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23 September 2021

Clarke Hopkins Clarke Architects

Via email: james.kelly@chc.com.au

Attention: James Kelly

Baptcare Affordable Housing - Keilor Downs

Transport Impact Assessment

Dear James,

Introduction

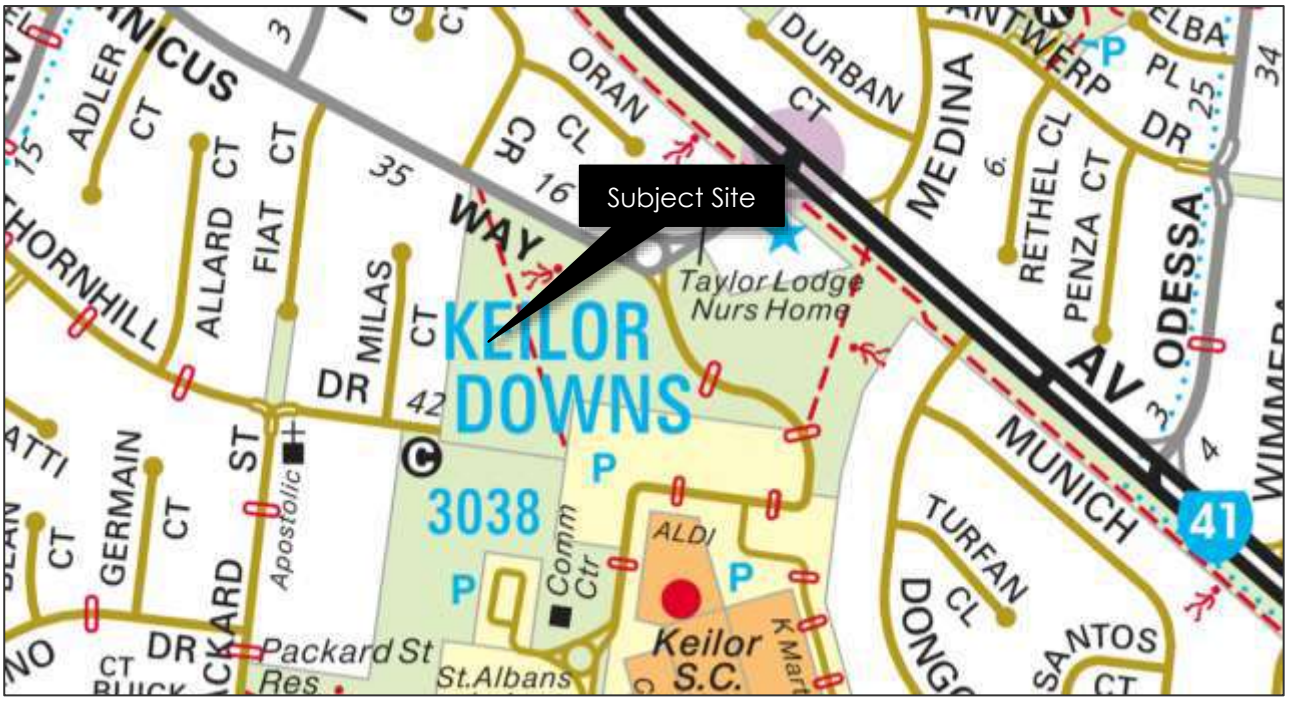
onemile**grid** has been requested by Clarke Hopkins Clarke Architects to undertake a feasibility study of the proposed Baptcare Affordable Housing development at Copernicus Way, Keilor Downs .

Existing Conditions

Site Location

The subject site is located to the east of the current termination of Thornhill Drive, as shown in Figure 1.

Figure 1 Site Location



Copyright Melway Publishing

The land to the north of the site will be retained by Baptcare. Development of this land will be subject to a separate application.

An aerial view of the subject site is provided in Figure 2.

Figure 2 Site Context (2 May 2021)

Copyright Nearmap

Land use in the immediate vicinity of the site is mixed in nature and includes the Keilor Shopping Centre to the southeast of the site and primarily residential uses surrounding the site.

Planning Zones and Overlays

It is shown in Figure 3 that the site is located within a Commercial 1 Zone (C1Z). In addition, the site is subject to the following overlays:

- Development Plan Overlay – Schedule 2 (DPO2)
- Development Contributions Plan Overlay – Schedule 2 (DCPO2)
- Special Building Overlay (SBO)

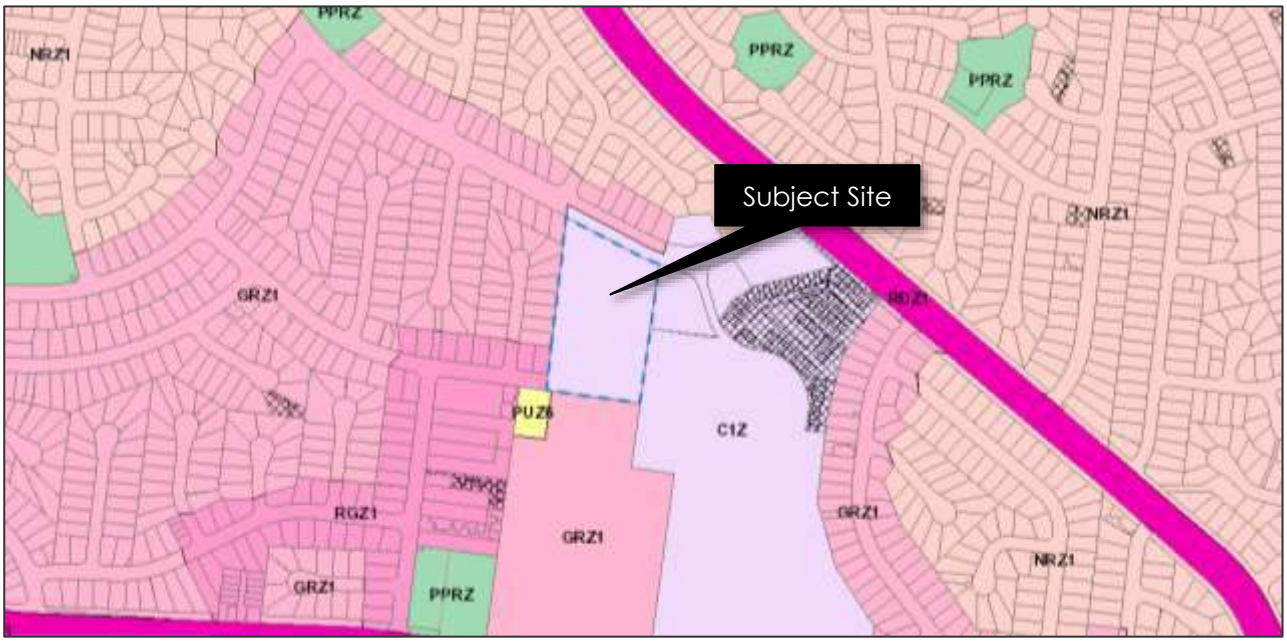
Schedule 2 to the DPO specifies that the development plan must show the following, amongst other things:

- Restriction of access to the site to the existing accessway off Copernicus Way;
- The number, location and layout of all car parks and accessways (including pedestrian access); and
- The location and layout of any loading facilities and rubbish storage facilities.

