

Title Fison Avenue, Eagle Farm

Stage 1 Development Application Transport Statement

Client King Fiso155 Pty Ltd & KOM Industrial 5
Pty Ltd & Link Brose No1 Pty Ltd

Project No T0921038

Date 22/11/2021

Status Final

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1 Introduction

Cardno Qld Pty Ltd (Cardno) has been engaged by King Fiso155 Pty Ltd & KOM Industrial 5 Pty Ltd & Link Brose No1 Pty Ltd (the client) to provide traffic engineering advice in relation to the proposed 'Eagle Farm Precinct' industrial & office development on Fison Avenue in Eaglefarm.

The purpose of this report is to assess the traffic and transport components of the proposed development against the requirements of the Northshore Hamilton Priority Development Area (PDA) Development Scheme and demonstrate practical conformance identified in the Brisbane City Council (BCC) Planning Scheme. Therefore, the report addresses the following:

- > Internal traffic arrangements, including car park design compliance, parking provisions, access driveway design and servicing provisions
- > Active and public transport connections

1.1 Site Location

The development site is located over the properties on 155 -161 Fison Avenue W, 110 Links Avenue S and 364 Curtin Avenue W, Eagle Farm. These properties currently exist within the Northshore Hamilton Priority Development Area Development Scheme. The site is bound by industrial uses to the north, east and west. Figure 1-1 shows the site location.

Figure 1-1 Site Location



Source: Metromap

The site is currently accessed at multiple locations:

- > Three left in/left out accesses onto Fison Avenue
- > One all movements driveway onto Curtin Avenue.

1.2 Local Road Network

The site has frontage along three roads, including Fison Avenue W, Links Avenue S and Curtin Avenue W. The local road network is shown on Figure 1-2, with key characteristics summarised in Table 1-1.

Figure 1-2 Local Road Network



Source: Metromap, Brisbane City Council Road Hierarchy Map

Table 1-1 Local Road Network

Road	Classification	Posted Speed	Typical Form
Southern Cross Way	Motorway	80km/h	Four-Six lane, two way, median divided
Kingsford Smith Drive	Arterial Road	80km/h	Six lane, two way, median divided
Fison Avenue W	District Road	50-60km/h	Four-Two lane, two way, divided
Links Avenue S	District Road	50km/h	Two lane, two way, undivided
Curtin Avenue W	Neighborhood Road	50km/h	Two lane, two way, undivided

1.3 Active Transport Facilities

There are some footpaths located around the local roads surrounding the site. Additionally, under the Council's bicycle network overlay Fison Ave is identified as a local cycle route and Curtin Ave is noted as a secondary cycle route. This provides immediate access surrounding cycle network from both frontages, and connects the subject site to Kingsford Smith Drive, Gateway Motorway and the rest of the PDA, supporting cycle connectivity within the immediate area and the surrounding local network.

Figure 1-3 illustrates the active transport network surrounding the development site.

Figure 1-3 Surrounding Active Transport Facilities



Source: Metromap

As shown on Figure 1-3, there are partial connections to pedestrian footpath surrounding the subject site. Furthermore, there are direct and cohesive connections within the development to the local cycle network, promoting active transport.

Overall, the site is generally supported by existing active transport provisions.

1.4 Public Transport Facilities

The surrounding public transport facilities are shown on Figure 1-4.

Figure 1-4 Surrounding Public Transport Facilities



Source: Metromap, TransLink

1.4.2 Bus Services

There are four bus stops within the 800m walkable catchment of the development. Table 1-2 summarises the bus services for the bus stops nearest to the development.

Table 1-2 Bus Network Services

Route	Destinations	Weekday Peak Frequency	Weekday Off-Peak Frequency
302	Pinkenba to City	20 minutes	N/A
303	Pinkenba/Myrtle town to Doomben	30 minutes	N/A
304	Northshore Hamilton ferry terminal to Doomben station (loop)	30 minutes	30 minutes

Source: TransLink

1.4.3 Ferry Services

The Northshore Hamilton ferry terminal is approximately 900m from the development. Table 1-3 summarises the available ferry services nearest to the development.

Table 1-3 Ferry Network Services

Route	Destinations	Weekday Peak Frequency	Weekday Off-Peak Frequency
UQSL	Northshore Hamilton to UQ St Lucia	15 minutes	30 minutes

2 Proposed Development

2.1 Overview

The 'Eagle Farm Precinct' development proposes to redevelop the existing industrial uses into a mixed industrial and office development, with five (5) mixed-use buildings proposed for stage 1. There are also separate provision amenity land uses also included, which are not expected to generate parking demand or traffic volume. The building yields are detailed in Table 2-1.

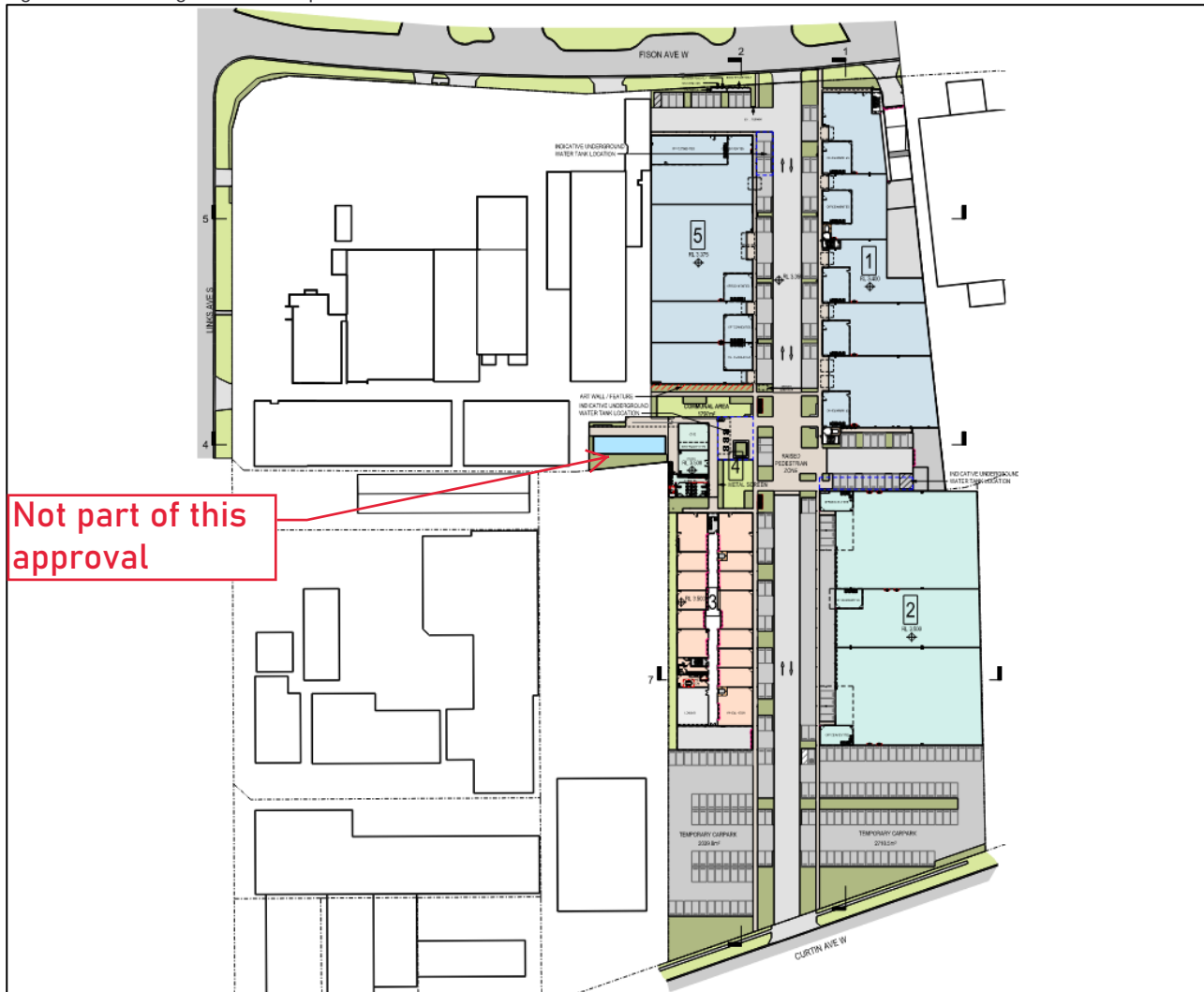
Table 2-1 Stage 1 Development Yield

Building	Land Use	Yield
Stage 1		
Building 1	Ancillary Office	430.8 m ²
	Indoor sport and Recreation	1,489.2 m ²
	Industrial	3,189.5 m ²
	Terrace	84.7 m ²
Building 2	Ancillary Office	436.3 m ²
	Industrial	4,98.6 m ²
	Terrace	60.6 m ²
Building 3	Warehouse	3,601.4 m ²
Building 4	Amenities	275.3 m ²
Building 5	Ancillary Office	429.1 m ²
	Industrial	2,973.7 m ²
	Terrace	109.8 m ²
Separate Amenities	Bin Room	175.4 m ²
	Fire Pump Room	88.0 m ²
	Substation	40.0 m ²
	Water Tank	266.4 m ²
Total (excl. separate amenities)		17,578.9 m ²
Complete Total		18,148.7 m ²

2.2 Stage 1 Development

The ground floor plan for stage 1 is illustrated in Figure 2-1 with full plans attached in **Appendix A**.

Figure 2-1 Stage One Development Plan



Source: Rothelwman

The parking provision in Stage is outlined in Table 2-2.

Table 2-2 Stage 1 Parking Provision

Floor	Car Parking Spaces	Bicycle Parking Spaces
Ground	95 spaces + 126 temporary spaces	106 spaces
Level 1	42 spaces	-
Level 2	54 spaces + 6 motorcycle spaces	-
Level 3	109 spaces + 3 motorcycle spaces	-
Total	435 spaces (incl. 9 motorcycle spaces)	106 spaces

The parking provision in Stage 1 is expected to ensure the development meets parking demand for the site.

2.3 Northshore Hamilton PDA Development Scheme

The Northshore Hamilton PDA Development Scheme has previously assumed industrial land uses on the subject site. This assumed land use has a corresponding trip generation which needs to be accounted for as part of the traffic impact assessment. The client has provided a plot ratio for the indicative impact areas whereby suitable PDA industrial GFAs can be calculated, with the corresponding trip generation.

The estimated GFA from the PDA for the stage one development (i.e. the Interim 2031 scenario) is ~30,000m² of land impacts, with a resulting 12,000m² GFA of industrial land accordingly.

3 Internal Active transport provisions

3.1 Overview

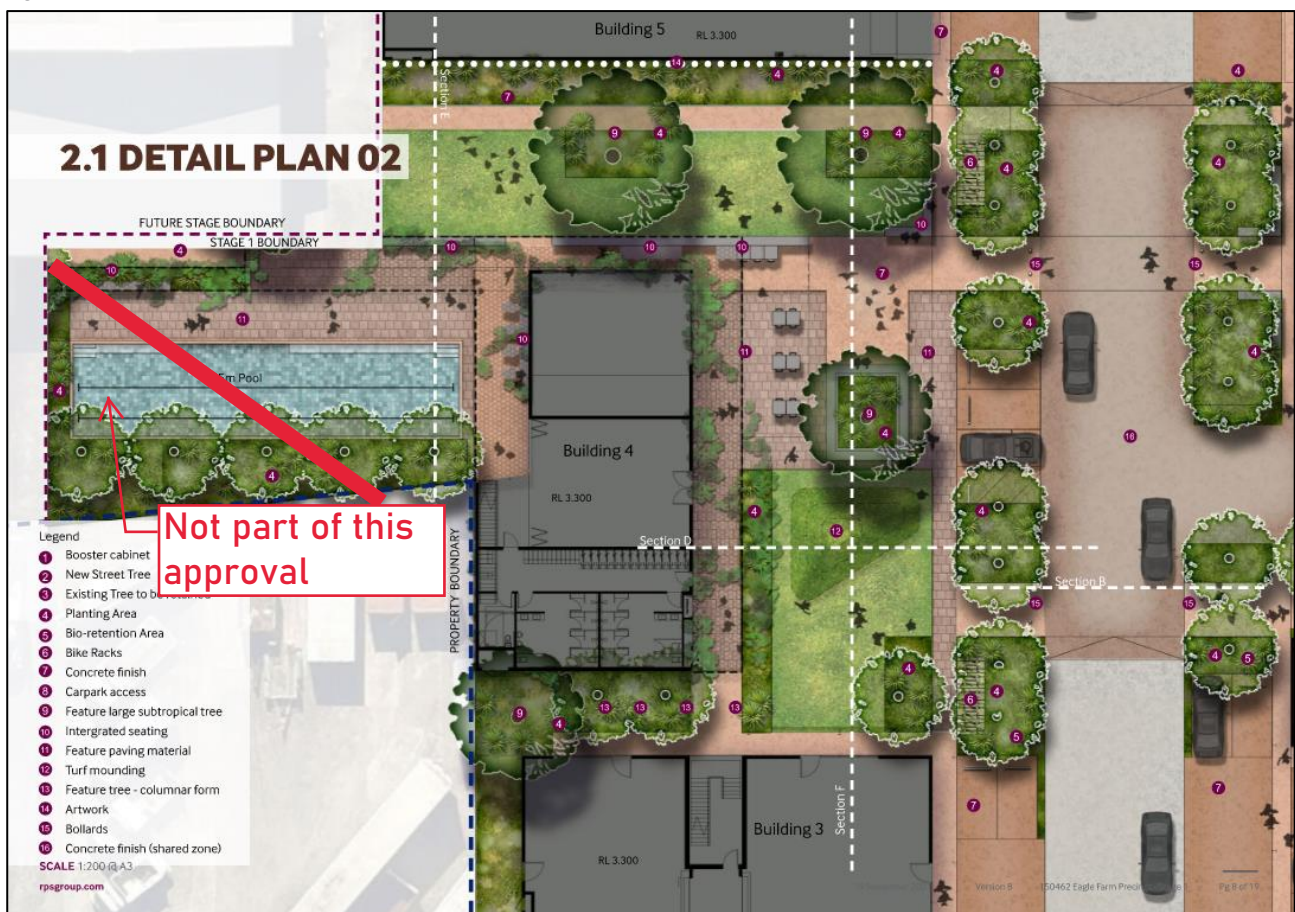
The proposed development will include several active transport provisions within the development, such as the following:

- A wellness hub, designed to provide amenities to visitors to the centre and facilitate active transport to and from the proposed development, including a 25m exercise pool
- A raised shared pedestrian zone area within the middle of the development, prioritising pedestrian movements, connecting the proposed activity hub with other areas of the development
- Bicycle provisions including surplus storage and amenities
- Separated and safe pedestrian footpaths throughout the development.

3.2 Centre shared zone

The development provides a shared pedestrian zone area that directly connects to the proposed wellness hub within the centre of the development and provides additional connections for pedestrians. Figure 3-1 below details this zone.

Figure 3-1 Raised Shared Zone



Source: RPS Group

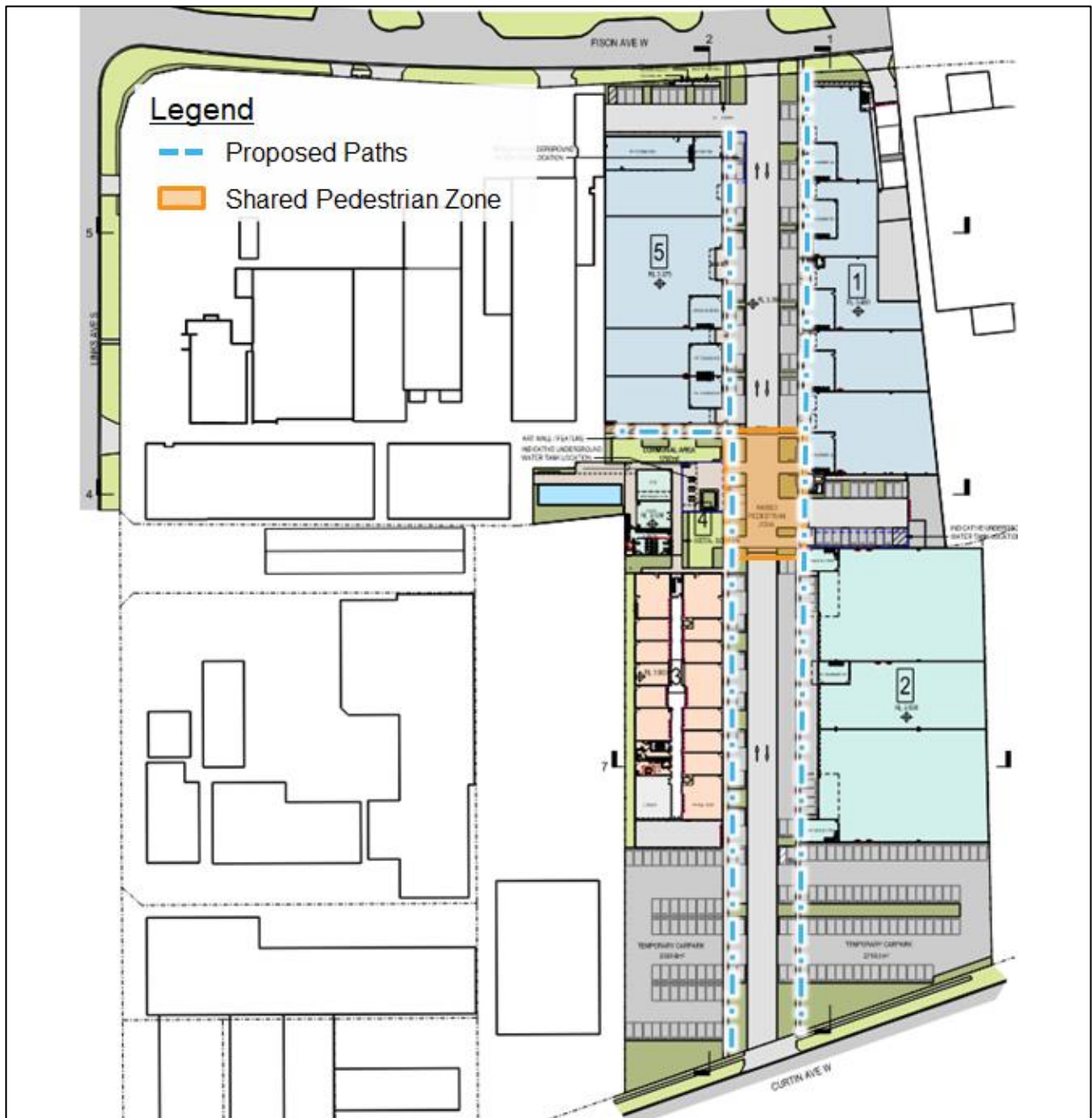
As shown above, pedestrian movements are prioritised within the centre area, with motorists required to give way to vehicles within this area. Motorists are made aware priority via the raised area and signage, which both physically reduces the speed of drivers entering the zone and draws attention to the change in priority.

The centre zone also provides significant green corridor space within the proposed development, and thus makes the development more amenable and conducive to active transport opportunities.

3.3 Footpath provisions

Safe pedestrian access is available throughout the site through the proposed provision of suitable footpaths available along both sides of the main development corridor. These are detailed further in Figure 3-2.

Figure 3-2 Proposed Active Transport Provisions



All footpaths are removed from the main central corridor to reduce pedestrian / motorist conflicts and increase pedestrian safety where possible. Pedestrian crossings are further supported via the provision of the shared pedestrian zone, which provides priority to pedestrian crossings and further improves safety.

As such, the development seeks to improve the existing active pedestrian network where possible, and provide safe and efficient pedestrian connections throughout the development.

4 Compliance Review

4.1 Design Consideration Overview

Cardno has undertaken a detailed review of the proposed site layout to ensure compliance with relevant standard and guidelines, including:

- > Brisbane City Council's (Council) 'Traffic, Access, Parking and Servicing' (TAPS) Planning Policy
- > Australian Standards: Parking Facilities Part 1 – Off-street Car Parking (AS2890.1) 2004
- > Northshore Hamilton Priority Development Area Development Scheme (PDA)

The review focuses on site access, parking provision, carpark design and servicing arrangements.

4.2 Access

4.2.1 Configuration

Vehicle access for Stage 1 is proposed to be gained via three (3) driveway crossovers:

- > A) a 10m wide Type B1 access on Fison Avenue West
- > B) a 6.8m wide Type B2 access on Fison Avenue West
- > C) a 10m wide Type B1 access on Curtin Avenue West

It is noted that access points A & B on Fison Avenue have been separated to remove four-way intersections from the layout and reduce potential conflicts within the layout.

Table 4-1 below details the suitability of the below proposed access points.

Table 4-1 Access Suitability Review

Access	Configuration	Service Vehicle	# Parking Bays	TAPS Requirement	Compliant
Fison Ave (A)	10m Type B2	AV	111	9m Type B2	Yes
Fison Ave (B)	6.8m Type B2	Car	205	6m Type B2	Yes
Curtin Ave (C)	10m Type B2	AV	111	9m Type B2	Yes

As such, the proposed access configurations comply with Council's TAPS Policy.

4.2.2 Location

Table 4-2 reviews the suitability of the proposed access locations.

Table 4-2 Access Location Review

Access	Feature	Required Separation	Available separation	Compliant
Fison Ave (A)	Adjacent Driveway (East)	3m	>3m	Yes
	Adjacent Driveway (West)	3m	>3m	Yes
Fison Ave (B)	Adjacent Driveway (East)	3m	0m	See Below
	Adjacent Driveway (West)	3m	>3m	Yes
Curtin Ave (C)	Adjacent Driveway (East)	3m	>3m	Yes
	Adjacent Driveway (West)	3m	>3m	Yes

The intersection separation to the east for Access B is less than 3m. It is important to that this separation is suitable for the development because of the following:

- > The access is within the same area as an existing access
- > Other access locations along the corridor do not have 3m separation
- > The development consolidates a number of accesses along the corridor and predominately improves safety with the proposed access strategy.

As such, the proposed access locations comply with Council's TAPS Policy.

4.2.3 Sight distances

Fison Avenue and Curtin Avenue have a 50km/h speed limit and a 60km/h design speed. Table 4-3 outlines the required and available 'safe intersection sight distances' (SISD) for each proposed access as outlined in Part 4a of Austroad's 'Guide to Road Design' Manual.

Table 4-3 Access Sight Distance Review

Access	Feature	Required sight distance	Available sight distance	Compliant
Fison Ave (A)	Eastern Direction	114m	>120m	Yes
	Western Direction	114m	>120m	Yes
Fison Ave (B)	Eastern Direction	114m	>120m	Yes
Curtin Ave (C)	Eastern Direction	114m	>120m	Yes
	Western Direction	114m	>120m	Yes

As such, the available sight distance is compliant with Austroads SISD requirements.

4.2.4 Surrounding elements

The proposed driveways are considered suitable additions to the local road network for the following reasons:

- > The proposed driveways are located in similar locations to existing driveways currently located along Fison Avenue W and Curtin Avenue W and also have similar access forms.
- > Given the similar form and location there is expected to be no additional significant safety risks resulting from these intersections.
- > The median dividing strip along Fison Avenue also restricts the proposed accesses to a predominately left-in / left-out only function, improving safety for vehicle movements at these accesses.

As such, given the above reasoning and demonstrated compliance, the proposed accesses are suitable from a traffic engineering perspective.

4.3 Parking Provision

4.3.1 Car Parking Provision

Section 3.8 of the Northshore Hamilton Priority Development Area (PDA) Development Scheme dictates the required parking provisions for developments within the Hamilton area. This includes the proposed development and the corresponding parking rates have been outlined below in Table 4-4.

Table 4-4 PDA Parking Rates

Land Use	Interim period (prior to the provision of first fixed public transport service)	Long term (after the provision of first fixed public transport service)
Commercial	1 space per 50m² GFA 50% to be provided on site 50% to be provided in a shared centrally located and managed interim car parking facility	1 space per 100m ²
Retail	1 space per 30m² GFA 30% to be provided on site 70% to be provided in a shared centrally located and managed interim car parking facility	1 space per 100m ²

It is important to note that the PDA rates are maximum parking rates. As such, the car parking requirement for the development has been outlined in Table 4-5.

Table 4-5 Provision of Car Parking Spaces

Land Use	Yield	Parking Rate	Required Parking	Parking Provision
Commercial (includes industrial, and ancillary office)	12,211m ²	1 space per 50m ² , 50% provided on site	On Site: 122 spaces Total: 245 spaces	230 permanent spaces + 126 temporary spaces + 9 motorcycle spaces
Retail (includes Indoor Sports, Warehouse and Amenities)	5,367.9m ²	1 space per 30m ² , 30% provided on site	On Site: 54 spaces Total: 179 spaces	
Total (Excl. axillary uses i.e. bin room, etc.)	17,578.9m²		On site: 176 spaces Total: 424 spaces	426 spaces

As such, the proposed parking provision is slightly above the required parking provision. Given the difference in spaces is negligible (424 spaces vs 426 spaces) the proposed parking provision is suitable regarding the PDA requirement. Additionally, the over provision can be suitably conditioned as part of the approval and resolved within the project detailed design phase.

It is noted that the industry rate under the city plan also applies in this instance (1 per 100m²), of which the development complies with. However, the more conservative PDA parking rate has been applied for this development.

4.3.2 Bicycle Parking Provision

The PDA bicycle parking requirement for the development has been outlined in Table 4-6.

Table 4-6 Provision of Bicycle Parking Spaces

Yield	Parking Rate	Parking Requirement	Parking Provision
17,578.9m ²	- Workers: 1 space per 200m² NLA - Visitors: 1 space per 1,000m² NLA	106 spaces	106 spaces

As shown in Table 4-6, the proposed development requires a minimum of 106 bicycle spaces. As such, the development plans provide the corresponding parking spaces. Furthermore, Table 4-7 below details the required end of trip facilities that will be provided as part of the proposed development.

Table 4-7 End of Trip Facilities

Yield	Locker Provision	Shower Provision
106 bicycle spaces	Two lockers per space = 212 lockers	4 showers + 1 per 10 spaces = 15 showers total

As such, suitable End-of-Trip facilities will be provided as part of the proposed development.

4.4 Layout Compliance Review

4.4.1 Car Park Design

A review of the proposed parking design has been undertaken to assess the areas of compliance with Council's TAPS Planning Scheme and AS2890.1. The results are summarised in Table 4-8.

Table 4-8 Parking Design Compliance

Design Criteria	Design Requirement	Proposed	TAPS	AS2890.1
Bay length – standard	5.4m	5.4m	✓	✓
Bay width – standard	2.6m	2.6m	✓	✓
Bay width – PWD	2.4m + 2.4m shared zone	2.4m + 2.4m shared zone	✓	✓
Aisle width	6.2m	9m - 10m	✓	✓
Multi-story aisle width	6.2m	6.2m	✓	✓
Multi-story service aisle width	6.5m	6.2m	See Below	
Maximum continuous aisle length	150m	150m	✓	✓
Ramp grade	Max. 1:5	Max. 1:5	✓	✓
Ramp transition grade	Max. 1:8	Max. 1:8	✓	✓
Straight ramp width	6.2m	6.4m	✓	✓
Servicing Straight ramp width	6.5m	7.0m	✓	✓

As shown above, the stage one development layout is predominately compliant with TAPS and AS2890.1, with the only issue being the service aisle width for service vehicles accessing the multi-storey car park. This will be amended within the detailed design phase to allow for the required width provision of 6.5m. As such, the layout is a safe and suitable compliant layout.

4.4.2 Queuing Provision

A review of the available queuing provision has been undertaken to assess compliance with Council's TAPS Policy. Table 10 of Council's TAPS Policy indicates that:

- > Parking areas with 101-150 parking spaces (the site provides for 221 spaces on the ground floor between two accesses) must provision for a 5-vehicle queue
- > Parking areas with 201-250 parking spaces (205 spaces within the multi-storey car park) must provision for a 7-vehicle queue

The design allows for the following queue storage at the site exits:

- > A) Three (3) vehicles worth of storage at the Fison Ave exit
- > B) Seven (7) vehicles worth of storage at the Fison Ave multi-story car park exit
- > C) Four (4) vehicles worth of storage at the Cullen Ave exit

It is noted that there are reduced queueing provisions available at access locations A & C. These are considered suitable design for the following reasons:

- > There are significant sight distances available to access locations, mitigating any potential safety impacts that may occur from excess queueing
- > Any exiting queues will not impact the internal operations and local road network
- > The development includes low-turnover warehouse and industrial land uses, reducing the potential queueing provision

Given the above reductions in potential queuing impacts and safety issues, the reduced queueing provision is considered safe and suitable for this development. As such, the available queuing capacity is generally in accordance with TAPS requirements and appropriate from a traffic engineering perspective.

