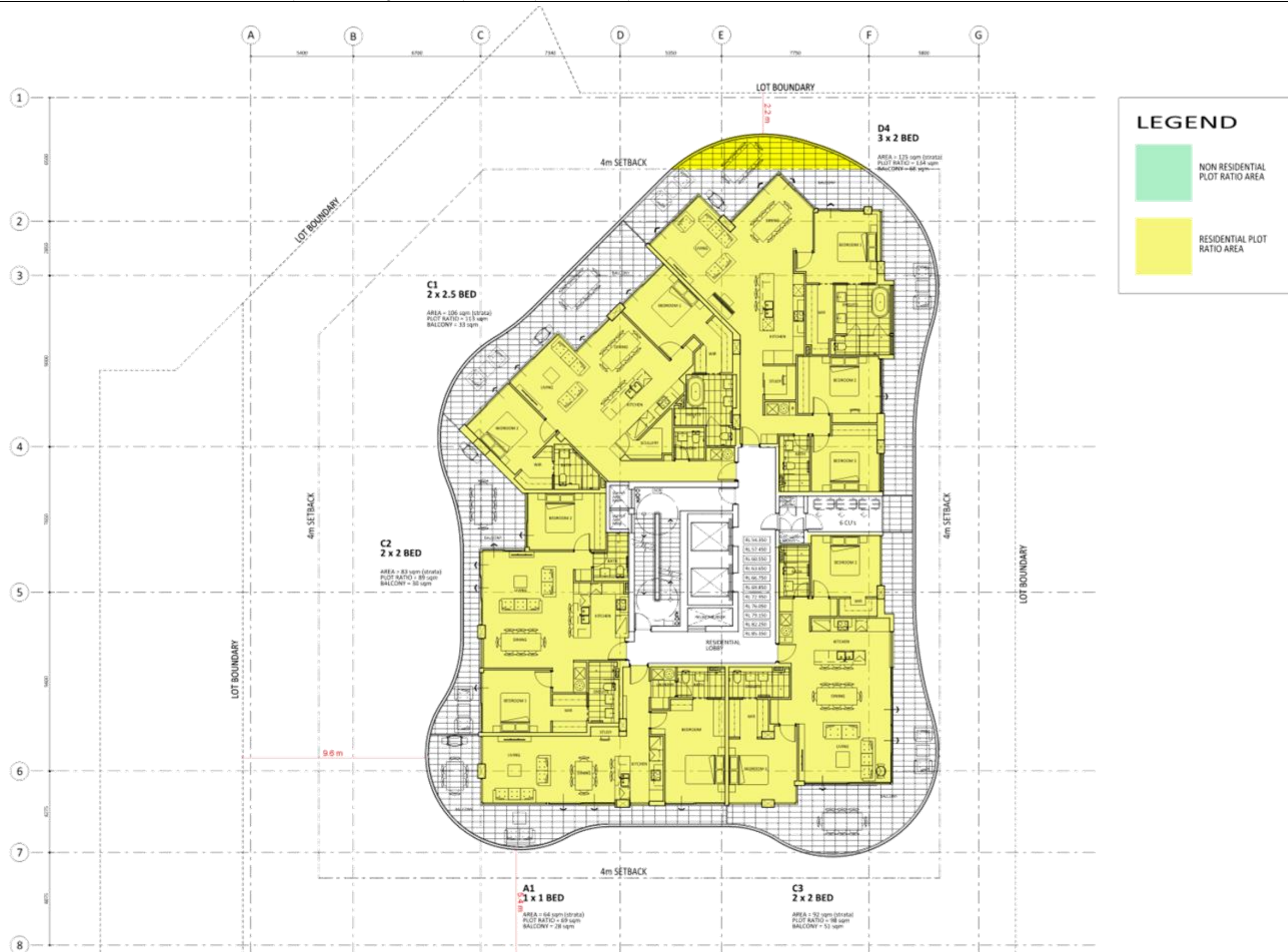


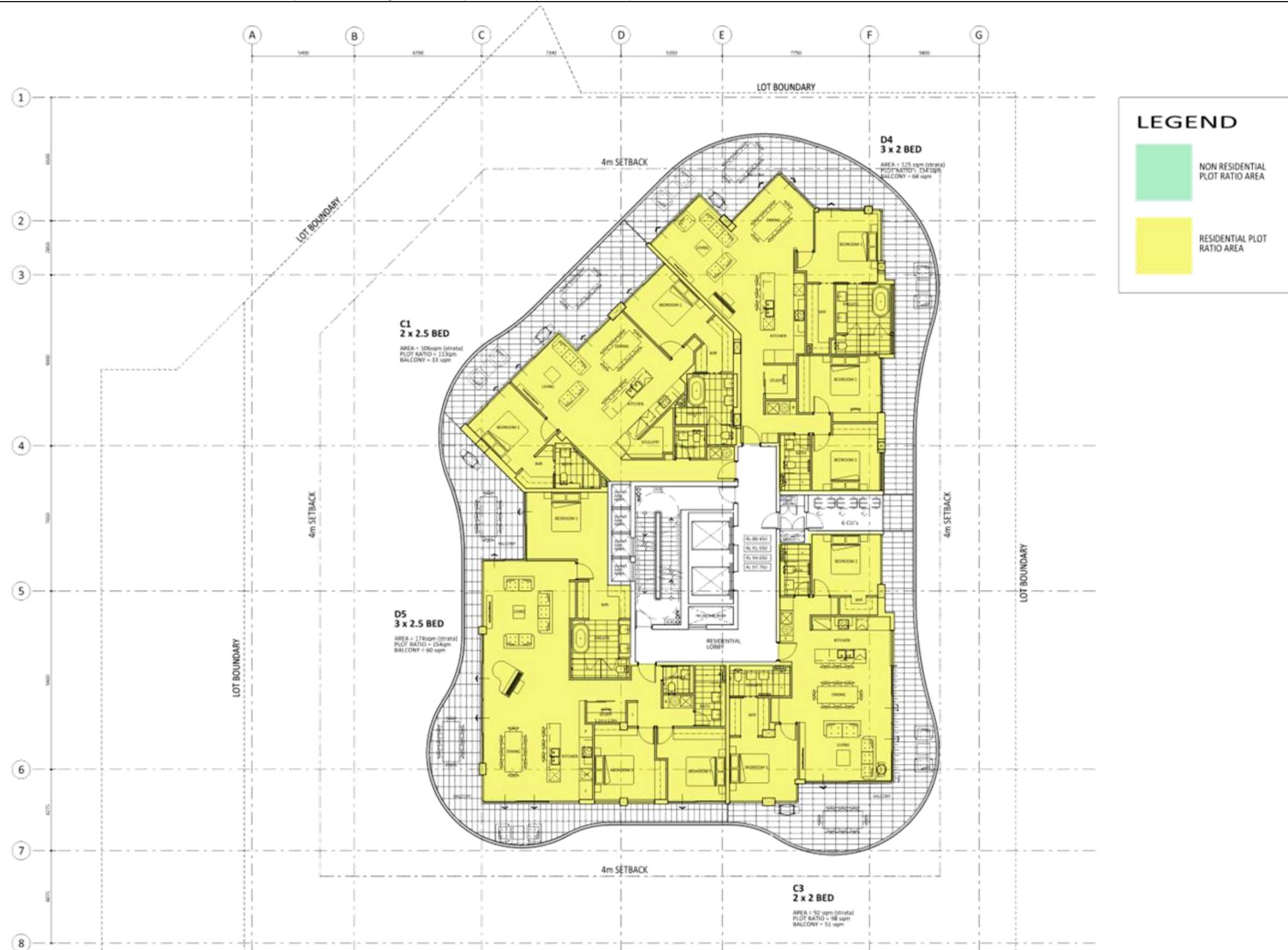


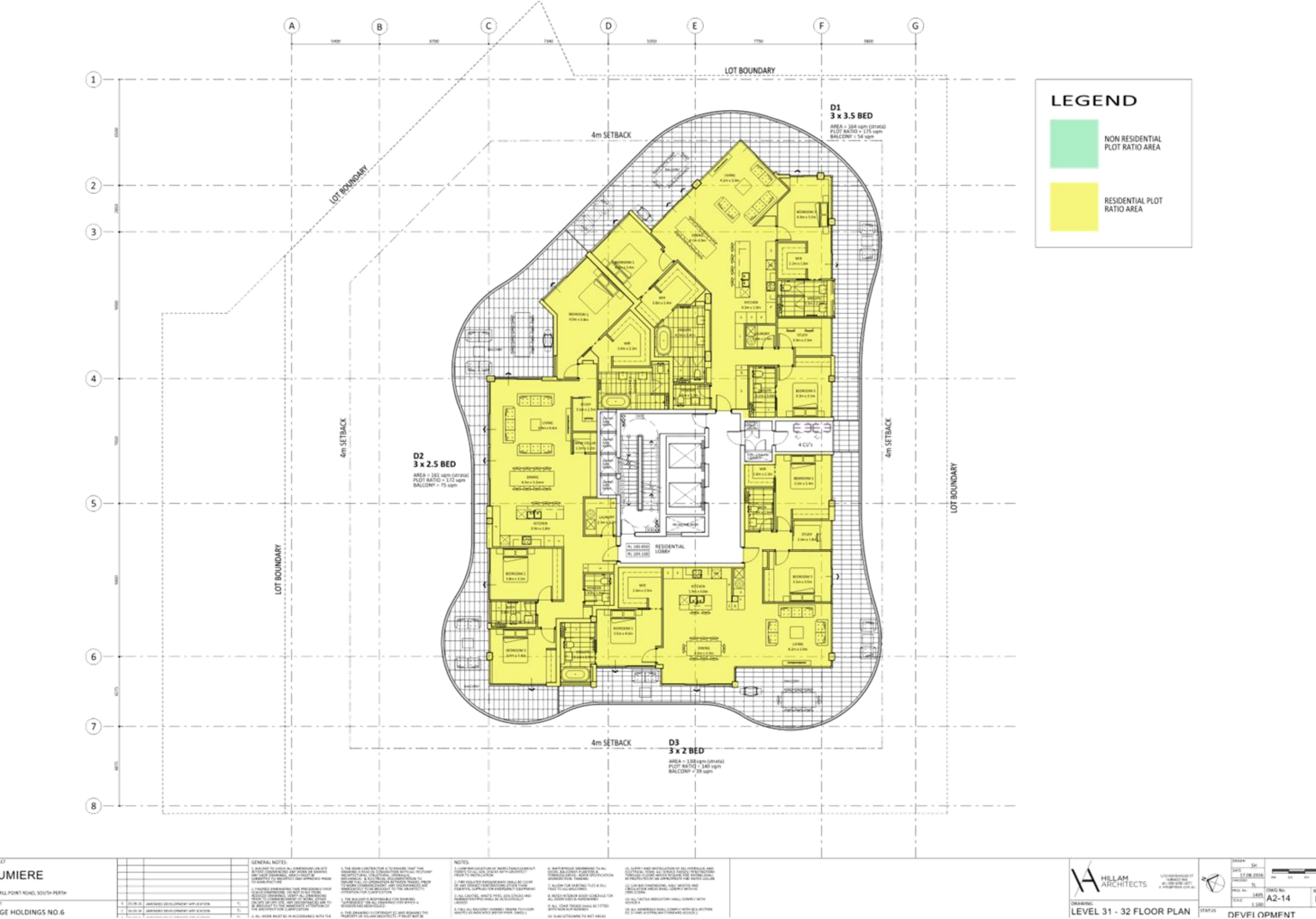
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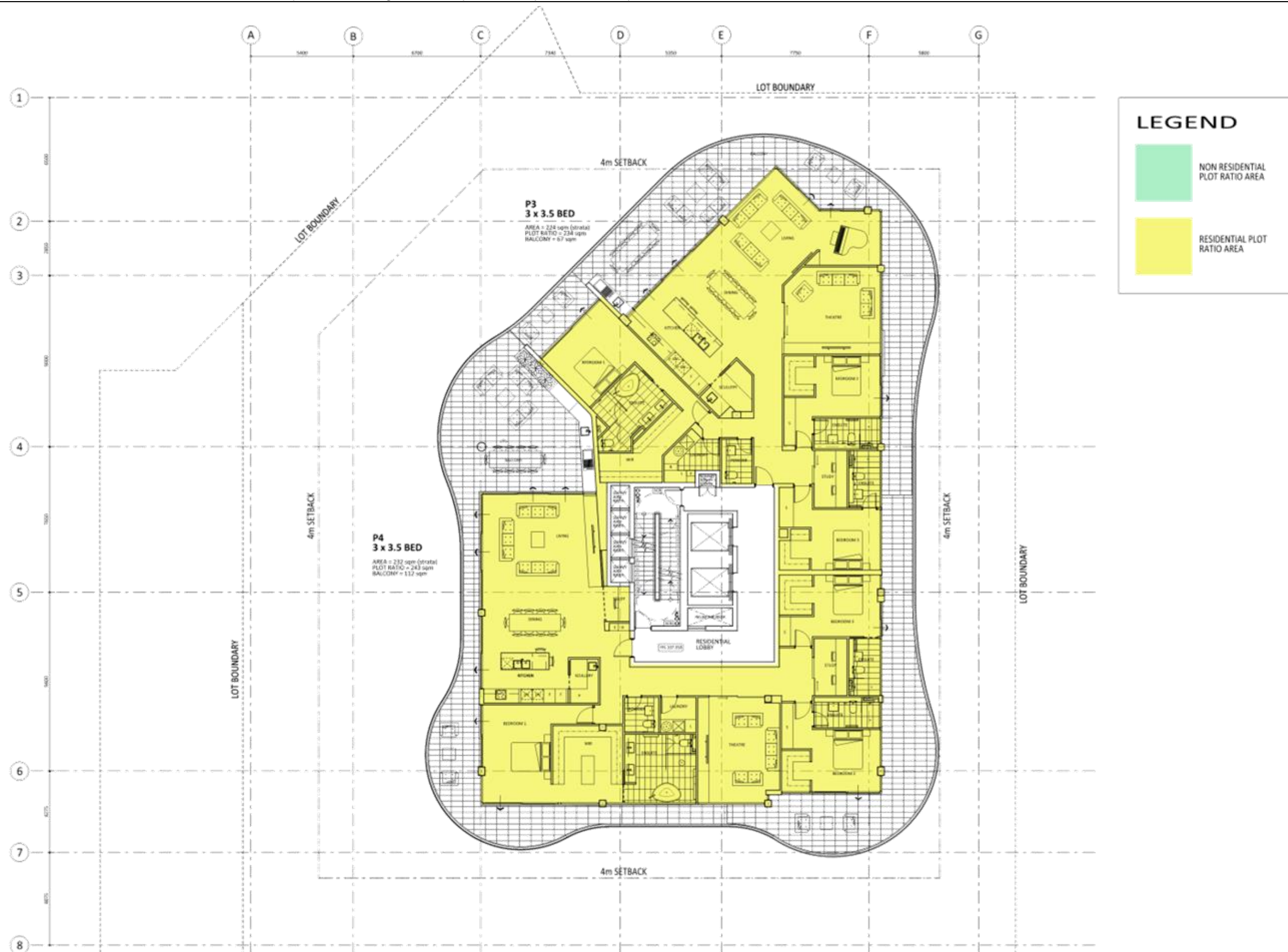


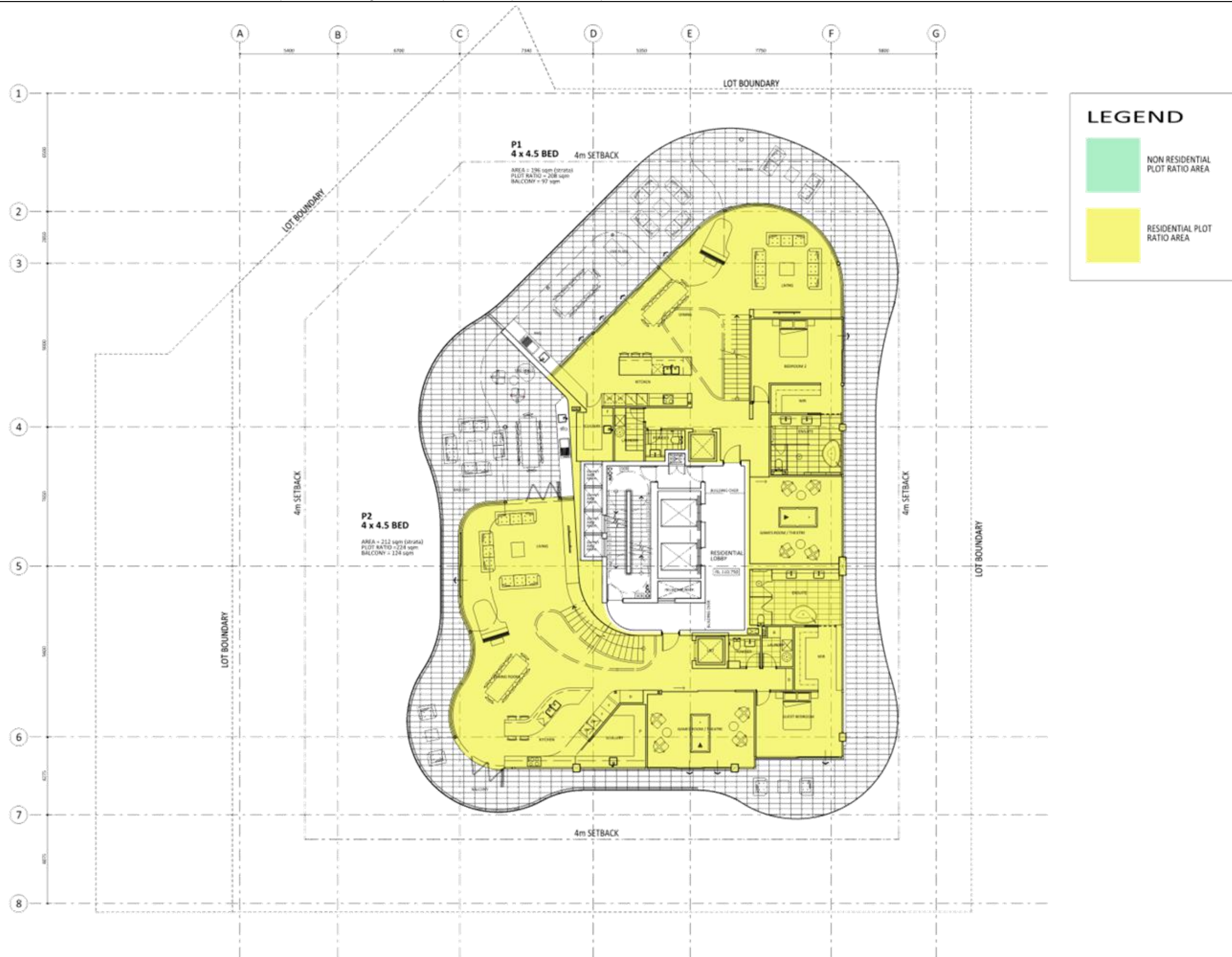
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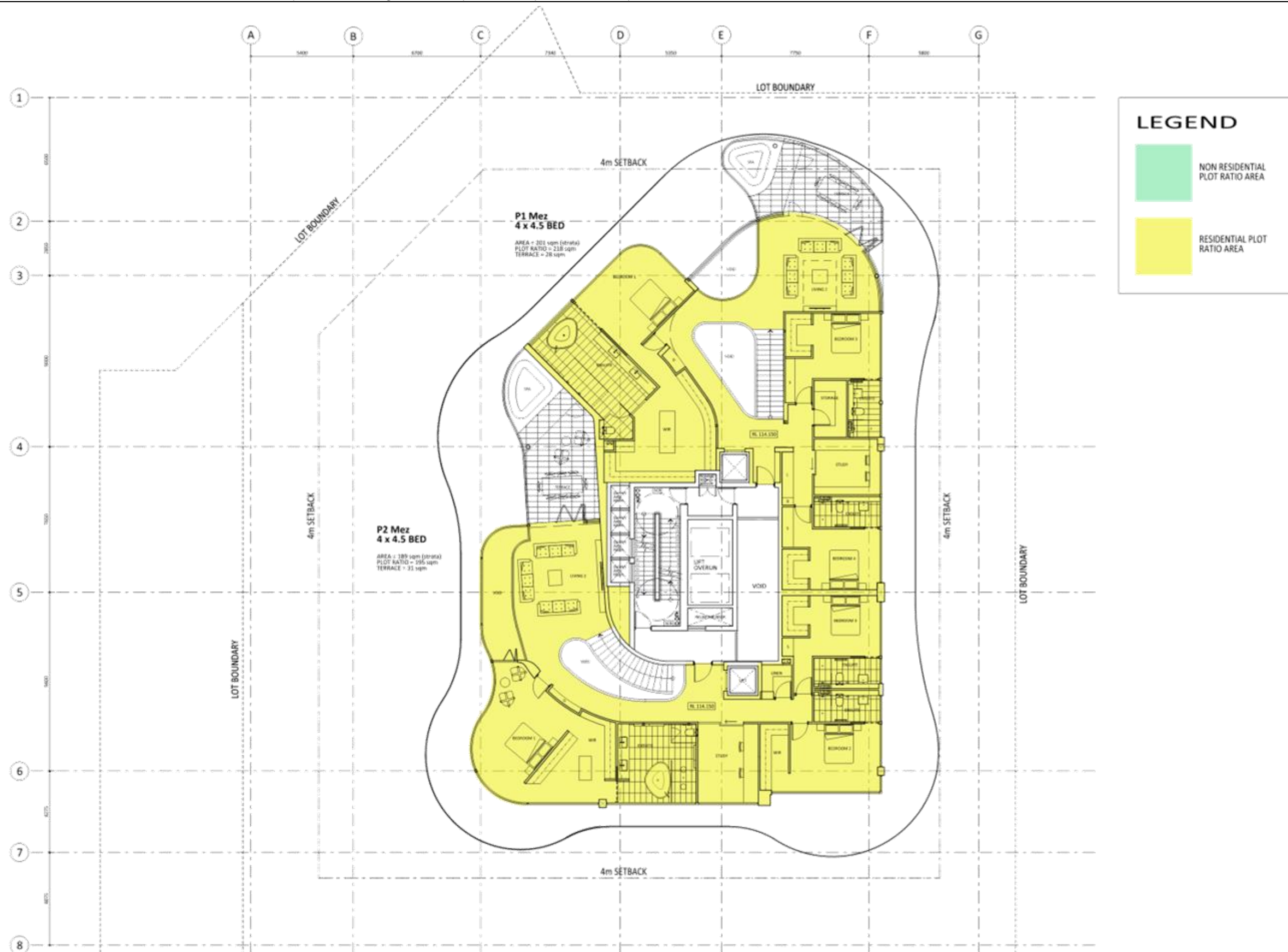
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GENERAL NOTES

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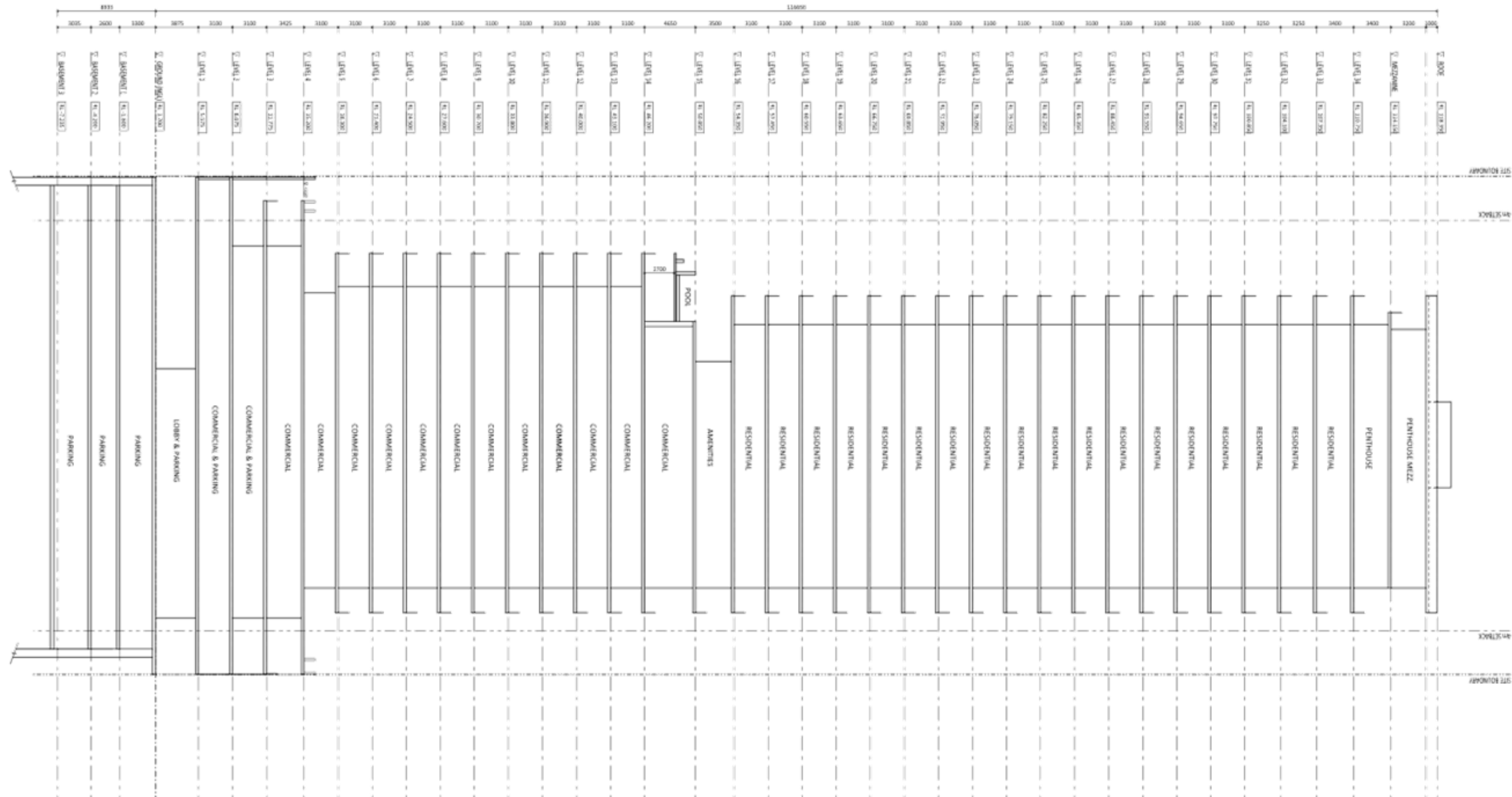
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MEZZANINE FLOOR PLAN

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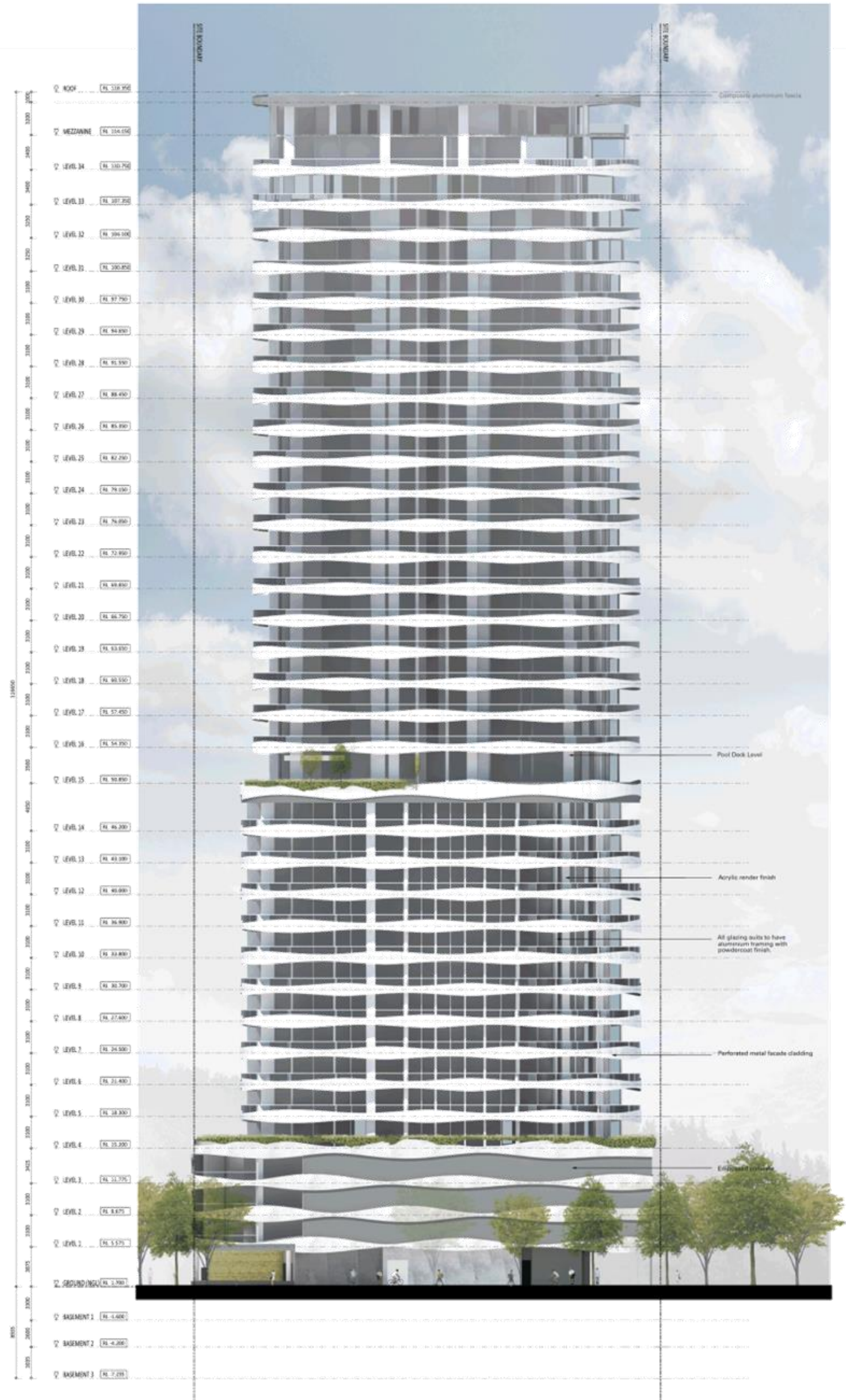
MEZZANINE FLOOR PLAN

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74 Mill Point Road - Amended Development Application - August 2016						34 Storey Scheme_29.09.16
Apartment Type	Required No. of Bays per Apartment / Area	Number of Apartments	Required Carbays	Carbay Allocations	Tandems	Total Carbays Including Tandem
1 Bed / 1 Bath	0.75	11	8	11		11
2 Bed / 2 Bath	1	43	43	58	10	68
3 Bed / 2 Bath	1	25	25	50		50
Subs & Pents	1	4	4	8	4	12
Residential Apartments		83				
Serviced Apartments	0.5 carbays per serviced apt	100	50	50		50
Non Residential Land Use - Not Serviced Apartments	1 per 50sqm	738 sqm	15	11	4	15
Residential Visitors	1 per 6 dwellings		14	8 (+ 6 Reciprocal)		8 (+ 6 Reciprocal)
Serviced Apt Visitors	0.1 per number of bays required		5	5		5
Commercial Visitors	0.1 per number of bays required		1	1		1
Total			165	202	18	220



74 Mill Point Road - Amended Development Application											34 Storey 29.09.2016	
	Carbay Allocations	Tandem bays	Total Carbays	Stores	Non- Residential Plot Ratio Area	Resi - plot ratio area	1x1 bed 3	2x2 bed 8	3x2 bed 7	4x2 bed 2	Serviced Apartments	Residential Apartments
Basement 3	41	0	41	26								
Basement 2	39	0	39	26								
Basement 1	38	0	38	24								
Ground	4	0	4		223							
Level 1	40	8	48	10	177							
Level 2	40	10	50	16	177							
Level 3					1251		8	5	1		14	
Level 4					712		2	3	1		6	
Level 5					750		2	5	1		8	
Level 6					750		2	5	1		8	
Level 7					750		2	5	1		8	
Level 8					750		2	5	1		8	
Level 9					750		2	5	1		8	
Level 10					750		2	5	1		8	
Level 11					750		2	5	1		8	
Level 12					750		2	5	1		8	
Level 13					750		2	5	1		8	
Level 14					750		2	5	1		8	
Level 15 - Pool Level						195	0	2	0	0		2
Level 16						502	1	3	1	0		5
Level 17						502	1	3	1	0		5
Level 18						502	1	3	1	0		5
Level 19						502	1	3	1	0		5
Level 20						502	1	3	1	0		5
Level 21						502	1	3	1	0		5
Level 22						502	1	3	1	0		5
Level 23						502	1	3	1	0		5
Level 24						502	1	3	1	0		5
Level 25						502	1	3	1	0		5
Level 26						502	1	3	1	0		5
Level 27						498	0	2	2	0		4
Level 28						498	0	2	2	0		4
Level 29						498	0	2	2	0		4
Level 30						498	0	2	2	0		4
Level 31						485	0	0	3	0		3
Level 32						485	0	0	3	0		3
Level 33 - Sub-Pent						478	0	0	0	2		2
Level 34 - Pent						434	0	0	0	2		2
Level - Mezz						417						
Roof												
Sub Total	202	18	220	102	10040	10008	11	43	25	4	100	83
Total Percentage (%)							13%	52%	30%	5%		
Plot ratio					5.57	5.55						
Site area					1804							

Summary of Submissions: Amended Proposal

Proposed 34 Storey Mixed Use Development Plus 3 Basements and Mezzanine

Lots 2-20 (No. 74) Mill Point Road, South Perth

The City received a revised proposal for development at 74 Mill Point Road, South Perth on the 29th of August 2016. The primary changes involved reducing the number of storeys (and overall building height) from 44 to 34 and reducing both the non-residential and residential plot ratios respectively while the overall design of the building remained consistent with the previous proposal. All changes including all associated documentation and plans were made available via the City's *Your Say* website to the general public and those directly consulted via letter; the consultation period extended from the 1st of September until the 27th of September 2016. A total of **123** submissions were received over the consultation period and have been summarised and categorised below:

Please note: the applicant has provided written response to the summarised submissions as seen in blue following each submission category/topic. Detailed City Officer response to all categories/topics of submission is found throughout the associated Responsible Authority Report of which this document forms an attachment for referral.

Traffic:

- Main Roads WA has stated that the road network in this area will not cope with a massive influx of people and cars. They have also expressed concern about the inability to alter the road network and traffic banking up onto the freeway.
- Increasing the population living in towers in a small area puts pressure on infrastructure, notably the road system in terms of traffic congestion because of increased vehicle use which is influenced by available parking spaces and their cost, and the convenience of using public transport to get where people want to go, from somewhere to elsewhere.
- The proposed development alone, but particularly with further development in accord with such a precedent, will likely generate excessive vehicle parking and movements and a highly deteriorated amenity vis a vis, safety (especially in terms of vehicle-pedestrian footpath crossing conflicts) and noise, etc.
- There is conflicting data and interpretation in relation to traffic congestion in the South Perth Station Precinct. "Any decision on traffic and congestion management should be based on a clear understanding of the situation".
- Any reasonable person can envisage that 1000+ additional car trips every day on this small network will create chaos and the combined effect of additional traffic from the nearby approved & proposed towers shows a total lack of regard for existing ratepayers and visitors.
- How can the developer who generously provides car parking spaces, still claim it to be a Transit Oriented Development (TOD). This is car centric building is counter to the expectations of TPS6 and will further damage any case for a train station.
- The Left-in/Left-out requirement of 86-90 Mill Point Rd and the subsequent roundabout at Scott St/Mill Point Rd will have significant impact on this proposal. Directing more than 500 extra vehicles down into the peninsula will effectively doubling that traffic contribution outside 74 Mill Point Rd.
- Already the roads and parking cannot cope with the existing traffic – particularly at peak times. We are in the process of getting updated facts from Council but initial rough estimates

are an additional 2000 apartments and 4000 parking bays would be generated from currently proposed and approved development – developments like this simply exacerbate traffic problems for all.

- My impression is that reports commissioned by developers attempt to downplay the adverse effects on the local traffic network that will occur when the cumulative car parking spaces in a number of tower developments become occupied.
- Old surveys need updating because of societal changes such as car ownership higher, work patterns (longer hours, non-centre locations, fbt policies); retail patterns (longer hours, weekends, bigger outlets); greater affluence; congestion and environmental issues.
- The use of lanes and right-of-way's to the east of the site is an unacceptable impost on existing neighbours.
- The traffic study shows an unacceptable current status, let alone the impact of 1000+ additional car trips every day from this one car centric residential tower. The latest traffic model shows an unacceptable future if this building is allowed.
- The construction of buildings in Charles & Harper Tce has caused the closure of those streets for the last year. The construction plans attached now clearly show that the impact on the surrounding neighbourhood and the street is unacceptable. It is irresponsible to consider closing even half the road for ~2 years.
- There is still no allowance for attending vehicles – deliveries, removalists, buses, service vehicles, taxis etc. Their attendance at this address could only cause further traffic disruption.
- The parking requirements and layby areas have been grossly underestimated. Any building claiming to have Serviced Apartments will have tourist vehicles – the developer can make any claim at this stage, but who will enforce their statements?
- The parking requirements for tourist buses, delivery vehicles, furniture removal vehicles, waste removal, even taxis has been totally ignored and is unacceptable; with 1000 vehicles wanting to exit and enter every day.
- There is inadequate provision for ACROD parking.
- Any traffic modelling must now also include other proposals/approvals such as 64 Mill Point Road, 86-90 Mill Point Road, 76-78 Mill Point Road, extra traffic expected as a result of developments to the Old Mill area (including restaurant), and all developments in Harper terrace.
- The Development Application will create a significant amount of two-way traffic within the Carriageway Easement and the Private Right of Way.
- The widths of the Carriageway Easement and the Private Right of Way are not sufficient for approaching vehicles to pass.
- In situations where vehicles entering the Private Right of Way from Frasers Lane are destined for the proposed Development, then any vehicle emanating from the proposed Development that is travelling within the Carriageway Easement or the Private Right of Way towards Frasers Lane, must give way, by traveling in a reverse direction back to the proposed Development to enable the two vehicles to safely pass. There is no location within the Carriageway Easement or the Private Right of Way where two vehicles can safely pass.
- The proposed Development comprises of one of the largest buildings in the Southern Region of the Metropolitan Area, yet despite its size the architect is proposing that the building have:
 - a) No dedicated Set-Down Area for vehicles.
 - b) No dedicated Turn-around Area for vehicles.
 - c) No dedicated Standing (Waiting) Area for vehicles.
 - d) No dedicated Reception Area for the Serviced Apartments.....the largest Serviced Apartment development in the Southern Metropolitan Area.

- e) A sub-standard proposal for the storage and collection of rubbish.
- f) No real consideration of the substantial increase in local traffic created by the Development.

Applicant Comment:

The applicant and their respective traffic consultants has satisfied the vehicle management requirements of Schedule 9, TPS No. 6. It should be noted that there are less car bays proposed with the current development application than the previously approved scheme (Nov 2015) on the same site.

The applicant acknowledges that there is an ongoing precinct wide traffic issue, however refutes many of the submissions that suggest this proposed development is a major contributor. The relative traffic impact caused by the proposed development at 74 Mill Point Road is considered to be minor in comparison to general background flow increases. The applicant strongly contests any submission that suggests preventing an individual development for the sake of a precinct wide traffic issue.

The applicant, along with their respective traffic consultants has met with the City's officers and traffic engineers on multiple occasions throughout the application process. The City's micro simulation modelling was incorporated into the Traffic Impact Assessment that accompanies this application. Utilising the City's modellings, careful attention was given to the cumulative impact of traffic caused by planned developments and increased background flows. It was agreed with City officers that a 25% discounted trip generation rate was reasonable considering the TOD qualities of the site. Modelling by the applicant's traffic consultant has shown that the proposed development will only contribute 1.3 vehicles to the queue length along Mill Point Road during the afternoon peak hour, reaffirming that the development itself would not cause an unacceptable impact on the surrounding network.

While the applicant contests submissions relating to the excessive vehicle movement caused by the proposed development, they acknowledge that improvements to the surrounding network could alleviate some of the precinct wide traffic flow issues. The applicant has indicated its willingness to participate in a cost sharing arrangement between the developments as an acceptable means of making upgrades to the infrastructure along Mill Point Road.

The applicant has proposed widening (by over 3.5 meters) and improving the southern *right of carriageway* to access the development's parking levels. This widening has allowed for 2 way traffic movement and a loading/set down area for the waste truck and other service vehicles. While the existing site has access to Fraser Lane via the rear laneway, this access will be kept closed by means of a locked gate once the proposed development is completed. Details of the development access and waste collection have been provided in the respective consultant reports.

Height:

- There is nothing appropriate, limited or sensitive in this proposal – it would be one of the tallest, largest developments outside the CBD.
- The proposed height of the building is totally out of character with the existing development in the immediate area and peninsula, all of which limited to approximately 8 or 9 storeys and this building is almost 4 times that. Currently development is limited to 25 metres and this building is proposed well over 100 metres.
- The out of context height also imposes excessive amounts of overshadowing and a sense of enclosure to neighbouring developments.
- Amendment 46 proposes to remove this area from the special design area and limit overall height to only 25 metres, rendering this building grossly oversized.

Applicant Comment:

The applicant firmly believes that the proposed development is eligible for the granting of additional height above the base height limit provided under Table A, Schedule 9 of TPS 6 because it specifically meets the requirements detailed in Table B of Schedule 9. These are the requirements of the current planning framework; the applicant has previously provided exhaustive commentary as to why the height controls of the proposed Amendment 46 should not be considered.

Having due regard to the above, the proposed building height (118.350 AHD) is considered appropriate with respect to sites located within the Special Design Area (SCA1), and consistent with the intended character of the South Perth Station Precinct. In recommending the current scheme to the WAPC for approval the City contemplated “a significant increase in height and densities” within the Precinct. The Council also resolved to support additional height limits as ‘it may also assist in providing a varied and interesting skyline where at present many buildings in the Peninsula are built to a similar height’.

The applicant has provided additional drawings and diagrams with this latest application that accurately depict the proposed development at 74 Mill Point Road in context alongside higher approved (and proposed) developments within SCA1.

It should be noted that the perception of building height by pedestrians is largely informed by the height of the podium. Given the podium height complies with the relevant requirements, the additional height proposed is considered to have a negligible impact on the street level perception of the proposed building.

Further, the design has been sensitive to the minimum setback areas, enhancing the view corridors for neighbouring properties over and above that which would likely be achieved with a smaller and ultimately broader building.

Land Use/Employment :

- Serviced Apartments are a disingenuous attempt to get around the requirement to be "mainly or for the most part" used for non-residential purposes. This proposal consists of 30 floors of apartments to reside. No matter how long the occupant will stay, this is STILL a residential tower and it STILL fails to meet the specific aims for which the extraordinary bonus heights are being requested.
- There is one additional job that Serviced Apartments could have over a purely residential one - the Receptionist.
- Serviced apartments are places where the influx of people will reside, not work.
- Serviced apartments are the lowest performing employment generators of most non-residential uses.
- The application for Serviced Apartments on the IGA site in Mends St has provided a Management Plan from Quest. The proposal has been specifically designed for Short Term rental and shows a genuine request. Not evident in this proposal. It could indicate a lack of commitment to actually providing Serviced Apartments beyond the approval stage.
- In terms of alleged employment generation, even if the serviced apartments proposal were credible, it could not generate the scale and nature of employment that would offset the huge disadvantage of destroying the local character and existing build form. The AES report asserts that the proposed development would generate employment for 37 employees for serviced apartments and 10 for the cafe. Even this paltry level is unlikely to come to pass. The Seashells brochure makes no mention of a substantial onsite management team (to the contrary) and the cleaning and maintenance staff required to support the serviced apartments is unlikely to be greater than the number of domestic staff employed by residential apartments of the same scale. The reality is that the "serviced apartments" model is just a transparent device to mask the fact that this is a residential tower.
- Commercial advantage should not continue to be given to Edge Developments by accepting their incomplete application – there is still no genuine Management Plan for the Serviced Apartments by the future manager as required by Council.

Applicant Comment:

Tourist accommodation is listed as an acceptable non-residential land use in the Guidance Statement of Element 1, *Land Use* of Table A: Development Controls. It is also a preferred land use for the Mends Sub-Precinct as listed in the development requirements of Table A.

The applicant and developer has had continued discussions with various operators who have shown significant interest in the proposed short-stay serviced apartments; evidence of which has been included with this application. It is not commercially viable to have a formal commitment from an operator prior to development approval hence there is only a draft management plan proposed at this stage. Discussions with operators have also focussed on on-site management of the apartments as a preferred option as outlined in the information provided as part of this application.

The applicant has provided a thorough Economic Impact Assessment that provides comprehensive information on the employment and economic benefits of the proposal. The applicant has since provided a supplementary report from the developer outlining the opportunities and reasons for planning short stay accommodation into the proposed development.

The applicant has subsequently submitted revised plans that have committed approximately 350m² of commercial office space in lieu of previously planned serviced apartments. While the applicant queries the benefit of including commercial offices, The City is of the opinion that in doing so the proposed development further contributes to the precinct consolidating its role as an employment destination.

Amendment 46 :

- Justice Chaney's judgement expressly acknowledged that there were certain matters set out in clause 7.5 of TPS6 which must be considered - these are "mandatory terms".
- Requirement (b) regarding the obligation for the JDAP to apply principles of orderly and proper planning expressly requires that the current proposal for Amendment 46 be taken into account by Council and JDAP.
- Amendment 46, as proposed to the WAPC, will bring in height limits, reduce the amount of nil setbacks and limit the Special Design Area – no development that contradicts those recommendations should be approved.
- Amendment 46 proposes to remove this site from the Special Design Area, disallowing the current plot ratio and height bonuses that are afforded to this site under the current Schedule 9 requirement. If fully adopted it would also impose a street setback of 4.0 metres as opposed to the current nil street setback proposed. Development on this site would be limited to 8 or 9 storey or 25 metres, measured to the finished floor level of the upper most storey. This current proposal is measured to 118.35m, almost 5 time what would be permitted under Amendment 46.

Applicant Comment:

The applicant accepts that the City has proposed an amendment to its planning scheme in Amendment 46, but the applicant submits that in assessing this development application, the correct approach would be for the JDAP to give very limited weight to the proposed Amendment 46. If the JDAP gives limited weight to the proposed Amendment 46, then there is nothing to prevent the JDAP from granting planning approval for the proposed development.

Clause 67(b) of the Deemed Provisions states that in assessing a development application, the JDAP may have regard to a proposed local planning scheme amendment that has already been advertised. The central question for the JDAP however, in the circumstances of this development application, is the weight that it should be applying to the proposed Amendment 46 in assessing the development application.

The State Administrative Tribunal in *Nicholls and Western Australian Planning Commission* [2005] WASAT 40 identified a 4 stage test for a decision-maker, such as the JDAP, to determine the weight to be given to a proposed planning instrument in making a decision. The 4 items of enquiry are:

1. the degree to which the draft addresses the specific application;
2. the degree to which the draft is based on sound town planning principles;
3. the degree to which its ultimate approval could be regarded as certain; and
4. the degree to which its ultimate approval could be regarded as imminent.

For Item 1 of the test, it is accepted by the applicant that the proposed Amendment 46 would apply to the land the subject of the development application. In fact, the applicant believes that a primary goal of the City behind the proposed Amendment 46 is to prevent this specific development application from being approved.

For Item 2 of the test, the applicant contends that the proposed Amendment 46 is not based on sound town planning principles. The applicant has fundamental concerns with the ad hoc nature of the proposed Amendment 46, which has little regard to the extensive planning and public consultation processes that were undertaken in formulating the current local planning scheme provisions for the South Perth Station Precinct Special Control Area. The current local planning scheme provisions (as adopted via Amendment 25) have been developed based on sound planning principles and as the result of an exhaustive community consultation process. By comparison, the proposed Amendment 46 is considered to be ad hoc and ill conceived, with insufficient studies undertaken or justification provided to support the recommendations contained within.

For Items 3 and 4 of the test, the applicant contends that the finalisation and adoption of the proposed Amendment 46 is neither certain nor imminent. There have been several iterations of proposed Amendment 46 over the last 18 months, which reinforces the uncertainty of how a final version may actually read. The applicant understands that there is still an extensive process that needs to be undertaken to have the proposed Amendment 46 adopted into the local planning scheme. The applicant believes that further modifications are highly likely as a result of the 900+ submissions that were received during the advertising period. The applicant also observes that the position of the WAPC on the proposed Amendment 46 is confidential, so it cannot be known at this stage whether the WAPC supports, opposes or would require significant changes to the proposed Amendment 46. The ultimate version and timing of the proposed Amendment 46 is highly uncertain and therefore its final endorsement by the Minister for Planning is not imminent. Giving limited weight to the proposed Amendment 46 in these circumstances would be consistent with the observations of the State Administrative Tribunal in *McDonald's Australia Limited* and Presiding Member of the Metro Central JDAP [2015] WASAT 146.

On the basis of the above, the JDAP should give very limited weight to the proposed Amendment 46 in assessing this development application. To the extent the JDAP gives weight to the proposed Amendment 46 in assessing the development application, the JDAP may be making its decision by reference to planning rules which may never actually come into effect.

Even if the JDAP does have some regard to Amendment 46, it must be kept in mind that a proposed planning instrument, as distinct from a planning instrument that has been formally adopted, can only ever guide the exercise of discretion and cannot be read as replacing the existing terms of the planning framework. In particular, the JDAP is not entitled to assess the development application against wholly against the text of the proposed Amendment 46 as opposed to the local planning scheme. If the JDAP determines that the proposed Amendment 46 is certain and imminent (which the applicant contends it is not), then at the

very best, the proposed Amendment 46 could potentially guide the JDAP's decision-making on discretionary items under the local planning scheme. The proposed Amendment 46 could not however assist the JDAP on matters for which there is no discretion under the local planning scheme, such as the current legal requirement for a nil setback and the reality that the subject land is currently within the Special Design Area.

Any submissions that contend that Amendment 46 requires this development application to be refused should, with respect, be dismissed by the JDAP as being misconceived.

Community Benefit/ General Amenity Impact:

- They claim an improved pedestrian area? Just imagine 1000+ cars crossing the driveway, aged care neighbours on frames and in gophers, a child care drop off at #64 and #86-90, people trying to park for the coffee shop - simply trying to walk past the NIL setback podium will be a safety hazard, certainly not an improvement. Even a 4 metre set back would allow a safety buffer and continue the visual flow of the street.
- We are told the historical plane trees will not only be saved, but not injured. The bonds placed on these trees will not deter a construction company if they get in the way - as can be seen on numerous constructions sites around Perth. These trees represent great amenity to South Perth residents.
- This one building will double the population in the area and combined with the other proposals will take the density of this area around Mill Point/Mends St to that of Singapore and Hong Kong. The change to the amenity and character of the nearby area will be dramatic. There will be massive increase in traffic, a loss of trees & green space, a huge increase in shadows and wind tunnels.
- The bulk of the building, with no street garden or trees is very ugly and having the parking at basement - level 2 means that the street-scape will be blighted with an industrial look which is not softened in any way.
- The proposed construction result in the partial or whole closure of Mill Point Road during construction and if so how do you propose to deal with the resultant traffic and public transport chaos?
- The proposal is for a tower of glass. It should be recalled by the DAP that problems with reflection of sunlight for neighbours and vehicles within reflection prone zones has been commonly known for decades, since the advent of very high glass fronted buildings.
- Of course, no details are discernible from the illustration alone, but the Mill Point geology and river shore location are such that a building proposal of such height, bulk and weight would normally be preceded by a study by the proponent of the foundations soils and water table, and other effects of the design, and their implications for costs and feasibility.
- To state that community meeting rooms and a gymnasium are a community benefit is nonsense – they are on an upper floor in a secure building. The majority of apartment buildings on Mill Point Rd already have these facilities.
- Views and mutual cross-privacy and overlooking of private balconies and windows will be adversely affected for the existing residents by intrusive numbers of new dwellings, looking down into private spaces, in the ratio of 4 to 1, new to existing residents.
- Apartment living can be wonderful if the build is of a human scale, if there is open air, green space & recreational areas for all – this does not meet those ideals.

- No-one should assume that the Community of South Perth agreed to Amendment 25, which led to unlimited height. The Community of South Perth does not want mega towers or skyscrapers and the associated problems that come with that scale of invasion.
- The decline in quality & liveability for current and future residents is worrying. Living permanently in high rise has been well researched and reported as unhealthy for people. Many living in small apartments become disenfranchised, disconnected and alienated from the community. By example there are 15 bedrooms without natural light and ventilation in this design. Why? To increase profit! Certainly not for the quality.
- As it is currently impossible to assess the amount of upgrading to electricity, water, sewage and roads, there has been no Developer Contribution Scheme implemented. Consequently those costs will fall totally to the community and both local and state governments - this is not acceptable.
- No provisions for affordable housing with minimal 1 bed apartments and apartments described as luxurious are not likely to have an affordable price tag.
- The Construction Management Plan does not contain any provision for the parking of a substantial amount of construction workers private vehicles.
- No Development Approval should be issued when the Development Application would result in a significant and unresolvable disruption to local traffic.
- There are dwellings/serviced apartments within the development with no access to natural light, this contravenes the building codes and proper design.
- What protection is in place to protect the adjoining developments during construction of this development, how will the developer ensure all adjoining properties are protected and not structurally impacted in anyway.

Applicant Comment:

The proposed development addresses 6 of the possible 7 criteria listed under Element 7; *Additional Community Benefits*, Table B: *Performance Criteria*. The DA report goes into considerable detail to how criteria are met. It should be noted that the current proposal only improves (view corridors, active frontage, pedestrian networks) on the community benefits that were planned in the previously approved design.

Careful attention has been given to the existing London Plane trees along Mill Point Road in the design of the podium and canopy elements. It should be noted that the design of the podium has not been amended with respect to setbacks, canopies, façade articulation and building entries from the previously approved scheme. A significant bond has been placed on the street trees as a condition of Development Approval and the applicant is very sensitive to the community's concern for these trees. An arborist's advice has been followed with regard to the acceptable proximity of the proposed development to the trees' canopies and root systems.

Initial geotechnical investigations have been conducted to determine the depth of the water table and survey soil typology. Consultant advice suggests a clay layer below the subject site can be utilized as a 'plug' to limit the amount of dewatering and reduce environmental risk.

There are only 3 apartments (out of 183) with no direct natural light to the second bedroom. These apartments are short stay, serviced apartments where an obscurely glazed bedroom door will provide borrowed natural light from the living area. The master bedroom and living areas to these units are provided with full height glazing.

There is no specific requirement for 'affordable housing' within the current planning framework. There is, however, a diverse range of apartment sizes (and prices) proposed. The commercial success of the previously approved development indicates a strong market

demand for high-quality, apartment living within the Precinct given its spectacular river and city views, access to the city and South Perth's existing amenities, especially the Mends Street and ferry services.

A preliminary construction management plan has been submitted with the current DA that goes into considerable detail regarding site setup, storage, traffic management and vehicle access. The applicant will work closely with The City and seek all relevant approvals for Traffic Management resources to ensure a safe and efficient entry and exit of vehicles from the site. It is feasible for construction workers to use the basement car parks for parking as construction of the podium and tower progresses. A comprehensive construction management plan will be submitted to The City for approval prior to building permit lodgement.

Overshadowing:

- Orientation to sunlight and passive climatic controls by existing owner-residents will be adversely affected to a very high degree as a consequence of cutting off of winter warming sunlight and restriction of much of the existing and new development to hot summer morning and afternoon sunlight.
- The proposal as illustrated will cut an extensive swath thru the day light currently available to the existing developments in the locality, to the west, south and east of the site, within the precinct.

Applicant Comment:

The diagrams that were submitted with as part of this Development Application illustrate compliance with TPS6. The design of the proposed tower is tall and thin when compared to other recent approvals within the Special Control Area. While this creates a longer shadow, the width is reduced by having the bulk of the tower pulled in from the required setbacks. The reduction in shadow width will reduce the time neighbouring sites are overshadowed by the proposed development. A shorter, wider tower that is built to the site setbacks would cause more overshadowing of adjacent sites for a longer period of time.

The applicant also considers the amount of additional overshadowing created by the proposed development to be far less than submissions imply. What needs to be considered is the amount of existing overshadowing within the precinct from 5-9 storey existing developments nearby.

Energy Consumption:

- The Energy Assessment provided is no more than a marketing document, not a review of the building's energy consumption. It only talks about what might be done, very few specifics.
- What should be compared is the energy consumption of this type of building which is renowned as being the worst type of higher density housing.
- High Rise towers are essentially glass and concrete boxes - it is an inefficient use of energy to heat and cool. Combined with the car-centric nature of the proposal - this is an energy guzzling building. Where is the open or green space allowed for in this proposal?
- The 5 KW photovoltaic solar energy system is a token effort and will provide only enough power for some lighting, during the day.

Applicant Comment:

The applicant has an excellent track record delivering sustainable apartment buildings in Perth. The ESD Strategy included with the development application lists a multitude of sustainable features that the proposed development will likely incorporate to achieve the target of Seven Star Average NatHERS Rating. To quantify this building's sustainability, a Green Star and NatHERS Rating will be undertaken with an intent to achieve a higher than average thermal rating. These rating tools are well-established industry-benchmarking tools. By targeting these higher ratings, the building will perform substantially better than comparable projects.

Until the project progresses to the design development stage, it cannot be expected that each and every sustainable feature is resolved and integrated into the design. There are specific requirements of the BCA that will need to be met prior to building permit submission. The applicant unequivocally intends to exceed these requirements.

