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Water Engineering Partners

Water Engineering Partners Pty Ltd

Lot 17.2 Hamilton
17 Karakul Road, Hamilton
Flood Assessment

Prepared for: Silverstone Developments

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Disclaimer

The flood modelling presented in this report was based and relies on the adopted Council flood model.

The flood modelling presented in this report is based and relies on survey data and other data obtained from third parties. While all reasonable steps have been taken to verify the data, Water Engineering Partners does not guarantee the data obtained or supplied for the investigation

Rainfall is variable in nature. The modelling presented in this report is based on available rainfall data sourced from government agencies, with appropriate factors added to account for climate change estimates in accordance with guidance from local and state government bodies relevant to the study location in their planning schemes. Actual rainfall patterns and totals in the future could vary from those adopted for this report.

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1 Introduction

Lot 17.2 Hamilton is located at 17 Karakul Road, Hamilton and has a real property description of Lot 1 on SP337697 (the Site). The Lot 17.2 Hamilton development is located within the Northshore Hamilton PDA.

The Site is bounded by Macarthur Avenue to the north, Barcham Road to the west, Karakul Road to the south and the Lot 17 Hamilton development to the east.

The Site has a total area of 7,980 m^2 and will include:

- a basement providing 262 car park spaces accessed off Barcham Road;
- communal areas at ground level; and
- 166 apartments over two towers (Tower 1 and Tower 2) over 7 levels, comprising:
  - 22 ground floor units; and
  - 24 units on each of Levels 1 to 6.

The location of the site is shown on Figure 1-1.



Figure 1-1 Site Location and Context Plan (Queensland Globe)

The key drawings for the building, as provided by Plus Studio, are contained in Appendix A. The ground floor plan for the development (DA100) is shown on Figure 1-2.

Detailed survey of the Site (LandPartners Drawing BRMM7695-000-244-1) is presented in Appendix B.

The figure has been annotated to show the location of the pad mount transformer.

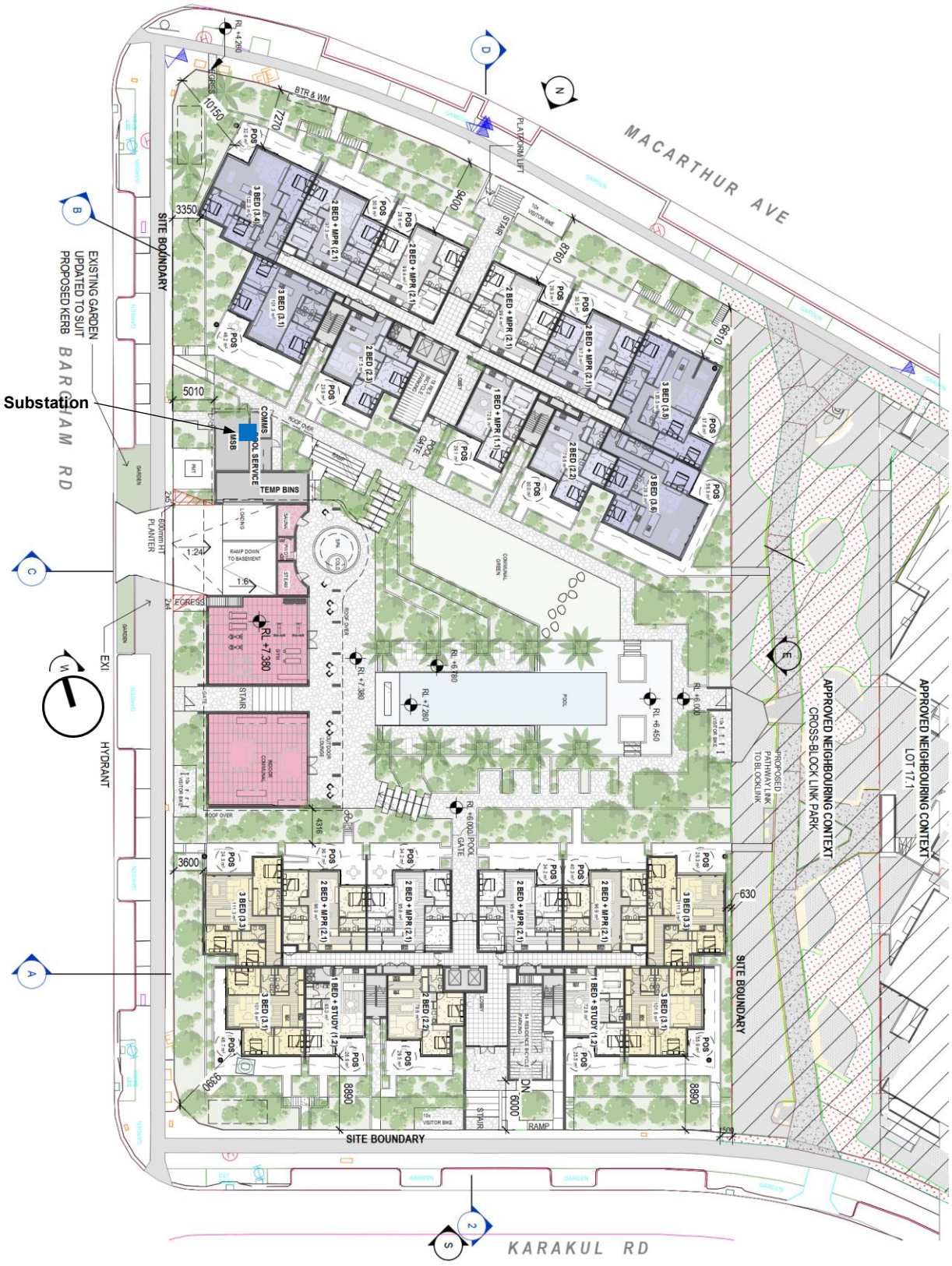


Figure 1-2 Ground Floor Plan

This report considers the various sources of flooding that could affect the Site and the potential impact of the development on flooding.

The site is potentially affected by inundation associated with Brisbane River flooding, local catchment overland flow, local street flow, and storm tide. Section 2 describes the various sources of inundation and the water levels applicable to the site for each source of inundation.

Section 3 details the potential impact of the development on flood levels.

Section 4 details the desirable flood immunity levels for the site with reference to guidance provided by the planning scheme of the local government area in which the PDA lies, namely *City Plan 2014* of Brisbane City Council. This section also details the higher immunity required to achieve immunity with respect to the 1% AEP event including climate change to 2100, which it is understood is the standard being adopted for the current design of Northshore Hamilton.

Section 5 provides an initial consideration of flood risk, noting the expectation that the preparation of a Flood Emergency Management Plan will be a condition of approval for the development.

2 Flooding and Storm Tide- Relevant Levels

2.1 General

This section of the report details the potential sources of flooding that could affect the site and presents the flood levels associated with each type of flooding.

Overall, the Site is potentially affected by flooding from four sources:

- Brisbane River flooding;
- Flooding in the local catchment in which the Site lies;
- Flooding due to local flooding in the street system around the site; and
- Storm tides in Moreton Bay.

To be consistent with current terminology, the severity of a flood is expressed in terms of its Annual Exceedance Probability (AEP). A 1% AEP event has a one percent probability of occurring in one year. This terminology replaces the previous reference to the Average Recurrence Interval (ARI) of an event. A 100-year Average Recurrence Interval event will occur, on average over a long period of time, once every 100 years. A 1% AEP event is equivalent to a 100-year ARI event.

It is noted that the immunity standard applied under the Brisbane City Council *City Plan 2014* planning scheme varies according to the source of flooding and only fully considers climate change with respect to storm tide. In comparison, a higher design standard, namely the 1% AEP event including climate change to 2100, is being adopted within the PDA for the design of internal roads.

The flood levels nominated in this section refer to both the immunity standard applicable under the Council planning scheme and the higher design standard which is currently being applied within the PDA.

2.2 Brisbane River Flooding

The Brisbane River catchment has a total catchment area of about 13,500 km^2 to the Brisbane CBD.

The most recent comprehensive flood modelling of the Brisbane River, known as the Brisbane River Catchment Flood Study (BRCFS) was completed in response to the Queensland Floods Commission of Inquiry held subsequent to the January 2011 Brisbane River flood. The results of the modelling are summarised in the *Technical Summary Report, Comprehensive Hydrologic and Hydraulic Assessments, Brisbane River Catchment Flood Study (Revision 2, February 2017)* (the BRCFS Technical Report).

The flood model developed in support of the BRCFS Technical Report was used by Water Engineering Partners for this investigation under licence from the State Government.

This is consistent with the approach of Brisbane City Council, which has adopted the flood levels derived from the BRCFS study, albeit without climate change.

Section 8.3 of the BRCFS Technical Report detailed four climate change scenarios:

- CC1 – 0.3m sea level rise;
- CC2 – 0.3m sea level rise and 10% increase in rainfall;
- CC3 – 0.8m sea level rise; and
- CC4 – 0.8m sea level rise and 20% increase in rainfall.

The flood levels nominated with respect to climate change in this report reflect the CC4 scenario (equivalent to the RCP8.5 scenario at the time the Technical Report was prepared).

The inundation associated with the Brisbane River 1% AEP event including climate change to 2100 is shown on:

- Figure 2-1 Peak Flood Levels; and
- Figure 2-2: Peak Flood Depths.

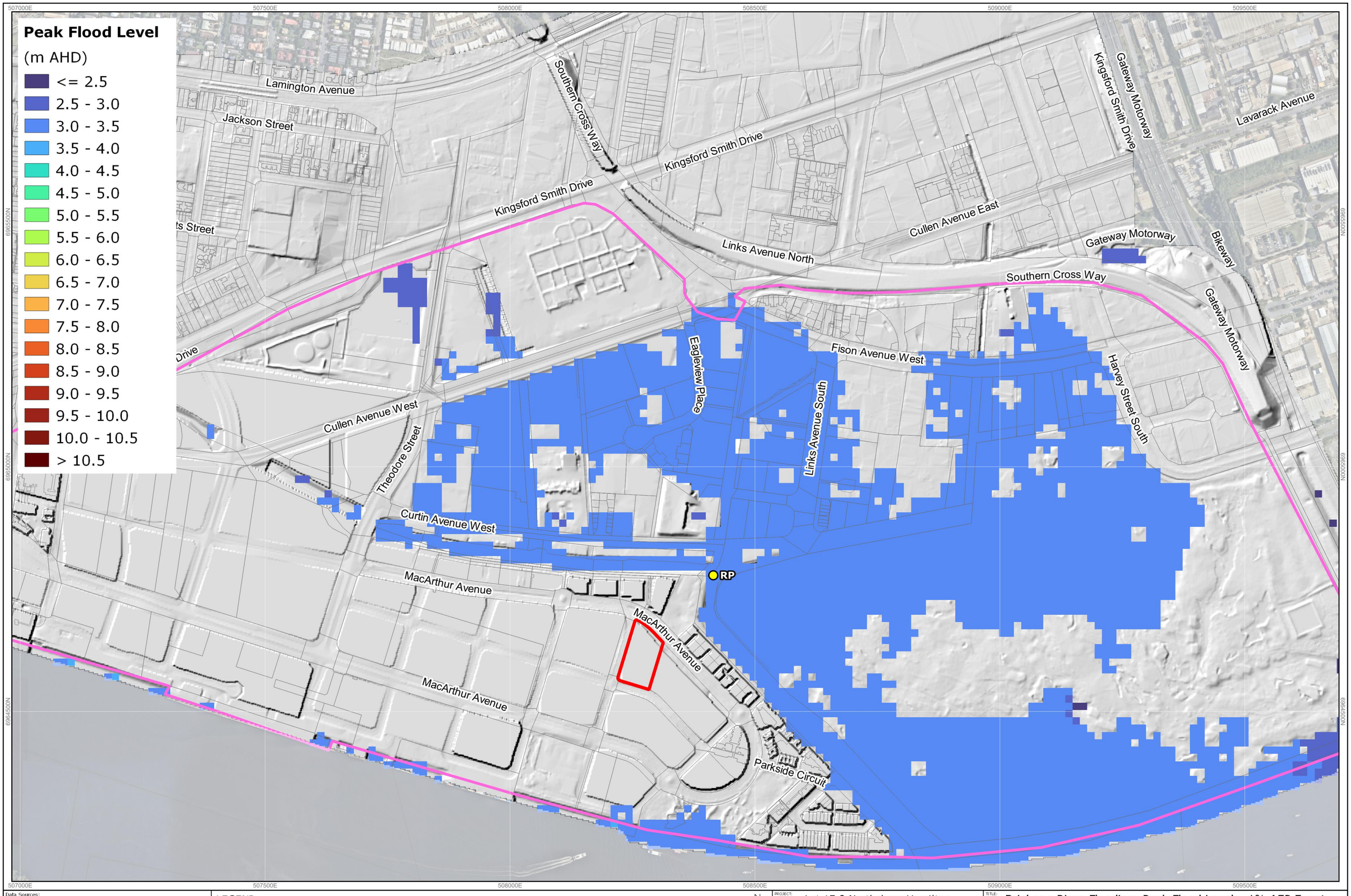
With reference to the figures, ground levels at the Site and in the surrounding area are above the river flood level for the 1% AEP event including climate change.

The flood level in the channel to the north of the Site therefore reflects the flood level at the point the channel joins the Brisbane River.

Table 2-1 presents the peak flood levels at the closest point to the Site, namely in the channel to the north of the Site (at the point denoted as “RP” in the figures). The flood level in the channel to the north of the Site reflects the flood level at the point the channel joins the Brisbane River.

It is noted that Council has recently commissioned updated modelling of the Brisbane River. It is understood that the modelling includes updated rainfall data. It is expected that the results of the modelling will be available next year and that Council will update its flood mapping accordingly.

The potential effect of updated flood levels is discussed in Section 4.2.



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LEGEND
PDA Boundary
Site
Reporting Point
Cadastre

N

PROJECT: Lot 17.2 Northshore Hamilton Flood Assessment

TITLE: Brisbane River Flooding, Peak Flood Levels, 1% AEP Event including Climate Change to 2100

CLIENT: Silverstone Developments

WEP Water Engineering Partners

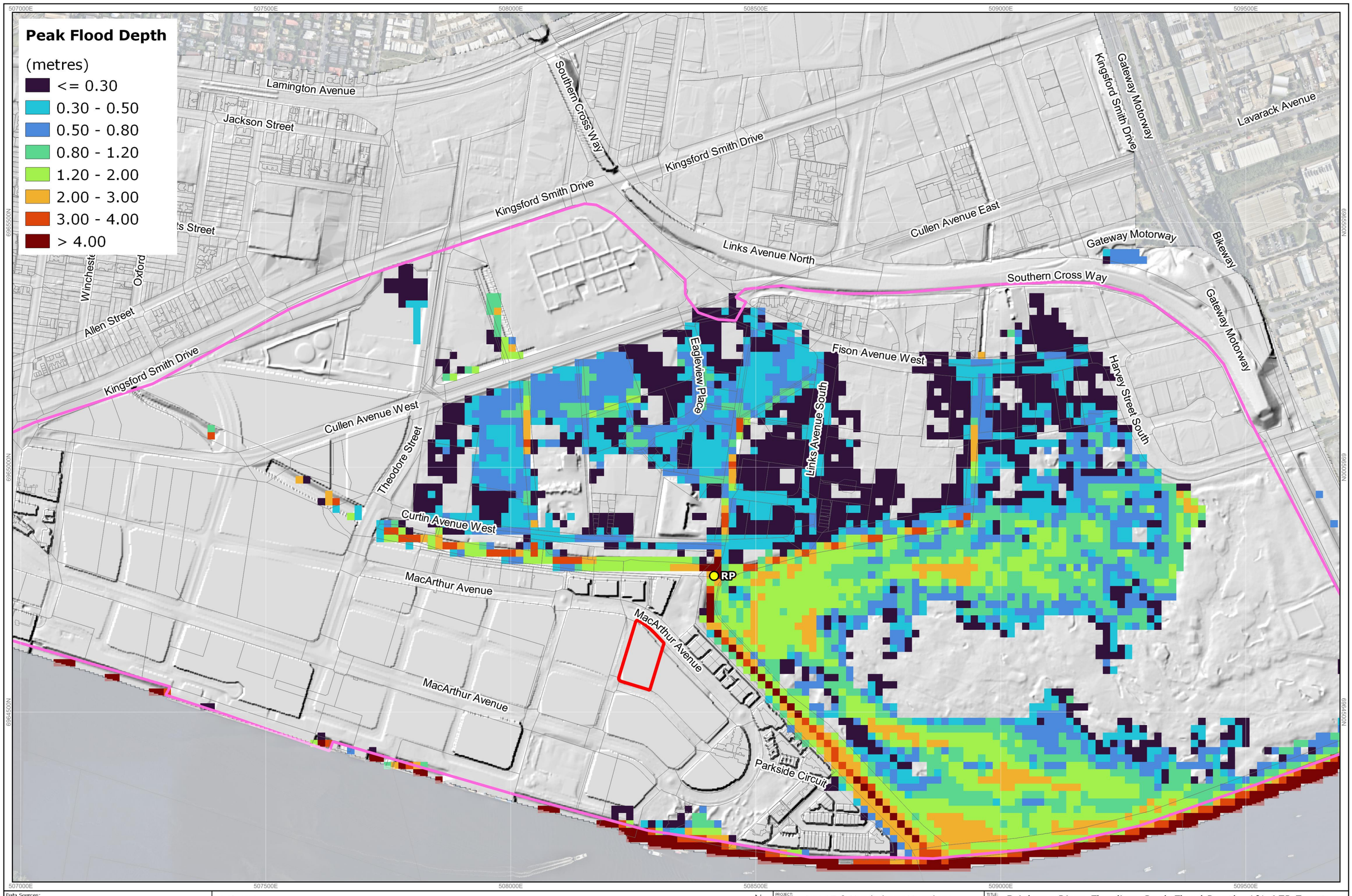
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LEGEND
PDA Boundary
Site
Reporting Point
Cadastre

N

PROJECT: Lot 17.2 Northshore Hamilton Flood Assessment

CLIENT: Silverstone Developments

TITLE: Brisbane River Flooding, Peak Flood Depth, 1% AEP Event including Climate Change to 2100

WEP Water Engineering Partners

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2.3 Local Catchment Flooding

According to the BMT report *External Catchment Drainage Master Plan – Northshore Hamilton* (Revision 1, September 2017) (the Drainage Master Plan), the PDA is located within a local catchment with a total area of approximately 500 hectares (including the PDA).