It is noted that the proposed development is exempt from the above, given that the application is subject to the Clause 52.20 approval process. Notwithstanding, the proposed development has sought to align with the outcomes listed as part of the Development Plan Overlay.

Furthermore, it is noted that the SBO does not affect the portion of the site where the proposal is located.

Figure 3 Planning Scheme Zones



A copy of the Keilor Shopping Centre Development plan which includes the subject site is shown in Figure 4. Reference to the plan indicates that access to the site is restricted as follows:

- Thornhill Drive access is permitted to residential uses only and the road extension is to be a public road vested to council. It is noted that the development plan also indicates that the road is to terminate at a court bowl, it is our opinion that the court bowl is only required if the road is discontinuous. In addition no link is to be provided to the commercial car park.
- A single access is permitted from the shopping centre access road. A pedestrian access is also contemplated within the development plan at this point.
- Copernicus way, no new vehicle access to the commercial car park is permitted.

Figure 4 Keilor Shopping Centre Development Plan

Road Network

Copernicus Way is a local road generally aligned east-west, running between Sunshine Avenue in the east and Lady Nelson Way in the west. Copernicus Way provides a single traffic lane and a marked unrestricted kerbside parking lane in each direction adjacent to the site.

The default 50km/h speed limit applies to Copernicus Way in the vicinity of the site.

The cross-section of Copernicus Way at the frontage of the site is shown in Figure 5.

Figure 5 Copernicus Way, looking west from the roundabout

Public Transport

The public transport provision in the vicinity of the site is shown in Figure 6 and detailed in Table 1.

Figure 6 Public Transport Provision

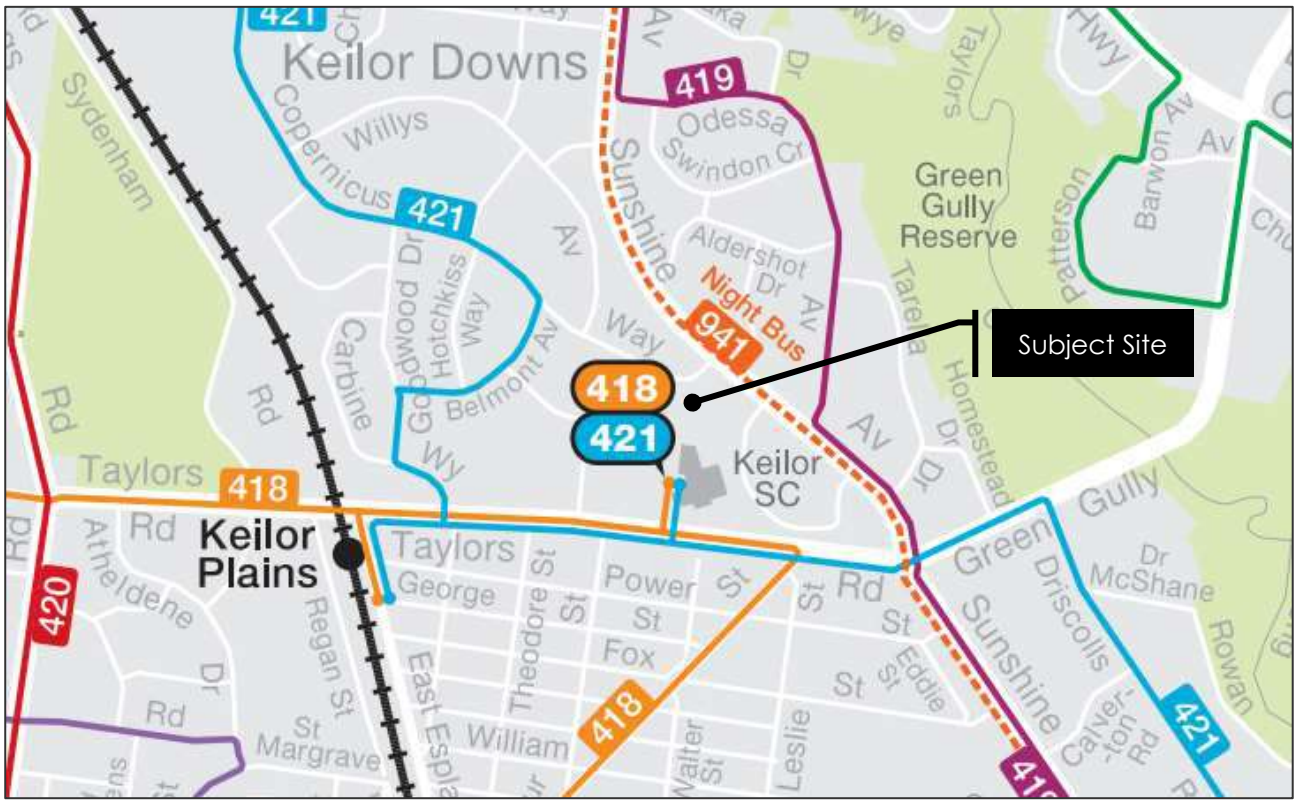


Table 1 Public Transport Provision

Mode	*Route No*	*Route Description*	*Nearest Stop/Station*
Train		Sunbury Line	Keilor Plains Railway Station
Bus	418	St Albans Station - Caroline Springs via Keilor Plains Station	Keilor Shopping Centre
	419	St Albans Station - Watergardens Station via Keilor Downs	Sunshine Avenue
	421	St Albans Station - Watergardens Station via Keilor Plains Station	Keilor Shopping Centre
	941	Night Bus - City - Footscray - Sunshine North - Taylors Lakes - Watergardens	Sunshine Avenue

Public transport in the immediate vicinity of the subject site is limited to bus services.

Importantly, both the 418 St Albans Station - Caroline Springs and the 419 St Albans Station - Watergardens Station bus routes operate from Keilor Shopping Centre and provide direct access to Keilor Plains train station. The Sunbury line operates from Keilor Plains railway station and provides access to Melbourne's western suburbs and the CBD.

Development Proposal

It is proposed to develop the site for the purposes of social housing, associated with Baptcare Affordable Housing.

The proposed development provides access from Thornhill Drive towards the south-western corner of the site and includes a total of 47 units.

The development is provided in Table 2.