Supportive:

- This is the kind of development that needs to occur with such proximity to the CBD and new employment destinations such as attempting to be created in South Perth. It will help to aid congestion on our roads and allow a greater number of people to live closer to such employment centres.
- I believe the initial purpose of increasing the density in the special precinct area was to support the case for a train station. The highlighted traffic congestion was to be resolved by the train station, and now current discussion from the state government to overhaul the ferry network. With South Perth being a tourist precinct, the short stay accommodation will add to the vibrancy and support business in the area. I feel 34 storeys is a more suitable application (4 storeys less than the Civic Heart).
- I was of the understanding that in order for a train station to be approved (something I feel is desperately needed) we needed to increase the density of development in this area and this could be supported by approving Lumiere.
- This development is aesthetically pleasing and would be a wonderful visible asset on the South Perth Skyline. The amount of short stay accommodation will bring many tourists to the area which will be fantastic for business and vibrancy in this precinct.
- I also feel an increased population and vibrancy instigate a train station to service this area and it would be a great plus for people like me who regularly stay in South Perth when needing to be in the City.
- Building shall make a significant architectural, lifestyle and commercial benefit not only to residents of the development but the wider South Perth area.
- The facade is well articulated and the materials chosen clearly absorb light rather than reflecting it into neighbouring buildings. The tower itself has substantial setbacks and the relatively slender building cone avoids a shorter and stouter building form that blocks out light across the whole street for long periods of the year and makes the environment feel claustrophobic. This building might be taller than a lot of its neighbouring buildings, however many of them are currently wider. The podium structure is an example of good street integration and represents a more engaging and safer street space than the existing large suburban setbacks that address the street. The podium structure is what will draw businesses and reduce the areas currently low level of amenities and high car dependency (given its current scale of development).

Applicant Comment:

Item 7.3.1	PROPOSED 34 STOREY, PLUS UPPER MEZZANINE AND BASEMENT LEVELS, MIXED USE DEVELOPMENT - LOTS 2-20 (NO. 74) MILL POINT ROAD, SOUTH PERTH
Attachment (g)	6. Summary of Submissions and Applicant Response - Proposed 34 Storey Mixed Use Development -74 Mill Point Road, South Perth.pdf

The applicant notes the supporting submissions. These submissions underline the commercial, planning and architectural merits of the application. They further highlight the success of the City's original intentions in supporting the current Town Planning Scheme and Amendment 25. What was contemplated in this amendment is now becoming a reality, with strong market demand for apartments within the original application and the associated lifestyle benefits of apartment living combined with the attractiveness of the location and the amenity available in South Perth. It should be noted that a large number of purchasers in the original approved building are people who are currently living in South Perth (some of whom are living on Mill Point Road) or wanting to return to the area.

Application for Planning Approval Requiring Engineering Comments

Proposed 34 Storey Mixed Use Development

Lots 2-20 (No. 74) Mill Point Road, South Perth

General Comment

This Development proposes three basement levels of parking with a further three levels above ground for parking. Any proposal that requires extensive excavation for basement parking in the fragile “water environment” on the Peninsula is a concern.

A method of construction involving perimeter piling or sheet walling must be embraced for the development. By reducing the volume of dewatering required, the impact on the surrounding properties (by the drawdown) will be greatly reduced.

Traffic Statement (with regard to table B criteria)

The Micro-Simulation modelling completed by Cardno and the on-going work continues to raise concerns relating to the ability of the road network to cope with a development of this size (in this location) directly accessing Mill Point Road (a “local” distributor road). Unresolved issues remain between the two consultants and there would appear to be little likelihood of a consensus being reached on those aspects.

The modelling has identified that the right turn movements out of Mill Point Road north and from Mends Street into Mill Point Road to enter the Kwinana Freeway on-ramp will result in extensive queue lengths and significant time delays in both those streets and has demonstrated the inability of the network to support developments of this scale in this location.

A suite of road infrastructure upgrades have been identified for the area that will assist with the movement of traffic through the area. While the upgrade to the signals at Labouchere Road and Mill Point Road remains the single most important project to ensure there is sufficient capability in the signal infrastructure other works along Mill Point Road north (of the Labouchere Road intersection) that could be implemented with a developer contribution would include a continuous central median (with appropriate widening and adequate at-grade pedestrian access points) and roundabouts at the intersections of Scott Street and Stirling Street with Mill Point Road north.

However, while a number of counter measures have been investigated for Mill Point Road there are still too many identified risks to propose that any suite of “local” measures would provide the solutions required for the efficient movement of traffic through the area. The relationship between this development and the upgrading of the signals at Mill Point Road and Labouchere Road is too

strong for the development to be considered suitable without a commitment to significantly contribute towards improvement works at the intersection.

The safety and congestion risks of direct access onto Mill Point Road from a “shared” thoroughfare without guaranteed improvements upstream at the intersection cannot be discounted. Accordingly it is not seen as reasonable to expect that the identified traffic issues would be resolved purely on the installation of “local area traffic management measures”.

Parking Layout

The Development proposes a mix of standard parking bays, Tandem Bays and Long Bays. The Tandem and Long Bays are provided for selected one and two bedroom units as well as residential bays. The concept of Tandem and Long Bays has certain merit considering the form of the development. It would be a clear case of the unit owner at the time of acquiring the property being made aware of and clearly understanding the limitations of the parking arrangement with one vehicle parked directly behind the other, and a size constraint on the vehicles that can be accommodated. Ramp gradients and aisle widths are consistent with AS 2890.1 Off street Parking.

Stormwater Design Requirements

The development is located within the Mill Point Drainage Precinct as defined in *Policy P354 (Stormwater Drainage Requirements for Proposed Buildings)* and *Management Practice M354*. Within the precinct the allowable means of disposal of stormwater are reuse or via a private drainage connection (PDC) to the street system. The building plans to be submitted will need to include sufficient detail to satisfy the following:

- *All stormwater drainage facilities will be designed and installed in accordance with Policy P354 (Stormwater Drainage Requirements for Proposed Buildings) and Management Practice M354; and*
- *The stormwater drainage designer must consider and incorporate as appropriate the Principles of Water Sensitive Urban Design (WSUD) as outlined below.*

WUSD has, amongst others, the objective to:

- Ensure Water Sensitive Urban Design best management practices are implemented for all new development proposals and City operations to maximise the use of captured lot (roof) rainfall and grey water to reduce the reliance on external resources;
- Ensure stormwater within the urban environment is retained and treated as close to source as possible; and
- Reduce nuisance flooding and adverse drainage impacts.

For the purpose of completing an Application for PDC the following will apply:

- The discharge from the site as defined in the PDC is the amount of overland flow that would have resulted from the site in an undeveloped form i.e. the site area only;
- The impervious area or effective area for the purpose of calculating the quantity of rainfall discharge will be the plan area including all paths, paved areas etc. plus 50% of the largest vertical wall face;
- The discharge from the site will be determined by a Hydraulics Engineer or similar using the impervious area calculation above;
- The designer needs to be mindful of the general requirement that all storm water falling on the site must be contained on site and suitably disposed via a controlled outflow to the drainage system;

- Unless otherwise determined the flow to the street system would be expected to be no greater than 1 litre per second for each 500 square metres of site area;
- The discharge pipe is to be fitted with a simple reflux or non-return valve;
- Sufficient storage is required on site to cater for the short duration high intensity 100 year storm event with a controlled discharge to the street system, although the designer will need to satisfy themselves that the longer duration but less intense event can still be accommodated within the proposed onsite storage;
- Depending on the method of controlled discharge, if pumping is required the designer must consider the likelihood of a power outage and make provision for the event when determining on site storage;
- With the relatively low flow expected from the site there is little likelihood of a larger sized diameter pipe being acceptable without some limiting device notwithstanding the ease of cleaning etc. An “orifice plate” can be fixed to a larger diameter pipe to control flow to the prescribed amount; and
- The Draft WUSD Guidelines require that 300 mm freeboard to building floor levels be provided to accommodate the 1:100 storm event. The alternative is to increase the storage capacity of the collection tanks to meet this target.

An application for a PDC along with the design calculations is to be submitted to Engineering Infrastructure for approval prior to installation. It should be noted that approval of the PDC is conditional on the owner accepting all of the conditions attached to the application including ensuring future owners are informed of the conditions relating to the PDC.

Dewatering Management Plan

As dewatering in some form will be required for the basement infrastructure and the on-site stormwater storage tanks the Applicant will be required to prepare a Management Plan for the Office of Water and the Department of Parks and Wildlife (Rivers and Estuaries Division). A copy of the Plan and all relevant correspondence is to be submitted to the City. The Plan will address both the environmental aspects as well as the physical activities of the dewatering operations.

The Management Plan is required as part of a Planning Approval if groundwater is to be pumped, via the City’s drainage system, into the Swan River as part of the dewatering operation.

The Dewatering Management Plan is to be prepared by a suitably qualified Environmental Consultant who will:

- undertake water testing to ensure the samples satisfy all the criteria;
- commit to a monitoring regime during dewatering to ensure water quality of discharge does not deteriorate; and
- outline a recovery plan should the dewatering operations result in a loss of water quality.

As the downstream outfall to the River is controlled by stormwater pumps a dewatering contractor will be required to ensure that the rate of discharge from the system does not exceed the rated capacity for continuous pumping by the “small jockey pump” forming part of the pumping station.

Waste Management

Comments with respect to Waste Management will come from the Coordinator Environmental Health Services after consultation with Engineering Infrastructure. The Waste Report provides for a waste collection that does not entail a verge side collection

(this would be undesirable with this style of development) and servicing from the ROW (laneway) with the collection vehicle reversing off Mill Point Road and then re-entering in a forward direction when collection has been completed. The collection point for the rubbish bins is underneath the First Floor overhang and adjacent to a “shared right of access” for the adjacent property and the property to the rear. A serious question remains as to whether sufficient clearance is available for the rubbish collection vehicle servicing this development or the properties having access off the “shared ROW”. Furniture vans and other high sided enclosed delivery vehicles would appear to be prevented from using the “shared access”.

Construction Management Plan

Every person that expects to undertake work from the street is required to produce a Traffic Management Plan in accordance with the Main Roads “*Code of Practice – Traffic Management for Works in the Street*”. However as a result of compliancy issues being experienced with the preparation and execution of the Traffic Management Plans and the coordination with multiple projects in close proximity Engineering Infrastructure will require a Construction Management Plan (CMP) to be submitted for approval. The CMP will address in order all of the following although the list is not exhaustive and may require other matters not listed to be considered. The CMP will provide:

- an appropriately detailed Traffic Management Plan (TMP) that is endorsed by an accredited Road Traffic Manager (RTM);
- the Traffic Management Plan that ensures no works including substantial deliveries of building materials are undertaken during the peak morning hours (7am to 9am), minimal approved movements down Mends Street and minimal impact to other road users of the South Perth Esplanade;
- detailed information regarding proposed pedestrian treatments, including an approved overhead gantry, for all buildings with zero setback at the lower levels and whether the gantries will be required for site offices and/or staff facilities;
- details of how and where building materials will be stored before use on site and whether a Licence to Store Materials on the verge is required;
- an acknowledgement that excavation works (within 3 metres of the road edge) will require ‘work zone barriers’;
- detailed analysis of how the adjacent road network will best operate during construction;
- project time-lines with appropriate mile-stones (to allow for appropriate coordination and communication to surrounding stakeholders);
- details of proposed treatments for through traffic and construction vehicles in and around site (to allow Ranger Services and Traffic & Design jointly coordinate the best parking outcomes); and
- the proposed route for trucks servicing the site including lay over areas where required (to allow Ranger Services and Traffic & Design jointly coordinate the most appropriate routes for trucks).

Crossing

The general requirement that the footpath is to be continuous through the crossing results in the path section in concrete. However in this location there is an expectation that the “hard landscaping” and pavement upgrade will be detailed on landscape plans and submitted to Engineering Infrastructure for approval by the Landscape Architect. Segmental pavers of a form to be determined (but in line with the general principle of “quality streetscapes”) will be the footpath

material and therefore can be used as the crossing material. The footpath will be defined as continuous through the crossing by change of pattern. Where segmental pavers are used a concrete apron at the kerb line is to be provided. The concrete apron will transition into the adjacent kerbing. The type and form of the kerbing is still to be determined but along with the paving is consistent with the principle of "quality streetscapes".

The crossing will be:

- At the same level as the street verge from a point nominally 500mm from the kerb line and at right angles to the street; and
- Constructed with the footpath section clearly defined by jointing or similar as continuous through the crossing in seeking to minimise the impact.

A crossing application is to be submitted and approved by the City prior to construction and the crossing will be checked for compliance during and post construction.

Les Croxford,

Manager, Infrastructure Services



Environmental Health Services Planning Approval Comments

Details	
Proposed Development: (Property address)	Lot 2-20 (No. 74) Mill Point Road SOUTH PERTH
Application: (Type)	Proposed Mixed Use Development with 34 Storey Tower With Revised Plans plus new Talis Waste Management Plan
Officer:	Jason Jenke
Department:	Environmental Health Services
Date:	13 September 2016

The following EH comments apply to D-16-67749 Talis Waste Management Plan & D-16-67752 - Amended application - 74 Mill Point Road 1405 Lumiere Apartment Drawings

Hi Erik

With reference to the above, the following environmental Health comments apply;

Car park Ventilation

Car park ventilation to be designed to ensure that the carbon monoxide build up in the parking area does not exceed 50 ppm per hour in accordance with the *Health Act (Carbon Monoxide) Regulations 1975*.

Waste Management

The waste management plan is accepted and to be implemented as per the plan.

Noise Generally

Please ensure that all service and other equipment are compliant with the *Environmental Protection Act 1986* and *Environmental Protection (Noise) Regulations 1997* in relation to other premises.

Gyms, Theatre & Community Meeting Room

These areas are considered to be 'public areas' and as such, must comply with the *Health (Public Building) Regulations 1992*. The Community meeting room will be limited to a maximum of 50 persons based on only having 1 exit.

Lodging House

By definition, this premise will be classed as a lodging house for the serviced apartments and must comply with the *Health Act 1911* and the *City of South Perth Health Local Laws 2002*.

Swimming Pool

In accordance with the *Health (Aquatic Facilities) Regulations 2007* the proposed pool is an Aquatic Facility and as such, in complying with Regulation 7 & 8 of the above Regulations, approval is required by the EDPH (Executive Director Public Health) via the Department of Health.

Cafe

I appreciate that there is not much detail provided for the café kitchen however; in general the size/space provided for the kitchen appears to be particularly small. Please keep in mind that there will be space requirements for a freezer and a dry store etc.

Laundry Requirements

The laundry provided in drawings

- Level 4 (A2-07) Serviced Apartment Studios &
 - Level 5-14 (A2-08) Serviced Apartment Studios;
- do not comply with the *Health Act (Laundries and Bathrooms) Regulations, Regulation 7*.

On plan - Level 4 (A2-07) there is a 3 bed apartment that has no laundry provisions.

Jason Jenke

Environmental Health Officer

Development
Services

629 Newcastle Street
Leederville WA 6007

PO Box 100
Leederville WA 6902

T (08) 9420 2099
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Your Ref: M13/74 11.2016.2.2
Our Ref: JT1 2016 08371 V01 - DEV345316
Enquiries: Ross Crockett
Direct Tel: 9420 2013

30 September 2016

**City Of South Perth
Cnr Sandgate St & South Tce
SOUTH PERTH WA 6151**

Attention of: **Erik Dybdahl**

Re: Development Application - 74 Mill Point Road, South Perth

Thank you for your letter of the 1st September 2016. The Water Corporation offers the following comments in regard to this proposal.

Water and Wastewater

Reticulated Water and Sewerage is currently available to this Lot. The developer is expected to fund any new works required or the upgrading of existing works and protection of all works.

Due to the increase in development density the upgrading of the current reticulation system (Water & Sewer mains under 300mm diameter that are the responsibility of the Developer/Subdivider) is likely to be required to prevent existing customers from being affected by the proposed development.

The Capacity of the Reticulated Water to serve the proposals in this area is likely to be insufficient. When the proposed Water demands and Wastewater discharges are provided the Water Corporation can have another review of the proposed developments.

The Water Corporation had not included the density of the subject developments in the area in its adopted long term water or wastewater planning. If or when there is agreement from the WAPC and/or local government to proceed with developments in this area for urban purposes, the Water Corporation will then include this area in a future review of infrastructure planning for the area. At this stage the Water Corporation is not able to speculate on servicing and land requirements for the subject area. Any proposal would be premature until the infrastructure planning is undertaken. Major works and funding of works may be required for servicing of the subject area.

General Comments

This proposal will require approval by our Building Services section prior to commencement of works. Infrastructure contributions and fees may be required to be paid prior to approval being issued.

The principle followed by the Water Corporation for the funding of subdivision or development is one of user pays. The developer is expected to provide all water and sewerage reticulation if required. A contribution for Water, Sewerage and Drainage headworks may also be required. In addition the developer may be required to fund new works or the upgrading of existing works and protection of all works. Any temporary works needed are required to be fully funded by the developer. The Water Corporation may also require land being ceded free of cost for works.

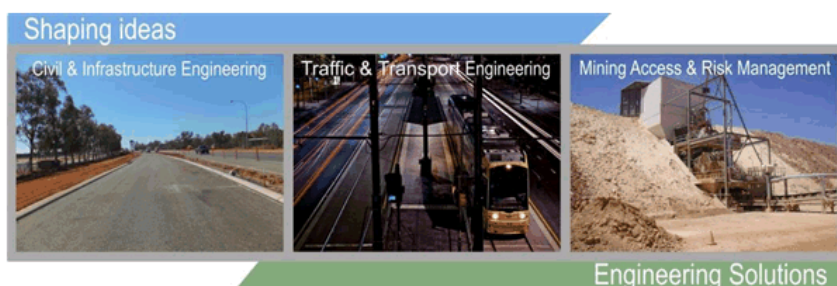
Please provide the above comments to the land owner, developer and/or their representative.

Should you have any queries or require further clarification on any of the above issues, please do not hesitate to contact the Enquiries Officer.

Ross Crockett
Development Planner
Land Planning
Assets Planning Group



CONSULTING CIVIL & TRAFFIC ENGINEERS, RISK MANAGERS.



Project: 74 Mill Point Road Mixed-Use Development
Traffic Impact Assessment - Revised

Client: Hillam Architects

Author: Angela Wetton

Signature:

Date: 29/08/2016

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1. Introduction

1.1. Proponent

Shawmac Pty Ltd has been commissioned by Hillam Architects to review the proposed mixed-use development at 74 Mill Point Road, South Perth in the City of South Perth.

1.2. Site Location and Land Use

The site is located on the northern leg of Mill Point Road (north of Mill Point Road East/Labouchere Road/Kwinana Freeway signalised intersection) in a *Mixed-Use Commercial Centre*. The site location is shown in **Figure 1**.

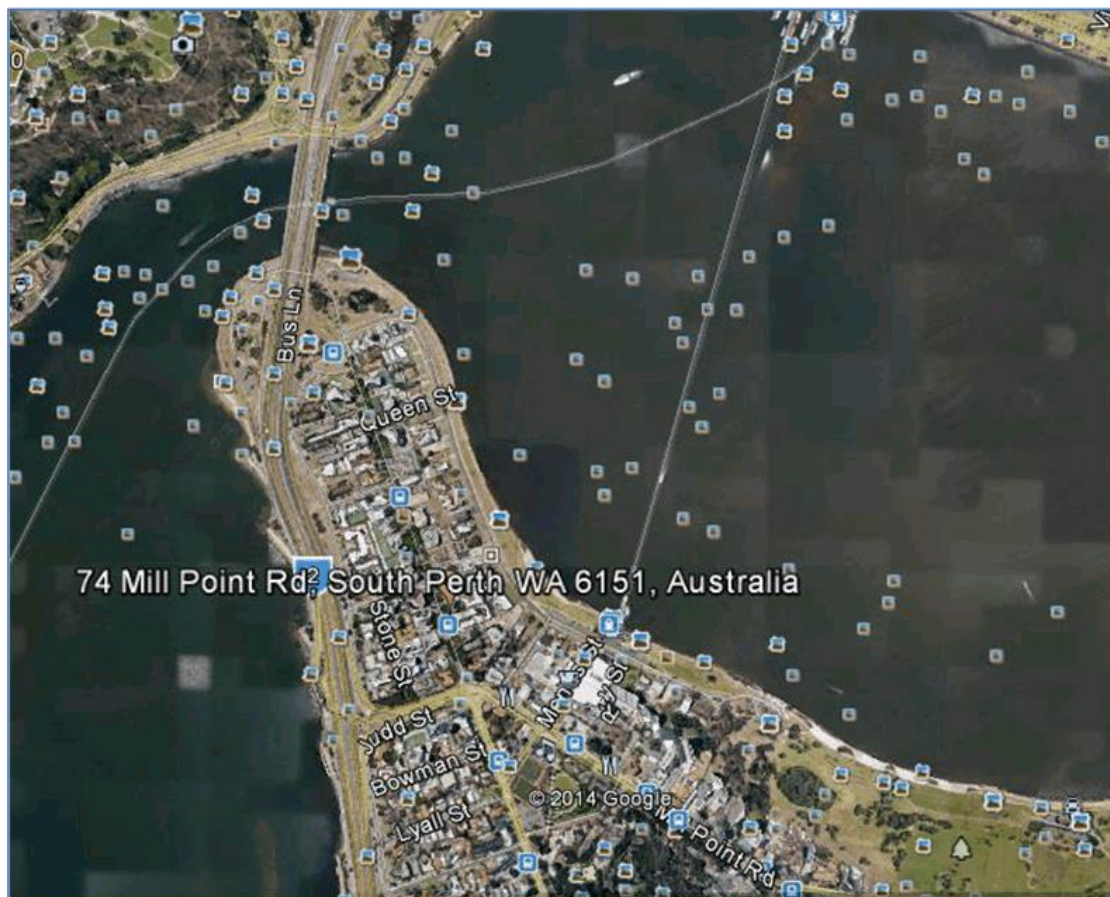


Figure 1 - Site Location

The study site was previously occupied by grouped dwellings and is currently vacant. The proposal is for the redevelopment of the site as a short-stay accommodation and residential apartment building with a cafe. The existing site together with the surrounding area is shown on the aerial photograph on **Figure 2**.



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Figure 2 - Local Context

1.3. Background

This report is a revision of a previous report dated 29th June 2016. Significant modifications to the site plans have been made including the reduction of height from 44 to 34 levels and reduction in total serviced apartments and residential apartments.

1.4. Key Issues

Key issues centre on the level of traffic likely to be generated by the development and the ability of the adjacent road network to accommodate flows both mid-block and through existing intersections. Other concerns raised by the City of South Perth and via community feedback are based on the cumulative impact that ongoing development within the precinct will have on traffic flow on the existing road network.

1.5. Reference Information

In undertaking the study, the information listed below was referenced.

- MRWA Functional Hierarchy Criteria;
- Livable Neighborhoods Guidelines 2009;
- Austroads *Guide to Road Design, Part 4A*;
- Austroads *Guide to Engineering Practice, Part 2, Roadway Capacity*;
- WAPC R-Codes;



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- Guide to Traffic Generating Developments Version 2.2, October 2002 – Roads and Traffic Authority, New South Wales;
- City of South Perth – Town Planning Scheme No 6; and
- Department of Planning – South Perth Station Precinct Plan, January 2011.
- Trip Generation 7th edition, 2003 - Institute of Transportation Engineers, Washington, USA.



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2. Site Proposal

2.1. Regional Context

The site is located within the South Perth Peninsula. **Figure 3** shows the site location in a regional context.

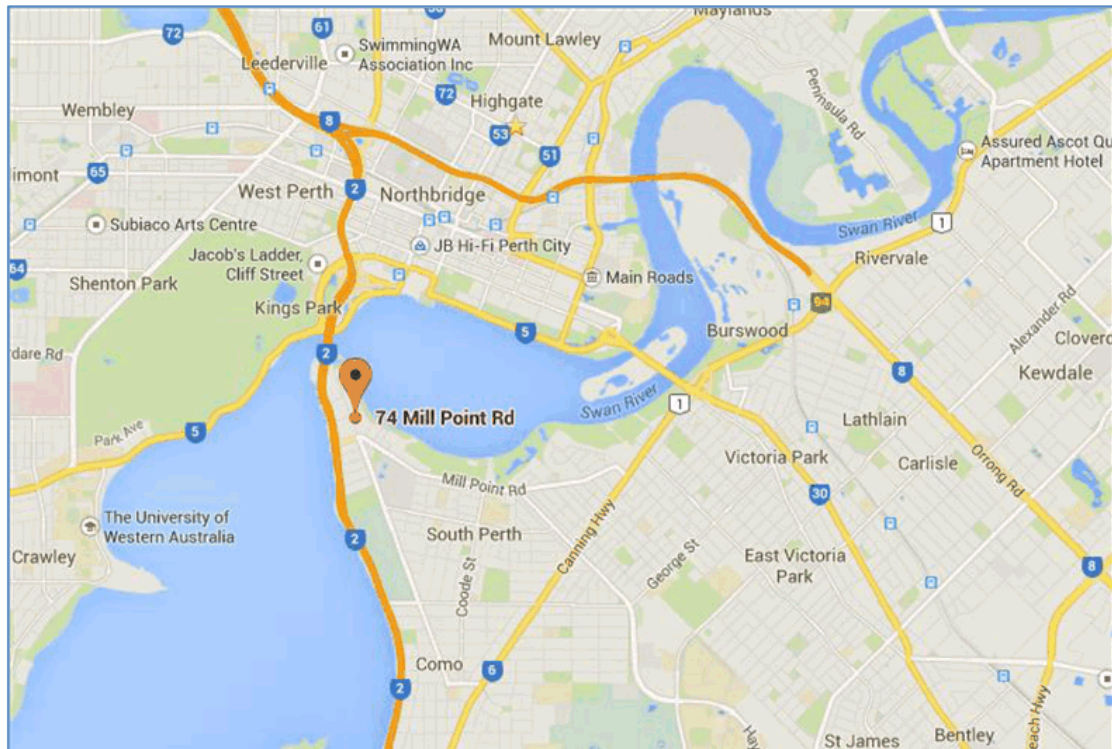


Figure 3 - Regional Context

2.2. Proposed Land Use

The application proposes redevelopment of the subject site. The subject site is within the *Mixed-Use Commercial Centre* under the *City of South Perth Town Planning Scheme 6 (TPS6)*.

The development proposal is for a 34 storey mixed use development consisting of 104 serviced apartments and associated leisure facilities, a cafe, community meeting room, 83 residential apartments and associated communal residential leisure facilities. Pedestrian access to the site from the Mill Point Road frontage, with ground level accesses to the cafe, residential lobby and commercial lobby. Vehicular access is proposed via a crossover to Mill Point Road, along the southern boundary of the site. Four ground level visitor parking bays are available at ground level, at the rear of the building, along with scooter parking and secure and unsecure bicycle parking. From the rear of the site, ramps are available to the basement and above ground level parking areas. **Table 1** outlines the land use of the proposed development.



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Table 1 - Land Use

Commercial		Residential	
Land Use	Quantity	Land Use	Quantity
Serviced Apartments	104	1x1 Apartments	11
Cafe (Ground Floor)	288m ²	2x2 Apartments	43
Community Meeting Room	71m ²	3x2 Apartments	25
Commercial Car Parking	82 bays	Penthouse Apartments	4
Commercial Visitor Parking	9 bays	Residential Car Parking	144 bays
Scooter Parking	5 bays	Residential Visitor Parking	8 bays
Bicycle Parking	15 racks	Bicycle Parking	39 racks
Commercial Laundry		Storage Rooms	
Guest Lounge		Swimming Pool	
Guest Gym		Gym	
		Resident's Lounge & Theatre	

The development is zoned *Mixed Use Commercial* under the City of South Perth TPS6. See **Figure 4**.

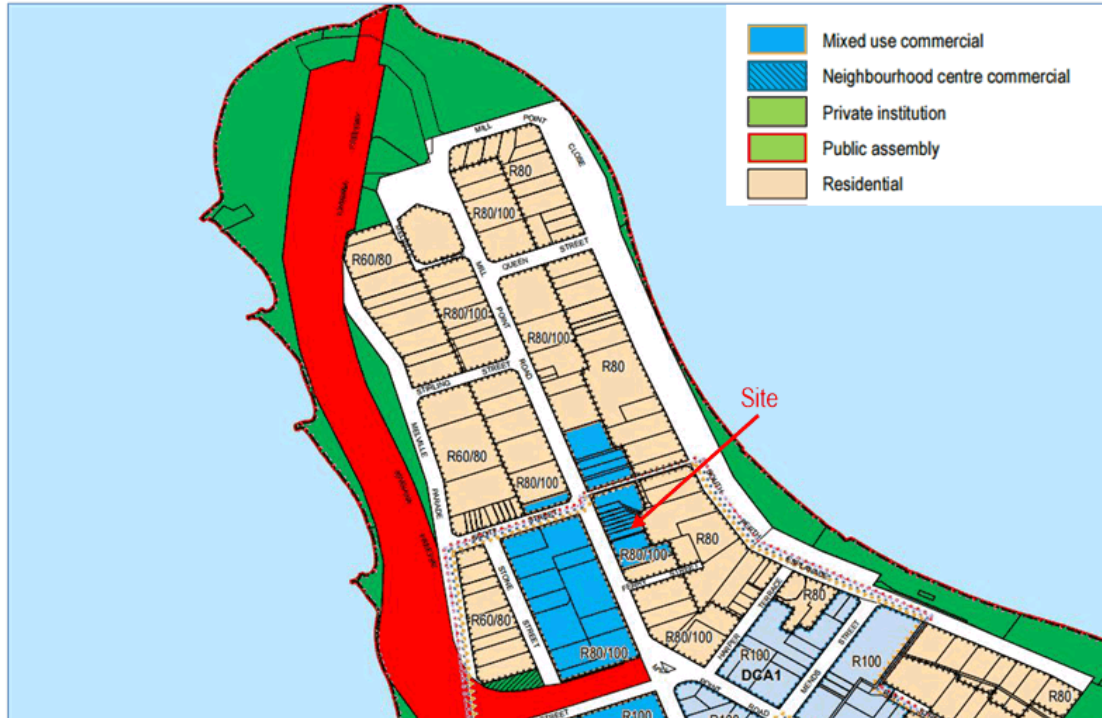


Figure 4 - Zoning

An extract of the development ground floor site layout and parking level layouts are shown in **Appendix A**.



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2.3. Major Attractors and Generators of Traffic

The major generators in the area include the South Perth Commercial Precinct and the Mends Street Commercial Precinct in close walking distance to the site. The site is located within a *Mixed Commercial Centre* according to the City of South Perth's *Town Planning Scheme No. 6* and is within the *South Perth Station Precinct*. The proposed land use generally conforms to the existing and proposed land uses in the surrounding area and consequently the proposed development is expected to integrate well with the surrounding area.

The main attractors and generators expected to influence traffic flows to and from the site are shown in **Figure 5** include:

- The Perth CBD and associated employment and retail centres;
- The South Perth Commercial Precinct and Mend Street Commercial Precinct;
- Perth Zoo;
- Perth Airport;
- Crown Perth;
- Scarborough Beach, City Beach and Floreat;
- Cottesloe Beach;
- Fremantle;
- Suburban residential areas;

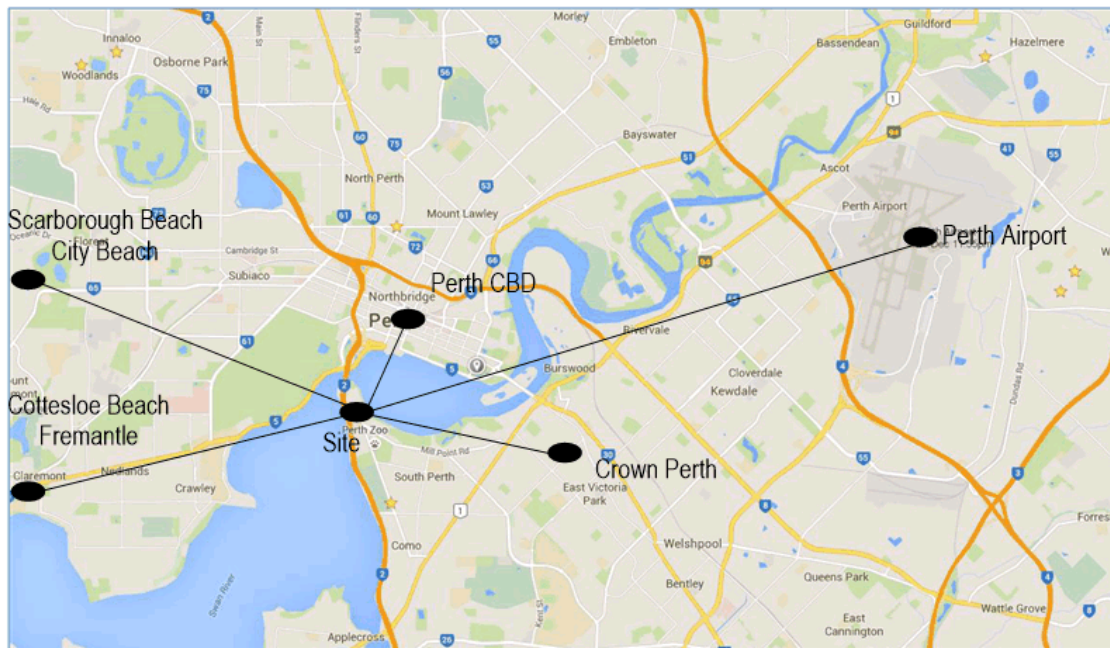


Figure 5 - Major Attractors and Generators



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2.4. Integration with Surrounding Area

The Mill Point Peninsula is a largely residential area, with a commercial precinct along Mill Point Road, south of Frasers Lane. There are other short-term accommodation developments on Mill Point Road and South Perth Esplanade.

Several new developments are proposed for South Perth, with the Aurelia development and Civic Heart mixed use developments currently under construction on Harper Terrace and Mill Point Road, respectively. These developments are within walking distance to the proposed site and are unlikely to be major attractors of vehicular traffic.



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3. Existing Situation

3.1. Existing Roads

Kwinana Freeway

The Kwinana Freeway is an 8-lane divided *Control of Access* freeway located to the south-west of the site with direct access provided via the existing signalised intersection with Mill Point Road/Labouchere Road. It has been classified as a *Primary Distributor* road under the Main Roads *Functional Road Hierarchy* (road hierarchy).

The Kwinana Freeway operates under a posted speed limit of 100kph in the vicinity of the site transitioning to 80kph on approach to the Narrows Bridge and carries in the range of 85,000 to 90,000 vehicles per day

Mill Point Road

Mill Point Road, east of the signalised intersection of Mill Point Road/Labouchere Road/Kwinana Freeway, is classified as a *District Distributor B Road* under the MRWA road hierarchy. Mill Point Road (East) has a dual divided carriageway and operates under a 60kph speed limit.

North of the signalised intersection, Mill Point Road is a *Local Distributor Road* under the MRWA road hierarchy. Mill Point Road (North) has been constructed as a single undivided carriageway with a 9m wide seal with on-street parking permitted on both sides in the vicinity of the subject site and operates under a 50kph speed limit.

Mill Point Road is owned, operated and maintained by the City of South Perth.

Labouchere Road

Labouchere Road is classified as a *District Distributor B Road* under the MRWA road hierarchy and is operated and controlled by the City of South Perth. Labouchere Road is described as having a dual divided carriageway in the vicinity of the signalised intersection.

Labouchere Road operates under a posted speed limit of 60kph.

Frasers Lane

Frasers Lane is an *Access Road* under the MRWA road hierarchy. Frasers Lane functions as a one-way access street (west to east only) with a seal of approximately 3m along the western boundary of the site. It has been constructed as a single undivided carriageway across the frontage of the site. Frasers Lane currently operates under a posted speed limit of 50 km/h.

Figure 6 shows the existing road classification under the MRWA *Road Information Mapping System* for roads in the vicinity of the site.



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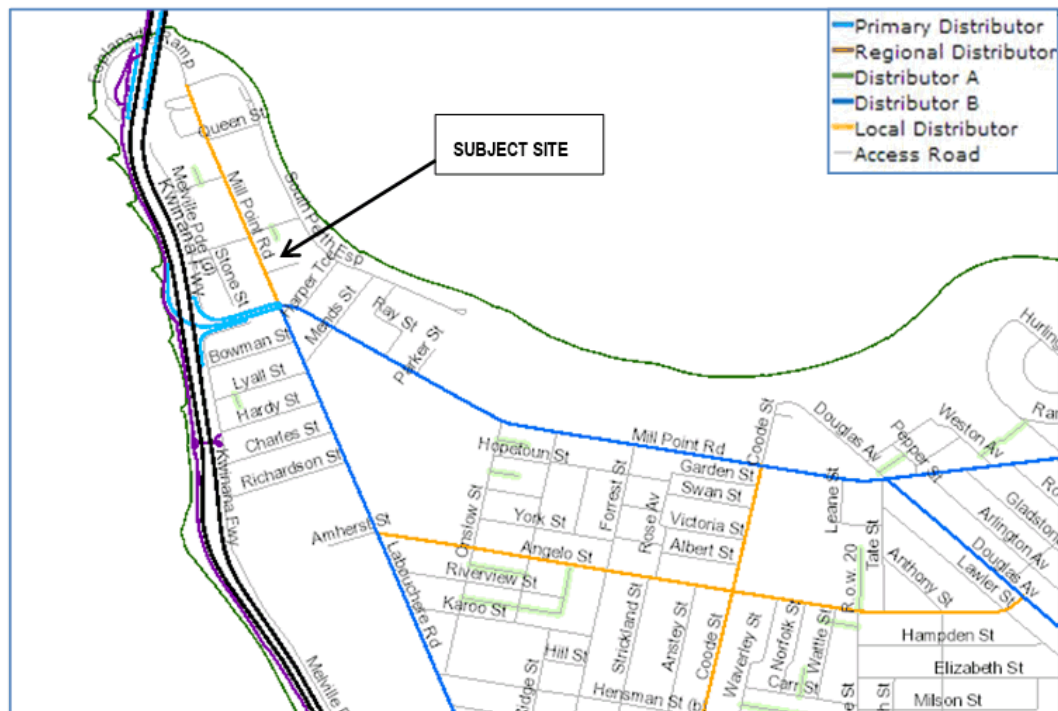


Figure 6 - Road Hierarchy

3.2. Road Hierarchy vs Actual Flows

Table 2 details the comparison of current traffic volumes against the maximum desirable volumes provided within the MRWA Functional Hierarchy and Liveable Neighbourhoods criteria.

Table 2 - Road Classification and Indicative Maximum Traffic Volumes

Location of Count	MRWA Classification	Liveable Neighbourhoods Indicative Traffic Volume (vpd)	Traffic Volume (vpd)	AM Peak Hour Volume	PM Peak Hour Volume	Source	Date
Mill Point Road (East)	District Distributor B	15,000	21,458	8-9AM 1,664	5-6PM 1,703	CoSP	Feb 2016
Mill Point Road (North)	Local Distributor	7,000	5,340 (1,630 NB 3,710 SB)	11-12PM 365 (107 NB 258 SB)	5-6PM 413 (139 NB 274 SB)	CoSP	May 2016
Labouchere Road (south of signalised intersection)	District Distributor B	15,000	15,053	8-9AM 1,156	5-6PM 1,545	CoSP	Feb 2016
Kwinana Freeway On/Off-Ramp	Primary Distributor	>35,000	38,844 (16,709 off FWY 22,135 on FWY)	8-9AM 3,200 (1,029 off FWY 2,171 on FWY)	5-6PM 3,439 (1,712 off FWY 1,727 on FWY)	MRWA	Sep 2014 March 2015
Frasers Lane	Access Road	<3,000	<500			No data available	



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Traffic count data was compared to recent SCATS data (March 2016) for the intersection of Mill Point Road / Labouchere Road / Freeway Ramp and indicated similar or smaller volumes to those listed in Table 2. It was therefore assumed that the volumes stated in Table 2 were indicative of present day volumes.

The table above indicates that Mill Point Road and Frasers Lane, adjacent to the site are currently operating in accordance with their respective classifications. Mill Point Road East and Labouchere Road are operating at levels greater than the Liveable Neighbourhoods guidelines, however the construction of both of these roads as divided dual carriageways means that they still have spare capacity.

3.3. Changes to the Surrounding Network

No major programmed/funded changes or upgrades were identified for the surrounding road network in the vicinity of the subject site, however the City of South Perth and Main Roads Western Australia are in discussion over the growing traffic volumes accessing the Kwinana Freeway from Mill Point Road and Canning Highway. Planning for increased public transport services in the area includes the construction of a second-stage railway station at South Perth near Judd Street along the existing Southern Suburbs Railway Line.

A review of the *South Perth Station Precinct Transport and Access Strategy* (GHD, 2012) indicates that the localised improvements in the broader area surrounding the proposed railway station are recommended with the only improvement to the Kwinana Freeway On/Off Ramp/Mill Point Road East/Mill Point Road North/Labouchere Road signalised intersection consisting of a bus queue jump lane from Labouchere Road to the Kwinana Freeway on-ramp.

No other road improvements are noted for the area in the vicinity of the subject site. It is also noted in this study that due to the nature of the transit-oriented development proposed within the precinct that a limited amount of additional vehicular traffic is expected to be generated with the majority of transport movements to be accommodated by public transport and walking/cycling.

3.4. Crash History

A summary of the crash history (obtained from MRWA CARS database) between January 2010 and December 2014 for Mill Point Road, between Frasers Lane and Mends Street is shown in **Figure 7**. There is no history of crashes involving vehicles leaving properties along the midblock sections of Mill Point Road, however there was one recorded rear-end crash south of Frasers Lane, and one right angle crash at Ferry Street. The very low number of crashes along Mill Point Road in the context of the daily traffic volumes along the road indicates that there would be minimal risk associated with entering and exiting the site crossover to Mill Point Road and the existing risk profile would not be impacted along this section of road.

There were 41 recorded crashes at the intersection of Mill Point Road / Labouchere Road/ Freeway Ramp, with 21 rear end crashes, 13 right-angled crashes, 3 off path crashes, 2 reversing in traffic and 2 through-through



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crashes. Compared with the metropolitan averages, rear end crashes and right turn-through crashes were significantly over-represented, while right angle crashes were significantly under-represented. Of these crashes, 2 occurred during the AM Peak period, 6:00am – 8:59am, while 14 occurred in the PM Peak period, 3:00pm – 5:59pm. The development traffic is predicted as 839vpd, with 714vpd travelling to and from the site via the signalised intersection. This traffic accounts for a less than 2% increase of traffic travelling through the intersection which is not significant enough to change the existing crash profile of the intersection.

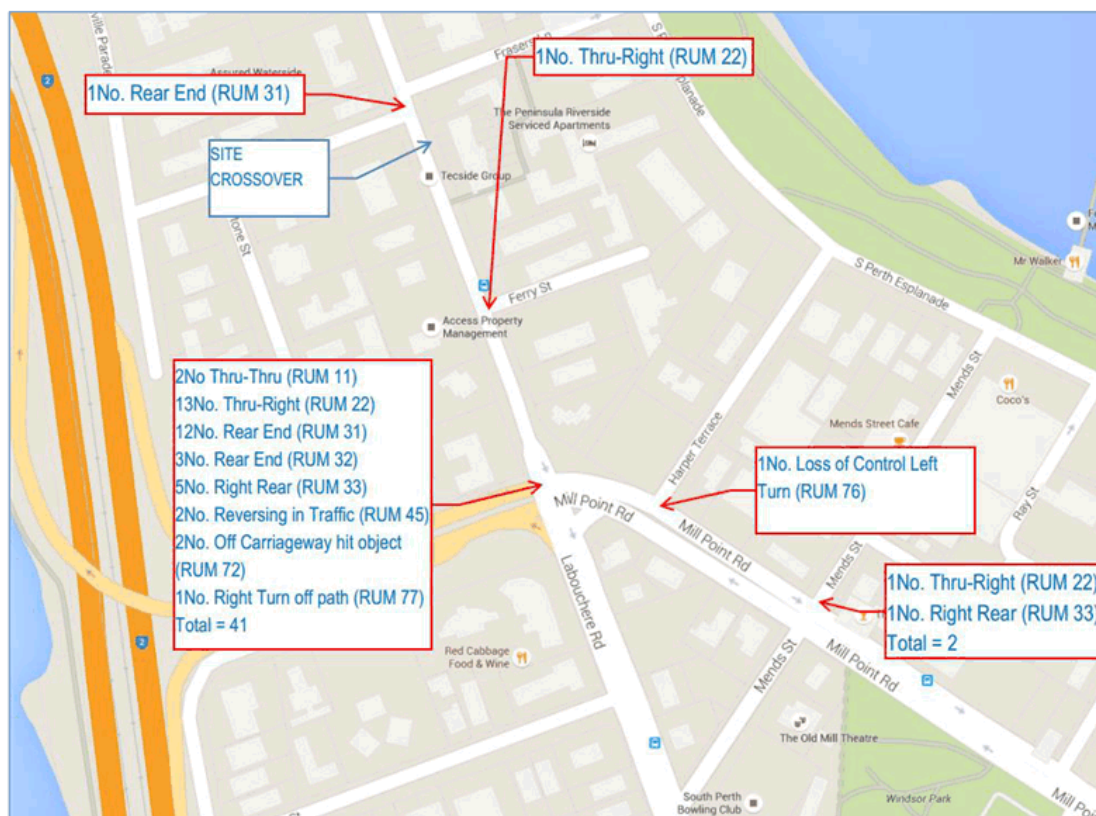


Figure 7 - Crash History

It is recommended that the City initiate a safety audit of the intersection to identify any initiatives to improve the safety of the intersection.



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4. Transport Assessment

4.1. Assessment Years

The development has been assessed against network conditions for its expected year of completion, taken as 2018. The assessment of the cumulative impact of development in the area on the surrounding road network has been carried out by the City of South Perth using their purpose built micro model of the South Perth precinct. The results of the cumulative assessment are included in a supplementary report prepared by the City of South Perth.

4.2. Time Periods for Assessment

The assessment for 2018 is based on weekday daily traffic and both peak hour periods for the development and the signalised intersection, taken as 8-9am and 5-6pm. The existing morning roadway peak hour for Mill Point Road North, adjacent to the site is 11-12pm, however the development traffic will have more of an impact between 8-9am, and this has been assessed as a "worst case" scenario.

4.3. Development Generation and Distribution

In order to estimate the impact of traffic generated by the proposed development, peak hour trip generation rates adopted by the City of South Perth in the Cardno Report *74 Mill Point Road Development - Micro Simulation Modelling Results* were referenced in order to provide a consistent approach with other developments in the area. Daily trip generation was based on the Road and Traffic Authority (RTA), NSW "Guide to Traffic Generating Developments", and the Institute of Transportation Engineers "Trip Generation 7th Edition" as used in the previous revision of this report. Generation based on these documents is shown on **Tables 3 and 4**.

Table 3 - Predicted Daily Trip Generation

Land use	Generation rate			Unit	Quantum	Estimated Generation		
	ADT	AM Peak	PM Peak			ADT	AM Peak	PM Peak
Serviced Apartments (<i>Motel</i>)	3	0.30	0.30	Units	104	312	31	31
Cafe (<i>Restaurant</i>)	60	8.68	5	GFA ('00m ²)	288	173	25	15
Multipurpose Room (<i>Commercial premises</i>)	10	1.38	2	GFA ('00m ²)	71	7	1	1
Residential Dwelling (1-2 BR)	4.5	0.28	0.39	Units	54	243	15	21
Residential Dwelling (>2 BR)	6	0.28	0.39	Units	29	174	8	11
Total						909	80	79



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Table 4 - Predicted Peak Hour Movements

Land use	Peak Distribution			
	AM Peak In	AM Peak Out	PM Peak In	PM Peak Out
Serviced Apartments (<i>Motel</i>)	11	20	17	14
Cafe (<i>Restaurant</i>)	15	10	5	10
Multipurpose Room (<i>Commercial premises</i>)	1	0	0	1
Residential Dwelling (1-2 BR)	3	12	14	7
Residential Dwelling (>2 BR)	2	6	7	4
Total	32	48	43	36

Standard trip generation guidelines indicate that the proposed development has the potential to generate approximately 909 vehicle trips per day with 80 vehicles per hour in the morning peak hour and 79 vehicles per hour in the afternoon peak hour.

In order to validate the trip generation of 74 Mill Point Road, a demographic survey of the buyers of the residential apartments in the proposed development was conducted to identify further travel patterns. Of the 62 presale apartments, the following features were identified for 52 respondents.

- 18 owners, or 29% were retired
- 2 owners identified as local investors
- 17 owners, or 27% identified as foreign investors, of which approximately 50% would rent out the property, the remaining 50% remaining predominantly vacant and only used for occasional trips by the owners.
- 8 owners, or 13% expressed an interest in catching the TransPerth ferry to and from the CBD for work
- 3 owners, or 5% identified as working away
- 1 owner identified as working in South Perth
- 1 owner indicated that the property would be used as their holiday home

The results of the survey indicated that 63.5% of apartment owners or renters would be likely to travel via public transport, active travel, avoid travel during these times or the dwellings would remain vacant for the majority of the time. The remaining 36.5% of owners were unavailable at the time of the survey.

In order to further assist with the determination of suitable generation rates for the proposed development, traffic surveys were carried out on a number of properties within the South Perth peninsula. Counts of vehicle movements in and out of the properties were carried out in the morning and late afternoon/evening. Results are shown in **Table 5**.



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Table 5 - Results of Traffic Surveys

Address	# of Units / Apartments	Count Period	Trips generated		% Change
			Theoretical	Actual	Actual v Theor
12 Stone Str	26	AM	16	4	25%
Residential		PM	16	8	50%
39 South Str	34	AM	20	8	40%
Residential		PM	20	7	35%
73 Mill Point Rd	32	AM	19	5	26%
Residential		PM	19	11	58%
53 South Perth Espl	73	AM	33	13	39%
Serviced Apartments		PM	29	20	69%

The actual trip generations for the residential apartments show actual trips being on average 30% of theoretical figures for AM peak and 48% for the PM peak. For an assessment of actual trip generation for serviced apartments, 53 South Perth Esplanade was selected as it has a high number of apartments in the complex. The figures in **Table 5** show actual trip generation to be 39% of theoretical forecasts for AM peak and 69% for PM peak.

The standard theoretical site generated traffic volumes are therefore regarded as conservative for the location of the proposed development and in practice it is anticipated that the actual trip generation will be significantly discounted. This has been taken into account by utilising the lower peak hour generation rates noted by Cardno as opposed to the previously adopted RTA rates for medium density dwellings.

4.4. Distribution

Main desire lines are expected to be between the site and the Kwinana Freeway to the higher-order road network, and between the site and Mill Point Road to the East and Labouchere Road to the south to local attractors and towards Canning Highway.

Traffic to and from the site is expected to be distributed as shown below and in **Figure 8**:

Inbound:	20% from the north	Outbound	10% to the north
	80% from the south		90% to the south



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Figure 8 - Site traffic distribution

Figure 9 illustrates the development traffic volumes based on the estimated traffic distribution.

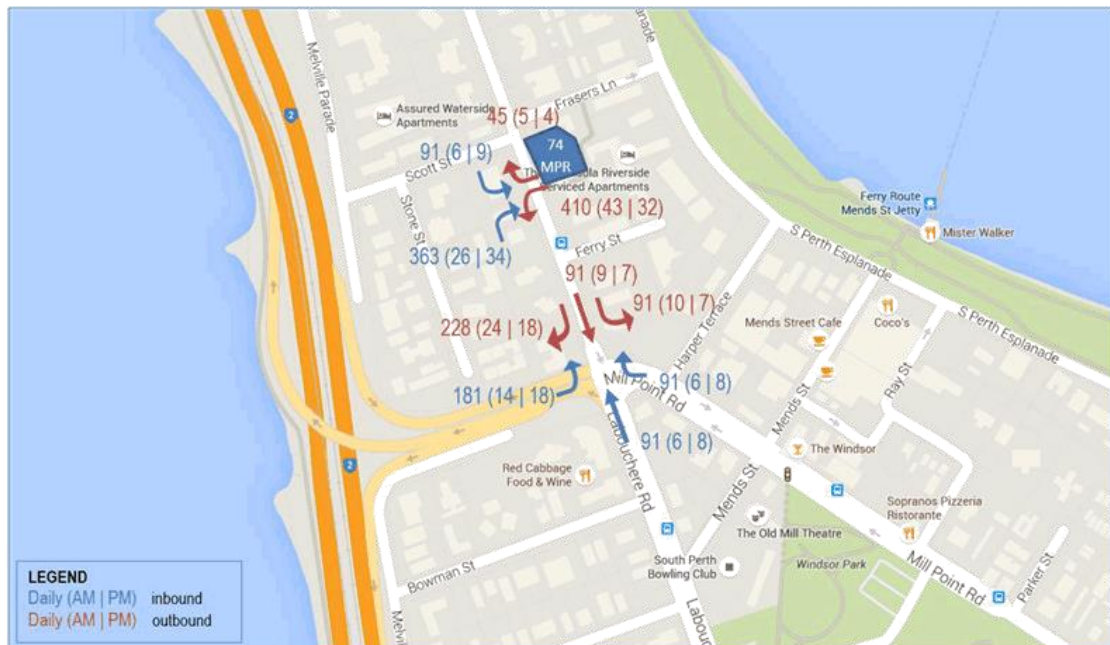


Figure 9 - Site-generated traffic distribution – 74 Mill Point Road



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The anticipated site-generated traffic has been assigned onto the boundary road system based upon the assumptions above and the resultant increases in weekday daily and peak hour traffic on the boundary roads associated with the proposed development are shown in **Table 6**. The development year (2018) traffic volumes have been assumed based on a 5% p.a. compound growth rate applied to the existing (2016 year assumed) traffic volumes stated in Section 3.2.

Table 6 - Predicted site-generated traffic volumes - Development year (2018) traffic

Location of Count	Predicted Increase			2018 Predicted Volumes (5% pa compound growth)			2018 Predicted Volumes (with development traffic)			Predicted Traffic increase (%)		
	Week day (vpd)	AM Peak (vph)	PM Peak (vph)	Week day (vpd)	AM Peak (vph)	PM Peak (vph)	Week day (vpd)	AM Peak (vph)	PM Peak (vph)	Week day (vpd)	AM Peak (vph)	PM Peak (vph)
Kwinana Freeway Ramp	409	38	36	42,826	3528	3791	43,235	3,566	3,827	0.56	0.82	0.87
Mill Point Road (North)	773	69	66	5,887	402	455	6,336	457	518	7.63	13.68	13.85
Mill Point Road (East)	182	16	15	23,657	1,835	1,878	23,763	1,847	1,893	0.45	0.65	0.80
Labouchere Road	182	15	16	16,596	1,274	1,703	16,702	1,286	1,719	0.64	0.94	0.94
Frasers Lane*	45	5	4	551	55	55	564	57	56	2.36	3.64	1.82

*Frasers Lane predicted volumes based on assumed daily and peak hour volumes

4.5. Impact on Intersections

4.5.1. Development Scenarios

The intersections analysed were the site access / Mill Point Road North, and the signalised intersection with Labouchere Road and Mill Point Road East.

The estimated peak traffic from 74 Mill Point Road has been considered as Scenario 1 calculated in Section 4.4.

The City of South Perth also requested that the proposed mixed-use development of the adjacent site, 76 Mill Point Road, be taken into account. Although the development application for this development is currently on hold and even if it did proceed, would only be completed some time after 74 Mill Point Road, it was included as Scenario 2 analysis to give a "worst case" scenario. (It should be noted that the development application for 76 Mill Point Road has been made by the same applicant as 74 Mill Point Road and they have indicated that they would be flexible with regard to changes to that application if it created an undue impact on the surrounding traffic.) Access for 76 Mill Point Road is proposed via a common right of way with 74 Mill Point Road. For this reason the traffic volumes for 76 Mill Point Road have been calculated and assigned to the road network in the same manner as the subject site, and included in the SIDRA analysis of the site access / Mill Point Road North and the signalised intersection



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at Mill Point Road / Labouchere Road / Freeway. The same directional distribution has been assumed, with a 25% discount rate applied for the 76 Mill Point Road traffic generation as calculated in **Appendix C**.

4.5.2. Mill Point Road / Labouchere Road / Kwinana Freeway Intersection Analysis

The signalised intersection at Mill Point Road / Labouchere Road / Kwinana Freeway Ramp was modelled using Sidra Intersection 6.1. Traffic volumes for 2018 were determined using SCATS counts (March 2016) and site turning surveys (June 2016) with a 5% compound growth rate applied from the year 2016. The results of the analysis are shown in **Appendix D**. Average fixed phase times were applied to all scenarios, as determined from Main Roads WA IDM recordings, however it should be noted that SCATS-operated signals change in order to accommodate additional flows within each cycle.

Modelling confirms that the signalised intersection will continue to operate at a comparable level following development of the site and have a negligible impact on the operations at this location during weekday AM and PM peak periods under future traffic conditions. **Table 7** compares various measures for the worst value or movement of the intersection, pre vs post development, considering development at 74 Mill Point Road only, and 74 and 76 Mill Point Road.