Figure 2-3 shows the external local catchment areas (in yellow) relative to the PDA based on mapping prepared by consultants BMT. The figure also shows the open channel that drains runoff from the PDA to the Brisbane River.

Runoff from the external catchments (referred to as Oxford Street, Theodore Street and Cullen Avenue East in the BMT report) drain through the PDA to the Brisbane River via existing excavated open channels (shown in blue on Figure 2-3).

The total external catchment area to the PDA is 196 hectares, comprising:

- Oxford Street: 93.4 hectares;
- Theodore Street: 21.8 hectares; and
- Cullen Avenue East: 80.8 hectares.

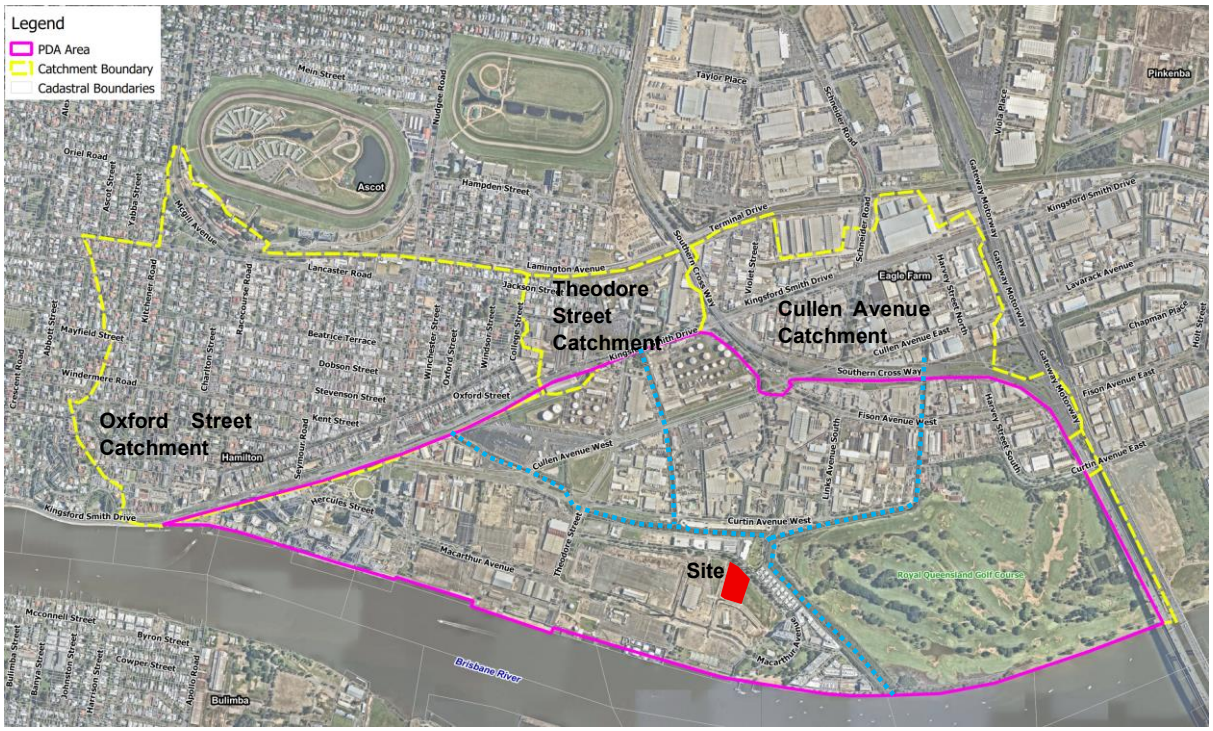


Figure 2-3 Extent of Local Catchment

The model developed in support of the Drainage Master Plan is documented in Appendix B of the *BMT Hamilton Northshore Trunk Drainage Assessment* (Revision 3, September 2019).

Consultants BMT has completed flood modelling in support of the road design for the PDA (including the Olympic Village), based on the model developed for the Drainage Master Plan. It is noted that planning is progressing with respect to the first stages of the development.

As the developed case modelled by BMT represents the latest modelling of the local catchment (noting it remains to be finalised) and reflects the likely development within the PDA, it was considered appropriate to adopt the developed case model for the purposes of flood level derivation for the local catchment.

BMT provided model outputs for use in the study in 2024. Consequently, the flood levels presented in this report are based and rely on the flood model developed by BMT. It is understood that flood modelling results in the vicinity of the Site have not changed significantly since the time of provision of the information.

The inundation associated with the local catchment 1% AEP event including climate change to 2100 is shown on:

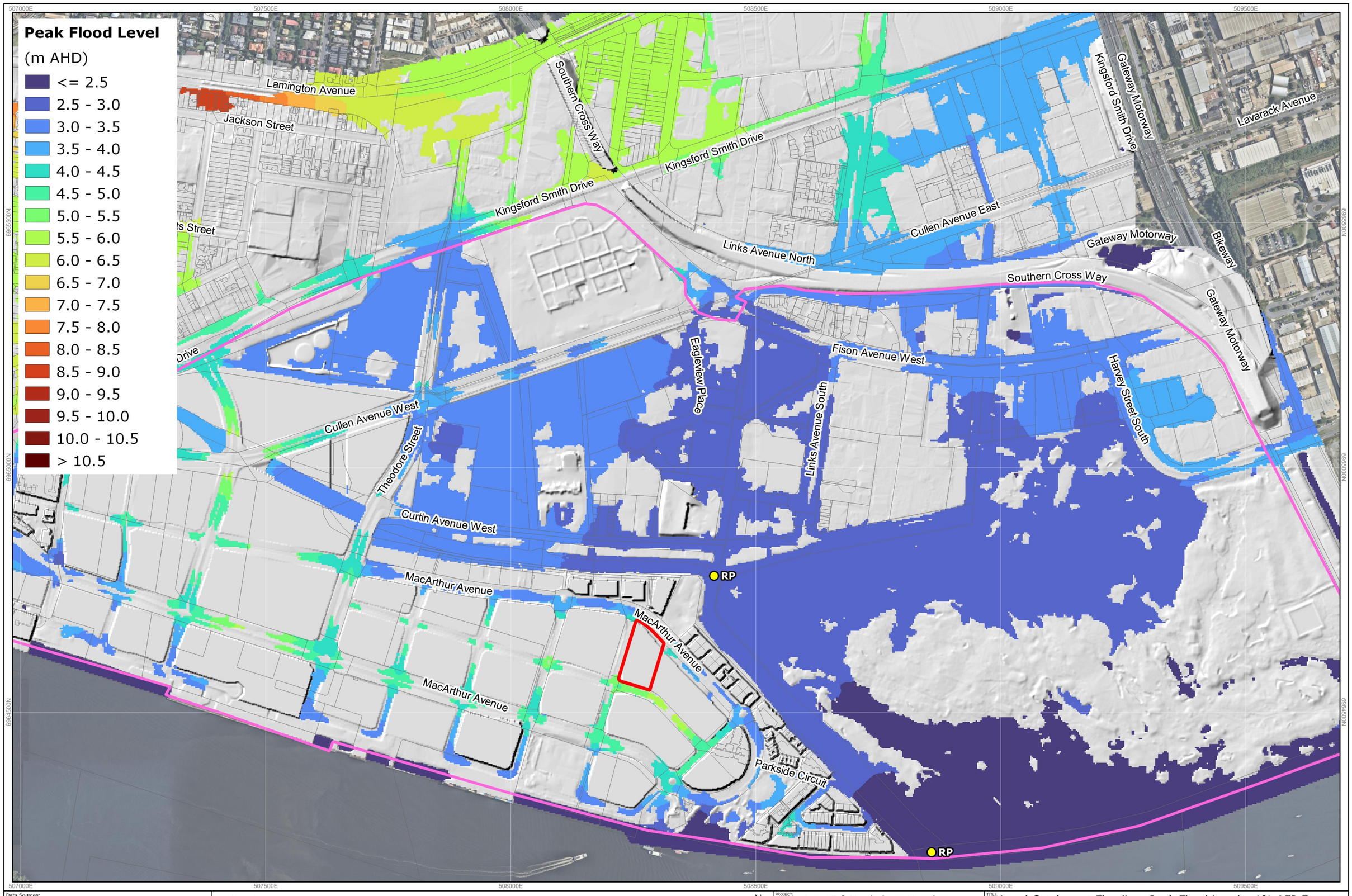
- Figure 2-4: Peak Flood Levels; and
- Figure 2-5: Peak Flood Depths.

With reference to the figures, it is important to note that the modelling includes the calculation of runoff from points within the PDA to the main channel that drains runoff to the Brisbane River. Based on the flood levels presented on Figure 2-4, the inundation of the local road network shown on the figures reflects runoff drained via the road network to the main channel.

Given the shallow nature of the runoff, the flood level in the road network adjacent to the Site is governed by the level of the road rather than the level in the channel.

Consequently, it is considered that in this case, the local catchment flood level of relevance to the determination of development levels is the level in the main channel adjacent to the Site.

Table 2-1 lists the peak flood levels in the main channel to the north of the Site (at the point denoted as “RP” in the figures).



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LEGEND
PDA Boundary
Site
Reporting Point
Cadastre

N

PROJECT: Lot 17.2 Northshore Hamilton Flood Assessment

TITLE: Local Catchment Flooding, Peak Flood Levels, 1% AEP Event including Climate Change to 2100

CLIENT: Silverstone Developments

WEP Water Engineering Partners

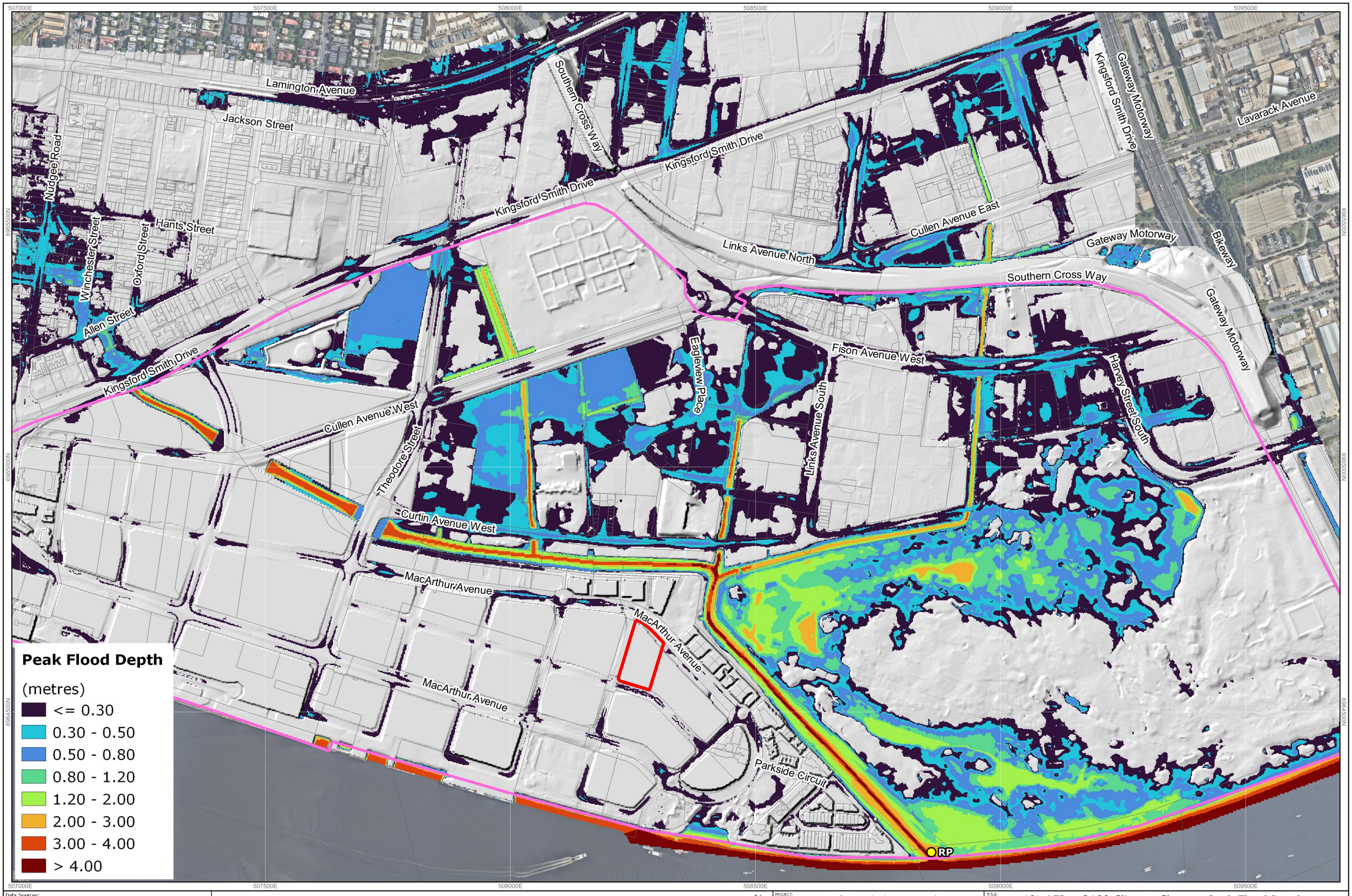
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LEGEND
PDA Boundary
Site
Reporting Point
Cadastre

N

PROJECT: Lot 17.2 Northshore Hamilton Flood Assessment

TITLE: 1% AEP + 2100 Climate Change, Peak Flood Depths Local Catchment

CLIENT: Silverstone Developments

WEP Water Engineering Partners

SCALE: 0 100 200 m

FIGURE NUMBER: 2-5

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DATE: 01-December-2025

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2.4 Local Flooding- Street System

As noted in Section 2.3, the local catchment flood modelling completed by BMT included modelling of runoff in the local street system in the vicinity of the Site.

With reference to Figure 2-5, the calculated depths of flooding in the vicinity of the Site are less than 300 mm. Such depths are consistent with standard road design completed in accordance with guidelines such as the *Queensland Urban Drainage Manual* (2017).

Noting that the local catchment modelling considered a considerable area, the level of detail with respect to catchments draining to each part of the road system was necessarily limited. Consequently, recourse was made to design drawings prepared when the roads surrounding the Site were constructed to confirm that the stormwater drainage design for the roads was consistent with standard design practice and that therefore the depth of flooding in the road system is limited.

Consultants SMEC completed the design of Barcham Road which forms the western boundary of the Site and Karakul Road which forms the southern boundary of the Site. Figure 2-6 shows the internal catchment boundaries defined in the vicinity of the Site, including the subcatchments draining to Macarthur Avenue to the north and Karakul Road in the south. The figure has been annotated to show the approximate boundary of the Site and the location of the driveway to the basement off Barcham Road.