Figure 7 Affordable Housing Development – Keilor Downs

Table 2 Development Summary

No. Bedrooms	*No.*
1-Bedroom Dwelling	37 dwellings
2-Bedroom Dwelling	6 dwellings
3 & 4-Bedroom Dwelling	4 dwelling
Total	**47 dwellings**

Design Assessment

Clause 52.20-6.7

onemile**grid** has undertaken an assessment of the car parking layout and access for the proposed development with due consideration of the Design Standards detailed within Clause 52.20-6.7 of the Planning Scheme. A review of those relevant standards is provided in the following section.

Accessway Design

A summary of the assessment for the accessway is provided in Table 3.

Table 3 Clause 52.20-6.7 Design Assessment

Requirement	*Comments*
Be at least 3 metres wide	Satisfied – internal access streets have a 7.3 metre carriageway
Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide	Satisfied
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre	N/a – private parking
Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres	N/a – no overhead obstructions
If the accessway serves four or more car spaces or connects to a road in a Road Zone, the accessway must be designed so that cars can exit the site in a forward direction	Satisfied
Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Road Zone	Satisfied – 7.3 metre carriageway provided throughout the internal access street
Have a corner splay or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	Satisfied

Car Parking Spaces

All car spaces on-site are proposed with a minimum width of 2.6 metres, length of 4.9 metres and are accessed from aisles of no less than 6.4 metres, in accordance with Clause 52.20. It is noted that the majority of parking spaces provide additional width and length over and above the minimum requirements, for ease of access for residents.

The parallel parking spaces have been designed in accordance with the Clause 52.20 requirements, specifically; they're provided with a length of 6.7 metres and a width of 2.3 metres.

Swept Paths

Swept paths have been prepared and are attached to this letter, demonstrating circulation throughout the internal road network for Brimbank City Council's 9.8 metre waste collection truck. Additionally, swept paths have been shown throughout the site for the more conservative 10.5 metre MFB truck, which is also capable of circulating through the site.

Swept paths have also been prepared for circulation through the site and access to the unit's allocated parking spaces using a B85 design vehicle. The swept path analysis has been attached to this letter, demonstrating the movements detailed above.

Road Hierarchy

The internal road network will consist of Council roads, and has therefore been designed in accordance with the requirements of Clause 56 of the Brimbank Planning Scheme.

Brimbank City Council defines the following details for a residential access place:

Table 4 Residential Access Place Definition

Road Type	*Definition*	*Road Reserve*	*Carriageway Width*
Residential Access Place	A minor street providing local residential access with shared traffic, pedestrian and recreation use, but with pedestrian priority. Traffic volumes 300vpd – 1000vpd or 30 to 100 properties.	15.0m minimum	6.0m minimum where there are properties on one side of the road. Footpath on one side of the road. 7.3m minimum where there are properties on both sides of the road. Footpaths are to be provided on both sides of the road.

Based on the expected traffic volumes through the site (as discussed in the 'Traffic' section of this report), and the number of dwellings proposed, it is considered appropriate for the internal road network to be designed as an access place with a road reserve of 15 metres.

The road network has therefore been designed with a road reserve of 15 metres, with a carriageway width of 7.3 metres and footpaths on both sides of the road, in accordance with Brimbank City Council's guidelines.

The laneway through the site servicing the rear loaded dwellings has been designed as an Access Lane and accords with the minimum road reserve width of 7 metres.

Car Parking

Car Parking Planning Controls

It is understood that the proposed development will be funded by Victoria's Big Housing Build program, therefore the requirements detailed within Clause 52.20 – Victoria's Big House Build apply.

VC187 and VC190, gazetted on 1 December 2020, introduced changes to the Victoria Planning Provisions and all planning schemes to streamline the planning process and support economic recovery through the creation of thousands of jobs, and the rapid delivery of much needed social and affordable housing.

The amendment makes changes to the Victoria Planning Provisions and all planning schemes by introducing a new particular provision, Victoria's Big Housing Build at Clause 52.20. The Minister for Energy, Environment and Climate Change is the responsible authority for assessing all proposals made under this new provision (Clause 72.01). Clause 52.20 removes the need for a planning permit or scheme amendment with a streamlined development approval process where the Minister approves the project and plans.

The proposed development will pursue the requirements of Clause 52.20.

The requirements for Clause 52.20 are summarised in the following sections.

Car Parking Requirements – Clause 52.20

As noted above, the site will be funded under Victoria's Big Housing Build and will pursue car parking provisions under Clause 52.20.

The car parking requirements for the subject site are summarised below in Table 5.

Table 5 Clause 52.20 – Car Parking Requirements

Use	*Car Parking Measure*
Dwelling	A minimum 0.6 spaces to each dwelling

Based on Clause 73.03 Land Use Terms, the development will be assessed as 'dwellings', therefore the rate of 0.6 spaces to each dwelling will be used to determine car parking requirements.

The car parking requirements for each building have been assessed in Table 6.

Table 6 Clause 52.20 – Car Parking Requirements

Use	*No.*	*Car Parking Measure*	*Total*
Private and affordable housing	47 dwellings	A minimum 0.6 spaces to each dwelling	28 spaces
Total Spaces Required			**28 spaces**

Based on the above calculations, Clause 52.20 requires to provide a total of 28 spaces for the development.

The plans show that 1 car parking space is provided to each dwelling, resulting in 47 car parking spaces across the site.

The provision of car parking is therefore well in excess of the Clause 52.20 requirement.

It is noted that there is no requirement to provide for visitor car parking based on Clause 52.20 of the Planning Scheme

Traffic

Existing Traffic Volumes

Traffic volume, speed and classification surveys were received from Brimbank City Council at 38 Thornhill Drive, Keilor Downs, for a one-week period from Monday 5th October 2015 to Sunday 11th October 2015 inclusive. The results of the surveys are summarised in Table 7.

Table 7 Traffic Volume and Speed Surveys

Time Period	*Direction*	*Traffic Volume (vpd)*	*Average Speed (km/h)*	*85th Percentile Speed (km/h)*
Weekday Average	Eastbound	147	36.4	44.0
	Westbound	144	32.0	38.0
	Both Directions	291	34.2	41.0

Conservatively adopting the weekday average, it is shown that in 2015 Thornhill Drive observed an average of 291 vehicles per day with an average speed of 34.2km/h and an 85th percentile speed of 41.0km/h.

Based on aerial photography, it is observed that there has been no significant development in the vicinity of the site which would indicate higher traffic volumes per day than observed in 2015. It is therefore considered reasonable to assume that the traffic volumes captured in 2015 would reflect similar traffic volumes in 2021 (outside COVID-19 lockdown measures).

Traffic Generation

It is generally accepted that single dwellings on a lot in outer suburban areas may generate traffic at up to 10 vehicle trips per day, whilst in areas with good public transport, and for higher density dwellings, lower traffic generation rates are often recorded.