Table 7 - Impact of additional traffic on LOS

	AM Peak						PM Peak					
	Intersecti on Volume (vph)	Degree of Saturati on - worst	Average Delay worst movem ent (s)	Level of Service worst movem ent	MPR Nort h Que ue lengt h	95% back of queue worst movem ent	Intersecti on Volume (vph)	Degree of Saturati on - worst	Average Delay worst movem ent (s)	Level of Service worst movem ent	MPR Nort h Que ue lengt h	95% back of queue worst movem ent
					veh	veh					veh	veh
2016	2,807	0.691	59.4	LOS E	7.3	17.6	3,024	0.712	67.3	LOS E	10.1	23.3
2018 no developm ent	3,095	0.838	59.8	LOS E	8.1	22.7	3,333	0.785	69.5	LOS E	11.5	27.3
2018 with 74 MPR developm ent	3,164	0.838	60.5	LOS E	9.7	22.7	3,399	0.829	72.7	LOS E	12.8	27.3
Δ	69	0	0.70	-	1.6	0	66	0	3.20	-	1.3	0
% Δ	2.23%	0.00%	1.17%	-	19.8 %	0.00%	1.98%	5.61%	4.60%	-	11.3 %	0.00%
2018 no developm ent	3,095	0.838	59.8	LOS E	8.1	22.7	3,333	0.785	69.5	LOS E	11.5	27.3
2018 with 74 & 76 MPR developm ent	3,239	0.838	65.9	LOS E	12.1	22.7	3,476	0.894	79.2	LOS E	14.7	27.3
Δ	144	0	6.10	-	4	0	143	0	9.70	-	3.2	0
% Δ	4.65%	0.00%	10.20%	-	49.4 %	0.00%	4.29%	13.89%	13.96%	-	27.8 %	0.00%



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Table 7 shows the maximum queue length on Mill Point Road North occurs during the afternoon peak hour. For the 74 Mill Point Road development scenario, the increase is approximately 1.3 vehicles, or 9.8m. The maximum queue along Mill Point Road is approximately 105m.

4.5.3. Site Access / Mill Point Road North

The site access crossover and Mill Point Road (North) was modelled using SIDRA 7 for Scenario 1 and with the combined traffic volumes for 74 and 76 Mill Point Road as Scenario 2. The existing common right of way (ROW) is used as a secondary access for the Peninsula Serviced Apartments (53 South Perth Esplanade), however a site survey taken on the 19th May 2016 indicated that only one vehicle exited the 10-bay car park during a 3 hour period from 7-10am, and no vehicles entered or exited the site during the period from 3-6pm. The impact of this existing development is minimal and has been excluded from the SIDRA analysis.

The results of the analysis showed that the intersection will operate at a LOS A for all movements during the morning and afternoon development peak hours (8-9am, 5-6pm) for both development scenarios. The movement summary outputs are attached in **Appendix E**.

4.6. Cumulative Impact of Currently Approved Developments in South Perth Precinct

The WAPC Transport Assessment Guidelines provides for the inclusion of a 10-year assessment of the impact of the additional traffic generated by a development to assist the approving authority in planning and prioritising macro improvements to the road network. An extract from the guidelines is included below:

"The post full development assessment, (10-year after opening or similar), will determine the medium to longer term impacts of the proposed development on the surrounding road network, ie. it will provide a measure of the ability of the transport infrastructure to accommodate development flows plus further growth in the surrounding traffic. It will therefore provide the approving authority with advice on whether or not the development is likely to trigger the need for additional improvements to the transport networks over the next ten years or so, or bring forward any planned improvements".

As noted above in Section 4.1, the City of South Perth has developed a micro model of the surrounding road network and traffic flow in order to get a more comprehensive assessment of the cumulative impact of all future development in the area. The City has undertaken long term modelling of the road network which would include the impending growth within the South Perth precinct and increase in traffic passing through the area. Trip generation rates for 74 Mill Point Road were based on a discount rate of 25% as discussed above and used for Scenario 2. Results of the long term modelling are included in the supplementary report.

4.7. Traffic Noise and Vibration

Given the location of the site adjacent to the Kwinana Freeway, the impact from noise and vibration is not expected to be measurable.



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4.8. Road Safety

While the development will result in more traffic on the road network, it is not expected that the increase will change the risk profile to an unacceptable level.



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5. Pedestrian and Cycle Networks

5.1. Pedestrian and Cycling Infrastructure

Existing pedestrian infrastructure in the vicinity of the site includes:

- A footpath on both sides of Mill Point Road adjacent to and opposite the site;
- A shared path on the South Perth Foreshore along The Esplanade east of the site;
- A Principal Shared Path along the Kwinana Freeway to the west of the site; and
- Mill Point Road designated as a *Walking Trail* adjacent to the site.

An extract from the Department of Transport (DoT) TravelSmart Walk and Cycle Map – City of South Perth (West) is shown in **Figure 10** and illustrates the extent of the existing pedestrian/cyclist network within the vicinity of the site.



Figure 10 - Existing Cycling and Pedestrian Infrastructure

5.2. Safe Walk and Ride to School

The nearest schools to the development site are South Perth Primary School, St. Columba's Catholic Primary School and Wesley College. All are accessible from Mill Point Road, with footpaths on both sides on the road. Each school is then accessible via the local road network which has footpaths on at least one side of all roads. **Figure 11** shows the location of the schools and the extent of the 40km/hr school speed zones.



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Figure 11 - School Locations and 40km/h School Zones



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6. Public Transport

The subject site has excellent access to the public transport network and is located within short walking distance of an existing bus Route 35 (Perth-South Perth) on Mill Point Road adjacent to the site. Bus stops are in place on both sides of the road within close walking distance, respectively, and located approximately every 300m along Mill Point Road north. This existing service provides 15-minute service during the weekday a.m. and p.m. peak periods, respectively, and half hourly service during the midday and hourly service during the evening off-peak and weekend periods.

There are also frequent services between Labouchere Road and Mill Point Road East to the Perth CBD with Routes 30, 31 and 34 operating approximately 400m from the site. These services also provide access to Curtin University and nearby Salter Point and Como. During the morning and afternoon peak hours, there are services to and from the Perth CBD approximately every 5 to 10 minutes.

The existing TransPerth ferry services from the Mends Street Jetty are also within a 5-minute walk from the subject site providing direct service to the Perth CBD with services every 15-30 minutes during the summer months and every 30 minutes on during the winter months.

Figure 12 shows the existing public transport services in the area, while **Figure 13** and **Table 8** detail the bus and ferry stops near the site.

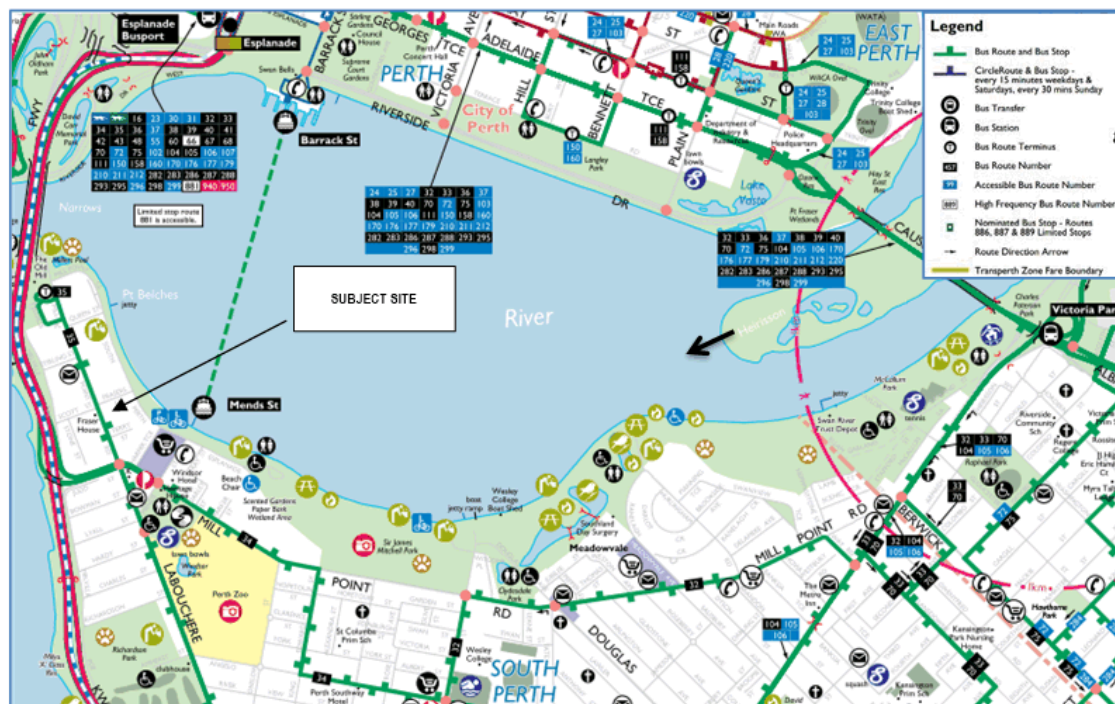


Figure 12 - Travel Smart Map: Public Transport Infrastructure in Vicinity of Site



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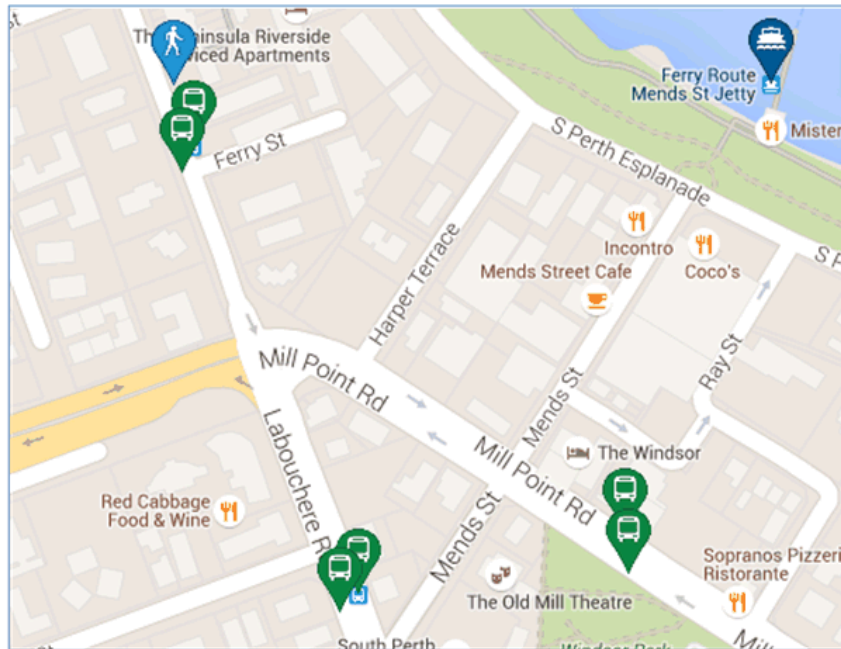


Figure 13 - Public Transport Stops Near Development Site

Table 8 - Public Transport Stops and Services Near Development Site

Bus / Ferry Stop ID	Location	Walking Distance From Site	Direction (To / From Perth CBD)	Services / Frequency
11826	Mill Point Road (SB), before Ferry Street	66m	To CBD	35 – Old Mill to Elizabeth Quay On-Peak 15 mins Off-Peak 30 mins
11844	Mill Point Road (NB), before Scott Street	99m	From CBD	35 – Elizabeth Quay to Old Mill On-Peak 15 mins Off-Peak 30 mins
11866	Labouchere Road after Mends Street	396m	To CBD	30 – Curtin University to Elizabeth Quay On-Peak 10 mins Off-Peak 30 mins 30 – Salter Point to Elizabeth Quay On-Peak 10 mins Off-Peak 30 mins (bus services to CBD in AM Peak approximately every 5 minutes)
11846	Labouchere Road After Mill Point Road	363m	From CBD	30 – Elizabeth Quay to Curtin University On-Peak 10 mins Off-Peak 30 mins 31 – Elizabeth Quay to Salter Point On-Peak 10 mins Off-Peak 30 mins (bus services from CBD in PM Peak approximately every 5 minutes)
11843	Mill Point Road before Mends Street	528m	To CBD	34 – Cannington Station to Elizabeth Quay (via Curtin University and Como) On-Peak 10 mins Off-Peak 15 mins
11827	Mill Point Road after Mends Street	495m	From CBD	34 – Elizabeth Quay to Cannington Station (via Como and Curtin University) On-Peak 10 mins Off-Peak 15 mins
99998	Mends St Jetty	660m	To / From CBD	Ferry to / from Elizabeth Quay On-Peak 15 mins Off-Peak 30 mins



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7. Parking

The proposed on-site car parking is to be provided at ground level, within the three basements levels and within the above grade Levels 1 through 3.

The proposed car parking on the site will be allocated as shown in **Table 9**.

Table 9 - Proposed Car Parking Supply

Level	Resident Parking	Tandem	Resident Visitor	Bicycle	Commercial Parking	Commercial Tandem	Commercial visitor	Total Bays
Basement 3	18			17	23			41
Basement 2	32			14	7			39
Basement 1	38			14				38
Ground				20	4			4
Level 1	21	8	9	10	9		1	48
Level 2	20	5		9	20	5		50
Totals	129	13	9	84	63	5	1	220

The minimum on-site parking requirements as stipulated in the *South Perth Precinct Study Design Guidelines* and the proposed supply is compared in **Table 10**.

Table 10 - South Perth Parking Requirements

Level	Quantum	Rate	Required Number of Bays	Total Bays supplied
1 bed dwelling	11 dwellings	0.75 per dwelling	8	11
2+ bed dwelling	72 dwellings	1 per dwelling	72	133
Residential Visitors	83 dwellings	1 per 6 dwellings	14	8
Serviced Apartments	104 serviced apartments	0.5 per serviced apartment	52	52
Commercial (Café and Meeting Room)	551m ²	1 per 50m ²	11	10
Serviced Apartment Visitors	52 bays	0.1 per required bay	5	5
Commercial Visitors	11 bays	0.1 per required bay	1	1
Totals			163	220

The proposed on-site supply of 220 standard bays including 18 tandem bays and is consistent with the statutory requirements for the site. There is also proposed parking for 5 scooters or motorcycles on the ground floor.

The site is classed as a 1A parking facility (residential, domestic and employee parking) and comparison of the required dimensions versus the bay dimensions assessed from the drawing are summarised in **Table 11**.



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Table 11 - Parking Bay Dimensions

Bay details.	Bay dimension required.	Bay dimension provided.	Comment
Ninety degree bays	5.4 x 2.4 x 5.8 aisles.	5.4 x 2.4 x 5.8m aisles.	Complies.
Tandem bays	5.4 x 2.4 x 5.8 aisles	10.0 x 2.4 x 5.8m aisles	Complies

Bay dimensions and parking area layout complies with the requirements of AS 2890.1 – Parking Facilities: Off Street Car Parking.

One accessible parking bay is shown on Level 1 and a shared space is required adjacent to the space in accordance with Australian Standard AS 2890.6 *Parking Facilities Part 6: Off-street Parking for People with Disabilities*. The number of accessible parking bays is compliant with the Building Code of Australia (BCA) requirements for the commercial component of the building which is one bay per 100 bays provided. There is no requirement for the residential component of the building.

7.1. Bicycle Parking

The proposed development includes individual secure storage facilities for personal effects including bicycles within the car parking levels of the development for each residential dwelling unit.

Dedicated bicycle storage is also available for the commercial and residential tenants and visitors with 9 secure bicycle bays and 11 public bicycle bays available on the ground floor, and an additional 64 bicycle bays provided over the parking levels.

The requirements for bicycle parking are shown in **Table 12** and determined that the 84 bicycle spaces supplied exceeds the requirements under TPS6. There is no requirement for the meeting room under TPS 6; however it is assumed that any requirement can be accommodated with the 34 surplus spaces supplied.

Table 12 - Bicycle Parking Requirements

Category	Quantum	TPS6 Required Rate	Required Spaces
Tourist Accommodation	104 serviced apartments	1 per 20 units	6 bicycle spaces
Cafe	288m ²	1 per 40m ² of dining area	7 bicycle spaces
Meeting Room	71m ²	N/A	
Residential	83 dwellings	1 bicycle space to each three dwellings	28 bicycle spaces
Residential Visitors	83 dwellings	1 bicycle space to each ten dwellings	9 bicycle spaces
		Total Required	50 bicycle spaces
		Total Supplied	84 bicycle spaces



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8. Site Access

8.1. Development Accesses

The Australian Standard AS2890.1:2004 Parking Facilities Part 1 Off-Street Parking Facilities recommends the crossover gradients to be 1 in 20 as specified in Section 3.3(a) -

3.3 GRADIENTS OF ACCESS DRIVEWAYS

At entry and exit points, the access driveway should be graded to minimize problems associated with crossing the footpath and entering the traffic in the frontage road.

Maximum gradients on and near access driveways, other than at domestic properties (see Clause 2.6), shall be as follows:

- (a) *Property line/building alignment/pedestrian path*—max. 1 in 20 (5%) between edge of frontage road and the property line, building alignment or pedestrian path (except as provided in Item (d)), and for at least the first 6 m into the car park (except as provided below).

The grade of the first 6 m into the car park may be increased to 1 in 8 (12.5%) under the following conditions:

- (i) The grade is a downgrade for traffic leaving the property and entering the frontage road.
- (ii) The user class is Class 1, 1A or 2 only.
- (iii) The maximum car park size is—
 - (1) for entry into an arterial road—25 car spaces, or
 - (2) for entry onto a local road—100 car spaces.

The maximum grade across the property line shall remain at 1 in 20 (5%).

Based on the concept design crossover gradients are likely to comply with AS2890.1.

The proposed layout of the car parking within the undercroft area is appropriate and consistent with Australian Standard AS 2890.1: *Off-Street Parking* and relevant traffic engineering standards.

An Autotrack simulation was undertaken for the site car parks and determined that all car bays were accessible using the B85 vehicle template.

All vehicles will be able to enter and exit the site in forward gear.

74 Mill Point Road currently has access to Frasers Lane via a rear laneway. This rear access will be kept closed by means of a locked gate and only used in event of an emergency.



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8.2. Service Vehicles

A bin storage room is located on the ground floor, adjacent to the site access laneway running along the southern boundary of the site.

The development waste will be collected by a private contractor, with a standard waste collection vehicle reversing from Mill Point Road into the ROW to collect the bins which will be pushed out to the laneway. The waste collection vehicle will exit in forward gear to Mill Point Road on completion of the collection.

Waste collection would be undertaken outside of peak hours in order to minimise conflict with entering and exiting vehicles with this task undertaken a maximum of twice per week. A review of the site lines to Mill Point Road indicate that they are sufficient for the waste management vehicle to exit safely. A Waste Management Plan has been prepared separately in consultation with the City of South Perth.

Taxis will stop in front of the building within Mill Point Road out of peak hours. During peak hours, taxis will be able to pull into the loading bay to pick up or set down passengers.

The development has made no provision for tour buses as their services are not anticipated. This is similar to other serviced apartments in the area

8.3. Access Vehicle Sight Distance

Sight distance from the car park egress along the street is defined in Figure 3.2 of AS2890.1 which is reproduced in **Figure 14**.

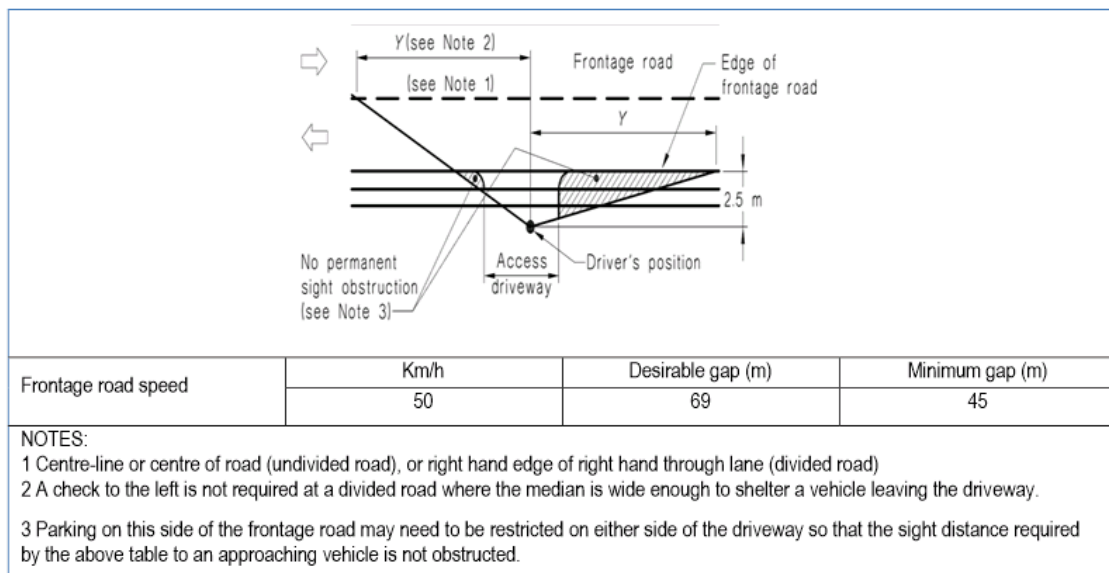


Figure 14 - Sight Distance Requirements



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The available sight distances from the cross over are shown in **Figures 15 and 16**.



Figure 15 - Vehicle sight distance looking north.



Figure 16 - Vehicle sight distance looking south.

8.4. Access Pedestrian Sight Distance

The Australian Standard AS2890.1:2004 also provides details for sight lines and distances for pedestrian movements across an access to a car park. Those details are shown in the AS2890.1 Figure 3.3 extract on **Figure 17**.



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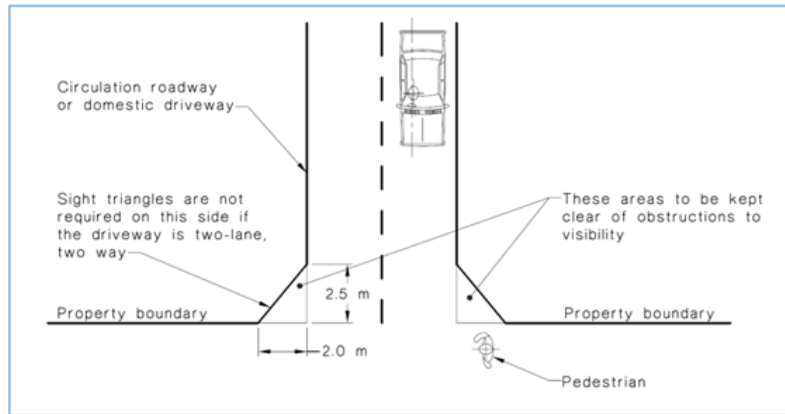


Figure 17 - AS 2890 Requirements for Pedestrian Sight Lines

The available pedestrian sight lines as per the concept plan is shown in **Figure 18**. The required sight distance is available to the north, however the sight distance to the south will need to be provided for in the design of 76 Mill Point Road. The crossover will provide access to both 74 and 76 Mill Point Road.

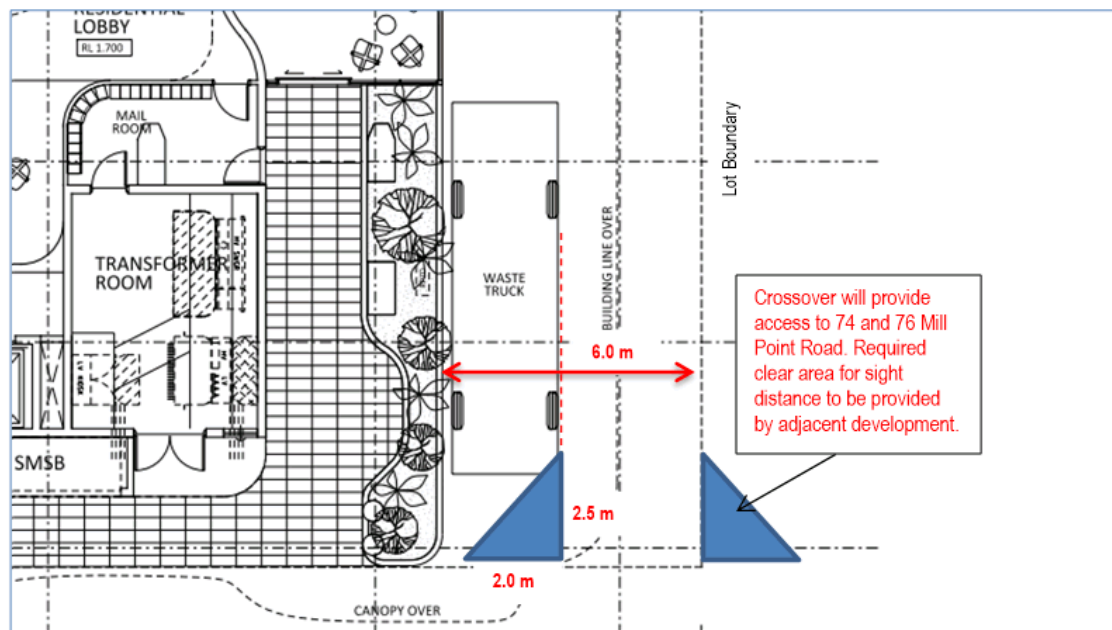


Figure 18 - Available Pedestrian Sight Lines



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9. Conclusion

The impact of the proposed development on the surrounding road network was assessed for 2018 (proposed year of completion) including the subject site development traffic and with the proposed development at 76 Mill Point Road.

The analysis of the forecast traffic generation did not identify any unacceptable impact on the adjacent road segments based on either scenario.

With respect to the proposed development, the following is concluded;

- The location of the proposed access onto Mill Point Road north is considered acceptable and no adverse impacts associated with the access are identified. No increased risk to pedestrian safety along this section of Mill Point Road was identified.
- The theoretical trip generation from the site is 909 vpd with 80 vph and 79 vph in the AM and PM peak periods, respectively.
- Based on existing average fixed signal times, the northern leg of the signalised intersection of Mill Point Road / Labouchere Road / Kwinana Freeway ramp may experience some delays, however these are expected to be minor in comparison to general background flow increases.
- The proposed layout of parking bays is in accordance with AS2890 and the number of parking bays provided is compliant with the City of South Perth TPS6.
- Bicycle Parking provided on site is compliant with the City of South Perth TPS6 and the WAPC R-Codes.
- Waste removal and taxi services have been accommodated.



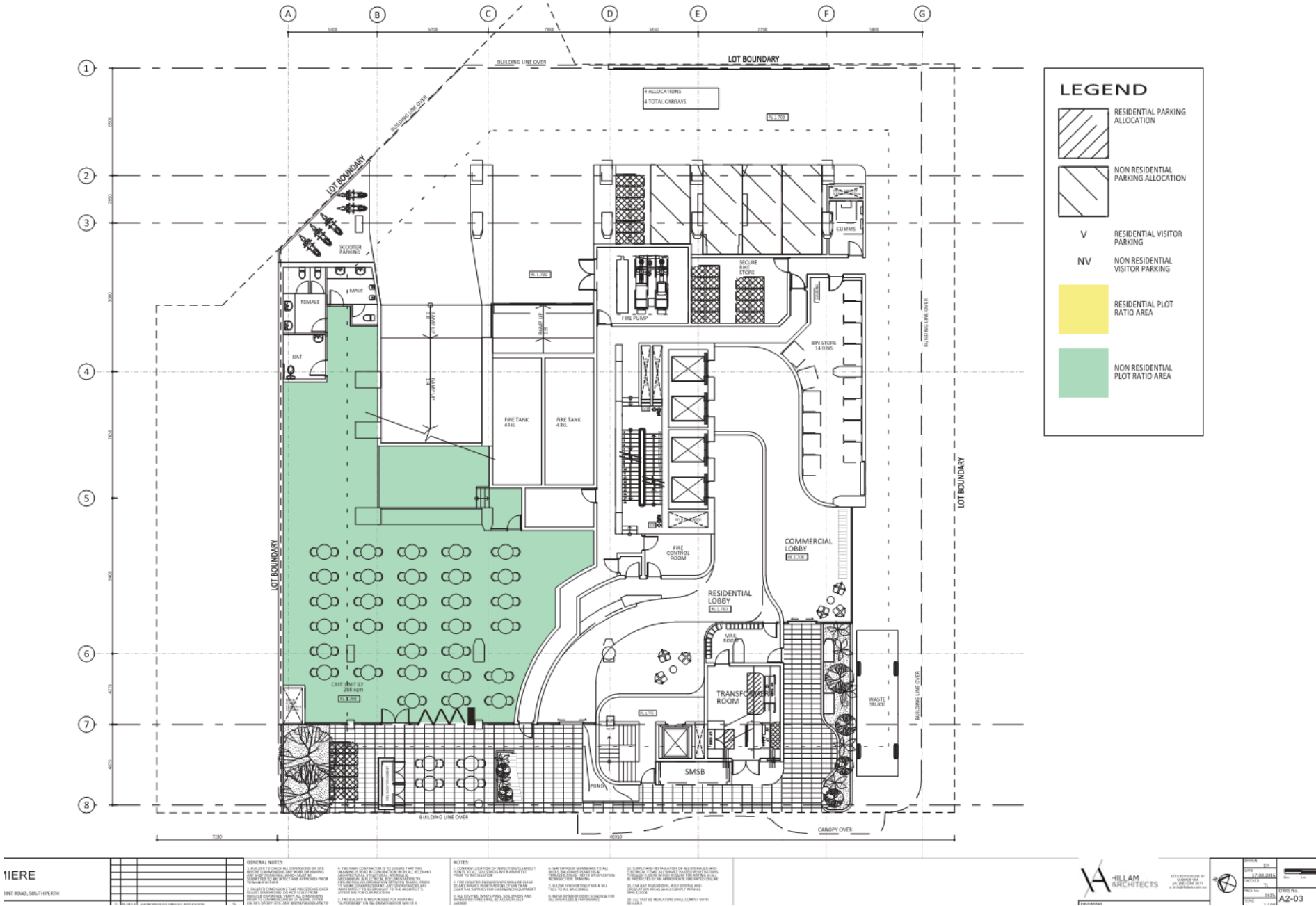
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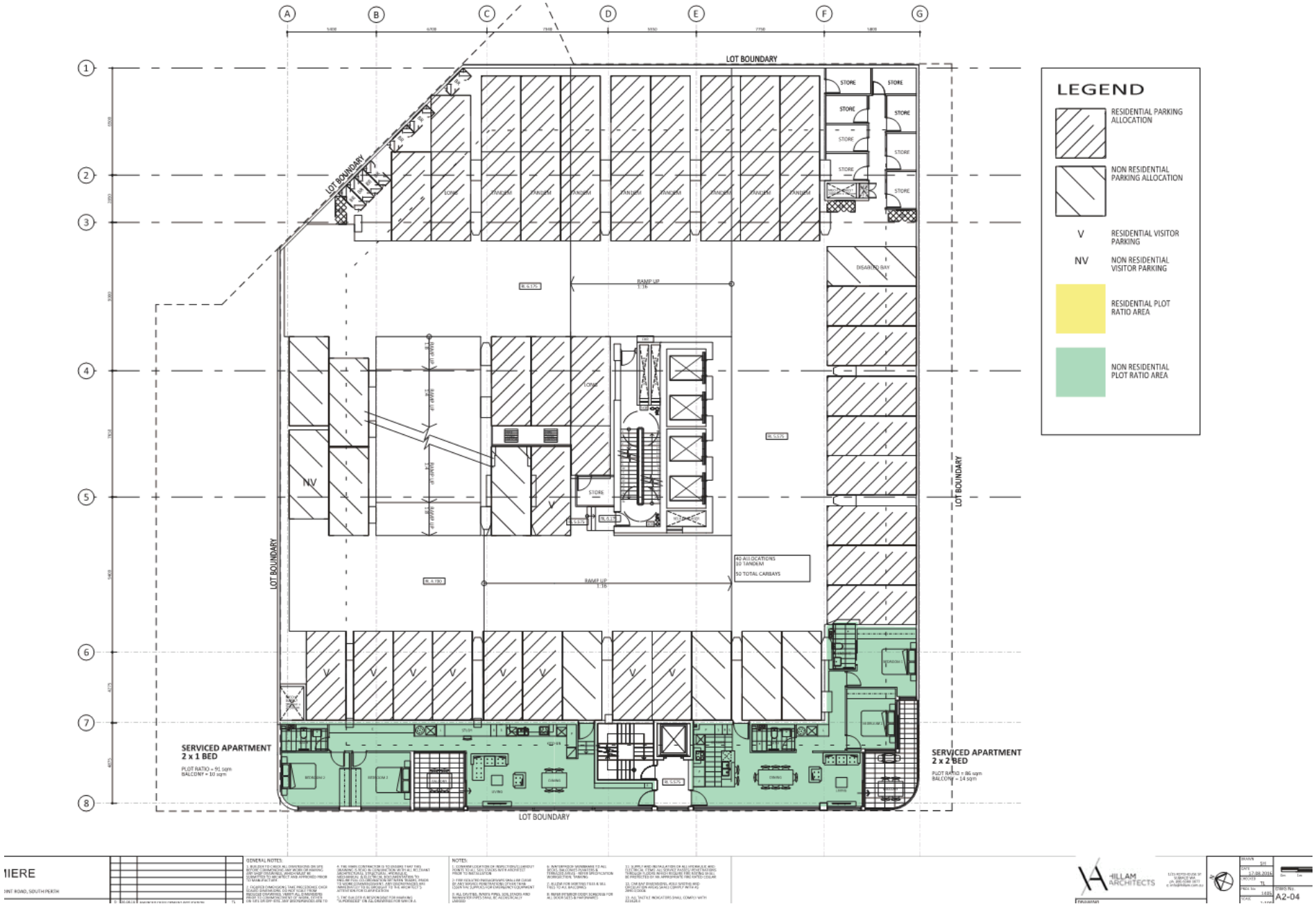
Appendix A - Site Plan















Consulting Civil and Traffic Engineers, Risk Managers

Appendix B - Traffic Counts

MetroCount Traffic Executive Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-317 -- English (ENA)

Datasets:

Site: [COSP195] Mill Point Rd, mid Scott St and Frasers Lane <50> (no 73)
Attribute: [-31.970790 +115.849837]
Direction: 1 - North bound, A trigger first. **Lane:** 1
Survey Duration: 10:46 Tuesday, 10 May 2016 => 10:17 Tuesday, 24 May 2016,
Zone:
File: COSP195 0 2016-05-24 1017.EC1 (Plus)
Identifier: A994N1ZG MC56-1 [MC55] (c)Microcom 07/06/99
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 10:47 Tuesday, 10 May 2016 => 0:00 Friday, 20 May 2016 (9.55069)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range: 10 - 160 km/h.
Direction: North (bound), P = North
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (AustRoads94)
Units: Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile: Vehicles = 15877 / 53282 (29.80%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-317

Site: COSP195.1.0N
Description: Mill Point Rd, mid Scott St and Frasers Lane <50> (no 73)
Filter time: 10:47 Tuesday, 10 May 2016 => 0:00 Friday, 20 May 2016
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(N) Sp(10,160) Headway(>0) Span(0 - 100)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
								1 - 5	1 - 7
Hour									
0000-0100	11.0	8.0	10.0	9.0	12.0	30.0	36.0	9.9	15.0
0100-0200	6.0	4.0	4.5	8.5	10.0	22.0	21.0	6.6	9.9
0200-0300	2.0	4.0	2.5	5.5	5.0	23.0	10.0	3.9	6.7
0300-0400	4.0	3.0	3.5	2.5	5.0	6.0	17.0	3.4	5.2
0400-0500	9.0	3.0	3.0	4.5	1.0	9.0	5.0	4.0	4.7
0500-0600	13.0	25.0	22.0	18.0	18.0	8.0	12.0	19.4	17.3
0600-0700	68.0	52.0	71.5	59.5	59.0	34.0	31.0	63.0	56.2
0700-0800	78.0	87.0	72.5	71.5	82.0	47.0	43.0	76.4	69.4
0800-0900	72.0	70.0	81.0	76.0	88.0	55.0	62.0	77.7	73.4
0900-1000	92.0	93.0	93.5	101.0	87.0	79.0	79.0	94.4	91.0
1000-1100	98.0	50.5	89.5	89.5	109.0	116.0	106.0	83.3	88.8
1100-1200	108.0	112.5	105.5	111.0	92.0	102.0	90.0	107.3	105.0
1200-1300	105.0	97.0	97.5	97.0	107.0	117.0	120.0	99.4	103.2
1300-1400	95.0	100.0	100.0	98.0	97.0	120.0	111.0	98.5	101.9
1400-1500	110.0	100.0	94.5	88.0	106.0	135.0	121.0	97.6	103.7
1500-1600	124.0	120.0	110.5	127.0	98.0	120.0	99.0	117.1	115.6
1600-1700	105.0	122.5	113.0	121.0	114.0	127.0	110.0	116.5	116.9
1700-1800	158.0	130.5	139.0	127.0	162.0	143.0	96.0	139.1	135.2
1800-1900	131.0	129.0	127.5	117.5	138.0	114.0	105.0	127.1	123.6
1900-2000	78.0	93.0	90.0	96.5	102.0	83.0	57.0	92.4	87.9
2000-2100	71.0	66.5	74.5	63.0	76.0	62.0	52.0	69.4	66.9
2100-2200	53.0	54.5	55.0	62.5	83.0	59.0	61.0	60.0	60.0
2200-2300	30.0	32.5	37.5	48.0	61.0	53.0	23.0	40.9	40.3
2300-2400	11.0	18.0	23.0	29.5	35.0	41.0	19.0	23.4	24.7
Totals									
0700-1900	1276.0	1212.0	1224.0	1224.5	1280.0	1275.0	1142.0	1234.4	1227.8
0600-2200	1546.0	1478.0	1515.0	1506.0	1600.0	1513.0	1343.0	1519.2	1498.8
0600-0000	1587.0	1528.5	1575.5	1583.5	1696.0	1607.0	1385.0	1583.4	1563.8
0000-0000	1632.0	1575.5	1621.0	1631.5	1747.0	1705.0	1486.0	1630.6	1622.6
AM Peak	1100	1100	1100	1100	1000	1000	1000		
	108.0	112.5	105.5	111.0	109.0	116.0	106.0		
PM Peak	1700	1700	1700	1700	1700	1700	1400		
	158.0	130.5	139.0	127.0	162.0	143.0	121.0		

* - No data.

MetroCount Traffic Executive **Weekly Vehicle Counts (Virtual Week)**

VirtWeeklyVehicle-318 -- English (ENA)

Datasets:

Site: [COSP195] Mill Point Rd, mid Scott St and Frasers Lane <50> (no 73)
Attribute: [-31.970790 +115.849837]
Direction: 1 - North bound, A trigger first. **Lane:** 1
Survey Duration: 10:46 Tuesday, 10 May 2016 => 10:17 Tuesday, 24 May 2016,
Zone:
File: COSP195 0 2016-05-24 1017.EC1 (Plus)
Identifier: A994N1ZG MC56-1 [MC55] (c)Microcom 07/06/99
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 10:47 Tuesday, 10 May 2016 => 0:00 Friday, 20 May 2016 (9.55069)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range: 10 - 160 km/h.
Direction: South (bound), P = North
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (AustRoads94)
Units: Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile: Vehicles = 36481 / 53282 (68.47%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-318

Site: COSP195.1.0N
Description: Mill Point Rd, mid Scott St and Frasers Lane <50> (no 73)
Filter time: 10:47 Tuesday, 10 May 2016 => 0:00 Friday, 20 May 2016
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(S) Sp(10,160) Headway(>0) Span(0 - 100)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
								1 - 5	1 - 7
Hour									
0000-0100	10.0	6.0	19.0	17.5	15.0	49.0	58.0	14.9	23.4
0100-0200	8.0	8.0	9.5	9.5	16.0	35.0	38.0	10.0	15.9
0200-0300	12.0	6.0	6.0	6.5	4.0	14.0	30.0	6.7	10.1
0300-0400	8.0	8.0	5.0	7.0	16.0	13.0	21.0	8.0	10.0
0400-0500	9.0	10.0	10.0	15.0	9.0	16.0	16.0	11.1	12.2
0500-0600	76.0	64.0	65.5	70.0	69.0	26.0	19.0	68.6	58.3
0600-0700	118.0	153.0	127.5	132.5	147.0	83.0	68.0	134.0	121.0
0700-0800	191.0	215.0	204.0	216.5	204.0	143.0	104.0	207.3	188.7
0800-0900	229.0	249.0	258.0	239.5	270.0	212.0	233.0	249.0	243.1
0900-1000	250.0	254.0	271.0	257.0	307.0	341.0	163.0	266.7	263.4
1000-1100	257.0	123.0	266.0	252.5	328.0	372.0	305.0	233.5	254.5
1100-1200	257.0	228.5	265.5	285.0	250.0	343.0	353.0	258.1	276.1
1200-1300	248.0	265.0	258.0	274.0	281.0	313.0	339.0	265.4	277.5
1300-1400	218.0	254.5	264.5	231.5	253.0	270.0	294.0	246.5	253.6
1400-1500	257.0	268.0	249.5	261.0	273.0	265.0	254.0	260.9	260.6
1500-1600	245.0	264.0	255.0	242.0	228.0	278.0	218.0	249.4	249.1
1600-1700	211.0	214.5	229.0	233.5	253.0	261.0	223.0	227.3	230.2
1700-1800	245.0	275.0	302.5	266.0	256.0	298.0	200.0	273.5	268.6
1800-1900	225.0	229.0	246.5	253.5	278.0	290.0	174.0	245.1	242.5
1900-2000	136.0	153.0	153.0	162.0	198.0	202.0	120.0	158.8	159.2
2000-2100	131.0	109.5	114.0	112.0	129.0	140.0	84.0	116.4	115.5
2100-2200	73.0	95.5	106.5	85.0	130.0	106.0	94.0	97.1	97.7
2200-2300	49.0	55.5	56.0	68.5	105.0	136.0	58.0	64.3	70.8
2300-2400	22.0	25.5	30.5	44.5	75.0	82.0	26.0	37.3	40.6
Totals									
0700-1900	2833.0	2839.5	3069.5	3012.0	3181.0	3386.0	2860.0	2982.6	3007.9
0600-2200	3291.0	3350.5	3570.5	3503.5	3785.0	3917.0	3226.0	3488.9	3501.3
0600-0000	3362.0	3431.5	3657.0	3616.5	3965.0	4135.0	3310.0	3590.4	3612.7
0000-0000	3485.0	3533.5	3772.0	3742.0	4094.0	4288.0	3492.0	3709.7	3742.7
AM Peak	1100	0900	0900	1100	1000	1000	1100		
	257.0	254.0	271.0	285.0	328.0	372.0	353.0		
PM Peak	1400	1700	1700	1200	1200	1200	1200		
	257.0	275.0	302.5	274.0	281.0	313.0	339.0		

* - No data.

MetroCount Traffic Executive **Weekly Vehicle Counts (Virtual Week)**

VirtWeeklyVehicle-422 -- English (ENA)

Datasets:

Site: [COSP03] Labouchere Rd Between Judd & Bowman St
Attribute: [-31.973252 +115.850837]
Direction: 1 - North bound, A trigger first. **Lane:** 1
Survey Duration: 12:11 Tuesday, 2 February 2016 => 8:05 Wednesday, 10 February 2016,
Zone:
File: COSP03 0 2016-02-10 0805.EC1 (Plus)
Identifier: V449REGR MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Site: [COSP03] Labouchere Rd Between Judd & Bowman St
Attribute: [-31.973252 +115.850837]
Direction: 3 - South bound, A trigger first. **Lane:** 3
Survey Duration: 12:10 Tuesday, 2 February 2016 => 8:08 Wednesday, 10 February 2016,
Zone:
File: COSP03 0 2016-02-10 0807.EC3 (Plus)
Identifier: V303FRGV MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Site: [COSP03] Labouchere Rd Between Judd & Bowman St
Attribute: [-31.973252 +115.850837]
Direction: 1 - North bound, A trigger first. **Lane:** 2
Survey Duration: 12:11 Tuesday, 2 February 2016 => 8:01 Wednesday, 10 February 2016,
Zone:
File: COSP03 0 2016-02-10 0801.EC2 (Plus)
Identifier: V307ZE2N MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 12:11 Tuesday, 2 February 2016 => 8:08 Wednesday, 10 February 2016 (7.83164)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range: 10 - 160 km/h.
Direction: North, East, South, West (bound), P = North
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (AustRoads94)
Units: Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile: Vehicles = 107980 / 108392 (99.62%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-422

Site: Cosp03.1.0N Cosp03.3.0S Cosp03.2.0N
Description: Multiple sites - See Header sheet for site descriptions.
Filter time: 12:11 Tuesday, 2 February 2016 => 8:08 Wednesday, 10 February 2016
Scheme: Vehicle classification (AustRoads94)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
								1 - 5	1 - 7
Hour									
0000-0100	39.0	37.0	60.5	93.0	41.0	118.0	167.0	55.2	77.0
0100-0200	17.0	12.0	26.0	24.0	24.0	81.0	98.0	21.5	38.5
0200-0300	15.0	11.0	19.5	17.0	17.0	54.0	83.0	16.5	29.5
0300-0400	15.0	18.0	23.5	20.0	14.0	37.0	34.0	19.0	23.1
0400-0500	31.0	33.0	40.5	26.0	32.0	28.0	38.0	33.8	33.6
0500-0600	179.0	180.0	194.5	214.0	170.0	85.0	71.0	188.7	161.0
0600-0700	556.0	586.0	597.0	614.0	559.0	311.0	187.0	584.8	500.9
0700-0800	1118.0	1154.0	1136.5	1142.0	1066.0	453.0	269.0	1125.5	934.4
0800-0900	1356.0	1420.0	673.0	1417.0	1394.0	742.0	521.0	1155.5	1024.5
0900-1000	819.0	964.0	1071.0	986.0	1047.0	751.0	579.0	977.4	888.1
1000-1100	793.0	863.0	846.0	793.0	856.0	871.0	671.0	830.2	813.3
1100-1200	781.0	792.0	901.0	877.0	939.0	939.0	751.0	858.0	854.3
1200-1300	830.0	785.5	853.0	941.0	919.0	913.0	699.0	852.3	840.8
1300-1400	748.0	804.0	853.0	834.0	874.0	816.0	629.0	819.5	795.3
1400-1500	809.0	841.5	884.0	924.0	1029.0	753.0	605.0	888.2	835.9
1500-1600	960.0	1063.5	1143.0	1244.0	1228.0	744.0	629.0	1117.0	1009.4
1600-1700	1217.0	1389.0	1348.0	1427.0	1374.0	651.0	571.0	1357.3	1170.8
1700-1800	1389.0	1591.5	1667.0	1613.0	1419.0	743.0	567.0	1545.2	1322.6
1800-1900	766.0	861.0	963.0	986.0	896.0	722.0	489.0	888.8	818.0
1900-2000	443.0	537.0	510.0	551.0	537.0	512.0	389.0	519.2	502.0
2000-2100	389.0	352.5	344.0	360.0	367.0	371.0	279.0	360.8	351.9
2100-2200	265.0	417.0	687.0	326.0	333.0	344.0	248.0	407.5	379.6
2200-2300	154.0	303.0	466.0	200.0	275.0	280.0	150.0	283.5	266.4
2300-2400	83.0	123.0	242.0	120.0	194.0	201.0	84.0	147.5	146.3
Totals									
0700-1900	11586.0	12529.0	12338.5	13184.0	13041.0	9098.0	6980.0	12414.9	11307.2
0600-2200	13239.0	14421.5	14476.5	15035.0	14837.0	10636.0	8083.0	14287.3	13041.6
0600-0000	13476.0	14847.5	15184.5	15355.0	15306.0	11117.0	8317.0	14718.3	13454.2
0000-0000	13772.0	15138.5	15549.0	15749.0	15604.0	11520.0	8808.0	15052.9	13817.0
AM Peak	0800	0800	0700	0800	0800	1100	1100		
	1356.0	1420.0	1136.5	1417.0	1394.0	939.0	751.0		
PM Peak	1700	1700	1700	1700	1700	1200	1200		
	1389.0	1591.5	1667.0	1613.0	1419.0	913.0	699.0		

* - No data.

MetroCount Traffic Executive **Weekly Vehicle Counts (Virtual Week)**

VirtWeeklyVehicle-428 -- English (ENA)

Datasets:

Site: [COSP01] Mill Point Rd Between Mends & Labouchere Rd
Attribute: [-31.972765 +115.851260]
Direction: 4 - West bound, A trigger first. **Lane:** 1
Survey Duration: 21:36 Tuesday, 2 February 2016 => 12:33 Monday, 15 February 2016,
Zone:
File: COSP01 0 2016-02-15 1233.EC1 (Plus B)
Identifier: KC04HF5H MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Site: [COSP01] Mill Point Rd Between Mends & Labouchere Rd
Attribute: [-31.972765 +115.851260]
Direction: 4 - West bound, A trigger first. **Lane:** 2
Survey Duration: 21:38 Tuesday, 2 February 2016 => 12:28 Monday, 15 February 2016,
Zone:
File: COSP01 0 2016-02-15 1229.EC2 (Plus)
Identifier: DS34XCP3 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Site: [COSP01] Mill Point Rd Between Mends St & Labouchere Rd
Attribute: [-31.972783 +115.851260]
Direction: 2 - East bound, A trigger first. **Lane:** 1
Survey Duration: 21:28 Tuesday, 2 February 2016 => 12:43 Monday, 15 February 2016,
Zone:
File: COSP01 0 2016-02-15 1243.EC1 (Plus)
Identifier: V446Z9Q5 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Site: [COSP01] Mill Point Rd Between Mends St & Labouchere Rd
Attribute: [-31.972783 +115.851260]
Direction: 2 - East bound, A trigger first. **Lane:** 2
Survey Duration: 7:51 Wednesday, 10 February 2016 => 12:36 Monday, 15 February 2016,
Zone:
File: COSP01 0 2016-02-15 1237.EC2 (Plus B)
Identifier: FS883FVN MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Site: [COSP01] Mill Point Rd Between Mends St & Labouchere Rd
Attribute: [-31.972783 +115.851260]
Direction: 2 - East bound, A trigger first. **Lane:** 2
Survey Duration: 21:28 Tuesday, 2 February 2016 => 7:33 Wednesday, 10 February 2016,
Zone:
File: COSP01 0 2016-02-10 0733.EC2 (Plus B)
Identifier: FS883FVN MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm: Factory default axle (v4.05)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 21:29 Tuesday, 2 February 2016 => 12:43 Monday, 15 February 2016 (12.6351)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range: 10 - 160 km/h.

Item 7.3.1	PROPOSED 34 STOREY, PLUS UPPER MEZZANINE AND BASEMENT LEVELS, MIXED USE DEVELOPMENT - LOTS 2-20 (NO. 74) MILL POINT ROAD, SOUTH PERTH
Attachment (a)	10. Traffic Impact Assessment (Shawmac) - 29 August 2016 - Proposed 34 Storey Mixed Use Development - No. 74 Mill Point Road.pdf

Direction: North, East, South, West (bound), P = East
Separation: Headway > 0 sec, Span 0 - 100 metre
Name: Default Profile
Scheme: Vehicle classification (AustRoads94)
Units: Metric (metre, kilometre, m/s, km/h, kg, tonne)
In profile: Vehicles = 258759 / 260861 (99.19%)

Weekly Vehicle Counts (Virtual Week)

VirtWeeklyVehicle-428

Site: Cosp01.1.0W Cosp01.2.0W Cosp01.1.0E Cosp01.2.0E Cosp01.2.0E

Description: Multiple sites - See Header sheet for site descriptions.

Filter time: 21:29 Tuesday, 2 February 2016 => 12:43 Monday, 15 February 2016

Scheme: Vehicle classification (AustRoads94)

Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0) Span(0 - 100)

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
								1 - 5	1 - 7
Hour									
0000-0100	113.5	72.0	90.5	125.5	136.5	299.0	440.0	111.6	190.9
0100-0200	51.5	30.0	40.0	53.5	64.0	159.5	243.0	49.8	96.4
0200-0300	44.0	18.0	31.5	44.5	40.0	112.5	148.0	37.6	66.1
0300-0400	34.5	31.0	32.0	32.5	44.0	86.0	84.5	35.2	50.6
0400-0500	65.0	75.0	54.0	52.0	61.5	86.5	68.0	60.0	65.3
0500-0600	328.5	355.0	315.0	331.5	323.0	180.0	139.0	327.9	276.1
0600-0700	833.5	823.0	802.5	881.5	911.5	489.0	294.0	853.4	711.3
0700-0800	1508.0	1217.0	1340.0	1536.0	1448.5	655.0	449.5	1431.3	1160.8
0800-0900	1604.0	1634.0	1634.0	1724.0	1709.0	998.0	739.0	1664.0	1419.2
0900-1000	1244.5	1392.0	1353.0	1311.0	1397.0	1185.0	995.0	1333.7	1258.7
1000-1100	1091.0	1176.0	1170.0	1180.5	1213.5	1355.0	1139.5	1165.1	1190.4
1100-1200	1121.5	953.0	1209.5	1216.5	1331.5	1439.0	1252.0	1190.1	1237.9
1200-1300	928.0	952.0	1310.5	1275.5	1420.5	1469.0	1298.5	1202.3	1258.2
1300-1400	1074.0	818.0	1214.0	1210.0	1304.5	1274.0	1118.0	1168.6	1177.8
1400-1500	1206.0	894.0	1326.0	1329.5	1491.5	1255.0	1158.0	1299.3	1268.3
1500-1600	1429.0	1101.0	1625.5	1696.0	1644.0	1283.5	1154.0	1557.6	1444.7
1600-1700	1522.0	1142.0	1707.0	1656.5	1668.0	1254.5	1113.5	1590.9	1455.3
1700-1800	1655.0	1279.0	1784.0	1795.5	1766.5	1328.0	1182.0	1703.3	1553.8
1800-1900	1177.0	928.0	1451.5	1431.0	1402.5	1312.0	1017.0	1334.4	1277.8
1900-2000	861.0	595.0	974.0	997.5	1066.0	1105.5	884.5	941.4	959.3
2000-2100	741.0	548.0	781.0	851.5	938.5	993.5	854.0	803.9	843.8
2100-2200	524.0	394.5	881.0	762.0	832.5	912.5	701.5	696.0	730.2
2200-2300	376.0	466.5	669.0	542.5	761.5	939.0	480.0	583.9	622.5
2300-2400	157.0	223.0	302.5	267.5	554.0	676.5	218.5	316.8	357.0
Totals									
0700-1900	15560.0	13486.0	17125.0	17362.0	17797.0	14808.0	12616.0	16640.6	15702.8
0600-2200	18519.5	15846.5	20563.5	20854.5	21545.5	18308.5	15350.0	19935.3	18947.4
0600-0000	19052.5	16536.0	21535.0	21664.5	22861.0	19924.0	16048.5	20835.9	19926.9
0000-0000	19689.5	17117.0	22098.0	22304.0	23530.0	20847.5	17171.0	21457.9	20672.3
AM Peak	0800	0800	0800	0800	0800	1100	1100		
	1604.0	1634.0	1634.0	1724.0	1709.0	1439.0	1252.0		
PM Peak	1700	1700	1700	1700	1700	1200	1200		
	1655.0	1279.0	1784.0	1795.5	1766.5	1469.0	1298.5		

* - No data.