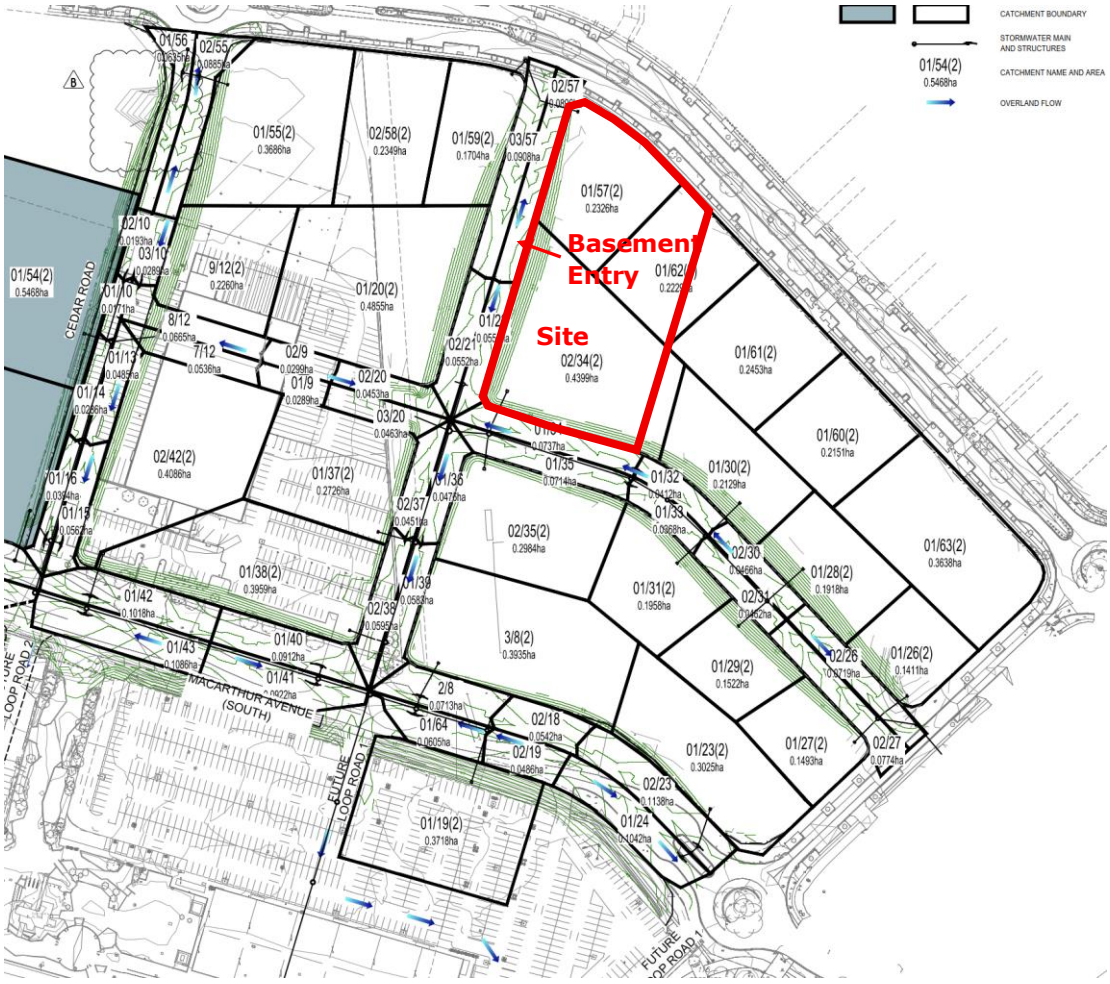


Figure 2-6 Local Subcatchments (SMEC Drawing 2521E-01-321 Rev B)

Figure 2-7 presents an excerpt from SMEC Drawing 2521E-02-301 Rev D which shows the stormwater drainage design for Karakul Road (noting the only stormwater drainage in Barcham Road along the Site frontage is located near the intersection with Macarthur Avenue and near the intersection with Karakul Road. The figure has been annotated to show the location of the Site.

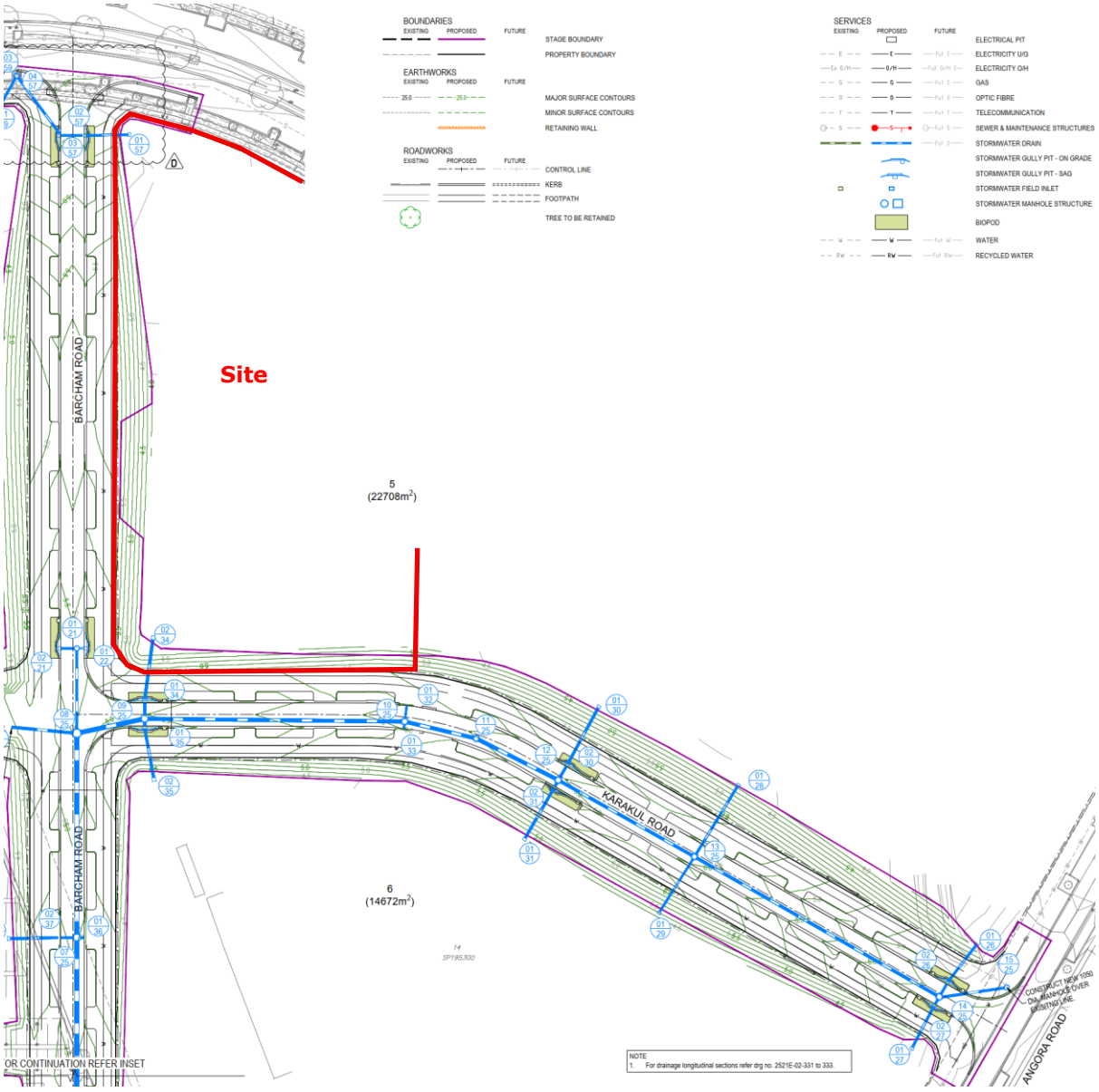


Figure 2-7 Karakul Road Works (SMEC Drawing 2521E-02-301 Rev D)

With regard to Figure 2-6, the driveway providing access to Karakul Road is located essentially at a high point (crest) in the road. Consequently, the depth of flow at the driveway will be negligible. Similarly, the catchment area contributing runoff to Karakul Road will be relatively small.

Based on a review of the design drawings for Karakul Road, it is noted that the road design was based on the 1% AEP event without climate change.

The stormwater drainage calculation sheets for the design of Karakul Road indicate a maximum flow depth in the vicinity of the Site of less than 100 mm for the 1% AEP event (SMEC Drawing 2521E-010343 Rev A).

Based on a review of the road design, it is considered that the increased flow associated with a typical current climate change scenario (i.e., adding 20% to design rainfall intensities) would result in levels less than 300 mm and generally be consistent with the results obtained from the local catchment modelling undertaken by BMT. Such levels are not considered to be problematic with respect to the Site.

Further, the level of Macarthur Avenue is over a metre lower than the level of Karakul Road. As development levels have been set relative to the higher levels in Karakul Road and the BMT modelling of Macarthur Avenue indicates peak local flood depths less than 300 mm, it is also considered that the drainage of flow in Macarthur Avenue is not problematic with respect to the Site.

As the peak flood levels associated with local street system are governed by and vary according to the longitudinal grading of the road system, the flood levels associated with street runoff are not presented in Table 2-1.

Further, the freeboard requirements associated with street drainage differ from those associated with local catchment or river flow and are typically based on the recommendations of the *Queensland Urban Drainage Manual (*QUDM, 2017).

Section 4 includes the consideration of the immunity of the development with respect to street drainage.

2.5 Storm Tide

A storm surge is the increased water level that results from reduced atmospheric pressure and/or high velocity winds associated with tropical cyclones or intense low-pressure systems in Moreton Bay.

Where storm surge coincides with (high) astronomical tide, the associated increased water level constitutes a storm tide. The resultant storm tide can propagate from Moreton Bay upstream along the Brisbane River to the PDA.

The storm tide levels nominated by Brisbane City Council with respect to current day conditions (https://www.data.brisbane.qld.gov.au/data/dataset/flood_awareness_storm_tide) are listed in Table 2-1.

Table 8.2.6.3.C of the *Coastal Hazard Overlay Code* of *City Plan 2014* nominates a level of 3.1 mAHD for the 1% AEP storm tide event including climate change to 2100. It is understood that the climate change allowance is in accordance with the RCP8.5 pathway current at the time that the planning scheme was prepared.

To allow comparison to present day storm tide estimates, this value is also listed in Table 2-1.

The peak flood levels associated with the 1% AEP storm tide event including climate change to 2100 are shown on Table 2-1. A figure presenting water levels was not prepared due to the storm tide level being constant across the PDA.

With reference to the table, existing ground levels across the Site are above the water level associated with the 1% AEP storm tide event including climate change to 2100.

2.6 Summary

Table 2-1 presents a summary of the water levels associated with Brisbane River flooding, local catchment flooding and storm tide inundation.

For comparative purposes, the table also lists the historic flood levels in the Brisbane River for the January 2011 and February 2022 events (at the mouth of the channel that drains the PDA).

Table 2-1 Summary of Flood and Inundation Levels

Event	Flood Level for Source of Flooding (mAHD)		
	Brisbane River Flooding	Local Catchment Flooding	Storm Tide
2% AEP	2.0	2.4	2.2
January 2011	2.0		
February 2022	2.2		
1% AEP	2.2	2.5	2.5
1% AEP with climate change to 2100	3.1	2.8	3.1

Note: For river and local catchment flooding, nominated flood levels refer to conditions in the main channel that drains the PDA at a point close to the Site.

3 Potential Impact of Development

The potential impact of development on flooding and storm tide inundation was assessed as follows:

- **Brisbane River**

  Existing ground levels across the Site are higher than the flood level associated the 1% AEP Brisbane River flood event including climate change to 2100. Consequently, the development will not impact on flood levels in the Brisbane River for events up to this magnitude.

- **Local Catchment.**

  Existing ground levels across the Site are higher than the flood level associated with the 1% AEP local catchment flood event including climate change to 2100. Consequently, the development will not impact flood levels in the main channel draining the local catchment for local events up to this magnitude.

- **Local Street Runoff**

  It is considered that the design of the road system effectively contains street runoff to the road reserve. As a consequence, it is considered that development of the Site (in terms of Site earthworks and building footprint) will not adversely impact on local street runoff.

- **Storm Tide**

  Filling of land does not affect the level reached by storm tide as the storm tide level is governed by conditions in Moreton Bay and it is typically assumed that flow propagates inland to match the storm tide level in the Bay.

  In any case, existing ground levels across the Site are above the water level associated with the 1% AEP storm tide.

Given the above, it is considered that the development will not adversely impact flood or inundation levels to the 1% AEP event standard including climate change to 2100.

4 Development Levels

4.1 Minimum Development Levels

4.1.1 City Plan 2014

For comparative purposes, desirable development levels according to the Brisbane City Council *City Plan 2014* planning scheme were determined as follows:

- Flooding (Brisbane River and Overland Flow)
  - Flood planning categories: Table 8.2.11.3.D, Table 9.4.9.3.C
  - Categories of flood planning levels: Table 8.2.11.3.L, Table 9.4.9.3.B
- Coastal Hazard (Storm Tide)
  - Flood planning level categories: Table 8.2.6.3.D
  - Categories of flood planning levels: Table 8.2.6.3.C

The immunity standard applied for flooding and storm tide under *City Plan 2014* varies according to the source of inundation being considered:

- Brisbane River: 1% AEP event without climate change;
- Local Catchment: 2% AEP event without climate change; and
- Storm Tide: 1% AEP event including climate change to 2100.

Based on the categories and flood level information presented in the tables nominated above and the flood level information presented in *City Plan 2014*, the minimum development levels applicable to the Site are listed in Table 4-1 based on the levels nominated in Table 2-1. The governing level in each case is shaded.

Table 4-1 Minimum Development Levels – Brisbane City Council Planning Scheme

Area	Category	Brisbane River[1]		Local Catchment		Coastal/ Storm Tide	
		Standard	Level (mAHD)	Standard	Level (mAHD)	Standard	Level (mAHD)
Habitable room	A	RFL+500mm	2.6	2%AEP+500mm	2.9	3.1+0.5	3.6
Non-habitable room/lobby	B	RFL+300mm	2.4	2%AEP+300mm	2.7	3.1+0.3	3.4
Essential electrical services	A	RFL+500mm	2.6	2%AEP+500mm	2.9	3.1+0.5	3.6
Basement entry	C+300	DFL+300mm	2.4	2%AEP+300mm	2.7	3.1+0.3	3.4

Notes: 1. Development levels nominated based on 1% AEP (100-year ARI) flood level from new Brisbane River Catchment Flood Study as the RFL (Residential Flood Level), and also conservatively used for the DFL (Defined Flood Level) value.

4.1.2 PDA Road Design Standard

Development levels for the current design of the PDA road system are set relative to a higher immunity standard than the standard adopted for the Brisbane City Council planning scheme (i.e., the 1% AEP event including climate change to 2100 regardless of the source of inundation).

Table 4-2 lists the minimum development levels applicable to the Site for the higher standard. For the purposes of the table, the freeboard requirements nominated by Brisbane Council were adopted. The governing level in each case is shaded.

Table 4-2 Minimum Development Levels – PDA Road Design Standard

Area	Category	Brisbane River[1]		Local Catchment		Coastal/ Storm Tide	
		Freeboard	Level (mAHD)	Freeboard	Level (mAHD)	Freeboard	Level (mAHD)
Habitable room	A	500mm	3.6	500mm	3.3	500mm	3.6
Non-habitable room/lobby	B	300mm	3.4	300mm	3.1	300mm	3.4
Essential electrical services	A	500mm	3.6	500mm	3.3	500mm	3.6
Basement entry	C+300	300mm	3.4	300mm	3.1	300mm	3.4

4.2 Comparison to Proposed Development Levels

The Plus Studio plans for the Site (refer Appendix A) nominate the following key levels:

- Basement: 2.8 mAHD;
- Ground Level: 6.1 mAHD; and
- Level 1: 9.5 mAHD.

Based on these levels, the compliance of the development to the nominated minimum development levels is summarised below.

- **Basements**

  There is no immunity requirement for the actual level of the basement. However, it will be necessary to ensure that the minimum level at each point of entry to the basement meets the requirements nominated in Table 2-1 and in Table 4-1. In this case (refer to discussion of essential electrical services below) it is desirable to adopt a minimum access level of 3.6 mAHD.

  Figure 4-1 presents an excerpt from the basement plan for the development (Plus Studio Drawing DA099).

  According to the Site survey (refer Appendix B), the existing level at the driveway entrance off Barcham Road is about 5.8-6.0 mAHD, which is well above the requisite minimum level (i.e., 3.6 mAHD).

  Similarly, stairwell and lift access points to the main ground level will have a minimum level of 6.1 mAHD. Again, this level is well above the requisite minimum level.

  Finally, it is noted that as part of detailed design it will be necessary to ensure that any vents to the basement satisfy the basement entry immunity requirement. However, based on Site survey (Appendix B), existing ground levels around the perimeter of the Site are typically in excess of 4 mAHD. As this level is above the minimum requirement, it is expected that any venting for the basement will satisfy immunity requirements.

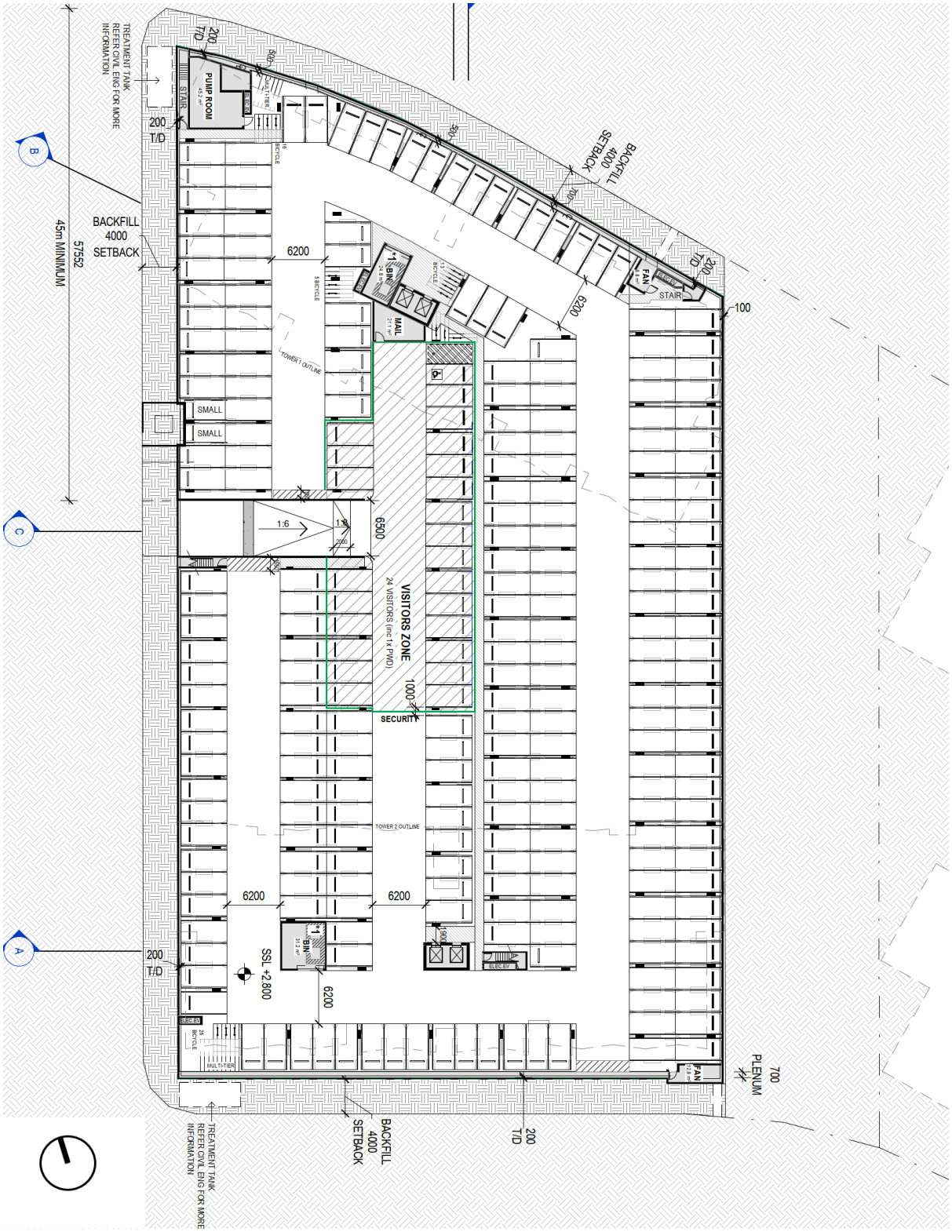


Figure 4-1 Basement Level Plan

- **Habitable Rooms**

  The lowest habitable rooms are on the Ground level (6.1 mAHD). This level is over 2 metres higher than the minimum requirement. It is noted that the Communal Amenities area is also at this level and therefore well above the required minimum development level.