Considering the size of the dwellings proposed, the proximity of the site to public transport, and the provision of parking proposed, it is anticipated that the proposed dwellings may generate up to 6 vehicle trips per apartment per day, or 0.6 trips per unit during the peak periods.

This equates to approximately 282 vehicle trips per day, or 28 trips during the peak periods. It is noted that this assessment is conservatively high given that the specific social housing use, which may see a reduction in vehicle trips during peak periods compared to standard residential dwellings.

Traffic Impact

It is noted that Thornhill Drive appears to be designed as an Access Street Level 1, capable of accommodating up to 2,000 vehicles per day. The addition of the 282 vehicle movements expected to be generated by the proposed development and the 291 vehicle movements observed during the 2015 survey equates to a total of 573 vehicle movements per day.

The estimated number of vehicle movements per day along Thornhill Drive is therefore well below the indicative design capacity for an Access Street Level 1, and is therefore considered appropriate.

Furthermore, the peak hour traffic generation of 28 vehicle movements equates to less than 1 movement every 2 minutes during the peak hour periods, and is therefore expected to have no material impact on the surrounding road network or intersections.

Please do not hesitate to contact me should you wish to discuss the above.

Yours sincerely,

Jamie Spratt

Director

onemile**grid**

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d: (03) 9982 9715
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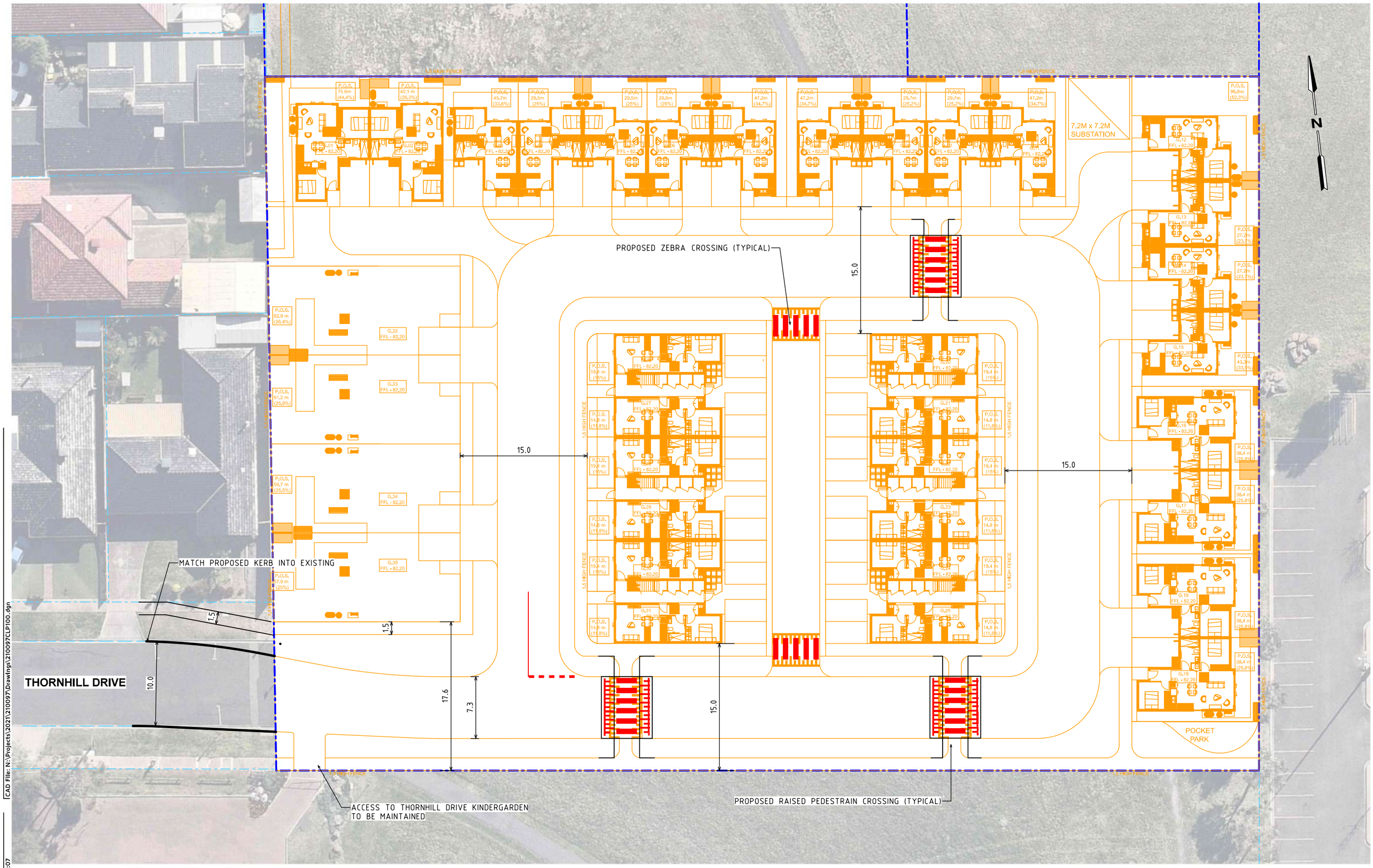

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Drawing Title
BAPTCARE KEILOR DOWNS
SITE LAYOUT
CONCEPT LAYOUT PLAN