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Appendix C - 76 Mill Point Road Traffic Generation

Table 13 - Predicted Daily Trip Generation – 76 Mill Point Road

Land use	Generation rate			Unit	Quantum	Estimated Generation			Source
	ADT	AM Peak	PM Peak			ADT	AM Peak	PM Peak	
Residential dwelling - Medium density residential flat building (1-2BR).	4.50	0.45	0.45	Units	62	284	28	28	RTA Guide.
Residential dwelling - Medium density flat building (>2BR).	6.00	0.60	0.60	Units	38	222	22	22	RTA Guide.
Apartment High Rise ITE	4.20	0.30	0.35	Units	147	638	46	53	ITE Guide 222
Cafe (High turnover sit down restaurant)	136.79	12.39	12.00	GFA	163	223	20	20	ITE Guide 932
Total						1367	116	123	

Table 14 - Predicted Peak Hour Movements – 76 Mill Point Road

Land use	Peak Distribution			
	AM Peak in	AM Peak out	PM Peak in	PM Peak out
Residential dwelling - Medium density residential flat building (1-2BR).	11	17	17	11
Residential dwelling - Medium density flat building (>2BR).	8	14	14	8
Apartment High Rise ITE	12	34	32	21
Cafe (High turnover sit down restaurant)	9	11	9	11
Total	40	76	72	51

Table 15 - Predicted Discounted Daily Trip Generation – 76 Mill Point Road

Land use	Discount Rate	Estimated Generation			Discounted Generation		
		ADT	AM Peak	PM Peak	ADT	AM Peak	PM Peak
Residential dwelling - Medium density residential flat building (1-2BR).	25%	284	28	28	213	21	21
Residential dwelling - Medium density flat building (>2BR).	25%	222	22	22	166.5	16.5	16.5
Apartment High Rise ITE	25%	638	46	53	478.5	34.5	39.75
Cafe (High turnover sit down restaurant)	25%	223	20	20	167.25	15	15
TOTAL		1367	116	123	213	21	21

Table 16 - Predicted Discounted Peak Hour Movements – 76 Mill Point Road

Land use	Discount Rate	Estimated Peak Distribution				Discounted Peak Distribution			
		AM Peak In	AM Peak Out	PM Peak In	PM Peak Out	AM Peak In	AM Peak Out	PM Peak In	PM Peak Out
Residential dwelling - Medium density residential flat building (1-2BR).	25%	11	17	17	11	8.25	12.75	12.75	8.25
Residential dwelling - Medium density flat building (>2BR).	25%	8	14	14	8	6	10.5	10.5	6
Apartment High Rise ITE	25%	12	34	32	21	9	25.5	24	15.75
Cafe (High turnover sit down restaurant)	25%	9	11	9	11	6.75	8.25	6.75	8.25
TOTAL	25%	40	76	72	51	30	57	54	38.25



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Appendix D - SIDRA Analysis – Signalised Intersection

MOVEMENT SUMMARY

Site: 1 [2016 - AM Peak no development traffic]

New Site

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	756	3.0	0.691	38.2	LOS D	17.6	126.6	0.86	0.82	36.6
2	T1	25	3.0	0.236	57.5	LOS E	2.1	15.1	0.97	0.72	30.5
3	R2	12	3.0	0.236	63.1	LOS E	2.1	15.1	0.97	0.72	30.2
Approach		793	3.0	0.691	39.2	LOS D	17.6	126.6	0.86	0.82	36.3
East: Mill Point Road											
4	L2	5	3.0	0.566	38.7	LOS D	11.9	85.5	0.81	0.69	38.5
5	T1	841	3.0	0.566	32.5	LOS C	16.0	114.6	0.82	0.70	39.2
6	R2	25	3.0	0.091	34.2	LOS C	1.0	7.2	0.70	0.71	37.7
Approach		871	3.0	0.566	32.6	LOS C	16.0	114.6	0.81	0.70	39.1
North: Mill Point Road											
7	L2	62	3.0	0.511	59.1	LOS E	7.1	51.0	0.98	0.79	30.8
8	T1	65	3.0	0.511	53.5	LOS D	7.1	51.0	0.98	0.79	31.3
9	R2	129	3.0	0.532	59.4	LOS E	7.3	52.1	0.98	0.80	30.1
Approach		256	3.0	0.532	57.8	LOS E	7.3	52.1	0.98	0.79	30.5
West: Mill Point Road											
10	L2	58	3.0	0.283	15.9	LOS B	8.7	62.4	0.48	0.47	49.4
11	T1	624	3.0	0.283	10.3	LOS B	8.8	62.9	0.48	0.44	51.0
12	R2	205	3.0	0.483	48.8	LOS D	10.5	75.1	0.92	0.81	33.0
Approach		887	3.0	0.483	19.6	LOS B	10.5	75.1	0.58	0.53	45.2
All Vehicles		2807	3.0	0.691	32.6	LOS C	17.6	126.6	0.77	0.69	38.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2018 - AM Peak no development traffic]

New Site

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	833	3.0	0.838	47.2	LOS D	22.7	162.8	0.88	0.90	33.6
2	T1	28	3.0	0.261	57.7	LOS E	2.3	16.8	0.97	0.72	30.5
3	R2	13	3.0	0.261	63.3	LOS E	2.3	16.8	0.97	0.72	30.2
Approach		874	3.0	0.838	47.8	LOS D	22.7	162.8	0.88	0.89	33.5
East: Mill Point Road											
4	L2	6	3.0	0.641	39.6	LOS D	13.4	96.2	0.82	0.71	38.1
5	T1	927	3.0	0.641	33.2	LOS C	18.2	130.8	0.83	0.72	38.9
6	R2	28	3.0	0.109	34.5	LOS C	1.1	8.1	0.71	0.71	37.6
Approach		961	3.0	0.641	33.3	LOS C	18.2	130.8	0.83	0.72	38.8
North: Mill Point Road											
7	L2	68	3.0	0.563	59.5	LOS E	7.9	56.7	0.99	0.80	30.7
8	T1	72	3.0	0.563	53.9	LOS D	7.9	56.7	0.99	0.80	31.2
9	R2	142	3.0	0.586	59.8	LOS E	8.1	57.8	0.99	0.80	29.9
Approach		282	3.0	0.586	58.2	LOS E	8.1	57.8	0.99	0.80	30.4
West: Mill Point Road											
10	L2	64	3.0	0.312	16.2	LOS B	9.8	70.4	0.49	0.48	49.2
11	T1	688	3.0	0.312	10.6	LOS B	9.9	71.0	0.49	0.45	50.8
12	R2	226	3.0	0.533	49.4	LOS D	11.7	84.0	0.93	0.82	32.8
Approach		978	3.0	0.533	19.9	LOS B	11.7	84.0	0.59	0.54	45.0
All Vehicles		3095	3.0	0.838	35.4	LOS D	22.7	162.8	0.78	0.72	37.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2018 - AM Peak with development traffic]

New Site

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	833	3.0	0.838	47.2	LOS D	22.7	162.8	0.88	0.90	33.6
2	T1	34	3.0	0.299	58.0	LOS E	2.7	19.3	0.98	0.73	30.5
3	R2	13	3.0	0.299	63.6	LOS E	2.7	19.3	0.98	0.73	30.2
Approach		880	3.0	0.838	47.9	LOS D	22.7	162.8	0.89	0.89	33.4
East: Mill Point Road											
4	L2	6	3.0	0.649	39.7	LOS D	13.5	97.2	0.82	0.71	38.1
5	T1	927	3.0	0.649	33.2	LOS C	17.9	128.8	0.83	0.72	38.9
6	R2	34	3.0	0.135	34.9	LOS C	1.4	10.0	0.71	0.72	37.4
Approach		967	3.0	0.649	33.3	LOS C	17.9	128.8	0.83	0.72	38.8
North: Mill Point Road											
7	L2	78	3.0	0.639	60.5	LOS E	9.1	65.5	1.00	0.82	30.4
8	T1	81	3.0	0.639	54.9	LOS D	9.1	65.5	1.00	0.82	30.9
9	R2	166	3.0	0.685	61.6	LOS E	9.7	69.6	1.00	0.84	29.5
Approach		325	3.0	0.685	59.6	LOS E	9.7	69.6	1.00	0.83	30.1
West: Mill Point Road											
10	L2	78	3.0	0.318	16.2	LOS B	10.0	72.0	0.49	0.50	49.1
11	T1	688	3.0	0.318	10.6	LOS B	10.1	72.7	0.49	0.46	50.8
12	R2	226	3.0	0.533	49.4	LOS D	11.7	84.0	0.93	0.82	32.8
Approach		992	3.0	0.533	19.9	LOS B	11.7	84.0	0.59	0.54	45.0
All Vehicles		3164	3.0	0.838	35.9	LOS D	22.7	162.8	0.79	0.72	37.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2018 - AM Peak with development traffic & 76 MPR]

New Site

Signals - Fixed Time Isolated Cycle Time = 120 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	833	3.0	0.838	47.2	LOS D	22.7	162.8	0.88	0.90	33.6
2	T1	40	3.0	0.337	58.2	LOS E	3.1	21.9	0.98	0.74	30.4
3	R2	13	3.0	0.337	63.8	LOS E	3.1	21.9	0.98	0.74	30.1
Approach		886	3.0	0.838	47.9	LOS D	22.7	162.8	0.89	0.89	33.4
East: Mill Point Road											
4	L2	6	3.0	0.655	40.0	LOS D	13.8	98.8	0.82	0.71	38.0
5	T1	927	3.0	0.655	33.3	LOS C	17.6	126.5	0.83	0.71	38.9
6	R2	40	3.0	0.161	35.2	LOS D	1.7	11.9	0.72	0.73	37.3
Approach		973	3.0	0.655	33.4	LOS C	17.6	126.5	0.83	0.72	38.8
North: Mill Point Road											
7	L2	89	3.0	0.728	62.6	LOS E	10.7	77.1	1.00	0.87	29.9
8	T1	92	3.0	0.728	57.0	LOS E	10.7	77.1	1.00	0.87	30.4
9	R2	195	3.0	0.804	65.9	LOS E	12.1	86.7	1.00	0.90	28.5
Approach		376	3.0	0.804	62.9	LOS E	12.1	86.7	1.00	0.89	29.3
West: Mill Point Road											
10	L2	90	3.0	0.323	16.3	LOS B	10.2	73.4	0.49	0.51	48.9
11	T1	688	3.0	0.323	10.7	LOS B	10.3	74.2	0.49	0.47	50.7
12	R2	226	3.0	0.533	49.4	LOS D	11.7	84.0	0.93	0.82	32.8
Approach		1004	3.0	0.533	19.9	LOS B	11.7	84.0	0.59	0.55	45.0
All Vehicles		3239	3.0	0.838	36.6	LOS D	22.7	162.8	0.79	0.73	37.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2016 - PM Peak no development traffic]

New Site

Signals - Fixed Time Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	621	3.0	0.358	28.4	LOS C	12.2	87.8	0.67	0.76	40.6
2	T1	34	3.0	0.318	59.3	LOS E	3.9	27.7	0.96	0.75	29.9
3	R2	30	3.0	0.318	64.9	LOS E	3.9	27.7	0.96	0.75	29.6
Approach		685	3.0	0.358	31.5	LOS C	12.2	87.8	0.70	0.76	39.3
East: Mill Point Road											
4	L2	3	3.0	0.603	53.2	LOS D	12.3	88.6	0.89	0.76	33.4
5	T1	664	3.0	0.603	44.7	LOS D	13.7	98.2	0.89	0.74	34.7
6	R2	34	3.0	0.202	47.5	LOS D	1.8	12.6	0.82	0.74	33.1
Approach		701	3.0	0.603	44.9	LOS D	13.7	98.2	0.89	0.74	34.6
North: Mill Point Road											
7	L2	100	3.0	0.697	67.3	LOS E	10.1	72.6	1.00	0.85	28.6
8	T1	59	3.0	0.697	61.7	LOS E	10.1	72.6	1.00	0.85	29.0
9	R2	132	3.0	0.590	65.3	LOS E	8.2	58.5	0.99	0.80	28.6
Approach		291	3.0	0.697	65.3	LOS E	10.1	72.6	1.00	0.83	28.7
West: Mill Point Road											
10	L2	77	3.0	0.387	17.9	LOS B	14.0	100.6	0.53	0.52	48.1
11	T1	852	3.0	0.387	12.3	LOS B	14.1	101.5	0.53	0.49	49.6
12	R2	418	3.0	0.712	47.2	LOS D	23.3	167.1	0.94	0.86	33.5
Approach		1347	3.0	0.712	23.5	LOS C	23.3	167.1	0.65	0.61	43.1
All Vehicles		3024	3.0	0.712	34.3	LOS C	23.3	167.1	0.75	0.69	38.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2018 - PM Peak no development traffic]

New Site

Signals - Fixed Time Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		Vehicles veh	Distance m		per veh	km/h
South: Labouchere Road											
1	L2	685	3.0	0.395	28.9	LOS C	13.8	99.0	0.69	0.77	40.4
2	T1	37	3.0	0.348	59.5	LOS E	4.2	30.4	0.97	0.75	29.8
3	R2	33	3.0	0.348	65.1	LOS E	4.2	30.4	0.97	0.75	29.5
Approach		755	3.0	0.395	32.0	LOS C	13.8	99.0	0.72	0.77	39.1
East: Mill Point Road											
4	L2	3	3.0	0.686	55.2	LOS E	14.1	101.4	0.91	0.78	32.8
5	T1	732	3.0	0.686	46.1	LOS D	15.3	109.8	0.90	0.77	34.2
6	R2	37	3.0	0.240	48.3	LOS D	1.9	13.9	0.83	0.75	32.9
Approach		772	3.0	0.686	46.3	LOS D	15.3	109.8	0.90	0.77	34.1
North: Mill Point Road											
7	L2	110	3.0	0.768	69.5	LOS E	11.5	82.3	1.00	0.89	28.1
8	T1	65	3.0	0.768	64.0	LOS E	11.5	82.3	1.00	0.89	28.5
9	R2	146	3.0	0.652	66.3	LOS E	9.2	65.8	1.00	0.82	28.4
Approach		321	3.0	0.768	66.9	LOS E	11.5	82.3	1.00	0.86	28.3
West: Mill Point Road											
10	L2	85	3.0	0.426	18.3	LOS B	16.0	114.7	0.54	0.53	47.8
11	T1	939	3.0	0.426	12.8	LOS B	16.1	115.7	0.54	0.51	49.4
12	R2	461	3.0	0.785	50.4	LOS D	27.3	195.9	0.97	0.89	32.5
Approach		1485	3.0	0.785	24.8	LOS C	27.3	195.9	0.68	0.63	42.5
All Vehicles		3333	3.0	0.785	35.4	LOS D	27.3	195.9	0.77	0.71	37.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2018 - PM Peak with development traffic]

New Site

Signals - Fixed Time Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	685	3.0	0.395	28.9	LOS C	13.8	99.0	0.69	0.77	40.4
2	T1	45	3.0	0.387	59.8	LOS E	4.7	34.0	0.97	0.76	29.8
3	R2	33	3.0	0.387	65.5	LOS E	4.7	34.0	0.97	0.76	29.5
Approach		763	3.0	0.395	32.3	LOS C	13.8	99.0	0.72	0.77	38.9
East: Mill Point Road											
4	L2	3	3.0	0.701	55.7	LOS E	14.5	103.8	0.91	0.79	32.7
5	T1	732	3.0	0.701	46.6	LOS D	15.0	107.6	0.90	0.78	34.1
6	R2	45	3.0	0.298	49.1	LOS D	2.4	17.3	0.84	0.76	32.7
Approach		780	3.0	0.701	46.7	LOS D	15.0	107.6	0.90	0.78	34.0
North: Mill Point Road											
7	L2	117	3.0	0.829	72.7	LOS E	12.8	92.1	1.00	0.94	27.5
8	T1	72	3.0	0.829	67.2	LOS E	12.8	92.1	1.00	0.94	27.8
9	R2	164	3.0	0.733	68.4	LOS E	10.6	76.1	1.00	0.85	28.0
Approach		353	3.0	0.829	69.6	LOS E	12.8	92.1	1.00	0.90	27.8
West: Mill Point Road											
10	L2	103	3.0	0.434	18.4	LOS B	16.4	117.5	0.55	0.55	47.7
11	T1	939	3.0	0.434	12.9	LOS B	16.5	118.7	0.55	0.52	49.3
12	R2	461	3.0	0.785	50.4	LOS D	27.3	195.9	0.97	0.89	32.5
Approach		1503	3.0	0.785	24.8	LOS C	27.3	195.9	0.68	0.63	42.5
All Vehicles		3399	3.0	0.829	36.1	LOS D	27.3	195.9	0.77	0.72	37.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [2018 - PM Peak with development traffic & 76 MPR]

New Site

Signals - Fixed Time Isolated Cycle Time = 130 seconds (User-Given Phase Times)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Labouchere Road											
1	L2	685	3.0	0.395	28.9	LOS C	13.8	99.0	0.69	0.77	40.4
2	T1	56	3.0	0.440	60.3	LOS E	5.4	39.1	0.98	0.77	29.8
3	R2	33	3.0	0.440	65.9	LOS E	5.4	39.1	0.98	0.77	29.5
Approach		774	3.0	0.440	32.7	LOS C	13.8	99.0	0.72	0.77	38.8
East: Mill Point Road											
4	L2	3	3.0	0.719	56.7	LOS E	15.0	107.7	0.91	0.80	32.4
5	T1	732	3.0	0.719	47.3	LOS D	15.0	107.7	0.90	0.79	33.8
6	R2	56	3.0	0.378	50.3	LOS D	3.1	22.1	0.86	0.78	32.3
Approach		791	3.0	0.719	47.6	LOS D	15.0	107.7	0.90	0.79	33.7
North: Mill Point Road											
7	L2	124	3.0	0.894	79.2	LOS E	14.7	105.5	1.00	1.02	26.2
8	T1	80	3.0	0.894	73.6	LOS E	14.7	105.5	1.00	1.02	26.6
9	R2	183	3.0	0.818	72.2	LOS E	12.3	88.7	1.00	0.91	27.2
Approach		387	3.0	0.894	74.7	LOS E	14.7	105.5	1.00	0.97	26.7
West: Mill Point Road											
10	L2	124	3.0	0.443	18.5	LOS B	16.8	120.7	0.55	0.56	47.5
11	T1	939	3.0	0.443	13.0	LOS B	17.0	122.1	0.55	0.52	49.1
12	R2	461	3.0	0.785	50.4	LOS D	27.3	195.9	0.97	0.89	32.5
Approach		1524	3.0	0.785	24.7	LOS C	27.3	195.9	0.68	0.64	42.5
All Vehicles		3476	3.0	0.894	37.3	LOS D	27.3	195.9	0.78	0.74	37.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

Appendix E - SIDRA Analysis – Site Crossover / Mill Point Road North

MOVEMENT SUMMARY

Site: 1 [Mill Point Road Crossover - Future A.M. Peak Hour]

Future A.M. Peak Hour
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		Vehicles veh	m		per veh	km/h
South: Mill Point Road South											
2	T1	124	0.0	0.084	0.3	LOS A	0.2	1.5	0.17	0.11	58.4
3	R2	27	0.0	0.084	6.6	LOS A	0.2	1.5	0.17	0.11	56.2
Approach		152	0.0	0.084	1.5	NA	0.2	1.5	0.17	0.11	57.9
East: Site Crossover East											
4	L2	45	0.0	0.043	6.6	LOS A	0.2	1.1	0.37	0.60	52.5
6	R2	5	0.0	0.043	7.4	LOS A	0.2	1.1	0.37	0.60	52.0
Approach		51	0.0	0.043	6.6	LOS A	0.2	1.1	0.37	0.60	52.4
North: Mill Point Road North											
7	L2	6	0.0	0.160	5.6	LOS A	0.0	0.0	0.00	0.01	58.2
8	T1	308	0.0	0.160	0.0	LOS A	0.0	0.0	0.00	0.01	59.9
Approach		315	0.0	0.160	0.1	NA	0.0	0.0	0.00	0.01	59.8
All Vehicles		517	0.0	0.160	1.2	NA	0.2	1.5	0.09	0.10	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [Mill Point Road Crossover - Future A.M. Peak Hour with 74 & 76 MPR]

Future A.M. Peak Hour
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mill Point Road South											
2	T1	124	0.0	0.104	0.6	LOS A	0.4	2.7	0.26	0.19	57.4
3	R2	53	0.0	0.104	6.6	LOS A	0.4	2.7	0.26	0.19	55.3
Approach		177	0.0	0.104	2.4	NA	0.4	2.7	0.26	0.19	56.8
East: Site Crossover East											
4	L2	99	0.0	0.094	6.6	LOS A	0.4	2.6	0.38	0.62	52.5
6	R2	12	0.0	0.094	7.7	LOS A	0.4	2.6	0.38	0.62	51.9
Approach		111	0.0	0.094	6.7	LOS A	0.4	2.6	0.38	0.62	52.4
North: Mill Point Road North											
7	L2	13	0.0	0.163	5.6	LOS A	0.0	0.0	0.00	0.02	58.1
8	T1	308	0.0	0.163	0.0	LOS A	0.0	0.0	0.00	0.02	59.8
Approach		321	0.0	0.163	0.2	NA	0.0	0.0	0.00	0.02	59.7
All Vehicles		608	0.0	0.163	2.0	NA	0.4	2.7	0.15	0.18	57.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: Z:\Jobs Active 2014\T&T Transport and Parking Studies\Hillam_74 Mill Point Road_1407014\2016 SIDRA Update\290816_Mill Point Rd Xover.sip7



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

Site: 1 [Mill Point Road Crossover - Future P.M. Peak Hour]

Future P.M. Peak Hour
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mill Point Road South											
2	T1	161	0.0	0.110	0.4	LOS A	0.3	2.0	0.18	0.11	58.3
3	R2	36	0.0	0.110	6.7	LOS A	0.3	2.0	0.18	0.11	56.2
Approach		197	0.0	0.110	1.5	NA	0.3	2.0	0.18	0.11	57.9
East: Site Crossover East											
4	L2	34	0.0	0.033	6.6	LOS A	0.1	0.9	0.37	0.60	52.5
6	R2	4	0.0	0.033	7.7	LOS A	0.1	0.9	0.37	0.60	52.0
Approach		38	0.0	0.033	6.7	LOS A	0.1	0.9	0.37	0.60	52.4
North: Mill Point Road North											
7	L2	9	0.0	0.166	5.6	LOS A	0.0	0.0	0.00	0.02	58.2
8	T1	318	0.0	0.166	0.0	LOS A	0.0	0.0	0.00	0.02	59.8
Approach		327	0.0	0.166	0.2	NA	0.0	0.0	0.00	0.02	59.8
All Vehicles		562	0.0	0.166	1.1	NA	0.3	2.0	0.09	0.09	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Consulting Civil and Traffic Engineers, Risk Managers

MOVEMENT SUMMARY

▽ Site: 1 [Mill Point Road Crossover - Future P.M. Peak Hour with 74 & 76 MPR]

Future P.M. Peak Hour
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mill Point Road South											
2	T1	161	0.0	0.145	0.7	LOS A	0.6	4.3	0.31	0.22	57.1
3	R2	81	0.0	0.145	6.8	LOS A	0.6	4.3	0.31	0.22	55.0
Approach		242	0.0	0.145	2.7	NA	0.6	4.3	0.31	0.22	56.4
East: Site Crossover East											
4	L2	69	0.0	0.068	6.6	LOS A	0.3	1.8	0.38	0.62	52.5
6	R2	8	0.0	0.068	8.1	LOS A	0.3	1.8	0.38	0.62	51.9
Approach		78	0.0	0.068	6.8	LOS A	0.3	1.8	0.38	0.62	52.4
North: Mill Point Road North											
7	L2	21	0.0	0.173	5.6	LOS A	0.0	0.0	0.00	0.04	58.0
8	T1	318	0.0	0.173	0.0	LOS A	0.0	0.0	0.00	0.04	59.6
Approach		339	0.0	0.173	0.4	NA	0.0	0.0	0.00	0.04	59.5
All Vehicles		659	0.0	0.173	2.0	NA	0.6	4.3	0.16	0.17	57.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

CONSTRUCTION MANAGEMENT PLAN

Rev.1: 26/08/16



Construction of:

Lumiere

For Client: Edge Holdings No.6

Location: 74 Mill Point Road, South Perth

Local Authority: CITY OF SOUTH PERTH



Lumiere Project – 74 Mill Point Road, South Perth

CONSTRUCTION MANAGEMENT PLAN

Rev.1: 26/08/16



DOCUMENT CONTROL SHEET

Version	Date	Revision Details
0	24/08/16	DRAFT – for Development Approval
1	26/08/16	Issued for Development Approval

CONSTRUCTION MANAGEMENT PLAN



Rev.1: 26/08/16

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CONSTRUCTION MANAGEMENT PLAN



Rev.1: 26/08/16

1) Introduction

1.1 Purpose of the Construction Management Plan

This plan defines the processes, methods and practices that the Construction project team will adopt to manage the construction process of the Lumiere project.

1.2 Development Scope

The Lumiere Project comprises the following scope of work:-

- The design and construction of the 34 storey including mezzanine mixed use tower, comprising 83 residential apartments, 104 serviced apartmentss, a ground floor cafe and a 3 storey subterranean basement

1.3 Scope of Application

This Construction Management Plan applies to the Lumiere Project and details how The construction team will manage the following items:-

- Noise;
- Site Operation Times;
- Traffic Management including Heavy Vehicle Access and Egress;
- Site setup and storage of plant and materials;
- Scaffolding requirements;
- London Plane Tree Protection;
- Dust Suppression;
- Neighbour Liaisons;
- Sequential Completion for Inspection;
- Project Health, Safety and Environmental Management.

2) Contact Details Key Personnel

2.1 Responsibilities

The following person/s will be responsible for the implementation of the Construction Management Plan and will be the point of contact for any enquiries and complaints.

2.1.1 Senior Project Manager/Director

- TBC
- Ph:
- Email:

CONSTRUCTION MANAGEMENT PLAN



Rev.1: 26/08/16

3) Construction Management Processes

3.1 Noise

JAXON acknowledges its obligations to manage noise in accordance to compliance requirements as prescribed in the Environmental Protection Act 1986 and the Environmental Protection (Noise) Regulations 1997 respectively.

The following measures will be implemented onsite as a minimum to ensure compliance:-

- All mobile and stationary plant will be subject to regular maintenance and inspection to ensure that they remain in good working order;
- Competent and trained plant and equipment operators will be used at all times;
- No item of plant or equipment will be allowed to operate where any part of its housing that is designed for sound proofing is absent or not fully in place;
- Noise monitoring will be periodically conducted to ensure compliance with OH&S requirements;
- Noise management and control will feature as a regular topic in site Toolbox Meetings to ensure all workers are aware of the need to minimise noise disruption;
- Consultation with all parties that could be potentially affected by noise will be initiated as identified;
- Equipment will not be used or installed which causes unreasonable noise;
- Requirements as contained in a noise abatement notice (or similar) will be complied with;
- Works will be completed within designated times as noted below in Section 3.2.

Additional measures will be put in place in the event that there is non-compliance with the Environmental Protection Act 1986 and the Environmental Protection (Noise) Regulations 1997.

3.2 Site Operating Times

The site operating times will be between 7am and 7pm Monday to Saturday.

Approval will be sought from the City of South Perth for any works which are carried out outside of the above mentioned times.

3.3 Traffic Management including Heavy Vehicle Access

All Construction Traffic will need to access the site via Mill Point Road.

JAXON acknowledges this is a high density area that will be compounded by continued construction activities with a substantial influx of construction traffic and parking in the areas surrounding the development. Collectively these are a large risk to the project and neighbouring areas, as such these will be managed with various plans and controls in line with the City of South Perth's guidelines and recommendations.

JAXON will make contact with the surrounding residents, business owners and building contractors prior to commencing works and liaise with them regarding our program of works and site access requirements. This will enable an open line of communication to

CONSTRUCTION MANAGEMENT PLAN



Rev.1: 26/08/16

ensure cooperation between all parties throughout the construction of the Project and allow prompt resolution of any issues which may arise.

Further JAXON will make allowances and commitments and seek the relevant approvals for Traffic Management resources to ensure the safe and efficient entry and exit of vehicles from site, including in the vicinity of site.

Refer Appendix 1 – Site Layout Plan for the location.

3.4 Site Setup and Storage of Plant and Materials

Please refer to the Appendix 1 – Site Layout Plan which shows the main Site elements for the indicative Site setup.

Site Amenities and laydown will be located initially on the northern adjacent site (Lots 2 & 5, 74 Mill Point Road) - inclusive of the Site Office; Meeting Room; Lunchroom; Washing facilities and material Laydown.

A Gantry for public protection will be in place during the works as shown on Appendix 1, whilst allowing access to Frasers Lane along the right of way off Mill Point Road

City of South Perth permission will be sought for Scaffold whereby area outside the boundary of Site will be required for erection, most specifically on the foot path directly West of the Site as shown on the site layout plan.

It is proposed that a single Tower Crane will be erected and utilised during the project works.

Appendix 2 - Tower Crane Plan – details the positioning of the erected Tower Crane in relation to Site.

3.5 Scaffolding Requirements

Various Perimeter and internal scaffolding will be required due to the construction methodology documented.

Please refer to Appendix 3 – Scaffold Layout Plans *Pending Design Development*

3.6 London Plane Tree Protection

It is specifically recognised that the preservation of London Plane Trees along Mill Point Road is paramount. As such various controls will be put in place to ensure their protection:

- Mill Point Road Construction Public Gantry as described above will be in place for the entire construction period serving as partial protection of for the trees

CONSTRUCTION MANAGEMENT PLAN



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- Site Deliveries and material movements will be controlled to avoid tree damage
- The Construction of the Subterranean works (Basements) have been considered in conjunction with an arborist, and the basement walls set in to accommodate the existing root ball.
- Prior to the planned construction works commencing, establish a designated tree protection zone (TPZ) by installing fencing and appropriate signage consistent with that described in AS 4970 – 2009 *Protection of trees on development sites* around the tree.
- A temporary reticulation system is to be installed to ensure the extent of the fence TPZ is irrigated prior to, during and up until practical completion of the project. The frequency of reticulation is to be determined by the consulting arborist.
- Any Trimming of the trees that is deemed necessary will be done in agreement with the City of South Perth and the consulting arborist.
- The project Arborist should be in attendance during all earthworks and including services trenching within a radius of 10.0m of the tree.
- The Arborist should monitor and document the extent of root damage, ensuring root damage is prevented where possible and that roots are clean cut rather than torn or ripped by excavation machinery.

3.7 Dust Suppression

Stockpiling of soil will be avoided where possible, any stockpiling will be temporary and expected to be of minimal quantities.

In the event that dust is generated - dust suppression measures will be implemented in accordance with the following:-

- Shade Cloth or similar to boundary fencing
- Visual Monitoring will be undertaken. Should wind direction affect the neighbouring properties we will reassess at the time to redirect/cease works to suit.
- Ensure that direct impacts from earthworks on site are limited to the disturbance area, and that secondary impacts (e.g. contamination) do not impact adjacent areas.
- Excessive dust causes will be investigated, identified and mitigated.

These measures will be the minimum measures provided by JAXON. In the event that these measures are deemed insufficient additional methods of suppression will be sought and implemented as required in coordination with the City or South Perth

3.8 Sequential Completion for Inspections

The Project has been programmed for the floors to be completed sequentially from the ground floor up. This will allow progressive inspections and sign off by floor.

CONSTRUCTION MANAGEMENT PLAN

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3.9 Project Health, Safety and Environmental Management

The Project Health, Safety and Environmental Management details specifically the manner in which Health, Safety and the Environment will be managed by JAXON.

Appendix 4 will detail the Lumiere Project Health, Safety and Environmental Management plan – *Pending*

4) Complaints and Incidents

In conjunction with the developer and Client JAXON will put in place and maintain a public notice board and as required conduct letter drops to keep the neighbouring residents and business informed on construction progress and activates that may impact external to the site boundaries.

Principally the Senior Project Manager will be the main point of contact for any complaints on incidents however the contact details of the main site delivery team will also be broadcast for relevant communications.

All complaints and incidents are reported to the JAXON Senior Project Manager/Director and managed using the JAXON Incident and Complaint Report Form (A279).

All complaints and incidents will be handled in accordance with JAXON's Incident Management Procedure inclusive of detailed requirements of system of reporting, investigation and response to the complaints and incidents.

All actions that are identified following Complaint and or Incident Investigations are detailed and status recorded in the Project Action Tracking Register.

5) Appendices

Appendix 1 – Site Setup Plan

Appendix 2 – Tower Construction Sequence

Appendix 3 - Scaffold Perspective and Tree Retention Strategy

Appendix 3 – Project Health, Safety and Environmental Management Plan

CONSTRUCTION MANAGEMENT PLAN



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Appendix 1 - Site Setup Plan



Lumiere Project – 74 Mill Point Road, South Perth

CONSTRUCTION MANAGEMENT PLAN



Rev.1: 26/08/16

Appendix 2 – Tower Construction Sequence



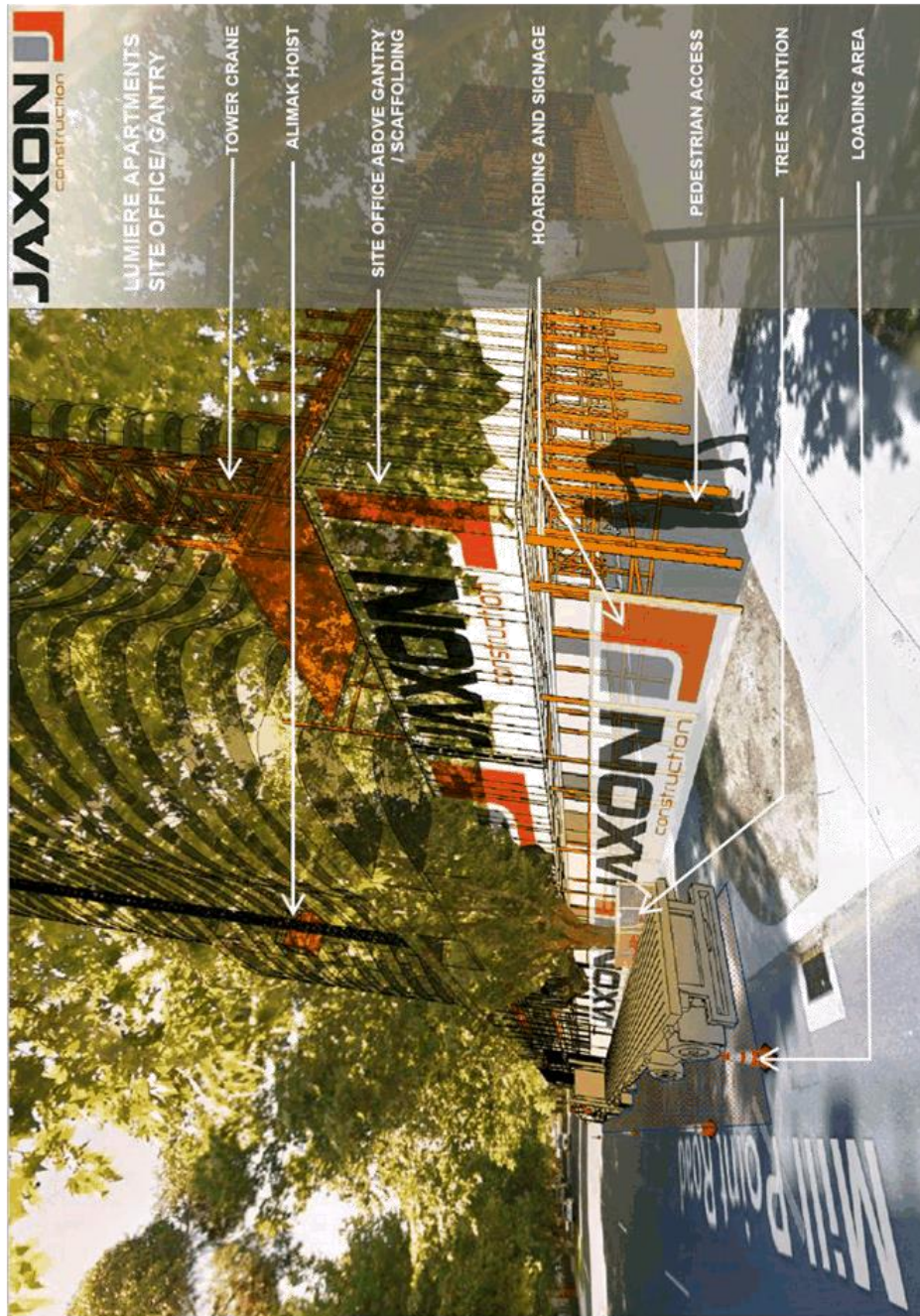
Lumiere Project – 74 Mill Point Road, South Perth

CONSTRUCTION MANAGEMENT PLAN



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Appendix 3 – Scaffold Perspective and Tree Retention Strategy



Lumiere Project – 74 Mill Point Road, South Perth

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Lumiere Project – 74 Mill Point Road, South Perth

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Appendix 4 – Project Health, Safety and Environmental Management Plan

To Follow, or as requested.



Asset Management | Environmental Services | Spatial Intelligence | Waste Management

Waste Management Plan

74 Mill Point Road, South Perth

Prepared for Hillam Architects

August 2016

Project Number TW14016



waste management plan
74 Mill Point Road, South Perth
Prepared for Hiram Architects



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Version	File Ref	Author	Reviewer
1a	TW14016 – Waste Management Plan.1a	Brice Campbell	Ronan Cullen
1b	TW14016 – Waste Management Plan.1b	Brice Campbell	Ronan Cullen
1c	TW14016 – Waste Management Plan.1c	Paul Gauci	Ronan Cullen
1d	TW14016 – Waste Management Plan.1d	Ross Cullen	Ronan Cullen
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1f	TW14016 – Waste Management Plan.1f	Casey Felmingham	Ross Cullen
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Summary

Table 1-1: Proposed Waste Collection Summary

Waste Type	Generation (L)	Bin Size (L)	Number of Bins	Collection Frequency (per week)	Collection
Refuse	17,610	1,100	6	3	Private Contractor
Recycling	16,700	1,100	6	3	Private Contractor

Generation rates were obtained from the City of South Perth's Waste Guidelines for New Developments as requested by the City of South Perth.

A Private waste contractor will service the Proposal providing 1,100L receptacles for refuse and recyclables which are to be collected by a rear lift collection vehicle.

A suitably qualified Strata Manager will be engaged to oversee relevant aspects of waste management at the Proposal.



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Table 1-1: Proposed Waste Collection Summary

Table 1: Estimated Waste Generation – Apartments

Table 2: Estimated Waste Generation – Café

Table 3: Estimated Waste Generation – Combined

Table 4: Receptacle Requirements

Table 5: Typical Bin Dimensions

Figures

Figure 1: Aerial Photo of the Proposal

Figure 2: Location of the Bin Storage Area and Collection Point



1 Introduction

Hillam Architects Pty Ltd (Hillam) is currently seeking planning approval for the development of a mixed use building at 74 Mill Point Road, South Perth (the Proposal). The Proposal is located in the South Peth Peninsula area to the east of Mill Point Road and south of Fraser Lane as shown in **Figure 1**.

1. The Proposal consists of 3 basement levels, a ground floor along with 44 floors made up of:

- 1 bedroom apartments – 11;
- 2 bedroom apartments – 43;
- 3 bedroom apartments – 25;
- 4 bedroom apartments – 4;
- Serviced apartments – 104; and
- Café – 295 m².

As part of the planning approval process, the City of South Perth (the City) requires the development of a Waste Management Plan (WMP) that identifies how waste is to be stored and collected from the Proposal. Hillam has therefore engaged Talis Consultants Pty Ltd (Talis) to prepare this WMP to satisfy the City's requirements.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (both refuse and recycling) at the Proposal. Specifically, the WMP demonstrates that the Proposal has been designed to:

- Adequately cater for the anticipated quantities of waste and recyclables to be generated;
- Provide a suitable Bin Storage Area including appropriate receptacles; and
- Allow for efficient collection of receptacles by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP is:

- Chapter 2: Waste Generation;
- Chapter 3: Waste Storage;
- Chapter 4: Waste Collection;
- Chapter 5: Bulk Verge Collection; and
- Chapter 6: Conclusion.



2 Waste Generation

To determine the bin requirements at the Proposal, the anticipated quantities of refuse and recyclables were estimated based on the number of apartments and the café floor area. The Proposal consists of predominantly residential apartments, serviced apartments and a café.

Residential and commercial waste generation rates were obtained from the City of South Perth's Waste Guidelines for New Developments. Consideration was also given to City of Sydney's *Policy for Waste Minimisation in New Developments* (2005), City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2014), Randwick City Council's *Waste Management Guidelines for Proposed Developments* (2004) and Western Australian Local Government Association's *Draft Multi Dwelling Development Waste Management Plan Guidelines* (2014). Where a range of values were provided for a particular waste source, a conservative approach was adopted and the largest value was taken to ensure that sufficient receptacle volumes will be provided.

Waste generation is estimated by volume in Litres (L) as this is generally the influencing factor when considering receptacle size, numbers and storage space required. The estimated volumes in Litres per week (L/week) of refuse and recyclables generated for the tenancies are shown in **Table 2** and **Table 3**.

Table 2: Estimated Waste Generation – Apartments

Use	Number of Units	Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
Apartment (One Bed)	11	80	880
Apartment (Two Bed)	43	100	4,300
Apartment (Three Bed)	25	120	3,000
Apartment (Four Bed)	4	120	480
Serviced Apartment	104	35	3,640
Total			12,300
Recycling			
Apartment (One Bed)	11	80	880
Apartment (Two Bed)	43	120	5,160
Apartment (Three Bed)	25	120	3,000
Apartment (Four Bed)	4	120	480
Serviced Apartment	104	35	3,640
Total			13,160

As shown in **Table 1**, it is anticipated that the residential apartments will generate 12,300L of refuse and 13,160L of recycling per week.



waste management plan
74 Mill Point Road, South Perth
Prepared for Hiram Architects

**Table 3: Estimated Waste Generation – Café**

Use	Floor Area (m ²)	Generation Rate (L/100m ² /day)	Waste Generation (L/week)
Refuse			
Café	295	300	5,310
Total			5,310
Recycling			
Café	295	200	3,540
Total			3,540

As shown in **Table 2**, it is anticipated that the Proposal will generate 5,310L of refuse and 3,540L of recyclables per week from the café. These waste generation quantities are based on six days of operation per week for the café tenancy.

Table 4: Estimated Waste Generation – Combined

Use	Waste Generation (L/week)
Refuse	
Apartments	12,300
Café	5,310
Total	17,610
Recycling	
Apartments	13,160
Café	3,540
Total	16,700

The totals for both the residential apartment and café space are summarised in **Table 3** above. It is anticipated that 17,610L of refuse and approximately 16,700L of recyclables will be generated at the Proposal per week.



3 Waste Storage

To ensure that waste is managed appropriately at the Proposal, it is important to allow for sufficient receptacle volume in the Bin Storage Area. The procedure and receptacles to be used in this area are described in the following sections.

3.1 Internal Receptacles

Waste materials generated within the apartments will be taken by residents and placed in the appropriate receptacles located in the Bin Storage Area as shown in **Figure 2**. These receptacles will be used for the disposal of:

- Refuse; and
- Recyclables.

In the café space, separate receptacles will be used for refuse and recycling. These receptacles will then be emptied into the larger receptacles in the Bin Storage Area.

3.2 Bin Storage Area

3.2.1 Size

To ensure sufficient area is available for storage of the waste receptacles prior to collection, the quantity of receptacles required was modelled utilising a range of receptacle sizes from 240L to 1,100L, as shown in **Table 5**.

Table 5: Receptacle Requirements

Waste Stream	Waste generation (L/week)	Number of Receptacles Required		
		240L	660L	1,100L
Refuse	17,610	25	9	6
Recycling	16,700	25	9	6

Based on typical receptacle dimensions as per **Table 6**, the placement of the receptacles within the Bin Storage Area has been considered, as shown in **Figure 2**. This was based on three collections per week of refuse and recyclables. The larger 1,100L receptacles will be used at the Proposal to ensure that the space available within the Bin Storage Area is sufficient and to reduce collection times during servicing. Bins will be monitored by the Strata Manager and receptacles will be rotated to ensure uniform access when required.

Table 6: Typical Bin Dimensions

Bin Size (L)	Depth (m)	Width (m)	Area (m ²)
240	0.735	0.580	0.426
660	0.765	1.360	1.040
1,100	1.070	1.240	1.327

Reference: SULO Australia Bin Specification Data Sheets



3.2.2 Design

The Bin Storage Area is located on the ground level of the Proposal. The Bin Storage Area will have an impervious floor draining to the sewer and a tap to facilitate washing of bins inside the store. Doors to the Bin Storage Area will be self-closing and vermin proof. The Bin Storage Area will also be ventilated to a suitable standard. To reduce potential odours in the Bin Storage Area, the receptacles, floor and walls will be cleaned by the Strata Manager when required. Receptacles will be washed down in a designated area inside the Bin Storage Area.

It should be noted that the number of receptacles and corresponding placement of receptacles as shown in **Figure 2** represents the maximum requirements assuming three collections per week for refuse and recyclables. More frequent collections would reduce both the number of receptacles and the storage space required.

Receptacle capacity and storage space within the Bin Storage Area will be monitored during the operation of the Proposal to ensure that the receptacles provided are sufficient.

3.2.3 Strata Management Activities

Due to the communal nature of the Bin Storage Area a suitably qualified Strata Manager will be engaged to complete the following tasks:

- Monitoring of the Bin Storage Area;
- Maintenance of receptacles and Bin Storage Area; and
- Clean receptacles and Bin Storage Area when required.



4 Waste Collection

A Private waste contractor will service the Proposal providing 1,100L receptacles for refuse and recyclables which are to be collected by a rear lift collection vehicle. The rear lift collection vehicle will park adjacent to the Bin Storage Area's external door for servicing as shown in **Figure 2**. As the truck is not able to collect the receptacles directly from the Bin Storage Area, the receptacles will be ferried to and from the waiting collection vehicle by the Strata Manager so that they can be emptied by the Contractor. Depending on the services agreement, this could be undertaken by the service provider. This servicing method will reduce the number of receptacles on the verge, maintain the amenity of the area and remove the requirement for a lay down area to temporarily store receptacles on the verge before the collection vehicle arrives.

Collection vehicle movements to service the Proposal are outlined in *Transport Statement for the Development of 74 Mill Point Road, South Perth* including proposed modification to the existing laneway. The collection vehicle will access the Proposal from Mill Point Road and reverse into the laneway to be level with the Bin Storage Area's external door. The collection vehicle will exit the laneway after servicing in forward gear via Mill Point Road.

The service provider engaged to service the Proposal will be required to service the building with a rear lift collection vehicle that can operate with an overhead clearance of 3.5 metres. During preparation of this WMP, several Waste Collection Contractors were contacted. A number of those contacted have rear lift collection vehicles which can meet this requirement.

As described previously, there is sufficient space within the Bin Storage Area for the number of receptacles required for three collections per week for refuse and recycling. However, increased collection frequency would reduce the number of receptacles required.



5 Bulk Verge Collection

Given the streetscape adjacent to the Proposal, placement of bulk verge material on the verge is not considered desirable. Instead bulk waste material will be removed from the Proposal as it is generated. Removal of this material will be the responsibility of each person(s) residing at the Proposal.

Collier Park Transfer Station (Collier Park) is located approximately 4.6 kilometres from the Proposal and accepts self-hauled material from residential properties. Collier Park is open from 9:00am to 4:45pm, seven days per week excluding Good Friday, ANZAC Day, Christmas Day and New Year's Day. The City of South Perth provides three entry vouchers annually with Rate Notices.

The above will be communicated to residents residing at the Proposal by the Strata Manager and information sheets distributed to new owners.



6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently large Bin Storage Area for the storage of receptacles for both refuse and recyclables based on a configuration of suitable receptacles. This indicates that a satisfactorily designed Bin Storage Area has been provided and collection of both refuse and recycling receptacles can be completed from the Proposal.

The above is achieved using six 1,100L receptacles collected three times per week for refuse and six 1,100L recycling receptacles collected three times per week. The collection vehicle will park adjacent to the Bin Storage Area to services the Proposal. Receptacles will be emptied directly from the Bin Storage Area by the service provider.

Bulk waste material generated at the Proposal will be taken to Collier Park for disposal as it is generated.



waste management plan
74 Mill Point Road, South Perth
Prepared for Hiram Architects

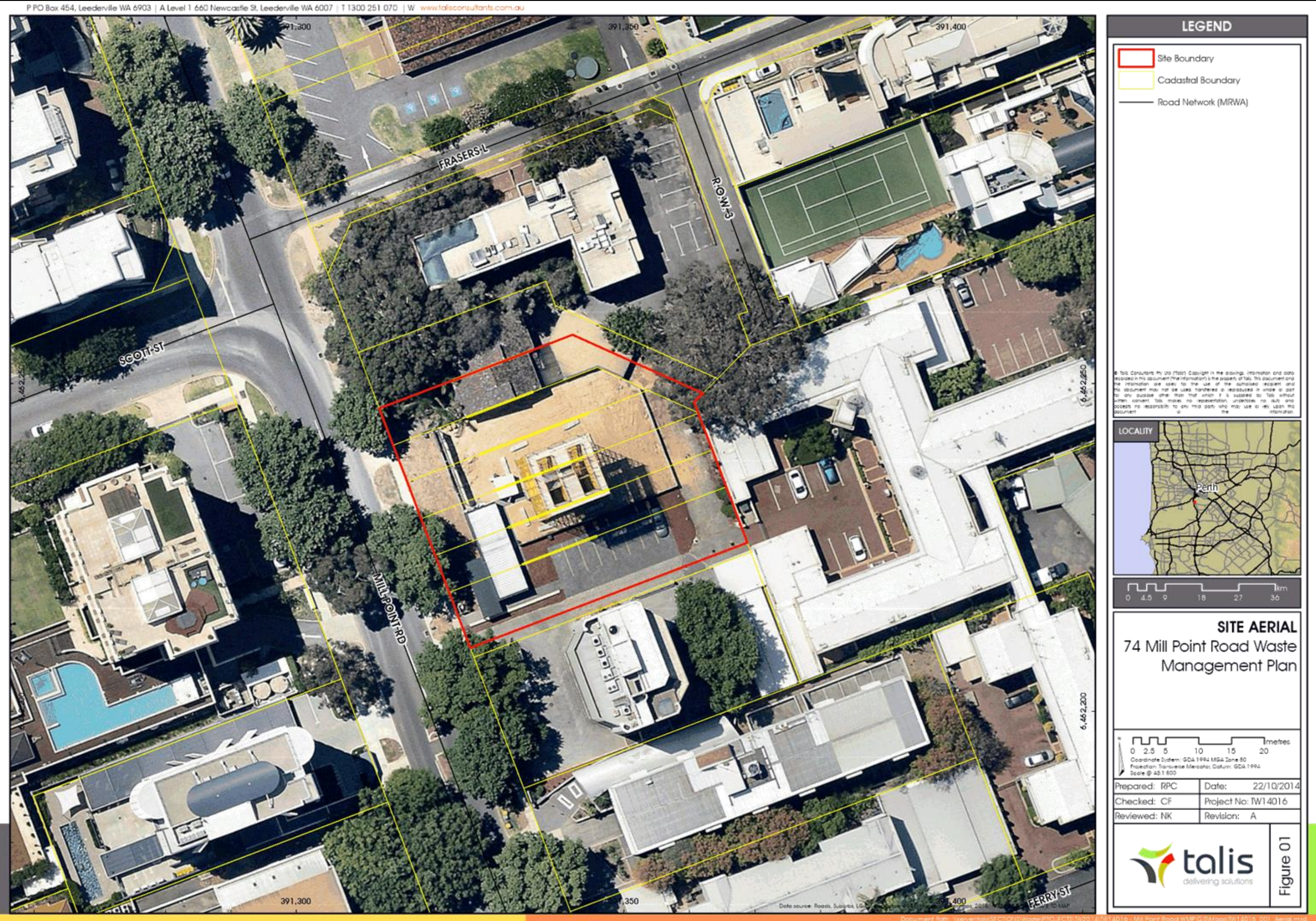


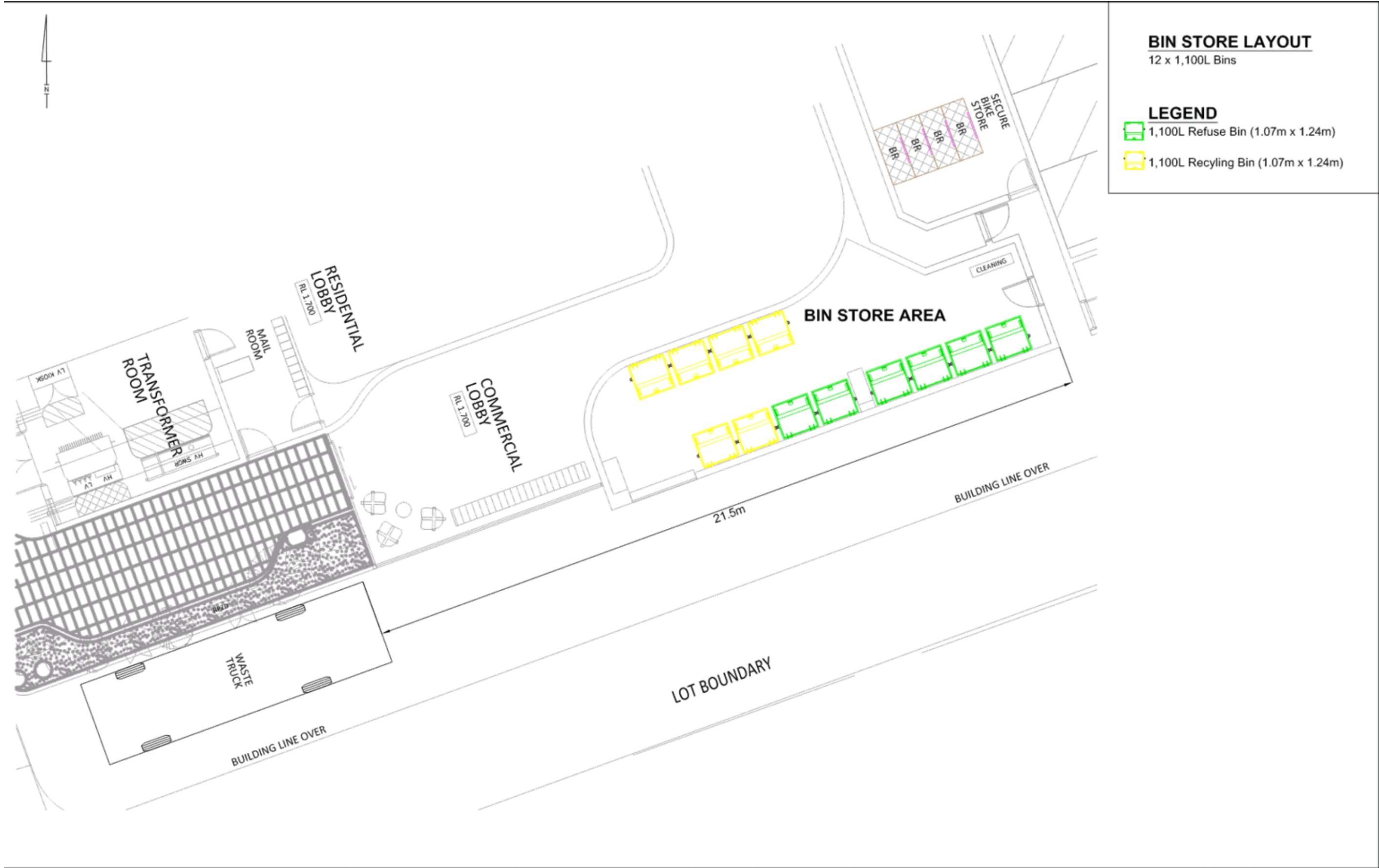
Figures


Figure 1: Aerial Photo of the Proposal

Figure 2: Location of the Bin Storage Area and Collection Point







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			1. This drawing is the property of Talis Consultants Pty Ltd. It is a confidential document and must not be copied, used, or its contents divulged without prior written consent. 2. All levels refer to Australian Height Datum. 3. DO NOT SCALE, use figured dimensions only, if in doubt please contact Talis Consultants.						B	18/03/16	OK RC	WMP	RC	Checked by:	RC	File No:	TW14016FIG002										
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LUMIERE SOUTH PERTH

EDGE VISIONARY LIVING
AUGUST 2016

aecgroup ltd.com



Lumiere South Perth: Economic Impact Assessment



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EXECUTIVE SUMMARY

BACKGROUND

Lumiere is a luxury mixed use development located at 74 Mill Point Road, South Perth. Developer, Edge Visionary Living, has teamed with Hiram Architects to create a modern high-end and architecturally striking development with panoramic views of the Perth skyline and Swan River. The proposed development will incorporate a mix of boutique residential apartments, serviced apartments (aparthotel), café/restaurant and open public spaces that will transform the site into a modern day landmark on the south bank of the Swan River.

Lumiere has an unparalleled geographic position on the South Perth peninsula and will offer a high specification and quality product offering. In South Perth, where both land and river views are at a premium, and where the residential, commercial and tourism markets are sophisticated in their desires and expectations, the mixed-use development presented by Lumiere ticks many boxes from whichever angle it is examined.

PURPOSE & APPROACH

The overriding purpose of this report is to present a high level economic analysis outlining how the proposed Lumiere development in South Perth may impact on the local (City of South Perth Local Government Area) and Western Australia economies over the construction and operation of the development.

Input-Output modelling has been used in this study to assess the contribution of the construction and operation phases of the Lumiere development. A description of the Input-Output model used and limitations is provided in **Appendix A**. Assumptions and model drivers used in conducting the economic modelling are outlined in Section 3.

Particular focus has been directed towards the contribution that the proposed (104 keys) serviced apartment element will deliver to the South Perth visitor (tourism) economy. A high level market demand for the serviced apartment element of this project has been estimated using existing and future anticipated trends in visitor demand, and short stay accommodation supply and demand dynamics within the South Perth market.

KEY FINDINGS

SERVICED APARTMENT MARKET

From a product perspective, serviced apartments typically include limited services, public areas and back of house support, with the main focus on maximising the number of potential rentable units within a property. Whereas hotels attract guests with extensive ancillary facilities and personalised service, serviced apartment properties typically capture their guests through larger unit sizes and cheaper prices for the amount of space provided.

Over the past seven years, the number of serviced apartments has grown by 80% and now totals more than 750,000 properties worldwide, with 61% of them being in the US and 17% in Europe. Australasia currently accounts of 7.3% of global share. Within Australia, growth in supply (i.e. number of units) within the serviced apartment market was up 14% over the period 2015 to 2016 (Knight Frank, 2016).

As a business model, serviced apartments carry less risk than hotels. For this reason, several global hotel brands have extended their portfolio to now include serviced apartments. By way of example, Accor and Hyatt have both entered the serviced apartment market overseas by acquiring pre-existing properties and rebranding them as Adagio and Hyatt House respectively. By diversifying their business model, accommodation operators aim to increase their profitability and global visibility.

Within the Australian serviced apartment market, Mantra, Meriton and Quest are the market leaders in terms of supply, with other operators such as Fraser Hospitality gaining momentum. Within the Perth visitor accommodation market, new supply has been primarily concentrated in around the Perth CBD with a total of 512 rooms entering the market since 2012. The opening of Fraser Suites and Bailey Serviced Apartments in the CBD collectively accounted for 51% of new rooms entering the market. Besides the recently (July 2016) approved development of a 6-storey, 57-unit mid-market serviced apartment project as part of the extended Millstream Arcade, no other new

Lumiere South Perth: Economic Impact Assessment



developments have taken place or are approved to take place in South Perth. There may be others in various stages of concept planning, but until they get to stage of development approval they cannot be counted in market analysis. The proposed serviced apartment development at Lumiere will represent the first new luxury visitor accommodation development in the local market for many years.