- **Non-Habitable Rooms**

  The lowest non-habitable rooms are on the Ground level (6.1 mAHD). Similar to the case for habitable rooms, the level is over 2 metres higher than the minimum requirement.

As noted in Section 2.2, Brisbane City Council is in the process of revising the Brisbane River flood model. Although it is recommended that the levels determined by the new modelling are reviewed at the commencement of detailed design, it is noted that as a significant buffer (over 2 metres) exists between the current flood level and the proposed ground floor level it is unlikely that the development levels associated with the development would require adjustment.

- **Essential Electrical Services**

  According to Note 2 of Table 8.2.11.3.D of *City Plan 2014*, essential electrical services include *'any area or room used for fire control panel, telephone PABX, sensitive substation equipment including transformers, low voltage switch gear, high voltage switch gear, battery chargers, protection control and communication equipment, low voltage cables, high voltage cables, and lift or pump controls'*.

  - *Basement Pump Room*

    A pump room is located in the basement (refer Figure 4-1) which is considered to be an essential service. It is therefore necessary for all points of entry to the basement to be at a level of 3.6 mAHD or higher.

    Based on the above discussion with regard to the basement, all points of entry will be set at a level well above 3.6 mAHD. Therefore, it will be possible to accommodate essential electrical services in the services area of the basement as required.

    However, other than the pump room, to optimise the flood resilience of the building all other essential electrical services are located at the ground floor level.

  - *Main Communications, switchboard and fire pumps*

    The Carr Architects Drawing TP1-1002 Rev 14 identifies the main communications/NBN, main switchboard and fire pump room as being located on ground level (i.e., 6.0 mAHD).

    As this level is well above the minimum required immunity level (i.e., 3.6 mAHD), the ground level services will have a level of flood immunity well in excess of that nominally required.

  - *Substation*

    A substation will be located adjacent to Barcham Road near the proposed driveway entrance (refer Figure 1-2). Based on Site survey (refer Appendix B), the existing ground level at this location is about 5.8-6.0 mAHD.

    Although this level is well above the minimum required immunity level (3.6 mAHD), if possible, it is recommended that the level of the substation be set to the ground floor level as part of detailed design (to the ground floor level) in order to optimise the flood resilience of the building.

    While it is acknowledged that an extreme flood event would be required to inundate the substation, the ability to occupy the building following an extreme event would be delayed until the substation can be replaced or an alternate power source provided. It is conceivable that a flood event could impact the substation while not reaching a high enough level to inundate the ground floor or basement and it would not be possible to occupy the building due to the inundation of the substation despite the building not being damaged.

5 Flood Risk Management

5.1 Flood Risk- Rare and Extreme Events

Based on the immunity of the road system fronting the site with respect to river and local catchment flooding and storm tide inundation, it is considered that the immunity of the access to and from the Site via the surrounding road network is acceptable with respect to normal design standards.

While there can be a depth of flow associated with street drainage, this is a standard outcome for road design in greenfield sites under QUDM.

However, extreme flood events (i.e., events in excess of the design standard) could result in the inundation of the surrounding road network and the Site. The potential for this to occur is discussed below.

- ***Brisbane River***

  The peak flood levels at the site associated with Brisbane River flooding are listed in Table 5-1 for a range of rare to extreme events. For each event, the AEP and its corresponding ARI are nominated. It is noted that the 100,000 AEP event can be considered as being equivalent to the largest flood that could conceivably occur in the Brisbane River (the Probable Maximum Flood, or PMF).

  Peak flood levels associated with flooding in the Brisbane River were extracted from the results of the *Brisbane River Catchment Flood Study,* (refer Section 2.2).

Table 5-1 Peak Flood Levels, Rare and Extreme Events in Brisbane River

Event	Level (mAHD)
1% AEP (100-year ARI)	2.2
0.5% AEP (200-year ARI)	2.5
0.2% AEP (500-year ARI)	2.9
1% AEP with climate change (100-year ARI)	3.1
0.05% AEP (2,000-year ARI)	3.8
0.01% AEP (10,000-year ARI)	6.1
0.001% AEP (100,000-year ARI), PMF	9.4

With reference to Table 5-1, the adopted basement entry and ground floor levels will provide a very high level of immunity (slightly less than the 0.01% AEP or 10,000-year ARI event) for the basement and ground level. However, Level 1 (set at 9.5 mAHD) and all higher levels would be above the level of the PMF in the Brisbane River and therefore immune to inundation.

Although the Site has a high level of immunity, extreme flood events could result in the isolation of the Site for a considerable period due to the inundation of the road network that gives access to the Site.

Figure 5-1 presents the variation in flood level over time in the Brisbane River at the Site for the following events:

- 0.05% AEP (2,000-year) event; and
- 0.001% AEP (100,000-year or PMF) event.

In the case of the 0.05% AEP event, as the water level in the river is not sufficiently high to inundate the Site, the level in the river at a point close to the mouth of the channel that drains the local catchment was selected.

The figure also shows the adopted Ground Floor level (6.1 mAHD) and the minimum road design level within the PDA (3.1 mAHD).

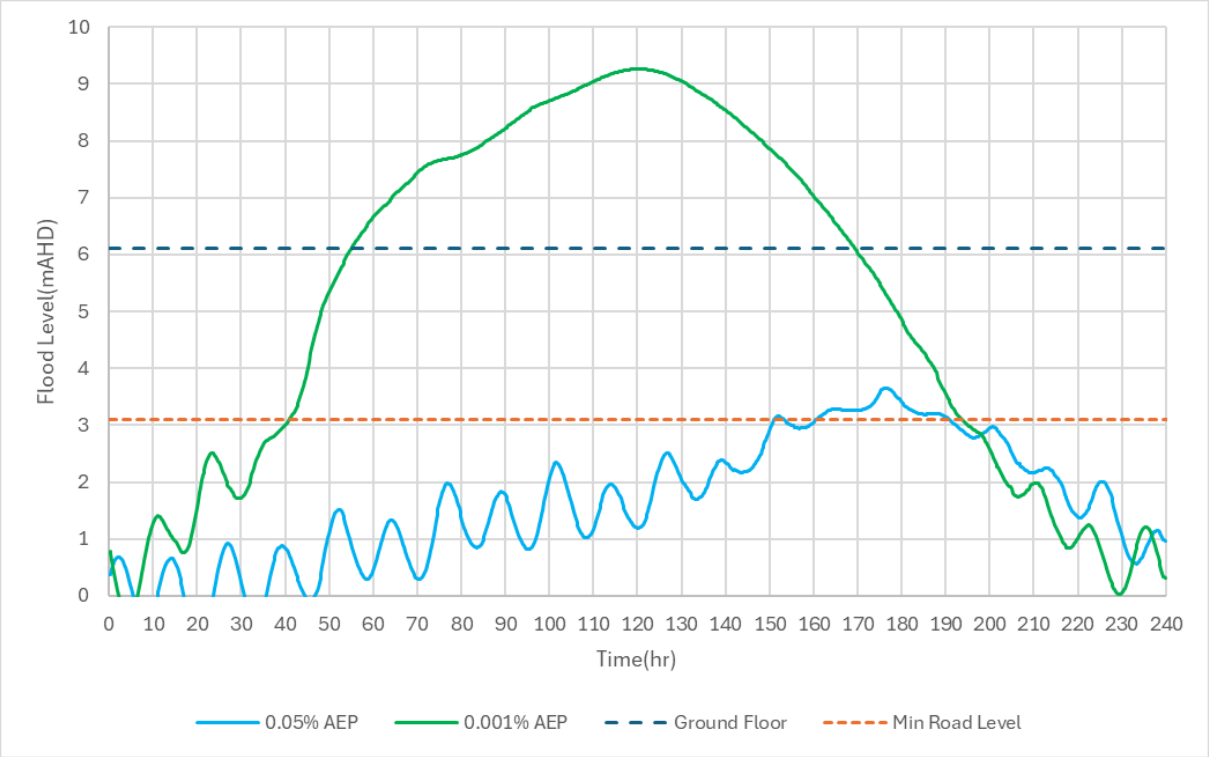


Figure 5-1 Variation in Flood Level over Time, Brisbane River

With reference to the figure, the period of isolation will increase with the increasing severity of the event being considered.

For the 0.05% AEP (2,000-year ARI) event, the road network around the Site would be inundated for a period of about 30 hours.

For the PMF event:

- the road network around the Site would be inundated for a period of about 153 hours; and
- the Ground Floor would be inundated for a period of about 117 hours.

It is considered that the above periods of isolation are such that it would be desirable to evacuate the Site prior to its isolation even though it would be possible to shelter above flood level.

According to the Bureau of Meteorology *Flood Warning System for the Brisbane River below Wivenhoe Dam to Brisbane City (http://www.bom.gov.au/qld/flood/brochures/brisbane_lower/brisbane_lower.shtml), 'Average catchment rainfalls in excess of 200-300mm in 48 hours, may result in stream rises and the possibility of moderate to major flooding and local traffic disabilities throughout the Brisbane River catchment.'* Given the period over which rainfall is required in order to cause flooding in the Brisbane River, it is considered that ample time is available to evacuate in advance of flooding.

Further, major flooding in the Brisbane River is accompanied by significant warnings from the State Government. These warnings can be used to trigger evacuation of the Site.

If a shelter in place strategy were to be contemplated as part of further design, it would be necessary to ensure that sufficient provisions could be provided for the period of isolation, together with sufficient infrastructure (sewer and power, including any requirements for fire-fighting). Further, even then it would be desirable for people with medical conditions to be allowed to evacuate prior to the site being isolated.

- ***Local Catchment***

  For the local catchment, modelling of rare and extreme events was undertaken by consultants BMT in April 2024. The results of this modelling were supplied to Water Engineering Partners. However, similar to the outcome for the 1% AEP event, the flood levels in the Macarthur Avenue and Karakul Road reflect relatively shallow depths of flooding in the street system from runoff draining to the main channel rather than the flood level in the main channel.

  As a consequence of the relatively shallow flow in the road system, the variation in flood level as the severity of flooding increases is minimal. For example, for the PMF event, the maximum calculated flood level in Karakul Street is 5.9 mAHD.

  The calculated flood level is dependent on the underlying road surface and therefore the representation of the road surface in the flood model and the discretisation of the catchments within the PDA. There could consequently be a small variation in this level if more detailed modelling was undertaken. However, the modelling is sufficient to indicate that the ground floor (6.1 mAHD) will be either immune or only slightly affected by the PMF local catchment event.

  The basement entry level is also expected to be above the local catchment flood level obtained from the model.

  Given this, it is considered that the Site (other than the substation on Macarthur Avenue) will either not be inundated or only inundated to a minor extent during extreme events in the local catchment.

  Further, given the relatively small size of the local catchment, it is considered that any inundation would be for a limited period.

  The relatively small size of the local catchment will also result in the warning time associated with inundation to be short (of the order of 30 minutes). Such a period is not sufficient to provide for evacuation. However, due to the limited inundation of the Site, it will be possible to shelter on Site while local catchment flood events are in progress.

In summary:

- ***Brisbane River***
  - Very rare events in the Brisbane River have the potential to isolate the site, with extreme events causing inundation of the Ground Floor of the Site;
  - Level 2 and above of the development will be above the highest possible flood level in the Brisbane River;

- The period of isolation of the Site is significant in the event of major Brisbane River flooding; and
- There is ample time available to evacuate prior to flooding of the road network or Site commencing.

- ***Local Catchment***
  - Extreme events in the local catchment are unlikely to cause significant inundation of the Site;
  - The period of isolation of the Site will be relatively short in the event of local catchment flooding;
  - There is insufficient time available to evacuate prior to local catchment flooding commencing; and
  - In general, people can remain on Site during local catchment flood events.

5.2 Flood Risk Management

Recognising the potential for extreme flood events to affect the broader PDA, EDQ commissioned the report *Northshore Hamilton – High Level Flood Risk and Flood Emergency Response Assessment* (Version 2, 23 May 2024) (the **High Level Assessment**).

Noting the limited warning time associated with local catchment flooding and the significant warning time available with respect to Brisbane River flooding, the assessment proposes a strategy consisting of initially sheltering in place during severe weather events (which caters for local catchment flooding) and evacuation if a Brisbane River flood event is imminent).

The rationale for this can be summarised as follows:

- Insufficient time will be available to evacuate the Site in advance of an extreme local catchment event;
- Sufficient time will be available to move to higher parts of the Site should an extreme local catchment event occur;
- Extreme events in the local catchment will only result in the inundation of lower parts of buildings for a limited period of time; and
- Ample time is available for evacuation should an extreme event be forecast for the Brisbane River.

As a consequence, the proposed strategy for the PDA as a whole is:

- **Initial Response:** Shelter-in-place following issue of a severe weather warning of major flood alert from the Bureau of Meteorology.
- **Secondary Response:** Evacuation of the Site if flood levels in the Brisbane River reach 2.6 mAHD along the Site's southern boundary.

It is considered that this strategy is consistent with and responds to the nature and severity of local catchment and Brisbane River flooding.

The off-site evacuation route proposed in the High Level Assessment (Figure 4.1 of the High Level Assessment) is presented in Figure 5-2. The figure has been annotated to show the location of the Site.



Figure 5-2 Identified Off-Site Evacuation Route

With respect to Figure 5-2, the nominated route can be readily accessed via Karakul Road.

The High Level Assessment proposes the creation of site Flood Emergency Management Plans for each Site.

As noted in Section 4.2 of the High Level Assessment, the plan would include the following elements:

- Nomination of appropriate people to implement the plan (Flood Wardens);
- Appropriate warning systems (including notifications from the Bureau of Meteorology);
- Triggers associated with flood events;
- Measures to be implemented during flood events;
- Communications protocols;
- Emergency Power;
- Training of Flood Wardens; and
- Documentation and revision requirements.

It is noted that the High Level Assessment refers to the use of water level sensors local to each Site to warn of local catchment flooding and possibly a sensor for the PDA as a whole to advise of river flooding.

In this case, the inundation of Karakul Road in local catchment flooding is associated with the drainage of local site runoff to the main channel that drains the local catchment and not flooding in the main channel itself. It is typical for roads to convey such runoff (in excess of the capacity of the underground drainage system). Given that the duration of such flow would be of the order of minutes, it is not considered appropriate to install a sensor for this Site.

If a gauge is installed in the Brisbane River by EDQ, then the data from the gauge could be monitored. If a gauge is not present, then it is expected that recourse can be made to other gauges on the Brisbane River (with the closest gauge to the Site being the gauge at the mouth of Breakfast Creek). In this regard, as most forecasts issued by the Bureau of Meteorology relate to the City Gauge in the CBD, it is expected that a relationship can be developed between the level at the gauge and the corresponding level at the Site to allow evacuation triggers to be set based on forecast or actual levels at the gauge.

While the risk of flooding of the Site is low, to be consistent with the recommendations of the High Level Assessment it is proposed that the approval of the development be conditioned to require the preparation of a Flood Emergency Management Plan for the Site.

6 Conclusion

Lot 17.2 Hamilton is located at 17 Karakul Road, Hamilton.

A review of the potential for the Site to be inundated and the requisite minimum development levels has indicated that the proposed development will have a level of immunity well in excess of that nominally required to satisfy both the requirements of the LGA planning scheme and the higher immunity currently being adopted by EDQ with regard to the design of the road system within the PDA.

Despite this, to account for the isolation and potential inundation of the Site during extreme flood events, it is recommended that any approval for the Site be conditioned to require the preparation of a Flood Emergency Management Plan.