4.5 Servicing

4.5.1 Design Vehicle

Given the differing land uses proposed on site, different service vehicles are required for each tenancy. A summary of the proposed service vehicles is as follows:

- > MRVs: Utilised for the warehouse and indoor recreation land uses
- > HRVs: Utilised by the medium industrial land uses
- > AVs: Utilised by the large industrial land uses

Given the internal configuration each service bay is proposed to be wholly enclosed within each tenancy. The design considerations for each design vehicle required are summarised in Table 4-9.

Table 4-9 Design vehicle for servicing

Design Criteria			Proposed Design	TAPS PSP Compliant
Element	Aspect	Requirement		
MRV Service Bays	Length	9.0m	9.0m	✓
	Width	3.5m	3.5m	✓
HRV Service Bays	Length	12.5m	12.5m	✓
	Width	3.5m	3.5m	✓
AV Service Bays	Length	19.0m	19.0m	✓
	Width	3.5m	3.5m	✓
Aisle width	Two way	6.5m	Min. 9m	✓
Multi-story aisle width	Two way	6.5m	6.2m – 7.7m	To be amended in detailed design
Vertical clearance	MRV	4.5m	>4.5m	✓
	HRV	4.5m	>4.5m	✓
	AV	4.5m	>4.5m	✓
Maximum Ramp Grades	MRV	1:10	1:10	✓
	HRV	1:10	Less than 1:25	✓
	AV	1:10	Less than 1:25	✓

As shown above, the proposed development layout suitably complies with Council's TAPS Policy. Additionally, swept path analysis identifies that the service vehicles can be accommodated in the proposed design and has been provided in **Appendix B** of this report.

It is noted that Council's TAPS Policy requires an AV design vehicle for industrial developments. Given the individual lot size for the medium industrial tenancies, an AV service vehicle is considered unnecessary for these tenancies and as such an HRV is both a suitable service vehicle and the largest expected vehicle on site for these tenancies. Additionally, Council's TAPS Policy outlines that for servicing off a minor road on-site manoeuvring and full loading bay provision for the largest design service vehicle is not essential provided the following is provided for:

- > the design service vehicle can stand wholly contained within the site without occupying any designated queue areas, or blocking access to more than 50% of car parking spaces
- > any on-street manoeuvring by the design service vehicle can be limited to safe reversing onto the site in one movement only
- > the swept path of the design service vehicle may cover the overall width of a two-way undivided driveway.

The proposed swept paths do not more than 50% of car parking spaces, are able to be undertaken within a singular reverse manoeuvre and do not cover the full width of the driveway crossover(s). Therefore, the proposed refuse servicing arrangement is considered in accordance with TAPS guidelines and is sufficient for the proposed development.

Refuse collection vehicle (RCV) servicing is proposed to occur from a central refuse collection area and will be assessed by GG Environmental under separate cover.

5 External Impacts

5.1 Overview

The proposed stage 1 development assesses the traffic impacts at the following subject intersections:

- > Kingsford Smith Drive / Southern Cross Way On-ramp / Fison Avenue
- > Fison Avenue West / Eagleview Place / Southern Cross Way Off-ramp
- > Fison Avenue West / Links Avenue South

SATURN traffic modelling was undertaken as part of the previous Road Network Masterplan assessment to establish baseline traffic volumes. The SATURN modelling includes the original PDA traffic generation as part of the background traffic volumes. As such, the PDA traffic generation will be removed from the corresponding development scenarios and replaced with the corresponding increase in development traffic.

5.2 Traffic Generation Rates

Table 5-1 identifies the traffic generation rates that have applied for the corresponding land uses.

Table 5-1 Stage 1 Land Use Traffic Generation Rates

Land Use	AM Traffic Generation	PM Traffic Generation	Source
Industrial (and associated office use)	0.52 (per 100m ² GFA)	0.56 (per 100m ² GFA)	RMS GTGD 2013
Indoor Sport and Recreation	0.5 (per 100m ² GFA) ⁽¹⁾	5 (per 100m ² GFA)	RMS GTGD 2004
Warehouse / Amenities	0.32 (per 100m ² GFA)	0.34 (per 100m ² GFA)	RMS GTGD 2013

1: 10% of rate applied due to likely opening hours occurring after AM Peak

5.3 Traffic Distribution Splits

Table 5-2 identifies the traffic distribution splits for the corresponding land uses.

Table 5-2 Land Use Traffic Distribution Splits

Land Use	AM Inbound	AM Outbound	PM Inbound	PM Outbound
Medium / Large Industrial (and Auxiliary office)	90%	10%	10%	90%
Indoor Sport and Recreation / Warehouse	80%	20%	20%	80%
Amenities	50%	50%	50%	50%

5.4 Estimated Stage 1 Traffic Generation

Table 5-3 identifies the resulting traffic generation from both the proposed stage 1 development and the previously noted PDA corresponding traffic volume.

Table 5-3 Stage 1 Traffic Generation Volumes

Development	AM Peak			PM Peak		
	In	Out	TOTAL	In	Out	TOTAL
2031 PDA Industrial Volumes	56	6	62	7	60	67
Stage 1 Precinct Generation (2031)	73	11	84	25	131	156
Stage 1 Development Volumes (minus PDA)	17	5	22	18	71	89

5.5 Assessment Scenarios

It has been assumed that stage 1 of the proposed precinct will be completed by 2031. As such, the following assessment scenarios have been prepared for this precinct:

- > 2031 BG + corresponding PDA volumes
- > 2031 BG + Stage 1 Precinct Volumes – corresponding stage 1 PDA volumes

Note: BG = Background traffic

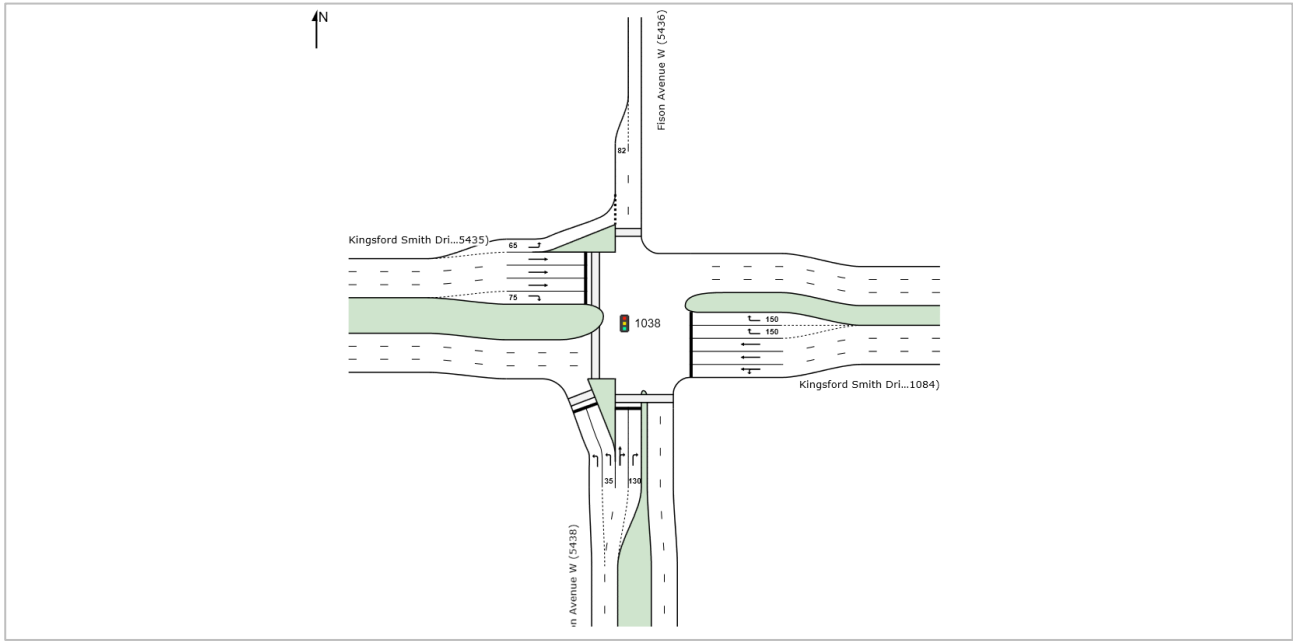
A network flow diagram for the above design scenarios has been prepared and is included in **Appendix C**.

5.6 SIDRA Analysis

5.6.1 Kingsford Smith Drive / Southern Cross Way On-ramp / Fison Avenue West SIDRA Results

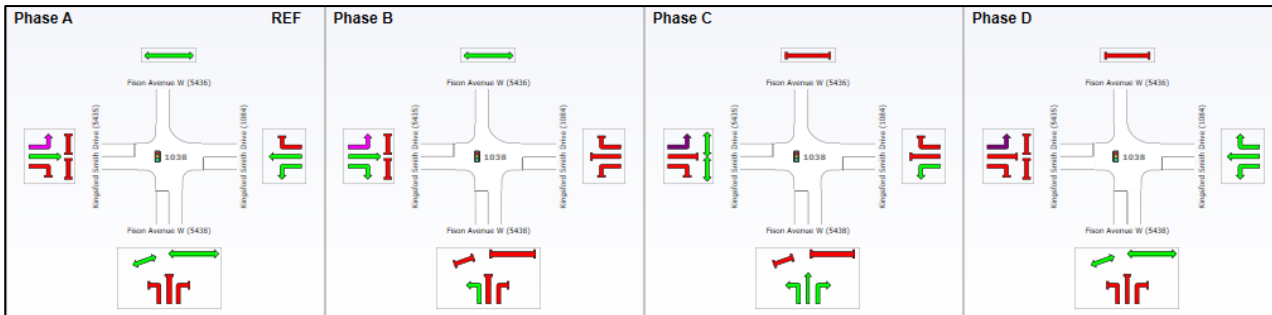
The layout intersection for the Kingsford Smith Drive / Southern Cross Way On-ramp / Fison Avenue West intersection is illustrated in Figure 5-1.

Figure 5-1 Kingsford Smith Drive / Southern Cross Way On-ramp / Fison Avenue West Intersection Layout



The adopted phasing has been sourced from the Road Network Masterplan and is outlined in Figure 5-2.

Figure 5-2 Kingsford Smith Drive / Southern Cross Way On-ramp / Fison Avenue West Intersection Adopted Signal Phasing



Note: Adopted Signal Phasing above is consistent between AM and PM periods

The results for the above intersection are shown below in Table 5-4. Detailed SIDRA outputs are available in **Appendix D**.

Table 5-4 Kingsford Smith Drive / Southern Cross Way On-ramp / Fison Avenue West Intersection Results

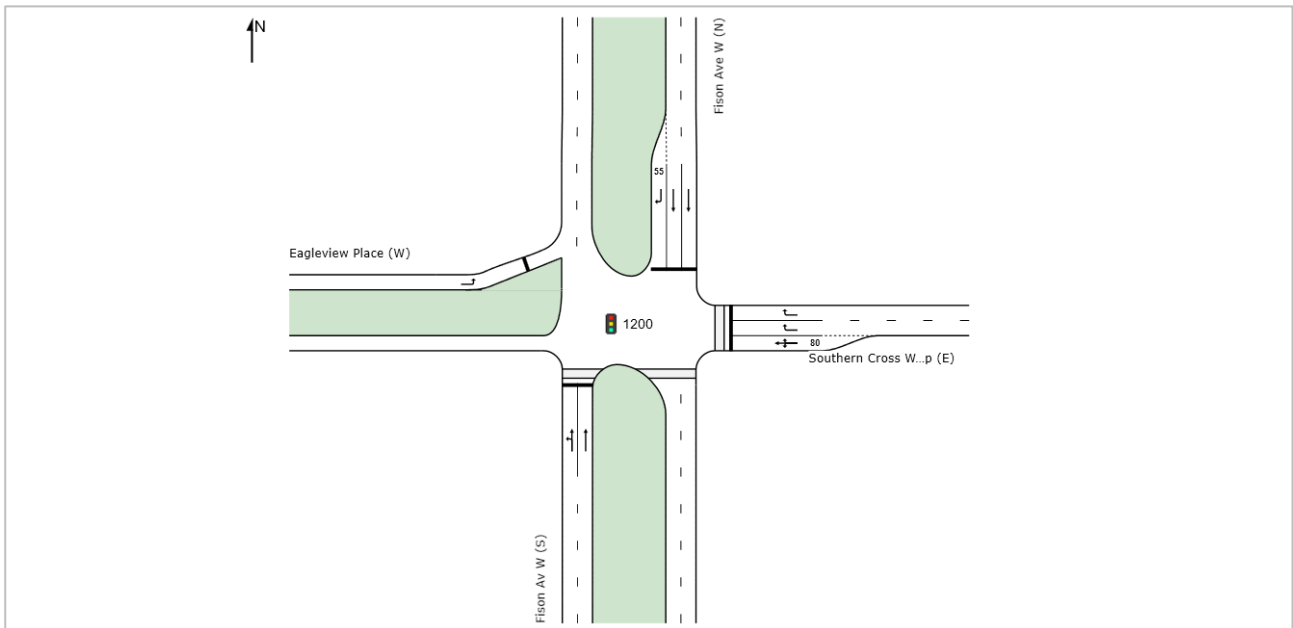
Scenario	AM Peak			PM Peak		
	DOS	Average Delay	95 th %ile Queue	DOS	Average Delay	95 th %ile Queue
2031 BG + PDA	0.94	43.1s	617.8m	1.18	163.8s	876.3m
2031 BG + DEV - PDA	0.94	43.3s	621.4m	1.19	166.7s	878.8m

The results of the SIDRA assessment indicate that the signalised intersection will operate outside of acceptable performance thresholds ($DOS \leq 0.90$) in all assessed scenarios. Overall, the proposed precinct development will have relatively limited impacts on the above intersection, given the excessive delays expected at the intersection in the background scenarios.

5.6.2 Fison Avenue West / Eagleview Place / Southern Cross Way Off-ramp SIDRA Results

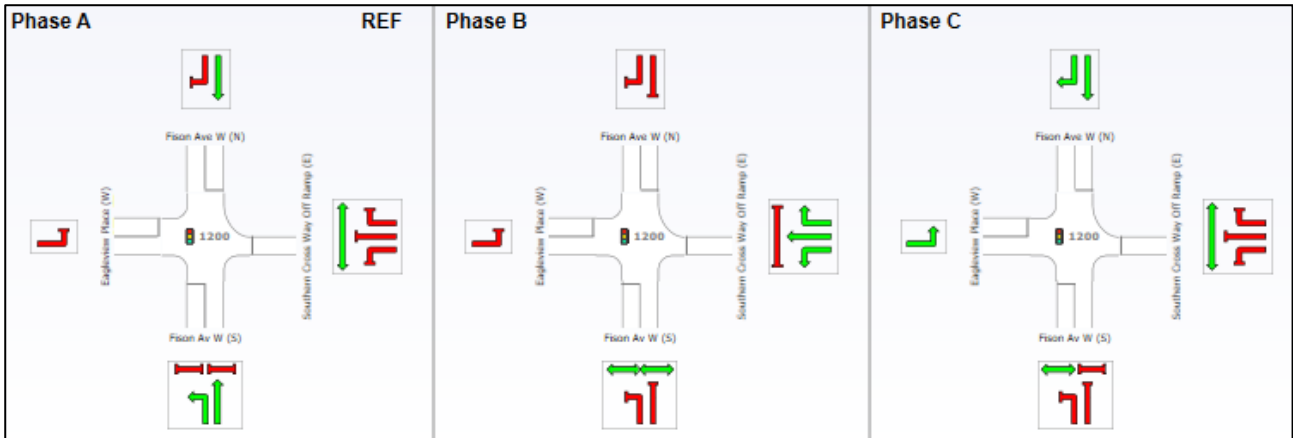
The layout intersection for the Fison Avenue West / Eagleview Place / Southern Cross Way Off-ramp intersection is illustrated in Figure 5-3.

Figure 5-3 Fison Avenue West / Eagleview Place / Southern Cross Way Off-ramp Intersection Layout



The phasing adopted for the study intersection has been sourced from the Road Network Masterplan and is outlined in Figure 5-4.

Figure 5-4 Fison Avenue West / Eagleview Place / Southern Cross Way Off-ramp Intersection Adopted Signal Phasing



Note: Adopted Signal Phasing above is consistent between AM and PM periods

The results for the above intersection are shown below in Table 5-5.

Table 5-5 Fison Avenue West / Eagleview Place / Southern Cross Way Off-ramp Intersection Results

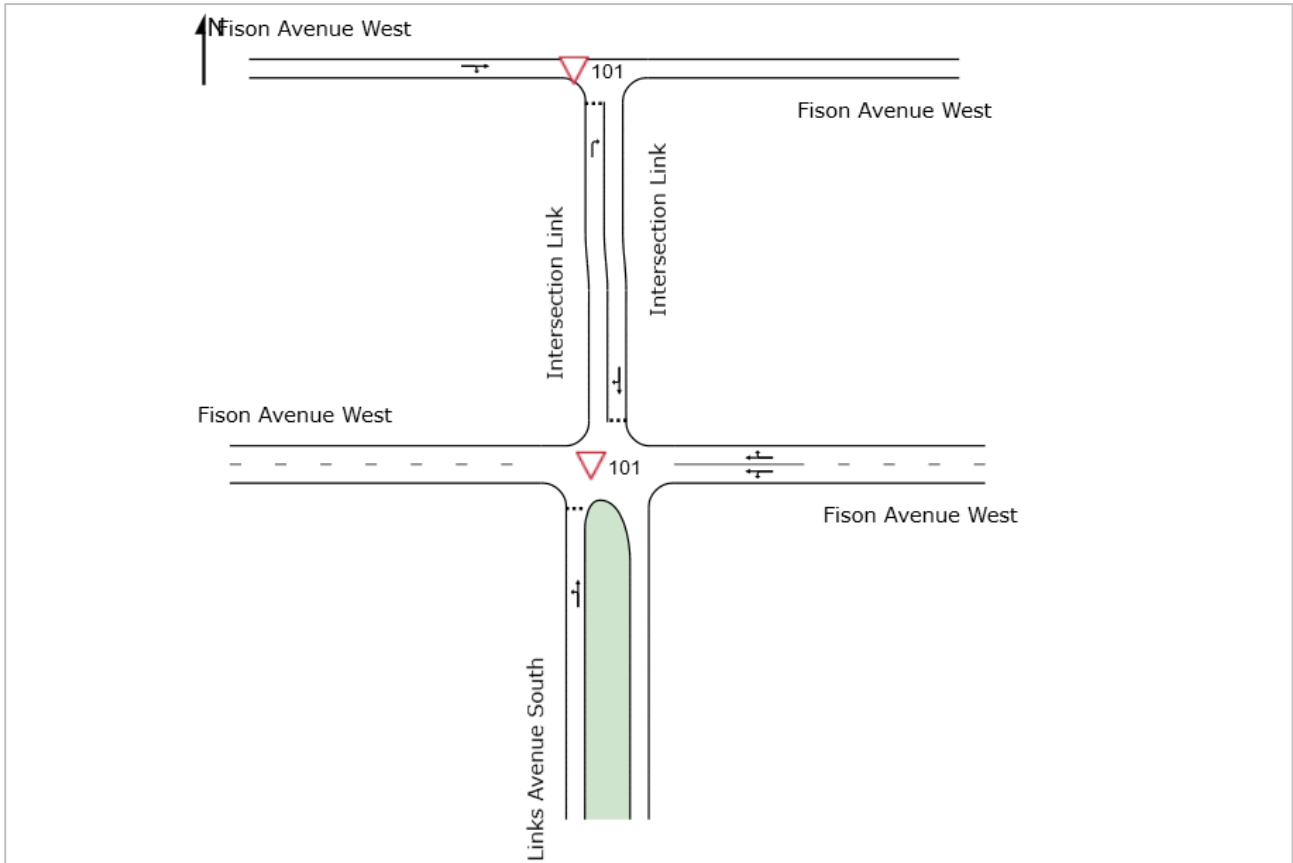
Scenario	AM Peak			PM Peak		
	DOS	Average Delay	95 th %ile Queue	DOS	Average Delay	95 th %ile Queue
2031 BG + PDA	0.71	31.9s	174.9m	0.72	31.7s	295.2m
2031 BG + DEV - PDA	0.71	32.1s	176.9m	0.74	31.9s	309.2m

The results of the SIDRA assessment indicate that the signalized intersection will operate within acceptable performance thresholds ($DOS \leq 0.90$) for all scenarios bar the ultimate AM Peak design scenarios. The proposed precinct development will have relatively minor effects on the local network in the 2031 design scenarios.

5.6.3 Fison Avenue West / Links Avenue South SIDRA Results

The layout intersection for the Fison Avenue West / Links Avenue intersection is illustrated below in Figure 5-5. This intersection has been modelled as a network in SIDRA due to the significant median separation widths available.

Figure 5-5 Fison Avenue West / Links Avenue Intersection Layout



The results for the above intersection are shown below in Table 5-6.

Table 5-6 Fison Avenue West / Links Avenue Intersection Results

Scenario	AM Peak			PM Peak		
	DOS	Average Delay	95 th %ile Queue	DOS	Average Delay	95 th %ile Queue
2031 BG + PDA	0.54	10.2s	2.4m	0.19	3.1s	0.1m
2031 BG + DEV - PDA	0.54	10.1s	2.4m	0.20	4.9s	0.1m

The results of the SIDRA assessment indicate that the above priority intersection will operate within acceptable performance thresholds ($DOS \leq 0.80$) in all assessed scenarios. Delays across the intersection are expected to be within acceptable thresholds (delays < 42 seconds).

In summary, the key intersections near the subject site are not significantly affected by the proposed stage one development and as such no intersection modifications are required as a result of the development at this stage.

6 Summary

Cardno was commissioned to provide traffic and transport engineering related advice in support of a development application for a proposed business park development located on Fison Avenue in Eaglefarm.

In summary, the key conclusions from the assessment are as follows:

- > The development proposes an industrial and office business park over two stages. Stage one provides 18,148.7 m² GFA of industrial land, with a total parking provision of 424 spaces, including 126 temporary spaces.
- > The parking provisions suitably meets the requirements outlined in the Hamilton Northshore PDA development scheme.
- > Bicycle parking for stage 1 of the development is 47 bicycle space, an additional 11 spaces above the required PDA provision.
- > The proposed car park and servicing area design generally comply with BCC TAPS and swept path analysis has been undertaken which demonstrate the design is suitable.
- > Traffic generation impacts resulting from stage 1 of the proposed development have generally negligible impacts on the surrounding road network and do not necessitate any intersection upgrades.

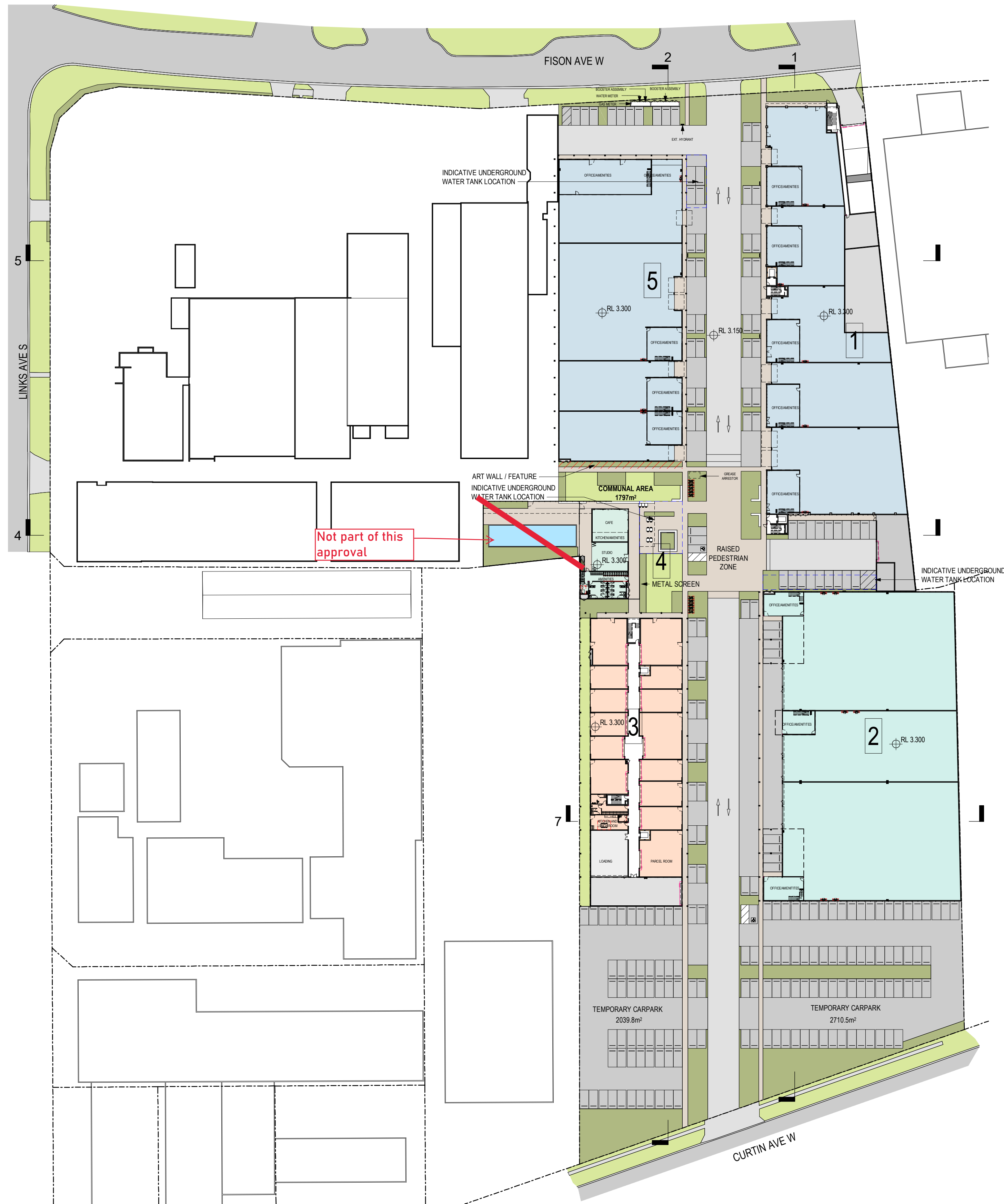
Overall, Cardno believes the traffic and transport characteristics associated with the proposed development are not anticipated to have a significant impact on the surrounding road network.