Designed	Approved	Melway Ref
DW	JS	13 J6

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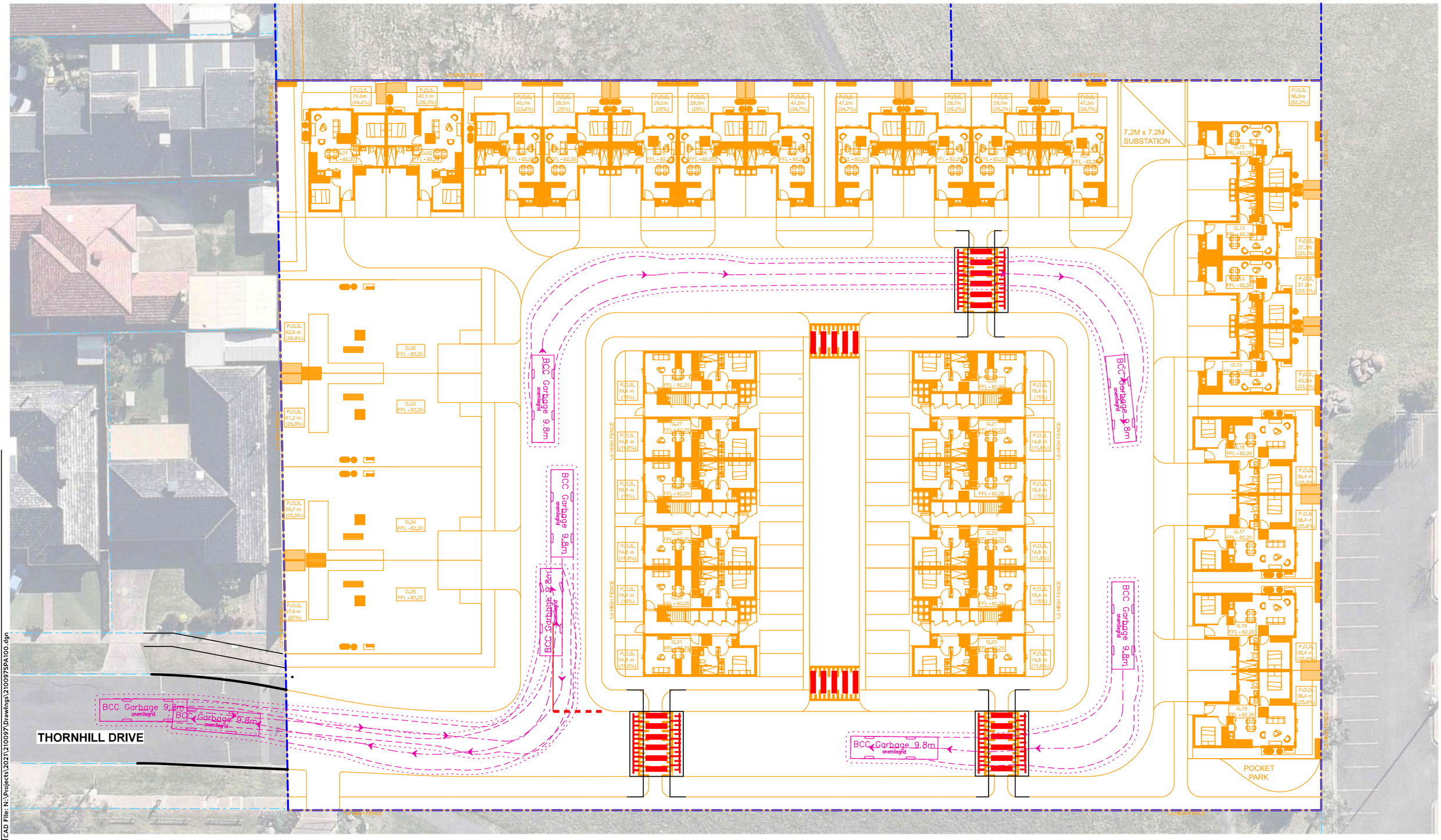

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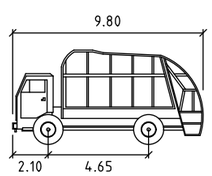

BCC GARBAGE 9.8m meters

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SWEPT PATH LEGEND

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- - - - - - - - 500mm CLEARANCE ENVELOPE SHOWN DOTTED

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SITE ACCESS
WASTE VEHICLE

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DW	JS	13 J6

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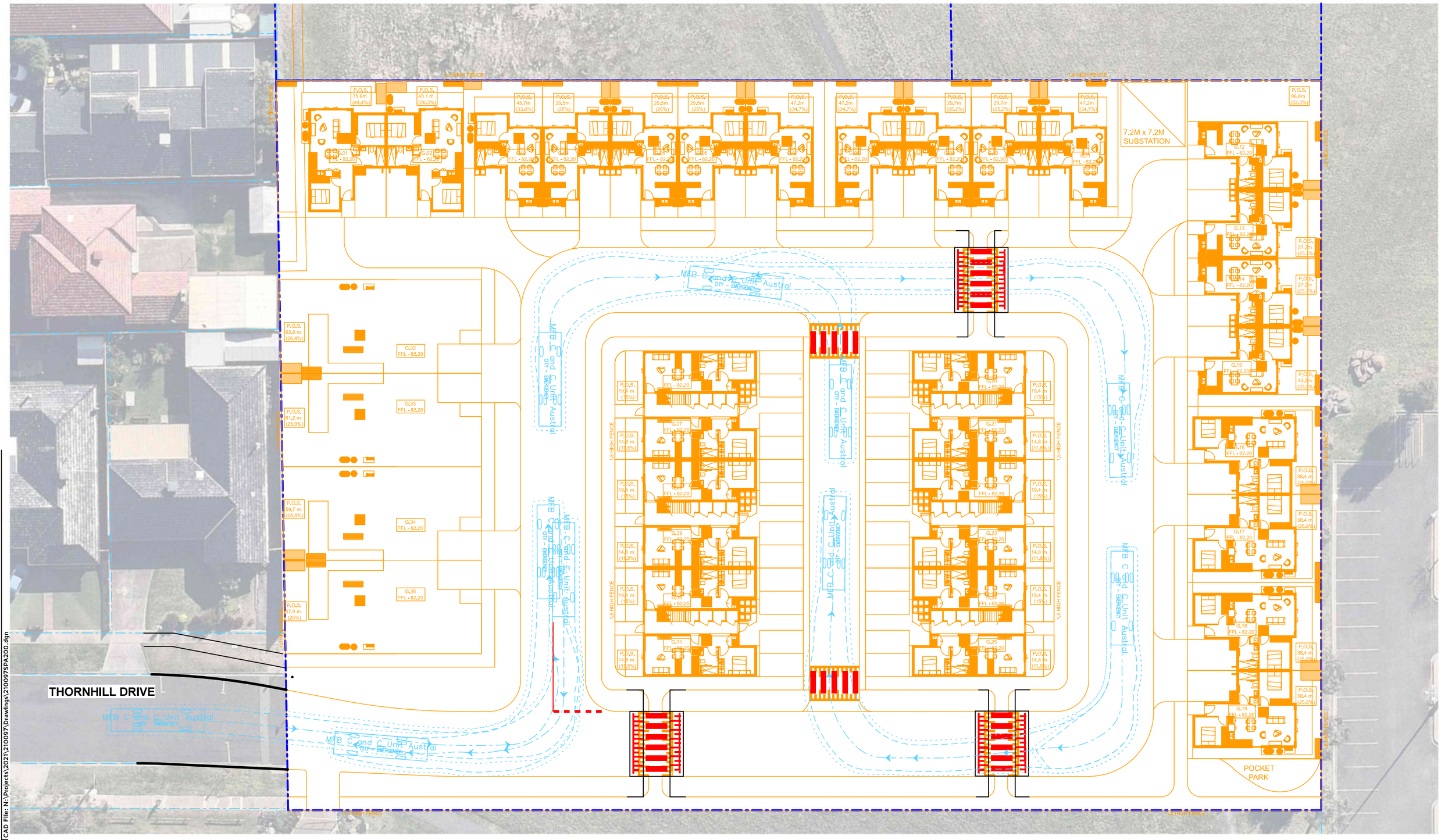

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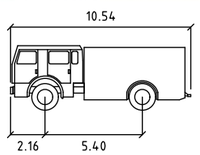