Appendix A Development Plans

DEVELOPMENT SUMMARY

PLUS STUDIO

AREA SUMMARY	
SITE AREA	7980
GFA ABOVE GROUND	17643
PLOT RATIO	2.21

TOTAL NSA	16049
TOTAL APARTMENTS	166

TOTAL INDOOR AMENITIES	381
TOTAL OUTDOOR AMENITIES	2182

TOTAL CARSPACES	262
TOTAL BIKE SPACES	172

		AREA PER LEVEL			TOWER 1			TOWER 2			TOTAL APARTMENTS				RECREATION & AMENITIES		CIRCULATION	SERVICE / PLANT / STORE	CARPARKING		BICYCLE	
LEVEL	TYPE	Gross Floor Area (GFA)	Net Sellable Area (NSA)	PRIVATE OPEN SPACE (POS)	1B	2B	3B	1B	2B	3B	1B	2B	3B	TOTAL	Area Internal	Area External			Area	No. of Spaces	Area	No. of Spaces
		sqm	sqm	sqm	no.	no.	no.	no.	no.	no.	no.	no.	no.		sqm	sqm	sqm	sqm	sqm	qty	sqm	qty
Basement 01	CAR PARKING	-	-															266	66569	262		60
Ground Level	RESIDENTIAL / COMMUNUAL	2717	2171	716	1	6	4	1	6	4	2	12	8	22	313	2094	233	241			101.2	112
Level 01	RESIDENTIAL	2464	2313	517	2	4	6	2	4	6	4	8	12	24			151	136				
Level 02	RESIDENTIAL	2464	2313	517	2	4	6	2	4	6	4	8	12	24			151	136				
Level 03	RESIDENTIAL	2464	2313	517	2	4	6	2	4	6	4	8	12	24			151	136				
Level 04	RESIDENTIAL	2464	2313	517	2	4	6	2	4	6	4	8	12	24			151	136				
Level 05	RESIDENTIAL	2464	2313	517	2	4	6	2	4	6	4	8	12	24			151	136				
Level 06	RESIDENTIAL	2464	2313	517	2	4	6	2	4	6	4	8	12	24			151	136				
Rooftop Terrace	PLANT & COMMUNUAL	142													68	88	74				0	0
Roof	-																0				0	0
Totals		17643	16049		13	30	40	13	30	40	26	60	80	166	381	2182	1213	1323	66569	262	101.2	172

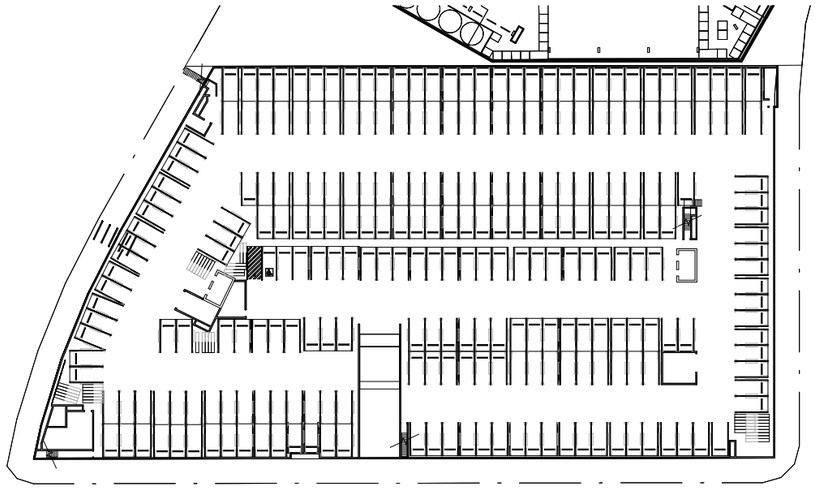
Mix Breakdown			
1B	2B	3B	TOTAL
26	60	80	166
16%	36%	48%	

* **Gross Floor Area (GFA)** is calculated as per Brisbane City Council (BCC) definition and includes internally enclosed spaces such as circulation spaces, apartment areas and common areas including recreation spaces. Calculation excludes landscaped planters, balconies, vertical services and circulation including lift cores and stair wells. Also excluded are basement areas located below natural ground line and areas on grade for the purposes of manoeuvring and parking vehicles, plant and mechanical areas

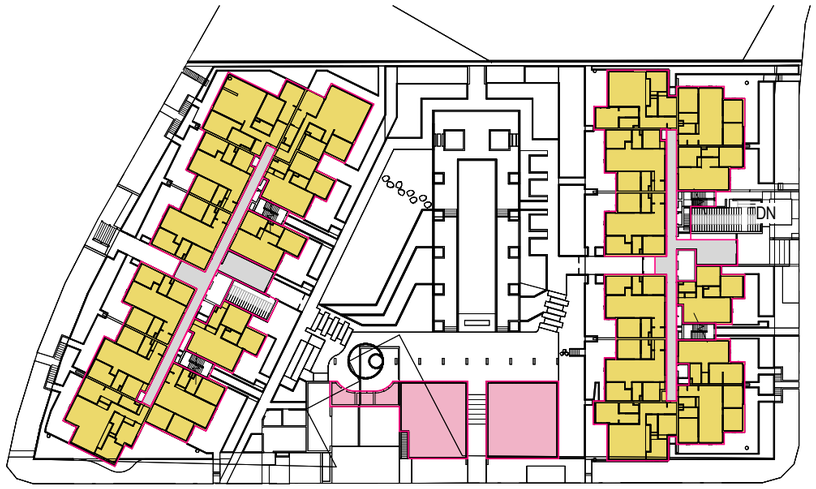
***Plot ratio** - Ratio of the gross floor area of a building on a site to the area of the site.
Where the development includes dedication of land for a new roadway, the site area for calculating the plot ratio does not include the land to be dedicated for the new roadway.

Outdoor Amenities - Includes Landscaping and Courtyard

AREA PLANS - GFA



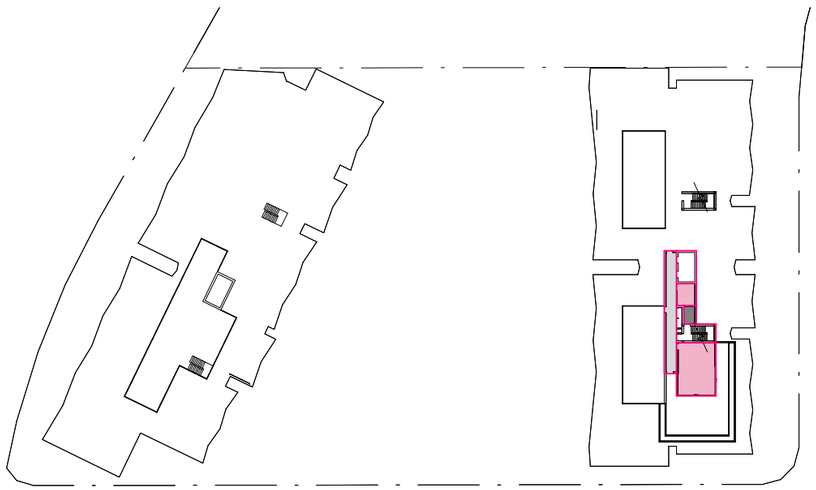
1 - GFA PLAN - BASEMENT 01
SCALE 1 : 1000 @ A3



2 - GFA PLAN - GROUND LEVEL
SCALE 1 : 1000 @ A3



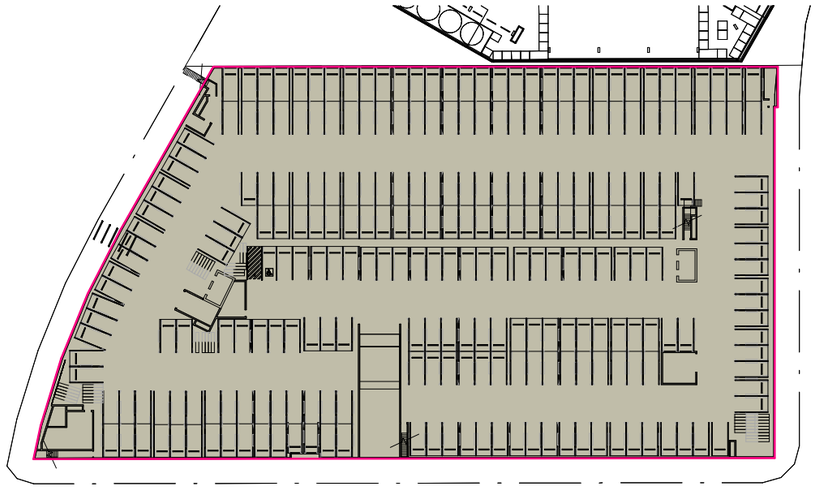
3 - GFA PLAN - LEVEL 01-06
SCALE 1 : 1000 @ A3



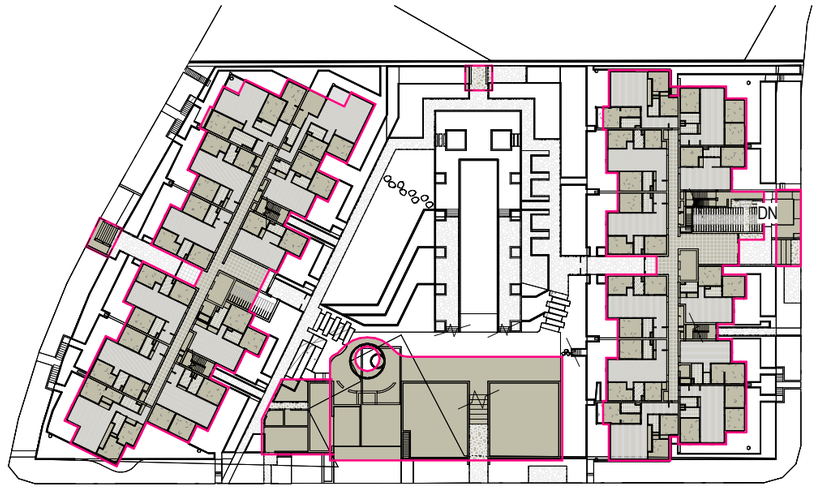
4 - GFA PLAN - ROOFTOP
SCALE 1 : 1000 @ A3

AREA PLANS - SITE COVER

PLUS STUDIO®



1 - SITE COVER - BASEMENT 01
SCALE 1 : 1000 @ A3



2 - SITE COVER - GROUND LEVEL
SCALE 1 : 1000 @ A3

SITE COVER - BASEMENT		
SITE AREA REMAINING	1056.2 m²	13%
SITE COVER	6923.6 m²	87%

SITE COVER - GROUND		
SITE AREA REMAINING	4495.6 m²	56%
SITE COVER	3471.7 m²	44%

SITE COVER - LEVEL 01-06		
SITE AREA REMAINING	4774.7 m²	60%
SITE COVER	3205.1 m²	40%

SITE COVER - ROOFTOP		
SITE AREA REMAINING	7355.9 m²	92%
SITE COVER	624.0 m²	8%



3 - SITE COVER - LEVEL 01-06
SCALE 1 : 1000 @ A3

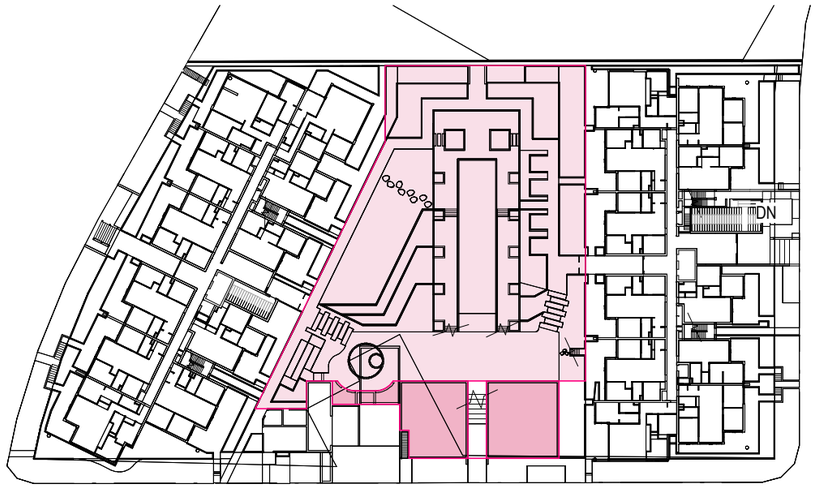


4 - SITE COVER - ROOFTOP
SCALE 1 : 1000 @ A3

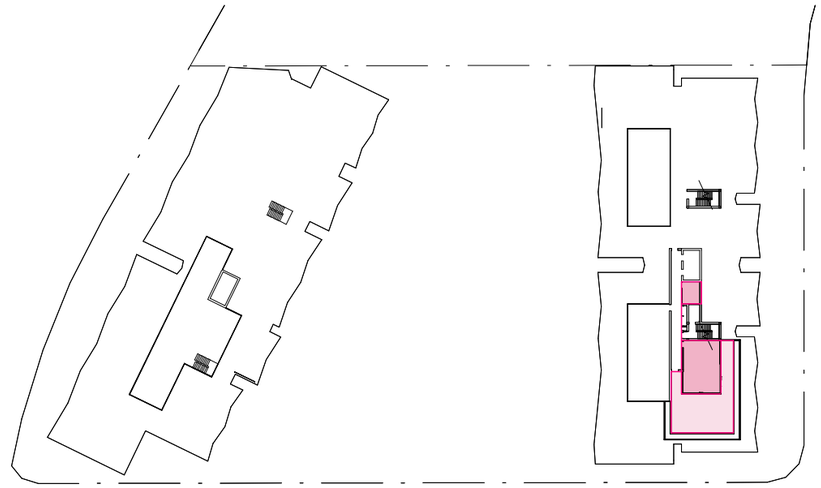
AREA PLANS - COMMUNAL SPACE

PLUS STUDIO

COMMUNAL SPACE		
GROUND LEVEL	COMMUNAL EXTERNAL	2093.6 m²
GROUND LEVEL	COMMUNAL INTERNAL	312.8 m²
ROOF - T1	COMMUNAL EXTERNAL	88.1 m²
ROOF - T1	COMMUNAL INTERNAL	67.9 m²
		2562.3 m²



1 - COMMUNAL OPEN SPACE - GROUND LEVEL
SCALE 1 : 1000 @ A3

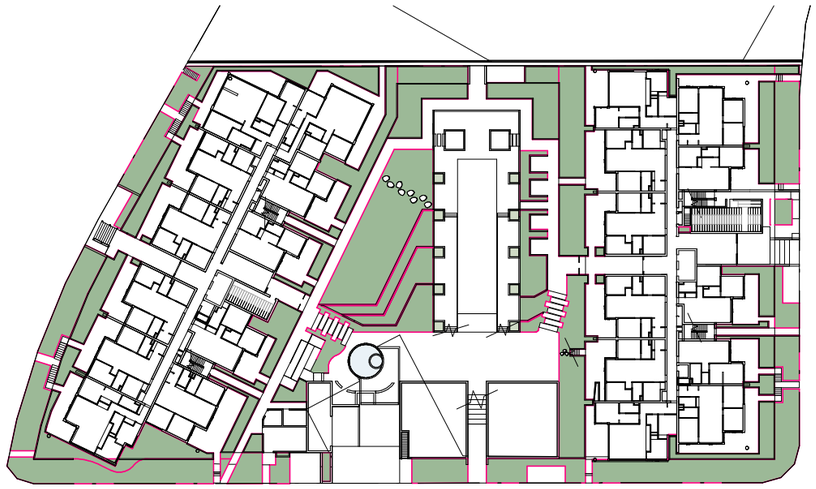


2 - COMMUNAL OPEN SPACE - ROOFTOP
SCALE 1 : 1000 @ A3

AREA PLANS - LANDSCAPE

PLUS STUDIO

LANDSCAPE AREA	
GROUND LEVEL	2477.0 m²
LEVEL 01	699.4 m²
LEVEL 02	67.4 m²
LEVEL 03	67.4 m²
LEVEL 04	67.4 m²
LEVEL 05	67.4 m²
LEVEL 06	67.4 m²
ROOF - T1	27.7 m²
	3541.1 m²



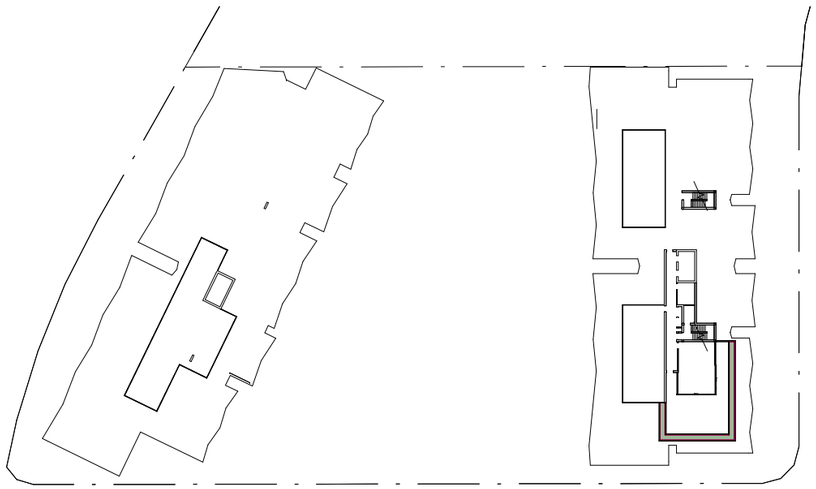
1 - LANDSCAPE - GROUND LEVEL
SCALE 1 : 1000 @ A3