Fison Avenue, Eagle Farm

APPENDIX

A

STAGE 1 PLANS



PRELIMINARY

Revisions	P1	28.10.21	Draft DA
	6	17.11.21	Final Coordination
	7		

GT
JH

Project / **Eagle Farm Precinct**

Drawing / **Stage 1 - Ground Floor Plan**

Project No / **221044**

Date / **17.11.21**

Author / **NE**

Scale: @ A1 / **1 : 750**

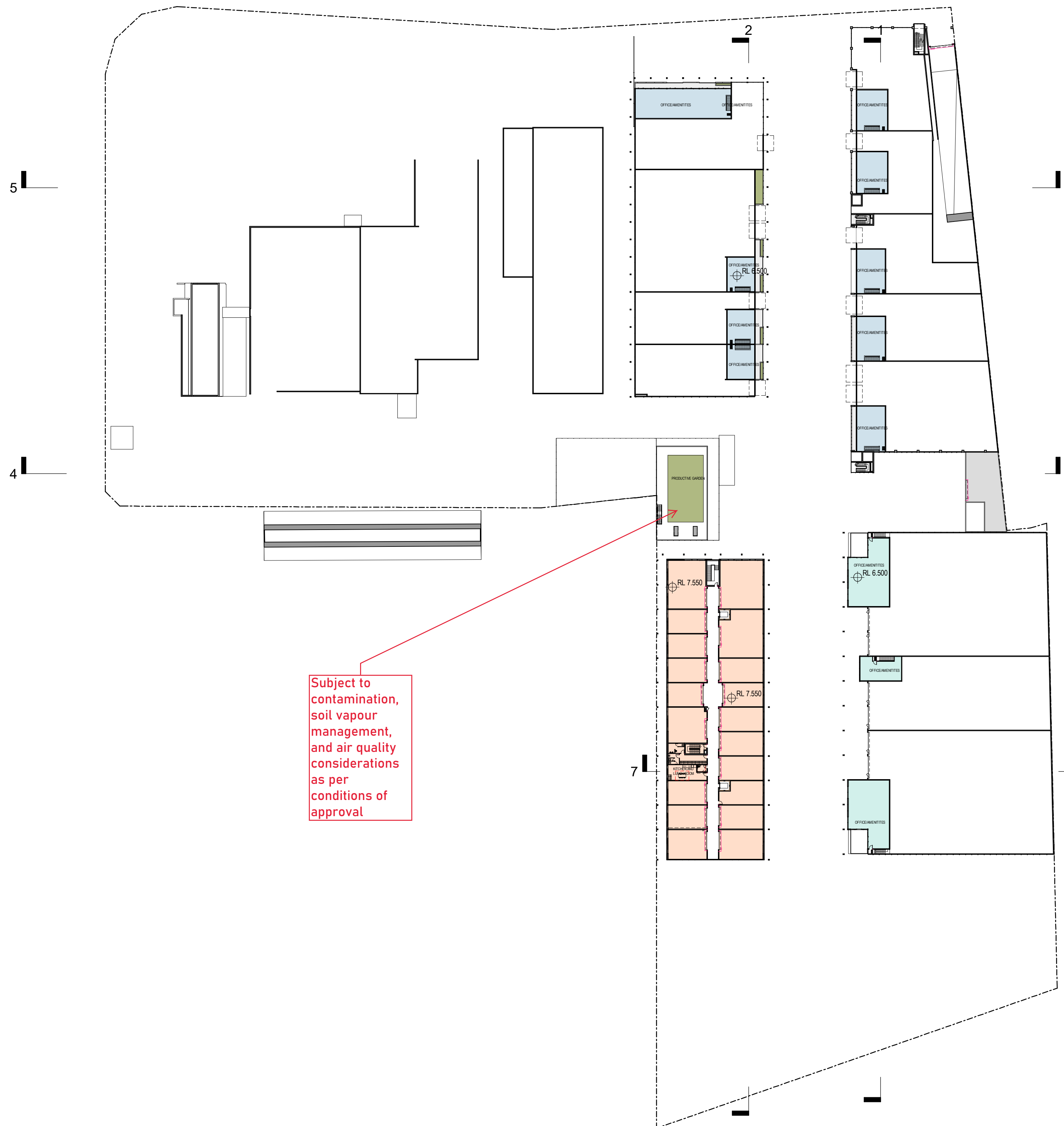
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PRELIMINARY

Revisions	P1	28.10.21	Draft DA	GT
	3	17.11.21	Final Coordination	JH
	4			

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Project **Eagle Farm Precinct**

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Drawing **Stage 1 - Ground Floor Mezzanine Plan**

Project No **221044** Date **17.11.21**

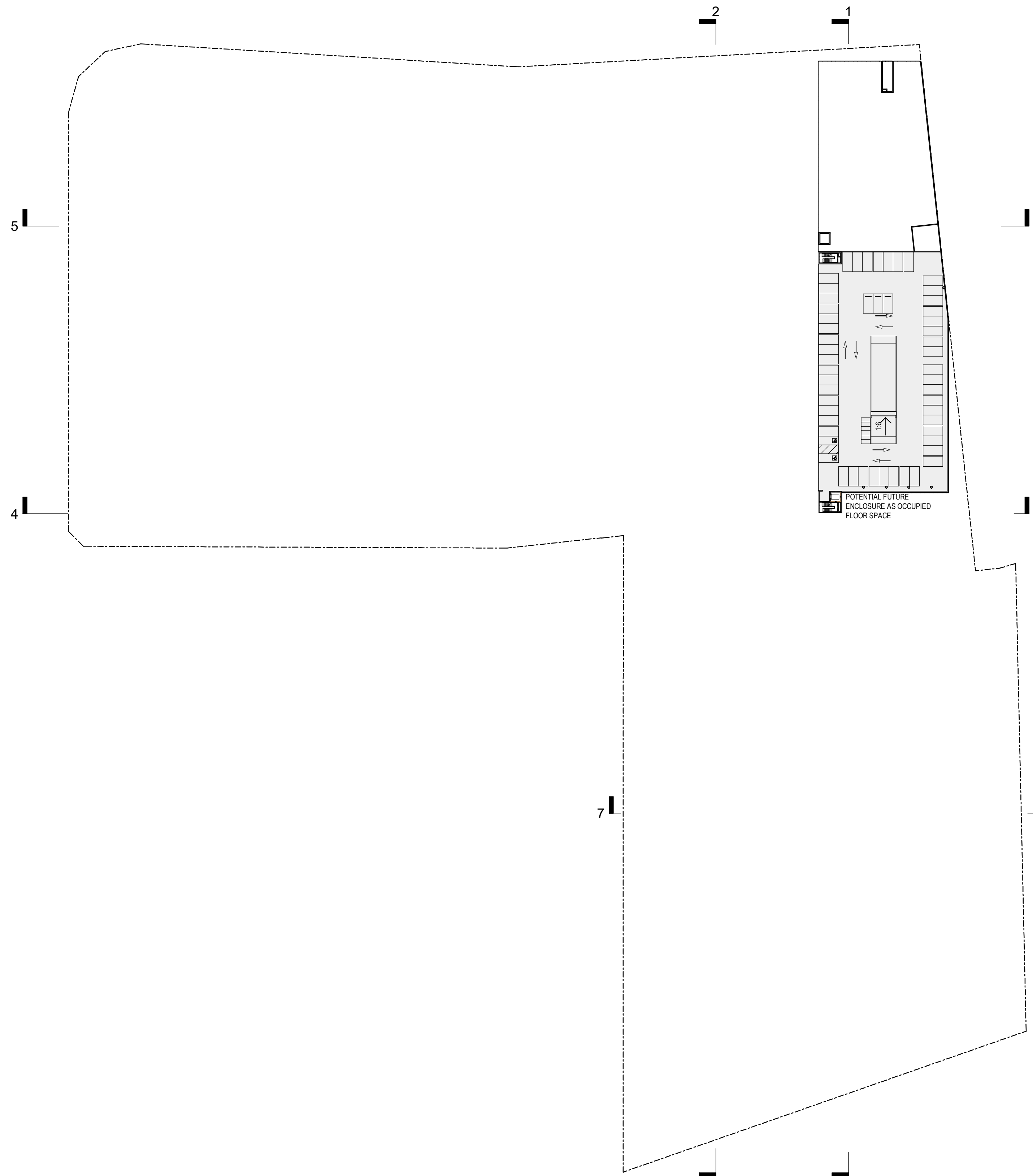
Author **NE**

Scale: @ A1 **1 : 750**

Drawing No. **TP01.11 P14**

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PRELIMINARY

Revisions	P1	28.10.21	Draft DA	GT
	3			
	P1	17.11.21	Final Coordination	JH
	4			

17/11/2021 10:16:09 AM

Project **Eagle Farm Precinct**

Drawing **Stage 1- Level 2 Floor Plan**

Project No **221044** Date **17.11.21**

Author **NE**

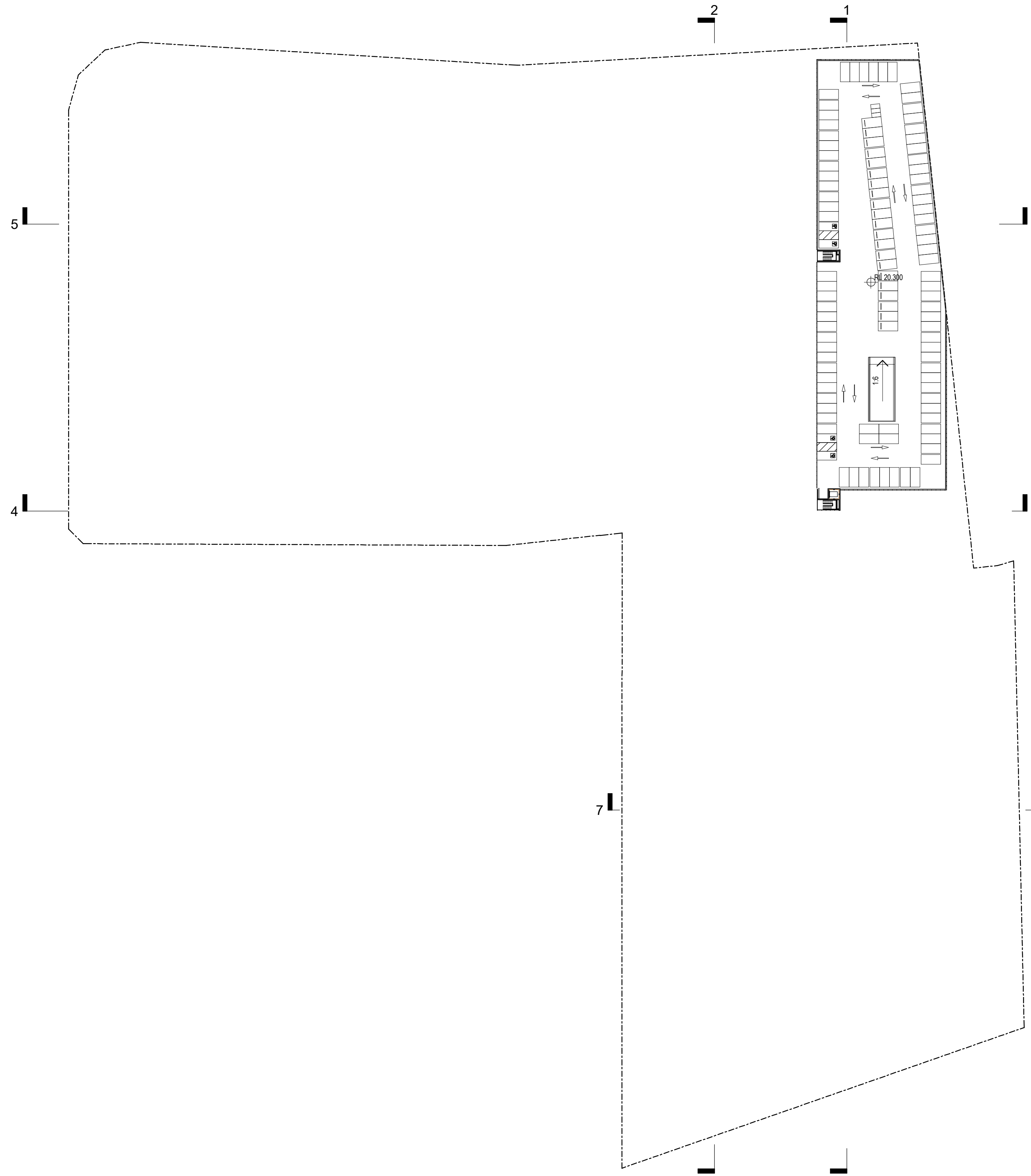
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PRELIMINARY

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	3			
	P1	17.11.21	Final Coordination	JH
	4			

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Drawing Stage 1 - Level 3 Floor Plan

Project No 221044 Date 17.11.21

Author NE

Scale: @ A1 1 : 750

Drawing No. TP01.14 P14

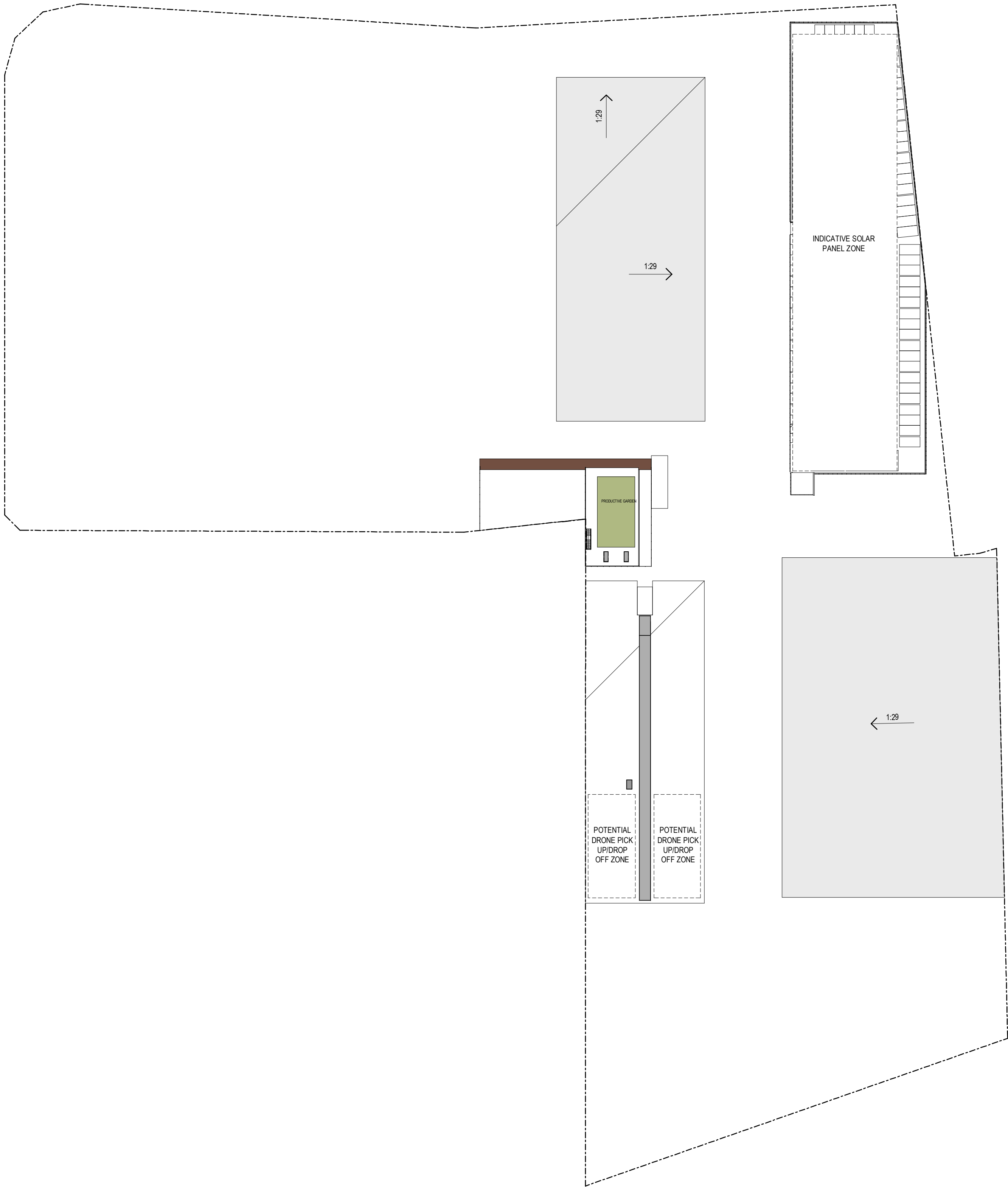
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PRELIMINARY

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	P2	20.10.21	For Coordination	JH
	P3	25.10.21	For Coordination	JH
	P4	28.10.21	Draft DA	GT
	P5	17.11.21	Final Coordination	JH

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Project Eagle Farm Precinct

Drawing Roof Plan

Project No. 221044 Date 17.11.21

Author JH

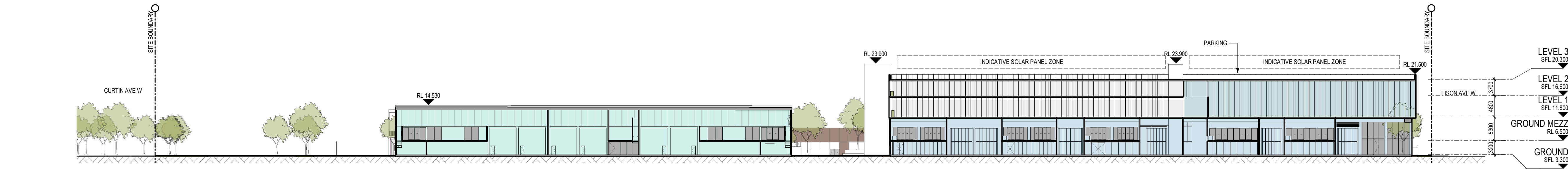
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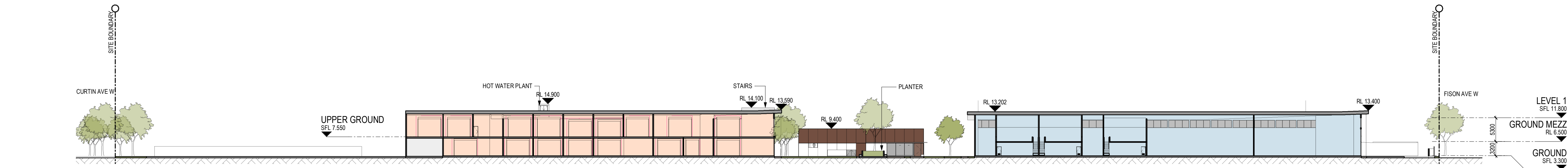
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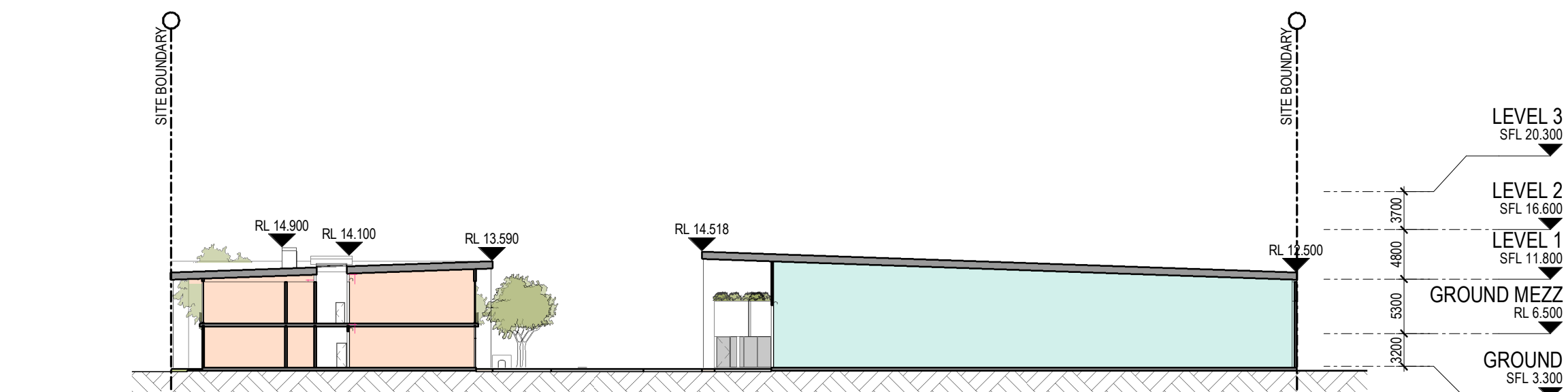
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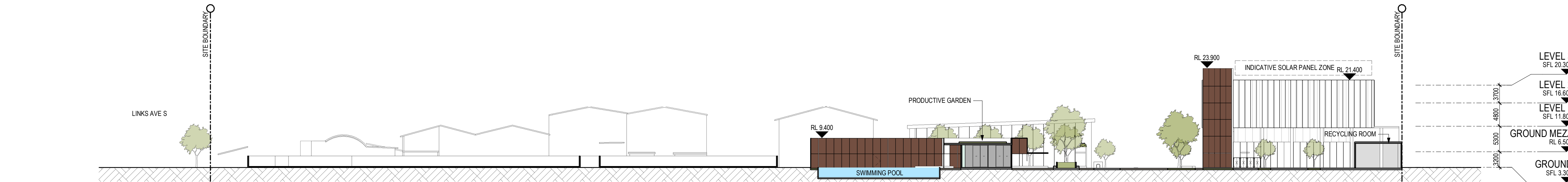
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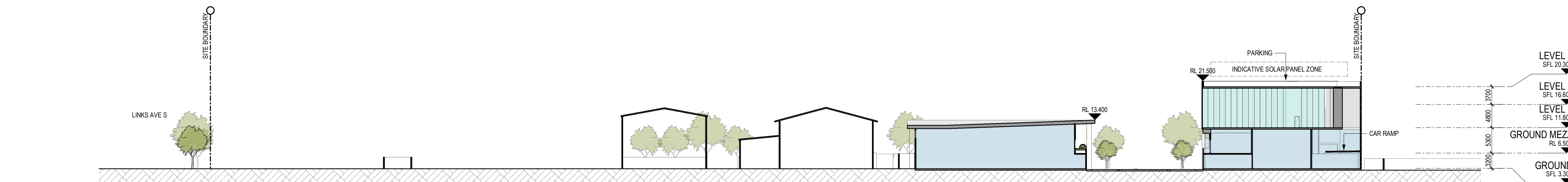
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TP01.10 SCALE 1 : 500



7 SOUTH SECTION
TP01.10 SCALE 1 : 500



4 CENTRAL E-W SECTION
TP01.10 SCALE 1 : 500



5 NORTH SECTION
TP01.10 SCALE 1 : 500

PRELIMINARY

Revisions	P1	28.10.21	Draft DA	GT
	1	17.11.21	Final Coordination	JH
	2			

Project Eagle Farm Precinct

Drawing Site Sections

Project No 221044

Date 17.11.21

Author NE

Scale: @ A1 1 : 500

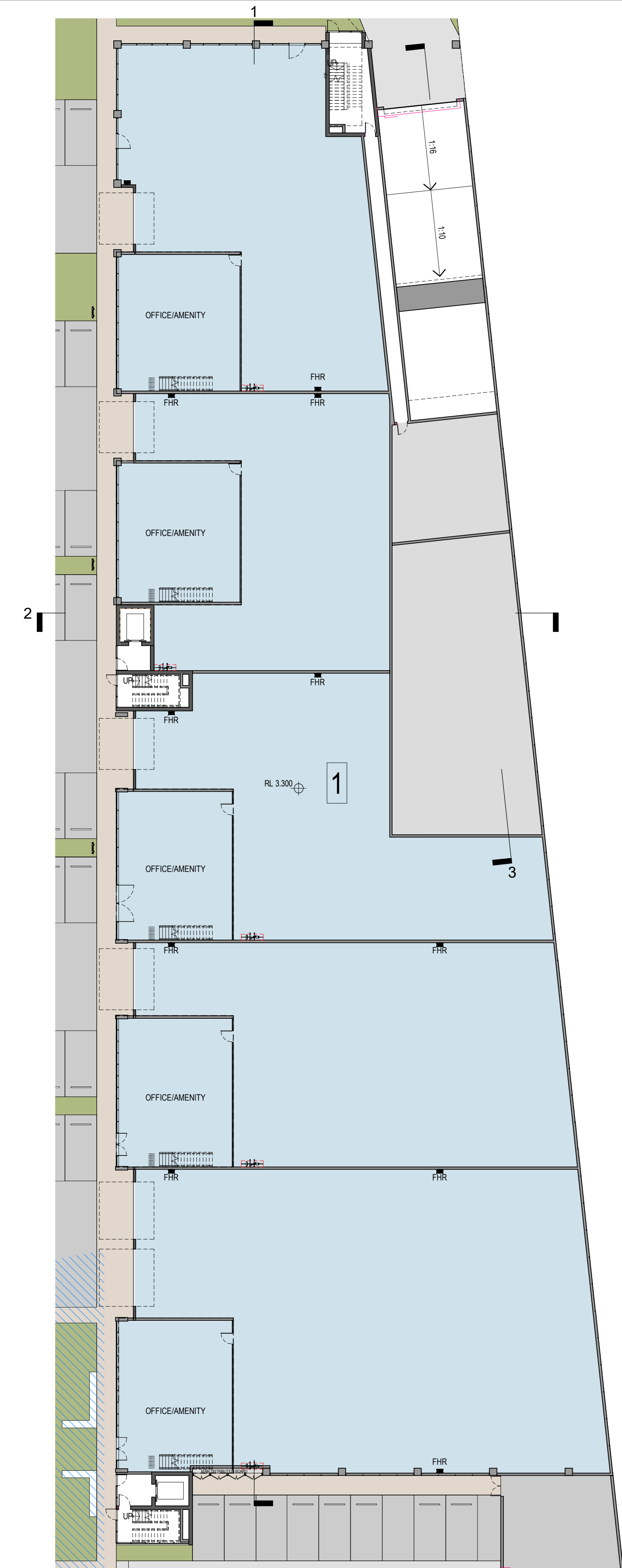
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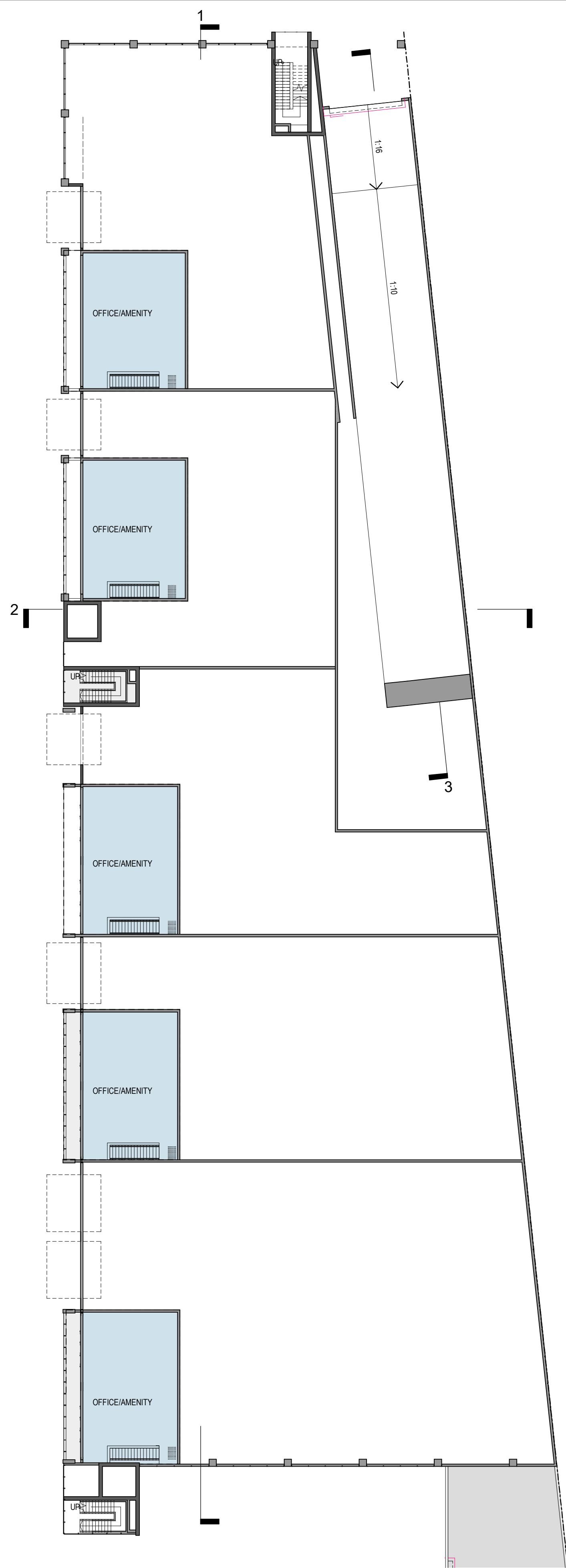
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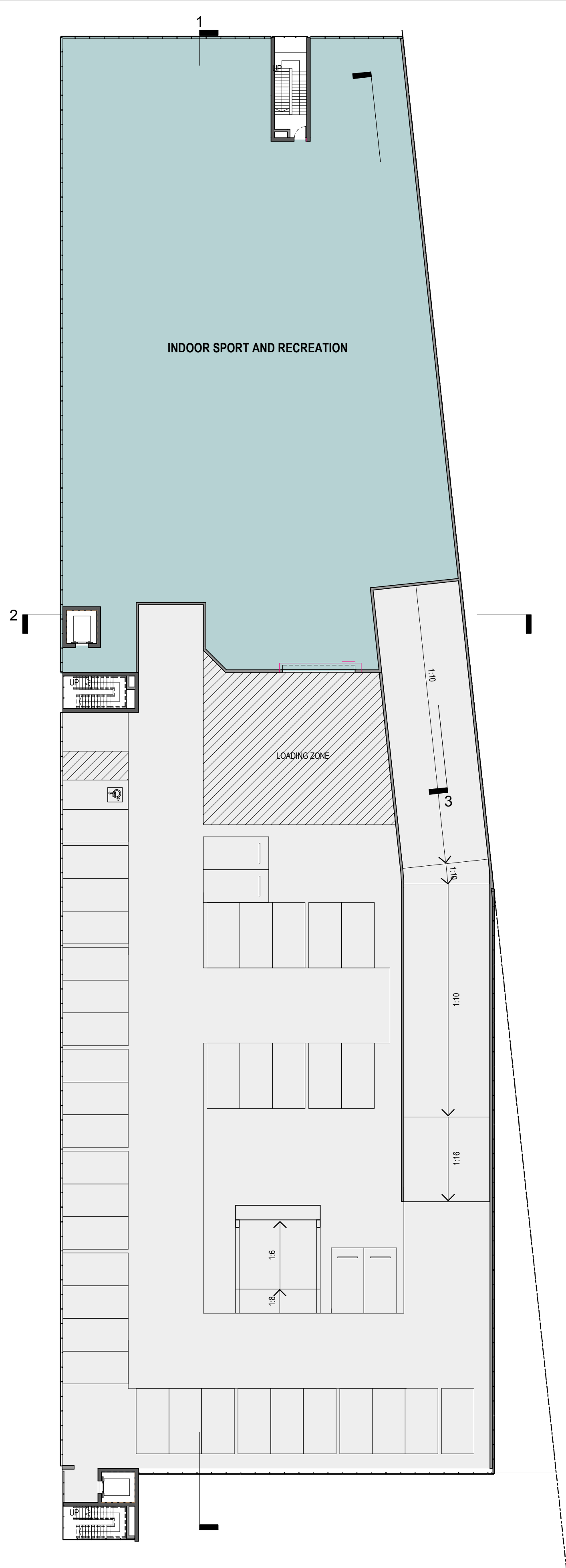