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SWEPT PATH LEGEND

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- - - - - - - - 500mm CLEARANCE ENVELOPE SHOWN DOTTED

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Drawing Title
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SITE ACCESS
MFB FIRE TRUCK

Designed	Approved	Melway Ref
DW	JS	13 J6

Project Number	Drawing Number	Revision
210097	SPA200	G

Aerial Photography
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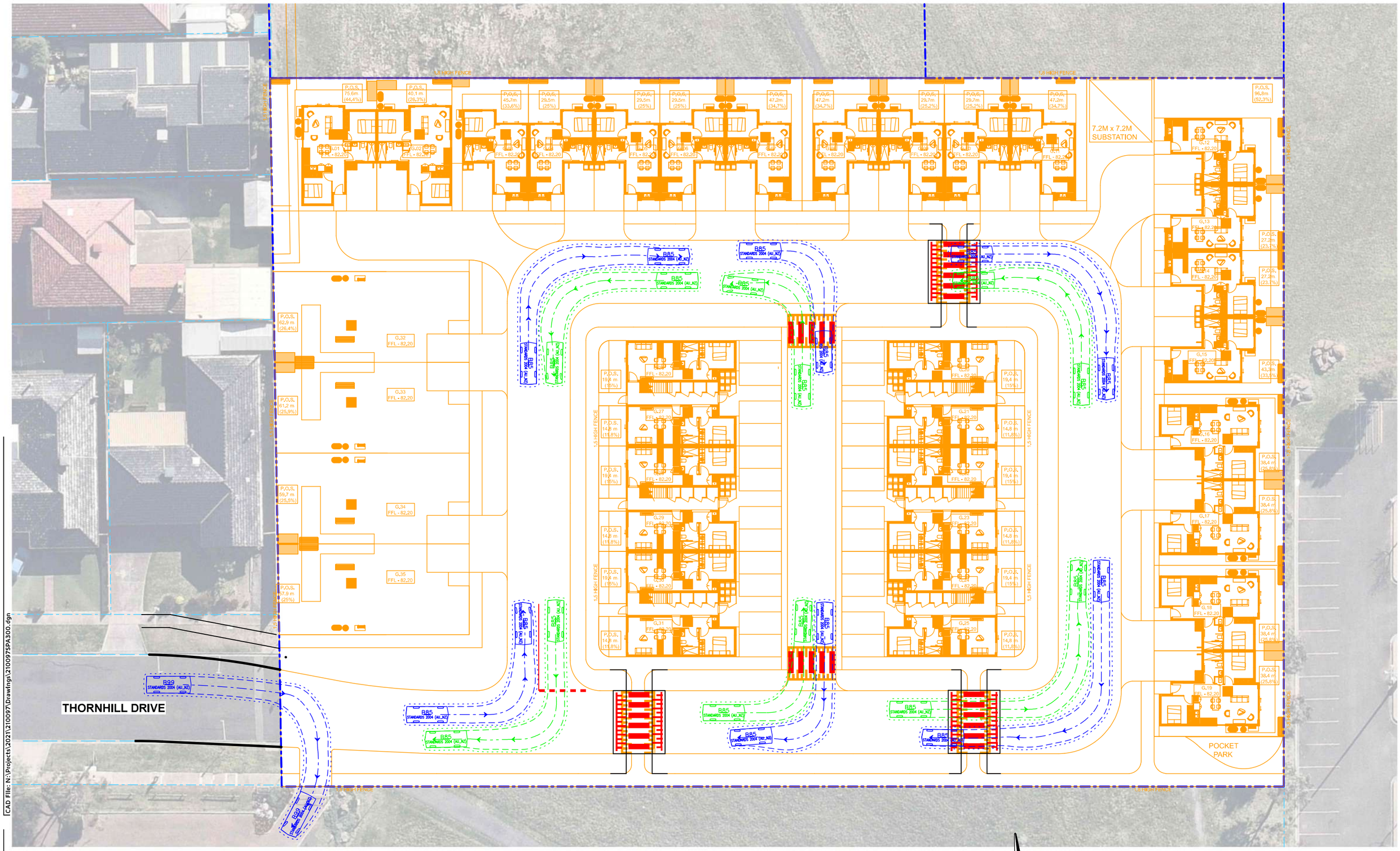

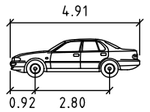

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SWEPT PATH LEGEND

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Aerial Photography
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Drawing Title
BAPTCARE KEILOR DOWNS
SITE ACCESS
GARAGE ACCESS

Designed	Approved	Melway Ref
DW	JS	13 J6

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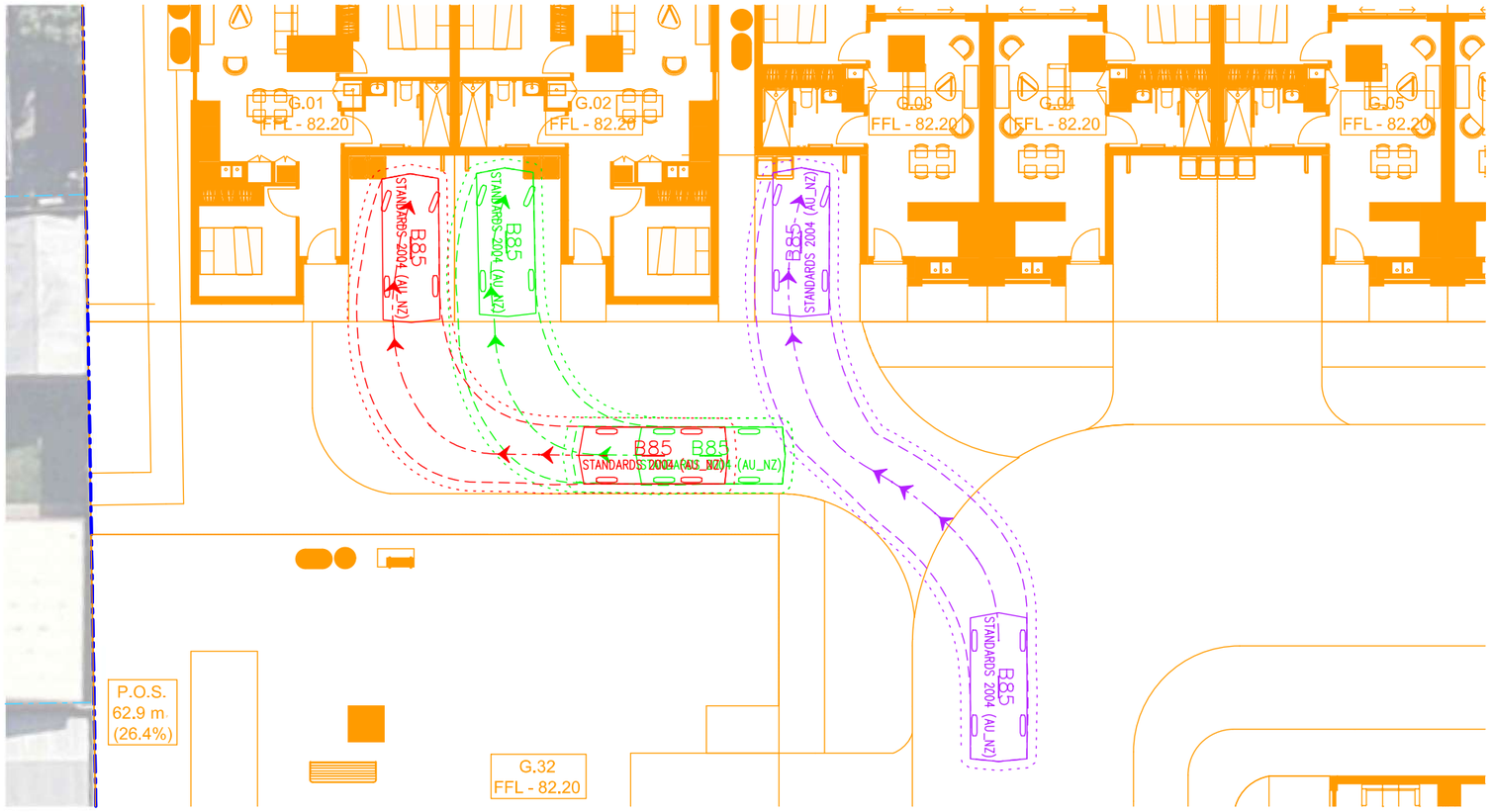