2 - LANDSCAPE - LEVEL 01
SCALE 1 : 1000 @ A3



3 - LANDSCAPE - LEVEL 02-06
SCALE 1 : 1000 @ A3



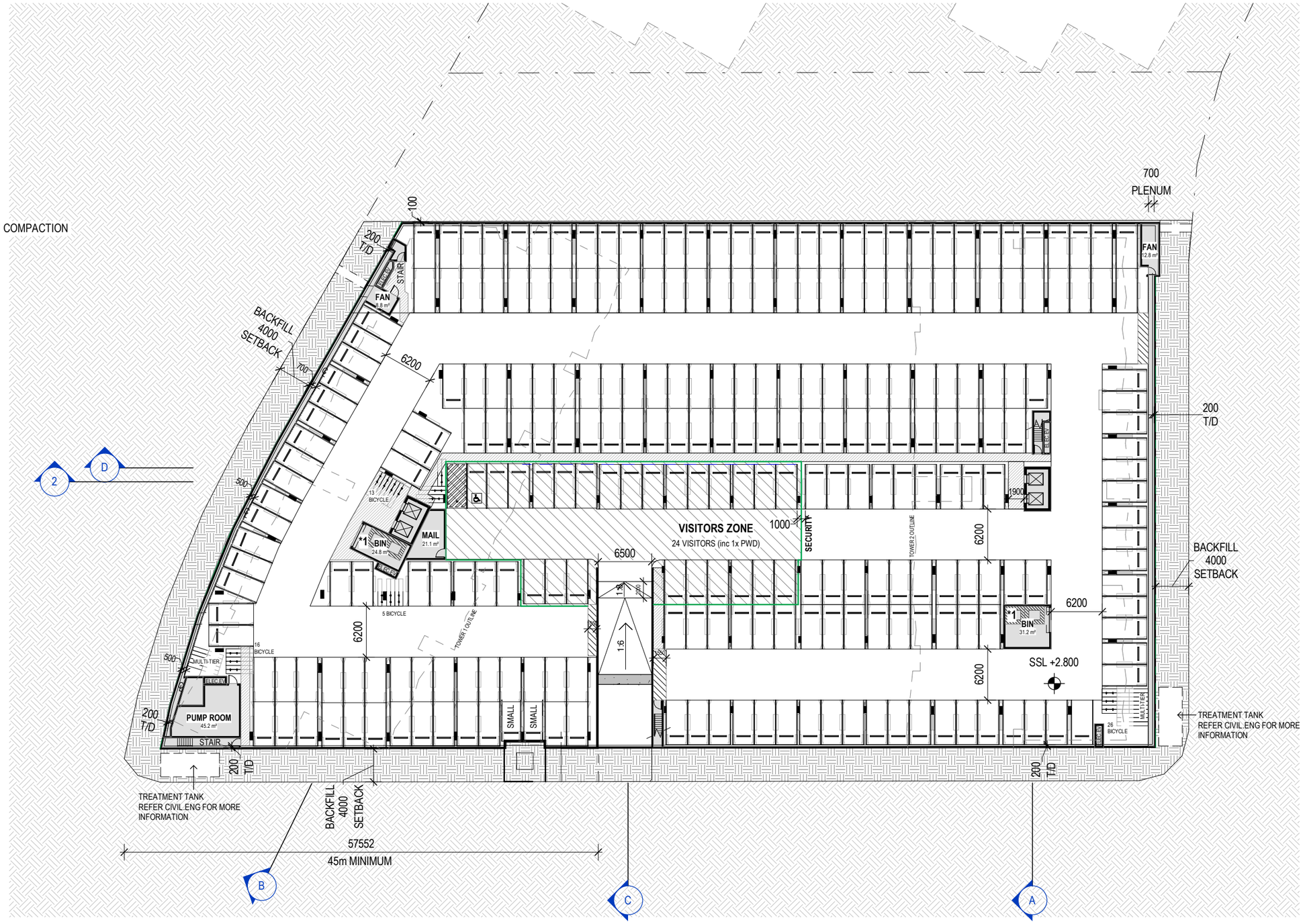
4 - LANDSCAPE - ROOFTOP
SCALE 1 : 1000 @ A3

FLOOR PLANS - BASEMENT

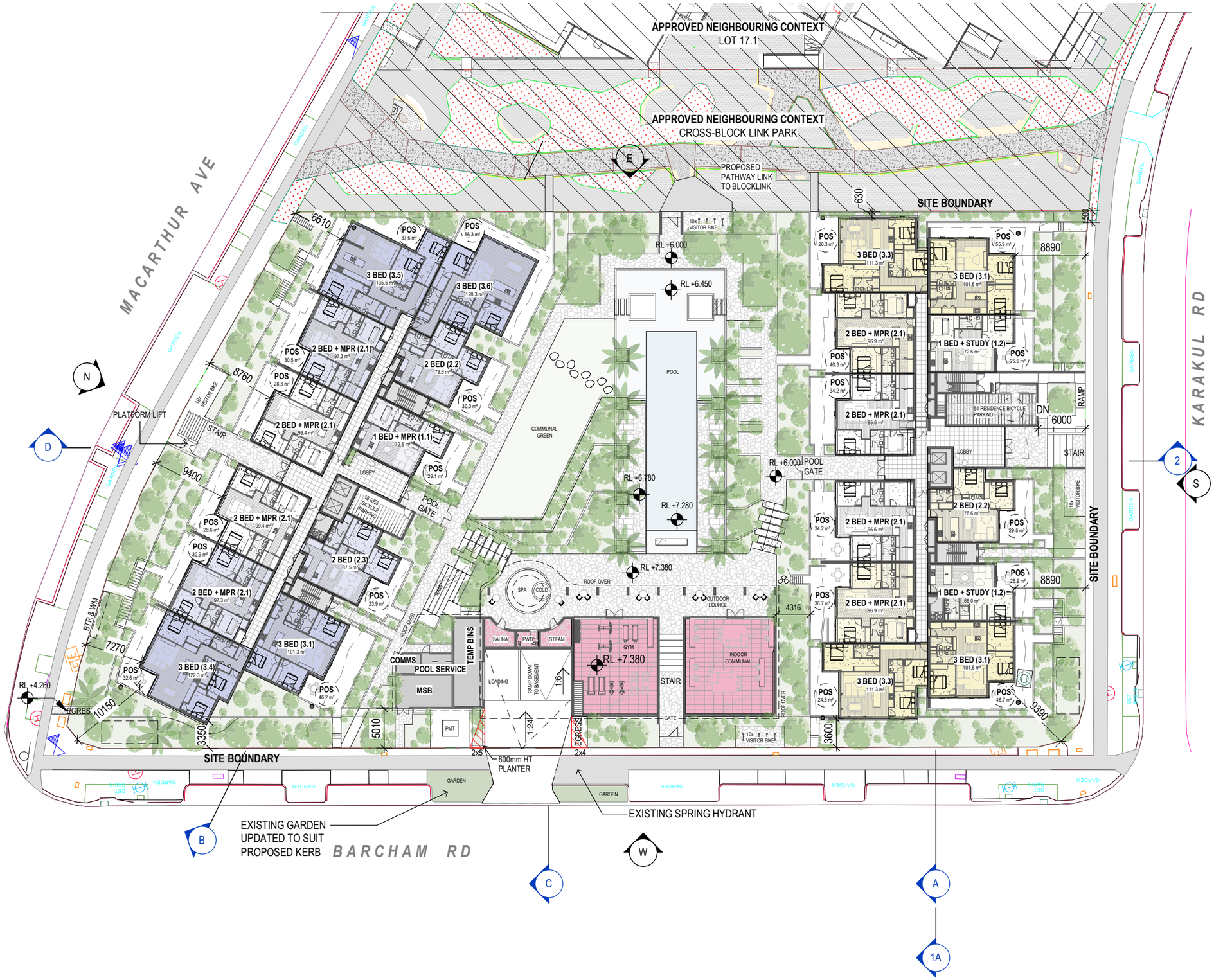
CAR SCHEDULE

VISITOR	| = 23
PWD	| = 1
RESIDENTS	
TANDEM	| = 140
STANDARD	| = 96
SMALL CAR	| = 2
GRAND TOTAL	**| = 262**

NOTE:
***1 =** "DUAL REFUCE CHUTE 3:1 COMPACTION TO GENERAL WASTE ONLY"



FLOOR PLANS - GROUND



MEANJIN | LOT 17 STREET NAME, HAMILTON, QLD 4007

725048

SILVERSTONE - HAMILTON

PLUS STUDIO

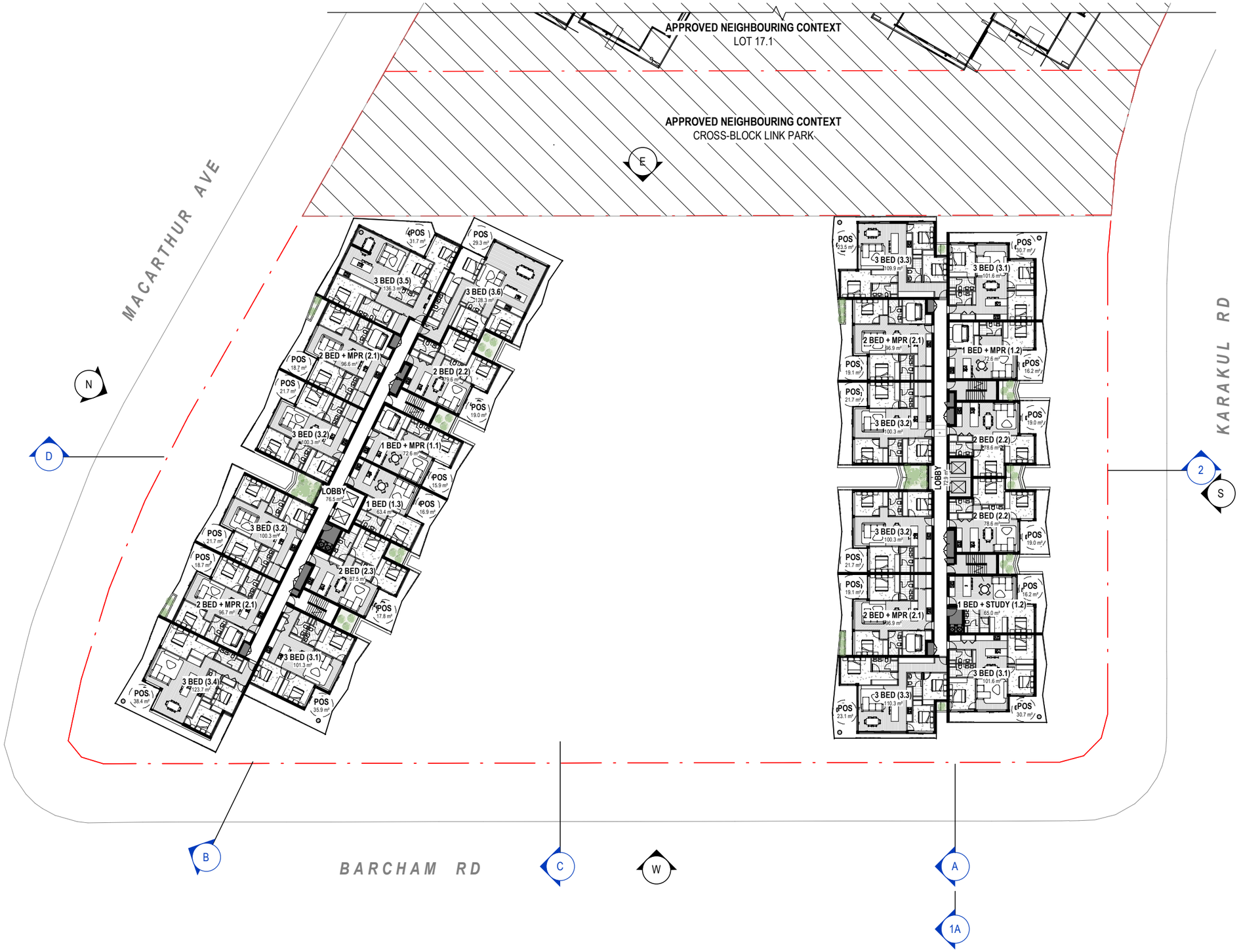
DA100 | DEVELOPMENT APPLICATION

SCALE 1:500 @ A3 SIZE

FLOOR PLANS - LEVEL 01



FLOOR PLANS - LEVEL 02-06



PLUS STUDIO

MEANJIN | LOT 17 STREET NAME, HAMILTON, QLD 4007

725048

SILVERSTONE - HAMILTON

PLUS STUDIO

DA102 | DEVELOPMENT APPLICATION

SCALE 1:500 @ A3 SIZE

FLOOR PLANS - ROOFTOP

PLUS STUDIO

MEANJIN | LOT 17 STREET NAME, HAMILTON, QLD 4007

725048

SILVERSTONE - HAMILTON

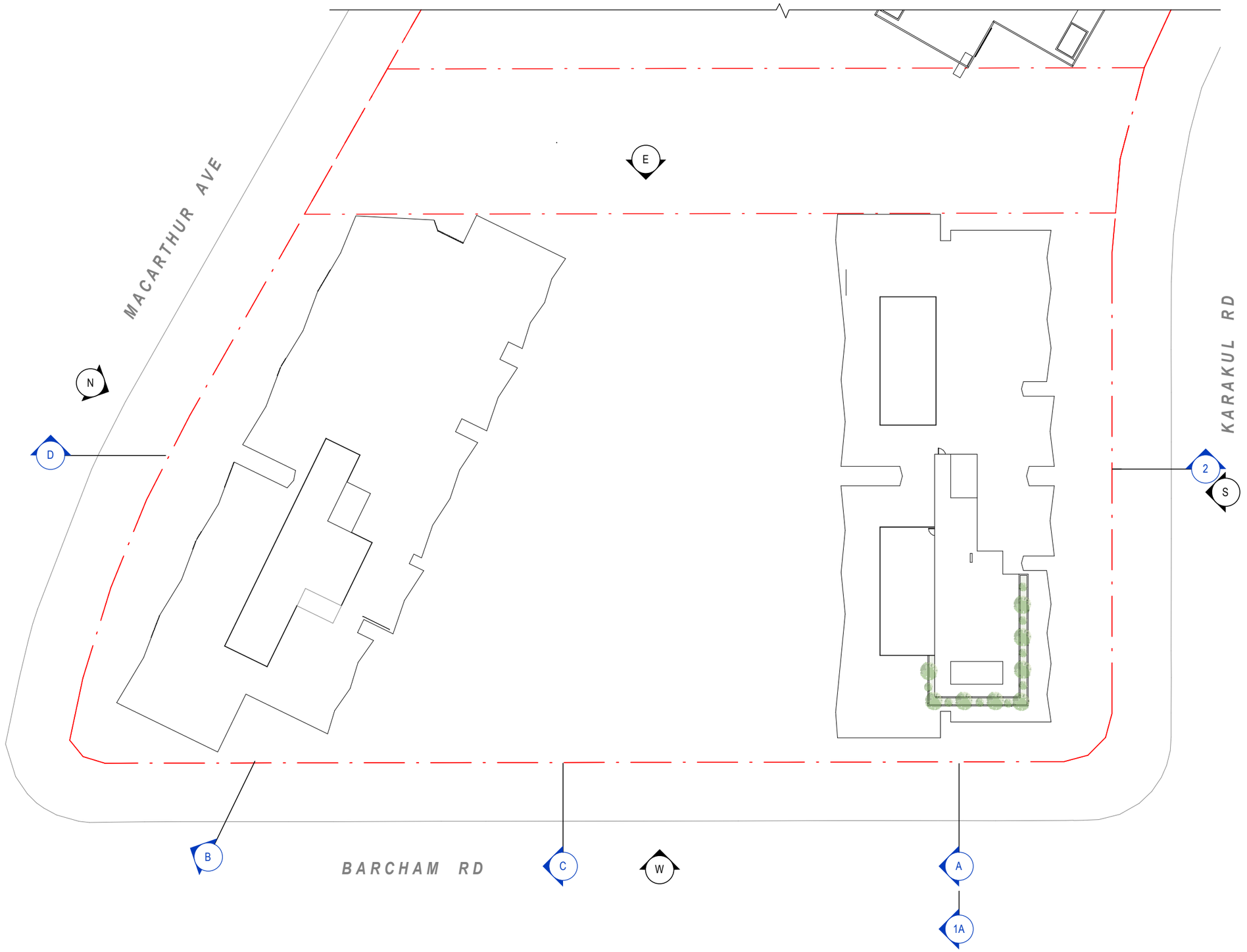
PLUS STUDIO



DA107 | DEVELOPMENT APPLICATION

SCALE 1:500 @ A3 SIZE

FLOOR PLANS - ROOF



MEANJIN | LOT 17 STREET NAME, HAMILTON, QLD 4007

725048

SILVERSTONE - HAMILTON

PLUS STUDIO

DA108 | DEVELOPMENT APPLICATION

SCALE 1:500 @ A3 SIZE

SITE ELEVATION - NORTH + WEST

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

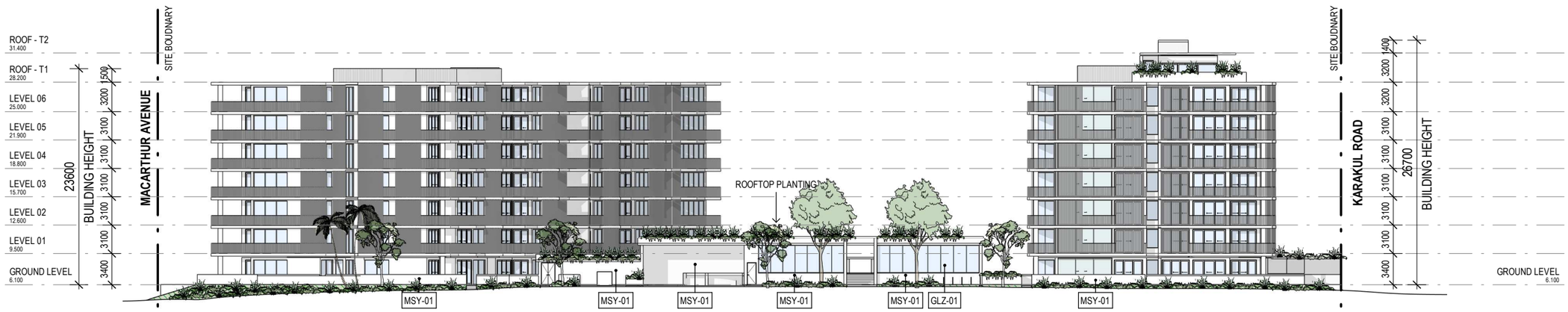
SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