BUILDING 1 - Ground
PRELIMINARY

Revisions	P1	25.10.21	For Coordination	JH
	P2	28.10.21	Draft DA	GT
	P3	08.11.21	Client Review	JH
	P4	17.11.21	Final Coordination	JH



BUILDING 1 - Ground Mezz



BUILDING 1 - Level 1

PARKING - Building 1		
Level		No. Cars
LEVEL 1	Accessible	1
LEVEL 1	Stage 1	41
LEVEL 2	Accessible	2
LEVEL 2	Motorbike	6
LEVEL 2	Stage 1	52
LEVEL 3	Accessible	4
LEVEL 3	Motorbike	3
LEVEL 3	Stage 1	105
Grand total		214

AREA - BUILDING 1		
Level	Comments	Area

GROUND	BUILDING 1	3569.9 m²
GROUND	BUILDING 1	483.4 m²
MEZZ		
LEVEL 1	BUILDING 1	1504.2 m²
Grand total		5557.5 m²

Project Eagle Farm Precinct

Drawing Building 1

Project No 221044

Date 17.11.21

Author JH

Scale: @ A1 1 : 250

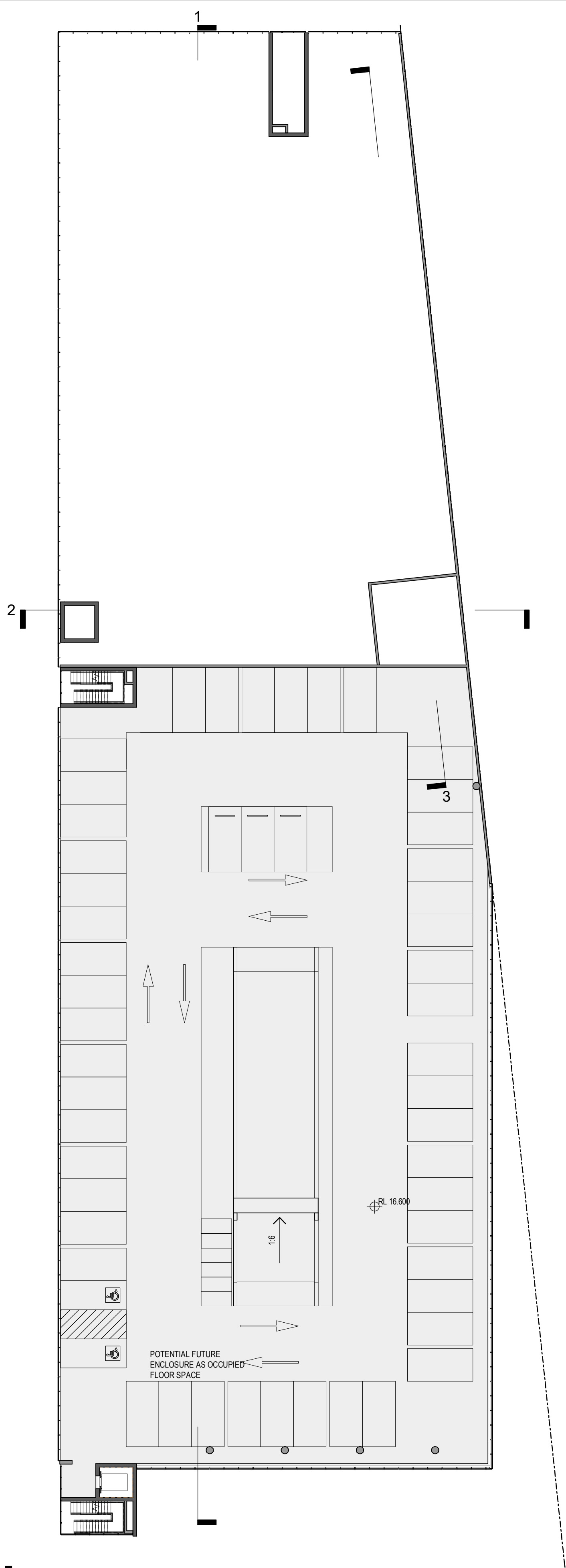
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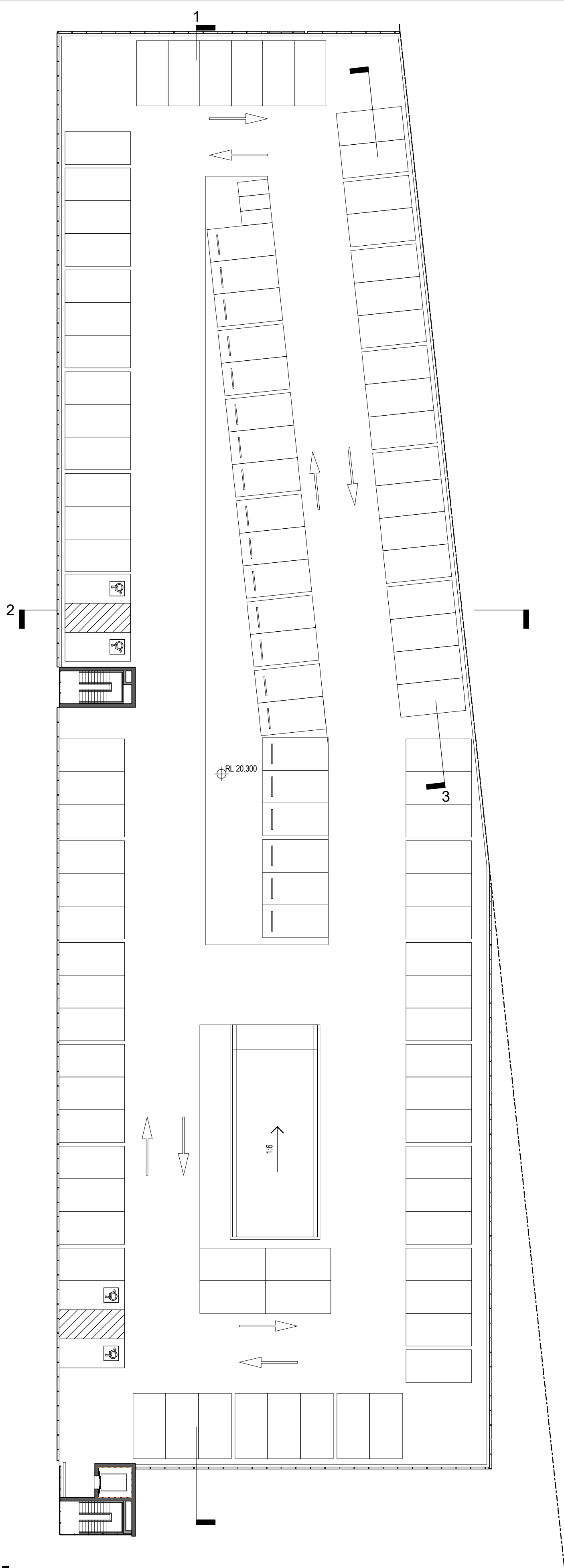


BUILDING 1 - Level 2

PRELIMINARY

Revisions	P4	20.10.21	For Coordination	JH
	P5	25.10.21	For Coordination	JH
	P6	28.10.21	Draft DA	GT
	P7	08.11.21	Client Review	JH
	P8	17.11.21	Final Coordination	JH

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BUILDING 1 - Level 3

Project Eagle Farm Precinct

Drawing Building 1

Project No 221044 Date 17.11.21

Author JH

Scale: @ A1 1 : 250

Drawing No. TP04.01 P8

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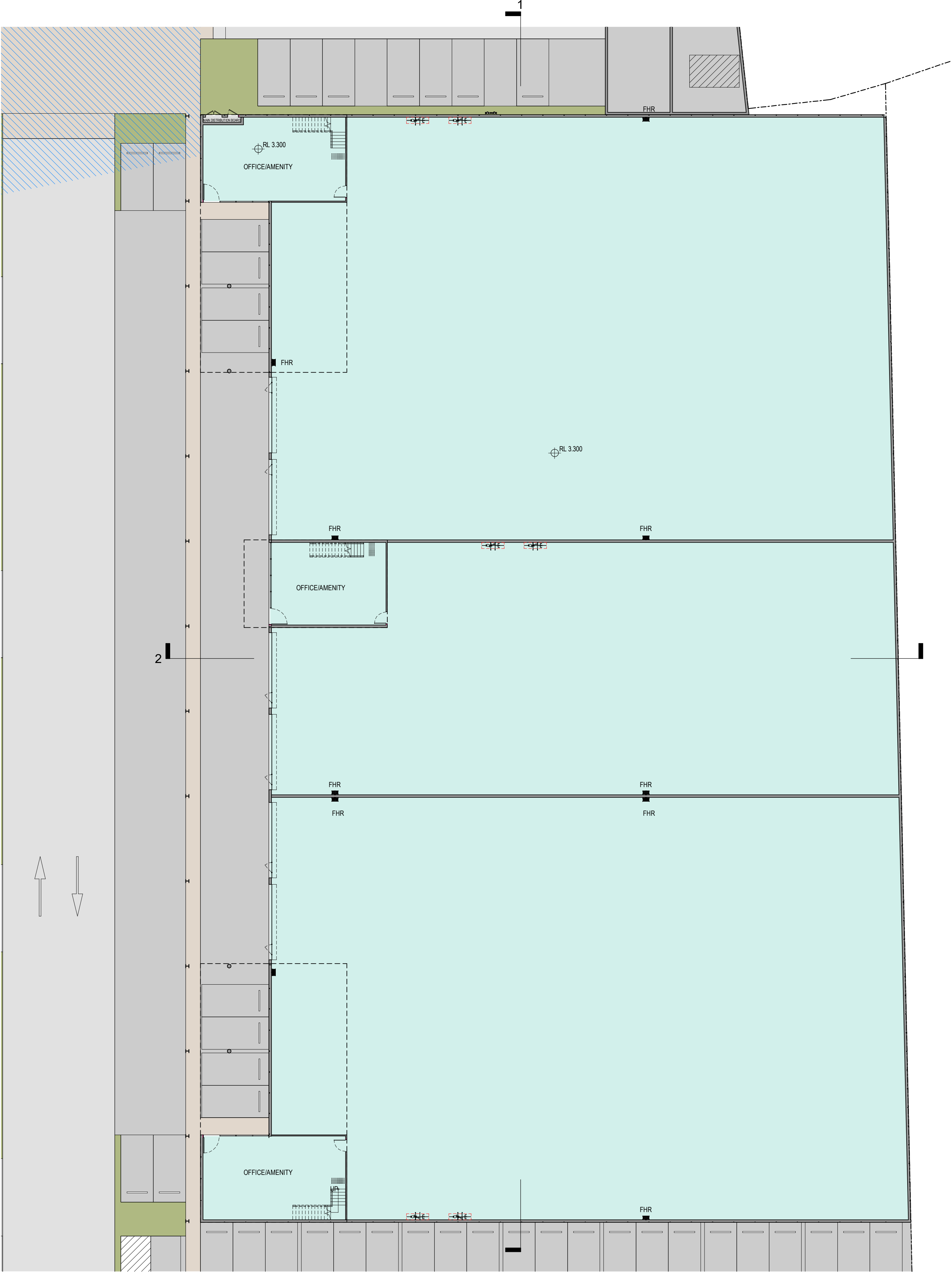
PARKING - Building 1		
Level		No. Cars
LEVEL 1	Accessible	1
LEVEL 1	Stage 1	41
LEVEL 2	Accessible	2
LEVEL 2	Motorbike	6
LEVEL 2	Stage 1	52
LEVEL 3	Accessible	4
LEVEL 3	Motorbike	3
LEVEL 3	Stage 1	105
Grand total		214

AREA - BUILDING 1		
Level	Comments	Area

GROUND	BUILDING 1	3569.9 m²
GROUND MEZZ	BUILDING 1	483.4 m²
LEVEL 1	BUILDING 1	1504.2 m²
Grand total		5557.5 m²

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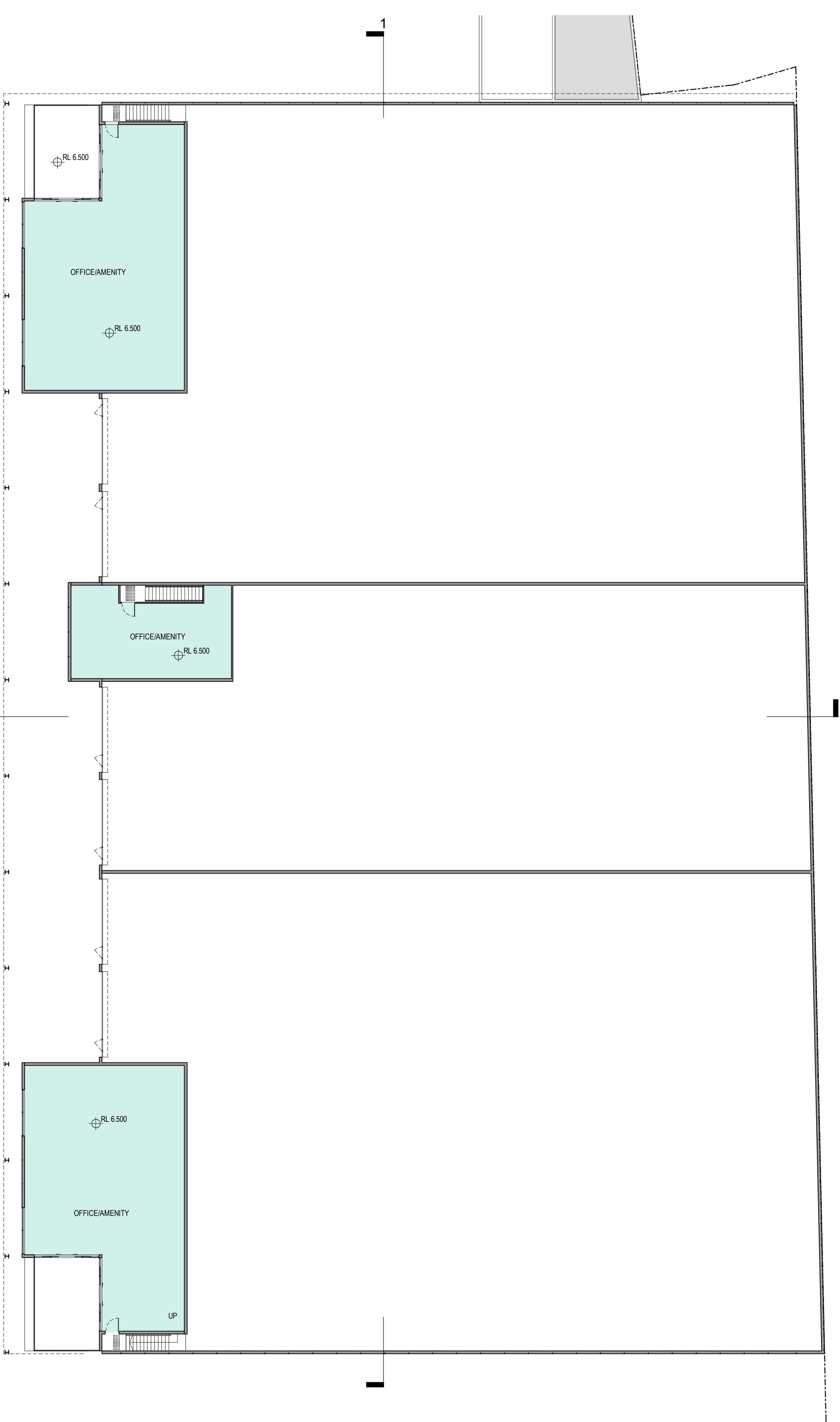


BUILDING 2 - Ground
PRELIMINARY

Revisions		
P2	15.10.21	For Coordination
P3	20.10.21	For Coordination
P4	25.10.21	For Coordination
P5	28.10.21	Draft DA
P6	17.11.21	Final Coordination

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BUILDING 2 - Ground Mezzanine

AREA - BUILDING 2		
Level	Comments	Area
GROUND	BUILDING 2	4355.0 m ²
GROUND MEZZ	BUILDING 2	451.6 m ²
Grand total		4806.6 m ²

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Drawing Building 2

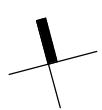
Project No 221044

Date 17.11.21

Author JH

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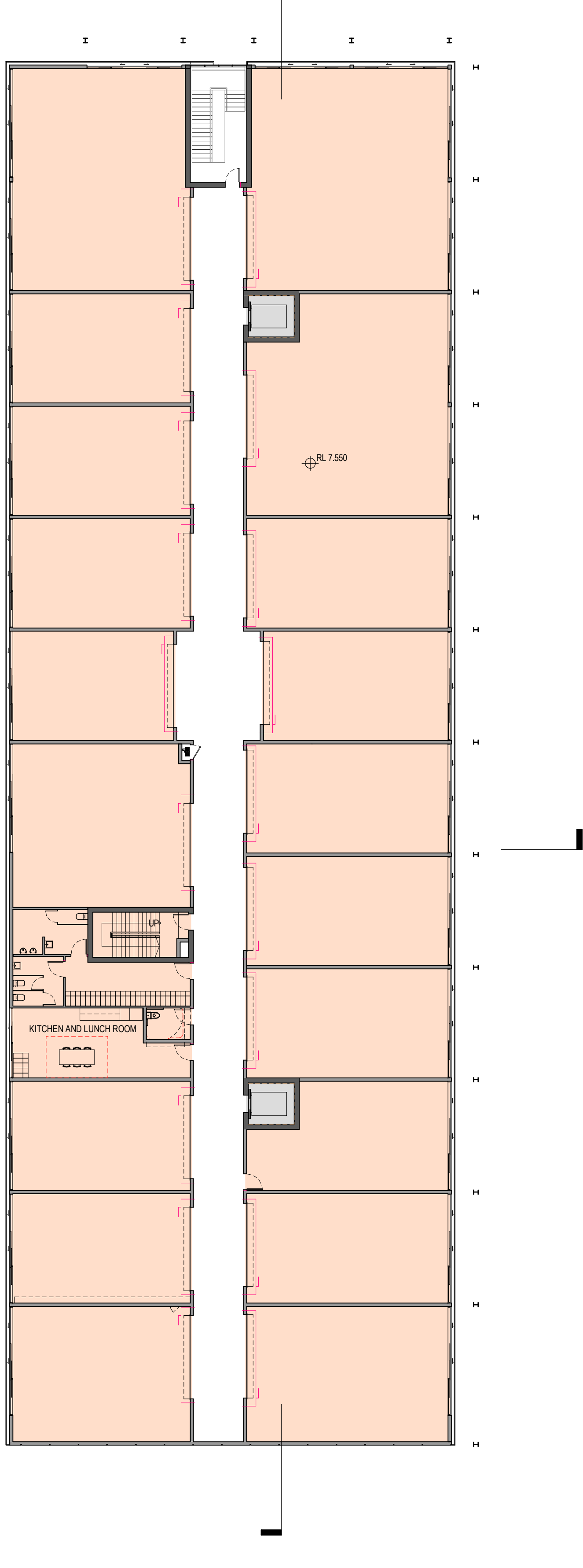


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BUILDING 3 - Ground



BUILDING 3 - Level 1

AREA - BUILDING 3		
Level	Comments	Area
GROUND	BUILDING 3	2026.9 m ²
GROUND MEZZ	BUILDING 3	2259.2 m ²
Grand total		4286.0 m ²

PRELIMINARY

Revisions	
P2	15.10.21 For Coordination
P3	20.10.21 For Coordination
P4	25.10.21 For Coordination
P5	28.10.21 Draft DA
P6	17.11.21 Final Coordination

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JH
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JH

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Project Eagle Farm Precinct

Drawing Building 3

Project No. 221044 Date 17.11.21

Author JH

Scale: @ A1 1 : 200

Drawing No. TP04.03 P6

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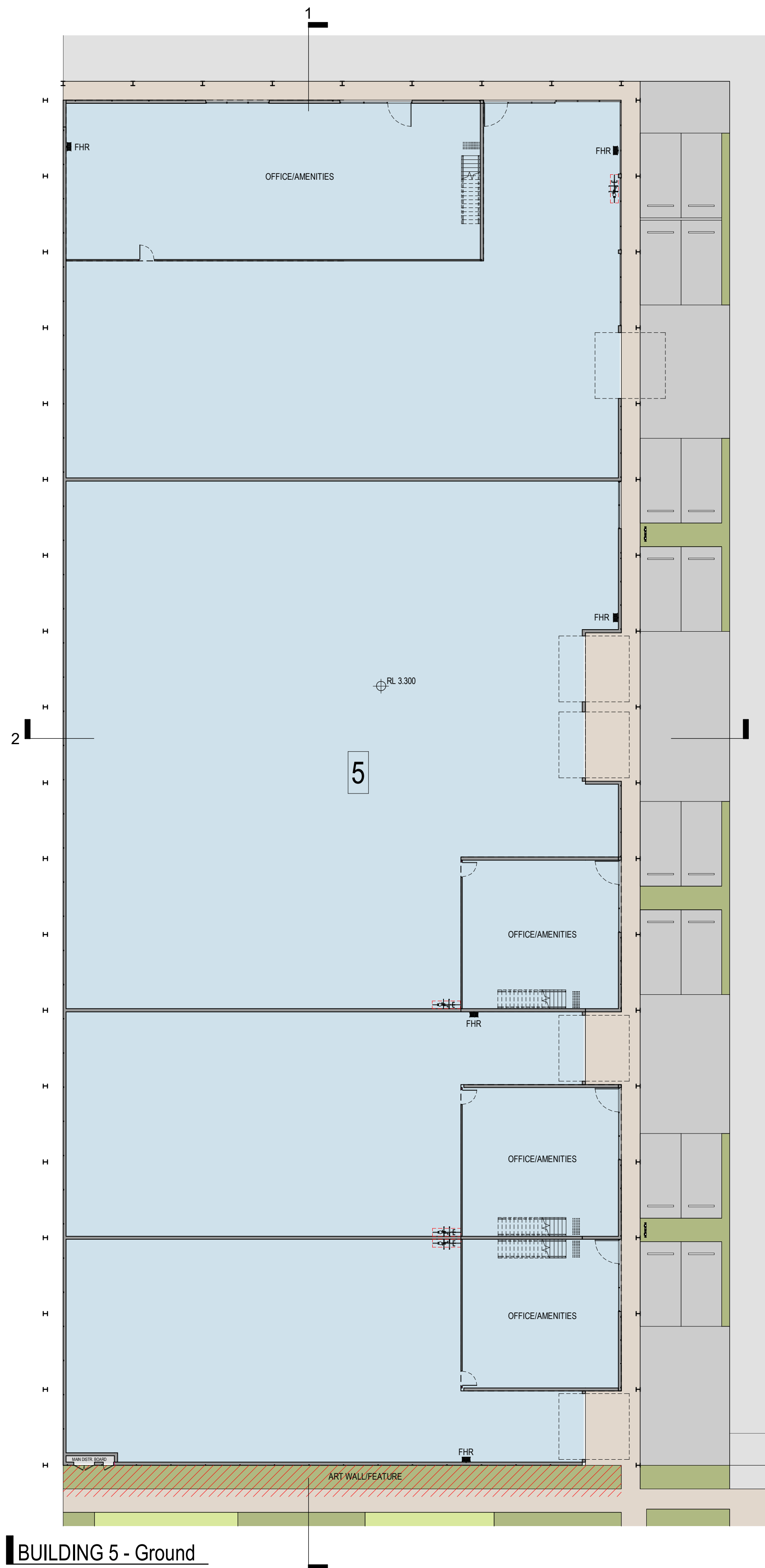
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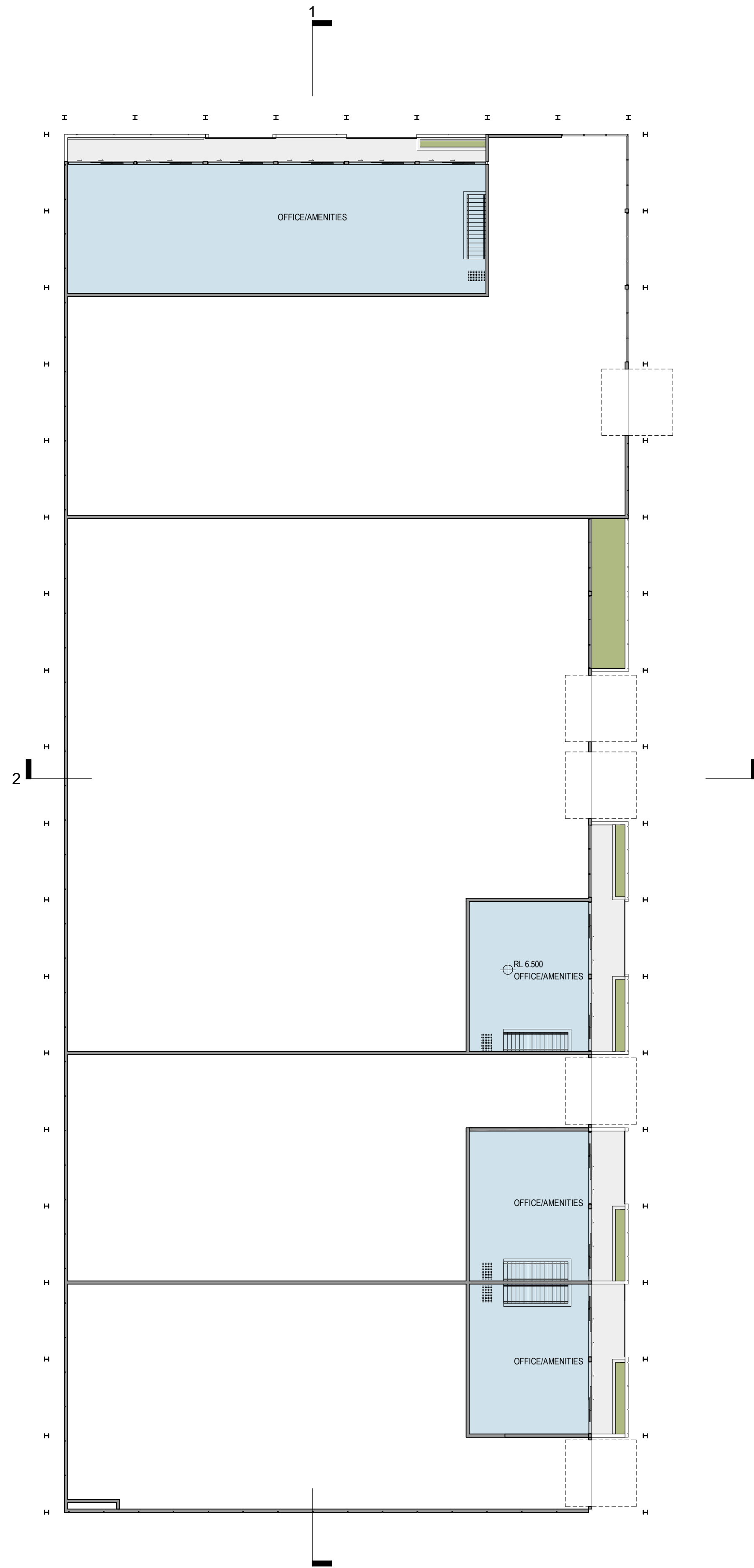
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BUILDING 5 - Ground



BUILDING 5 - Ground Mezzanine

AREA - BUILDING 5		
Level	Comments	Area

GROUND MEZZ	BUILDING 5	435.9 m²
Grand total		435.9 m²

PRELIMINARY

Revisions	P2	15.10.21	For Coordination
	P3	20.10.21	For Coordination
	P4	25.10.21	For Coordination
	P5	28.10.21	Draft DA
	P6	17.11.21	Final Coordination