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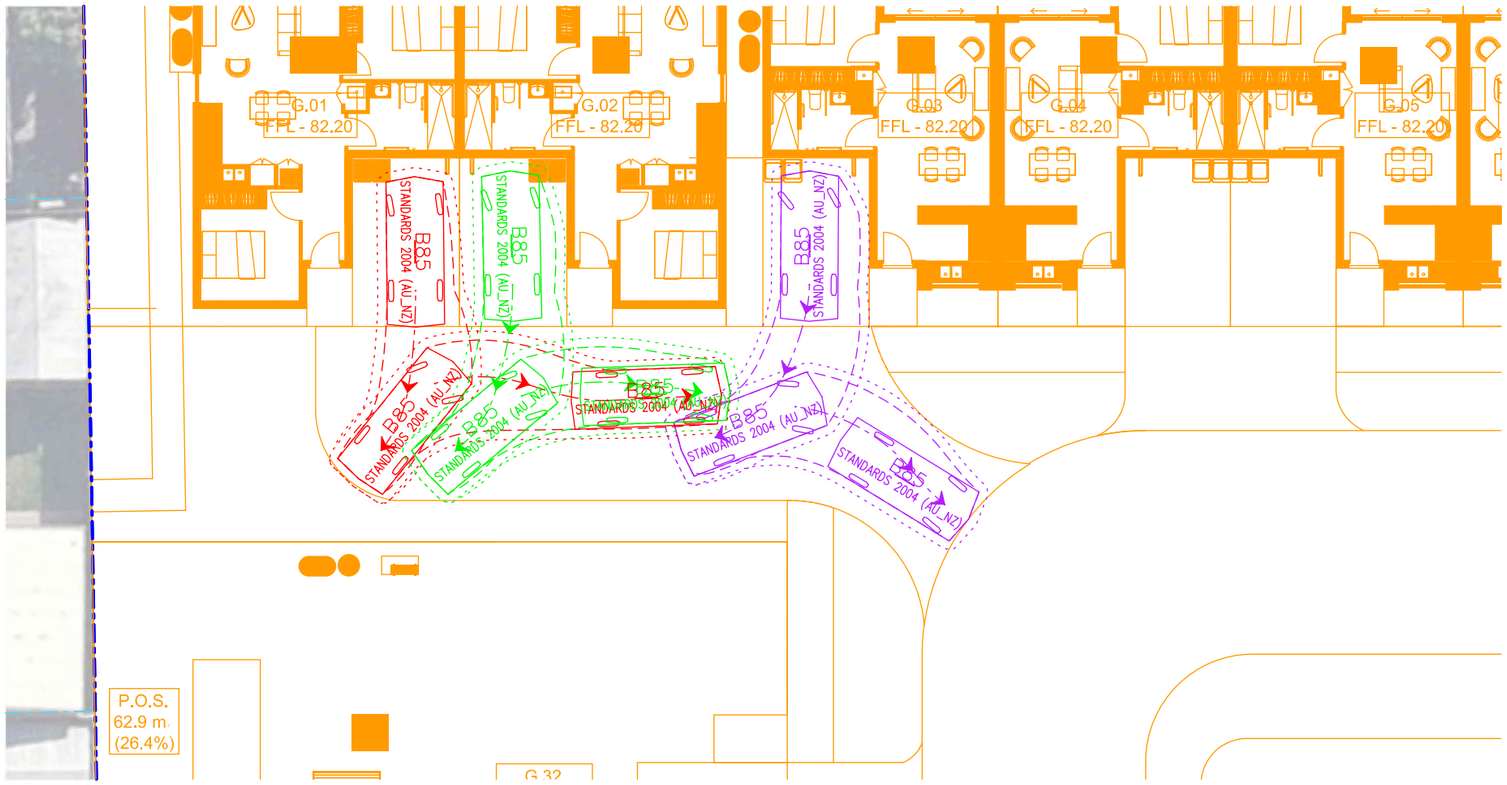

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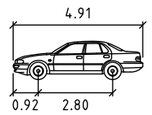

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Drawing Title
BAPTCARE KEILOR DOWNS
GARAGE ACCESS
SWEPT PATH ANALYSIS