N / DA100 — DA SITE ELEVATION - NORTH
SCALE 1 : 500 @ A3



W / DA100 — DA SITE ELEVATION - WEST
SCALE 1 : 500 @ A3

SITE ELEVATION - SOUTH + EAST

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

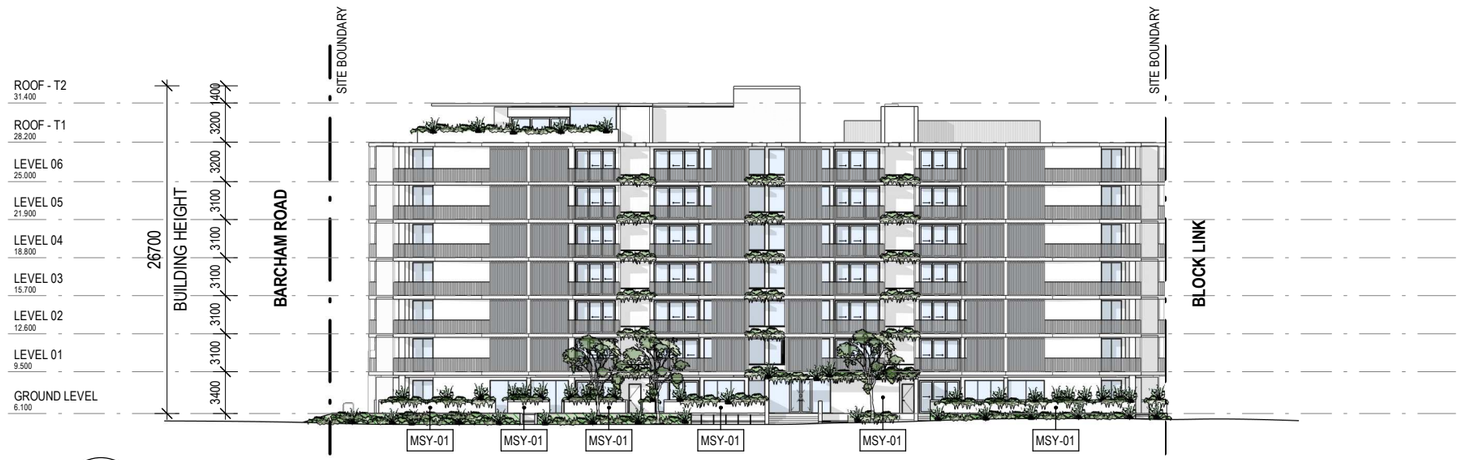
GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

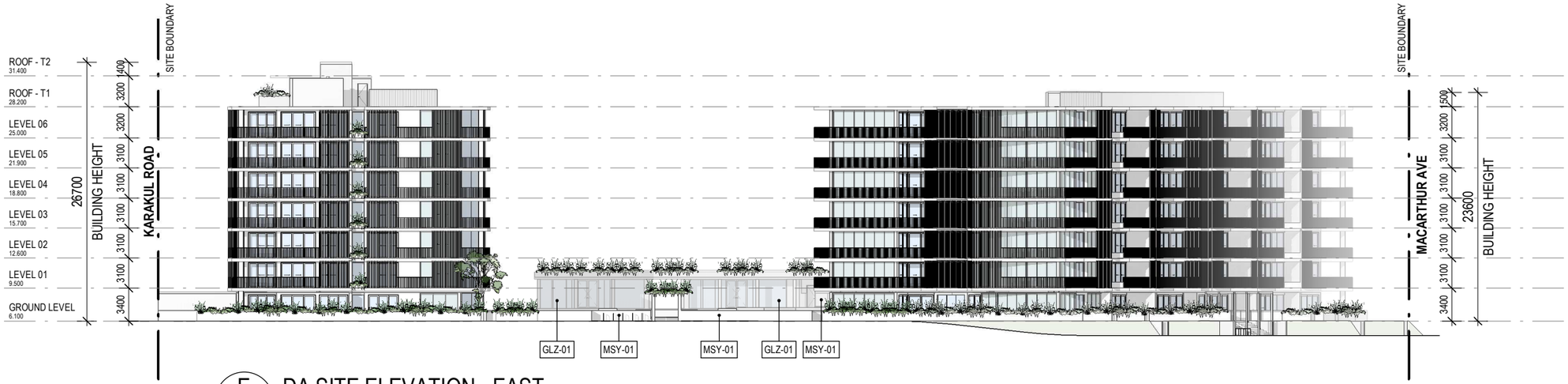
SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION

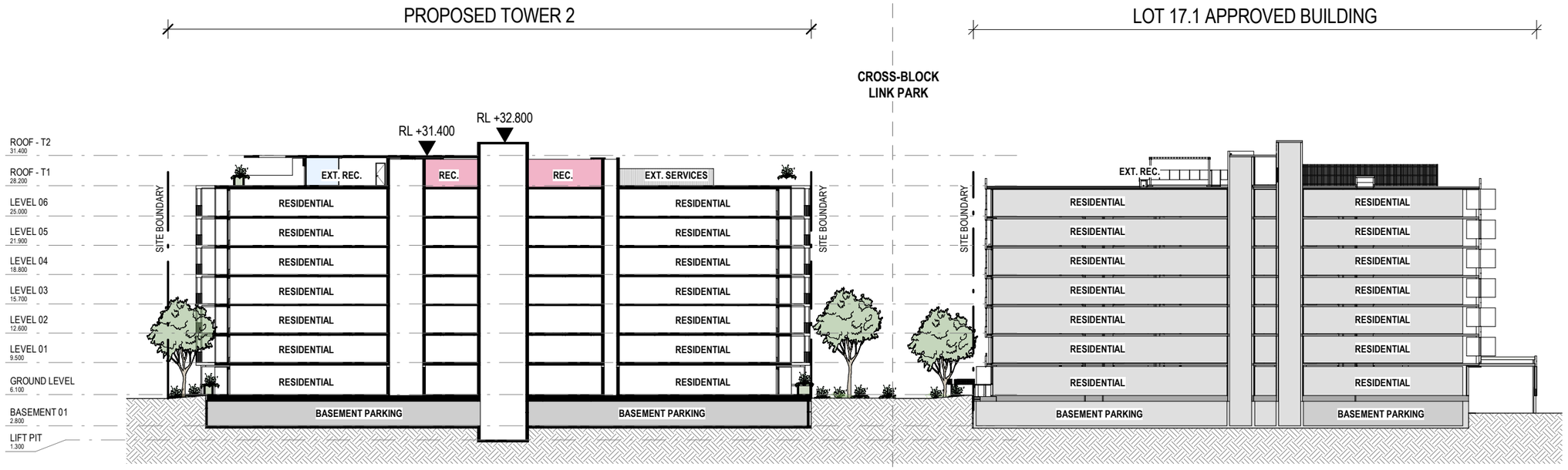


S DA100 — DA SITE ELEVATION - SOUTH
SCALE 1 : 500 @ A3



E DA100 — DA SITE ELEVATION - EAST
SCALE 1 : 500 @ A3

SITE SECTION 1

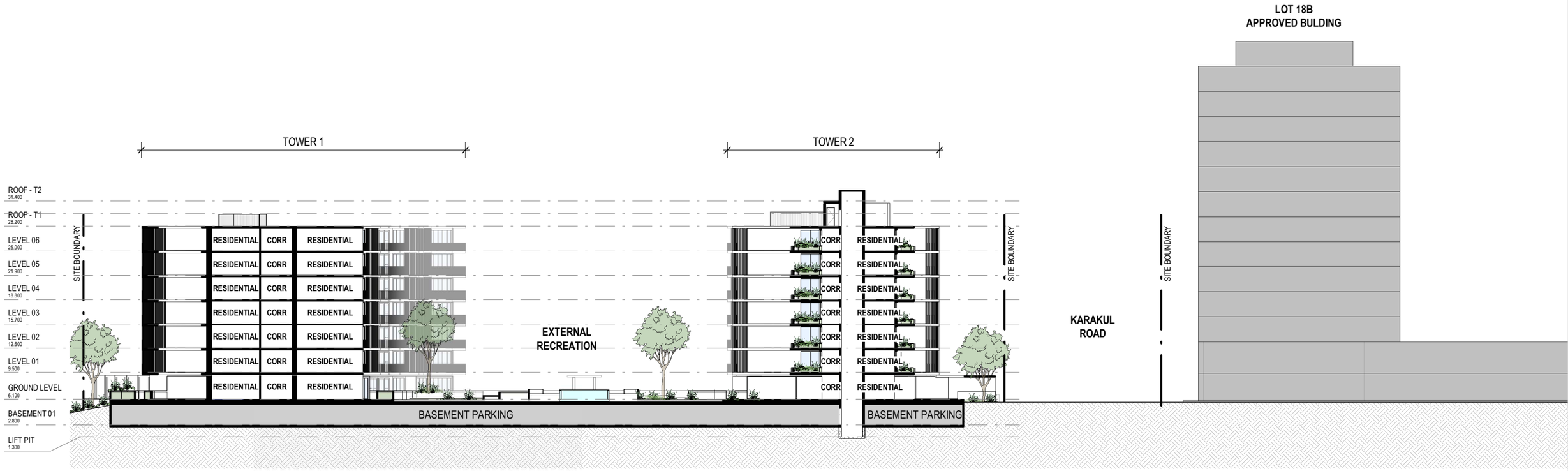


1A DA102 SITE SECTION 1A
SCALE 1 : 500 @ A3

1 SK1 SITE SECTION 1B
SCALE 1 : 500 @ A3

SITE SECTION 2

PLUS STUDIO



2 SITE SECTION 2
DA099 SCALE 1 : 500 @ A3

BUILDING ELEVATION - TOWER 01 - NORTH

PLUS STUDIO

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



N.N DA BUILDING ELEVATION - TOWER 1 - NORTH

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 01 - WEST

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



N.W

DA BUILDING ELEVATION - TOWER 1 - WEST

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 01 - SOUTH

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



N.S DA BUILDING ELEVATION - TOWER 1 - SOUTH

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 01 - EAST

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



N.E DA BUILDING ELEVATION - TOWER 1 - EAST

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 02 - NORTH

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



S.N DA BUILDING ELEVATION - SOUTH BUILDING - NORTH

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 02 - WEST

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

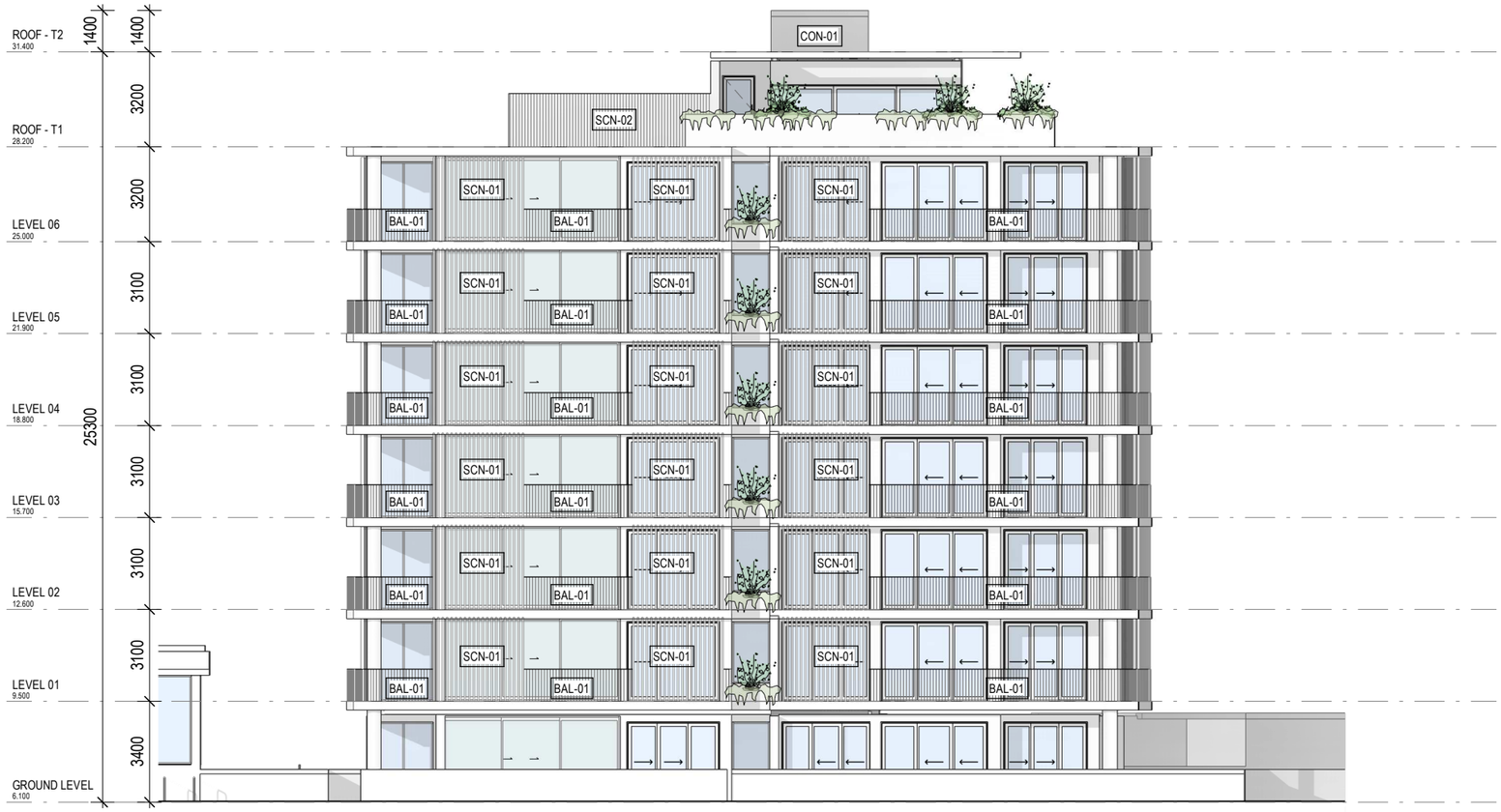
GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



S.W DA BUILDING ELEVATION - TOWER 2 - WEST

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 02 - SOUTH

PLUS STUDIO

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



S.S DA BUILDING ELEVATION - TOWER 2 - SOUTH

SCALE 1 : 200 @ A3

BUILDING ELEVATION - TOWER 02 - EAST

LEGEND

MSY-01 MASONRY W/ RENDERED FINISH. WHITE FINISH

CON-01 APPLIED TEXTURED FINISH - WHITE FINISH

GLZ-01 GLAZING

BAL-01 VERTICAL METAL BALUSTRADE - BRONZE

SCN-01 VERTICAL METAL SCREEN - BRONZE

SCN-02 ALUMINIMUM VERTICAL BATTEN SCREEN - BRONZE (ROOFTOP)

NOTE: LANDSCAPE & PLANTING INDICATIVE ONLY. REFER LANDSCAPE ARCHITECT DRAWING FOR MORE INFORMATION



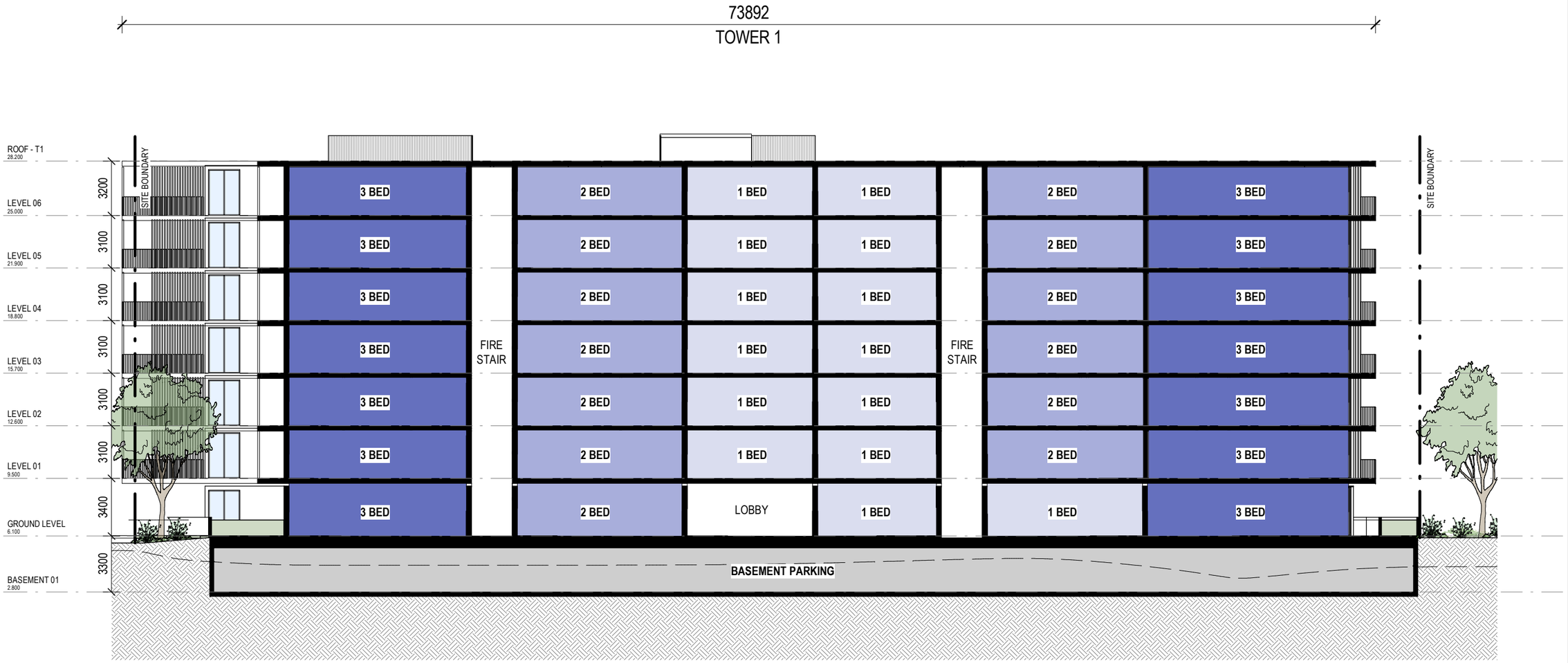
S.E DA BUILDING ELEVATION - TOWER 2 - EAST