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Project Eagle Farm Precinct

Drawing Building 5

Project No 221044 Date 17.11.21

Author JH

Scale: @ A1 1 : 200

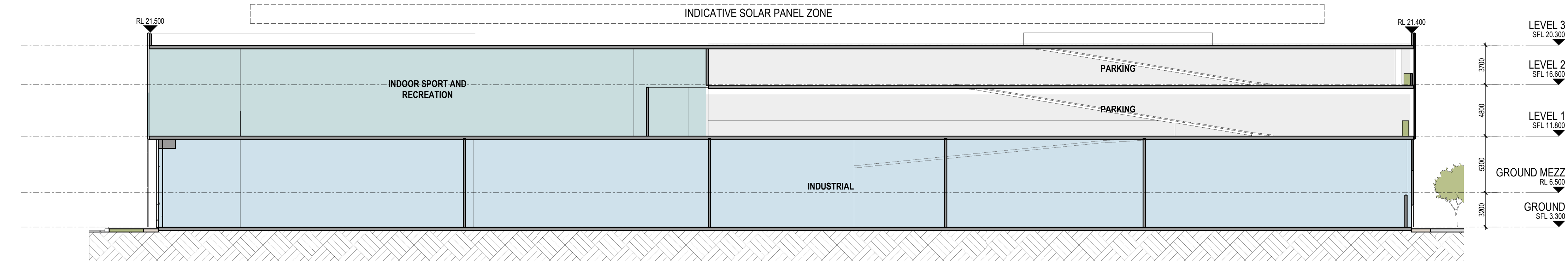
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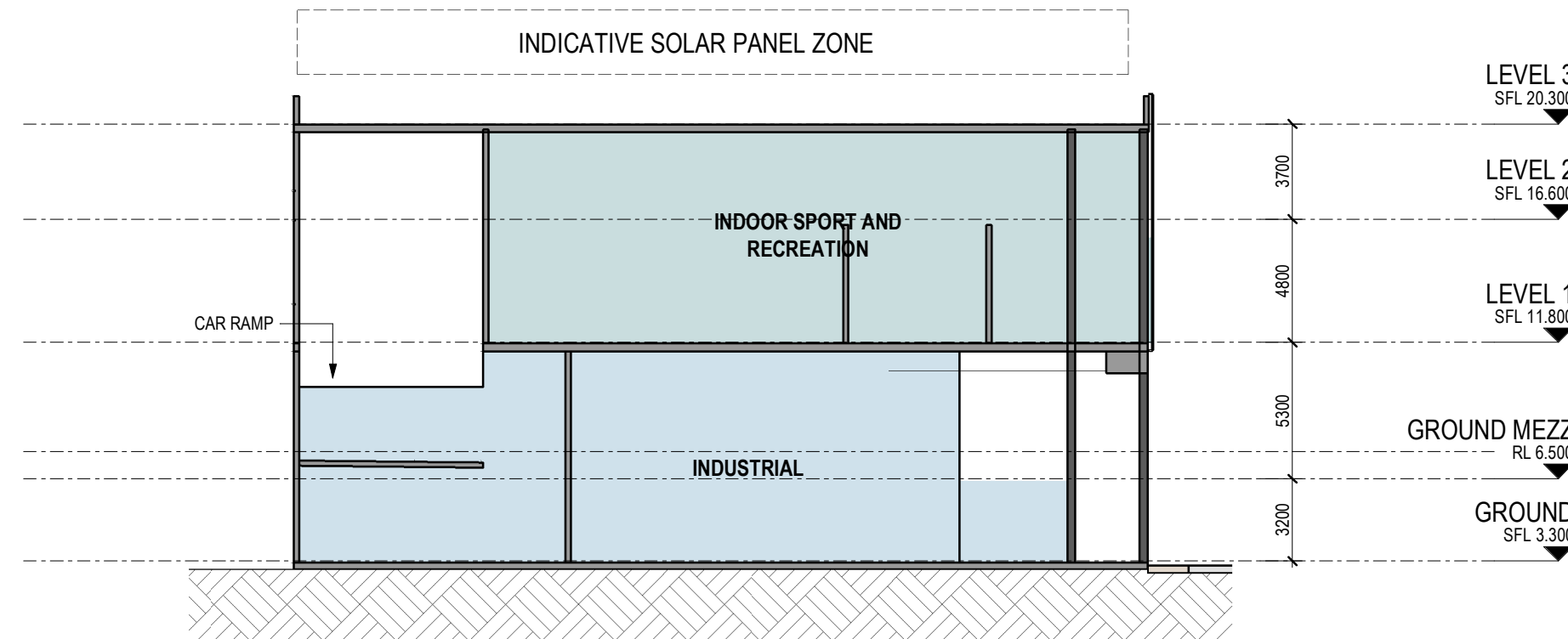
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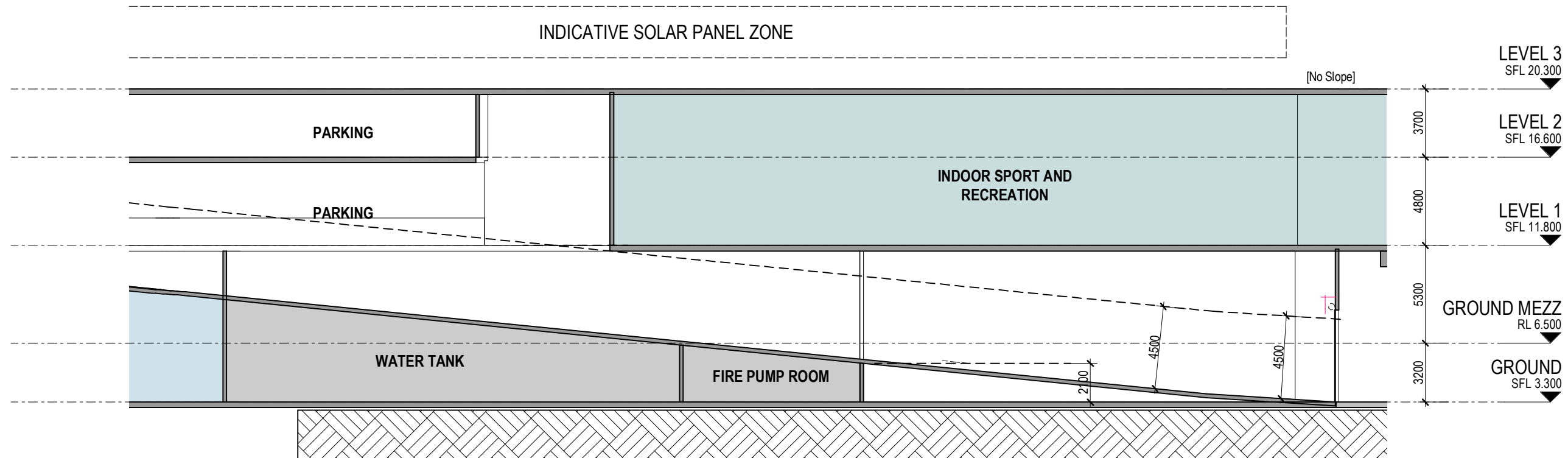
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TP04.00

BUILDING 1 - SECTION 1
SCALE 1: 250



2
TP04.00

BUILDING 1 - SECTION 2
SCALE 1: 250



3
TP04.00

BUILDING 1 - RAMP SECTION
SCALE 1: 250

PRELIMINARY

Revisions		
P3	15.10.21	For Coordination
P4	20.10.21	For Coordination
P5	28.10.21	Draft DA
P6	08.11.21	Client Review
P7	17.11.21	Final Coordination

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JH

Project Eagle Farm Precinct

Drawing Sections - Building 1

Project No 221044 Date 17.11.21

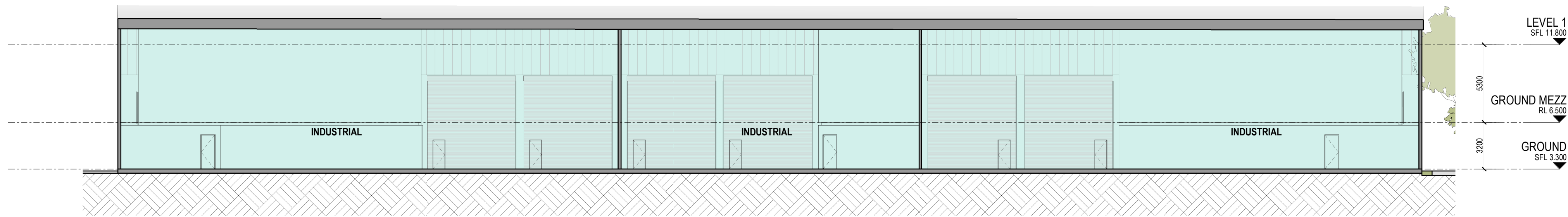
Author JH

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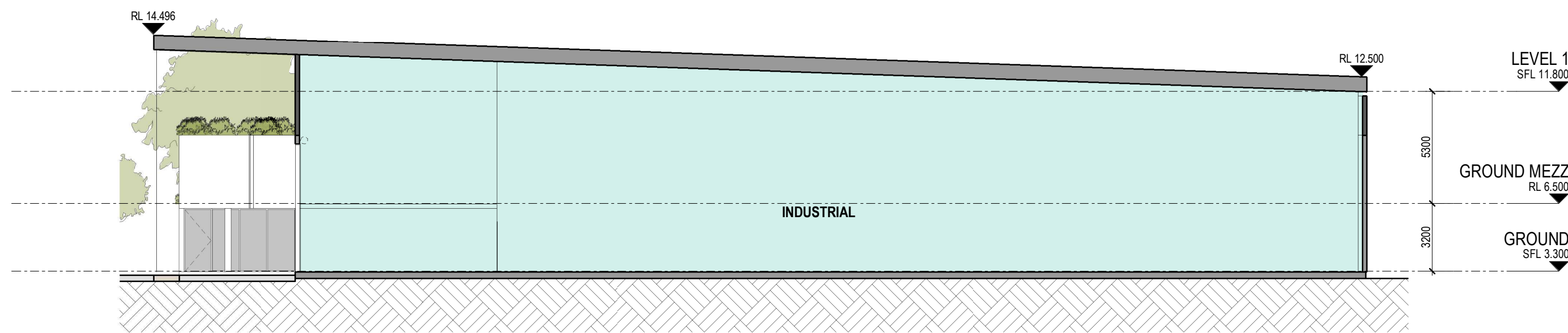
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1
TP04.02 BUILDING 2 - SECTION 1
SCALE 1 : 200



2
TP04.02 BUILDING 2 - SECTION 2
SCALE 1 : 200

PRELIMINARY

Revisions	
P1	07.10.21 For Coordination
P2	15.10.21 For Coordination
P3	20.10.21 For Coordination
P4	28.10.21 Draft DA
P5	17.11.21 Final Coordination

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Project Eagle Farm Precinct

Drawing Sections - Building 2

Project No 221044 Date 17.11.21

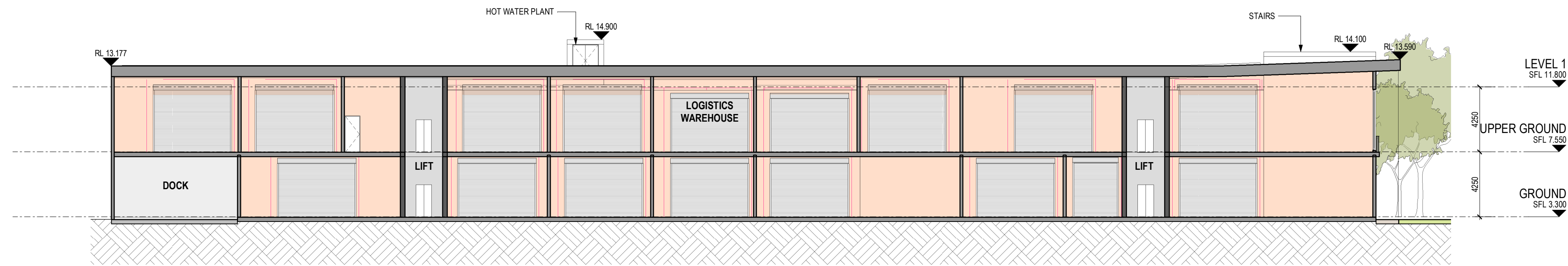
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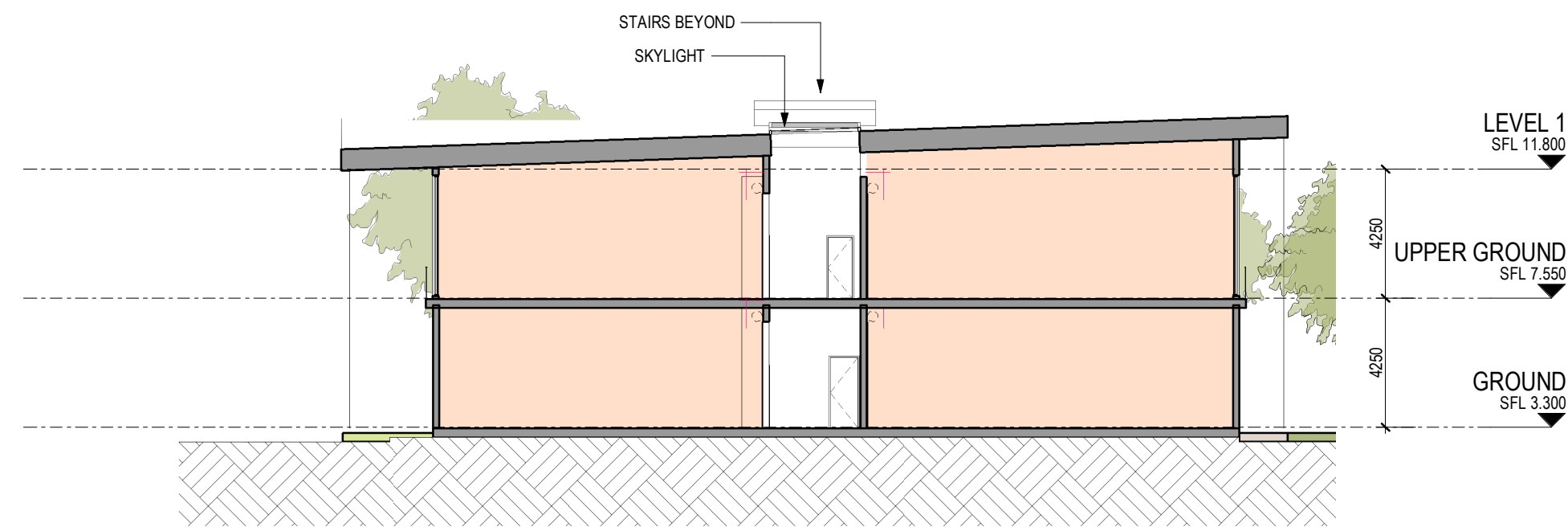
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1
TP04.03 BUILDING 3 - SECTION 1
SCALE 1 : 200



2
TP04.03 BUILDING 3 - SECTION 2
SCALE 1 : 200

PRELIMINARY

Revisions	
P1	07.10.21 For Coordination
P2	15.10.21 For Coordination
P3	20.10.21 For Coordination
P4	28.10.21 Draft DA
P5	17.11.21 Final Coordination

JH
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Project Eagle Farm Precinct

Drawing Sections - Building 3

Project No 221044 Date 17.11.21

Author JH

Scale: @ A1 1 : 200

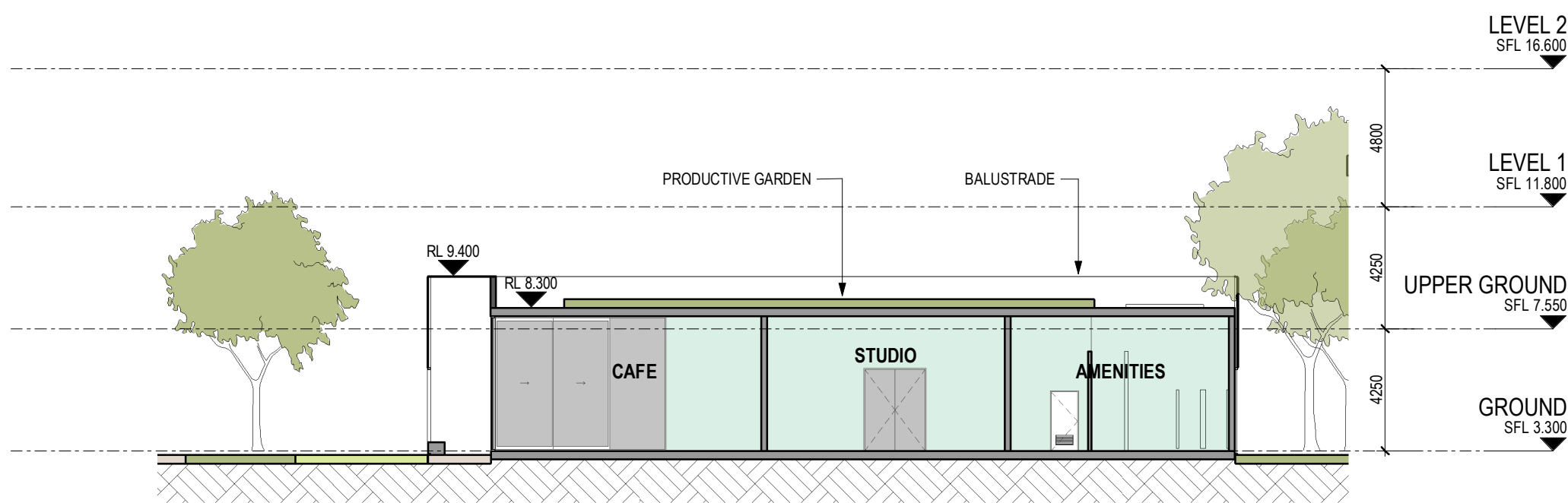
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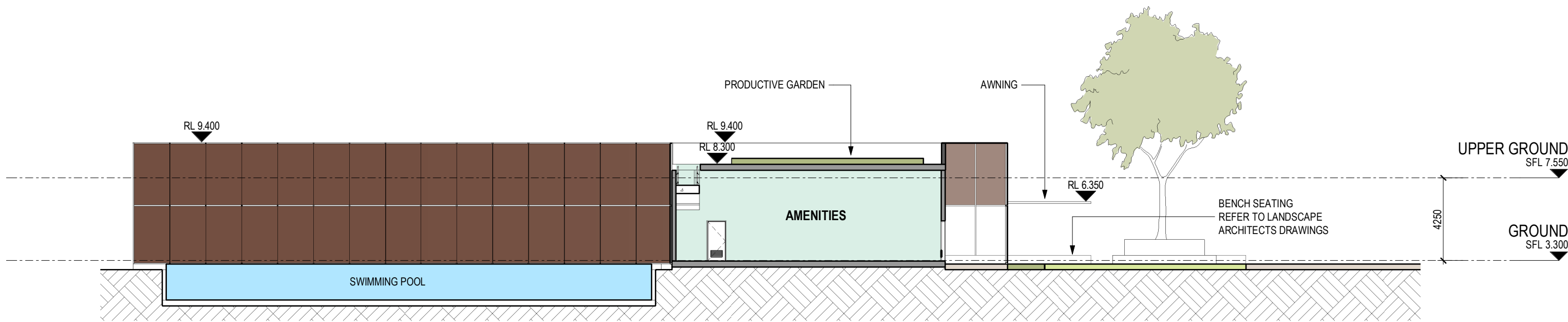
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1 SK10.01 BUILDING 4 - SECTION 1
SCALE 1 : 200



2 TP04.04 BUILDING 4 - SECTION 2
SCALE 1 : 200

PRELIMINARY

Revisions	P1	07.10.21	For Coordination
	P2	15.10.21	For Coordination
	P3	20.10.21	For Coordination
	P4	28.10.21	Draft DA
	P5	17.11.21	Final Coordination

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17/11/2021 10:05:32 AM

Project Eagle Farm Precinct

Drawing Sections - Building 4

Project No 221044

Date 17.11.21

Author JH

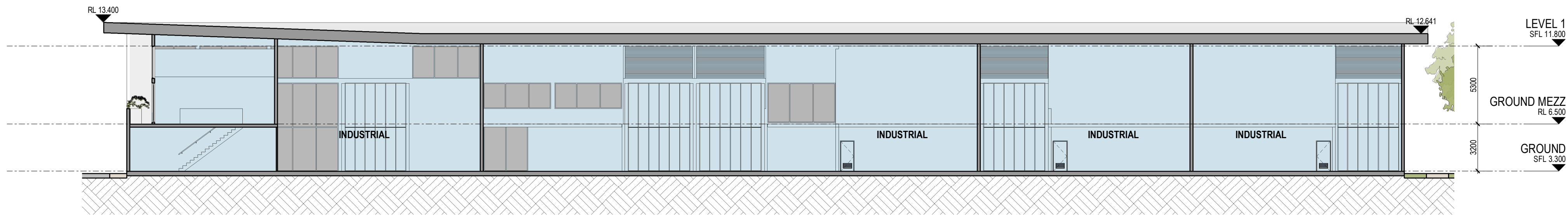
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Drawing No. TP05.04 P5

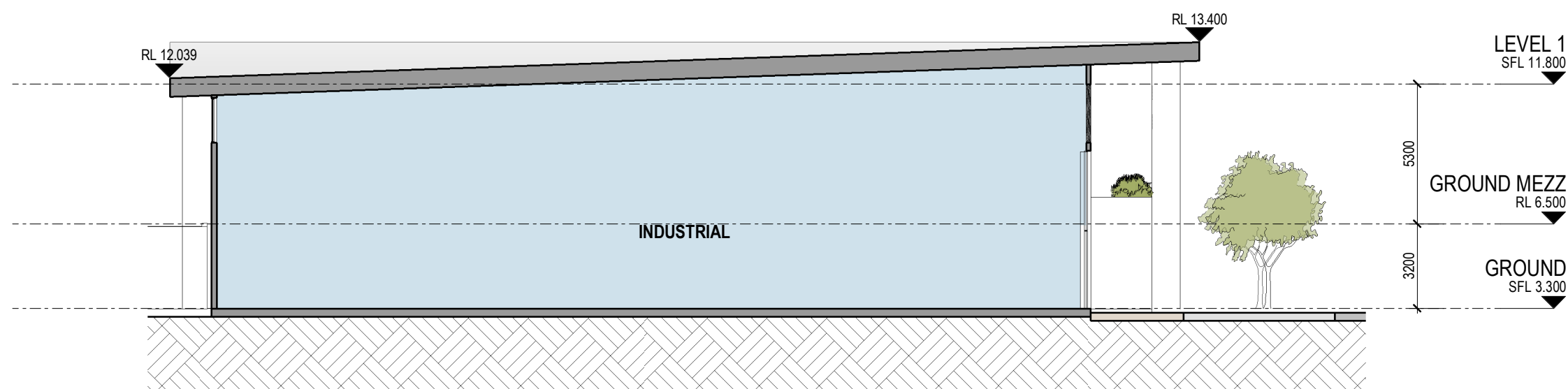
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Brisbane, Melbourne, Sydney
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1 BUILDING 5 - SECTION 1
TP04.05 SCALE 1 : 200



2 BUILDING 5 - SECTION 2
TP04.05 SCALE 1 : 200

PRELIMINARY

Revisions	
P1	07.10.21 For Coordination
P2	15.10.21 For Coordination
P3	20.10.21 For Coordination
P4	28.10.21 Draft DA
P5	17.11.21 Final Coordination

JH
JH
JH
GT
JH

17/11/2021 10:05:40 AM

Project Eagle Farm Precinct

Drawing Sections - Building 5

Project No 221044 Date 17.11.21

Author JH

Scale: @ A1 1 : 200

Drawing No. TP05.05 P5

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Fison Avenue, Eagle Farm

APPENDIX

B

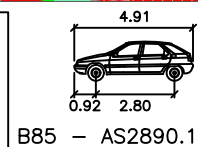
SWEPT PATHS

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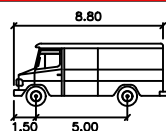
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- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



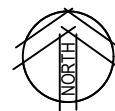
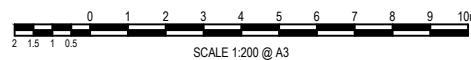
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Track : 1.77
Lock to Lock Time : 6.0
Steering Angle : 40.0



MRV - Maneouvring

Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 36.0



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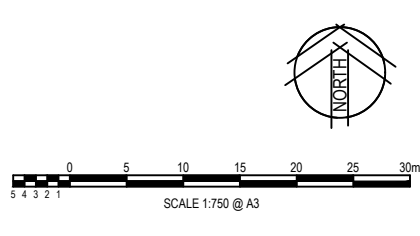
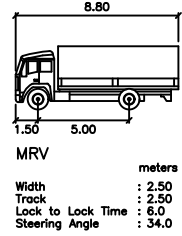
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Level 11, 515 St Paul's Terrace
Fortitude Valley, QLD 4006
Tel: 07 3369 9822 Fax: 07 3369 9722
Web: www.cardno.com.au

Kingsmede
Eagle Farm Precinct, Northshore Hamilton
Revised Fison Avenue Access Configuration

Drawn	Date	Scale	Size	Revision
R Bakon	22/11/2021	1:200	A3	C
Drawing Number T0921038 - SK01				



SWEPT PATH LEGEND	
	VEHICLE BODY
	FRONT TIRES
	VEHICLE PATH
	VEHICLE CLEARANCE (300mm)
	VEHICLE



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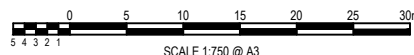
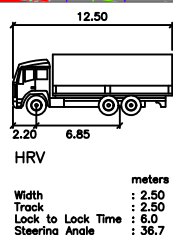
Kingsmede Eagle Farm Precinct, Northshore Hamilton Service Vehicle Swept Paths #1			
Drawn R Bakon	Date 22/11/2021	Scale 1:750	Size A3
Drawing Number T0921038 - SK02			Revision B

CAD File: \\labmedia\5\m\Current\Jobs\T0921038 - Fison Avenue Industrial - SK01_SK07_SK11 - B.dwg



SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



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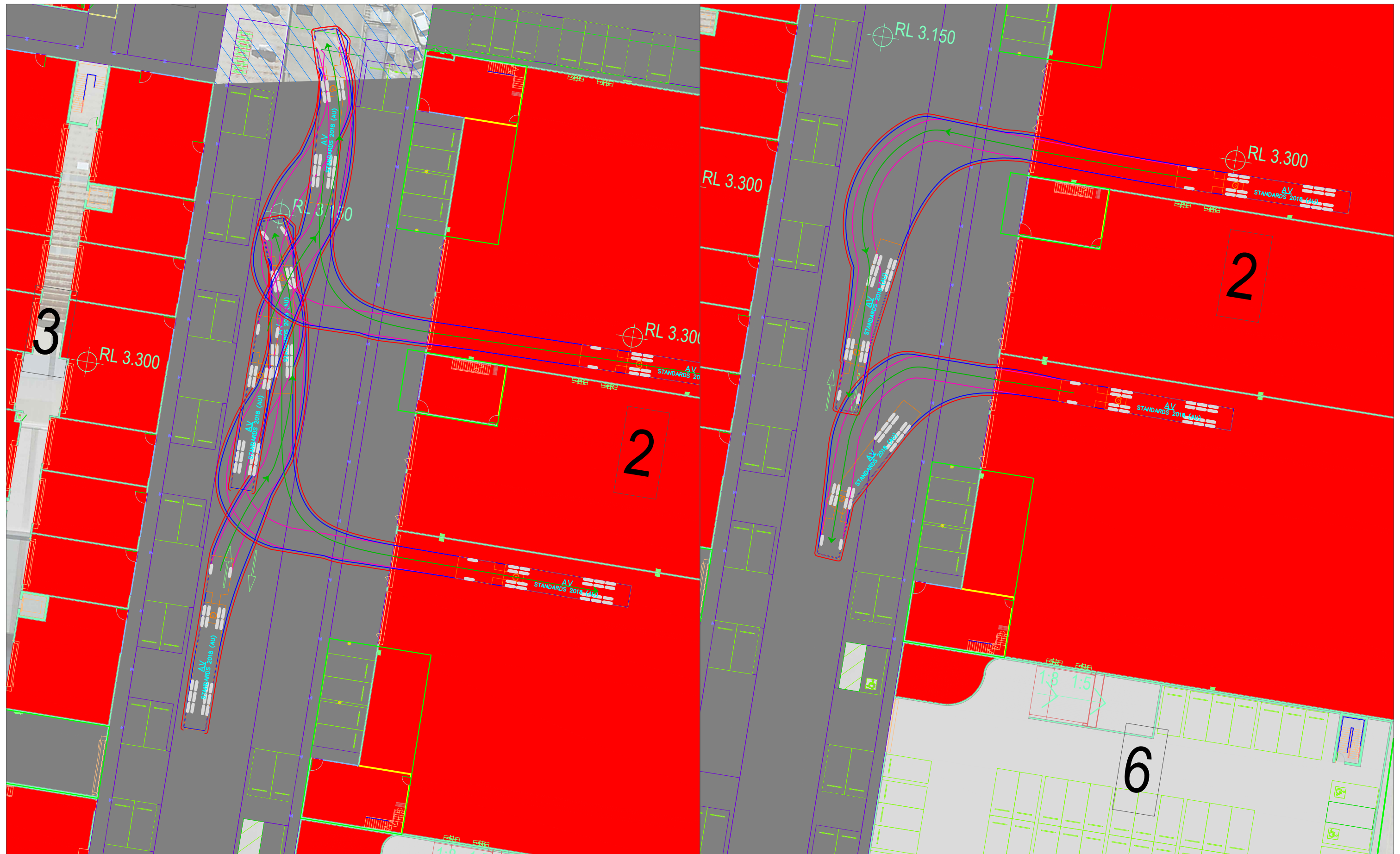
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Kingsmede
Eagle Farm Precinct, Northshore Hamilton
Service Vehicle Swept Paths #2