The luxury product offering at Lumiere, and which will be echoed in the proposed service apartment units, will satisfy potential demand for high quality accommodation in the local visitor accommodation market. More than 50% of all new rooms entering the market (and planned for future development) are within the Perth CBD and the upscale development proposed at Lumiere may further serve to complement the Perth City offering. However, its position and location gives it a distinct character and a broader market appeal. Our research into the size, scale and composition of the local tourism market current, together with recognised demand drivers (market segments) for serviced apartment accommodation (i.e. relocation of corporates, corporate travellers, VFR associated with international students, leisure travellers, millennials, digital nomads) are all factors pointing towards potential incremental activation of the local visitor economy in South Perth.

ECONOMIC IMPACT

The study examines the potential economic contribution of the proposed Lumiere development to the local (South Perth Local Government Area) economy over the construction and operation of the development. In undertaking the assessment, Input-Output modelling is used.

Economic impact will arise from the two main project elements:

- 1 **Construction activity** - For the purposes of modelling and clarity of reporting, the construction phase is examined in terms of economic activity supported overall rather than on an annual basis.
- 2 **Operations** - Key operational phase activities associated with the Lumiere project will include the operations of the short stay accommodation and the café/ restaurant, as well as induced visitor spend of those staying in the serviced apartments.

Economic Benefit during Construction

Total project cost is estimated to be \$140 million. During construction of Lumiere, there will be significant **economic benefits to the local South Perth LGA economy**, with the majority of expenditure captured elsewhere in the Perth and Western Australian economies:

- Injection of **\$53.8 million** in industry output into the South Perth LGA economy
- Contribution of **\$23.0 million** to South Perth LGA's Gross Regional Product (GRP)
- Provision of **150 additional full time equivalent (FTE) jobs** in South Perth LGA, providing **\$11.2 million** in wages and salaries.

Table ES.1. Economic Activity Supported by Construction Phase (Total), South Perth LGA

Impact	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$26.7	\$8.1	\$4.1	51
Type I Flow-On	\$14.2	\$6.8	\$3.9	50
Type II Flow-On	\$12.8	\$8.1	\$3.3	49
Total	\$53.8	\$23.0	\$11.2	150

Note: Totals may not sum due to rounding.

Source: ABS (2015), ABS (2016), ABS (2012a), Donald Cant Watts Corke (2016), AEC.

Economic Benefit during Operations

A key area of interest for this study is the effect the short-stay accommodation will have on the local economy. This will have the effect of increasing the tourist sector in South Perth, with consequent increased economic activity and a net job increase.

Lumiere South Perth: Economic Impact Assessment



Ongoing benefits once operational will be derived through the operation of the short-stay accommodation and café/restaurant components of the development, as well as through the induced visitation and visitor spend of those staying at the Lumiere serviced apartments.

Once fully built, the Lumiere project will provide significant **annual economic benefits to the South Perth LGA economy** (both direct and indirect), including:

- An increase in industry output of **\$19.7 million** in the South Perth LGA economy each year.
- Contribution of **\$11.1 million** to South Perth LGA's Gross Regional Product each year.
- Provision of **94 additional long term FTE jobs** in South Perth LGA providing **\$5.5 million** in wages and salaries each year.

Table ES.2. Economic Activity Supported by Operations Phase (Average Annual), South Perth LGA

Impact	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$10.6	\$5.8	\$3.1	60
Type I Flow-On	\$2.9	\$1.5	\$0.8	11
Type II Flow-On	\$6.1	\$3.8	\$1.5	23
Total	\$19.7	\$11.1	\$5.5	94

Note: Totals may not sum due to rounding.

Source: ABS (2015), ABS (2016), ABS (2012a), TRA (2016), AEC.

Additional Benefits

In addition to the economic impacts outlined above, the following benefits are anticipated:

- The Lumiere development will provide dwellings for an additional 83 households to live in South Perth LGA. These additional households will bring additional household incomes, much of which can be expected to be spent at local shops in Mends Street and the broader South Perth area. These 83 additional households expected to deliver **\$5.0 million in household expenditure** each year (though not all of this expenditure would be expected to be captured within the South Perth LGA economy).
- Attraction of visitors and new households to Lumiere is expected to **support café, restaurant and tourism/leisure-related activities**. Any increase in activity will further serve to boost local investor confidence, which will ultimately flow on to drive local growth and activation-related activities.
- **Generation of Local and State Government revenues** through items such as transfer duties, land tax, payroll taxes and rates revenues. South Perth City Council will also benefit through increased rates revenues and charges.

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1. PROJECT DESCRIPTION & MODEL DRIVERS

1.1 OVERVIEW OF DEVELOPMENT

Designed by Hiram Architects, Lumiere strives to set a new benchmark in luxury living in Perth. The site, on the South Perth peninsula, is uniquely positioned to take advantage of the panoramic vistas afforded by Kings Park to the north-west and the Perth Esplanade, foreshore and city skyline to the north and east. Lumiere's position will offer unparalleled views of the Swan River from all aspects.

It is envisaged that Lumiere will create a vibrant community hub that will add a dynamic new element and level of sophistication into the wider Mill Point Road precinct that will create sustainable employment opportunities directly associated with the commercial aspects of the development (i.e. serviced apartments and café/restaurant) and inject incremental visitor (tourist) expenditure into the local area that would otherwise not have been generated in the absence of Lumiere.

1.2 PROPOSED DEVELOPMENT

The proposed development ('Lumiere') at 74 Mill Point Road, South Perth is a 34 storey mixed use development with a mezzanine level and 3 basement levels, contained on a site of 1,804 m² in area. It includes:

- A **Café/Restaurant** of 288m², 83 residential apartments, 104 serviced apartments, associated amenities/communal areas and a community meeting room.
- Three levels of basement providing residential stores and residential parking bay allocations.
- The ground floor consists of a Café/Restaurant, commercial (serviced apartments) and residential lobbies, bicycle storage, residence mail room, Telstra communication room, fire pump room, fire tanks, bin store and Western Power Sub Station.
- **Levels 1 - 14** have 104 serviced apartments units facing the street with residential and non-residential car parking allocations configured behind.
- **Level 15** has a pool and related amenities and 2 residential apartments.
- **Level 16 - 34** has 81 residential apartments. There are four different residential types across the development.

This report investigates the economic impact that this development will have on the City of South Perth.

1.3 DEVELOPMENT BACKGROUND

The proposed development is located within the Scott-Richardson Sub-Precinct of the Special Control Area SCA1 – South Perth Station Precinct ('the Precinct'). In Schedule 9 of the City of South Perth Town Planning Scheme No. 6 preferred land uses for the Scott-Richardson Sub-Precinct include:

- Café/Restaurant
- Mixed Development
- Office
- Take Away Food Outlet
- Tourist Accommodation
- Multiple Dwelling, Grouped Dwelling, Single Bedroom Dwelling, Aged or Dependent Persons Dwellings
- Residential Building.

The City's intentions for the precinct are contained in the Guidance Statement in Table A of the City of South Perth Town Planning Scheme No. 6 Amendment No. 25:



- a) It is intended that this development area is to consolidate its role as an employment destination.*
- b) Non-residential uses should predominantly comprise office and commercial land uses, educational establishments, tourist oriented development and small scale and specialty retail.*

The project therefore fits within the overall planning intentions for the precinct.

These intentions arose from the precinct planning program undertaken by the City, which included extensive public consultation that was undertaken between 2008 and 2010, with the report adopted by the Council and the WAPC in 2010. A key economic issue that informed the study was the need to increase employment in the Precinct area for two main reasons:

- To increase the type of activity that would make a new rail station servicing the Precinct a destination station (with a surplus of people getting off the train over those boarding in the morning peak and the reverse in the evening peak).
- To improve employment self-sufficiency and self-containment in the City – these are very low: the City was noted as having an employment self-sufficiency ratio of 56 per cent (compared with, for example, 234% in Subiaco and 103% in Vincent) and a self-containment ratio of 16 per cent, compared to the self-containment ratios of Subiaco of 23.1 per cent and Leederville of 25.3 per cent respectively (ABS, 2006). An update of the data indicates that these numbers are still low: South Perth in 2011 had an employment self-sufficiency ratio of 67% (ABS, 2011).

2. OPPORTUNITY FOR SERVICED APARTMENTS IN SOUTH PERTH

2.1 OVERVIEW

The mix of asset classes at Lumiere will create an opportunity to enhance the site's amenities and goes a long way towards satisfying the demand of different population groups. The incorporation of short stay accommodation in the form of 104 serviced apartments on levels 1 to 14 at Lumiere will:

- Help to activate the site through an increased flow of persons both inside the building and on the precinct outside the building;
- Satisfy potential demand for serviced apartment accommodation in South Perth;
- Satisfy anticipated demand from domestic and international travellers for luxury overnight serviced accommodation in South Perth;
- Maximise the views of the Perth skyline and Swan River to residential apartments.

This section outlines the key trends and market forces supporting the demand and drivers influencing the future operations of the Lumiere mixed-use development. Particular focus in this section is placed on the opportunity to expand related tourism activity in South Perth through the incorporation of 104 serviced apartments. The serviced apartments will satisfy potential demand for short stay (tourist) accommodation in South Perth, as well as support additional tourism expenditure in the South Perth economy – both direct and indirect. The incremental revenue arising from increased tourist expenditure (through increased visitor nights) is revenue that would otherwise not be delivered to South Perth if additional short stay accommodation such as the proposed serviced apartment element of Lumiere was not developed.

2.2 DEFINITION OF SERVICED APARTMENTS

The Serviced Apartments industry comprises establishments that operate self-contained apartments for short-term (one to six nights), medium-term (seven nights to one month) and long-term (longer than one month but less than 90 days (BCA)) stays. Serviced apartments contain a kitchen or kitchenette and sometimes have separate lounge or dining facilities. Serviced apartments are generally cheaper than equivalent hotel rooms due to fewer complex facilities and fewer services provided (IBIS, 2016).

Over the last fifteen years in Australia there has been an increase in the number, scale, standard and product offerings of serviced apartments to a point where distinguishable serviced apartment brands with associated star ratings have emerged much akin to the star ratings/brands associated with the hotel industry.

Benefits of serviced apartments:

Space - Serviced apartments offer more than just a room. Serviced apartments have separate areas for cooking, dining, living and sleeping offering a better home from home experience. Guests have more space to live and work in. Having more space also means guests can entertain friends/clients a lot easier.

Better value than hotels: Valued consumer feedback sites such as TripAdvisor typically rate serviced apartments and 5-star hotels above 3- and 4-star hotels when considering value-for-money.

Serviced apartments and 5-star hotels in the Experience Perth region have high ratings in terms of value.

Privacy: Having more space means guests can enjoy enhanced privacy, especially if they are travelling with family because they have the space to socialise together and space to retreat to individually.

Risk: As a business model, serviced apartments carry less risk than hotels – typically achieving similar occupancy rates and suffering less from seasonal swings. Several indicators point towards this sector growing in popularity in Australia (refer to Section 2.3.2), and expect that in the next few years we will see an increasing number of global hotel brands moving into the space.

Implications for Lumiere

By virtue of the overall design of Lumiere, the proposed serviced apartment element should appeal strongly to luxury operators. The scale and design of the proposed serviced apartment element is arguably the most important aspect in securing an internationally branded luxury serviced apartment operator. Targeting an operator who is seeking to enter the South Perth visitor accommodation market and/or increase their market penetration within the wider Perth area will be key.

By way of example, although not yet seen in Australia, 2015 and the early part of 2016 have so far seen a number of initiatives by serviced apartment operators to partner with luxury brands or designers.

The introduction of Skye Suites (Crown Group), which will open its first property in Parramatta, West Sydney in early 2017 as part of the 29-storey V development (Crown Group, 2016), is testament to the demand for a luxury serviced apartment product offering in Australia.

Fraser's Hospitality's partnership with Mercedes Benz is one such example. The exclusive collaboration between Fraser Suites and Mercedes Benz was launched in London in November 2015 with the opening of the 'Mercedes-Benz Living@Fraser' residence. This was followed shortly after by another property in Singapore. A further eight more Mercedes-Benz serviced apartments are to follow at Fraser Suites Singapore by mid-2016 (Re:Locate, 2016). The idea behind 'Mercedes-Benz Living@Fraser' is to indulge astute business and leisure travellers with stylish modern luxury and comfort, with the essence of the luxury Mercedes-Benz brand is echoed through high-quality furnishings, clean lines and state-of-the-art media and entertainment technologies (Fraser's Hospitality, 2015).

2.3 TRENDS IN SERVICED APARTMENTS

2.3.1 Global Trends

Demand from companies wanting short-term accommodation – particularly serviced apartments – for overseas assignees has soared in recent years and shows no signs of abating (Knight Frank, 2016). Over the past seven years, the number of serviced apartments has grown by 80% and now totals more than 750,000 properties worldwide, with 61% of them being in the US and 17% in Europe. Australasia currently accounts of 7.3% of global share. The upward trend is set to continue, with the number of serviced apartments in the marketplace doubling over the last 12 years. Between 2015 and 2016 alone, supply has increased by 14% (Knight Frank, 2016).

There are two compelling factors driving global demand for serviced apartment accommodation:

- 1 Companies have become more cost conscious after the financial crisis and are now curbing their expenses and altering the nature of overseas assignments.
- 2 There is a new generation of younger employees used to more flexible business and leisure travel, which is encouraging companies to deploy people around the world for shorter periods.

Supply, however, is struggling to match fast growing demand in many established overseas markets, for what is a relatively new form of accommodation. This situation is further compounded by the fact that short-term lets often fall into a legal grey area, despite the rise of online providers such as Airbnb.

The fact that demand exceeds supply puts upwards pressure on occupancy levels, with nearly 75% of operators overseas reporting a year-on-year increase (Knight Frank, 2016). With such strong occupancy rates, it comes as no surprise that more hotel chains are expanding their portfolios to now include serviced apartment offerings as well. In fact, there is a growing trend for operators to locate serviced apartments and hotels on the same site, producing savings during both development and operation since they co-share back-of-house facilities. The co-location of brands such as InterContinental Hotels Group Crown Plaza hotel brand with Staybridge serviced apartment brand in the USA is one such example.

2.3.2 Australian Trends

Growth in serviced apartments in Australia has been largely driven by consumer eagerness to trade location for space, if offered at a similar price point. The combination of Australia's ageing hotel stock, low levels of domestic travel and a high Australian dollar over the last five years amidst a period of global economic uncertainty have also contributed to growth in the serviced apartment industry. As a result, in the five years through 2015-16, industry revenue is expected to increase by an annualised 5.8% to \$3.0 billion, with growth of 5.6% anticipated in the current year (IBIS, 2016).

The spread of serviced apartment operators has generally followed Australia's population distribution and tourism patterns. As a result, serviced apartments are largely concentrated in business hubs and holiday destinations, which consequently house a high concentration of population. New South Wales, Victoria and Queensland are Australia's busiest business locations and have the highest concentrations of serviced apartments, collectively accounting for more than 75% of establishment locations (IBIS, 2016).

Australia's three most successful home-grown serviced apartment operators include the Mantra Group, Quest Apartments (which has almost 7,300 apartments across 115 properties throughout Australia) and Meriton Apartments which have just over 3,600 rooms across 14 properties (including Sydney, Brisbane and Gold Coast) (JLL, 2016). Of the top 30 accommodation operators in Australia, serviced apartments currently account for 36,262 rooms (equating to 28%) of the total number of serviced accommodation rooms available (JLL, 2016).

2.3.3 Perth Trends

Current Trends

- The size of the serviced apartment market in Perth has grown significantly over the last five years, with demand being largely driven by a growing trend of companies favouring the use of "home away from home" accommodation for their employees – especially those on FIFO (fly-in-fly-out) arrangements.
- Although stock remains primarily concentrated in and around the Perth CBD (with Quest being the market leader in terms of units available), there has been a surge in the number of serviced apartment property openings taking place outside of the CBD over the last 18 months. The opening of Quest Rockingham and Quest West Perth which opened in September 2015 and May 2016 respectively are two such examples.

Future Trends

- The planning pipeline for new serviced apartment properties remains strong, with a further eight properties (564 units) planned for development in the next three years. A further two properties namely: Quest Mounts Bay Road and Quest Adelaide Terrace are currently under construction and will deliver a further 201 serviced apartments into the Perth CBD short stay market before the end of 2016. This increase in supply is forecast to reduce overall occupancy in the Perth Experience region and may also impact average rate and RevPAR. Besides the proposed serviced apartments at Lumiere, we are aware of the recent approval (July 2016) for development of a 6-storey, 57-unit mid-market serviced apartment project as part of the extended Millstream Arcade and have considered this in our analysis. While there may be others in various stages of concept planning, until they get to stage of development approval they cannot be counted in market analysis.
- Confidence in serviced apartments as an asset class remains an attractive investment proposition, and is likely to continue to encourage increased supply in the market. The ever-increasing and evolving diversity of scale and standard amongst new and established serviced apartment operators is also likely to continue.
- Continued foreign investment in tourism infrastructure in Perth, together with improvements and diversification in the city's visitor offering, recovering local economy and continued growth in education-related travel (refer to Section 2.4.5) are all likely to bolstered demand for overnight accommodation in Perth.

2.3.4 Implications for Lumiere

The growth in demand for serviced apartment short stay accommodation both internationally, across Australia and in Perth has experienced significant growth over the last five years. With 564 serviced apartments currently in the planning stages in the Perth metro area, and a further 267 units approved or under construction (TWA, 2015 and

Tourism Council, 2016 and AEC analysis), there exists high levels of market confidence for this type of accommodation. The proposed serviced apartment development at Lumiere will serve to extend visitor choice and diversify the product offering in the South Perth short stay accommodation market.

With so many large scale urban projects in the pipeline, under construction and/or due for imminent completion, the City of Perth is likely to experience a dramatic transformation over the next ten years. Recovering economic conditions and continued foreign investment (particularly from China and South East Asia) are both likely to boost commercial activity, expand the workforce and elevate Perth's status as an international city. Expansion in tourism infrastructure is an essential ingredient to support growth.

2.4 SERVICED APARTMENT CUSTOMERS AND CLIENTELE

Demand for serviced apartments is growing faster than new supply in many international markets, as an increasingly mobile, global workforce drives business travel and relocation activity. In addition, leisure travellers are also now more actively seeking the additional space and amenities which serviced apartments provide as opposed to conventional hotels.

Demand for serviced apartments is no longer being generated by just long-stay guests such as relocating expatriate families, but also, short-stay guests who are visiting a destination with their families for leisure purposes. In order to attract this sizeable market away from hotels, serviced apartment operators need to ensure that they are offering the highest levels of cleanliness and service, while also offering value to their guests.

The potential source market for serviced apartments is therefore wide and includes:

- Relocation of corporates
- Corporate travellers
- Leisure travellers
- Asian markets
- VFR associated with international students
- Millennials
- Digital nomads.

2.4.1 Relocation of Corporates:

Influenced by cost management, there is an increasing trend by companies to increase their reliance on short-term assignments and use serviced apartments rather than hotels during the initial stages of a relocation. Staying in serviced apartments saves employees (and companies) taking trips to scope out an area before they relocate full time and, unlike with hotels, extra costs like food and laundry do not tend to build up quickly. Serviced apartments also have the ability to offer guests flexibility, and a genuine sense of freedom, but with security, so that companies who send their employees abroad/interstate know that they are fulfilling their duty of care.

In addition, preference for serviced apartment usage over corporate housing for example, reflects part of a fundamental shift in the way companies manage their real estate. Previously, companies used to lease or buy buildings, but this is capital intensive and, for the most part, companies are not in the business of real estate and property maintenance.

2.4.2 Corporate Travellers

Serviced apartments have grown in popularity amongst senior and executive corporate travellers who tend to travel and do business at all hours of the day. Given that business travel can be unpredictable: flights can be delayed, meetings protracted etc. once travellers reach their accommodation, they don't want to be bound by the rules of a hotel - they may want to eat late, or early and they want privacy; serviced apartments, by virtue of their product offering, are able to satisfy all of these demands.

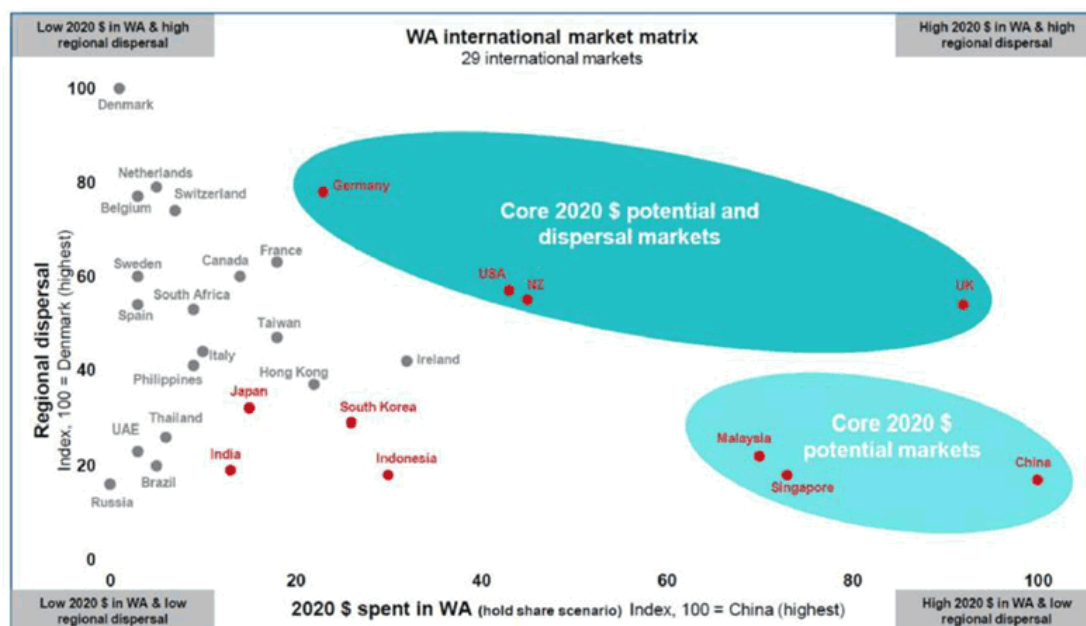
2.4.3 Leisure Travellers

Leisure travellers sometimes blend business and leisure activities during their overnight stay. These types of travellers typically extend their business trip to partake in the unique leisure opportunities presented by a destination. Many business travellers no longer want to be disconnected with their location in a hotel; they want to feel part of a place (BridgeStreet Global, 2015); once again, serviced apartments are able to accommodate these demands for flexible and extended travel opportunities.

2.4.4 Asian Markets

Asian markets remained the driving force behind the strong growth in international tourism in 2015 at both a national and regional level. Figure 2.1 provides an overview of the international markets that are most likely to stay overnight in Perth for the duration of their trip rather than travel to regions outside of the Perth metro. This figure clearly indicates that China, Singapore and Malaysia are less likely to travel to areas outside of Perth; they also have a higher visitor spending when compared to other nationalities. This combination of factors, together with the growth in serviced apartments in their home markets (particularly Singapore) bodes positively for the proposed luxury serviced apartments at Lumiere.

Figure 2.1: Regional Dispersal and Visitor Spending for 2020



Source: TWA, 2016

2.4.5 VFR associated with International Students

Each year Perth attracts 140,000 visitors for education purposes ranging from formal tertiary studies through to language schools and short informal courses. Education tourism is Perth's highest yield visitor market, where 1.1% of visitors account for 11.3% of Perth visitor spending (Tourism Council, 2014). Murdoch University and Curtin University in particular both have high student populations, with 50% of students reportedly being from overseas (<http://studentcities.com.au/study-perth/>). The opportunity for growth in education-related travel whilst recognised in the recently released *National Strategy for International Education 2025*, remains relatively untapped. The VFR market associated with visiting international students has potential to be a strong driver of demand for serviced apartments due to the product's ability to offer flexibility, size to accommodate family (and extended family) members, and security of being in a foreign country.

2.4.6 Millennials

The growth in a defined Millennial market sector (i.e. those born between the years spanning 1980 to 2000) have fundamentally different drivers around living, working and connecting compared to previous generations. Millennials characteristically trade-off for smaller, private living space, provided it is accessible to shared space and public amenities. In this regard, mixed-used developments, with the right design, can have a particular appeal for millennials, who value social interaction and who are primary instigators and users of the “sharing economy” (Urbis, 2015).

2.4.7 Digital Nomads

By definition, digital nomads are people who use telecommunications technologies to earn a living and, more generally, conduct their life in a nomadic manner. Such workers typically work remotely—generally from foreign countries - to accomplish tasks and goals that traditionally took place in a single, stationary workplace (Wikipedia, 2016). While unclassified short stay rental accommodation commonly found through sites such as Airbnb or Roomorama are likely to remain popular amongst international digital nomads in the short-term, there are a growing number of travellers who crave community and wish to experience the local flavour of a destination. BridgeStreet Global Hospitality has responded to these changes by recently extending their portfolio to include a new brand “Mode” which focuses on social and experiential travel through the provision of community spaces such as a cafe, bar or restaurant product offering and concierge services so that guests can partake in local and unique destination offerings (BridgeStreet Global, 2016).

2.4.8 Implications for Lumiere

The high-end luxury product provided at Lumiere may resonate with upmarket corporate clients, millennials with high levels of disposable income, international leisure travellers and digital nomads who are seeking a high quality reliable product with good public and social facilities, in close proximity to their place of business or close to leisure action and attraction.

People will pay more for an experience. This is increasingly true today as affluence is buoyed by a rising global middle class. To provide it, the hospitality sector is working overtime to be informal and welcoming; see-and-be-seen lobbies work sit well with millennials, and relaxing yet sophisticated environments resonate well with digital nomads. Where possible (particularly with new-builds) hotels are integrating local culture and inviting the community in. Travel trends, such as vacationing with extended family (popular with families from south-east Asia) are through the provision of multi-room serviced apartments. Properties that replicate “home away from home” environments are popular and emphasis on well-being is becoming a priority: fitness, healthy food, and wellness options are attractors.

2.5 ASSESSING DEMAND FOR A SERVICED APARTMENT PRODUCT IN SOUTH PERTH

In order to assess demand for the proposed serviced apartment product in South Perth, it is necessary to examine the current and future anticipated demand for short-stay accommodation in the local area. Demand for accommodation will be driven by the business and leisure markets, thus, an examination of the current and future anticipated performance of the tourism and overnight visitor markets is necessary to establish a baseline for future demand for paid accommodation at Lumiere (refer to Section 3.1.2).

Given that in the short-term at least, and until the South Perth establishes itself more firmly in the economic landscape as a significant commercial centre, it is envisaged South Perth will compete directly for corporate nights generated by activities associated with the Perth CBD. The pleasant riverside setting and surrounds of South Perth, together with the area's local visitor amenities and attractions (e.g. Zoo) will continue to be an important driver of overnight leisure accommodation. The easy connection to Perth's newest visitor attraction – Elizabeth Quay - via a regular ferry service, together with several other riverside and city attractions planned for the future, makes South Perth a viable possibility as an overnight (or extended stay) accommodation option.

2.5.1 South Perth Tourism Market

Trends in tourism patterns, preferences and visitor profiles are all strong indicators of the likely demand for short-stay accommodation. The trend data compiled by Tourism Research Australia (TRA) provides an indication of the change in overnight travel within both LGA and tourism regions. The visitor profile, purpose of visit and source markets within South Perth tourism economy all have a direct relationship on the demand, take-up (occupancy levels) and tourism expenditure levels emanating both directly and indirectly from the serviced apartments development component at Lumiere. A high level overview of the tourism market in South Perth is provided in Table 2.1 below. We have also included a tourism overview of the Perth City¹ market as an indicator of the future tourism mix that could potentially be attracted to South Perth. The tourism mix of the Perth City market has been taken into account, as a point of reference, for the purposes of our projections of estimated rooms revenue and room occupancy (refer to Section Operation3.1.2) at the proposed Lumiere serviced apartments.

Table 2.1: South Perth and Perth City Tourism Overview

		South Perth		Perth City	
		2014	2015	2015	2015
		Number	% of total overnight visitors	Number	% of total overnight visitors
Overnight visitors					
Domestic	Interstate	16,987	25%	10,554	13%
	Intrastate	37,438	56%	58,562	74%
International		13,002	19%	9,963	13%
Total		67,427	100%	79,079	100%
Visitor Nights					
Domestic		197,520	28%	227,510	41%
International		510,185	72%	326,908	59%
Total		707,705	100%	554,418	100%
Ave length of stay (days)					
Domestic		3.6 days		3.3 days	
International		39.2 days		32.8 days	
Purpose of visit					
Domestic	Holiday	42%		31%	25%
	VFR	44%		45%	25%
	Business	14%		24%	39%
	Other	0%		0%	11%
International	Holiday	26%		15%	55%
	VFR	13%		28%	21%
	Business	44%		31%	16%
	Other	18% (education = 12%)		9% (education = 17%)	11%

Source: TRA (2016), TWA (2016c)

Comments and observations surrounding the above data include:

- **Strong day visitor economy:** South Perth benefits from a strong visitor economy with day visitors and domestic overnight visitors fuelling the majority of this demand. Perth Zoo, the Swan River foreshore and the café and restaurant strip are along Mends Street are all important drawcards for the local area. The regular ferry service operating between Barrack Street Jetty in Perth CBD and Mends Street in South Perth is an important service connecting both sides of the river and enables and encourages movement of visitors.

¹ including West Perth, East Perth, Kings Park and Highgate

- **Comparably higher levels of visitation by domestic overnights visitors than international visitors:** Although the domestic market dominates in terms of overnight visitation demand, accounting for 87% of all overnight visitors to South Perth in 2015, this proportion has decreased when compared with the 'mining boom' years, when demand from the domestic market accounted for close to 95%.
- **International visitors account for around 60% of all visitor nights in South Perth:** Although in absolute terms, the international visitor market accounted for 13% of all overnight visitors to South Perth, the long average stay by this market sector translates into significant demand for visitor nights, and accounted for 59% of all visitor nights in South Perth in 2015. This compares with Perth City for which international visitor nights accounted for 64% of the total.
- **Variations in purpose of visit:** Within the domestic overnight market, the majority (over 75%) of visitors stay in South Perth for holiday and VFR purposes. In contrast, demand from international business and education-related travel is stronger, and accounted for almost half of all international overnights stays in South Perth in 2015.
- **Long average length of stay by international visitors** to South Perth at 32.8 days in 2015 exceeds that of Perth City (at an average of 16.7 days for the same period). We attribute this to be a strong indicator of the preference of long-stay visitors to stay outside the Perth CBD in search of a work-life-balance during extended stays. The close proximity of South Perth to Curtin University and the University of Western Australia may also have some influence over the average length of stay through VFR education-related travel. Additionally, long stay VFR market, staying in private accommodation, contributes significantly to this segment.

2.5.2 South Perth Short Stay Accommodation Market

The Perth hotel industry has been subject to significant change over the last five years. During the height of the mining boom, there was insufficient hotel bedspace in the City. This prompted the West Australian government to launch a tourism strategy which set a target of 1,900 new Perth hotel rooms by 2020. This in turn, resulted in a surge in hotel developments; some have been completed while other are under construction or planned for future construction. In terms of geographic distribution, the majority of new developments have taken (taking) place in and around the Perth CBD and Fremantle.

Planning approval has been granted for the development of a 6-storey 57 unit serviced apartment hotel as an extended Millstream Arcade in South Perth, with Quest Hotels as the preferred operator (DAP, 2016).

The South Perth short stay accommodation market is characterised by the following:

- **Limited number of hotel rooms:** There are only two properties i.e. Metro Hotel (147 bedrooms) and Pagoda Resort² (101) rooms have been identified. The Windsor Hotel advertises hotel rooms, however, the main business driver for this property is the pub/restaurant offering. Of the hotel properties available, none of these have an international brand presence. The Metro Hotel is owned and operated by Metro Hospitality Group who also own and operate a further 15 hotels across other Australian capital cities.
- **Limited number of serviced apartments:** There is a total of 102 serviced apartments³ available in the South Perth market. The 70-apartment Peninsula Riverside Apartments (53 South Perth Esplanade) is rated four-star on TripAdvisor and is independently owned and operated. This property offers a mix of 1, 2 and 3-bedroom apartments spread across 10 levels. The Quest South Perth is a 32-apartment three-star rated serviced apartment offering a mix of 1 and 2-bedroom apartments.
- **High number of individually rented apartments for short-stay use:** Booking websites such as Airbnb, Stayz.com and Booking.com promote lettable "serviced apartments". These are not true serviced apartments – rather, they are individually owned properties that are available for corporate and leisure visitors at variable

² Pagoda Resort is located outside South Perth in the adjacent suburb of Como, however it is deemed worthy of mention due the relative close proximity to the proposed Lumiere serviced apartments.

³ This will increase to 159 once Quest Millstream Arcade opens.

rates. These lettable units are highly diverse in terms of their quality offering i.e. finishes and furnishings, and none offer café/restaurant amenities that are commensurable with a luxury branded serviced apartment. Table 2.3 shows the preference for overnight visitors – particularly international visitors – to stay in privately let accommodation. While the latter is a consequence of a limited supply of ‘formally’ recognised tourist accommodation (i.e. hotels, motels and serviced apartments) it is also an indication of the type of accommodation typically adopted by international visitors who stay on average for more than a month, and who prefer to stay in a “home-away-from-home” environment.

Table 2.2: Accommodation Preferences by Overnight Visitors to South Perth (Visitor Nights)

Type of accommodation	2014			2015		
	Domestic	International	Overall	Domestic	International	Overall
Hotels, motels, serviced apart.	24%	11%	19%	25%	10%	19%
Other commercial ¹	20%	47%	31%	20%	47%	32%
Private accommodation ²	53%	40%	48%	49%	40%	45%
Other accommodation	2%	2%	2%	6%	3%	4%

Notes:

Other commercial accommodation includes: bed and breakfasts, guesthouses, backpacker hostels, camping and caravan or rented house, apartment, flat or unit.

Private accommodation includes: staying in own property or property of a friend or relative.

Source: TRA (2016)

- **Current operating performance suggests room for additional tourist accommodation provision in South Perth:** Table 2.3 provides a summary of achieved room occupancy, ADR (average daily rate) and RevPAR (revenue per available room) for tourist accommodation establishments in South Perth for the periods 2013/2014 and 2014/2015 (latest available statistics)⁴. Although room occupancy is below that achieved for the Perth City market (which has achieved levels around 80% over the last three years – TWA, 2016), the trend for overnight visitors to stay in other commercial accommodation (which is not included in the performance results in Table 2.3) suggests that a significant number of room-nights are being captured by individual apartments that are available for let through other booking channels.

Table 2.3: Performance Indicators for the South Perth Tourist Accommodation Market¹

Description	2013/14	2014/15
Hotel occupancy performance	66.3%	72.0%
Hotel ADR performance	\$217.30	\$197.28
Hotel RevPAR	\$139.82	\$139.28

Notes:

¹Tourist accommodation performance data only includes hotels, motels and serviced apartments with 15 or more rooms.

Source: ABS (2016)

Whilst somewhat dated, the data in the above table highlights the serviced apartment offering will have to deliver a niche product to achieve success.

2.5.3 Implications for Lumiere

Internationally or nationally branded hotel operators in the South Perth short-stay accommodation market are currently under-represented when compared to the Perth CBD. There has been an increase in the supply of mid-to high quality serviced apartments in Perth CBD (predominately by Fraser Hospitality and Quest operators). The opening of the Quest at Millstream Arcade (refer to Section 2.5.2) will mark the first new-build serviced apartment hotel in over a decade, and is indicative of qualified demand for this type of tourist accommodation in South Perth. The strong take-up for *other commercial accommodation*⁴ by overnight domestic and international visitors to South Perth reinforces the fact (refer to Table 2.2) that there is scope in the market for additional styles of *tourist accommodation*⁴ provision in South Perth.

⁴ The Australian Bureau of Statistics (ABS) has conducted a quarterly accommodation survey for many years. This survey tracks accommodation establishments with 15 or more rooms and represents the most current, significant and accurate source for accommodation statistics in Australia. However, the ABS survey only considers establishments with 15 or more rooms and often undercounts the available supply.

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The opportunity to develop serviced apartments as part of the Lumiere development is positive on the proviso that the apartments are operated by a national (and preferably international) brand. The power of an internationally recognised brand has the potential to attract an above-fair-share of international corporate and leisure visitors. Brand strength in itself is a strong driver of serviced apartment demand with global distribution systems (GDS), direct bookings and hotel website bookings often accounting for a significant proportion of room-nights sold.

Significant and distinct marketing activity will be required to stimulate new demand for the South Perth Tourism market to ensure the additional 161 serviced apartments (including 104 at Lumiere and 57 at Quest Millstream Arcade) does not impact on South Perth occupancy.

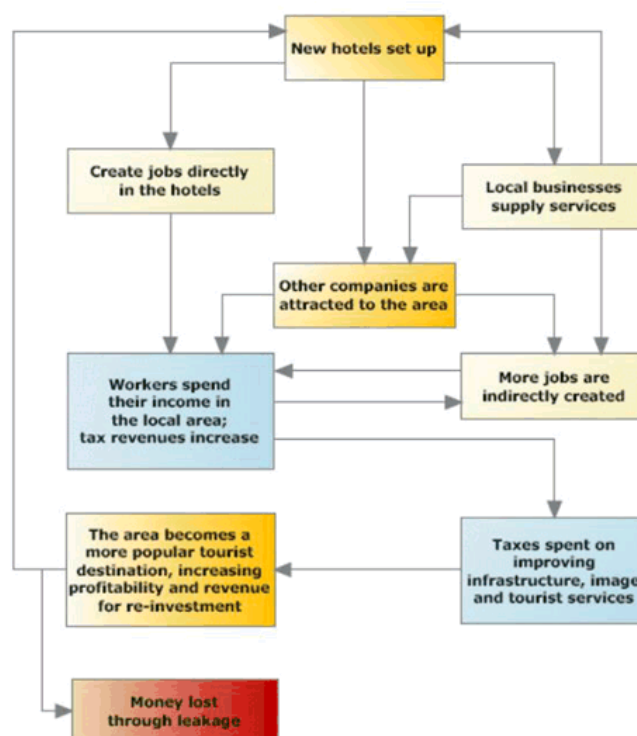
2.6 ROLE OF SHORT STAY ACCOMMODATION IN THE TOURISM ECONOMY AND AS A COMMERCIAL ENTERPRISE

2.6.1 Tourism as an Economic Sector and Tourism Multipliers

Tourism's role in the economy is often perceived as being limited to the hospitality industry (cafes, hotels and restaurants) and outbound and inbound travel agencies and carriers, which form the leading service sector in many countries. However, the economic impact of tourism is much greater, since many inputs are needed in order to produce tourism and leisure services, spanning the whole range of farm, agrifood and industrial production, including the production of capital goods as well as construction and public works. This is known as the multiplier effect which in its simplest form is how many times money spent by a tourist circulates through a country's economy.

Figure 2.2 provides a high level summary of how money associated with the serviced apartment development at Lumiere will circulate within the local South Perth economy.

Figure 2.2: Tourism Multiplier and Tourism Expenditure Flow through the Local Economy



Leakage is the way in which revenue generated by tourism is lost to other countries' economies. Leakage may be so significant in some developing countries that it partially neutralises the money generated by tourism.

Source: www.geographyfieldwork.com

2.6.2 The Importance of Tourism at a National and Regional (Experience Perth) Level

2.6.2.1 National Level

Tourism is a significant industry for Australia. During the period June 2014/15 tourism generated \$107 billion in visitor expenditure, directly employed around half a million Australians and is Australia's number one services export (TA, 2015). Tourism helps to fund critical infrastructure such as airports, roads and hotels, and plays an important role in the economic development of regional Australia, with 46 cents of every tourist dollar spent in regional Australia (TA, 2015). Every dollar spent on tourism generates 87 cents in other parts of the economy, which is a higher multiplier than those achieved for mining, agriculture and financial services. Recognising the important role of tourism, the Australian Government has identified tourism as one of five National Investment Priorities, with a particular emphasis on leveraging international demand and investment to help further grow the industry.

2.6.2.2 Experience Perth⁵ Level

Perth plays a major role in facilitating tourism activity throughout the state. Western Australia's geographic isolation relative to the east coast population, coupled with the large land mass the state occupies, means aviation plays a central role in facilitating tourism and business activity. Perth is a hub for the state's activity and the point of dispersion for the state's interstate and international visitors.

For the year ending December 2015, visitors to Western Australia spent an estimated \$9 billion on tourism activities. Total expenditure by overnight visitors (including international, interstate and intrastate visitors) was \$7.2 billion (TWA, 2016a). The day trip market accounted for the balance. In comparison, visitors to the Experience Perth region delivered \$5 billion into the local economy over the same period (accounting for almost 70% of total tourism expenditure in the State), with overnight visitors accounting for around 77% (\$3.8 billion) of this (TWA, 2016b).

With Perth assuming a more prominent position in Australia as an emerging centre for resources and medical research and development, tourism and education, the number of visitors to Perth is likely to increase even further. Having the appropriate mix and level of tourism infrastructure to support this will be critical to the overall growth of tourism as an economic sector and employment creation.

2.6.3 Implications for Lumiere

The opportunity to incorporate high-quality branded serviced apartments as part of the Lumiere development is positive from both a supply and demand perspective. The growth in visitor numbers to the local area over the last two years, together with the increase in the number of visitors to Perth generally and the recognition of tourism as an important economic driver of employment and GDP contribution, all supports the case for the development of serviced apartments at Lumiere. The ongoing (operational) economic contribution of the Lumiere serviced apartment element will boost the visitor economy directly (through increased visitor spend on overnight accommodation, spend on food and beverage items at the café/restaurant located on-site) and support and sustain the visitor economy indirectly (e.g. transportation and retail outlets). Direct and indirect expenditure associated with the Lumiere serviced apartments, as well as the employment opportunities created are all considered to be incremental to the South Perth economy: i.e. it is expenditure revenue that would not otherwise be delivered if the serviced apartments are not built.

⁵ Experience Perth as a tourism region encompasses the following tourism precincts: Perth, Fremantle and Rottnest, Peel and Rockingham, Sunset Coast, Swan Valley and Darling Ranges and Avon Valley

3. ECONOMIC IMPACT ASSESSMENT

Economic modelling in this section estimates the economic activity supported by construction and operational activity of the project. Input-Output modelling is used to examine the direct and flow-on⁶ activity expected to be supported within the South Perth LGA economy. Modelling drivers used in the assessment are described in Section 3.1. A description of the Input-Output modelling framework used is provided in **Appendix A**.

Input-output modelling describes economic activity by examining four types of impacts:

- **Output:** Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Gross Regional Product (GRP):** Refers to the value of output after deducting the cost of goods and services inputs in the production process. GRP defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income:** Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment:** Refers to the part-time and full-time employment positions generated by the economic stimulus, both directly and indirectly through flow-on activity, expressed in full time equivalent (FTE) positions⁷.

3.1 ECONOMIC MODELLING DRIVERS

3.1.1 Construction

Construction of the project is indicatively estimated to cost approximately \$140 million (Hillam Architects, 2016), including preliminaries, design, building construction, fit-out and completion.

For the purposes of modelling and clarity of reporting, the construction phase has been examined in terms of economic activity supported overall rather than on an annual basis. A breakdown of development costs is presented below.

For modelling purposes, the capital outlay for the project was disaggregated into relevant industries represented in the Input-Output model (based on the Australian and New Zealand Standard Industrial Classification (ANZSIC) categories). A summary of expenditure for development of the project is outlined in the table below, broken down by relevant industry.

Table 3.1. Construction Costs by Industry

Industry	Total (\$M)
Non-Residential Building Construction	\$108.40
Construction Services	\$18.87
Professional, Scientific and Technical Services	\$12.73
Total	\$140.00

Note: Totals may not equal the sum of individual items due to rounding.
Source: Donald Cant Watts Corke (2016), Hillam Architects, AEC.

Of the above capital outlay, not all activity will be undertaken within the South Perth LGA economy. For example, a large proportion of professional services and marketing activities for the project are likely to be undertaken

⁶ Both Type I and Type II flow-on impacts have been presented in this report. Refer to **Appendix A** for a description of each type of flow-on impact.

⁷ Where one FTE is equivalent to one person working full time for a period of one year.

elsewhere in the Perth Metropolitan Area (e.g. Perth CBD) or interstate, given the high end nature of the project and typical locations of these businesses.

The following table outlines assumptions used in the modelling to identify where relevant activity is anticipated occur.

Table 3.2. Location of Construction Phase Activity by Industry

Industry	Percent Local Activity
Non-Residential Building Construction	100%
Construction Services	100%
Professional, Scientific and Technical Services	10%

Source: Donald Cant Watts Corke (2016), AEC.

In interpreting the above table, it is important to recognise the location of where activity occurs can differ from where the labour or services used to undertake the activity are sourced from. For example, construction activity will (effectively) all occur on site. However, given the highly mobile nature of construction workers, it is likely that a large proportion of this labour will reside elsewhere in the Perth Metropolitan Area or potentially further afield.

The following table outlines the assumptions used in the modelling regarding the location where goods and services are sourced.

Table 3.3. Source of Construction Phase Activity by Industry

Industry	Percent Sourced Locally
Non-Residential Building Construction	20%
Construction Services	20%
Professional, Scientific and Technical Services	10%

Source: Donald Cant Watts Corke (2016), AEC.

In undertaking economic modelling, the direct activity associated with the construction phase is based on where activity occurs (Table 3.2) rather than strictly where labour for these services is sourced from (Table 3.3). However, the amount of activity that is retained in the South Perth LGA economy is best considered in terms of where labour, goods and services are sourced, rather than where the activities they undertake are located. This refers to a 'retention' of incomes and profits within an economy, and reflects that labour and companies sourced from outside the South Perth LGA economy are more likely to spend incomes earned within their local area than within South Perth.

For the purposes of modelling, it has been assumed construction companies and sub-contractors sourced from outside South Perth LGA will contribute approximately one quarter (25%) of the level of Type I (production induced) flow-on activity within the economy that a locally sourced company does, and approximately 5% of Type II (consumption induced) flow-on activity. This reflects that construction companies working on site but sourced from outside South Perth LGA will contribute to local supply chains in terms of sourcing some goods and services they require locally (Type I), as well as spending some wages and salaries locally on items such as food, drink and accommodation (Type II).

3.1.2 Operation

Additional activities anticipated to be observed following the delivery of this project on an ongoing annual basis as a result of its operation are outlined below.

Facility Operation – Serviced Apartments

The project will result in the development of 104 serviced apartments available for short stay accommodation purposes, comprised of a mix of 1-bedroom (32 apartments), 2-bedroom (60 apartments) and 3-bedroom (12 apartments) units.

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The assumptions outlined in Table 3.4 have been used in estimating the total revenue anticipated to be generated by the serviced apartments. High level demand and market analysis has been undertaken for this project, and these *prima facie* assumptions are based on an understanding of the current local market in consideration of the premium offering the development would provide. Specifically:

- Average occupancy assumptions have been based on an understanding of the serviced apartment industry and demand drivers influencing the local market. In line with hotel and serviced apartment industry norms, 1 bedroom units typically attract higher levels of demand. 3-bedroom units are more popular with groups or families which are either relocating or on holiday and, as such they are typically less utilised than 1 bedroom apartments.
- Average occupancy of 61% represents the achieved average room occupancy across the entire serviced apartment property. While this level is below that achieved by the South Perth hotel market of 72% (Table 2.3), the difference is a reflection of the higher number of multiple-bedroom apartments and high quality product offering – both of which will attract a higher rack rate.
- Average room rate is based on comparable rack rates for upper-scale serviced apartments currently operating in the outer Perth CBD. A discount rate of 15%, 20% and 35% has been applied respectively to each of the 1, 2, and 3-bedroom apartments to reflect market discount conditions.
- These assumptions reflect an estimate of average annual activity once developed and fully operational.

Table 3.4. Assumptions Used for Estimating Revenue from Serviced Apartments

Item	1 Bed	2 Bed	3 Bed	Total
Number of Units	32	60	12	104
Room Nights Available	11,680	21,900	4,380	37,960
Occupancy	80%	60%	50%	Ave 61%*
Ave People per Room Night	1.2	3.2	4.5	Ave 1.7*
Room Nights Sold	11,213	42,048	9,855	63,116
Average Room Rate	\$191.25	\$360.00	\$422.50	-
Total Revenue (\$M)	\$1.79	\$4.73	\$0.93	\$7.44

Notes: *across the entire property
Source: AEC.

Total revenue of \$7.44 million through takings from accommodation has been modelled through the 'Accommodation' industry in the Input-Output model to estimate the direct and flow-on impacts of the serviced apartments.

Facility Operation – Café/ Restaurant

The project will deliver 288 sqm of commercial space expected to be used for café/ restaurant purposes. Estimates of annual economic activity generated by this space have been developed using the following assumptions:

- An average of 29.5 sqm per FTE employee⁸ (i.e., approximately 10 FTE employees).
- A ratio of output generated per FTE employee of \$0.127 million, based on Input-Output multipliers for the 'Food and Beverage Services' industry.

This provides an estimate of approximately \$1.27 million in output for the café/ restaurant. This value has been modelled through the 'Food and Beverage Services' industry in the Input-Output model to estimate the direct and flow-on impacts of the café/ restaurant space.

Induced Visitor Spend

A total of 63,116 visitor nights are anticipated to be attracted to stay in South Perth LGA as a result of the development (as outlined in Table 3.4). It is expected effectively all of these visitors would represent net new visitor nights in South Perth LGA, given the premium and superior quality of the serviced apartment product to be

⁸ Ref. WAPC Land Use Survey, AEC

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developed and compared to other facilities in the LGA (i.e., the Lumiere apartments are considered more likely to compete for custom with luxury apartments/ hotel located elsewhere in the Perth Metropolitan Area, rather than existing accommodation providers in South Perth LGA).

It is assumed approximately 40% of visitor nights will be generated by domestic overnight visitors, and 60% of visitor nights will be generated by international visitors. This is in line with current tourism market performance in South Perth (refer to Section 2.5.1 and Table 2.3).

Data from Tourism Research Australia's National and International Visitor Surveys (TRA, 2016) were used to identify average expenditure per visitor night for domestic overnight and international visitors to Australia, as well as relevant splits of expenditure between specific expenditure items within the categories of accommodation, transport and other items. Average expenditure estimates per visitor night by expenditure item were then rounded to the nearest \$0.50, and are summarised in Table 3.5. **Appendix B** provides a summary on the methodology used to collect visitor expenditure data.

Table 3.5. Average Expenditure per Visitor Night by Expenditure Item

Expenditure Item	Domestic Overnight	International
Airfares	\$29.00	\$4.00
Tours	\$7.50	\$3.00
Rental vehicles	\$3.50	\$2.00
Petrol	\$18.50	\$1.50
Vehicle maintenance and repairs	\$0.50	\$3.50
Taxi and public transport	\$5.00	\$3.50
Accommodation	\$48.50	\$22.00
Groceries and alcohol	\$23.00	\$10.00
Takeaways and restaurants	\$29.50	\$12.50
Shopping	\$16.00	\$15.00
Entertainment	\$5.50	\$2.00
Gambling	\$1.00	\$0.50
Education and conferences	\$1.50	\$18.00
Other expenditure	\$1.50	\$2.50
Total	\$190.50	\$100.00

Source: TRA (2016), AEC.

Expenditure items were allocated to their most relevant industry in the Input-Output modelling. Some items were excluded for the following reasons:

- Not all of the visitor spend is expected to be spent in South Perth LGA. Some expenditure (e.g. flights) is expected to occur almost entirely outside the South Perth LGA, while much of the expenditure will occur elsewhere in the Perth Metropolitan Area as visitors undertake activities. For the purposes of this assessment:
 - 100% of visitor expenditure on accommodation was assumed to occur in the South Perth LGA.
 - 50% of visitor expenditure on retail trade (e.g. shopping, groceries and alcohol) and food and beverage services (e.g. takeaways and restaurants) related activities were assumed to occur within the South Perth LGA.
 - All visitor expenditure on airfares and higher education services was assumed to occur outside the South Perth LGA and was therefore excluded from the assessment. Expenditure on higher education services was excluded in consideration of where these institutions are located within the Perth Metropolitan Area.
 - 25% of visitor expenditure on all other activities was assumed to occur within the South Perth LGA.
- All expenditure by visitors on accommodation is assumed to occur at the Lumiere serviced apartments, which is already examined separately. To include this expenditure would double count these impacts. As such, expenditure on accommodation by visitors was excluded.

- Some expenditure on takeaways and restaurants is likely to occur at the café/ restaurant developed as part of the project. Expenditure on takeaways and restaurants was reduced by 50% to reflect this, and avoid double counting.

The annual additional visitor spend by industry in South Perth LGA as a result of the project, accounting for expenditure outside of the South Perth LGA and expenditure already captured through operation of the serviced apartments and café/ restaurant, is presented in Table 3.6.

Table 3.6. Annual Additional Visitor Spend in South Perth LGA (\$M)

Industry	Domestic Overnight	International	Total
Retail Trade	\$0.73	\$0.50	\$1.23
Food and Beverage Services	\$0.37	\$0.24	\$0.61
Road Transport	\$0.03	\$0.03	\$0.06
Rail Transport	\$0.00	\$0.00	\$0.01
Water, Pipeline and Other Transport	\$0.05	\$0.03	\$0.08
Rental and Hiring Services (except Real Estate)	\$0.02	\$0.02	\$0.04
Professional, Scientific and Technical Services	\$0.01	\$0.00	\$0.01
Arts, Sports, Adult and Other Education Services	\$0.00	\$0.04	\$0.04
Heritage, Creative and Performing Arts	\$0.02	\$0.01	\$0.03
Sports and Recreation	\$0.02	\$0.01	\$0.03
Gambling	\$0.01	\$0.00	\$0.01
Automotive Repair and Maintenance	\$0.00	\$0.03	\$0.04
Personal Services	\$0.01	\$0.02	\$0.03
Total	\$2.48	\$1.78	\$4.26

Note: Totals may not sum due to rounding.

Source: TRA (2016), AEC.

As a sensitivity test on the assumptions used, an assessment has also been undertaken assuming the induced visitor expenditure attracted by the project is 75% of the level outlined in Table 3.6.

3.2 ECONOMIC MODELLING RESULTS

3.2.1 Construction

It is estimated the approximately \$140 million capital investment in the project will directly inject approximately \$26.7 million in industry output to the South Perth LGA economy in total over the construction period. A further \$27.1 million in industry output is estimated to support in the South Perth LGA economy through flow-on activity.

A total of \$23.0 million in Gross Regional Product (GRP) is estimated to be supported within the South Perth LGA economy over the construction phase in total, including direct and flow-on activity. Around 150 FTE jobs for South Perth workers are also estimated to be supported as a result of construction, providing \$11.2 million in wages and salaries.

A summary of economic activity supported by the project in aggregate throughout the construction phase in South Perth LGA is provided in the table below.

Table 3.7. Economic Activity Supported by Construction Phase (Total), South Perth LGA

Impact	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTEs)
Direct	\$26.7	\$8.1	\$4.1	51
Type I Flow-On	\$14.2	\$6.8	\$3.9	50
Type II Flow-On	\$12.8	\$8.1	\$3.3	49
Total	\$53.8	\$23.0	\$11.2	150

Note: Totals may not sum due to rounding.

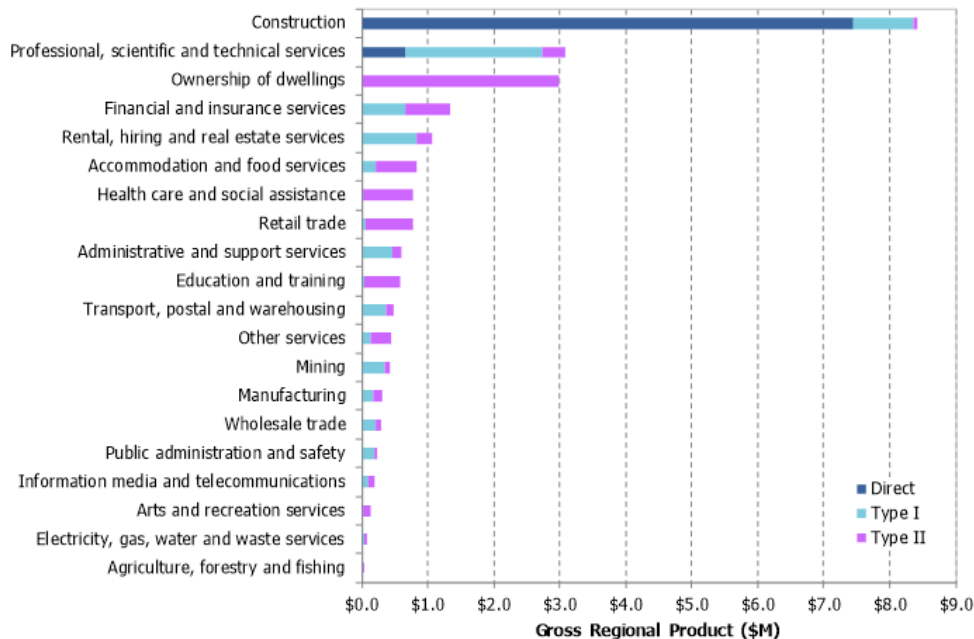
Source: ABS (2015), ABS (2016), ABS (2012a), Donald Cant Watts Corke (2016), AEC.

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A breakdown of GRP supported by industry in the South Perth LGA economy during the construction phase is outlined in Figure 3.1 below. The construction industry is estimated to contribute more than \$8.0 million to GRP during the construction period. Around \$3.0 million in GRP contribution is also estimated to be supported in the professional, scientific and technical services industry, as well as the sector of ownership of dwellings.