SCALE 1 : 200 @ A3

SECTION A


64150
TOWER 2
LIFT OVERRUN - T2
32.800
ROOF - T2
31.400
ROOF - T1
28.200
LEVEL 06
25.000
LEVEL 05
21.900
LEVEL 04
18.800
LEVEL 03
15.700
LEVEL 02
12.600
LEVEL 01
9.500
GROUND LEVEL
6.100
BASEMENT 01
2.800
LIFT PIT
1.300
22100
1400
3200
3200
3100
3100
3100
3100
3100
3400
3300
1500
SITE BOUNDARY
EXTERNAL REC
INTERNAL REC
INTERNAL REC
EXTERNAL SERVICES
SITE BOUNDARY
3 BED
1 BED
2 BED
FIRE STAIR
LIFT CORE
FIRE STAIR
BLOCK LINK
BASEMENT PARKING
BASEMENT PARKING

SECTION B


73892
TOWER 1
ROOF - T1
28.200
LEVEL 06
25.000
LEVEL 05
21.900
LEVEL 04
18.800
LEVEL 03
15.700
LEVEL 02
12.600
LEVEL 01
9.500
GROUND LEVEL
6.100
BASEMENT 01
2.800
3200
3100
3100
3100
3100
3100
3400
3300
SITE BOUNDARY
SITE BOUNDARY
FIRE STAIR
FIRE STAIR
3 BED
2 BED
1 BED
LOBBY
BASEMENT PARKING

SECTION C

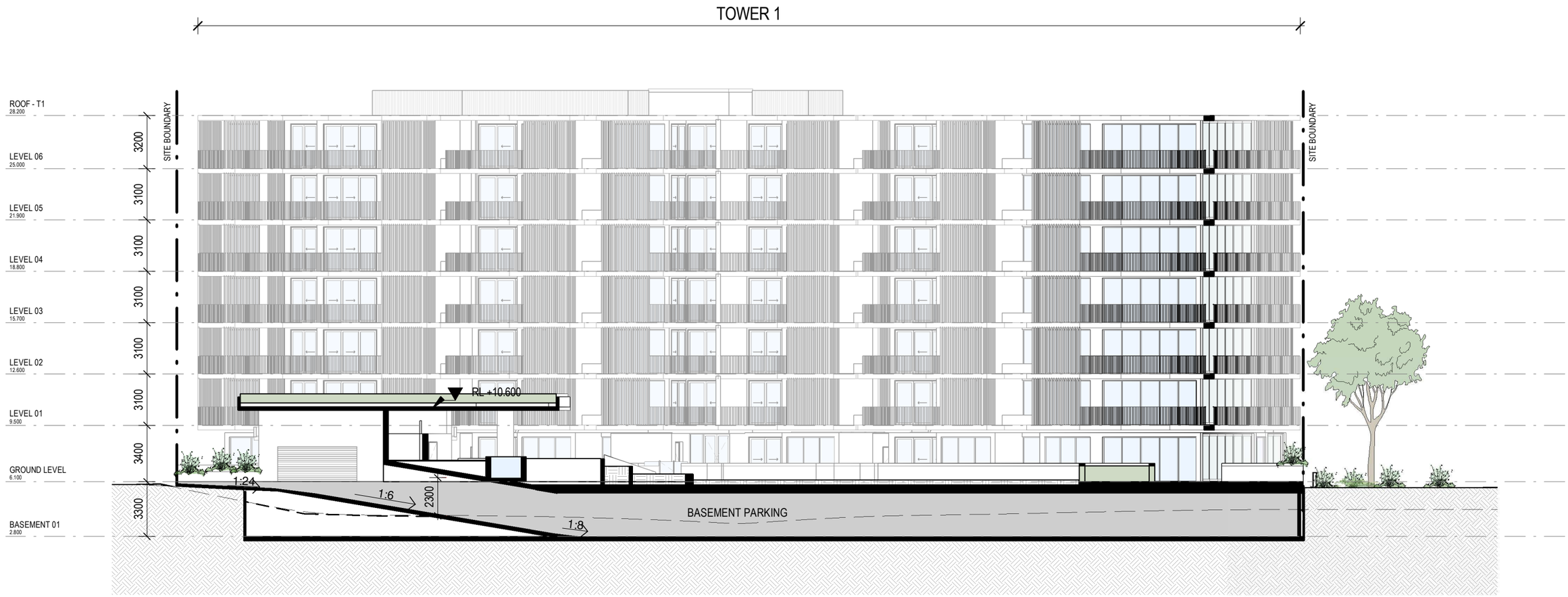
PLUS STUDIO

MEANJIN | LOT 17 STREET NAME, HAMILTON, QLD 4007

725048

SILVERSTONE - HAMILTON

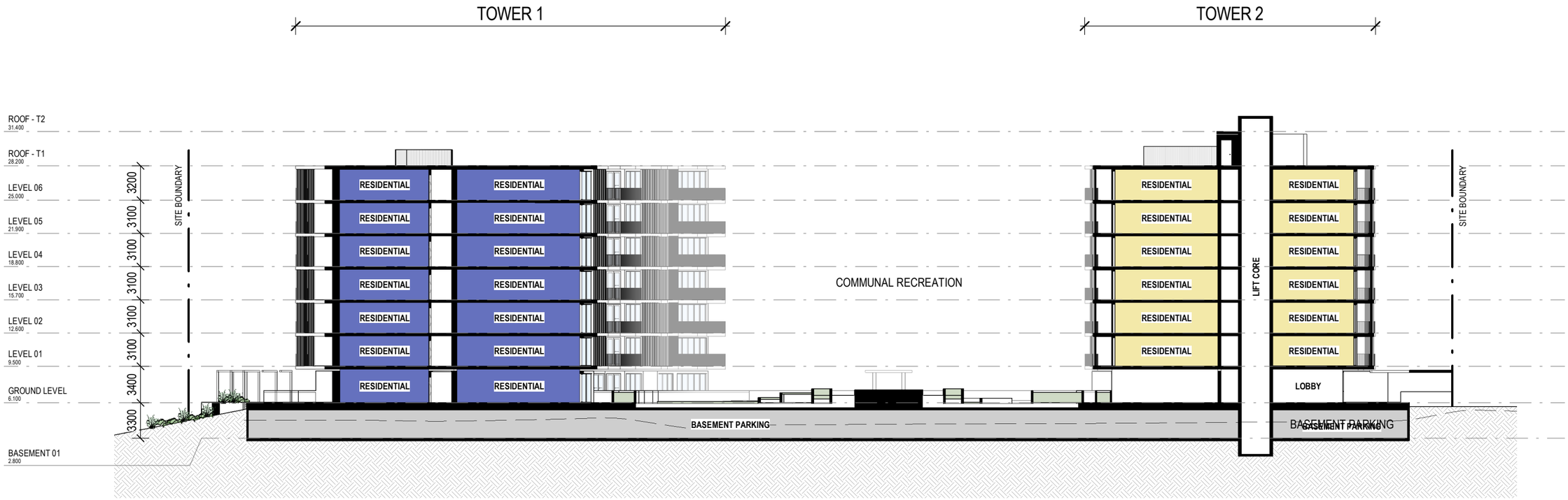
PLUS STUDIO



DA222 | DEVELOPMENT APPLICATION | ISSUE 1 | 20 NOV 2025

SCALE 1:250 @ A3 SIZE

SECTION D


TOWER 1
TOWER 2
ROOF - T2
31.400
ROOF - T1
28.200
LEVEL 06
25.000
LEVEL 05
21.900
LEVEL 04
18.800
LEVEL 03
15.700
LEVEL 02
12.600
LEVEL 01
9.500
GROUND LEVEL
6.100
BASEMENT 01
2.800
3200
3100
3100
3100
3100
3100
3400
3300
SITE BOUNDARY
RESIDENTIAL
COMMUNAL RECREATION
LIFT CORE
LOBBY
BASEMENT PARKING
SITE BOUNDARY

MATERIAL SCHEDULE





LEGEND

MSY-01	MASONRY W/ RENDERED FINISH. - WHITE FINISH
CON-01	APPLIED TEXTURED FINISH - WHITE FINISH
GLZ-01	GLAZING
BAL-01	VERTICAL METAL BALUSTRADE - BRONZE
SCN-01	VERTICAL METAL SCREEN - BRONZE
SCN-02	ALUMINIUM VERTICAL BATTEN SCREEN -. BRONZE (ROOF PLANT)

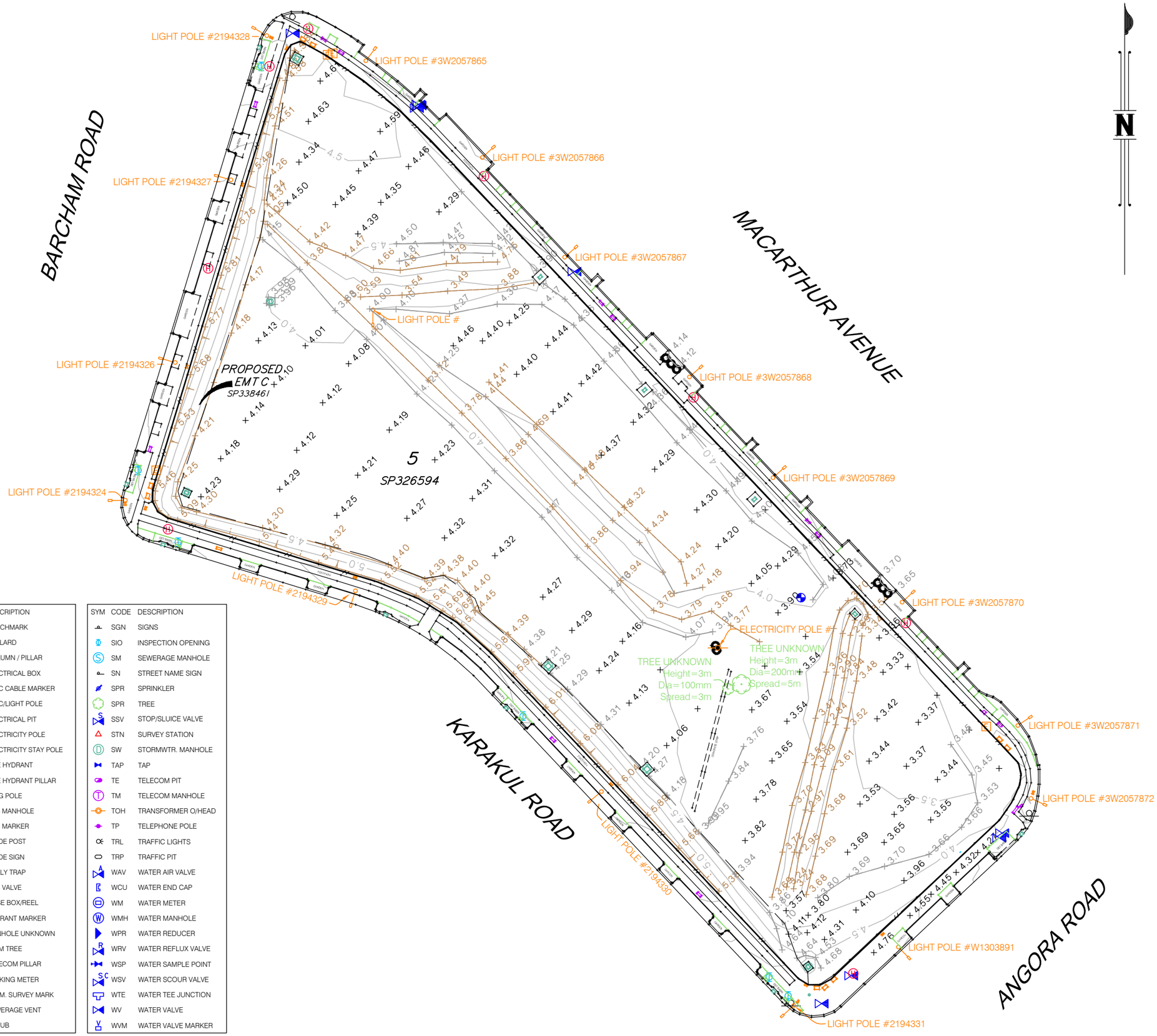








Appendix B Site Survey



SYM	CODE	DESCRIPTION
	BM	BENCHMARK
	BOL	BOLLARD
	CP	COLUMN / PILLAR
E	EBX	ELECTRICAL BOX
E	ECM	ELEC CABLE MARKER
	ELP	ELEC/LIGHT POLE
	EM	ELECTRICAL PIT
	EP	ELECTRICITY POLE
	ESP	ELECTRICITY STAY POLE
H	FH	FIRE HYDRANT
	FHP	FIRE HYDRANT PILLAR
	FP	FLAG POLE
G	GMH	GAS MANHOLE
G	GMK	GAS MARKER
	GP	GUIDE POST
	GS	GUIDE SIGN
	GT	GULLY TRAP
	GV	GAS VALVE
	HB	HOSE BOX/REEL
	HM	HYDRANT MARKER
U	MHU	MANHOLE UNKNOWN
	PLM	PALM TREE
	PIL	TELECOM PILLAR
	PKM	PARKING METER
	PSM	PERM. SURVEY MARK
V	SEV	SEWERAGE VENT
	SHB	SHRUB

SYM	CODE	DESCRIPTION
	SGN	SIGNS
	SIO	INSPECTION OPENING
S	SM	SEWERAGE MANHOLE
	SN	STREET NAME SIGN
	SPR	SPRINKLER
	SPR	TREE
S	SSV	STOP/SLUICE VALVE
	STN	SURVEY STATION
D	SW	STORMWTR. MANHOLE
	TAP	TAP
	TE	TELECOM PIT
T	TM	TELECOM MANHOLE
	TOH	TRANSFORMER O/HEAD
	TP	TELEPHONE POLE
	TRL	TRAFFIC LIGHTS
	TRP	TRAFFIC PIT
A	WAV	WATER AIR VALVE
	WCU	WATER END CAP
W	WM	WATER METER
W	WMH	WATER MANHOLE
	WPR	WATER REDUCER
R	WRV	WATER REFLUX VALVE
	WSP	WATER SAMPLE POINT
SC	WSV	WATER SCOUR VALVE
	WTE	WATER TEE JUNCTION
	WV	WATER VALVE
V	WVM	WATER VALVE MARKER

NOTE: ALL DIMENSIONS AND AREAS ON THIS PLAN ARE SUBJECT TO SURVEY AND REQUIREMENTS FOR LODGEMENT OF SURVEY PLANS IN THE DEPARTMENT RESOURCES.

CLIENT
Economic Development Queensland

LOT LAYOUT
DETAIL SURVEY

REAL PROPERTY DESCRIPTION
Proposed
Lot 5 on SP326594

NOTES
i) This plan has been prepared for the exclusive use of EDQ and their consultants for design purposes and is not to be used for any other purpose or by any other entity without the express permission of LandPartners Pty Ltd.

ii) The title boundaries as shown hereon were not marked or surveyed at the time of survey and have been determined from the dimensions shown on plans of survey registered in the Department of Resources.

iii) The boundaries may change subject to survey, engineering design or council requirements.

iv) Services shown hereon have been located where visible by field survey. No investigation or location of underground services has been undertaken. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

v) This data should not be used for construction purposes without confirmation by LandPartners Pty Ltd.

vi) This data should not be reproduced in any way without the permission of LandPartners Pty Ltd. Any reproduction of this data must contain these notes

SCALE BAR
10m 0 20 50m

SCALE 1:1000 (A3)

1	AJG	6/10/2022	INITIAL ISSUE

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e: info@landpartners.com.au
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ISO 9001 Quality Management

HEIGHT DATUM AHD D	LOCAL AUTHORITY BRISBANE C.C.
HEIGHT ORIGIN PSM186779 RL 4.325m	SCALE 1:1000 (A3)
MERIDIAN SP326594	DRAWN AJG / DATE 6/10/2022
CO-ORD SYSTEM Arbitrary Plane	CHECKED MLM / DATE 6/10/2022
CAD FILE BRMM7695-000-240-2	APPROVED MLM / DATE 6/10/2022

UDN
BRMM7695-000-244-1

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