Drawn	Date	Scale	Size
R Bakon	22/11/2021	1:750	A3

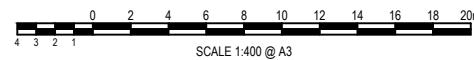
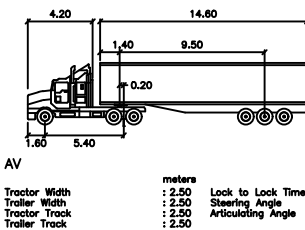
Drawing Number: T0921038 - SK04
Revision: B

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SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



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Kingsmede
Eagle Farm Precinct, Northshore Hamilton
Service Vehicle Swept Paths #5

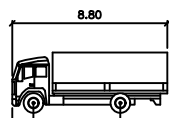
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Drawing Number	T0921038 - SK06		Revision
			B

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SWEPT PATH LEGEND

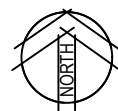
- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



MRV
Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 34.0

meters

SCALE 1:400 @ A3



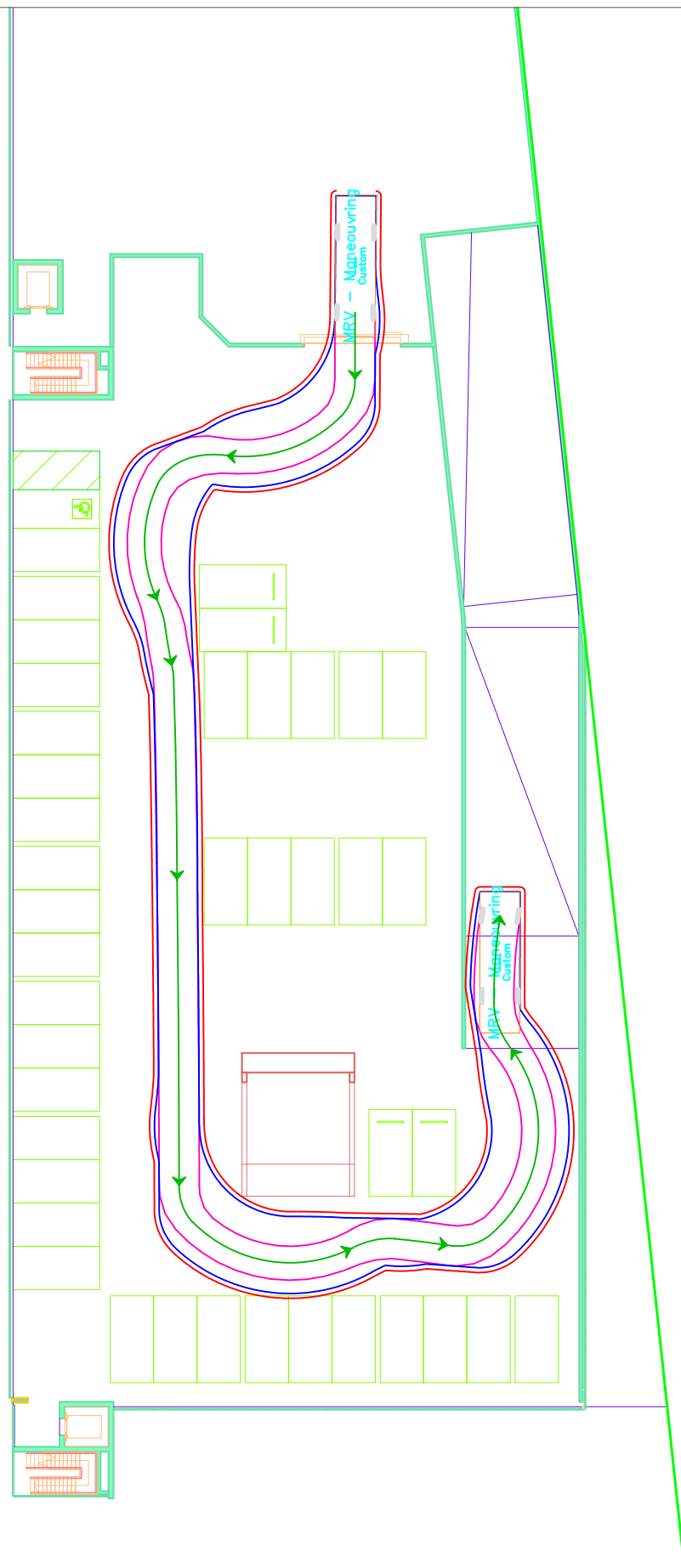
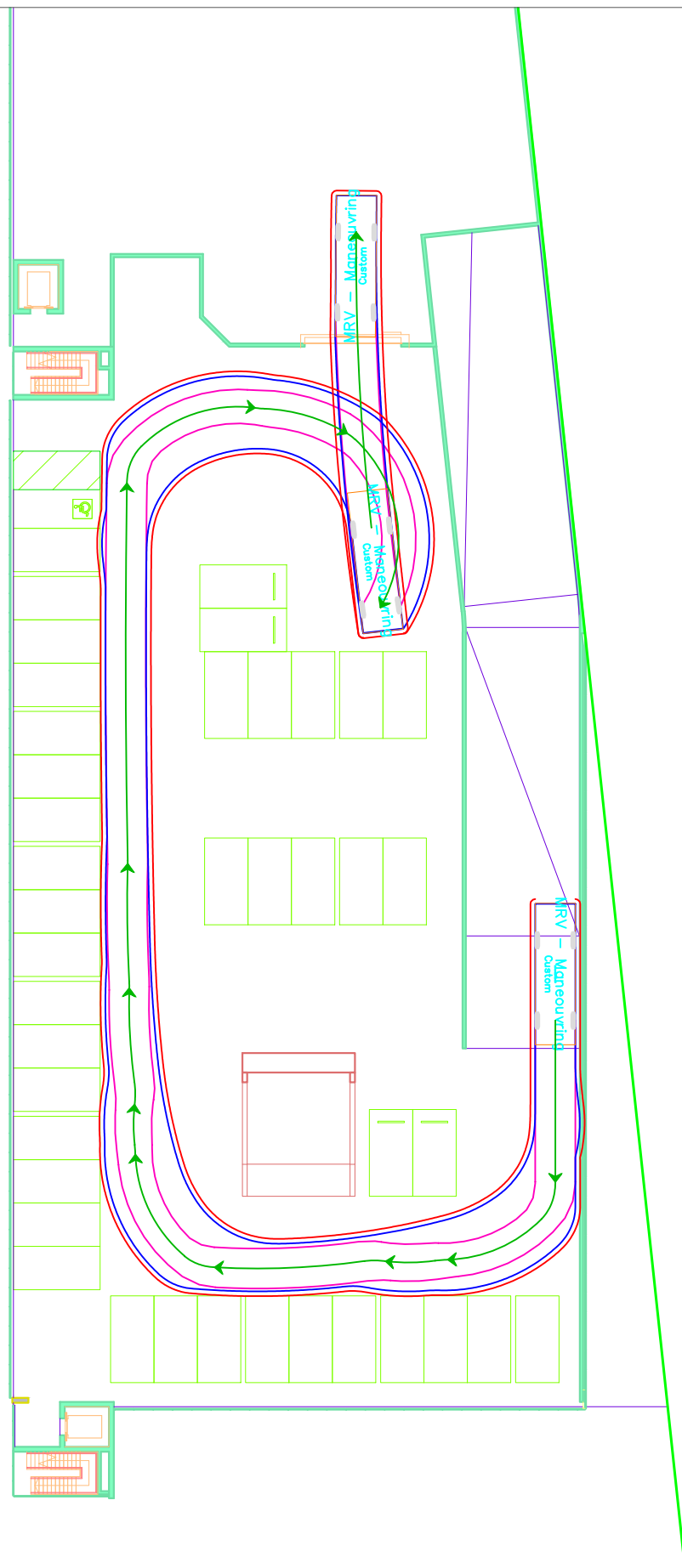
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Kingsmede
Eagle Farm Precinct, Northshore Hamilton
Service Vehicle Swept Paths #6

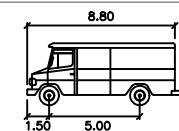
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Drawing Number	T0921038 - SK07		Revision
			B

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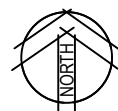
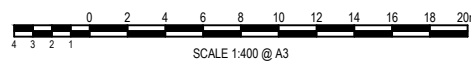
SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE (300mm)
- VEHICLE



MRV - Maneuvring

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.0



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Kingsmede Eagle Farm Precinct, Northshore Hamilton Multi-storey parking MRV Swept Path			
Drawn R Bakon	Date 22/11/2021	Scale 1:400	Size A3
Drawing Number T0921038 - SK11			Revision A

Fison Avenue, Eagle Farm

APPENDIX

C

NETWORK FLOW DIAGRAM

Table 1: Stage 1 GFAs

ID	Land Use	GFA	Traffic Gen (AM) / 100m2	Traffic Gen (PM) / 100m2	Source
Building 1	Medium Industrial	4,117.7	0.52	0.56	RMS GTGD (CEB06663)
	Indoor Sport and Recreation	1,076.1	0.5	5	RMS GTGD (10% in AM based on opening hours)
Building 2	Large Industrial	5,275.1	0.52	0.56	RMS GTGD (CEB06663)
Building 3	Warehouse	3,593.7	0.32	0.34	RMS GTGD (CEB06663)
Building 4	Amentities	340.5	0.32	0.34	RMS GTGD (CEB06663)
Building 5	Medium Industrial	3,313.5	0.52	0.56	RMS GTGD (CEB06663)

Table 2: Stage 2 GFAs

ID	Land Use	GFA	Traffic Gen (AM)	Traffic Gen (PM)	Source
Building 6	Office	13,482.7	1.6	1.2	RTA GTGD 2014
Building 7	Medium Industrial	1,820.3	0.52	0.56	RMS GTGD (CEB06663)
	Office	4,320.1	1.6	1.2	RTA GTGD 2014
Building 8	Medium Industrial	2,763.9	0.52	0.56	RMS GTGD (CEB06663)
	Showroom	2,286.0	0.52	0.56	RTA GTGD
Building 9	Commercial Business park	13,269.9	0.52	0.56	RTA GTGD
Building 10	Medium Industrial	2,965.1	0.52	0.56	RMS GTGD (CEB06663)
Building 11	Food & Beverage	493.1	5	5	RTA GTGD 2012

Table 3: Base Yields

ID	Land Use	GFA	Traffic Gen (AM)	Traffic Gen (PM)	Source
2031	Industrial	12,000	0.52	0.56	RMS GTGD (CEB06663)
2036	Industrial	25,000	0.52	0.56	RMS GTGD (CEB06663)

Table 4: Traffic Splits

ID	Land Use	AM Inbound	AM Outbound	PM Inbound	PM Outbound
Building 1	Medium Industrial	90%	10%	10%	90%
	Indoor Sport and Recreation	80%	20%		80%
Building 2	Large Industrial	90%	10%	10%	90%
Building 3	Warehouse	80%	20%	20%	80%
Building 4	Amentities	50%	50%	50%	50%
Building 5	Medium Industrial	90%	10%	10%	90%
Building 6	Office	80%	20%	20%	80%
Building 7	Medium Industrial	90%	10%	10%	90%
	Office	80%	20%	20%	80%
Building 8	Medium Industrial	90%	10%	10%	90%
	Showroom	60%	40%	30%	70%
Building 9	Commercial Business park	70%	30%	30%	70%
Building 10	Medium Industrial	90%	10%	10%	90%
Building 11	Food & Beverage	70%	30%	30%	70%
2031	Industrial	90%	10%	10%	90%
2036	Industrial	90%	10%	10%	90%

Table 5: Traffic Generation

ID	Land Use	GFA (m2)	AM Inbound	AM Outbound	AM TOTAL	PM Inbound	PM Outbound	PM TOTAL
Building 1	Medium Industrial	4,117.7	19	2	21	2	21	23
	Indoor Sport and Recreation	1,076.1	4	1	5	11	43	54
Building 2	Large Industrial	5,275.1	25	3	27	3	27	30
Building 3	Warehouse	3,593.7	9	2	11	2	10	12
Building 4	Amentities	340.5	1	1	1	1	1	1
Building 5	Medium Industrial	3,313.5	16	2	17	2	17	19
Stage 1 Total		17,716.6	73.5	10.5	84.0	20.5	117.4	138.3
Building 6	Office	13,482.7	173	43	216	32	129	162
Building 7	Medium Industrial	1,820.3	9	1	9	1	9	10
	Office	4,320.1	55	14	69	10	41	52
Building 8	Medium Industrial	2,763.9	13	1	14	2	14	15
	Showroom	2,286.0	7	5	12	4	9	13
Building 9	Commercial Business park	13,269.9	48	21	69	22	52	74
Building 10	Medium Industrial	2,965.1	14	2	15	2	15	17
Building 11	Food & Beverage	493.1	17	7	25	7	17	25
Stage 2 Total		41,401.1	335.9	93.7	429.6	80.5	287.2	367.7
Full Total		59,117.7	409.4	104.3	513.7	101.4	404.6	506.0
2031	Industrial	12,000	56	6	62	7	60	67
2036	Industrial ULTIMATE	25,000	117	13	130	14	126	140
2031	change in trips - stage 1 only	-	17	4	22	14	57	71
2036	change in trips - ultimate	-	292	91	384	87	279	366

Table 6: Traffic Distribution from site

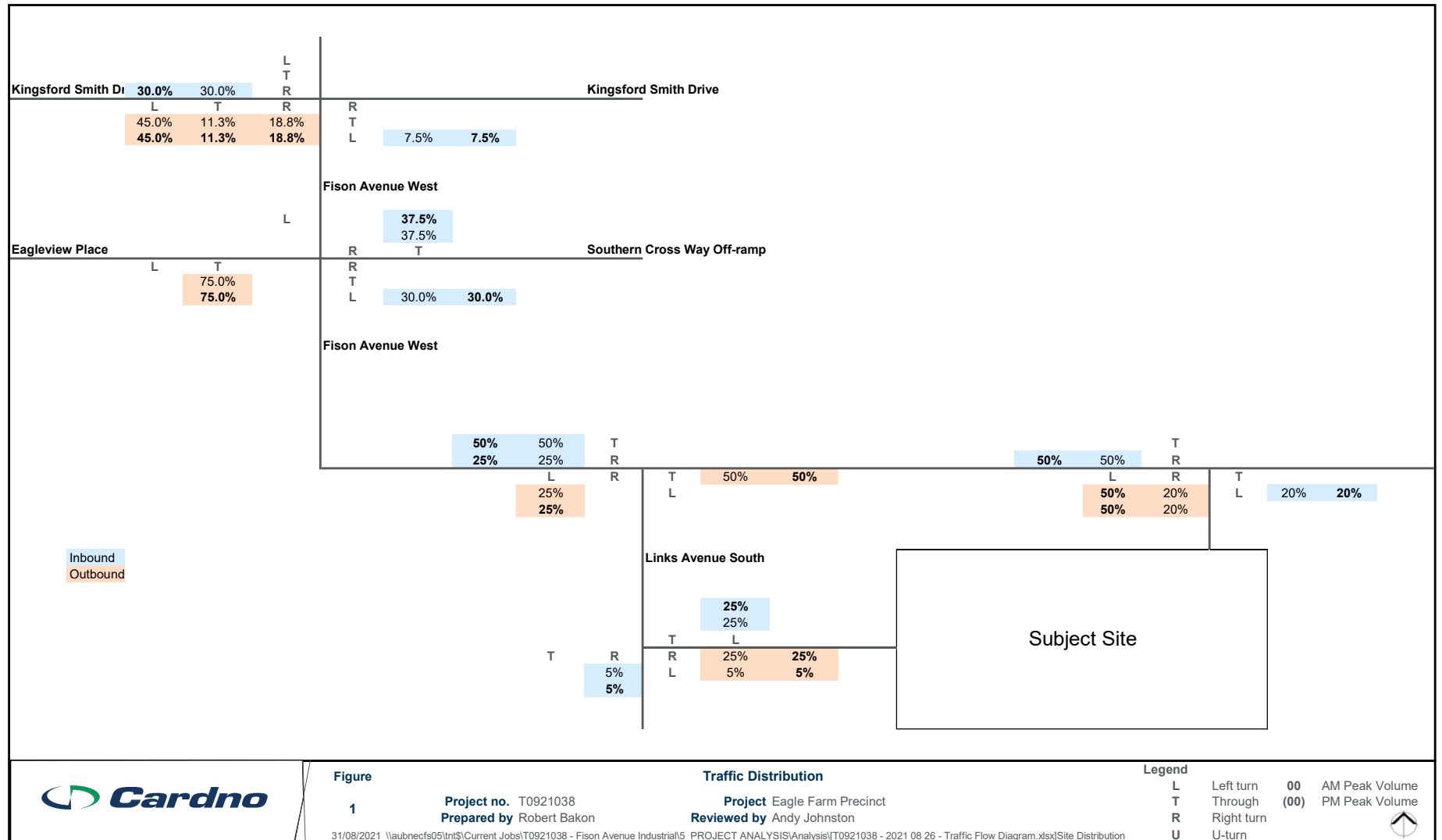
North	50%
South	5%
East	20%
West	25%

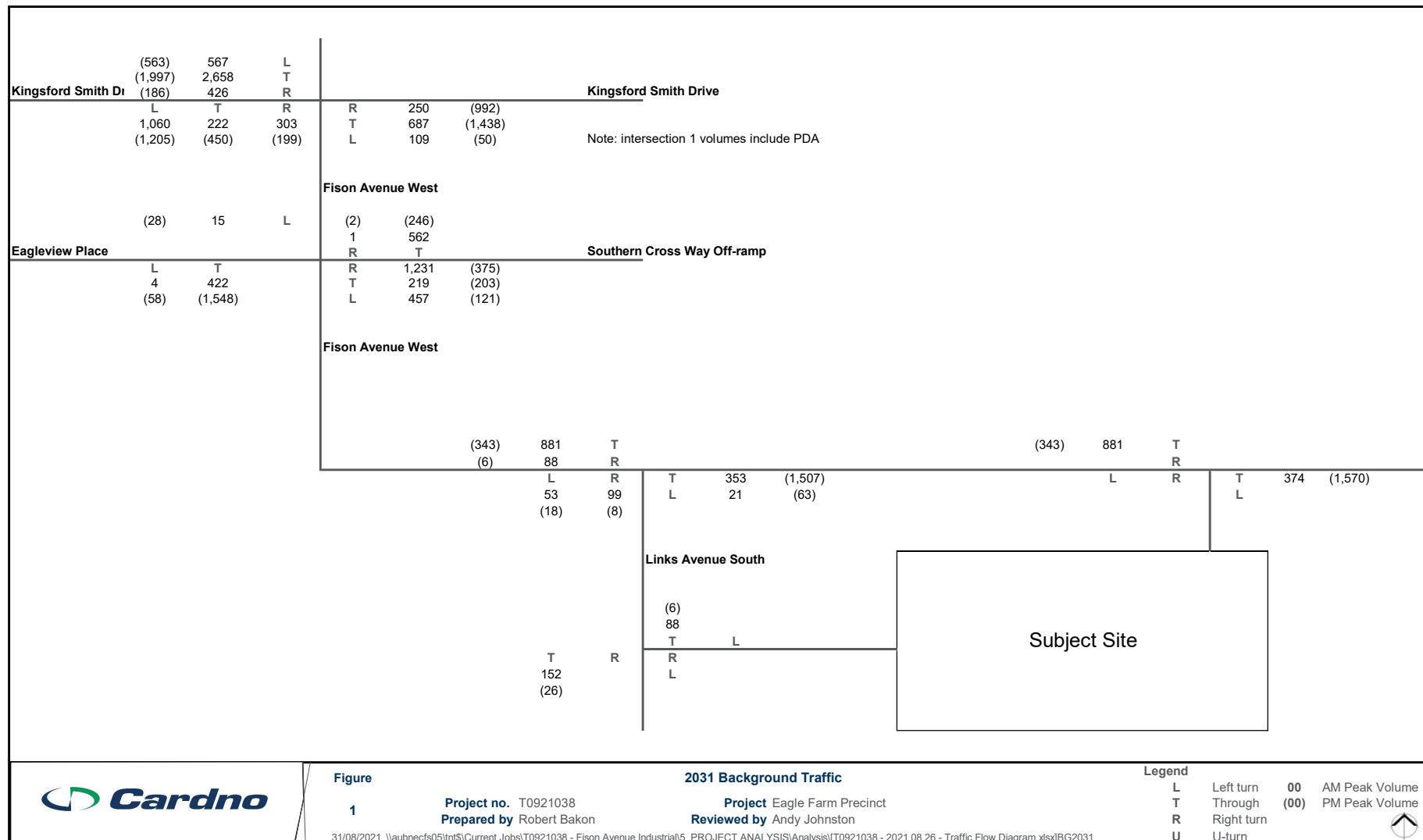
Table 7: Traffic Distribution INBOUND

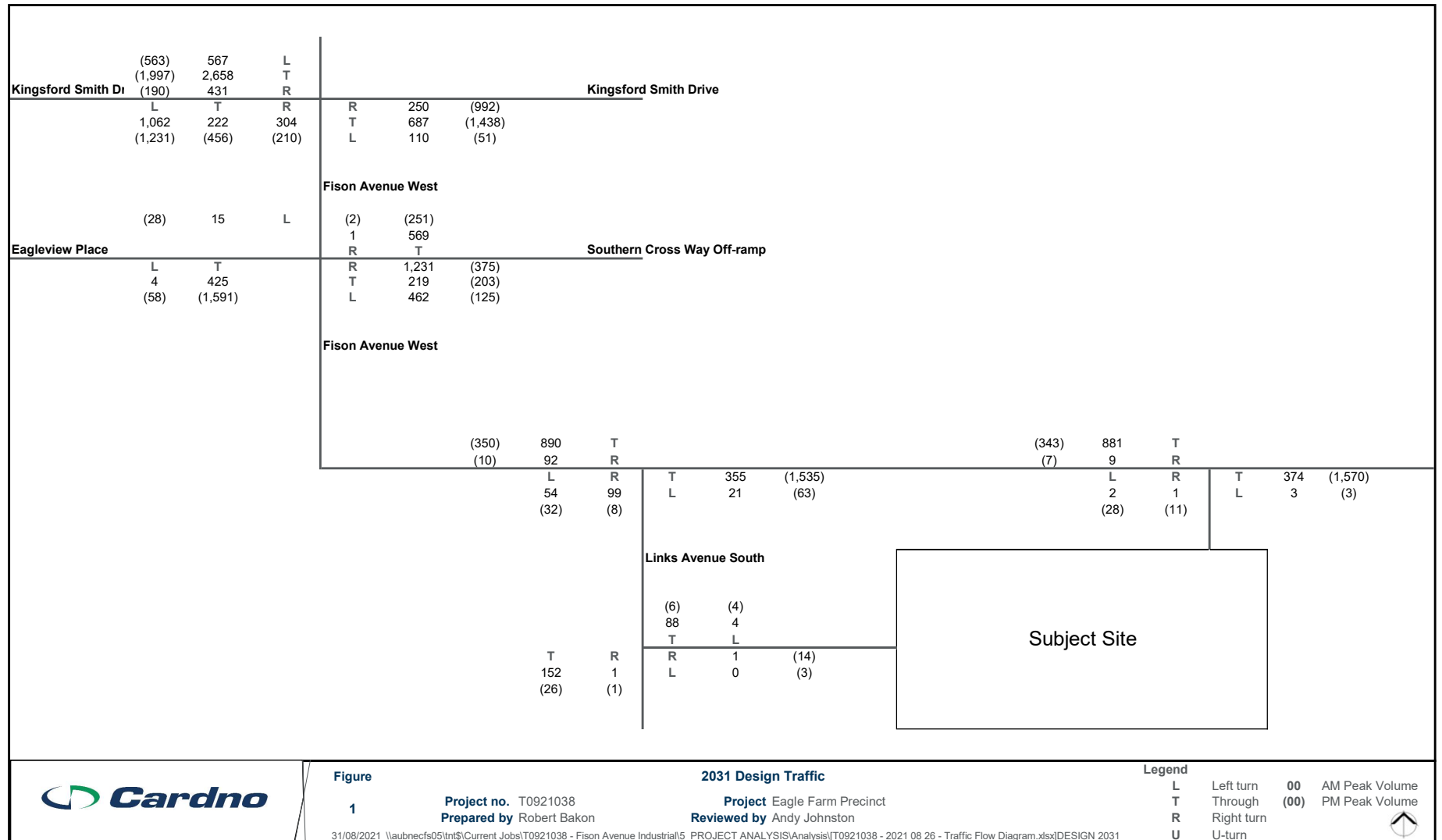
Kinsford Smith Drive East	40%
Kinsford Smith Drive West	10%
Southern Cross Way Off-ramp	40%

Table 8: Traffic Distribution OUTBOUND

Kinsford Smith Drive East	60%
Kinsford Smith Drive West	25%
Kinsford Smith Drive North	15%







Fison Avenue, Eagle Farm

APPENDIX

D

SIDRA ANALYSIS

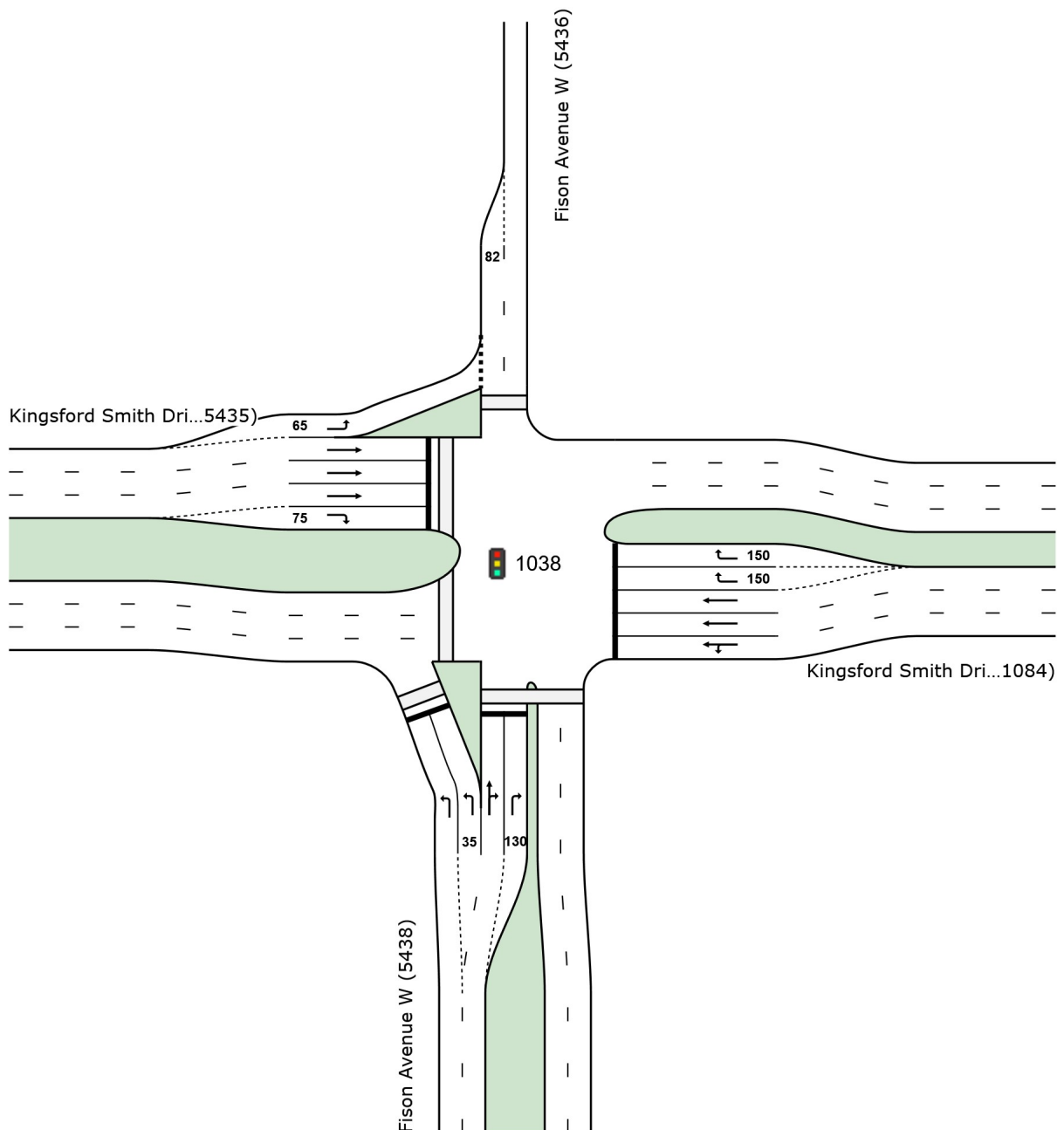
SITE LAYOUT

 **Site: 1038 [2031 BG AM]**

Kingsford Smith Drive Fison Avenue West (1038)