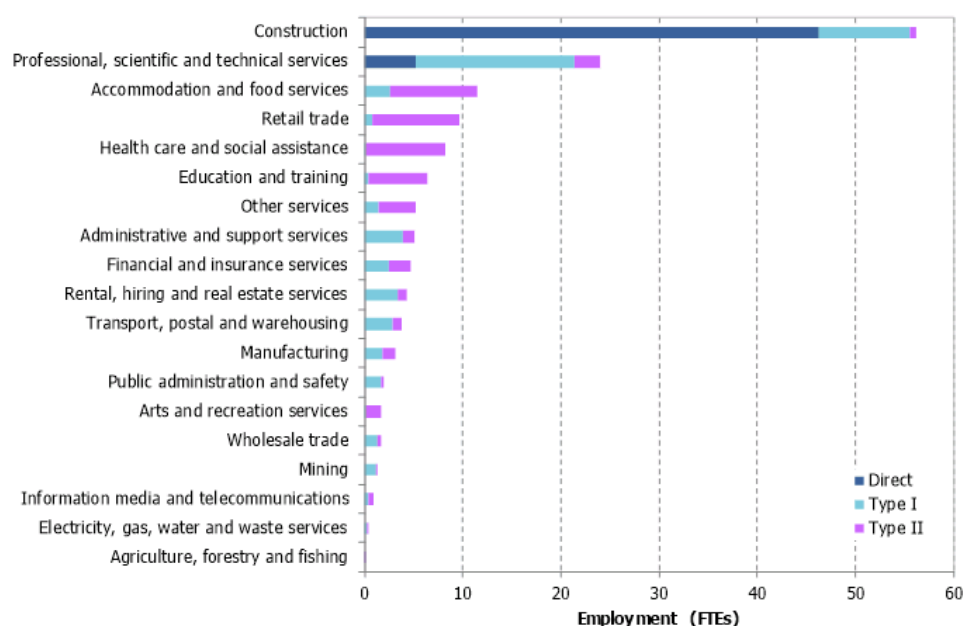
Figure 3.1. GRP Supported by Industry, Construction Phase (Total), South Perth LGA (\$M)



Source: ABS (2015), ABS (2016), ABS (2012a), Donald Cant Watts Corke (2016), AEC.

A breakdown of FTE employment supported by industry during construction is presented in Figure 3.2. The construction industry is estimated to have more than 50 FTE jobs supported within South Perth LGA during the construction phase of the project.

Figure 3.2. Employment Supported by Industry, Construction Phase (Total), South Perth LGA (FTEs)



Source: ABS (2015), ABS (2016), ABS (2012a), Donald Cant Watts Corke (2016), AEC.

3.2.2 Operations

Modelling of operations phase activity has been undertaken based on the average annual economic contribution of the serviced apartments and café/ restaurant components of the development, as well as additional tourism visitor spend attracted to the South Perth LGA by those staying at the serviced apartments, once in steady state operation.

Operation of the serviced apartments and café/ restaurant, as well as expenditure of visitors attracted to South Perth LGA staying at the serviced apartments, is estimated to directly produce industry output of around \$10.6 million within the South Perth LGA economy each year once in steady state operations. A total of 60 FTE jobs are estimated to be directly supported by this activity, including 37 direct FTE jobs at the serviced apartments and 10 FTE jobs at the café/ restaurant (with the remainder supported directly through visitor expenditure).

Economic modelling indicates this level of direct activity would support \$19.7 million in total industry output for South Perth LGA businesses each year (including direct and flow-on activity), and \$11.1 million in GRP in the South Perth LGA economy. Approximately 94 FTE jobs are estimated to be supported each year (including both direct and flow-on activity), paying around \$5.5 million in wages and salaries to workers in South Perth LGA.

Sensitivity testing, assuming induced visitor spending attracted is 75% of that used in the base assessment, indicates the economic activity supported through operations would only be marginally lower than that in the base case. This highlights the majority of economic activity supported in the South Perth LGA by the project during operations will be through operational activities of the serviced apartments and café/ restaurant.

Table 3.8. Economic Activity Supported by Operations Phase (Average Annual), South Perth LGA

Impact	Output (\$M)	GRP (\$M)	Incomes (\$M)	Employment (FTEs)
Base Assessment				
Direct	\$10.6	\$5.8	\$3.1	60
Type I Flow-On	\$2.9	\$1.5	\$0.8	11
Type II Flow-On	\$6.1	\$3.8	\$1.5	23
Total	\$19.7	\$11.1	\$5.5	94
Sensitivity Testing – 75% Induced Visitor Spend				
Direct	\$10.1	\$5.5	\$2.9	57
Type I Flow-On	\$2.8	\$1.4	\$0.8	10
Type II Flow-On	\$5.8	\$3.6	\$1.5	22
Total	\$18.7	\$10.6	\$5.2	89

Note: Totals may not sum due to rounding.

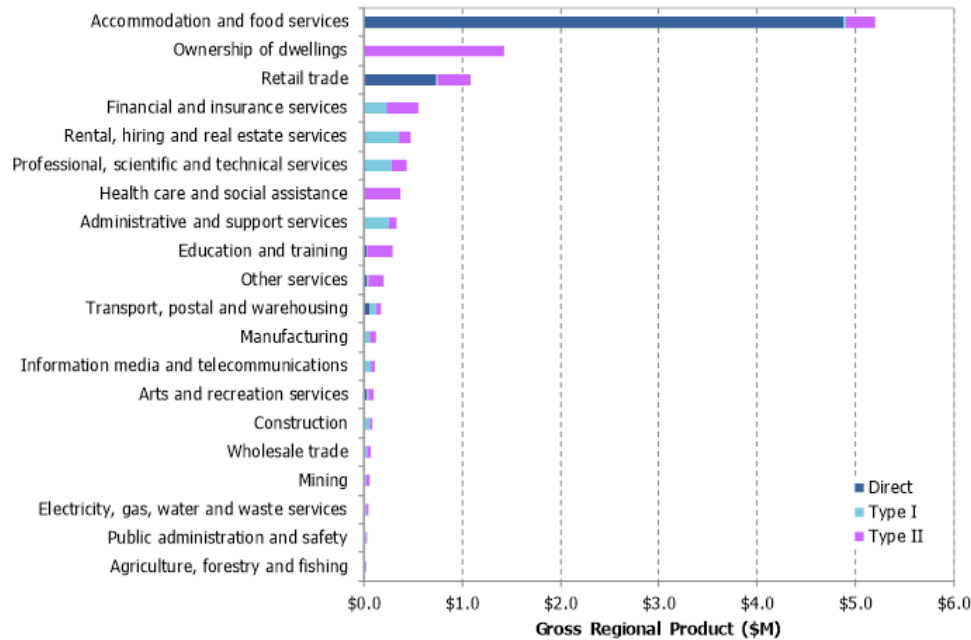
Source: ABS (2015), ABS (2016), ABS (2012a), TRA (2016), AEC.

A breakdown of average GRP supported by industry in the South Perth LGA economy once in steady state operations through operational phase activity is outlined in Figure 3.3. More than \$5 million in GRP is estimated to be supported by the industry of accommodation and food services, and more than \$1 million by the industry of retail trade and the sector of ownership of dwellings.

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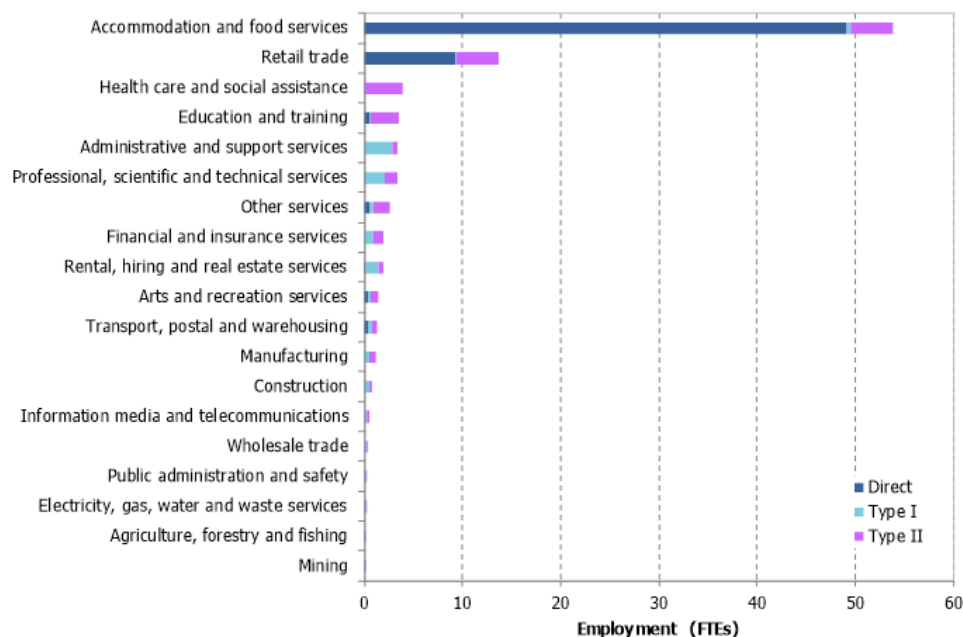
Figure 3.3. GRP Supported by Industry, Operations Phase (Average Annual), South Perth LGA (\$M) – Base Assessment



Source: ABS (2015), ABS (2016), ABS (2012a), TRA (2016), AEC.

The majority of employment supported by the project once operational will be in the industries of accommodation and food services (54 FTE jobs) and retail trade (14 FTE jobs). While the largest proportion of the employment is in the accommodation and food services and retail trade industries, there are new jobs in South Perth across a wide range of industry sectors, as shown in the figure below.

Figure 3.4. Employment Supported by Industry, Operations Phase (Average Annual), South Perth LGA (FTEs) – Base Assessment



Source: ABS (2015), ABS (2016), ABS (2012a), TRA (2016), AEC.

The increase in jobs provided by the project are significant; the 94 FTE additional jobs add measurably to employment in the Precinct.

In context, there are currently around 650 jobs in the wider Mends Street area, which functionally encompasses the Lumiere site, and around 2,000 in the Precinct overall⁹. The new jobs will increase the Precinct working population by around 5%. The increment is around 4.1% of the approximately 2,300 additional jobs targeted for the Precinct under the Precinct Plan.

A high proportion of the accommodation and food services and retail trade jobs will be in the Lumiere complex itself and in the wider Mends Street precinct area, representing an 8% - 10% increase in jobs in the wider Mends St area. This means, for example, more and better quality retail and food and beverage offerings. This will have the consequent effect of making the Precinct a more attractive destination, and increasing the viability of other new projects, both tourist and general commercial. This effect is not quantified here.

Tourist accommodation is a highly valued component of a local economy and many locations actively pursue it with a range of incentives. Tourist accommodation often needs incentives to compete against other forms of land development and is a main reason why the majority of new hotel developments in the Perth CBD are developed on Government land with defined development outcomes.

However, there is a temporal element to the Lumiere project that reflects prevailing market conditions; there is almost no demand for new office accommodation at the moment and there is no knowledge on when it will increase. The Lumiere project arises as the result of a particular set of circumstances that make tourist accommodation viable in this instance and it represents a rare opportunity for the City of South Perth to substantially boost its tourist economy.

These opportunities come rarely. Tourist accommodation is difficult to develop successfully.

The economic effects of tourist development in a location are spread widely, across the whole precinct. There are several facets to this valuable role. These are not quantified in this report, but nevertheless are tangible:

- They add to the economic diversity and thus resilience of the local community
- They lead to a general increase in range and quality of retail and food and beverage offerings in the precinct, increasing the precinct attraction as a destination and making additional tourism projects more viable. Making the precinct a destination is key for public transport planning.

3.3 ADDITIONAL HOUSEHOLD SPEND

The project will provide 83 residential dwellings for additional households to South Perth LGA. These additional households will bring additional household incomes, much of which can be expected to be spent at local shops in South Perth LGA.

The median household income in South Perth LGA was \$1,606 per week in 2011 (ABS, 2012b). On average, Western Australian household expenditure was approximately 67% of income. Inflating to current dollar prices (ABS, 2016) this equates to a median household income of approximately \$90,500 per annum, and a median household expenditure of approximately \$60,750 per annum. With 83 new households in South Perth LGA as a result of the project, this could equate to approximately \$5.0 million in household spend (though not all of this household expenditure would be captured within the South Perth LGA).

3.4 ALTERNATIVE CONFIGURATION

It is understood that an alternative configuration has been under consideration for development. This would entail replacing the 4 serviced apartment on levels 1 and 2 with 355m² of office commercial accommodation. This is not the preferred development model for several reasons:

- The current market for office accommodation is uncertain.

⁹ WAPC Commercial Centres Survey



- The additional use may detract from the overall amenity of both the serviced apartments and residential apartments and reduce the value of each. In the case of the serviced apartments it has the potential to marginally reduce their appeal and thus marginally reduce load factor and operating revenue.
- The additional use adds complexity to building management and commercial arrangements with no material advantage.
- There are additional traffic considerations (volume and timing of traffic movement).

The economic impact of this option has not been modelled in detail, however it is considered the difference between it and the preferred option of serviced apartments on floors 1 and 2 in economic terms (i.e. contribution to local economic output and employment) is small.

The employment intensity and local economic spin-off for each use is quite different – office use has a higher on-site employment density than serviced apartments but a much lower spin-off effect on the economy of the surrounding precinct, with a lot more discretionary expenditure being made locally with serviced apartment use. Given the small change in use (4 serviced apartments set against 355m² of office) there is only a minor difference in overall economic impact arising from the project between the two options.

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Attachment (a)	13. Economic Impact Assessment (AEC) - August 2016 - Proposed 34 Storey Mixed Use Development - No. 74 Mill Point Road.pdf

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APPENDIX A: INPUT-OUTPUT METHODOLOGY

INPUT-OUTPUT MODEL OVERVIEW

Input-Output analysis demonstrates inter-industry relationships in an economy, depicting how the output of one industry is purchased by other industries, households, the government and external parties (i.e. exports), as well as expenditure on other factors of production such as labour, capital and imports. Input-Output analysis shows the direct and indirect (flow-on) effects of one sector on other sectors and the general economy. As such, Input-Output modelling can be used to demonstrate the economic contribution of a sector on the overall economy and how much the economy relies on this sector or to examine a change in final demand of any one sector and the resultant change in activity of its supporting sectors.

The economic contribution can be traced through the economic system via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
 - **Industry Support Effects (Type I)**, which represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services in the intermediate usage quadrant, and subsequent round effects of increased purchases by suppliers in response to increased sales.
 - **Household Consumption Effects (Type II)**, which represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economic system.

These effects can be identified through the examination of four types of impacts:

- **Output**: Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
- **Value added**: Refers to the value of output after deducting the cost of goods and services inputs in the production process. Value added defines the true net contribution and is subsequently the preferred measure for assessing economic impacts.
- **Income**: Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the project.
- **Employment**: Refers to the part-time and full-time employment positions generated by the economic shock, both directly and indirectly through flow-on activity, and is expressed in terms of full time equivalent (FTE) positions.

Input-Output multipliers can be derived from open (Type I) Input-Output models or closed (Type II) models. Open models show the direct effects of spending in a particular industry as well as the indirect or flow-on (industrial support) effects of additional activities undertaken by industries increasing their activity in response to the direct spending.

Closed models re-circulate the labour income earned as a result of the initial spending through other industry and commodity groups to estimate consumption induced effects (or impacts from increased household consumption).

MODEL DEVELOPMENT

Multipliers used in this assessment are derived from sub-regional transaction tables developed specifically for this project. The process of developing a sub-regional transaction table involves developing regional estimates of gross production and purchasing patterns based on a parent table, in this case, the 2009-10 Australian transaction table (ABS, 2013a).

Estimates of gross production (by industry) in the study area were developed based on the percent contribution to employment (by place of work) of the study area to the Australian economy (ABS, 2012), and applied to Australian gross output identified in the 2009-10 Australian table.

Industry purchasing patterns within the study area were estimated using a process of cross industry location quotients and demand-supply pool production functions as described in West (1993).

Where appropriate, values were rebased from 2009-10 (as used in the Australian national IO transaction tables) to 2014 values using the Consumer Price Index (ABS, 2015).

MODELLING ASSUMPTIONS

The key assumptions and limitations of Input-Output analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using Input-Output multipliers is the implicit assumption that the economy has no supply-side constraints so the supply of each good is perfectly elastic. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using Input-Output multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. The system is in equilibrium at given prices, and prices are assumed to be unaffected by policy and any crowding out effects are not captured. This is not the case in an economic system subject to external influences.
- **Fixed ratios for intermediate inputs and production (linear production function):** Economic impact analysis using Input-Output multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. That is, the input function is generally assumed linear and homogenous of degree one (which implies constant returns to scale and no substitution between inputs). As such, impact analysis using Input-Output multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount. Further, it is assumed each commodity (or group of commodities) is supplied by a single industry or sector of production. This implies there is only one method used to produce each commodity and that each sector has only one primary output.
- **No allowance for economies of scope:** The total effect of carrying on several types of production is the sum of the separate effects. This rules out external economies and diseconomies and is known simply as the "additivity assumption". This generally does not reflect real world operations.
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these limitations, Input-Output techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and provide useful insight into the quantum of final demand for goods and services, both directly and indirectly, likely to be generated by a project.

In addition to the general limitations of Input-Output Analysis, there are two other factors that need to be considered when assessing the outputs of sub-regional transaction table developed using this approach, namely:

- It is assumed the sub-region has similar technology and demand/ consumption patterns as the parent (Australia) table (e.g. the ratio of employee compensation to employees for each industry is held constant).

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- Intra-regional cross-industry purchasing patterns for a given sector vary from the national tables depending on the prominence of the sector in the regional economy compared to its input sectors. Typically, sectors that are more prominent in the region (compared to the national economy) will be assessed as purchasing a higher proportion of imports from input sectors than at the national level, and vice versa.

APPENDIX B: TOURISM EXPENDITURE DATA

DATA SOURCE: TOURISM RESEARCH AUSTRALIA (TRA)

TRA Online accesses Tourism Research Australia's data via the internet. TRA Online (<http://traonline.tra.gov.au>) contains a range of functions and tools to assist the user to explore tourism data in an online environment.

NATIONAL VISITOR SURVEY (NVS) DATA

The National Visitor Survey (NVS) commenced in January 1998. The aim of the survey is to gather data relating to the demographics, travel behaviour and attitudes of Australian residents towards tourism and to monitor changes and trends in these characteristics. In 2014 TRA introduced mobile phone interviewing where half of the sample are interviewed on mobile phones. This has changed some of the travel characteristics in the time series and data from 2014 onwards should be used with caution when comparing with earlier results.

Data is collected on recent travel of residents including:

- Overnight trips
- Day trips
- Outbound (International) trips
- Demographics (including those who did not travel recently).

The NVS has the following limitations:

- Respondents are 15 years of age or over
- Overnight – a trip where they stayed a night at least 40km from home.
- Daytrips - a round trip of at least 50km

Expenditure in the NVS is collected for the respondent's entire journey. As such, it is not possible to present expenditure for individual locations that may have been visited by a respondent, as this would give an inaccurate measure of tourism expenditure for individual States, Territories and regions. Expenditure amounts reported include expenditure by and on behalf of respondents during a trip, airfares and other transport costs such as bus and train fares, and amounts spent on trip related items before and after the trip. Expenditure on capital goods is not included in the estimates, as this is not regarded as tourism expenditure. Expenditure should NEVER be cross tabulated by location, region or state. TRA provides regional expenditure estimates on a quarterly basis, separate to the IVS and NVS.

This is the expenditure counting variable that is most commonly used. TRA publishes this figure in its quarterly publication for the National Visitor Survey (NVS). As with all expenditure this cannot be used to assess spend for states or regions. For information on spend at these levels please consult TRAs 'Regional Expenditure Estimates'.

INTERNATIONAL VISITOR SURVEY

The International Visitor Survey (IVS) represents the most comprehensive source of information on international visitors to Australia. It has been operating since the early 1970s and is jointly funded by the Commonwealth, State and Territory Governments under the guidance of the Australian Standing Committee on Tourism (ASCOT).

Every year, the International Visitor Survey samples 40,000 departing, short-term international travellers aged 15 years and over who have been visiting Australia. The survey is conducted by Computer Assisted Personal Interviewing (CAPI) in the departure lounges of the eight major international airports; Sydney, Melbourne, Brisbane, Cairns, Perth, Adelaide, Darwin and the Gold Coast.

The IVS has the following limitations:

- Respondents are 15 years of age or over

- Overseas visitors coming to Australia for a period of less than twelve months
- International visitors departing by sea are not interviewed; however, they
- comprise less than 1% of the total visitors to Australia.
- TRA is unable to interview visitors in airline business lounges.

Further research conducted by TRA suggests that this has little to no effect on the estimates.

Expenditure is collected at the national (trip) level and cannot be used for State or regional estimates. For state or regional estimates, the user is referred to TRA's regional expenditure estimates on the TRA website. This has been undertaken for Experience Perth tourism region.

DETERMINING INTERNATIONAL VISITOR EXPENDITURE

There are varying levels in which an international visitor's total trip expenditure may impact on the tourism destination of Australia and its regions. TRA results present three main types of direct tourism expenditure impacts that are the result of the collection of trip spend details from international visitors as they depart Australia. These three direct expenditure classifications are specifically:

- Total trip expenditure
- Spend in Australia
- Regional expenditure.

There are subtle differences between each of these spend classifications.

Total trip expenditure

When an international visitor pays for their trip to Australia they are spending money which impacts on the world economy. Total trip expenditure is all monies spent so that the respondent could undertake their trip to Australia. For example, this may include airfares, package tour expenditure, food and beverages and payment for all accommodation, leisure activities, conventions and schooling while in Australia.

Spend in Australia

While international visitors may spend a lot of money on their entire trip, not all of this is spent in Australia. The international visitor is asked to separate the money they have spent in Australia from their total trip expenditure in the IVS. This is in order to determine the amount of money that is being spent by the visitor in the Australian destination. This may be on items such as food and beverages, accommodation, activities, school books, motor vehicles and shopping.

Regional expenditure

The IVS provides information on travel activity and expenditure by international visitors. Information on expenditure by these visitors is only collected for whole trips; it is not regionally specific. In order to determine the impact that the visitor activity is having on a particular region, TRA uses a model based approach to allocate visitor expenditure to the various tourism regions.

Regional expenditure allocation methodology

A very brief summary of the process by which expenditure by international visitors is allocated to regions is given below. Two types of expenditure data are collected in the IVS:

- expenditure for the respondent's entire journey
- expenditure at a randomly selected location.

A 'location' is a more specific spatial unit than a Statistical Area Level 2 (SA2). For example, the location Bondi is in the 'Bondi - Tamarama - Bronte' SA2. A sub-sampling approach (selection of a single location for further study)

is adopted as a starting point for regional expenditure estimation. This is because of the need for interviews to be done quickly and because it is unreasonable to expect an interviewee to remember expenditure at every stop. It is entirely feasible for a visitor to visit the same location more than once, but expenditure data are collected only if the randomly selected location has been visited only once.

Four major sub-components of total IVS expenditure are identified:

- expenditure on domestic airfares
- expenditure on travel packages
- expenditure on accommodation, food and beverages
- all other expenditure.

Domestic airfares

Note: regional airfares have been excluded from our analysis for the purposes of this project.

Wherever air travel is indicated, airfare expenditure is allocated equally between the departure region and the arrival region. In cases where there is no major airport in the departure and/or arrival region, the share of airfare expenditure is allocated to the nearest region with a major airport. If air travel is specified for the first leg of the trip, the departure airport is assumed to be the airport where the visitor arrived in Australia.

Package expenditure

A major part of any package for travel within Australia is taken up by airfares and other long distance travel fares. A series of studies by the ABS (1995, 1996), Australian Tourism Export Council (2000), Bureau of Tourism Research (Bonnet et al. 1994 and Skene, 1995) and Office of Economic and Statistical Research (2001) estimated the proportion of travel packages spent on things other than long distance fares to be between 26% and 35%. Based on these results, it has been decided that total package expenditure should be split with 30% being attributed to items other than long distance fares. The remaining 70% is assumed to be spent in the visitor's home country.

The non-fare component is distributed among the regions using the iterative process.

Expenditure on accommodation, food and beverages, and other expenditure

Expenditure on accommodation, food and beverages (AFB) and other expenditure are obtained by summing expenditure on the relevant items. The total expenditure for each item group is allocated to the regions by the iterative process.

During the iteration procedure, expenditure at the randomly selected location for which there is expenditure information is treated as a known value, and is held constant. The amount actually distributed among the remaining regions in the trip is known as net expenditure, which is equal to total expenditure minus random expenditure. If there is no expenditure at a randomly selected location (either by the interviewer failing to ask, or the interviewee failing to reply) net expenditure is equal to total expenditure.

Domestic Regional expenditure allocation methodology

A brief summary of the process by which expenditure by domestic visitors is allocated to regions is given below. Further explanation of expenditure allocation methods can be found in *Travel expenditure by domestic and international visitors in Australia's regions, 1999-2010, Tourism Research Australia, Canberra*. Expenditure in the NVS is collected for the respondent's entire journey, not for individual stops. For both overnight and day visitors, information is collected on the following three types of expenditure:

- expenditure by respondent during the trip
- expenditure by respondent before or after the trip
- expenditure paid by employer or other who is not travelling.

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For each of these three types of expenditure, information is collected on the amount spent on each of the following expenditure items:

- Packages
- Taxis (including to/from airport)
- Airline fares
- Organised tours/side trips
- Car hire costs (rental, leasing)
- Fuel (petrol, diesel)
- Vehicle maintenance or repairs
- Any other long distance transport costs (train, coach, ship etc.)
- Any other local transport costs (bus, train, ferry, etc.)
- Accommodation (not relevant for domestic day trips)
- Takeaways and restaurant meals
- Groceries etc. for self-catering
- Alcohol, drinks (not already reported with food above)
- Shopping, gifts, souvenirs
- Entertainment, museums, movies, zoos etc.
- Horse racing, gambling, casinos
- Conference fees
- Education, course fees
- Purchase of motor vehicles or any other major equipment
- Other (phone, postage, medical expenses, repairs, dry cleaning etc.).

Expenditure on capital goods (for example, motor vehicles, and property and office equipment) is not included in the published NVS estimates, as it is not regarded as tourism expenditure. All the other expenditure items in the above list are included in the expenditure estimates for domestic day and overnight visitors.

Overnight trips expenditure allocation process

As discussed above, expenditure information in the NVS is collected for entire trips, not for individual stops. A method has been developed by which this amount can be distributed over all the stops on the trip.

The process of allocating money spent on overnight trips begins with the identification of four major sub-components of total expenditure:

- expenditure attributable to the respondent's home region
- expenditure on airfares and other long distance fares (excluded from our analysis)
- expenditure attributable to the destination region or regions
- expenditure on long trips.

The 'home region' is the region where the survey respondent lives and home region expenditure, by definition, applies to a single region. In taking a trip a traveller may spend some money in the region where they live; this expenditure is identified as home region expenditure. For example, expenditure on taxi fares, fuel and groceries paid for before or after the trip are assigned wholly to the traveller's home region. Fuel expenses paid by someone



other than the respondent and meals paid for before or after the trip are assigned to the home region in the proportion:

$$1 / (\text{number of stops} + 1) - \text{with the remainder going to destination regions}$$

In allocating package expenditure using the iteration method, the 'regional cost indicator' is average package expenditure per night. The end result of iteration is an estimate of package expenditure at each stop on each trip.

Destination region expenditure excludes expenditure on capital items and includes 40% of package expenditure. Sixteen expenditure items and package expenditure are grouped into nine major expenditure types, which are:

- Packages
- Local transport
- Entertainment
- Fuel
- Food
- Shopping
- Accommodation
- Conference fees
- Any other expenditure.

Each of these expenditure types is allocated by the iterative process.

For expenditure on long trips (trips with more than 21 stops) a single expenditure figure is collected for these trips, which is equal to total expenditure for the entire trip. This amount is allocated to regions in proportion to the nights spent at each stop.

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Attachment (a)	13. Economic Impact Assessment (AEC) - August 2016 - Proposed 34 Storey Mixed Use Development - No. 74 Mill Point Road.pdf

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DEPARTMENT OF PLANNING

Lumiere South Perth Economic Impact Assessment Review

Briefing Note for State Administrative Tribunal

AUGUST 2016

Lumiere South Perth Economic Impact Assessment Review



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1 Introduction

This briefing note has been prepared by Pracsys Economics in response to a brief from the Department of Planning. The briefing note investigates the economic impact of the Lumiere 44 storey mixed use development in South Perth. This work encompasses the following tasks:

- Review the provided background materials
- Review the AEC Group Economic Impact Assessment
- Assess the potential economic impact of the Lumiere development in regards to the employment generated from the proposed mix of uses
- Compare the employment typically generated by office uses in comparison to serviced apartments



2 Review of Lumiere South Perth Economic Impact Assessment

2.1 Background

The subject development is located on 74 Mill Point Road in South Perth. The development was initially conditionally approved by the Metro Central JDAP as a 29 storey mixed use development. This approval was subsequently set aside in a Supreme Court of Western Australia ruling on 26th February 2016. Following this, significant amendments were then made to the *“plot ratio, height and land use mix while the overall building design remained consistent with previous proposals”*. The subsequent approval for the development was then refused for a number of reasons including inappropriate height, lack of contribution toward the precinct as an employment destination, inappropriate street setback and traffic concerns.

As it stands, the development proposal consists of a 44 storey building including:

- 147 serviced apartments
- 85 residential apartments
- A ground floor café/restaurant of 295m²
- Three levels of basement providing storage and parking
- Associated amenities, communal areas and a community meeting room

The development is now under consideration by the State Administrative Tribunal.

2.2 Summary of AEC Report

The AEC report puts forward a number of potential economic impacts as a result of the Lumiere development. Claimed construction impacts include:

- An Injection of \$57.8m in industry output into the South Perth LGA economy
- Contribution of \$24.7m to South Perth LGA’s Gross Regional Product
- Provision of 161 FTE jobs in South Perth LGA, providing \$12.1m in wages and salaries

The claimed economic impact of operating the development were estimated at:

- An increase in industry output of \$22.9m in the South Perth LGA economy
- Contribution of \$12.9m to South Perth LGA’s gross regional product
- Provision of 109 additional FTE jobs in the South Perth LGA providing \$6.3m wages and salaries each year
 - Of these, 45 are derived from the provision of serviced apartments
 - A further 10 are from the café and restaurant activity
- The development claims to contribute \$5.2m of household expenditure to the broader economy
- Attraction of visitors and new households to Lumiere is expected to support café, restaurant and tourism/leisure related activities.
- Generation of Local and State Government revenues through items such as transfer duties, land tax, payroll taxes and rates revenues



3 Commentary on Approach and Results

3.1 Use of Input-Output Multipliers

The AEC report has used an input-output approach to assess the impact of the proposed development. There are many limitations to input-output modelling (as mentioned in the AEC report), most notably a lack of supply side constraints or assumed linear production functions and fixed prices. A comprehensive list of the shortcomings of input-output multipliers published by the Australian Bureau of Statistics is provided in Appendix 1.

Input-output multipliers are most appropriately used to estimate large scale impacts of stimuli across a whole economy. The ABS specifically advises against use of input-output multipliers for assessing small-scale individual project impacts at local level.

Despite this advice, many project proponents use multipliers because of their intuitive simplicity and ease of use. Regardless, using an I-O approach when other data is available is a coarse and often inappropriate method.

3.2 Specific Comments

The AEC report shows the contribution of serviced apartments to the overall economic impact of the development. The following table offers specific feedback on each element of the analysis.

Figure 1. Specific Comments

AEC Report	Pracsys Comment
Regionalised input-output modelling used to estimate impact	Standard (regionalised) input-output modelling has limitations that often result in the overestimation of impacts. The ABS specifically advises against use of input-output multipliers for assessing small-scale individual project impacts at local level.
Qualitative trend analysis of serviced apartment market undertaken	Analysis is sound but no mention is made of the potential effect on occupancy rates as a result of the 774 serviced apartments currently under construction or in planning stages. This has also not been reflected in the modelling
Input-output modelling undertaken to estimate construction phase impacts	Methodology is sound and standard, for the most part. Does contain assumptions with no easily discernible source or justification. Specifically, no details as to how the assumptions given in table 3.2 and table 3.3 have been arrived at
Methodology for modelling operating revenue	Methodology used is flawed. Occupancy has been designed to reflect South Perth current occupancy rates (65%). Pracsys agrees that the current conditions in South Perth reflect an occupancy rate of 65%. AEC's analysis does not reflect an average occupancy rate of 65% but rather 70% 37,559 room nights sold of 53,655 room nights available is 70%. No weighting of averages has been undertaken. Given this, revenue and output has likely been overstated. This overestimation flows through to the rest of the analysis.

Lumiere South Perth Economic Impact Assessment Review



AEC Report	Pracsys Comment
Employment impact and operation impact of the café and restaurant.	Methodology used appears sound. No detail is given as to why 30m ² per employee is used but is consistent with Pracsys own ratios. Output per FTE reflects values of the national I-O table and is considered to be sound.
Induced visitor spend	Broad methodology and data sources for quantifying induced visitor spend is seen as sound. Pracsys believes that some of the leakage assumptions to quantify local expenditure are low (i.e. over estimates the expenditure relative to South Perth) but it is noted that this is subjective.
Economic modelling for construction phase activity	Broad methodology is seen as sound, though details on specific assumptions are lacking and appear to be subjective.
Serviced apartment employment contribution	Methodology used is seen as flawed. AEC has estimated the output of serviced apartments and then appeared to use a ratio of output per FTE to estimate employment (45 FTE's). This has a number of issues: <ul style="list-style-type: none"> As previously mentioned, it is believed output is overstated. This has particular implications given this methodology and as such total employment is likely to be overstated Further, as the output per FTE from the accommodation category used in the I-O table likely includes more labour intensive uses, the output per FTE is likely understated relative to Serviced Apartments. As such this will further contribute to the overestimation of employment Pracsys own approach uses benchmarking and secondary research that results in an estimation of 29-32 jobs supported (rather than 45). This represents approximately 70% of AEC's estimated total, a significant proportion.
GRP contribution	Broad methodology is seen as sound, though is reflective of previously discussed issues
Household spend	Household spend commentary is basic and somewhat misleading: <ul style="list-style-type: none"> Median incomes stated are correct Median household expenditure is likely correct Despite this, no mention is made that a significant portion of this expenditure goes toward housing costs such as mortgage, rent and other expenditure items that will not contribute to the South Perth LGA in addition to the standard expenditure leakage



4 Alternative Approach

An alternative analysis has been prepared to estimate the operational employment impact of the proposed uses once fully operational. A review of the economic impact of the development claims development¹ will generate ongoing employment through:

- Café or restaurant
- Serviced apartments
- Secondary spend opportunities

The authors have established rates of employment for these uses through benchmarking from various data sources as well as secondary research. Jobs have been quoted in direct and indirect, though it should be noted that indirect jobs are not necessarily restricted to South Perth in this case.

The project is proposed to contain a 295m² café or restaurant. Cafes and restaurants are classified as shop retail under Planning Land Use Categories (PLUC). Using the Land Use Employment Survey (2008) released by the Department of Planning the average m² per employee for SHP retail is 30m². Given this, the employment expected to be generated by the Café or Restaurant is approximately 10 employees.

4.1 Serviced Apartments

The proposed development is expected to contain 147 serviced apartments with employment expected in positions such as housekeeping, concierge, reception, building management and maintenance. To ascertain how much employment is expected to be generated, a benchmarking exercise was undertaken. The results of these benchmarks are seen below in Figure 2.

Figure 2. Employees Per Room/Key Benchmark

	Employees per room (Serviced Apartments)
Western Australia	0.40
Experience Perth Area	0.40
Victoria	0.26
Melbourne	0.22
Australia	0.27

Source: ABS Catalogue 8635.5.55.001/2 (2013)

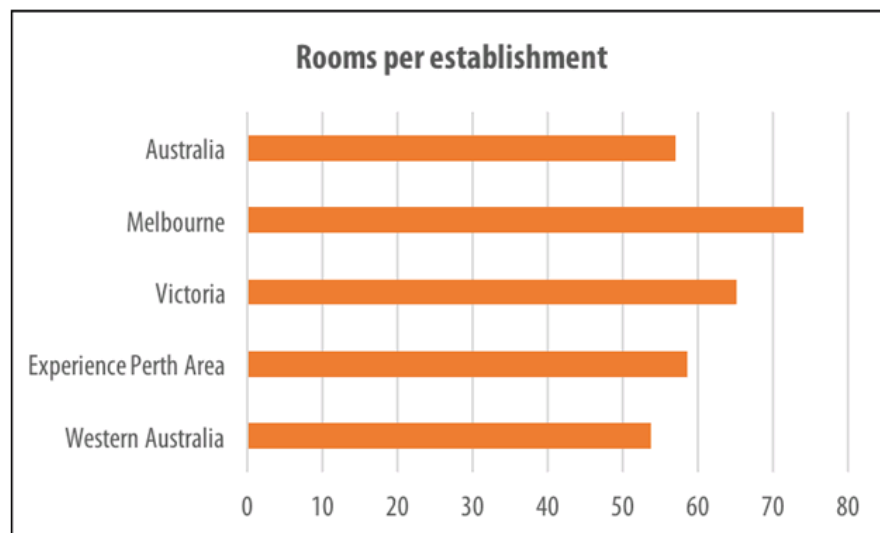
The data shown is a benchmark of the aggregate number of employees per room at serviced apartments in June 2013. As shown, the benchmarks vary from 0.22 up to 0.40 per room. The Victorian and Melbourne benchmarks were chosen to supplement the Western Australian and Perth area benchmarks as the serviced apartment market here is relatively young and typically contains fewer rooms per establishment (Figure 3). This could potentially push up the average employees per room as economies of scale and more efficient

¹ Lumiere South Perth Economic Impact Assessment, AEC 17th June 2016



running are not achieved, as such markets with developments more alike the proposed development have been selected to provide further clarity.

Figure 3. Rooms per Establishment



Source: ABS Catalogue 8635.5.55.001/2 (2013)

Given that the proposal contains 147 serviced apartments the employment distribution is expected to be aligned with the employment intensity observed in the more mature Melbourne market (due to the higher rooms per establishment). As such, the serviced apartment component of the development could reasonably be expected to generate approximately 32 jobs. It is also worth noting that it is not stated whether employment in ABS catalogue 8635.5.55.001 is FTE, as such this employment number could be overstated.

In addition to the above benchmarks a number of secondary benchmarks have been found from a desktop search:

- Castlereast consultants as part of an economic impact assessment consulted industry representatives whom estimated that 48 serviced apartments would require the following staffing (FTE)²:
 - 2 Cleaning
 - 2 Front of house and admin
 - 1 Building maintenance and landscaping
- An article written by Wimberly Allison Tong & Goo with The Serviced Apartment Company, indicated the following ratios³:

² Preliminary Economic & Employment Assessment, Toukley Iconic Site, Main Road Rustum (2015), Castlereast Consultants, accessed from NSW Department of Planning

³ Serviced Apartments, Checking in for the Long Term, Wimberly Allison Tong & Goo, The Serviced Apartment Company, July (2015), accessed at (http://www.servicedapartmentnews.com/media/188233/watg_report.pdf)



- A 150 unit aparthotel would require around 30 staff, inclusive of housekeeping (0.2 employees per key)
- A 120 key property could be run with just 10 internal members of staff if housekeeping was outsourced

These ratios suggest that the employment generated would fall in a range between 15 and 29 jobs.

4.2 Comparison of Results

Results of the analysis of potential employment generated through serviced apartments are found in Figure 4.

Figure 4. Serviced Apartment Employment Generation

Method	Source	Ratio (Jobs per Room)	Results (Jobs)
Adjusted Input-output	AEC	0.31	45
Consultation	Castlecrest Consultants	0.10	15
Consultation	Wimberley, Allison, Tong & Goo	0.20	29
Benchmarking	ABS (Melbourne)	0.22	32
Benchmarking	ABS (Australia)	0.27	40

Source: AEC (2016), Castlecrest Consultants (2015), WATG (2015), ABS (2013)

As shown, compared to the benchmarks seen as being most applicable, the AEC results are at the upper end of the range.

4.3 Secondary Expenditure

The majority of secondary expenditure will come from serviced apartment guests spending in the surrounds, the average spend per Western Australian visitor is set out in Figure 5.

Figure 5. Secondary Expenditure

	\$ per visitor per night WA	% Spend in South Perth	\$ per visitor per night spent in South Perth
Petrol/Fuel	16	20%	3
Taxis	3	25%	1
Other local public transport	1	100%	1
Groceries for self-catering	10	100%	10
Alcohol, drinks (not already reported)	10	33%	3
Takeaway and restaurant meals	25	33%	8
Shopping/Gifts/Souvenirs	13	15%	2
Entertainment	5	33%	1
Gambling	1	10%	0

Source: TRA (2016), Pracsys (2016)



The preceding figure shows the average spend for Western Australia visitors per night, and the assumptions used to convert this to spend specific to South Perth are found in Figure 6.

Figure 6. Potential Visitor Nights

Serviced Apartments			
Number of Bedrooms	1	2	3
Number of Apartments	102	26	19
Bed nights available	37,230	18,980	20,805
Average Bed Occupancy	43.25%		
Potential Visitors	16,102	8,209	8,998

Source: Pracsys (2016), Tourism Research Australia (2016)

Utilising these figures we get:

- Retail expenditure of \$780,000
- Transport expenditure of \$47,776
- Entertainment expenditure of \$162,000

Based on this, it is expected that the expenditure from serviced apartments will directly support approximately 6 retail jobs, less than one transport job, and approximately 1 entertainment based job. Indirectly it is expected to generate a further 14 jobs.

4.4 Household Spend

The development is expected to contribute a further 85 households to the South Perth LGA. These are expected to contribute to the local economy through consumer based expenditure. The South Perth LGA currently has a median weekly household income of \$1,606 or approximately \$84,000 per year or \$90,000 in \$2016, putting it firmly in the 4th income quintile. Given this the expected contribution to retail is approximately \$41,000 on retail based on the ABS Household Expenditure Survey (2009). This would equate to approximately 27 direct jobs created. Though this would not necessarily all be contained within the South Perth LGA depending on where people shopped.



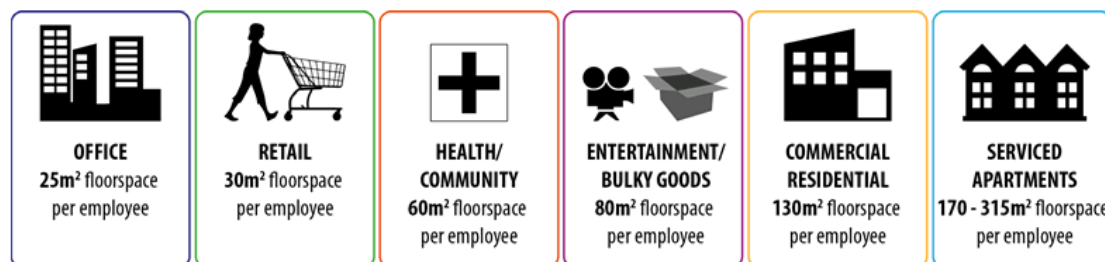
5 Alternative Employment Uses

Serviced apartments are one of many uses that may support employment (assuming relevant demand) in an area. Other uses that can support employment include (but are not limited to):

- Retail
- Office
- Entertainment
- Health/Community Services
- Other Commercial Residential

As serviced apartments are predominantly targeted at relatively large floorplates that are for the most part self-contained, they typically support some of the lowest employment densities, even when compared to other commercial residential uses such as hotels or bulky goods retail uses. Figure 7 demonstrates the employment intensity found in the Perth Metro area on average.

Figure 7. Floorspace Intensity



Source: Pracsys (2016), Department of Planning Land Use and Employment Survey (2008)

Using an average serviced apartment size of 69m²⁴ and the ratios from the preceding section, we can see that the average employment intensity for serviced apartments is by far the lowest employment intensity of the shown uses. Office represents the most intensive employment supported use at 25m² per employee.

It should be noted that the most intense employment does not necessarily represent the best option in an economic or commercial sense. Office space in Perth, for instance, currently faces a significant oversupply with a current vacancy rate of 21.8%⁵ in the CBD. Without the fundamentals of demand to drive use for the floorspace, no employment will be supported. As such, despite office being the highest intensity use, the current market conditions in Perth may make it such that it does not support an appropriate amount of employment. It is also worth noting that building floorspace of one type will likely sterilise it for future use of another more favourable use if or when market conditions improve.

⁴ Quest Apartments apartment sizes

⁵ Property Council of Australia, Office Market Report (2016)



6 Appendix 1

Inherent shortcomings and limitations of multipliers for economic impact analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply-side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production:** Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount;
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.
- **Not applicable for small regions:** Multipliers that have been calculated from the national I-O table are not appropriate for use in economic impact analysis of projects in small regions. For small regions multipliers tend to be smaller than national multipliers since their inter-industry linkages are normally relatively shallow. Inter-industry linkages tend to be shallow in small regions since they usually don't have the capacity to produce the wide range of goods used for inputs and consumption, instead importing a large proportion of these goods from other regions.



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Hillam Architects

74 Mill Point Road, South Perth

Wind Impact Assessment



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74 Mill Point Road, South Perth
Wind Impact Assessment

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EXECUTIVE SUMMARY

Hillam Architects commissioned Vipac Engineers and Scientists Ltd to prepare a statement of wind effects for the ground level areas adjacent to the proposed development at **74 Mill Point Road, South Perth**. This appraisal is based on Vipac's experience as a wind-engineering consultancy.

Drawings of the proposed development were provided by **Hillam Architects** in **September 2016**. The findings of this study can be summarized as follows:

- With the proposed design, the adjacent footpaths would be expected to have wind levels within the walking comfort criterion.
- With the proposed development, all building entrances would be expected to have wind speeds within the recommended comfort criteria of standing.
- With the proposed design, the Level 4 terraces are expected to experience wind speeds within the recommended comfort criterion for walking.
- With the proposed design, the Level 14 pool deck area is expected to experience wind speeds within the recommended walking comfort criterion.

Educating occupants about wind conditions at open terrace/balcony areas during high-wind events and fixing loose, lightweight furniture on the terrace are highly recommended.

The assessments provided in this report have been made based on experience of similar situations in Perth and around the world. As with any opinion, it is possible that an assessment of wind effects based on experience and without experimental validation may not account for all complex flow scenarios in the vicinity. Considering the scale and exposure of the proposed development, Vipac recommends a scaled wind tunnel study in the detail design stage to verify the predictions and determine the optimal wind controls.

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1 INTRODUCTION

Hillam Architects commissioned Vipac Engineers and Scientists Ltd to prepare a statement of wind effects for the ground level areas adjacent to the proposed development at **74 Mill Point Road, South Perth**. This appraisal is based on Vipac's experience as a wind-engineering consultancy.

The proposed development consists of a 31 storey tower on a four level podium. The site is bounded by Mill Point Road to the southwest and low-rise residential developments in the other directions (see Figure 1). A west elevation of the development is shown in Figure 2.

This report details the opinion of Vipac as an experienced wind engineering consultancy regarding the wind effects in ground level public areas and access-ways adjacent to the development as proposed. No wind tunnel testing has been carried out for this development at this stage. Vipac has carried out wind tunnel studies on a large number of developments of similar shape and having similar exposure to that of the proposed development. These serve as a valid reference for the prediction of wind effects for this development. Empirical data for typical buildings in boundary layer flows has also been used to estimate likely ground level wind conditions adjacent to the proposed development [2] & [3].

Drawings of the proposed development were provided by **Hillam Architects** in **September 2016** as listed in Appendix C of this report.

The assessments provided in this report have been made based on experience of similar situations in Perth and around the world. As with any opinion, it is possible that an assessment of wind effects based on experience and without wind tunnel model testing may not account for all complex flow scenarios in the vicinity.

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Figure 1: Aerial view of the proposed development site at 74 Mill Point Road, South Perth.



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Figure 2: West elevation of the proposed development showing the overall height

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2 ANALYSIS APPROACH

When considering whether a proposed development is likely to generate adverse wind conditions in adjacent ground level areas, Vipac considers five main points:

- The exposure of the proposed development to wind;
- The regional wind climate;
- The geometry and orientation of the proposed development;
- The interaction of flows with adjacent developments;
- The assessment criteria, determined by the intended use of the public areas affected by wind flows generated or augmented by the proposed development.

The pedestrian wind comfort at specific locations around a site may be assessed by predicting the worst annual 3-second wind gust expected at that location. The location may be deemed generally acceptable for its intended use if the annual 3-second gust is within the threshold values noted in Section 2.5. For cases where Vipac predicts that a location would not meet its appropriate comfort criterion we may recommend the use of wind control devices and/or local building geometry modifications to achieve the desired comfort rating. For complex flow scenarios or where predicted flow conditions are well in excess of the recommended criteria, Vipac recommends scale model wind tunnel testing to determine the type and scope of the wind control measures required to achieve acceptable wind conditions.

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2.1 SITE EXPOSURE

The proposed development is located on relatively flat terrain, with the Perth CBD to the North East. The site is predominantly surrounded within a 4 km radius by suburban housing, low rise residential and the Swan River.

Therefore, for the current study, considering the distance to Perth's CBD and the immediate presence of the Swan River, the site of the proposed development is considered to be Terrain Category 3 from North to NE and East through to the South; Terrain Category 1.5 from the South to the Southwest, and Terrain Category 2.5 for all other wind directions [1] (see Figure 3).

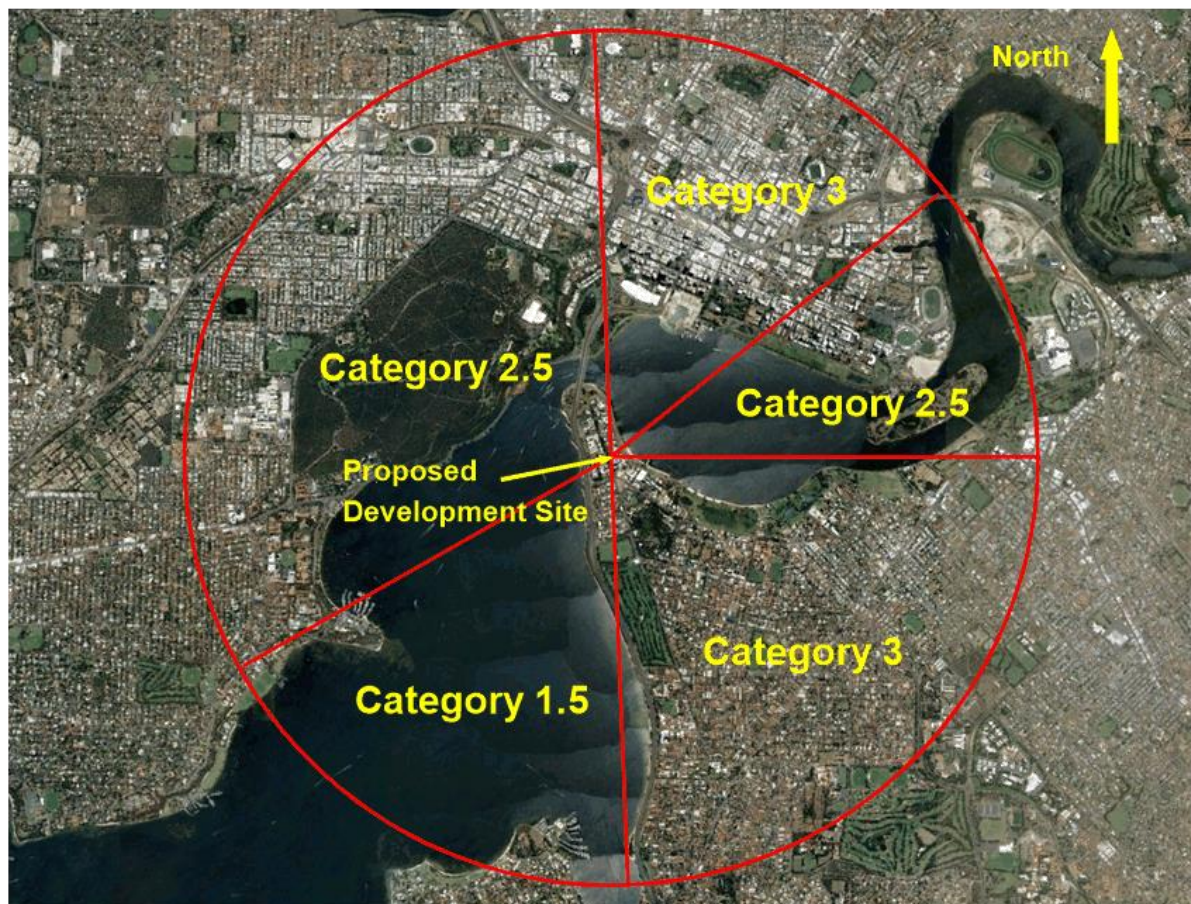


Figure 3: Assumed terrain categories for wind speed estimation.

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2.2 REGIONAL WIND CLIMATE

The mean and gust wind speeds have been recorded in the Perth area for over 30 years. These data have been analysed and the directional probability distribution of wind speeds have been determined. The directional distribution of hourly mean wind speed at the gradient height, with a probability of occurring once per year (i.e. 1 year return period) is shown in Figure 4. The wind data at this free stream height is common to all Perth city sites and may be used as a reference to assess ground level wind conditions at the site.

From Figure 4 it can be seen that the winds from east are strongest and followed by those in the western sector (from southwest, through west, to northwest).

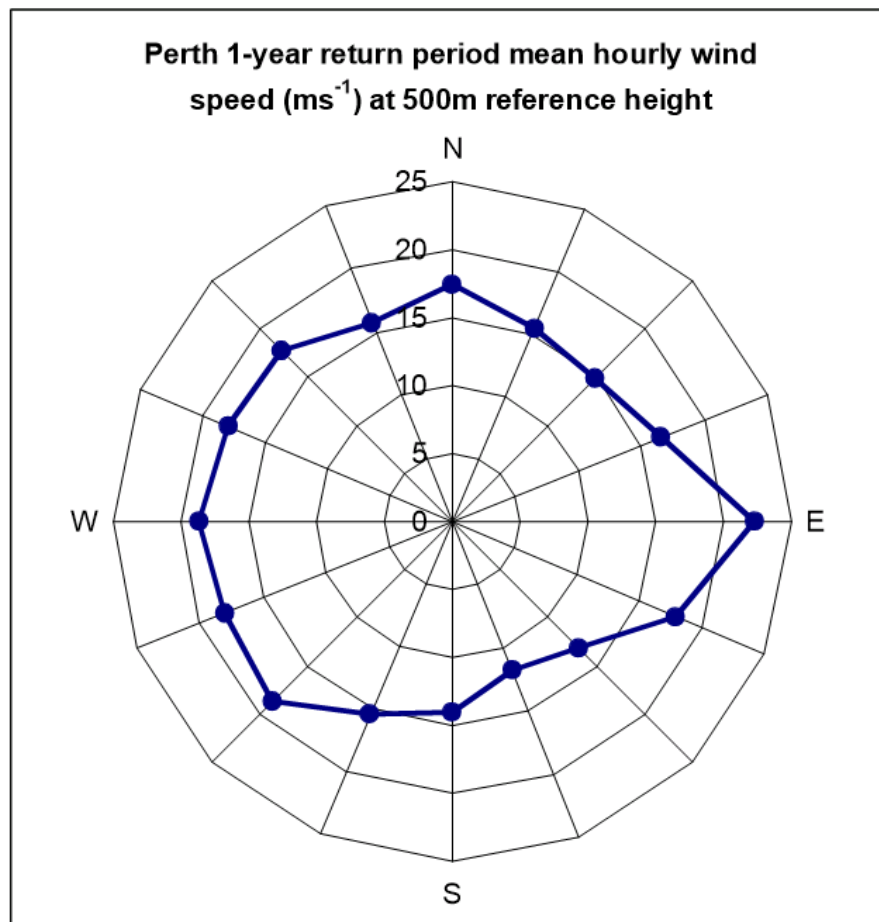


Figure 4: Directional Distribution of Annual Return Period of Mean Hourly Wind Velocities (m/s) at Gradient Height for Perth.

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2.3 BUILDING GEOMETRY AND ORIENTATION

The proposed development consists of a 31 storey tower on a 4 storey podium. The overall plan-form dimensions are approximately 44.5 m x 41 m (See Figure 5).