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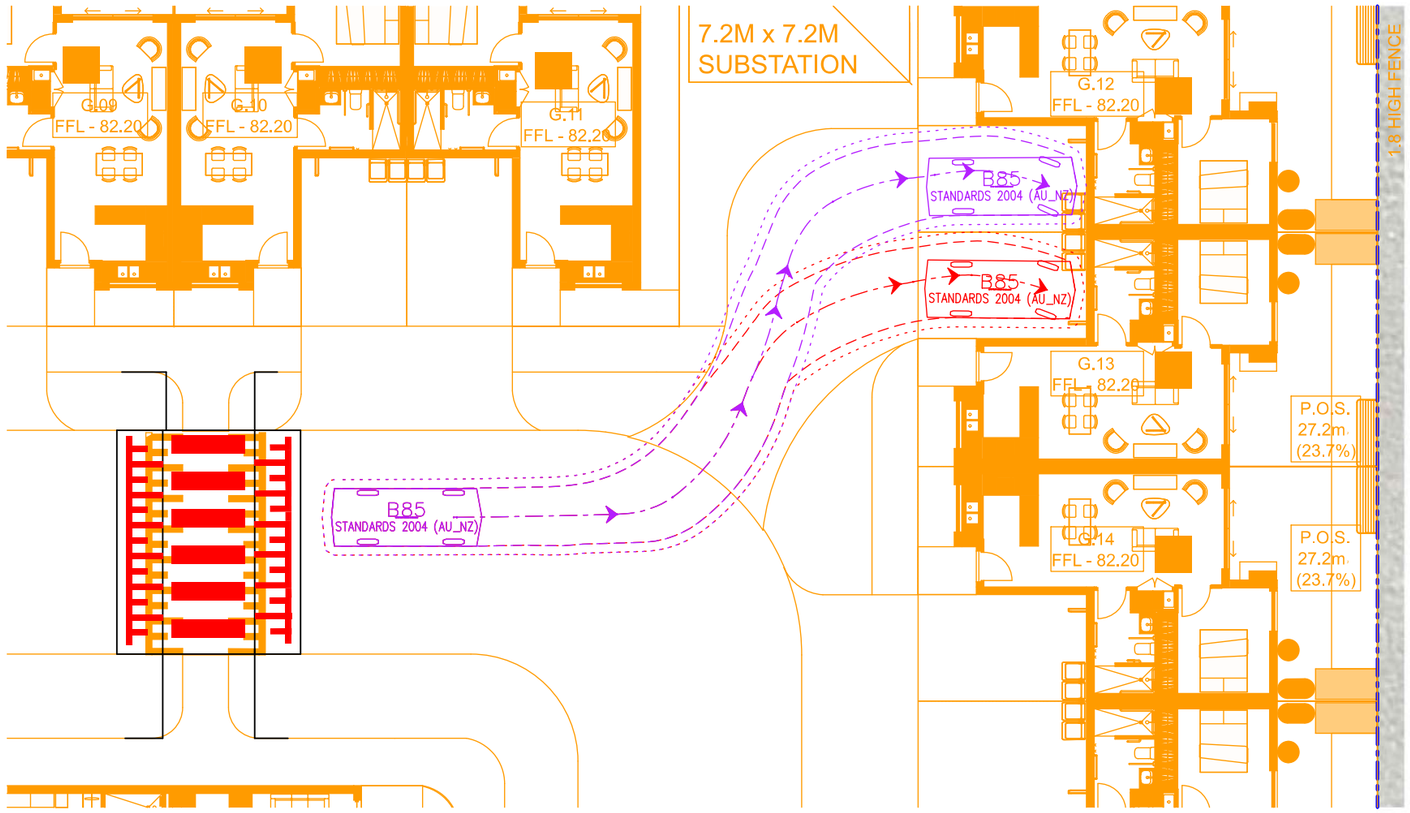

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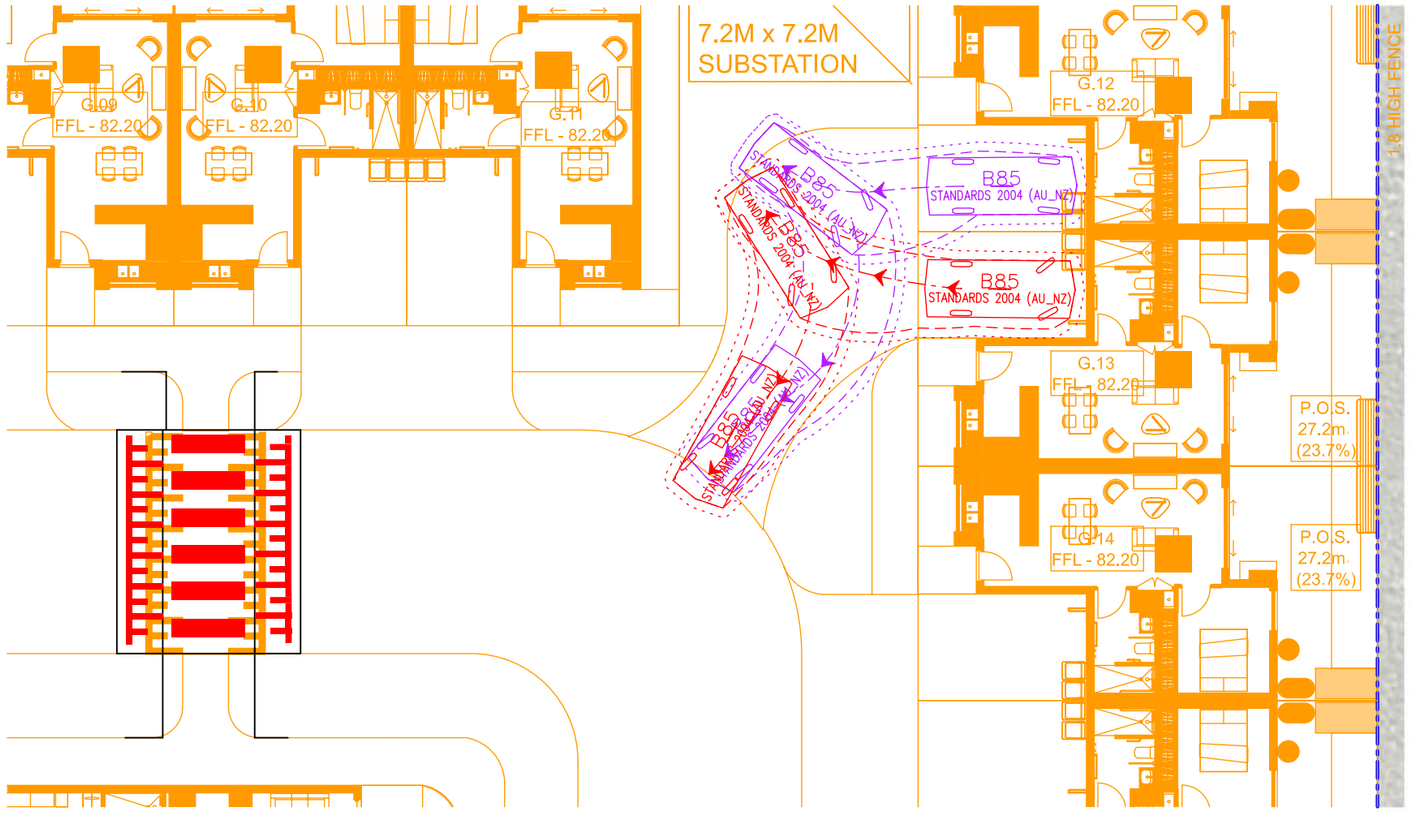

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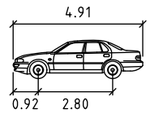

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Drawing Title
BAPTCARE KEILOR DOWNS
GARAGE ACCESS
SWEPT PATH ANALYSIS

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