Site Category: (None)

Signals - Fixed Time Isolated



MOVEMENT SUMMARY

 **Site: 1038 [2031 BG AM]**

Kingsford Smith Drive Fison Avenue West (1038)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Avenue W (5438)												
1	L2	1060	3.0	0.670	15.6	LOS B	16.0	114.9	0.46	0.71	0.46	40.4
2	T1	222	3.0	0.922	85.5	LOS F	22.7	163.0	1.00	1.06	1.33	22.8
3	R2	303	3.0	0.922	91.6	LOS F	22.7	163.0	1.00	1.01	1.34	20.5
Approach		1585	3.0	0.922	39.9	LOS D	22.7	163.0	0.64	0.81	0.75	29.8
East: Kingsford Smith Drive (1084)												
4	L2	109	3.0	0.627	61.2	LOS E	17.7	126.9	0.96	0.82	0.96	26.5
5	T1	687	3.0	0.627	56.7	LOS E	17.7	126.9	0.96	0.82	0.96	27.6
6	R2	250	3.0	0.940	92.3	LOS F	14.9	107.1	0.99	0.93	1.31	24.4
Approach		1046	3.0	0.940	65.7	LOS E	17.7	126.9	0.97	0.84	1.04	26.5
West: Kingsford Smith Drive (5435)												
10	L2	567	3.0	0.434	13.6	LOS B	14.6	104.7	0.44	0.71	0.48	50.1
11	T1	2658	3.0	0.939	44.4	LOS D	86.1	617.8	0.81	0.88	0.97	31.4
12	R2	426	3.0	0.677	30.8	LOS C	19.7	141.5	0.69	0.78	0.69	31.3
Approach		3651	3.0	0.939	38.0	LOS D	86.1	617.8	0.74	0.84	0.86	33.4
All Vehicles		6282	3.0	0.940	43.1	LOS D	86.1	617.8	0.75	0.83	0.86	31.1

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	58.2	LOS E	0.2	0.2	0.88	0.88	
P1S	South Slip/Bypass Lane Crossing	50	48.9	LOS E	0.2	0.2	0.81	0.81	
P3	North Full Crossing	50	12.4	LOS B	0.1	0.1	0.41	0.41	
P41	West Stage 1	50	63.6	LOS F	0.2	0.2	0.92	0.92	
P42	West Stage 2	50	60.9	LOS F	0.2	0.2	0.90	0.90	
All Pedestrians		250	48.8	LOS E			0.78	0.78	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1038 [2031 BG AM]**

Kingsford Smith Drive Fison Avenue West (1038)
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

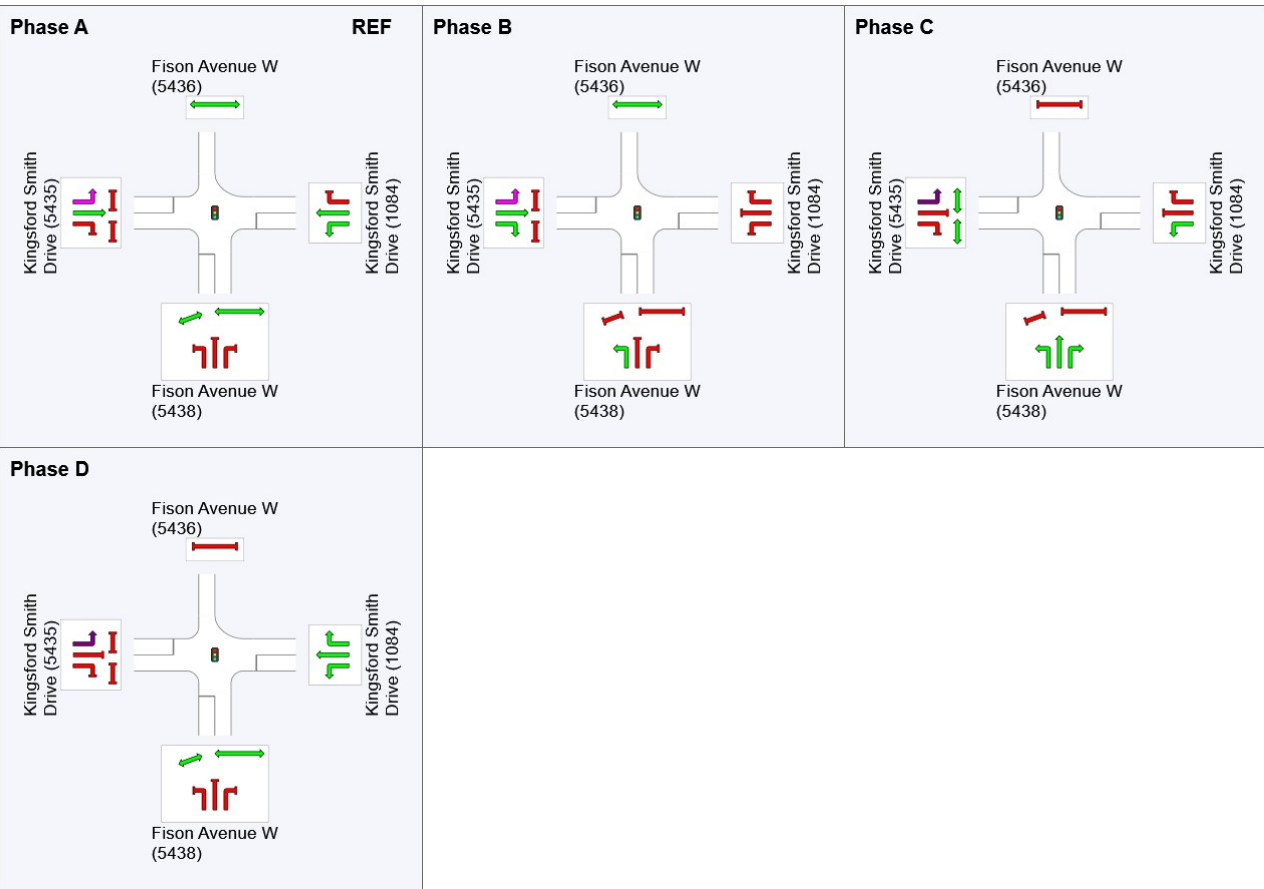
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Green Split Priority has been specified
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	18	100	129
Green Time (sec)	12	76	23	15
Phase Time (sec)	18	82	29	21
Phase Split	12%	55%	19%	14%

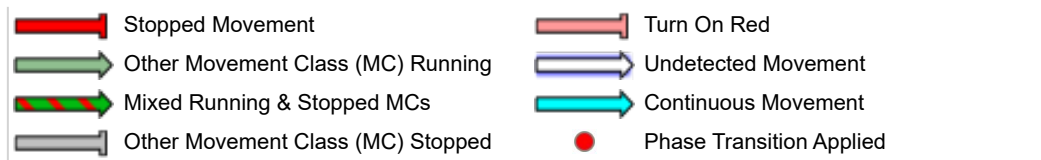
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase





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Organisation: CARDNO (QLD) PTY LTD | Processed: Monday, 30 August 2021 5:20:07 PM

Project: G:\T0921038 - Fison Avenue Industrial\5_PROJECT ANALYSIS\Analysis\SIDRAs\21 08 30 - KSD-Fison .sip8

MOVEMENT SUMMARY

 **Site: 1038 [2031 BG PM]**

Kingsford Smith Drive Fison Avenue West (1038)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Avenue W (5438)												
1	L2	1205	3.0	1.174	240.3	LOS F	94.6	679.1	1.00	1.43	2.15	7.4
2	T1	450	3.0	1.176	237.2	LOS F	66.5	477.3	1.00	1.74	2.16	10.0
3	R2	199	3.0	0.547	64.0	LOS E	13.2	94.5	0.95	0.82	0.95	25.4
Approach		1854	3.0	1.176	220.6	LOS F	94.6	679.1	0.99	1.44	2.03	8.9
East: Kingsford Smith Drive (1084)												
4	L2	50	3.0	0.618	41.1	LOS D	27.8	199.7	0.84	0.76	0.84	33.2
5	T1	1438	3.0	0.618	35.9	LOS D	28.0	201.3	0.84	0.75	0.84	34.5
6	R2	992	3.0	1.183	181.3	LOS F	101.9	731.4	0.96	1.19	1.74	14.9
Approach		2480	3.0	1.183	94.2	LOS F	101.9	731.4	0.89	0.93	1.20	21.6
West: Kingsford Smith Drive (5435)												
10	L2	563	3.0	0.763	48.5	LOS D	28.2	202.7	0.92	1.04	1.36	31.4
11	T1	1997	3.0	1.184	240.1	LOS F	122.1	876.3	1.00	1.82	2.16	9.9
12	R2	186	3.0	0.393	54.7	LOS D	11.2	80.2	0.87	0.80	0.87	23.1
Approach		2746	3.0	1.184	188.3	LOS F	122.1	876.3	0.98	1.59	1.91	11.9
All Vehicles		7080	3.0	1.184	163.8	LOS F	122.1	876.3	0.95	1.32	1.69	13.3

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	34.8	LOS D	0.1	0.1	0.68	0.68	
P1S	South Slip/Bypass Lane Crossing	50	27.7	LOS C	0.1	0.1	0.61	0.61	
P3	North Full Crossing	50	34.8	LOS D	0.1	0.1	0.68	0.68	
P41	West Stage 1	50	57.3	LOS E	0.2	0.2	0.88	0.88	
P42	West Stage 2	50	54.7	LOS E	0.2	0.2	0.86	0.86	
All Pedestrians		250	41.8	LOS E			0.74	0.74	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1038 [2031 BG PM]**

Kingsford Smith Drive Fison Avenue West (1038)
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

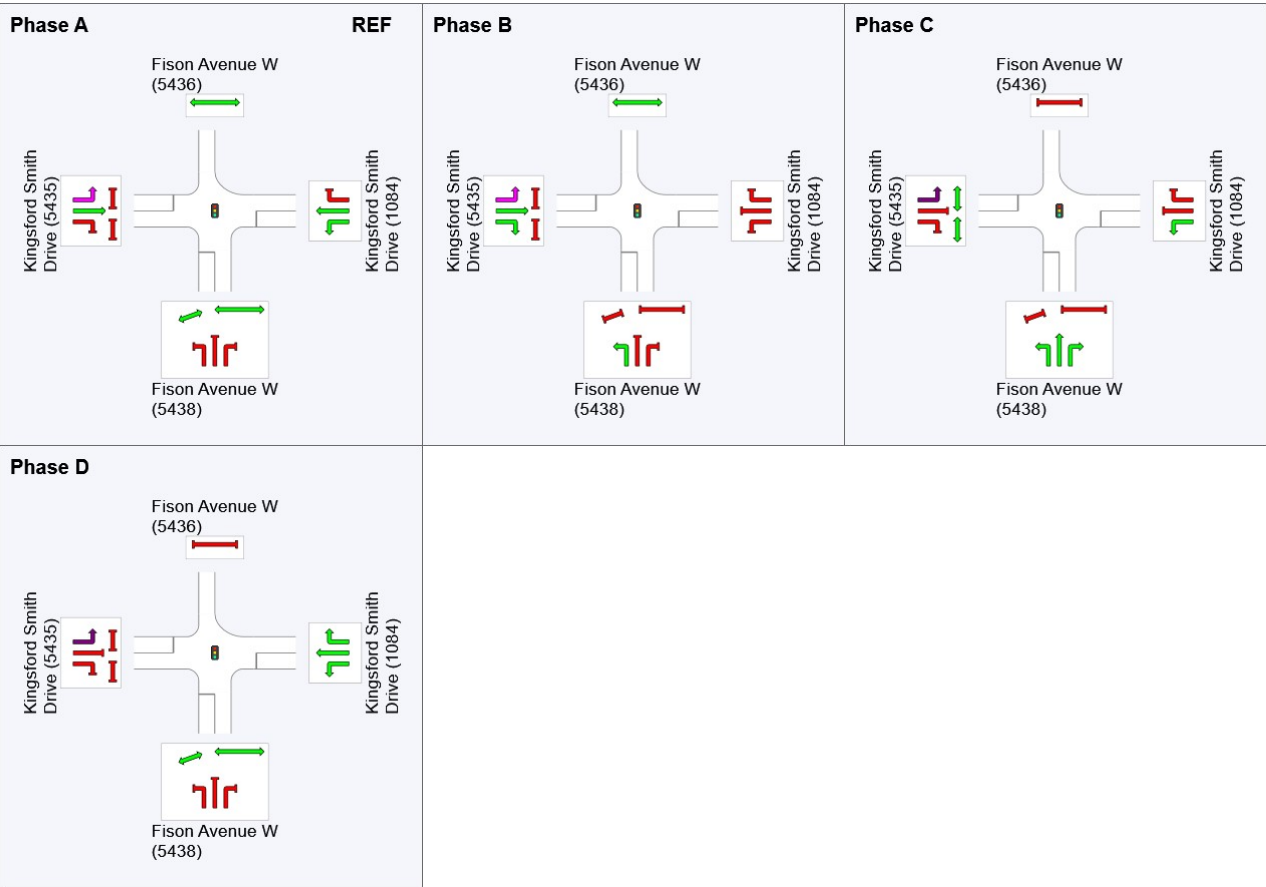
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Green Split Priority has been specified
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	14	59	95
Green Time (sec)	8	39	30	49
Phase Time (sec)	14	45	36	55
Phase Split	9%	30%	24%	37%

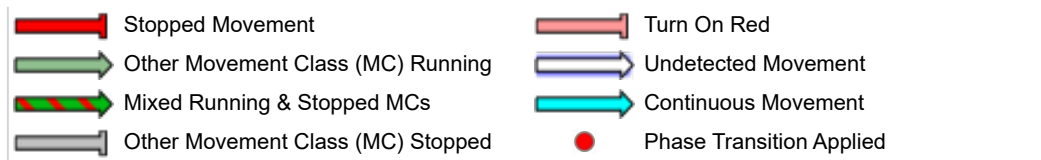
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase





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Organisation: CARDNO (QLD) PTY LTD | Processed: Monday, 30 August 2021 5:20:07 PM

Project: G:\T0921038 - Fison Avenue Industrial\5_PROJECT ANALYSIS\Analysis\SIDRAs\21 08 30 - KSD-Fison .sip8

MOVEMENT SUMMARY

 **Site: 1038 [2031 DEV AM]**

Kingsford Smith Drive Fison Avenue West (1038)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Avenue W (5438)												
1	L2	1062	3.0	0.661	15.2	LOS B	15.7	112.6	0.45	0.70	0.45	40.8
2	T1	222	3.0	0.924	85.9	LOS F	22.8	163.8	1.00	1.06	1.34	22.7
3	R2	304	3.0	0.924	92.0	LOS F	22.8	163.8	1.00	1.01	1.34	20.5
Approach		1588	3.0	0.924	39.8	LOS D	22.8	163.8	0.63	0.81	0.74	29.8
East: Kingsford Smith Drive (1084)												
4	L2	110	3.0	0.647	62.3	LOS E	17.9	128.5	0.96	0.83	0.96	26.2
5	T1	687	3.0	0.647	57.8	LOS E	17.9	128.5	0.97	0.82	0.97	27.3
6	R2	250	3.0	0.940	92.3	LOS F	14.9	107.1	0.99	0.93	1.31	24.4
Approach		1047	3.0	0.940	66.5	LOS E	17.9	128.5	0.97	0.85	1.05	26.3
West: Kingsford Smith Drive (5435)												
10	L2	567	3.0	0.435	13.6	LOS B	14.6	104.7	0.44	0.71	0.48	50.1
11	T1	2658	3.0	0.940	44.8	LOS D	86.5	621.4	0.81	0.88	0.97	31.3
12	R2	431	3.0	0.670	30.2	LOS C	19.7	141.7	0.69	0.78	0.69	31.6
Approach		3656	3.0	0.940	38.2	LOS D	86.5	621.4	0.74	0.84	0.86	33.3
All Vehicles		6291	3.0	0.940	43.3	LOS D	86.5	621.4	0.75	0.84	0.86	31.0

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	59.1	LOS E	0.2	0.2	0.89	0.89	
P1S	South Slip/Bypass Lane Crossing	50	49.7	LOS E	0.2	0.2	0.82	0.82	
P3	North Full Crossing	50	12.4	LOS B	0.1	0.1	0.41	0.41	
P41	West Stage 1	50	63.6	LOS F	0.2	0.2	0.92	0.92	
P42	West Stage 2	50	60.9	LOS F	0.2	0.2	0.90	0.90	
All Pedestrians		250	49.1	LOS E			0.79	0.79	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1038 [2031 DEV AM]**

Kingsford Smith Drive Fison Avenue West (1038)
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

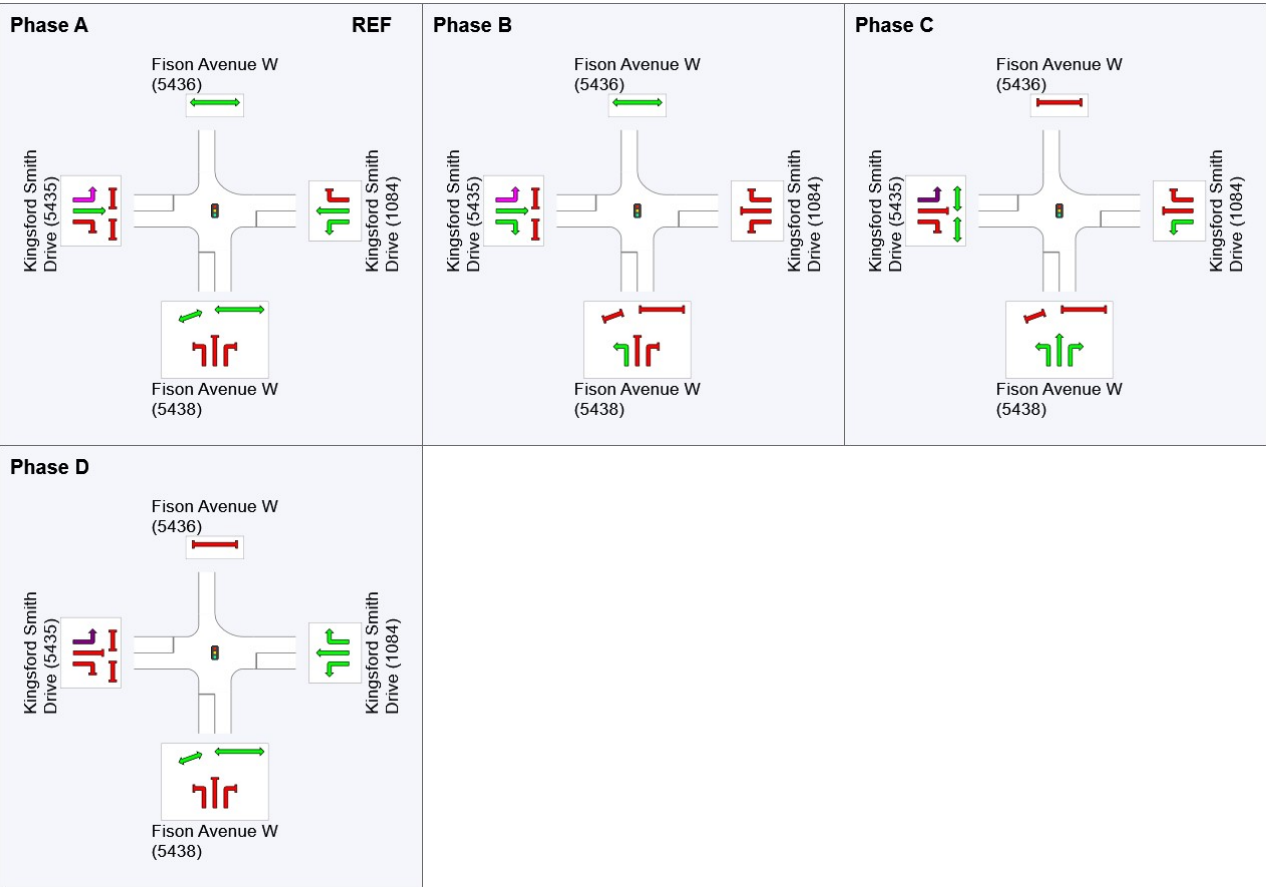
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Green Split Priority has been specified
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	17	100	129
Green Time (sec)	11	77	23	15
Phase Time (sec)	17	83	29	21
Phase Split	11%	55%	19%	14%

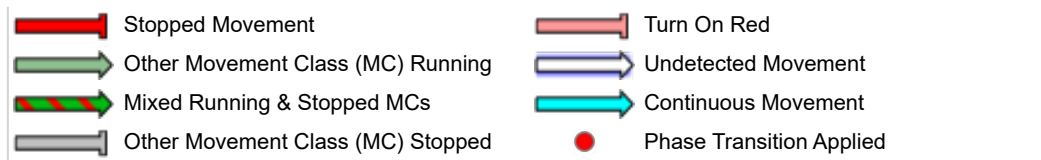
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase





MOVEMENT SUMMARY

 **Site: 1038 [2031 DEV PM]**

Kingsford Smith Drive Fison Avenue West (1038)

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Avenue W (5438)												
1	L2	1231	3.0	1.186	249.5	LOS F	98.5	707.1	1.00	1.45	2.19	7.2
2	T1	456	3.0	1.192	250.0	LOS F	69.2	497.2	1.00	1.78	2.22	9.6
3	R2	210	3.0	0.577	64.4	LOS E	14.0	100.4	0.96	0.82	0.96	25.3
Approach		1897	3.0	1.192	229.1	LOS F	98.5	707.1	1.00	1.46	2.06	8.7
East: Kingsford Smith Drive (1084)												
4	L2	51	3.0	0.628	41.9	LOS D	28.2	202.3	0.85	0.76	0.85	32.9
5	T1	1438	3.0	0.628	36.8	LOS D	28.4	203.8	0.85	0.76	0.85	34.1
6	R2	992	3.0	1.183	181.3	LOS F	101.9	731.4	0.96	1.19	1.74	14.9
Approach		2481	3.0	1.183	94.7	LOS F	101.9	731.4	0.89	0.93	1.20	21.5
West: Kingsford Smith Drive (5435)												
10	L2	563	3.0	0.763	48.5	LOS D	28.2	202.7	0.92	1.04	1.36	31.4
11	T1	1997	3.0	1.185	241.1	LOS F	122.4	878.8	1.00	1.82	2.16	9.8
12	R2	190	3.0	0.392	53.9	LOS D	11.3	81.4	0.87	0.80	0.87	23.3
Approach		2750	3.0	1.185	188.7	LOS F	122.4	878.8	0.98	1.59	1.91	11.9
All Vehicles		7128	3.0	1.192	166.7	LOS F	122.4	878.8	0.95	1.33	1.70	13.1

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	50	35.4	LOS D	0.1	0.1	0.69	0.69	
P1S	South Slip/Bypass Lane Crossing	50	28.3	LOS C	0.1	0.1	0.61	0.61	
P3	North Full Crossing	50	34.8	LOS D	0.1	0.1	0.68	0.68	
P41	West Stage 1	50	57.3	LOS E	0.2	0.2	0.88	0.88	
P42	West Stage 2	50	54.7	LOS E	0.2	0.2	0.86	0.86	
All Pedestrians		250	42.1	LOS E			0.74	0.74	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1038 [2031 DEV PM]**

Kingsford Smith Drive Fison Avenue West (1038)
Site Category: (None)
Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

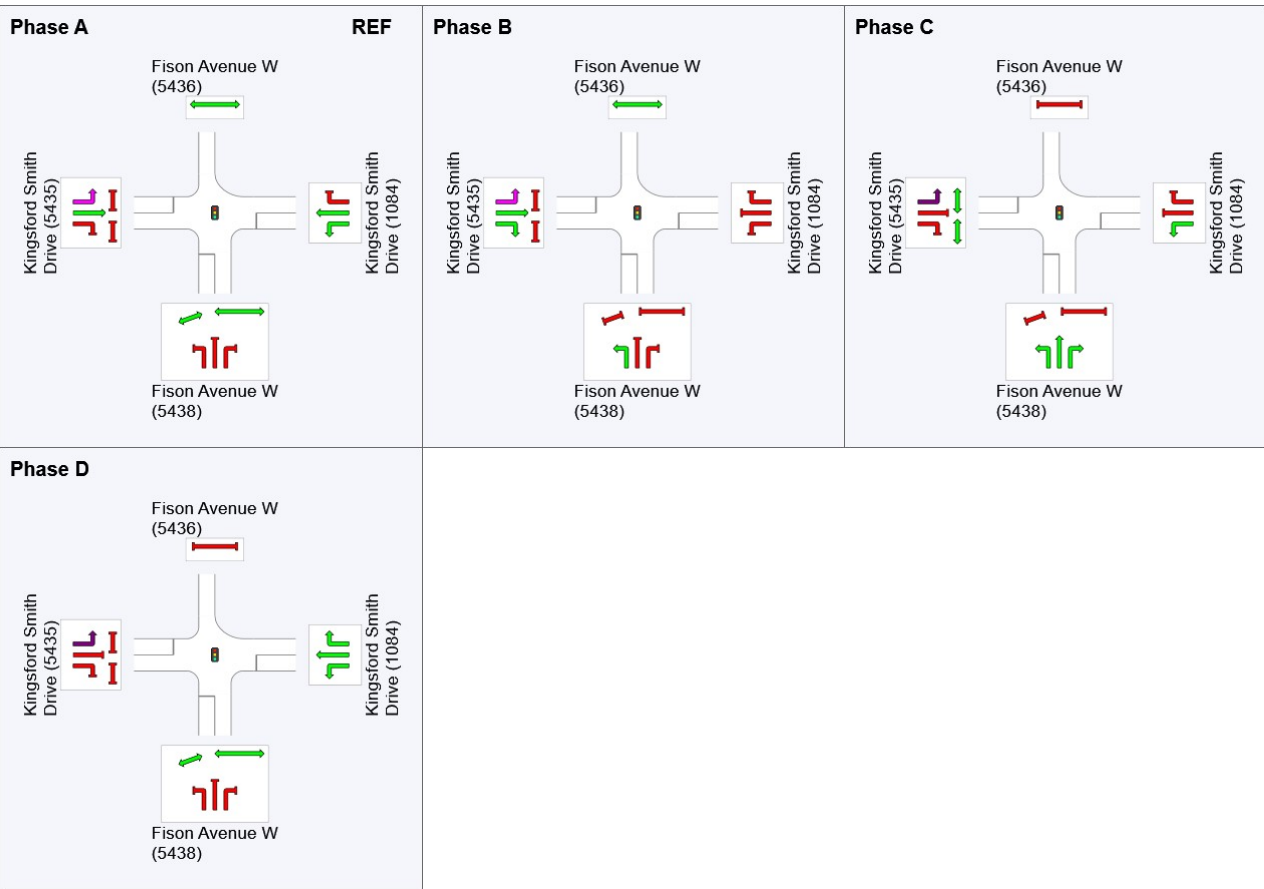
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Green Split Priority has been specified
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	13	59	95
Green Time (sec)	7	40	30	49
Phase Time (sec)	13	46	36	55
Phase Split	9%	31%	24%	37%