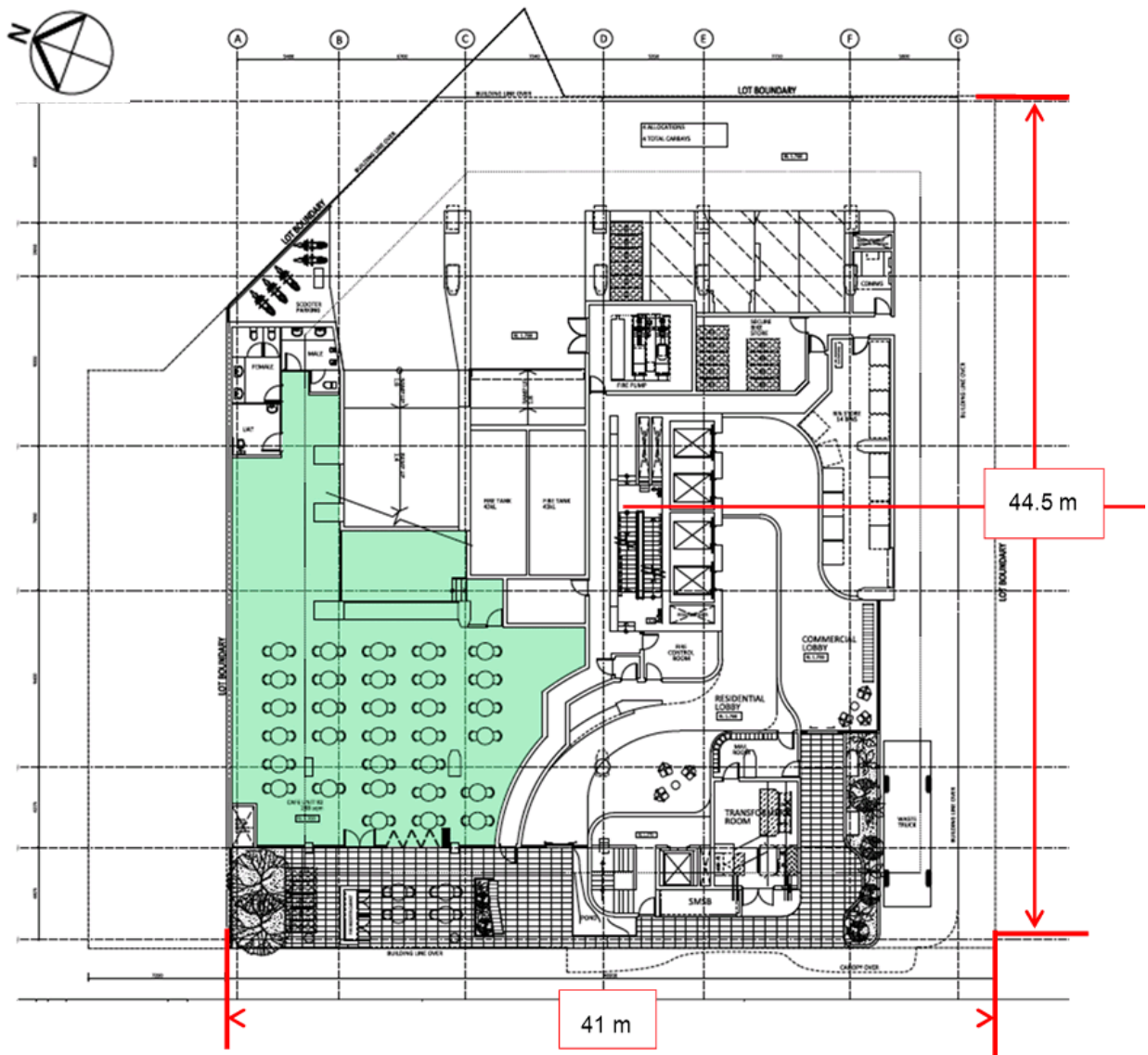


Figure 5: Ground floor plan of the proposed development.

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2.4 FLOW INTERACTIONS WITH ADJACENT DEVELOPMENTS

The buildings immediately adjacent to the proposed development site, with their approximate height in meters are shown in Figure 6.

The proposed development is surrounded by 2 to 9 storey buildings. The ground level areas are well sheltered by neighbouring buildings and existing trees.



Figure 6: Immediately adjacent buildings and their approximate height in meters (m).

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2.5 ASSESSMENT CRITERIA

With some consensus of international opinion, pedestrian wind comfort is rated according to the suitability of certain activities at a site in relation to the expected annual peak 3-second gust velocity at that location for each wind direction. Each of the major areas around the site are characterized by the annual maximum gust wind speeds. Most patrons would consider a site generally unacceptable for its intended use if it were probable that during one annual wind event, a peak 3-second gust occurs which exceeds the established comfort threshold velocity (shown in Table 1). If that threshold is exceeded once per year then it is also likely that during moderate winds, noticeably unpleasant wind conditions would result, and the windiness of the location would be considered as unacceptable.

Table 1: Recommended Wind Comfort and Safety Gust Criteria

Annual Maximum Gust Speed	Result on Perceived Pedestrian Comfort
>23m/s	Unsafe (frail pedestrians knocked over)
<20m/s	Acceptable for fast walking (waterfront or particular walking areas)
<16m/s	Acceptable for walking (steady steps for most pedestrians)
<13m/s	Acceptable for standing (window shopping, vehicle drop off, queuing)
<11m/s	Acceptable for sitting (outdoor cafés, gardens, park benches)

In a similar manner, a set of hourly mean velocity criteria (see Table 2) with a 0.1% probability of occurrence are also applicable to ground level areas in and adjacent to the proposed development. An area should be within both the relevant mean and gust limits in order to satisfy the particular human comfort and safety criteria in question.

Table 2: Recommended Wind Comfort and Safety Mean Criteria

Mean Speed in 0.1% of Time	Result on Perceived Pedestrian Comfort
>15m/s	Unsafe (frail pedestrians knocked over)
<13m/s	Acceptable for fast walking (waterfront or particular walking areas)
<10m/s	Acceptable for walking (steady steps for most pedestrians)
<7m/s	Acceptable for standing (window shopping, vehicle drop off, queuing)
<5m/s	Acceptable for sitting (outdoor cafés, gardens, park benches)

The Beaufort Scale is an empirical measure that related the wind speed to observed conditions on the land and sea. Table 3 describes the categories of the Beaufort Scale. The comparison between these observed conditions and the comfort criteria described above can be found in Table 4.



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Table 3: Beaufort Scale - empirical measure relating wind speed to observed conditions on land

Beaufort Number	Descriptive Term	Wind Speed at 1.75 m height (m/s)	Specification for Estimating Speed
0	Calm	0-0.1	
1	Light Air	0.1-1.0	No noticeable wind
2	Light Breeze	1.1-2.3	Wind felt on face
3	Gentle Breeze	2.4-3.8	Hair disturbed, clothing flaps, newspapers difficult to read
4	Moderate Breeze	3.9-5.5	Raises dust and loose paper; hair disarranged
5	Fresh Breeze	5.6-7.5	Force of wind felt on body, danger of stumbling when entering a windy zone
6	Strong Breeze	7.6-9.7	Umbrellas used with difficulty, hair blown straight, difficult to walk steadily, sideways wind force about equal to forwards wind force, wind noise on ears unpleasant
7	Near Gale	9.8-12.0	Inconvenience felt when walking
8	Gale	12.1-14.5	Generally impedes progress, great difficulty with balance in gusts
9	Strong Gale	14.6-17.1	People blown over

Table 4: Comparison between Mean comfort criteria and the observed conditions

Comfort Criteria	Beaufort Scale Equivalent
Safety	9 – Strong Gale
Walking	5 – Fresh Breeze
Standing	4-5 – Moderate to Fresh Breeze
Sitting	<4 – Moderate Breeze

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2.6 USE OF ADJACENT PEDESTRIAN OCCUPIED AREAS & RECOMMENDED COMFORT CRITERIA

The following table lists the specific areas adjacent to the development and the corresponding recommended criteria.

Table 5: Recommended application of criteria

Area	Specific location	Recommended Criteria
Public Footpaths and Access ways	On Mill Point Road	Walking
Building entrances	Commercial Lobby Entrances, Residential Lobby Entrances, Café Entrances	Standing
Communal Amenities	Terraces on Level 4 Pool deck area on Level 14	Walking (refer discussion below)

2.6.1 APARTMENT BALCONY AND ROOFTOP AREAS RECOMMENDED CRITERION DISCUSSION

Apartment balconies are located on all facades of the proposed development. Vipac recommends as a minimum that apartment balcony/rooftop terrace areas meet the criterion for walking since:

- these areas are not public spaces;
- the use of these areas is optional;
- many similar developments in Western Australia and other Australian capital cities experience wind conditions on balconies and elevated deck areas in the vicinity of the criterion for walking.

However, it should be noted that meeting the walking criterion on elevated recreation areas will be no guarantee that occupants will find wind conditions in these areas acceptable at all times.



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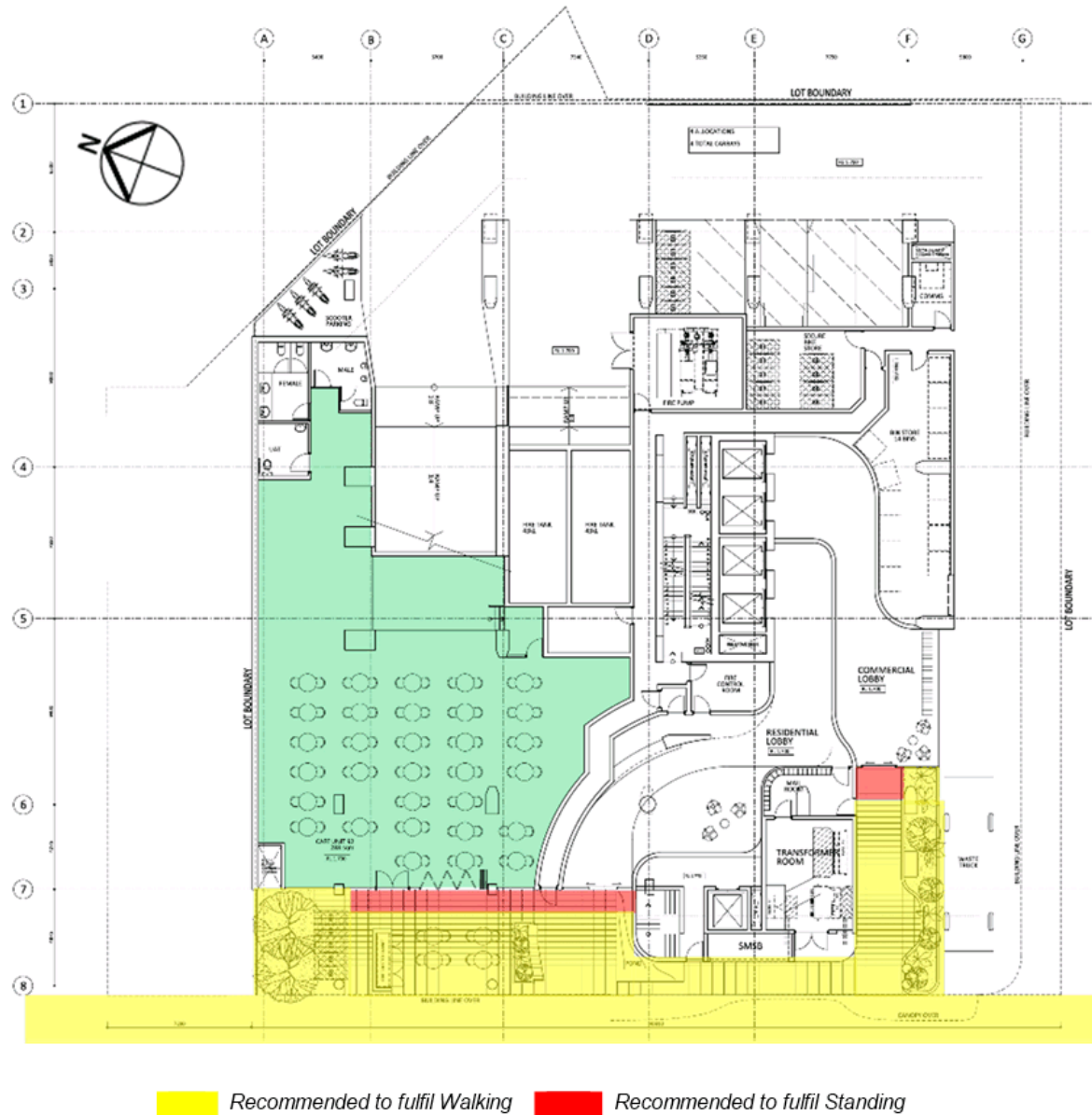


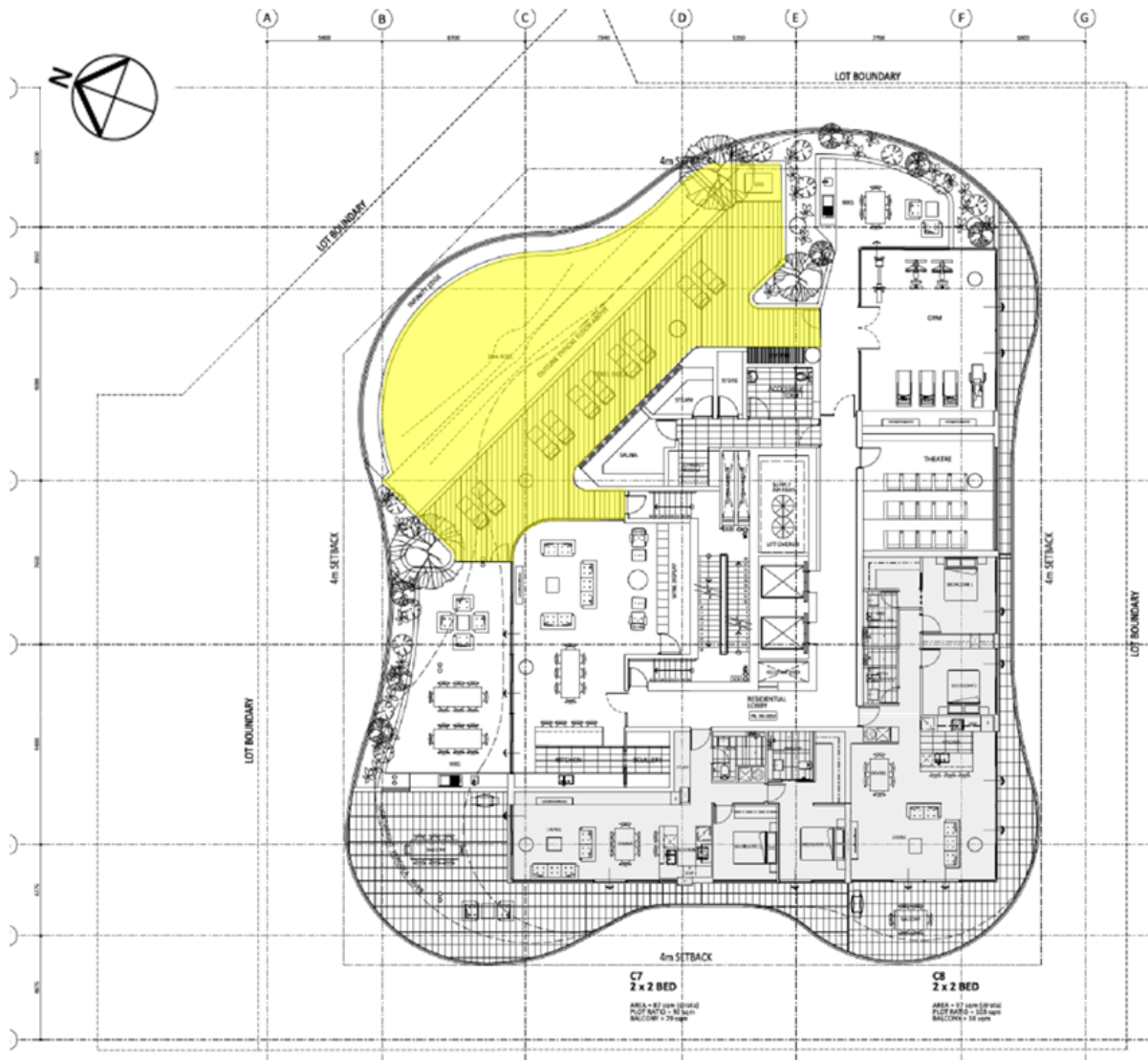
Figure 7: Plan view of the ground floor of the proposed development with the recommended wind criteria overlaid.



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RECOMMENDED TO FULFIL WALKING Recommended to fulfil Walking

Figure 8: Plan view of Level 14 pool deck of the proposed development with the recommended wind criteria overlaid

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3 PEDESTRIAN LEVEL WIND EFFECTS

3.1 DISCUSSION

Key Points

- With the proposed design, the adjacent footpaths would be expected to have wind levels within the walking comfort criterion.
- The wind conditions at the main entrances would be within the criterion for standing.
- The Level 4 terraces are expected to have wind levels within the walking comfort criterion.
- The Level 14 pool deck area is expected to have wind levels within the walking comfort criterion.

Ground Floor

Wind conditions at most of the footpath areas surrounding the development are relatively exposed to westerly winds. However, considering the proposed landscaping, the proposed development is not expected to generate wind levels in this area in excess of the criterion for walking.

There are a number of existing features that are beneficial to reducing the environmental wind speeds induced by the proposed development, including:

- Significant setback of the towers from the podium below
- Curved geometry of the towers
- Curved podium corners
- Landscaping near podium corners
- Setback entrances
- Canopy along the perimeter

Level 4 Terraces

Considering the proposed landscaping, it is expected that wind levels in the Level 4 communal terraces would be within the recommended walking comfort criterion.

Level 14 Pool Deck Area

Wind conditions in the pool deck areas are expected to be within their recommended criterion for walking. The communal area is well sheltered from the prevailing easterly and westerly winds by the geometry of the building and the proposed landscaping. The curved geometry of the tower is also expected to be beneficial for wind speeds.

Balconies General

Whilst wind conditions on the proposed apartment balconies will frequently be acceptable for outdoor recreation, during moderate to strong winds, conditions in these areas may exceed human comfort criteria. Balcony areas on similar developments in many major Australian capital cities typically experience similar elevated wind conditions. High exposure, corner acceleration flows and standing vortices would sometimes preclude these areas from use for outdoor recreation.



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Wind Impact Assessment

3.2 RECOMMENDATIONS

After careful consideration of the areas at the base of the proposed development, Vipac predicts that the proposed development will present some changes to existing wind conditions in adjacent ground level areas. However, Vipac does not predict any exceedance of the various recommended criteria for the pedestrian level winds at the ground level or on the communal terraces or pool deck. Therefore, Vipac makes no recommendation for the alteration of the building as proposed.

As a general statement, educating residents about wind conditions at high-level balconies and terraces areas during high-wind events is also recommended. Additionally, tying down loose lightweight furniture is highly recommended.

It should be noted that this study is based on experience only and has not utilised any experimental data for the analysis. Considering the scale and exposure of the proposed development, Vipac recommends a scaled wind tunnel study in the detail design stage to verify the predictions and determine the optimal wind controls.

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4. CONCLUSIONS

An assessment of the likely wind conditions at pedestrian level of the proposed development at **74 Mill Point Road, South Perth** has been made.

Vipac has carefully considered the form and exposure of the proposed development, nominated criteria for various public areas according to their function and referred to past experience to produce our opinion of likely wind conditions. Based on this assessment, the following conclusions are drawn:

- With the proposed design, the adjacent footpaths would be expected to have wind levels within the walking comfort criterion.
- With the proposed development, all building entrances would be expected to have wind speeds within the recommended comfort criteria of standing.
- With the proposed design, the Level 4 terraces are expected to experience wind speeds within the recommended comfort criterion for walking.
- With the proposed design, the Level 14 pool deck area is expected to experience wind speeds within the recommended comfort criterion for walking.

Educating occupants about wind conditions at open terrace/balcony areas during high-wind events and fixing loose, lightweight furniture on the terrace are highly recommended.

The assessments provided in this report have been made based on experience of similar situations in Perth and around the world. As with any opinion, it is possible that an assessment of wind effects based on experience and without experimental validation may not account for all complex flow scenarios in the vicinity. Considering the scale and exposure of the proposed development, Vipac recommends a scaled wind tunnel study in the detail design stage to verify the predictions and determine the optimal wind controls.

This Report has been Prepared

For

Hillam Architects

By

VIPAC ENGINEERS & SCIENTISTS LTD.

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Appendix A: ENVIRONMENTAL WIND EFFECTS

Atmospheric Boundary Layer

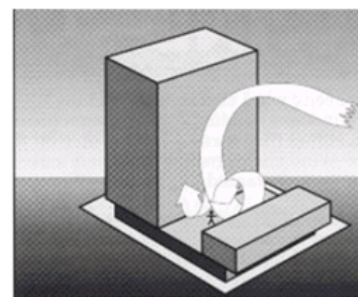
As wind flows over the earth it encounters various roughness elements and terrain such as water, forests, houses and buildings. To varying degrees, these elements reduce the mean wind speed at low elevations and increase air turbulence. The wind above these obstructions travels with unattenuated velocity, driven by atmospheric pressure gradients. The resultant increase in wind speed with height above ground is known as a wind velocity profile. When this wind profile encounters a tall building, some of the fast moving wind at upper elevations is diverted down to ground level resulting in local adverse wind effects.

The terminology used to describe the wind flow patterns around the proposed Development is based on the aerodynamic mechanism, direction and nature of the wind flow.

Downwash – refers to a flow of air down the exposed face of a tower. A tall tower can deflect a fast moving wind at higher elevations downwards.

Corner Accelerations – when wind flows around the corner of a building it tends to accelerate in a similar manner to airflow over the top of an aeroplane wing.

Flow separation – when wind flowing along a surface suddenly detaches from that surface and the resultant energy dissipation produces increased turbulence in the flow. Flow separation at a building corner or at a solid screen can result in gusty conditions.



Flow channelling – the well-known “street canyon” effect occurs when a large volume of air is funnelled through a constricted pathway. To maintain flow continuity the wind must speed up as it passes through the constriction. Examples of this might occur between two towers, in a narrowing street or under a bridge.

Direct Exposure – a location with little upstream shielding for a wind direction of interest. The location will be exposed to the unabated mean wind and gust velocity. Piers and open water frontage may have such exposure.





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74 Mill Point Road, South Perth
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Appendix B: REFERENCES

- [1] *Structural Design Actions, Part 2: Wind Actions*, Australian/New Zealand Standard 1170.2:2011
- [2] *Wind Effects on Structures* E. Simiu, R Scanlan, Publisher: Wiley-Interscience
- [3] *Architectural Aerodynamics* R. Aynsley, W. Melbourne, B. Vickery, Publisher: Applied Science Publishers



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74 Mill Point Road, South Perth
Wind Impact Assessment

Appendix C: DRAWING LIST

Name	Date modified
 1405_Lumiere Apartment Drawings ALL	26/08/2016 9:07 AM
 1405_Lumiere_Area Schedule_34 Storey Tower_26.08.16	29/08/2016 3:09 AM
 1405_Lumiere_Carbay Summary_34_26.08.16	29/08/2016 3:09 AM
 1405_Lumiere_Commercial Offices_Podium Option	26/08/2016 9:06 AM

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VISIONARY LIVING

Lumiere- 74 Mill Point Road, South Perth **Management Plan for Holiday Rental Accommodation.**

This Management Plan has been prepared by Edge Visionary Living with respect to The City of South Perth's *Strategic Direction 3- Housing and Land Uses Policy P312 Serviced Apartments*.

This Management Plan is a preliminary document that is to be revised and refined once the Serviced Apartment Operator is selected by the developer. The manager of the rental accommodation will then update this document to reflect their specific business practices to the satisfaction of The City of South Perth.

It will be a requirement for all occupants of serviced apartments to comply with the House Rules and Code of Conduct as detailed below. It will be the responsibility of the Serviced Apartment Manager to ensure that the House Rules and Code of Conduct are communicated to all owners and guests.

This Code of Conduct applies to the planned 147 dwelling properties that are rented for the purposes of holiday accommodation at *Lumiere*, 74 Mill Point Road.

Code of Conduct

1.0 Holiday Rental- Terms and Conditions between Owners and Guests

The Terms and Conditions upon which a Property is offered, booked and occupied for Holiday Rental under the contract between the Owner and Guest must adequately cover and be consistent with this Code of Conduct and provisions set out below:

1.1 Formalities:

The Terms and Conditions:

- a)** Must be in writing;
- b)** May be in electronic, printed or other legally compliant form;
- c)** Must include the information and cover the matters in Part 1 of this Code of Conduct;
- d)** May incorporate information by reference including Booking Conditions, Occupancy Agreement, House Rules, By Laws and information made available to the Guest from web sites; and
- e)** May cover such other matters generally required in relation to Holiday Rental of the

Property and any special conditions provided they are not inconsistent with this Code of Conduct.

1.2 General Content

a) The Terms and Conditions must include:

- i. the address and description sufficient to identify the particular Property;
- ii. Guest's name, usual residential address, email and phone number(s);
- iii. dates of occupancy and check-in/check-out times;
- iv. total rental payable and any other charges;
- v. amount and timing for payment of deposit and balance of moneys due;
- vi. provisions on variation, cancellation and forfeiture or refund of moneys paid; and
- vii. contact details for the Manager or their nominated representative.

b) The Terms and Conditions must not offend the unfair contract terms and other provisions of the Australian Consumer Law.

1.3 Licence not a tenancy

The Terms and Conditions must include:

- a)** Guests are granted a limited permission to occupy the Property for holiday purposes;
- b)** This is not a residential tenancy agreement under the residential tenancy legislation; and
- c)** Failure to comply with the Guest's obligations in the Terms and Conditions may result in termination of permission to occupy the Property and eviction.

1.4 Maximum number of Guests and maximum duration of stay.

- a)** The maximum number of Guests permitted at a Property must not exceed a maximum of 2 adults per bedroom; and
- b)** The number of Visitors permitted at a Property must not be such as may conflict with residential amenity and must comply with all the other requirements of this Code of Conduct including the Terms and Conditions and House Rules.
- c)** The maximum length of stay for any Guest must not exceed 15 weeks.

1.5 General obligations of Guests and Visitors

Guests and Visitors must:

- a)** Comply with all House Rules and By-Laws;
- b)** Respect the residential amenity and security of the Property and neighbours;
- c)** Refrain from anti-social behaviour;
- d)** Guests must control and be responsible for Visitors and ensure that Visitors comply with the House Rules;
- e)** Comply with any instructions from the Manager and security services during their stay; and
- f)** Notify the Manager of any disputes or complaints as soon as is practicable.

1.6 Noise and Residential Amenity

- a)** Guests must not create noise which is offensive to neighbours especially between 10pm-8am and during arrival and departure at any time throughout the occupancy.
- b)** Offensive noise is prohibited and may result in:
 - i. termination of permission to occupy the Property;
 - ii. eviction;
 - iii. loss of rental paid; and
 - iv. extra charges for security and other expenses which may be deducted from Security Deposits or Bonds.
- c)** Guests must abide by any noise abatement conditions, standards and orders issued by police or any regulatory authority to minimise impacts upon the residential amenity of neighbours and local community.

1.7 Functions and parties

- a)** The Property is not a “party house” and any such activities are strictly prohibited; and
- b)** Any gathering, celebration or entertainment permitted at the Property must not conflict with residential amenity and must comply with all House Rules.

1.8 Access and Parking

- a)** Guests and Visitors must comply with parking regulations and show consideration to neighbours;
- b)** Information on any constraints on access or any parking restrictions to ensure ease of access with minimum disturbance to other residents or neighbouring properties;
- c)** Guests are required to pre-book a parking bays if required.
- d)** Guests will be required to supply vehicle/trailer registration numbers.

1.9 Recycling and Garbage

- a)** Guests must dispose of garbage and recycling in accordance with the usual practice at the Property and in the allocated bins;
- b)** Guests must not leave excess rubbish in public or common areas; and
- c)** Guests should be co-operative in complying with requirements in relation to the relevant private contractor garbage and recycling collection days, and any special requirements relating to the disposal of garbage or waste minimisation.

1.10 Complaints and dispute resolution procedure

Information on complaints handling including:

- a)** Guest’s obligations to report any problems or incidents promptly; and
- b)** Complaints and dispute resolution procedure.

1.11 Consequences of not meeting the Terms and Conditions

- a)** The consequences of not complying with the Terms and Conditions requirements can include enforcement action from the owner, Manager, security services, local councils or, in some instances, the Police.
- b)** Enforcement action is subject to the Australian Consumer Law and other relevant legislation.
- c)** Such enforcement action could result in termination of permission to occupy the Property, eviction, loss of rental paid, deductions from security deposits and extra charges.
- d)** It is therefore important for all Guests to be aware of their obligations and of their responsibilities to make any Visitors to the Property aware of these requirements to maintain the amenity of the Property and its neighbourhood.

2.0 Holiday Rental- House Rules for Guests and Visitors

House Rules are provided at the Property to ensure that Guests and Visitors know and comply with the specific Rules governing their permission to enter and occupy the Property. House Rules are to be displayed in a conspicuous place in the Property so they can be easily viewed by Guests and Visitors, such as in the Property's kitchen. Matters contained in House Rules should include those set out in this Part and should be adapted and augmented to suit the particulars of the Property, such as specific instructions for car parking arrangements and the like and rules appropriate for any special equipment, facilities or local risks.

2.1 General requirements

- a)** Guest and Visitors must comply with all House Rules, By-Laws and instructions from the Manager and security services during their stay; and
- b)** Guests must notify the Manager of any disputes or complaints from neighbours as soon as is practicable.

2.2 Noise and Residential amenity

- a)** Guests and Visitors must not create noise which is offensive to occupiers of neighbouring properties especially between 10pm - 8am and during arrival and departure at any time throughout the occupancy;
- b)** Offensive noise is prohibited and may result in termination of permission to occupy the Property, eviction, loss of rental paid and extra charges for security and other expenses which may be deducted from Security Deposit or Bond under the Terms and Conditions; and
- c)** Guests and Visitors must not engage in anti-social behaviour and must minimise their impact upon the residential amenity of neighbours and local community.

2.3 Check-in and check out

- a)** Guests shall check-in and check-out generally between the hours of 6.00am and 11.00pm on any day, with occasional exceptions for early or late arrivals or departures.

2.4 Visitors

- a)** Guests are responsible for ensuring the limits set on Visitor numbers is complied with at all times; and
- b)** Guests are responsible for ensuring that Visitors comply with these House Rules.

2.4 Gatherings or functions

- a)** The Property is not a “party house” and any such activities are strictly prohibited; and
- b)** Any gathering, celebration or entertainment permitted at a Property must not conflict with residential amenity and must comply with all the other requirements.

2.5 Parking

- a)** Guests and Visitors are to comply with parking regulations and other requirements set out below and show consideration to neighbours and other vehicles; and
- b)** Parking arrangements at the Property are as follows:
 - i. All guests are required to pre-book a parking bay if required prior to check-in.
 - ii. The Serviced Apartment manager is to notify the guest of parking bay access and location.
 - iii. Guests may only use the allocated parking bay provided.
 - iv. Guests must adhere to the developments’ parking management plan.
 - v. Guests must refrain from parking on the street or on verges and in bays reserved for long-term residents.

2.6 Garbage and recycling

- a)** Guests and Visitors are to dispose of garbage and recycling in accordance with the usual practice at the Property (as set out below) in the allocated bins, and excess rubbish must not be left in public or common areas; and
- b)** Garbage and recycling arrangements at the Property are as follows:
 - i. All garbage and recycling is to be placed in the bin store located at ground floor level.

2.7 Security

- a)** Whenever absent from the Property, close all windows and doors to maintain security and prevent rain and water damage.

2.8 Swimming pool

- a)** The swimming pool/spa must not be used between the hours of 10.00pm and 7.00am.
- b)** No glassware is permitted in the pool.
- c)** Only the pool at Level 4 may be used by guests.

2.9 Smoking

Smoking is not permitted indoors and within communal any communal area.

2.10 Pets

Pets are not permitted with the exception of registered guide dogs.

2.11 BBQ

- a) All communal BBQ equipment must be cleaned after use.
- b) The BBQ area must not be used between the hours of 10.00pm and 7.00am.

2.12 Damages and breakages

Damages and breakages must be reported to the Manager.

2.13 On departure arrangements

Arrangements for keys, security, dishwashing, rubbish, etc are: [to be confirmed with secured operator]

2.14 Emergency Contact

In the event of an emergency relating to the Property, please telephone [to be confirmed with secured operator] on [to be confirmed with secured operator]

2.15 Compliance

- a) Breach of these House Rules is a breach of the Terms and Conditions of occupancy.
- b) The Owner and Manager reserve the right to terminate permission to occupy and to evict from the Property, Guests or Visitors who refuse to follow these House Rules or who cause a nuisance.



8 September, 2016

Paul Plowman
Corporate Communications
Edge Visionary Living
U2/31 Hood Street,
Subiaco WA 6008

Dear Paul,

It was a pleasure talking to you this morning and thanks for the follow up from my last discussions with Tom.

The simple answer to your first question; "Is Seashells interested in the Management of the Serviced Apartments", the answer is most definitely, yes.

Seashells Hospitality Group is keen to explore Western Australian opportunities that fit our business model. That is, that they are ocean or riverside, in a major gateway or destination, are of a 4 and a half-star standard, are Seashells branded and where we have an on onsite management presence.

We believe that in a mixed use development such as Lumiere, that appointing the onsite short stay operator early is vital in sending a clear signal to potential buyers of the residential lots, that the property will be well managed, operated professionally and for the long term at a standard which can only benefit the value of their investment in the short and long term.

The proximity to the City, standard and amenity of the property augers well for both Corporate and Leisure stays (domestic and inbound), markets in which Seashells Hospitality Group has an existing high profile and significant exposure.

Seashells Hospitality Group is very proud of its award winning status as one of WA's leading operators of short stay accommodation. Our MD was only last week inducted into the WA Hotels Hall of Fame awards for 25 years' service to the hospitality industry on the back of winning the Sir David Brand Medal for tourism in 2015. This along with recent awards for each of our properties for Trip Advisor, including hall of fame for Mandurah, shows we remain at the top of our game. We are proud of our brand and we protect it by ensuring our properties deliver on the brand promises.

Presently SHG is in the final discussions on an additional iconic Western Australian site with the WA State Government and should this come to fruition, it will only further enhance our reputation and along with that, your buildings reputation, should we be the chosen operator.

In June 2016, Seashells opened the boutique Seashells Fremantle, which whilst considerably smaller, operates in the same manner as the model outlined to you in the attached "**Capability Statement**" and as discussed, is the SHG business model. We believe that by operating a pooled income structure, that it delivers fairness, transparency and accountability. I would also counsel that in order to ensure the full adherence by all investors in the building standards, whether they be residential or other, that you also ensure that Strata By Laws allow for only one on site operator of short stay accommodation and that any residential apartments being used for short stay accommodation, must be channelled through that on site manager, or that you remove the capacity at all for any residential zoned apartments to provide short stay letting of less

BROOME - FREMANTLE - MANDURAH - SCARBOROUGH - YALLINGUP

SEASHELLS HOSPITALITY GROUP PTY LTD ABN 31 060 199 984
74 JERSEY STREET JOLIMONT WESTERN AUSTRALIA 6014 PO BOX 477 WEMBLEY WA 6913
T: 08 9 2245 3435 F: 08 9 2245 6000 E: paul@seashells.com.au paul@seashells.com.au



than 6 months. This removes the potential conflict of residential apartments becoming managed for short stay by multiple off-site managers and with no standards control, then being reduced to standards lower than the apartments in the onsite management pool. This subsequently and over time, significantly affects returns and capital values of all investors and residents.

It is also important within a pooled income scheme and a branded property such as this, that the Apartments are furnished alike, providing commonality and ensuring consistency. In 2015, Seashells has developed a further brand, Nautica Apartments, which whilst not yet operating is a brand that we intend to launch under the Seashells Group banner, where apartments are not necessarily uniform in nature and fit within a broader band of standards. I would be happy to expand on this brand and its potential, should you wish to discuss alternatives to commonality of all apartments in terms of fit out.

I would be more than happy to work on a financial model at a point in time that is appropriate to do so. In the meant time as mentioned earlier, I have attached our capability statement, which outlines clearly who Seashells are, how Seashells operates, our history and the processes involved in a pooled income scheme along with the general terms and conditions.

Also attached is the current Seashells Hospitality Group brochure, which provides information on existing properties.

Yours Sincerely and best regards

Gareth Thomas
Chief Operating Officer
Seashells Hospitality Group

Capability Statement



SEASHELLS
HOSPITALITY GROUP



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DISCLAIMER

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To the fullest extent permitted by law, none of the directors, officers, employees, contractors or agents of Seashells Hospitality Group or any other entity or individual named in this document or involved in the preparation of this document make any express or implied representation or warranty whatsoever about the accuracy, completeness or likelihood of fulfilment of any information or forward looking statement contained in this document or in any related document/s.



EXECUTIVE SUMMARY:

The purpose of this document is to provide background on the Seashells Hospitality Group Pty Ltd (SHG), to detail the capacity of SHG and its associated entities to undertake operations and marketing management of Resort properties within the Asia Pacific Region.

SHG is an operator with a proven track record in operating boutique apartment and suite style accommodation and has the capacity to access international and domestic markets into any region within Australasia and South East Asia. The properties presently under Seashells Management are strata titled and operate on either a pooled income management scheme or individual management agreements. Seashells operates a centralised Management office with Sales and Marketing, Finance and Administration



SEASHELLS HOSPITALITY GROUP

Seashells Hospitality Group Pty Ltd (SHG) is one of Western Australia's leading hospitality management companies specialising in the management and marketing of a range of 4 1/2 star AAA rated, Hotels, Resorts and Apartments accommodation.

The Company's founders commenced in the Tourism and Hospitality industry in the early 1970's, then launched the Seashells brand in 1994 with the opening of the first Seashells Serviced Apartments in Scarborough. The multi award winning Seashells Resort Broome was completed and opened in 1998 followed by the Seashells Resort Mandurah completed in 2005.

The historic Caves House Yallingup property was acquired in 2004 and extensively renovated and restored to its former glory, re-opening in 2006. Seashells Resort Yallingup was completed and opened in December 2007. In 2011 Seashells Managed the Pinctada properties in Broome and Kununurra and assisted in a turnaround of the businesses performances that facilitated a sale of the lease of both properties.

The first quarter of 2016 will see the opening of the 5th Seashells branded property in Fremantle, Western Australia.

The Company has plans to extend the brand further throughout Australia and New Zealand. All Seashells properties, with the exception of Seashells Serviced Apartments Scarborough, operate on a Managed Rights Scheme, with pooled income, pooled costs and distributions to owners based on their units profit entitlement. SHG is remunerated at the point of income in all 5 properties. Scarborough's scheme differs in that agreements are with individual owners where both revenues and costs are specific to individual apartments and owners.

"Seashells Hospitality Group is recognised by the tourism industry as one of the leading and most innovative tourism operators in Western Australia."



KEY PERSONNEL



Paul R King

CEO/Managing Director, Seashells Hospitality Group

Paul is the Founder and Managing Director Seashells Hospitality Group Pty Ltd. Paul trained in hotel management with Frank Baden Powell Enterprises and Commodore Hotels in the early 70's and worked in the industry throughout Australia and New Zealand in food and beverage before becoming licensee of the Chelsea Tavern in the late 70's. He left the industry to pursue a career in real estate and identified the opportunity for tourism property management through his involvement in the Scarborough beachfront area in the early 80's. Over the past twenty five years Paul has been involved in strata titled tourism project management, project marketing and development. Over the past twenty years, Paul has successfully established the award-winning Seashells Hospitality Group with successful tourism accommodation properties in Mandurah, Yallingup, Scarborough and in Broome. Paul was elected a board member and President of the tourism industries leading independent advocacy group, the Tourism Council of Western Australia in October 2008 and held this role for an unprecedented 5 years to 2013. During this period Paul was instrumental in driving changes in Government policy in respect to the structure of government bodies such as Tourism WA, to better facilitate the needs of the entire industry and in elevating the awareness of tourism as a major contributor to industry and the Western Australian economy to all sectors of Government.

In 2015, Paul was the winner of the State's major award for an individual's lifelong contribution to Tourism in Western Australia, The Sir David Brand Medal, awarded by the Tourism Council of Western Australia.

Paul is currently focussed on the growth of Seashells Hospitality Group. In addition to seeking to grow the highly successful Seashells brand of fully serviced apartments, Paul has developed brands including a 3 to 4 star corporate hotel and an Ecolodge retreat concept which he aims to have in the market place within the Australasia and South Pacific regions in the coming years.



Gareth Thomas

Chief Operating Officer (Director Seashells Hotels and Resorts, Seashells Mandurah, Seashells Broome, Seashells Yallingup, Seashells Serviced Apartments Scarborough and Seashells Fremantle)

Gareth has over 33 years' experience in Hotels and Resorts and has directly managed 4 to 5 star properties since 1991. Among his many properties, Gareth was the pre-opening and continuing General Manager for the 5 star Reef Hotel Casino in Cairns. Gareth was General Manager of the Chifley on Flemington in Melbourne and has worked in the UK, China, Cairns, Brisbane and Melbourne, before returning to his home town of Perth where he was General Manager of the 5 star Rendezvous Observation City for 4 years. During this period Gareth was also seconded to Shanghai, China, where he was involved as the General Manager in the rebranding and relaunch of the 4 Star Rendezvous Merry Hotel.

Gareth left the Rendezvous group in 2004 and joined Broadwater Hospitality Group as a property General Manager and Area Manager, before becoming Group General Manager in 2006 and remaining with the group until 2008 when he joined Seashells Hospitality Group.

As COO, Gareth is responsible for all facets of the business of SHG and in 2011 directly oversaw the management of the Pinctada branded properties in Broome and Kununurra as well as the addition of the Fremantle property under the Seashells brand in 2016.

Gareth has a Certificate in Hospitality Management from Southern Cross University, has sat on the Course Advisory Panel for the Australian School of Tourism and Hospitality Management and has received multiple awards in properties that have come under his leadership.



Stephanie Lang

Director of Sales & Marketing

Stephanie has held the position of Director of Sales & Marketing for Seashells Hospitality Group for 14 years. This role has included consumer and trade sales, marketing and public relations activities for Seashells' properties in Mandurah, Scarborough, Broome, Yallingup and Fremantle (opening early 2016). Seashells was the also the appointed management company for Pinctada's Broome and Kununurra properties from 2011-2013.

Prior to joining Seashells, Stephanie spent 9 years as Sales Manager UK/Europe for Tourism WA based in London where she was responsible for advertising, public relations and WA market development throughout UK/Europe.

Stephanie is currently a Board Director with the Tourism Council WA (since 2013) and has held previous board positions with Experience Perth (2007-2011) and the Perth Convention Bureau (2011-2013).

A committee member of the Australian Tourism Export Council WA Branch since 2003, Stephanie held the position of Chair (2006-2008). She has experience as a marketing sub-committee member for Australia's North West and Tourism Council WA and in a number of Tourism WA Advisory Panels.



Brian Rakich (OAM)

Director - Project Marketing Australia

Brian is a West Australian business and community leader. With more than 30 years' corporate and commercial experience leading publicly listed companies and legal firms, Brian has extensive contacts and knowledge of the WA business environment. This was publicly acknowledged in 2005 when he was awarded the Order of Australia for his services to business and sport.

Brian is Chairman of the WA Croatian Chamber of Commerce, Past President of the Western Australian Cricket Association (Inc), and former President of the Royal Automobile Club of WA (Inc).

Brian's vast experience and knowledge has been put to great use in the acquisition and development of Seashells Mandurah and Yallingup and the iconic Caves House Hotel.

In 2013, Brian took over the management of the company's Strata Management arm, Accommodation West and applied his legal knowledge and knowledge of the Strata Titles Act to directly overseeing this important arm of the group's activities. Currently Accommodation West under Brian's stewardship is the Strata Manager at both Seashells Mandurah and Seashells Broome.

OUR AWARDS

National:

- Winner of the 2006-2007 Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)
- Highly Commended in the 2006-2007 Australian Tourism Awards for **New Tourism Development** (Seashells Resort Mandurah)
- Finalist in the 2004-2005 Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)
- Winner of the 2003-2004 Australian Tourism Awards for **Deluxe Accommodation** (Seashells Serviced Apartments)
- Finalist in the 2000-2001 Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)

State:

- Winner of the 2015 Sir David Brand Award for contribution to Tourism – Western Australian Tourism Awards – Paul King
- Silver Medal winner 2015 – Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Mandurah)
- Winner of the 2010 AHA-Aon Hotel Awards for Excellence for **WA's Best Apartment/Suite Accommodation 2010** (Seashells Yallingup)
- Finalist in the 2010 Western Australian Tourism Awards for **Tourism Marketing** (Seashells Hospitality Group)
- Winner of the 2008 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Mandurah)
- Gold Medal winner 2007 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Mandurah)
- Silver Medal winner 2007 Western Australian Tourism Awards for **Heritage & Cultural Tourism** (Seashells Caves House)
- Winner of the 2006 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)
- Winner of the 2006 Western Australian Tourism Awards for **New Tourism Development** (Seashells Resort Mandurah)
- Finalist in the 2005 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)
- Winner of the 2004 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)
- Winner of the 2003 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Serviced Apartments)
- Finalist in the 2002 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Serviced Apartments)
- Winner of the 2000 Western Australian Tourism Awards for **Deluxe Accommodation** (Seashells Resort Broome)
- Finalist in the 1999 Western Australian Tourism Awards for **Tourist Development Projects** (Seashells Resort Broome)

Item 7.3.1	PROPOSED 34 STOREY, PLUS UPPER MEZZANINE AND BASEMENT LEVELS, MIXED USE DEVELOPMENT - LOTS 2-20 (NO. 74) MILL POINT ROAD, SOUTH PERTH
Attachment (a)	17. Serviced Apartment Operator Statement (Seashells Hospitality) - 8 August 2016 - Proposed 34 Storey Mixed Use Development.PDF

Other awards:

- Winner of the 2008 Heritage Council Award for outstanding conservation and/or interpretation of a place listed in the State Register of Heritage Places (Caves House Hotel)
- Awarded the 2006 Local Chambers Commerce & Industry Awards Perth Airport **Contribution to Tourism** (Seashells Hospitality Group)
- Recipient of the 2005 National Tourism Accreditation Program (WA) Advanced **Environmental Module Certificate** (Seashells Resort Broome)
- Winner of the 2003 Kimberley Tourism Awards for **Resort Accommodation** (Seashells Resort Broome)
- Winner of the 2000 Kimberley Tourism Awards for **Accommodation** (Seashells Resort Broome)
- Winner of the 2000 Kimberley Tourism Awards for **New Product** (Seashells Resort Broome)
- Finalist in the 1999 Kimberley Business Enterprise Awards for **Customer Service** (Seashells Resort Broome)

SERVICES (GENERAL)

SHG provides a whole of solution response to the issues of Property Management, Marketing, Asset Management, Maintaining, and administering all aspects of a hotel, suites, apartments or resort, **(the property)**

It is our preference that where *the property* fits the Seashells model of being by the water, within a major gateway precinct, 4 to and 4 and a half star and self-serviced apartments, that the business is branded as Seashells in order to capitalise on the established Australian brand of Seashells which has been in the global marketplace for over 21 years and is a recognised operator with a trusted name.

In April of 2016 Seashells will open its fifth property under the Seashells brand – Seashells Fremantle @ Richmond Quarter.

By entering into a partnership, SHG will bring to the table all of its available resources to manage **the property** including Financial reporting back to owners on a monthly basis. All recruitment, human resources strategies and compliance, full annual budget and business plan preparation, day to day management of all aspects of the business covering revenue generation and cost control and full accountability for all aspects of the businesses profit and loss along with owner distributions of nett profits and all owner relations in relation to the property management. SHG will not be responsible for any aspects of "the owners" other businesses or interests outside of this identified property unless under separate arrangement.

Generally, all operating costs borne within the day to day operations will remain as costs of the operation and SHG will be authorised to operate the property within the confines of the budget and protocols as outlined in the Management Agreements. SHG will be responsible for operating the bank accounts as required under these agreements. The majority of the financial processes will be administered via the centralised administration of Seashells Hospitality Group. This will cover processing of month end reports, cash flows, accounts payable, accounts receivable, audits, etc.

Where properties are strata titled with multiple owners, the preference is that the property will operate on a Pooled income basis. That is, that irrespective of specific room occupancy, all income derived from the operation of all accommodation based services, (this excludes Food and Beverage and ancillary departments such as a day spa), is pooled. All expenses as outlined in the management agreement including but not limited to reception, housekeeping and administration labour, cleaning fees, reservation costs, management fees, travel costs for SHG management, letting costs and non-distributable expenses are deducted from pooled income. All owners receive distributions from net proceeds determined by the profit entitlement as specified by an authorised assessor and as per their individual management agreements.

The benefits of pooling ensure that all owners receive equitable distribution, that no one owner is favoured through preferential room use and that no one owner is disadvantaged in the event an apartment is offline for essential maintenance.

SHG is remunerated via a Management Fee structure that is open to discussion.

FEES (general terms, subject to discussion and agreement)

The SHG model is clear and very transparent. SHG charges a fee of 12.5% plus GST of gross receipts (income). This fee covers all of SHG's costs and margins with the exception of marketing which is charged via a separate levy. The SHG fee covers all accounting, management support, finance support, reporting, meeting attendance etc. There are no hidden SHG Fees.

Marketing is a Levy based on 4% of income inclusive of GST and this covers all group marketing. Seashells markets the brand and at all times, involves all properties equally in the brand and advertising rates and packages etc. All properties pay into a marketing fund in this manner to give us better buying power as a group, rather than per property.

KEY PARAMETERS (summary)

- SHG will manage all operations and short stay accommodation marketing on behalf of the owners of the identified Lots or an individual owner of the property.
- That the property operates under a pooled income
- Employees will be employees of "the property" and that a company structure will be established as such.
- All employees will be managed by Seashells (SHG) and any owners or their associates, will not involve themselves with hiring, firing or directing employees.
- In return for the provision of all services as outlined above, including, management support and direction, management of marketing and accommodation sales, and all operational responsibilities, up to distribution of income, that SHG will be remunerated by way of a management fee as described.
- That a replacement reserve or capital reserve fund is established as a percentage of income in order to ensure that the property maintains its standard and that funds are available for refurbishment expenditure beyond the day to day maintenance costs. Generally this refurbishment reserve fund is between 3% and 5% of income.
- Marketing Costs will be levied at 3% to 4% of income and will cover such items as attendance at trade shows, travel by personnel, distribution costs, collateral costs and local personnel if required under the direction of the SHG Director of Sales and Marketing.
- That the employing and or termination of all staff rest with the operator.
- Star Rating. That the proposed star rating, 4 to 4 and a half star generally, is agreed and maintained throughout the life of the contract and as such the owner/s will be required to agree a capital expenditure program to ensure maintenance of the facility.

TERM

- That any initial term of the agreement will be 5 years with four further 5 year options, making a total of 25 years.
- SHG understands the need for flexibility, however paramount to our success as an operator is the ability to plan long term. Many marketing efforts do not take immediate fruition and require time, management and constant maintenance in order to ensure meaningful production of room nights. SHG is flexible but would seek a term that ensures the ability to plan and manage for the long term.

PROPERTY SPECIFIC

Seashells is Western Australia's, number 1 service apartment operator with all properties presently enjoying market leading occupancies, rates and levels of customer feedback. All properties are recent Trip Advisor Service Excellence Award winners.

Seashells Hospitality Group operates a very flat corporate office structure ensuring maximum return for the dollar. Our 21 years in the Global Market place has established the brand in the hearts and minds of international wholesalers and inbound operators worldwide and along with both our MD and Director of Sales and Marketing actively involved in the Western Australian Tourism industry through their various board positions and networks established over this time, we are very well presented in all areas.

SHG has been able to show significant growth year on year without the need for high numbers of "on the road" marketing or sales staff by ensuring that we establish electronic channels of distribution and target our marketing to a researched demographic. By utilising leading channel managers and embracing electronic representation and distribution SHG is represented on a global scale through all major distribution channels.

As mentioned previously SHG will open its 5th property in April of 2016 and is in negotiations with the State Government to another key iconic site on Rottnest Island as one of 3 final tenderers.

Global Distribution Systems

Through our Channel Manager, SHG is interfaced to the Global Distribution Systems (GDS). This provides distribution through to the Sabre, Galileo, Amadeus and WorldSpan booking systems.

Online Travel Agents

These specialised online sites have huge audiences around the world. Sites like Expedia, Travelocity and Orbitz are all interfaced through the SHG Channel Manager.

SHG, is a highly regarded, high profile, established and trusted brand has a database in WA exceeding 40,000 customers along with high levels of penetration into the WA marketplace through mediums such as, print, radio, TV and social media such as Facebook, Twitter, Pinterest and our own Seashells App, downloadable via the App store or Google Play.

Whilst it is difficult to gauge the impact Seashells would have on property occupancies and rates without fully understanding the current business levels, distribution, existing marketing effort or efforts to date plus service levels and on site management/controls, it is our belief that by utilising an established WA brand and branding the property likewise, that this will bring a level of trust and uniformity into the property. By being based in Perth, a Western Australian traveller, Australian traveller or an international traveller will carry a level of comfort that the management team is professional, and accessible and similarly with most owners residing in Perth, we are similarly accessible to those owners.

MARKETING

Seashells' marketing is headed up Stephanie Lang, Director of Sales and Marketing and is a small but effective team including a Sales and Marketing co-ordinator and PR Manager. Currently Stephanie sits on the Boards of Tourism WA, ATEC and the Perth Convention Bureau. Stephanie has been directing the Seashells Marketing, Branding and Sales efforts since 2001. Following are samples of the activities undertaken by Seashells in marketing not only the group and brand but also the property specific, in this case, Seashells Mandurah. All Seashells property contributes a fixed amount to a collective marketing fund and the majority of marketing is conducted on a group wide basis in order to ensure maximum effectiveness for the dollars spent. Seashells do however target specific demographic areas and mediums for specific property needs as is shown in some of the example below.

As previously detailed, SHG has an extensive network of channels, established both nationally and internationally will be able to have an immediate positive impact on property marketing and subsequently occupancies and rates.

collateral

- Brochures
- Display materials
- Gift vouchers
- Presentation folders
- Promotional merchandise



travel agent & leisure wholesale

- Travel agents – retail & online
- Wholesalers
- Inbounds

Seashells Yallingup

110 Rooms, 11 Pools, 11 Spas

\$398

2 Nights From \$398

Book

Seashells Mandurah

110 Rooms, 11 Pools, 11 Spas

AU\$148

2 Nights From \$148

Book

Seashells Mandurah

110 Rooms, 11 Pools, 11 Spas

AU\$148

2 Nights From \$148

Book

double your stay campaign



The second half of your holiday will cost...

Book two or more nights and we'll double your stay. FREE!

There's never been a better time to get away with Seashells because right now we're giving away the second half of your holiday accommodation, up to 4 nights, and we'll make it a 5 night stay and we'll make it a 6 night stay too! So hurry, check out the dates below and book before it's May at seashells.com.au or call 1800 800 809

Valid for new bookings only, with minimum 2 night stay and at least one night booked. Booking must be for peak, low or shoulder season. Not valid for long-term stays. Seashells Hospitality reserves the right to amend this offer without notice. Subject to availability.

SEASHELLS
PERTH • BUNBURY • COORANBURY • TULLAGH

- Annual group campaign – April/May
- 2015 Results – 2772 room nights, \$407k revenue
- 2014 Results – 2597 nights, \$389k revenue
- 2013 Results – 1793 nights, \$260K revenue
- Activities: West Australian (Wednesday & Friday EGN, Saturday Travel, Seven Days magazine), Mix 94.5fm, Seashells website, e-newsletter to database, Facebook page and paid advertising, Twitter, media release to 64 publications & wholesalers
- \$50,000+ total campaign value

stay 3 pay 2 campaign



ONE
TWO
THREE

Stay 3
Pay 2

Want another night? Feel free.
Make it a holiday to remember by treating yourself to a 3-day break for the price of 2 at any of our seaside locations. Book now on 1800 800 800 or visit seashells.com.au. We look forward to welcoming you back.

SEASHELLS
SERVING AUSTRALIA'S COASTS SINCE 1961

PRICES START AT SEASHELLS BOUTIQUE FROM \$14 PER NIGHT PER PERSON. BOOK NOW!

- Annual group campaign
- 24 August-20 September
- 2015: 982 room nights \$209k revenue
- 2014: 567 room nights \$115k revenue
- Activities: West Australian, Seashells website, e-newsletter to database, Facebook (paid advertising), Twitter, media release to 64 publications, wholesalers
- \$30,000+ total campaign value



ONE
TWO
THREE

Stay 3
Pay 2

Want another night? Feel free.
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SEASHELLS
SERVING AUSTRALIA'S COASTS SINCE 1961

PRICES START AT SEASHELLS BOUTIQUE FROM \$14 PER NIGHT PER PERSON. BOOK NOW!

group buying sites

- No upfront costs, just commission on bookings
- Valuable mid-week/off-peak business
- Great for cash flow
- Huge consumer databases & promotional exposure including Getaway TV
- Example of Scoopon run at Seashells Broome – 245 bookings, 943 room nights and \$108k in sales



Get Away to Beautiful Cable Beach, Broome, and Stay in Your Own Private 4.5-Star Self-Contained Apartment at the Award-Winning Seashells Broome! 2 People From \$239 for 2 Nights, or Upgrade for 4 People or Longer Stays!

Escape to One of Australia's Most Secluded Gems - Cable Beach! Book a Crisp, Beautiful, Modern 1-Bedroom Self-Contained Apartment in the Luxury Seashells Broome for a Romantic Two-Person Getaway, or Upgrade for just \$30 Extra for a 2-Bedroom Apartment for 4 People, for a Family Holiday or Friends Escape! Fully Equipped Private Apartments with Kitchen, Laundry, Luxe Welcome Pack on Arrival, Late Check-Out, King-Size Bed, and Balcony or Verandah! Winner of a TripAdvisor Certificate of Excellence!

Other Advertising

SEASHHELLS FREMANTLE
OPENING EARLY 2016

FIND YOUR PERFECT BEACHSIDE ESCAPE

Wherever you stay along Western Australia's spectacular coast, you'll find Seashells provides the perfect balance of 4/5 star comfort with the privacy and freedom of self-contained facilities.

Take absolute beachfront locations with breathtaking views of the Indian Ocean from The Esplanade, West Perth and Geraldton Greenough. Great views from the Esplanade garden at the Esplanade, West Perth. Only 300m from world famous Cable Beach, 100m from the Esplanade.

Visit at Seashells Fremantle, call to 4/5 star comfort with the privacy and freedom of self-contained facilities. From Seashells offers and offers apartments, to meetings or conference facilities, Seashells is your perfect beachside escape. We look forward to welcoming you soon.

FOR MORE INFORMATION & BOOKINGS, VISIT US OR FREECALL 1800 800 800 OR VISIT SEASHHELLS.COM.AU

QUALITY TIME MADE SIMPLE

SEASHHELLS FREMANTLE
OPENING EARLY 2016

Feel right at home, right by the beach with the perfect balance of 4/5 star family comfort and the privacy and freedom of self-contained accommodation.

With loads of facilities and located close to great family precincts, however you want to spend your quality time together, Seashells provides the perfect beachside escape. The secret is at your doorstep or our absolute beachfront locations at West Perth and Scarborough in Western Australia, through our lush tropical gardens only 100m from Cable Beach or 100m to the Esplanade, Fremantle, and amongst 4/5 star comfort with the privacy and freedom of self-contained facilities. We look forward to welcoming you soon.

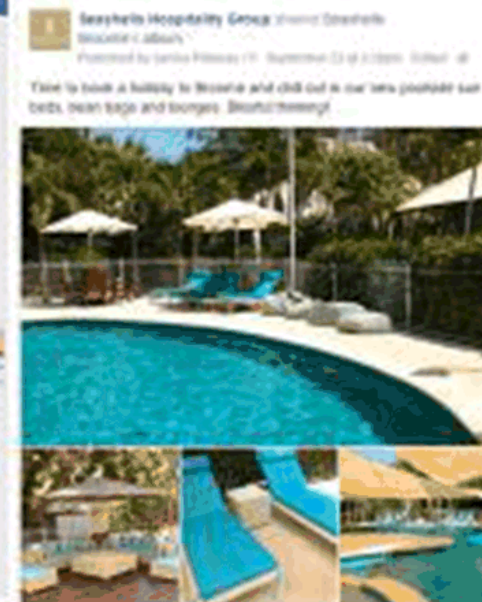
SEASHHELLS
HOSPITALITY GROUP

SCARBOROUGH - MANDALAY - MANDALAY - MANDALAY


FOR MORE INFORMATION & BOOKINGS, VISIT US OR FREECALL 1800 800 800 OR VISIT SEASHHELLS.COM.AU

[illegible]

- www.seashells.com.au – new look soon!
- Social media eg. Facebook, Twitter, paid advertising
- Database marketing, EDMs & quarterly e-newsletters to over 34,000 recipients + owners
- Other related website listings & advertising eg. Tourism WA, Visitor Centres




Seashells app & loyalty programme



- 2211 downloads of the app in the first year
- Over 950 active loyalty members
- Over 3500 room nights scanned across all Seashells Properties in the first year
- 265 reward vouchers issued to date

Seashells Hospitality Group
Sponsored · 9h

Earn rewards each time you stay at Seashells in Broome, Mandurah, Scarborough or Falkland




Download our Loyalty APP!
Use our Seashells Mobile App & each night you stay in a Seashells property, you'll earn 20 Seashells dollars. Once you have stayed 10 nights, you receive a \$200...

SEASHELLS.EDM.AU [Learn More](#)

Like · Comment · Share · Boost

DOWNLOAD OUR APP & BE REWARDED!

Use our Seashells Mobile App & each night you stay in a Seashells property, you'll earn 20 Seashells dollars. Once you have stayed 10 nights, you'll receive a \$200 voucher towards your next stay. Start today!



Trip Advisor

- Seashells Broome - #7 out of 29 in Broome
- Seashells Mandurah - #1 out of 9 in Mandurah
- Seashells Scarborough - #2 out of 10 in Scarborough
- Seashells Yallingup - #3 out of 13 in Yallingup



Broome
Perth, Australia

1 review

1 helpful vote

"5th time & still happy :)"

★★★★★ Reviewed 5 June 2015

This is the 5th time we have stayed at the Seashells Broome. Every stay has been wonderful. Clean apartments, Beautiful gardens, BBQ's spotless, Pool Awesome, Friendly Helpful staff, Walking distance to Cable Beach



Mandurah
Manchester, United Kingdom

"Perfect"

★★★★★ Reviewed 3 April 2015

Just got back from a month long tour of Australia and this was probably the best place we stayed. The apartments are just beautiful and have everything you could possibly need and if you don't feel like cooking there is a pub right next door. You can sit on your balcony and watch the assortment of beautiful birds. We doesn't get any better than this!

Stayed March 2015, travelled as a couple



Yallingup
Sydney, Australia

1 review

"Wonderful stay"

★★★★★ Reviewed 20 October 2015

My family & I stay at Seashells for 7 days in a 2 Bedroom Apartment. We had a wonderful time our apartment was very clean & comfortable. Kids loved the heated pool & reception & service very friendly I have no complaints. I strongly recommend for others to choose Seashells Scarborough as a holiday destination.



Mandurah
Sydney, Australia

1 review

"We love Seashells Mandurah!!"

★★★★★ Reviewed 20 February 2015

Mandurah has got to be one of the best kept secrets in WA and Seashells Resort is simply stunning. The apartments are immaculate, the pool area is fantastic and the staff are super friendly. You couldn't wish for a better location, right near the beach and Dolphin Quay with lots of lovely restaurants. We only wish we could have stayed longer and we will certainly be back!!

Stayed February 2015, travelled as a couple



tripadvisor

CERTIFICATE OF EXCELLENCE



other activities

- **Trade shows** – Australian Tourism Exchange, Extraordinary Tourism Exchange, Corroboree UK/Europe, ATEC Meeting Place, ATEC East Coast/New Zealand roadshow, Tourism WA roadshows East Coast, Singapore, Malaysia and UK/Europe
- **Consumer shows** – brochure distribution at Perth, Melbourne & Sydney Holiday Shows, Singapore & Kuala Lumpur travel fairs
- **Familiarisations** – enabling travel trade and media to experience the product first-hand
- **Public Relations & Sponsorships** - media relations & promotional exposure
- **Memberships** – Tourism Council WA, Australian Tourism Export Council, Australian Hotels Association, Perth Convention Bureau, Star Ratings Australia, Broome Visitor Centre, Australia's North West, Experience Perth, Australia's South West





ESD Strategy

Ref Number: 109127

Date: 1 September 2016

Multi-Residential Development

74 Mill Point Rd, South Perth



Document History and Revision Details

Date	Completed By	Reviewed By	Approved By	Revision Number
1/05/2015	Evan Logan	Evan Logan	Matthew Pike	1
13/04/2016	Laura Smith	Evan Logan	Evan Logan	2
01/09/2016	Laura Smith	Evan Logan	Evan Logan	3

Confidentiality

The contents of the report are confidential. This report is for the purpose of initial guidance in achieving best practice ESD guidelines and 'Best Practice' Industry benchmarks.

All included information and documentation shall remain the property of Cadd's Energy. Therefore shall not be replicated in any form without written consent from Cadd's Energy.

Disclaimer

The contents of this report have been based on the documentation and plans provided by the Client to Cadd's Energy.

This review is an estimate and is therefore based on a necessarily simplified and idealised version of the building that does not and cannot fully represent all of the intricacies of the building once built. As a result, these results only represent an interpretation of the potential of the building based on the provided information.

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Introduction

Cadd's Energy have prepared this ESD Design Review to provide an overview of the sustainable features that will be included within the Multi-Residential Development at 74 Mill Point Rd, Perth

This project consists of a multi-level basement car park, 83 Residential Apartments & 104 Serviced Apartments and associated communal spaces are provided. These apartments offer an assortment of sizes from single bedroom apartments through to three bedroom penthouses.

With the combination of its close proximity to South Perth's ferry terminal and other forms of public transport, a plethora of restaurants, cafés, parks and other amenities, this development offers a variety of conveniences for its occupants. The project's location, along with its magnitude increases the longevity of the design while appropriating a community connection between the development and its surroundings. The combination of these facilities and services support the sustainability of the project.

The design incorporates excellence in architectural design that seamlessly integrates solar passive principles with a multitude of sustainable features and systems. The combination of this provide a dynamic, pleasurable and sustainable outcome.

Sustainability Strategy

This project offers an excellent opportunity to showcase how a large mixed-use building can utilise design features, materials and good quality finishes and selections to achieve a sustainable outcome. By focussing on the solar passive principles and incorporating sustainable features and systems, a strong environmental outcome can be achieved that occupants and surrounding residents will embrace.

As an industry benchmark the intent of the building is to achieve a 4 Star Green Star Rating. Additionally it will target a Seven Star Average NatHERS Rating for all residential apartments. These rating systems are considered industry-benchmarking tools that facilitate in comparisons between similar projects. They are often used to quantify sustainable outcomes throughout Australia to demonstrate best practice.

Key aspects of the project will be consolidated within the main categories as shown below:

Category	Design intent
Management	Documenting contractual obligation to ensure processes and procedures are put in place that facilitate sustainability and constructability.
Indoor Environment Quality	Creating a pleasing living environment by reducing discomfort, noise and toxicity while improving security, health and wellbeing.
Energy	Reducing CO ² emissions and overall energy usage.
Transport	Aiding occupants to utilise a variety of transport options, such as ferries, buses or bikes.
Water	Reducing excess usage of potable water.
Materials	Improving material longevity and ensure good environmental practice is incorporated.
Land Use and Ecology	Facilitating in the reuse of existing buildings and the commitment to ongoing environmental practices.
Emissions	Reducing the use of ozone depleting refrigerants and insulants. Along with mitigating other emissions from buildings.

Initiatives

Management

By ensuring the construction process is well managed, significant reductions to the surrounding environmental impacts can be achieved, additionally ongoing emissions and various forms of waste are reduced. With this in mind, the following will be incorporated into the contractual documentation:

- The Contractor shall produce an Environmental Management Plan and the waste contractor should be ISO 14001:2004 certified;
- The Contractor shall produce a Waste Management Plan that ensures a minimum of 60% of waste is re-used or recycled throughout the construction process; and
- The electrical and mechanical design consultants shall ensure the following are undertaken:
 - Metering design and calibration; and
 - Commissioning and reporting.

Indoor Environment Quality

As this project is predominantly residential and serviced apartments, occupants will utilise these spaces for long periods therefore having an inviting and comfortable environment is essential.

This design naturally incorporates spacious and comfortable apartments that realize good air quality through a reduction to harmful toxins and applies high ventilation rates through either natural cross ventilation or enhanced single sided ventilation performance. This is achieved through suitable exposure and appropriate façade design. These inclusions facilitate good passive heating and cooling. Ensuring access to natural light and external views, a positive atmosphere throughout the apartments is afforded to occupants. Consequential liveability along with health and amenity are substantially enhanced.

Through excellent use of solar passive design and suitable construction methodologies, a high level of thermal comfort will be achieved throughout the project. Coupled with the high quality architectural design, an enduring development will be created.

Energy

Through the improvement of thermal comfort aided by appropriately selected efficient systems, this project will see a large reduction in energy usage and therefore a resultant reduction in greenhouse gas emissions.

Outlined below are numerous inclusions within the project:

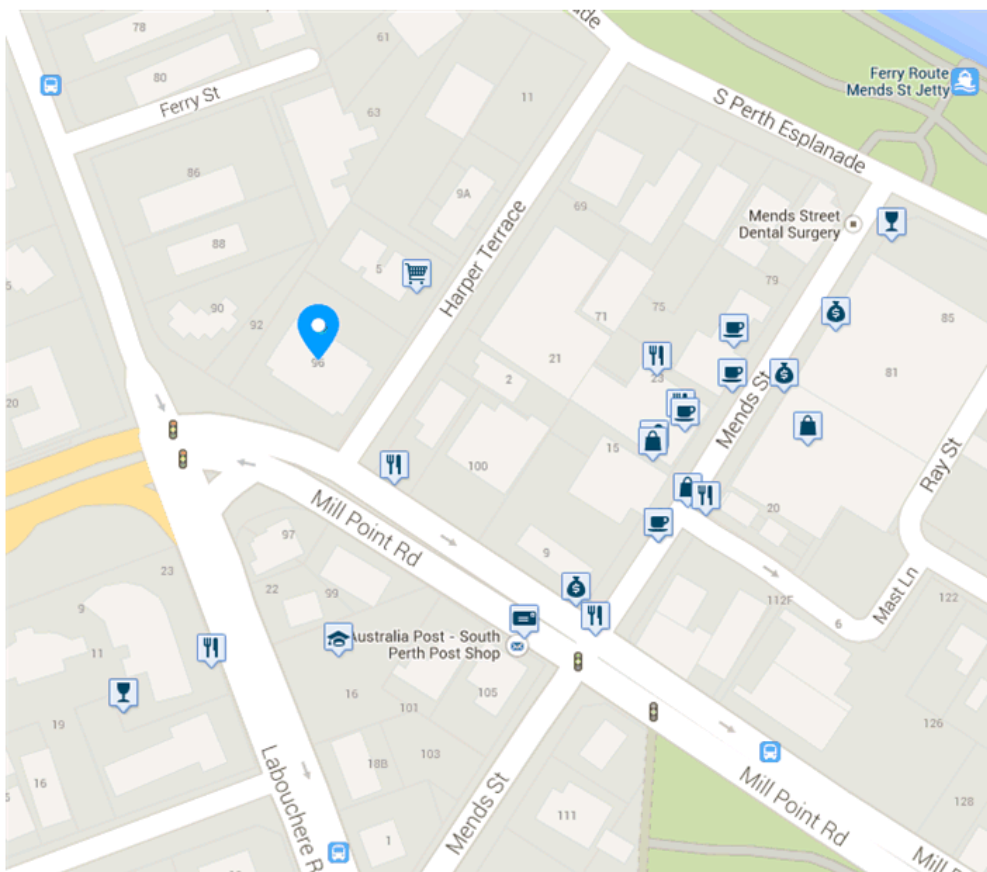
- Solar heated swimming pool;
- HVAC and lighting control systems;
- Efficient systems and lighting design;
- Central gas hot water system;
- 7 Star average NatHERS for apartments;
- High level metering strategy;
- High performance glazing; and
- High levels of insulation.

Transport

This project offer a high level of cyclist facilities, well above the minimum requirements as set by the planning policy also offering cyclist end of trip facilities and suitable bike storage. The surrounding areas include abundant amenities that enable the occupants to utilise alternative transport methods such as public transport, walking or cycling along with offering a variety of social spaces including cafés, restaurants, parks and shops. This results in occupants being able to accomplish numerous errands on either foot or by utilising alternative transport options.

Outlined below are some of the copious facilities located nearby:

- South Perth Ferry Terminal;
- Perth Zoo;
- IGA Shopping centre
- Richardson Park;
- Windsor Park;
- Windsor Hotel;
- Post office; and
- Multiple bus routes.



Water

Water usage in Perth is an extreme concern. This is due to Perth's reducing rainfall levels and ever increasing usage. To assist in combatting this, this project will utilise a number of concepts. These will include the following:

- Water wise planting;
- High WELS Ratings for tap ware, showers and toilets; and
- Reduced water piping runs.
- Greywater for landscape irrigation

Materials

Due to the large volume of built form within this project, a detailed review of the materials, layouts and construction shall be undertaken. Where applicable, materials shall have environmental certifications and manufacturing quality certification, shall seek to have recycled or eco preferred content and product stewardship. By imposing these criteria to the materials of this project will vastly reduce the environmental impact this building has.

- Environmental materials selections;
- Reused or recycled content; and
- Minimal airborne toxins.

Land Use and Ecology

Due to the size and scope of this project will see an increased longevity. The variety of uses offered also facilitates in developing a connection to the wider community.

- An ongoing Waste Management Policy will be incorporated by the tenant that permits recycling areas throughout the office, includes waste monitoring and a compactor system;
- Communal facilities;
- Waste compactor; and
- Waste chutes.

Emissions

Emissions comprises substances released from the development such as light, water and hazardous gases. Reducing the impact of these emissions is crucial to ensure the sustainability of any project.

Ozone depleting potential (ODP) materials such as insulation and refrigerants are to be excluded where possible. These would include any air conditioning systems, thermal and acoustic insulation or the like.

By including higher WELS rated tap ware and the like, the building will see a reduction in the volume of water usage and will see a reduction in sewerage outflow. This reduction helps to moderate the load on the sewerage treatment system and the sweeping effects it has.

These reductions provide the following impacts:

- Declined levels of watercourse pollution;
- Reduced refrigerant pipe runs;
- A reduced impact on biodiversity; and
- Lower level ODP materials.

NatHERS Thermal performance

The House Energy Rating process involves modelling the proposed building(s) in accordance with the technical and modelling requirements of the Nationwide House Energy Rating Scheme (NatHERS) to provide a rating of the building(s). This rating is used to demonstrate compliance with the Energy Efficiency Provisions of the NCC.

The process also allows for a comparison between buildings throughout Australia by the inclusion of the Star Rating Benchmark. Current Energy Efficiency requirements state that a minimum average Star Rating of Six Stars is to be achieved within Western Australia. This is in line with the current national requirements.

The residential component of this development will strive to achieve a Seven Star average NatHERS rating, which is well above the minimum average of Six Stars. This will be achieved through solar passive design, incorporating high levels of insulation, appropriated shading design and applicable levels of thermal mass.

Additional Recommendations

Further to the main strategy, the design team will review a number of building attributes through the design phases to ensure the targeted ratings area achieved. These may include the following:

- Additional thermal performance upgrades;
 - High levels of insulation;
 - Double glazing; and
 - Appropriate thermal mass.
- Applicable materials selections;
- Centralise and efficient systems selections;
- External shading devices;
 - Vertical projections; and
 - Horizontal fins.
- Suitable metering strategy; and
- Onsite Solar Photovoltaic system

A number of these recommendations will be included throughout the design and documentation process. They will contribute to achieving the targeted ratings.

Conclusion

This strategy addresses multiple aspects such as the design, the building's size and scope along with construction methodologies and systems to be included.

To quantify this building's sustainability, a Green Star and NatHERS Rating will be undertaken with an intent to achieve a higher than average thermal rating. These rating tools are well-established industry-benchmarking tools. By targeting these higher ratings, the building will perform substantially better than comparable projects. Additionally a review of materials and selections is planned to be undertaken ensuring that this design seamlessly combines sustainability with the high quality architectural design.

The strategy outlined above will provide excellent environmental performance and facilitate in reducing ongoing costs and maintenance for the site, resulting in a better outcome for occupants, owners and local residents alike.

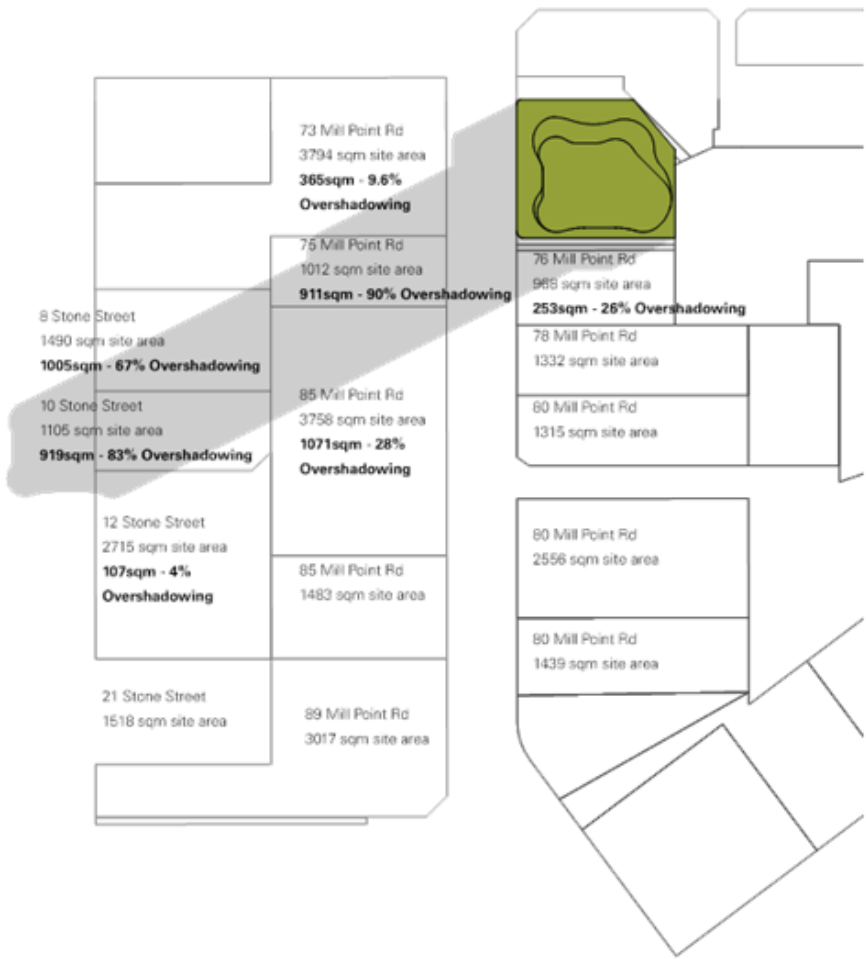


Diagram 1.0
Current development application
Overshadowing at 10am August 22nd

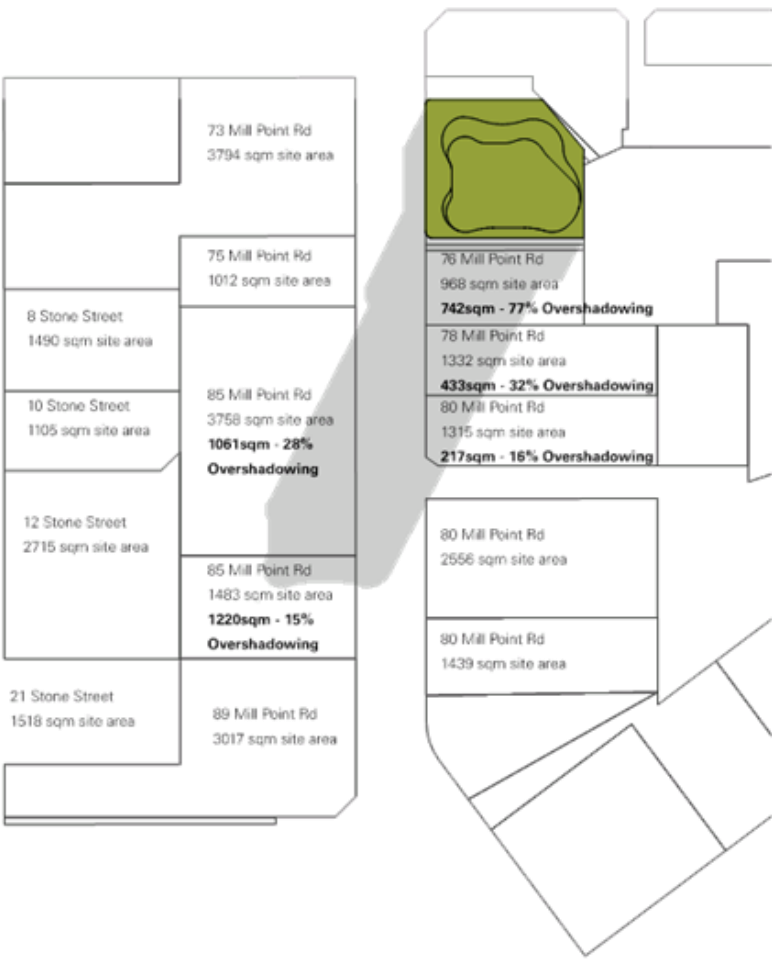


Diagram 1.1
Current development application
Overshadowing at 12pm August 22nd

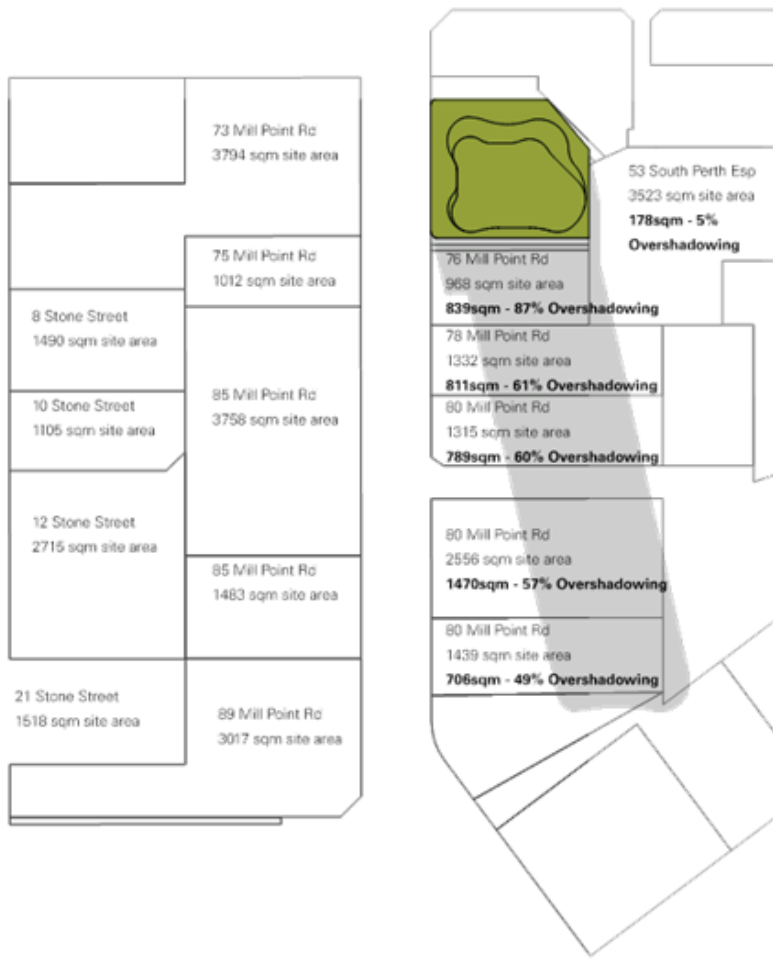


Diagram 1.2
Current development application
Overshadowing at 2pm August 22nd

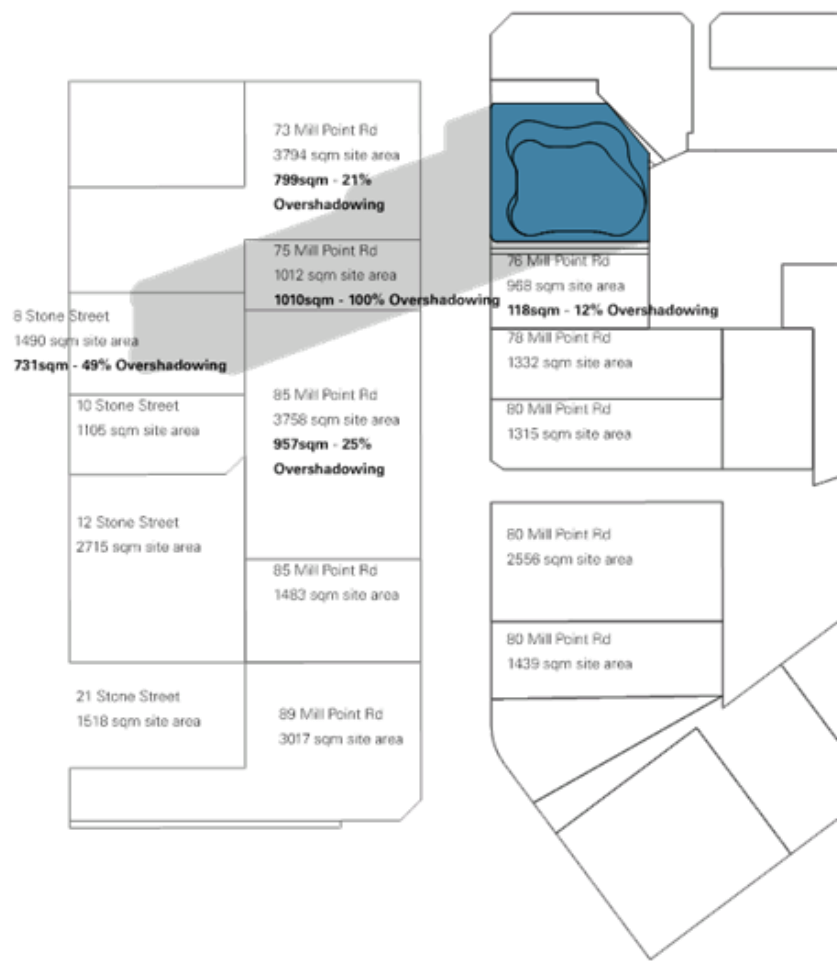


Diagram 2.0
Current development application
Overshadowing at 10am September 22nd

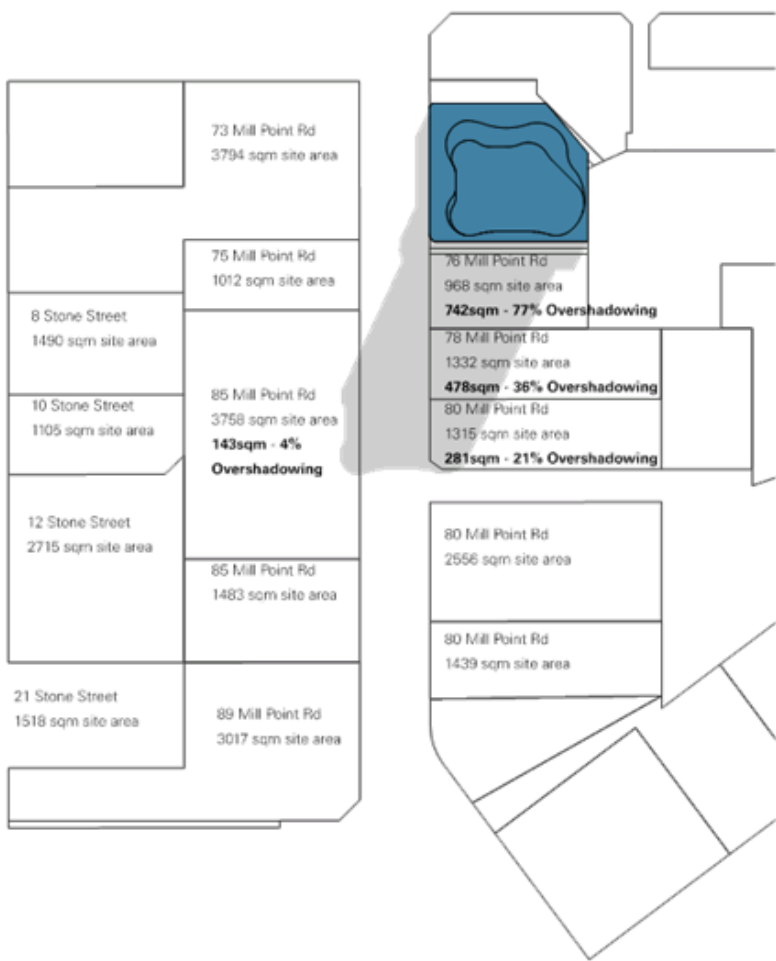


Diagram 2.1
Current development application
Overshadowing at 12pm September 22nd

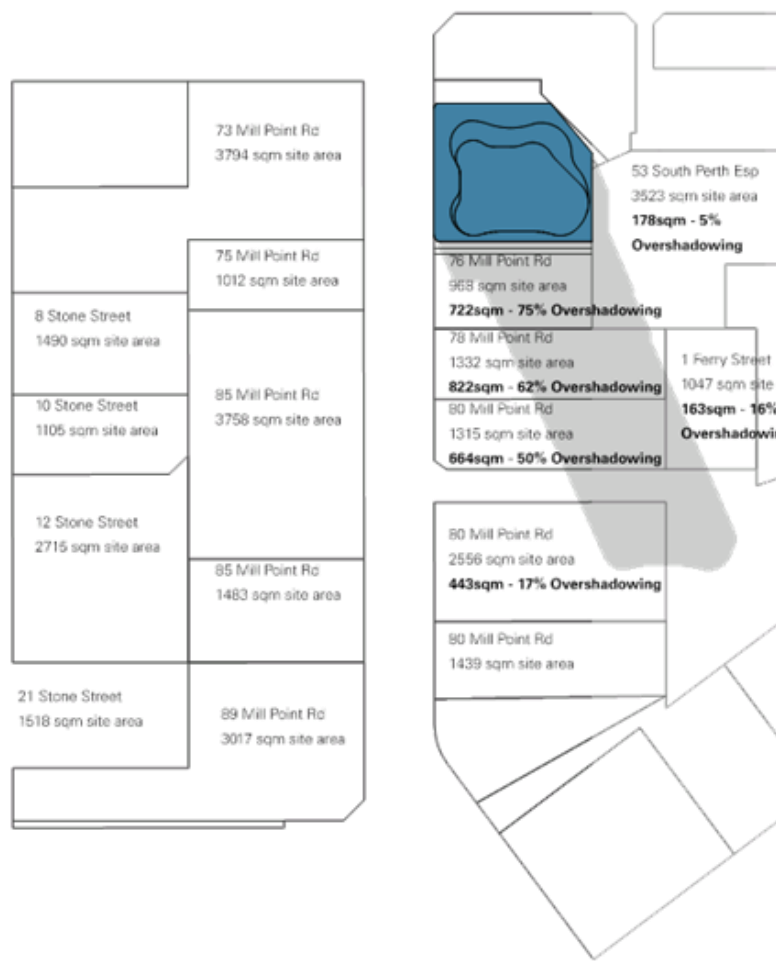


Diagram 2.2
Current development application
Overshadowing at 2pm September 22nd

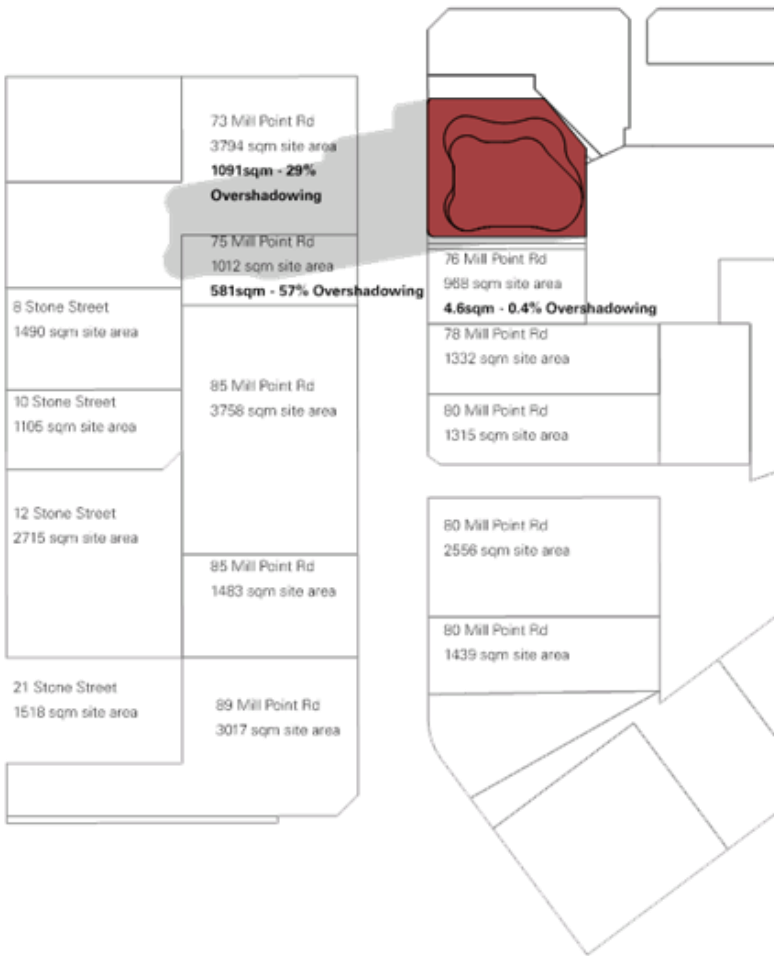


Diagram 3.0
Current development application
Overshadowing at 10am October 22nd

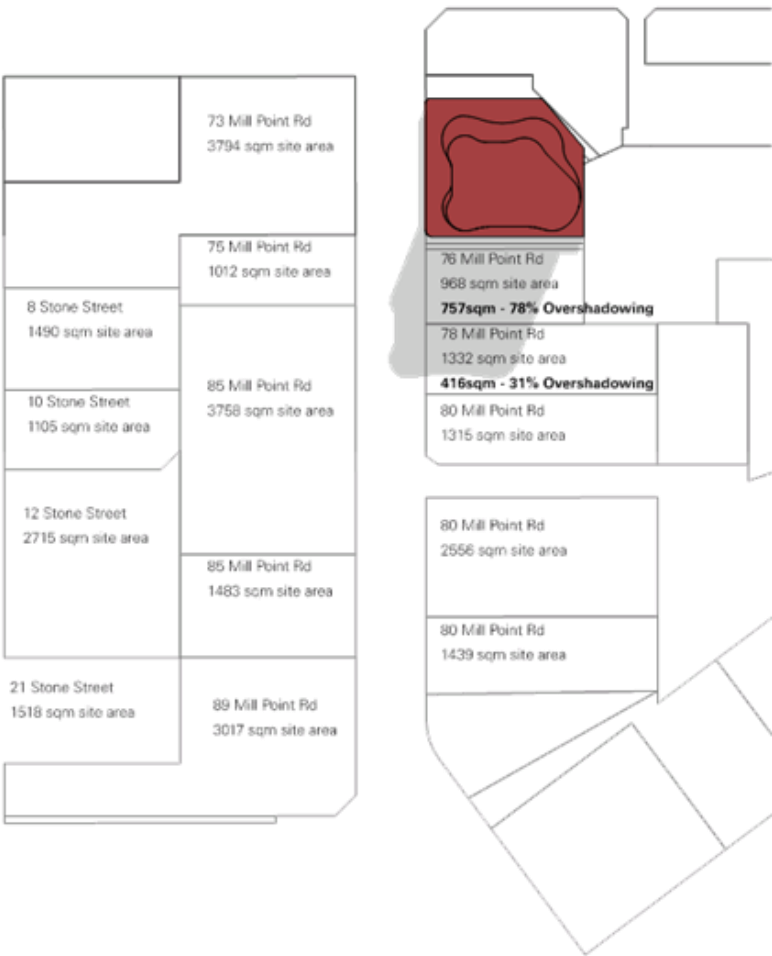


Diagram 3.1
Current development application
Overshadowing at 12pm October 22nd

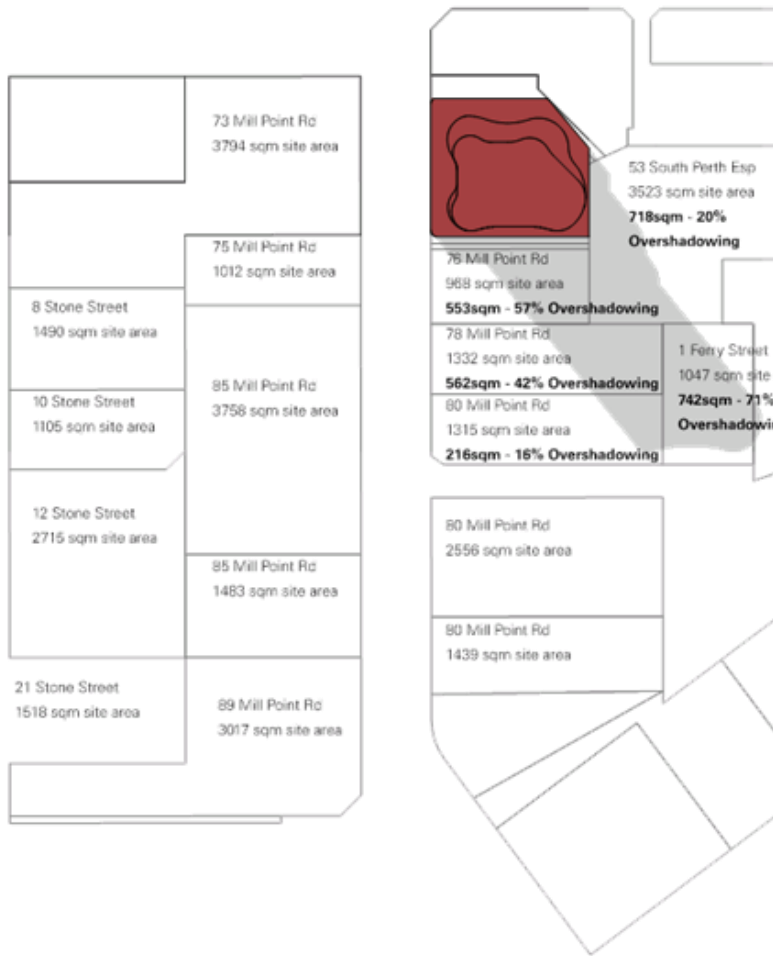


Diagram 3.2
Current development application
Overshadowing at 2pm October 22nd

74 MILLPOINT RD
South Perth

Landscape Design Proposal
Schematic
Council Submission

CAPA

Client
Edge Holdings Number 6

Site
74 Millpoint Rd, South Perth

Submission Date
28.09.16

Document Code
1502

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Landscape Concept

The landscape to the ground floor of the 74 Millpoint Rd Development will provide an active interface with the built form and the streetscape.

Integrated with the building's sculptural walls and columns, the landscape with its softscape plantings and hardscape elements will provide a considered base for the architecture. The landscape provides a forecourt and space to be occupied for multiple recreational uses.

A raised water feature provides a central focus to the landscape forecourt, with an integrated water wall and feature water spouts embedded in the building's concrete motif artwork. A generous stone sitting edge laps just above the water level to provide seating for both contemplative and gathering opportunities.

Seating elements relating to both the landscape forecourt and the street are positioned to allow flexibility of use. The seating will be designed with integrated backrests to cater for all future visitors.

It is envisaged that the seating elements will be provided as artwork pieces, to be designed and developed by a local artist. These artwork elements are to be exquisite yet functional pieces to be engaged with by the public within these forecourt and entry spaces. The seat's richness of detail and material will extend from the forecourt into the seating located within the commercial and residential foyer spaces thus further drawing people into and activating the space.

The forecourt will allow the CAFÉ to extend their activity into the forecourt and provide a visible area of vitality from the street. The landscape provides a permeability for multiple access points and visual openness.

The softscape design considers the importance of the existing streetscape, verge area, basement footprint below and the need for the building to address the street at ground level.

As reflected in the shadow studies, the forecourt areas will be in significant shade for extended periods throughout the year, with portions at the street edge exposed to the late afternoon summer sun. Plantings that will thrive in both shade and sun have been selected for these areas, including the Commercial Lobby, Entry and Bike Area gardens. Low height and densely planted, they will provide a consistent green carpet. The residential lobby will feature a similar ground planting, along with grouped feature shade plantings, providing a green enclosure to the lobby space and screening to the adjacent property.

Ground planting and high quality crossover points to the verge have been proposed for consideration by the City Of South Perth. The intent is to provide a quality base to the existing street trees, with planting to cover to the roots, ameliorate the sloping verge levels and be integrated with the proposed development's landscape.

Council Submission



WATER WALL
Water cascade with wall with bubbling to pond below
Image ref: Plaza Singapura - Singapore (TIERRA Design)



FLOATING STONE SEAT - WATER FEATURE
Elevated seat to ground with stone cladding
Image ref: Plaza Singapura - Singapore (TIERRA Design)



WATER FEATURE
Raised edge base to pond with feature walling behind
Image ref: Sukhothai Hotel Refurb - Bangkok (TIERRA Design)



SCULPTURE SEATING - ART COMPONENT
Seating designed as artwork and connection with activity
Image ref: New York Highline Development
(James Corner Field Operations & diller scofield + renfro)



SCULPTURE SEATING - ARTWORK
Material quality



GROUND PLANTINGS - SEATING AREA

Mass plantings of Anthrhopodium cirratum 'Matapouri Bay' (Rock Lily) for shade plantings.
60cm high



GROUND PLANTINGS - COMMERCIAL LOBBY

Mass plantings of Liriope Muscari 'Monroe White' for shade plantings. Waterwise, tuft forming spreading evergreen perennial with dark leaves and fragrant white flowers.
30cm high x 40cm wide



PROPOSED VERGE + ENTRY GROUND PLANTINGS

Mass Plantings of Liriope Muscari 'Just Right' to verge and under trees. Waterwise, tuft forming spreading evergreen perennial with dark leaves with purple flowers.
45cm wide + high



PROPOSED VERGE + ENTRY GROUND PLANTINGS
(Alternative Option)

Low mass plantings Trachelospermum jasminoides (Star Jasmine) 20-30cm high with white flowers and fragrance.



GROUND PLANTINGS - RESIDENTIAL ENTRY

Mass plantings of Anthrhopodium cirratum 'Matapouri Bay' (Rock Lily) for shade plantings.
60cm high



FEATURE PLANTINGS - RESIDENTIAL ENTRY

Feature grouped plantings of Crinum Pedunculatum (Spider Lily) for shade plantings.
1.5 - 2m high + width with fragrant white flowers.



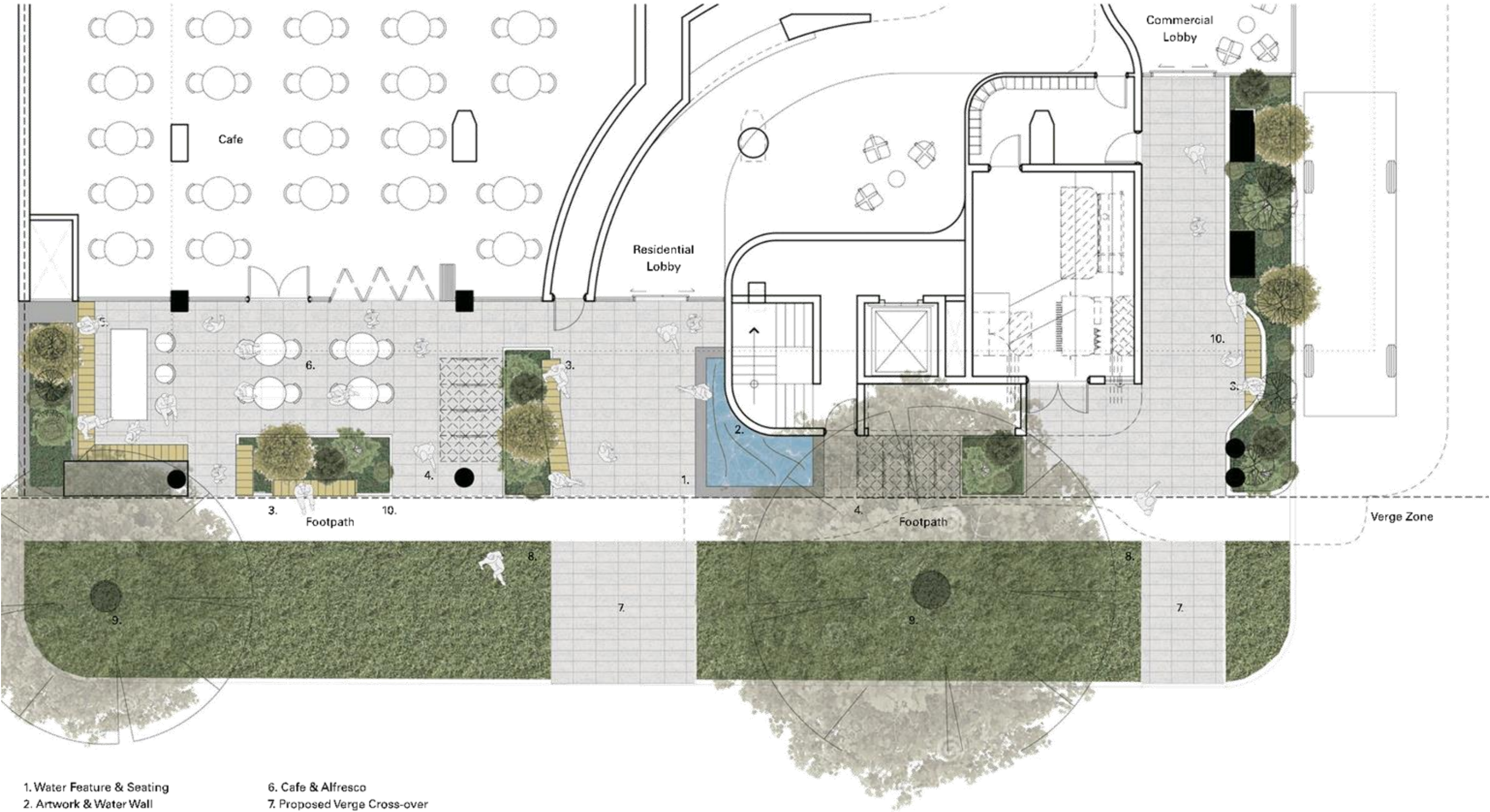
FEATURE PLANTINGS - RESIDENTIAL ENTRY

Feature grouped plantings of Alpinia coerulea (Red Backed Ginger, Native Ginger) shade plantings.
Height: 2m



FEATURE PLANTINGS - RESIDENTIAL ENTRY

Feature grouped plantings of Alocasia macrorrhiza (Elephant Ears).
Height: 1-2m



1. Water Feature & Seating

2. Artwork & Water Wall

3. Seating Artwork

4. Bike Racks

5. Fixed Seating Element
6. Cafe & Alfresco

7. Proposed Verge Cross-over

8. Proposed Verge Lawn

9. Existing Plane Trees

10. Low Planting - Seating Area

LUMIERE
74 MILLPOINT RD, SOUTH PERTH
EDGE VISIONARY LIVING



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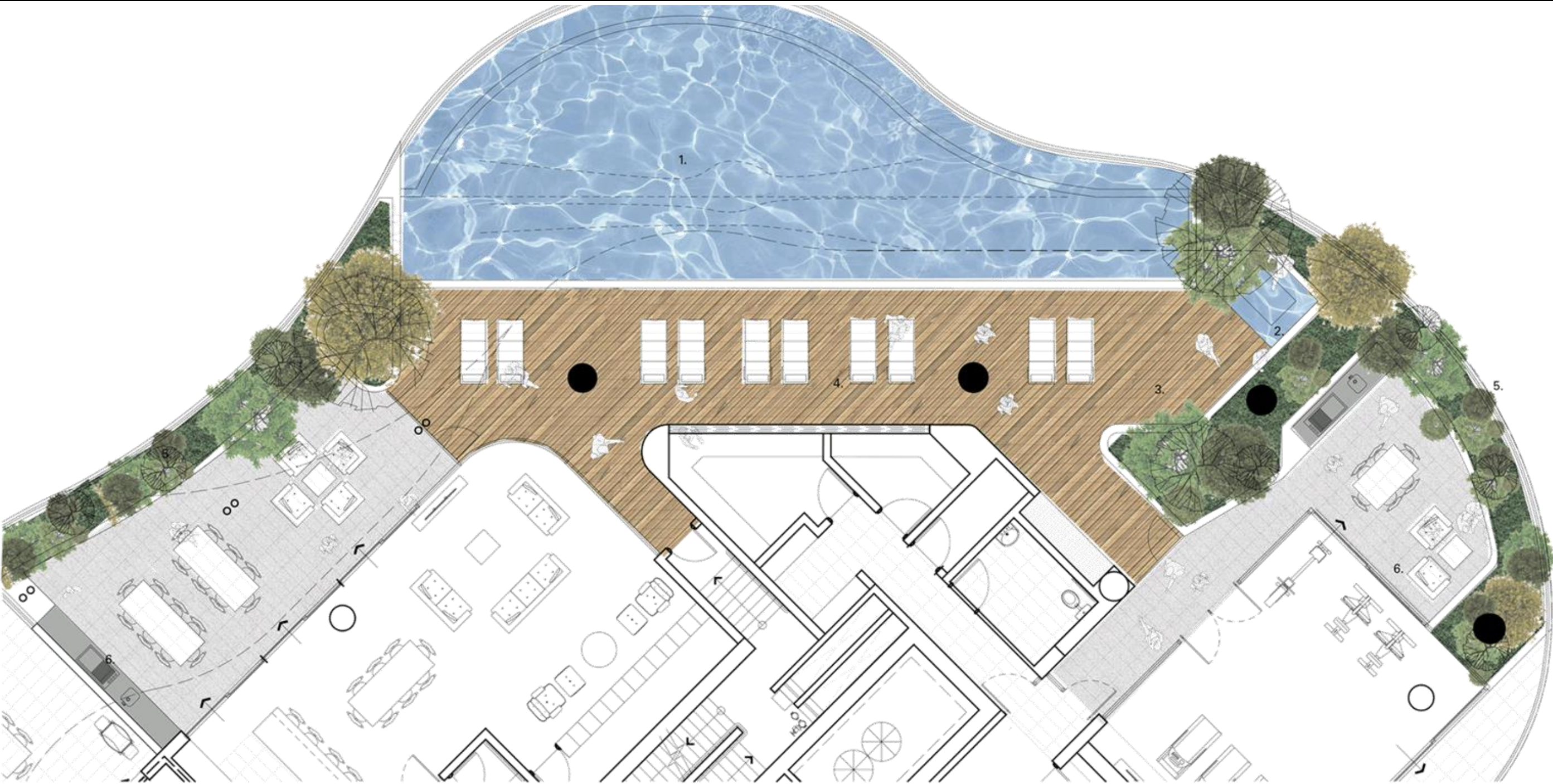
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DATE ISSUED
28.09.16

DWG. NAME
GROUND FLOOR LANDSCAPING

REV



- 1. Pool
- 2. Spa
- 3. Pool Deck
- 4. Loose Pool Furniture
- 5. Native Planting
- 6. Bbq Area

LUMIERE
74 MILLPOINT RD, SOUTH PERTH
EDGE VISIONARY LIVING



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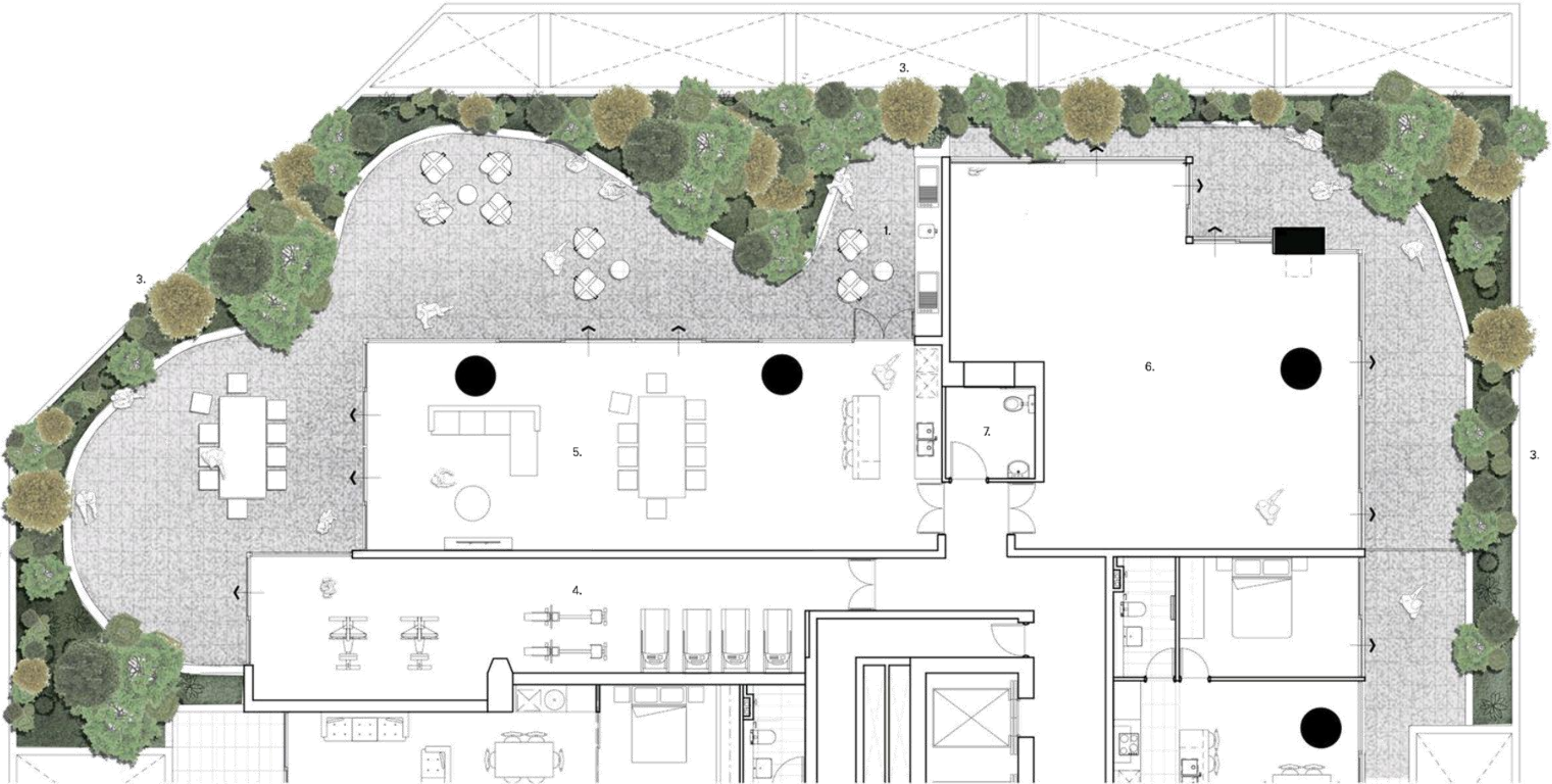
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28.09.16

DWG. NAME
LEVEL 15 LANDSCAPING

REV



- 1. Bbq Area
- 3. Native Planting
- 4. Gym
- 5. Lounge
- 6. Community Meeting Room
- 7. UAT

LUMIERE
74 MILLPOINT RD, SOUTH PERTH
EDGE VISIONARY LIVING



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DWG. NAME
LEVEL 4 LANDSCAPING

REV