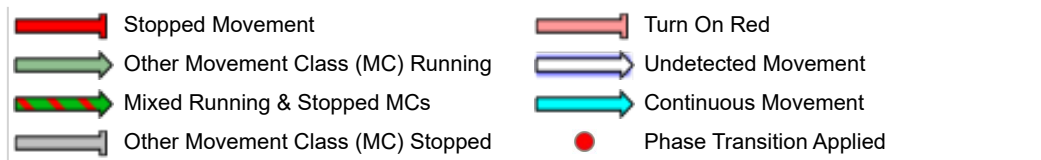
See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase





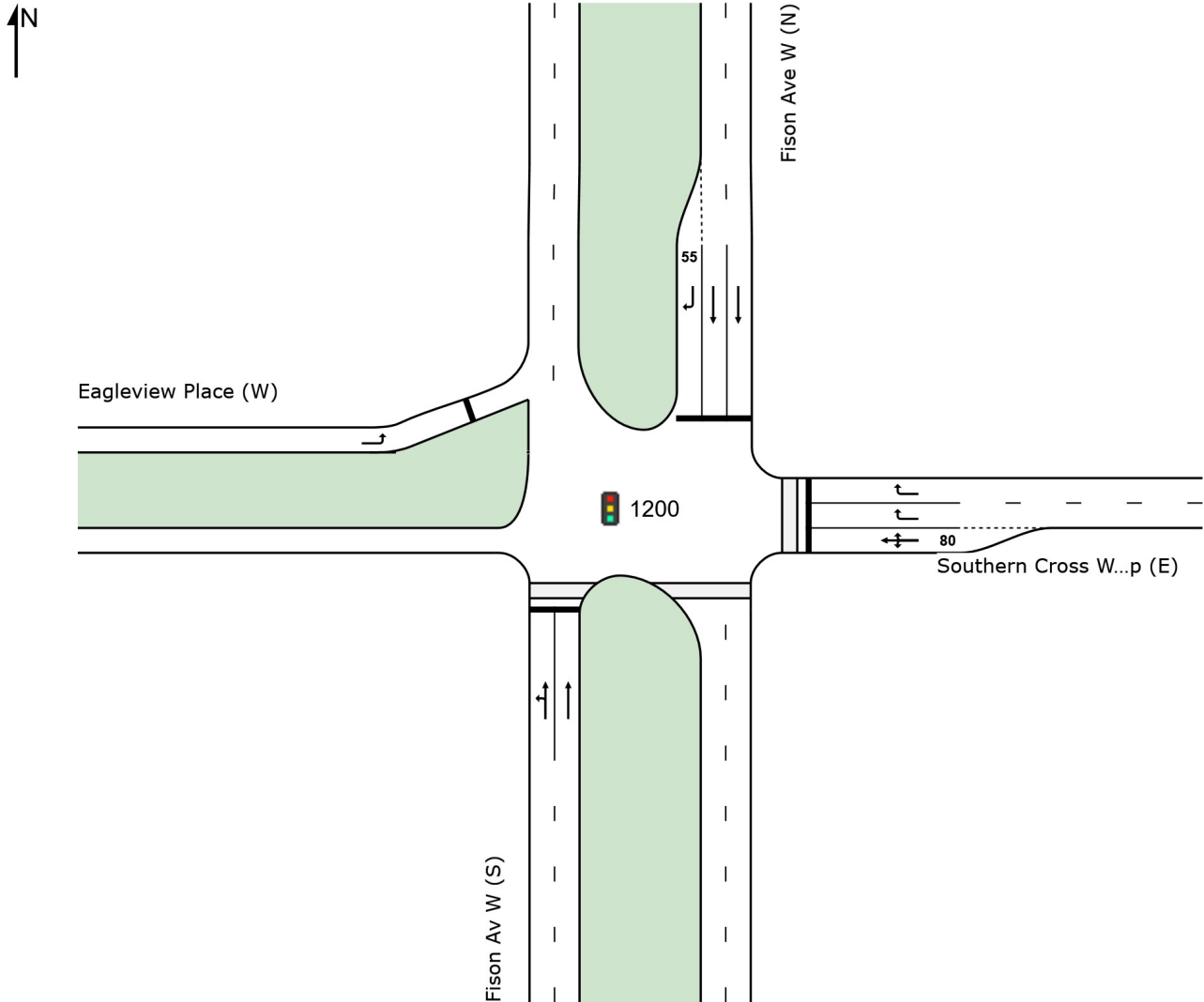
SITE LAYOUT

 **Site: 1200 [BG 2031 AM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated



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Organisation: CARDNO (QLD) PTY LTD | Created: Tuesday, 31 August 2021 9:05:42 AM

Project: G:\T0921038 - Fison Avenue Industrial\5_PROJECT ANALYSIS\Analysis\SIDRAs\21 08 30 - Fison-Cullen Interchange.sip8

MOVEMENT SUMMARY

 **Site: 1200 [BG 2031 AM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Av W (S)												
1	L2	4	3.0	0.696	71.0	LOS E	15.0	107.8	1.00	0.84	1.02	28.5
2	T1	422	3.0	0.696	65.4	LOS E	15.0	107.9	1.00	0.84	1.02	28.9
Approach		426	3.0	0.696	65.5	LOS E	15.0	107.9	1.00	0.84	1.02	28.9
East: Southern Cross Way Off Ramp (E)												
4	L2	457	3.0	0.709	18.3	LOS B	24.4	174.9	0.55	0.68	0.55	46.1
5	T1	219	3.0	0.709	12.7	LOS B	24.4	174.9	0.55	0.68	0.55	47.3
6	R2	1231	3.0	0.519	17.8	LOS B	22.7	162.9	0.52	0.75	0.52	45.3
Approach		1907	3.0	0.709	17.3	LOS B	24.4	174.9	0.53	0.73	0.53	45.7
North: Fison Ave W (N)												
8	T1	562	3.0	0.613	54.6	LOS D	18.3	131.6	0.95	0.81	0.95	31.6
9	R2	1	3.0	0.014	82.2	LOS F	0.1	0.5	0.98	0.59	0.98	25.1
Approach		563	3.0	0.613	54.7	LOS D	18.3	131.6	0.95	0.81	0.95	31.6
West: Eagleview Place (W)												
10	L2	15	3.0	0.206	85.2	LOS F	1.1	8.1	1.00	0.69	1.00	25.0
Approach		15	3.0	0.206	85.2	LOS F	1.1	8.1	1.00	0.69	1.00	25.0
All Vehicles		2911	3.0	0.709	31.9	LOS C	24.4	174.9	0.68	0.76	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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P11	South Stage 1	53	5.3	LOS A	0.1	0.1	0.27	0.27	
P12	South Stage 2	53	9.0	LOS A	0.1	0.1	0.35	0.35	
P2	East Full Crossing	53	48.9	LOS E	0.2	0.2	0.81	0.81	
All Pedestrians		158	21.1	LOS C			0.47	0.47	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1200 [BG 2031 AM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Green Split Priority has been specified

Phase Sequence: Three-Phase

Reference Phase: Phase A

Input Phase Sequence: A, B, C

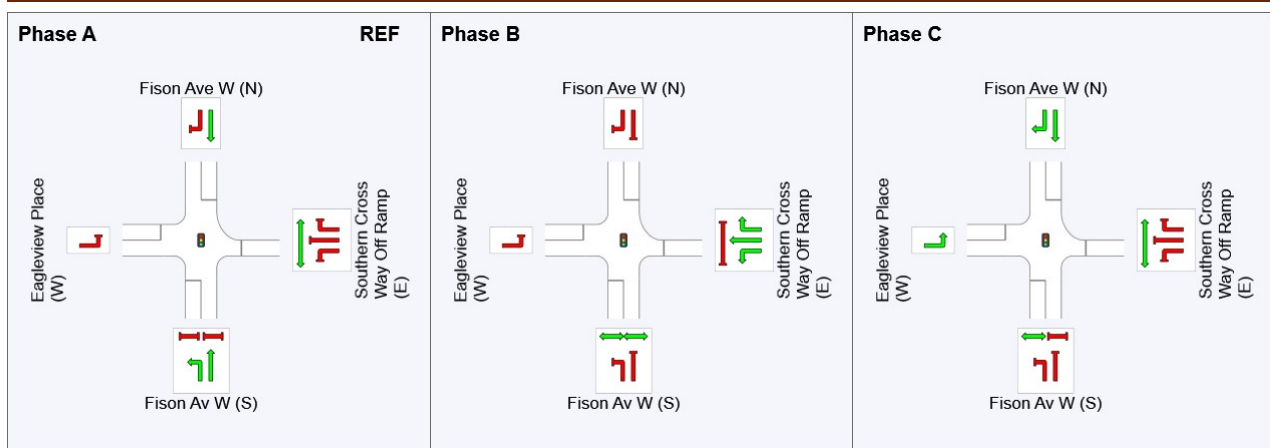
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	30	138
Green Time (sec)	24	102	6
Phase Time (sec)	30	108	12
Phase Split	20%	72%	8%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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Organisation: CARDNO (QLD) PTY LTD | Processed: Monday, 30 August 2021 5:32:48 PM

Project: G:\T0921038 - Fison Avenue Industrial\5_PROJECT ANALYSIS\Analysis\SIDRAs\21 08 30 - Fison-Cullen Interchange.sip8

MOVEMENT SUMMARY

 **Site: 1200 [BG 2031 PM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Av W (S)												
1	L2	58	3.0	0.717	28.9	LOS C	41.0	294.2	0.78	0.72	0.78	42.2
2	T1	1548	3.0	0.717	23.3	LOS C	41.1	295.2	0.78	0.72	0.78	43.3
Approach		1606	3.0	0.717	23.5	LOS C	41.1	295.2	0.78	0.72	0.78	43.2
East: Southern Cross Way Off Ramp (E)												
4	L2	121	3.0	0.721	60.0	LOS E	21.4	153.7	0.96	0.84	0.96	30.7
5	T1	203	3.0	0.721	54.4	LOS D	21.4	153.7	0.96	0.84	0.96	31.2
6	R2	375	3.0	0.407	55.6	LOS E	11.4	81.8	0.88	0.80	0.88	30.9
Approach		699	3.0	0.721	56.0	LOS E	21.4	153.7	0.92	0.82	0.92	30.9
North: Fison Ave W (N)												
8	T1	246	3.0	0.096	9.3	LOS A	3.1	22.3	0.38	0.31	0.38	52.1
9	R2	2	3.0	0.027	82.8	LOS F	0.1	1.0	0.98	0.61	0.98	25.0
Approach		248	3.0	0.096	9.9	LOS A	3.1	22.3	0.38	0.31	0.38	51.6
West: Eagleview Place (W)												
10	L2	28	3.0	0.385	86.5	LOS F	2.1	15.3	1.00	0.72	1.00	24.8
Approach		28	3.0	0.385	86.5	LOS F	2.1	15.3	1.00	0.72	1.00	24.8
All Vehicles		2581	3.0	0.721	31.7	LOS C	41.1	295.2	0.78	0.71	0.78	39.3

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P11	South Stage 1	53	36.1	LOS D	0.2	0.2	0.69	0.69	
P12	South Stage 2	53	45.0	LOS E	0.2	0.2	0.78	0.78	
P2	East Full Crossing	53	10.9	LOS B	0.1	0.1	0.38	0.38	
All Pedestrians		158	30.6	LOS D			0.62	0.62	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1200 [BG 2031 PM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Green Split Priority has been specified

Phase Sequence: Three-Phase

Reference Phase: Phase A

Input Phase Sequence: A, B, C

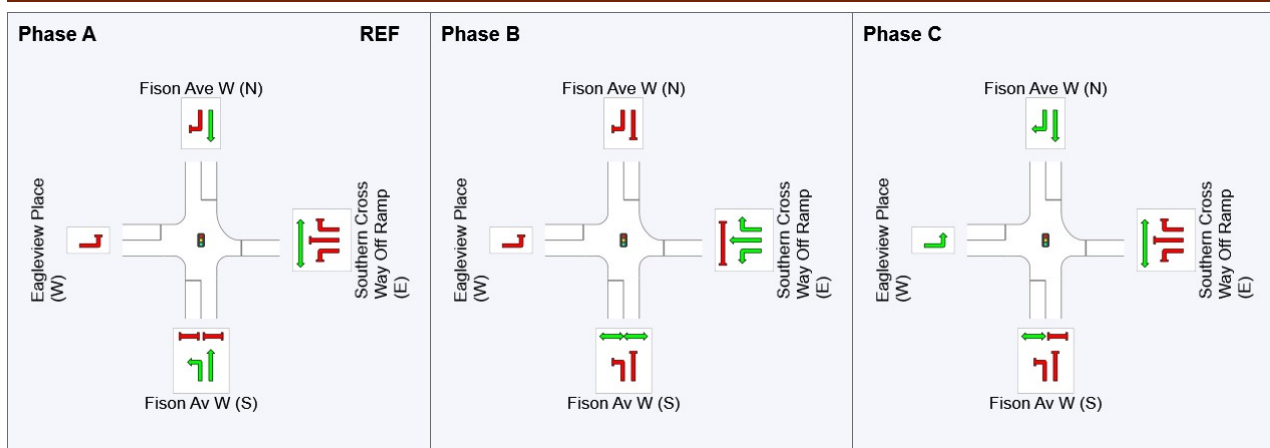
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	94	138
Green Time (sec)	88	38	6
Phase Time (sec)	94	44	12
Phase Split	63%	29%	8%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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MOVEMENT SUMMARY

 **Site: 1200 [DEV 2031 AM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Av W (S)												
1	L2	4	3.0	0.701	71.1	LOS E	15.2	108.8	1.00	0.85	1.02	28.4
2	T1	425	3.0	0.701	65.6	LOS E	15.2	108.9	1.00	0.85	1.02	28.9
Approach		429	3.0	0.701	65.6	LOS E	15.2	108.9	1.00	0.85	1.02	28.9
East: Southern Cross Way Off Ramp (E)												
4	L2	462	3.0	0.721	18.3	LOS B	24.6	176.9	0.55	0.68	0.55	46.1
5	T1	219	3.0	0.721	12.8	LOS B	24.6	176.9	0.55	0.68	0.55	47.2
6	R2	1231	3.0	0.522	17.8	LOS B	22.9	164.3	0.53	0.75	0.53	45.3
Approach		1912	3.0	0.721	17.3	LOS B	24.6	176.9	0.53	0.73	0.53	45.7
North: Fison Ave W (N)												
8	T1	569	3.0	0.620	54.7	LOS D	18.6	133.6	0.95	0.81	0.95	31.6
9	R2	1	3.0	0.014	82.2	LOS F	0.1	0.5	0.98	0.59	0.98	25.1
Approach		570	3.0	0.620	54.8	LOS D	18.6	133.6	0.95	0.81	0.95	31.6
West: Eagleview Place (W)												
10	L2	15	3.0	0.206	85.2	LOS F	1.1	8.1	1.00	0.69	1.00	25.0
Approach		15	3.0	0.206	85.2	LOS F	1.1	8.1	1.00	0.69	1.00	25.0
All Vehicles		2926	3.0	0.721	32.1	LOS C	24.6	176.9	0.69	0.76	0.69	38.8

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P11	South Stage 1	53	5.3	LOS A	0.1	0.1	0.27	0.27	
P12	South Stage 2	53	9.0	LOS A	0.1	0.1	0.35	0.35	
P2	East Full Crossing	53	48.9	LOS E	0.2	0.2	0.81	0.81	
All Pedestrians		158	21.1	LOS C			0.47	0.47	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1200 [DEV 2031 AM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Green Split Priority has been specified

Phase Sequence: Three-Phase

Reference Phase: Phase A

Input Phase Sequence: A, B, C

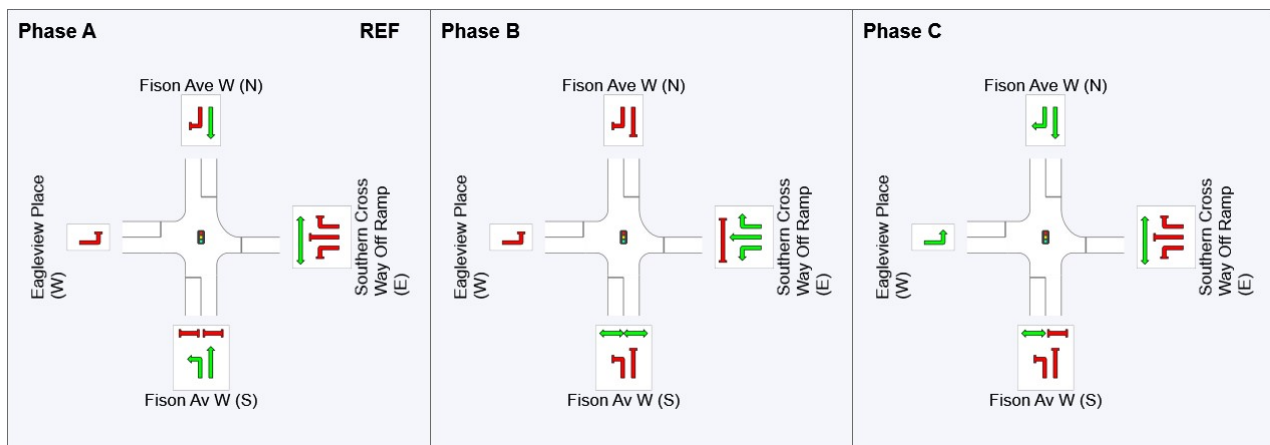
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	30	138
Green Time (sec)	24	102	6
Phase Time (sec)	30	108	12
Phase Split	20%	72%	8%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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MOVEMENT SUMMARY

 **Site: 1200 [DEV 2031 PM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	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	Aver. No. Cycles	Average Speed km/h
South: Fison Av W (S)												
1	L2	58	3.0	0.736	29.3	LOS C	42.9	308.1	0.79	0.74	0.79	42.0
2	T1	1591	3.0	0.736	23.8	LOS C	43.1	309.2	0.79	0.73	0.79	43.0
Approach		1649	3.0	0.736	24.0	LOS C	43.1	309.2	0.79	0.74	0.79	43.0
East: Southern Cross Way Off Ramp (E)												
4	L2	125	3.0	0.736	60.6	LOS E	21.9	157.0	0.97	0.85	0.98	30.5
5	T1	203	3.0	0.736	55.0	LOS E	21.9	157.0	0.97	0.85	0.98	31.0
6	R2	375	3.0	0.407	55.6	LOS E	11.4	81.8	0.88	0.80	0.88	30.9
Approach		703	3.0	0.736	56.3	LOS E	21.9	157.0	0.92	0.82	0.93	30.8
North: Fison Ave W (N)												
8	T1	251	3.0	0.098	9.3	LOS A	3.2	22.8	0.38	0.31	0.38	52.0
9	R2	2	3.0	0.027	82.8	LOS F	0.1	1.0	0.98	0.61	0.98	25.0
Approach		253	3.0	0.098	9.9	LOS A	3.2	22.8	0.38	0.32	0.38	51.6
West: Eagleview Place (W)												
10	L2	28	3.0	0.385	86.5	LOS F	2.1	15.3	1.00	0.72	1.00	24.8
Approach		28	3.0	0.385	86.5	LOS F	2.1	15.3	1.00	0.72	1.00	24.8
All Vehicles		2633	3.0	0.736	31.9	LOS C	43.1	309.2	0.79	0.72	0.79	39.2

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.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P11	South Stage 1	53	36.1	LOS D	0.2	0.2	0.69	0.69	
P12	South Stage 2	53	45.0	LOS E	0.2	0.2	0.78	0.78	
P2	East Full Crossing	53	10.9	LOS B	0.1	0.1	0.38	0.38	
All Pedestrians		158	30.6	LOS D			0.62	0.62	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

PHASING SUMMARY

 **Site: 1200 [DEV 2031 PM]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 150 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Green Split Priority has been specified

Phase Sequence: Three-Phase

Reference Phase: Phase A

Input Phase Sequence: A, B, C

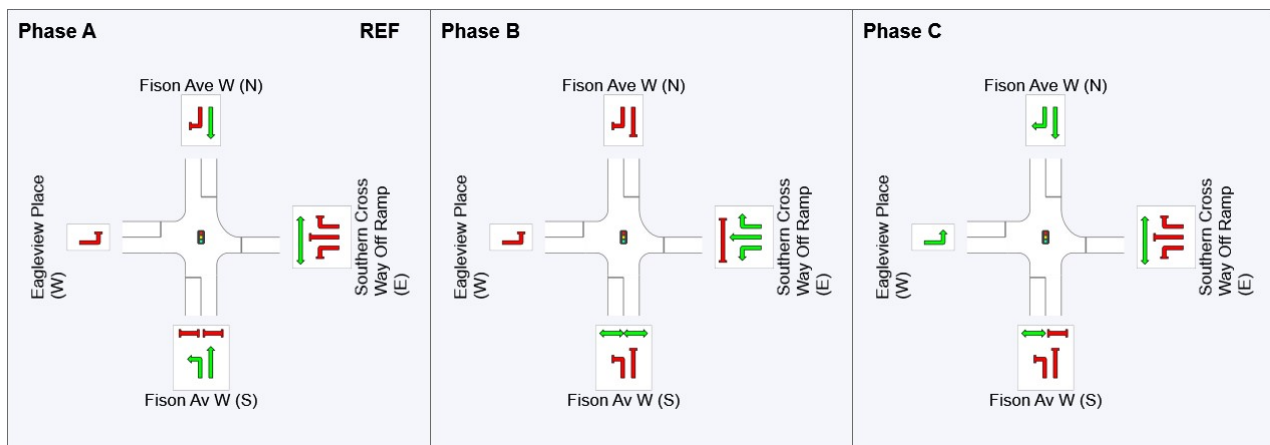
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	94	138
Green Time (sec)	88	38	6
Phase Time (sec)	94	44	12
Phase Split	63%	29%	8%

See the Phase Information section in the Detailed Output report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase



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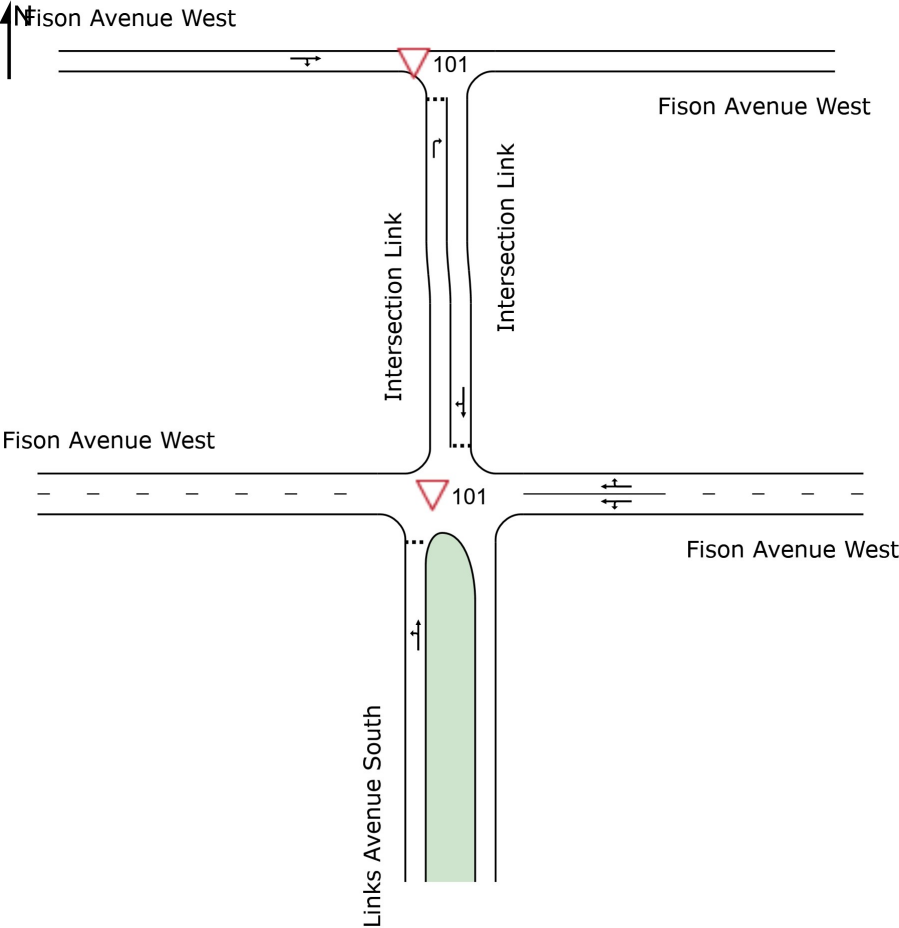
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NETWORK LAYOUT

Network: N101 [Fison Av / Links Ave - 2031 BG AM]

New Network
Network Category: (None)



SITES IN NETWORK		
Site ID	CCG ID	Site Name
▽ 101	NA	Fison Av / Links Ave T1 - 2031 BG AM
▽ 101	NA	Fison Av / Links Ave T2 - 2031 BG AM

MOVEMENT SUMMARY

Site: 101 [Fison Av / Links Ave T1 - 2031 BG AM]

Network: N101 [Fison Av / Links Ave - 2031 BG AM]

New Site
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Intersection Link														
3	R2	104	3.0	104	3.0	0.258	10.2	LOS B	0.3	2.4	0.77	0.92	0.87	37.9
Approach		104	3.0	104	3.0	0.258	10.2	LOS B	0.3	2.4	0.77	0.92	0.87	37.9
West: Fison Avenue West														
11	T1	927	3.0	927	3.0	0.536	0.1	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
12	R2	93	3.0	93	3.0	0.536	5.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.3
Approach		1020	3.0	1020	3.0	0.536	0.5	NA	0.0	0.0	0.00	0.06	0.00	49.6
All Vehicles		1124	3.0	1124	3.0	0.536	1.4	NA	0.3	2.4	0.07	0.14	0.08	48.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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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MOVEMENT SUMMARY

Site: 101 [Fison Av / Links Ave T1 - 2031 BG PM]

Network: N101 [Fison Av / Links Ave - 2031 BG PM]

New Site
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Intersection Link														
3	R2	8	3.0	8	3.0	0.008	3.1	LOS A	0.0	0.1	0.34	0.54	0.34	44.2
Approach		8	3.0	8	3.0	0.008	3.1	LOS A	0.0	0.1	0.34	0.54	0.34	44.2
West: Fison Avenue West														
11	T1	361	3.0	361	3.0	0.192	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
12	R2	6	3.0	6	3.0	0.192	4.9	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		367	3.0	367	3.0	0.192	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		376	3.0	376	3.0	0.192	0.2	NA	0.0	0.1	0.01	0.02	0.01	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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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MOVEMENT SUMMARY

Site: 101 [Fison Av / Links Ave T1 - 2031 DESIGN AM]

Network: N101 [Fison Av / Links Ave - 2031 DESIGN AM]

New Site
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Intersection Link														
3	R2	104	3.0	104	3.0	0.257	10.1	LOS B	0.3	2.4	0.77	0.92	0.87	37.9
Approach		104	3.0	104	3.0	0.257	10.1	LOS B	0.3	2.4	0.77	0.92	0.87	37.9
West: Fison Avenue West														
11	T1	926	3.0	926	3.0	0.535	0.1	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
12	R2	93	3.0	93	3.0	0.535	5.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.3
Approach		1019	3.0	1019	3.0	0.535	0.5	NA	0.0	0.0	0.00	0.06	0.00	49.6
All Vehicles		1123	3.0	1123	3.0	0.535	1.4	NA	0.3	2.4	0.07	0.14	0.08	48.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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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MOVEMENT SUMMARY

Site: 101 [Fison Av / Links Ave T1 - 2031 DESIGN PM]

Network: N101 [Fison Av / Links Ave - 2031 DESIGN PM]

New Site
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles														
Mov ID	Turn	Demand Flows		Arrival Flows		Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Back of Queue Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	Total veh/h	HV %	v/c	sec		veh	m				km/h
South: Intersection Link														
3	R2	8	3.0	8	3.0	0.008	3.2	LOS A	0.0	0.1	0.35	0.55	0.35	44.2
Approach		8	3.0	8	3.0	0.008	3.2	LOS A	0.0	0.1	0.35	0.55	0.35	44.2
West: Fison Avenue West														
11	T1	367	3.0	367	3.0	0.197	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.9
12	R2	9	3.0	9	3.0	0.197	4.9	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		377	3.0	377	3.0	0.197	0.1	NA	0.0	0.0	0.00	0.02	0.00	49.9
All Vehicles		385	3.0	385	3.0	0.197	0.2	NA	0.0	0.1	0.01	0.03	0.01	49.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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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