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MGA

618 CLAYTON ROAD, CLAYTON

TRANSPORT IMPACT ASSESSMENT

Prepared for

TROON GROUP

MGA23038

UPDATED FINAL B | 23 NOVEMBER 2023

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COVER ART BY
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618 CLAYTON ROAD, CLAYTON

TRANSPORT IMPACT ASSESSMENT

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1. INTRODUCTION

1.1 BACKGROUND

MGA Traffic Pty Ltd was commissioned by Troon Group to prepare a traffic and transport impact assessment to accompany a planning permit application currently being sought for a proposed industrial development on land located at 618 Clayton Road in Clayton South.

The proposal includes the construction of 4 warehouses (9 tenancies in total) totalling 48,569sqm accessed via a new private road extending east from Clayton Road.

The proposal is supported by 395 car parking spaces.

1.2 SCOPE OF WORKS

The following assessment has been undertaken on plans prepared by Watson Young and responds to the following traffic and transport elements:

- Review of existing traffic, parking and transport conditions surrounding the site
- Site parking layout and access arrangements
- Parking demands and the adequacy of car and bicycle parking provision
- Preliminary parking plan
- Traffic generation and associated road network impacts

1.3 REFERENCES

This report utilises the following references:

- Inspection of the site and surrounds
- Traffic and parking surveys as referenced in this report.
- Kingston Planning Scheme
- Australian Standard Parking Facilities Part 1: Off-Street Parking Facilities AS2890.1-2004
- Australian Standard Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities AS2890.2-2002
- Australian Standard Parking Facilities Part 3: Bicycle Parking AS2890.3-2015
- Australian Standard Parking Facilities Part 6: Off-street Parking for People with Disabilities AS2890.6-2022
- Other documents as nominated

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2. SITE & SURROUNDS

2.1 SUBJECT SITE

The subject site is located at 618 Clayton Road in Clayton. The site is located within an Industrial 1 (IN1Z) Zone and is currently vacant. Clayton Road is located within a Transport Zone 2 within the Kingston Planning Scheme. The surrounding properties are a mix of industrial and residential land uses. The location of the subject site and the surrounding environs is shown in Figure 2.1, and the land zoning is shown in Figure 2.2.

FIGURE 2.1: SUBJECT SITE AND ITS ENVIRONS

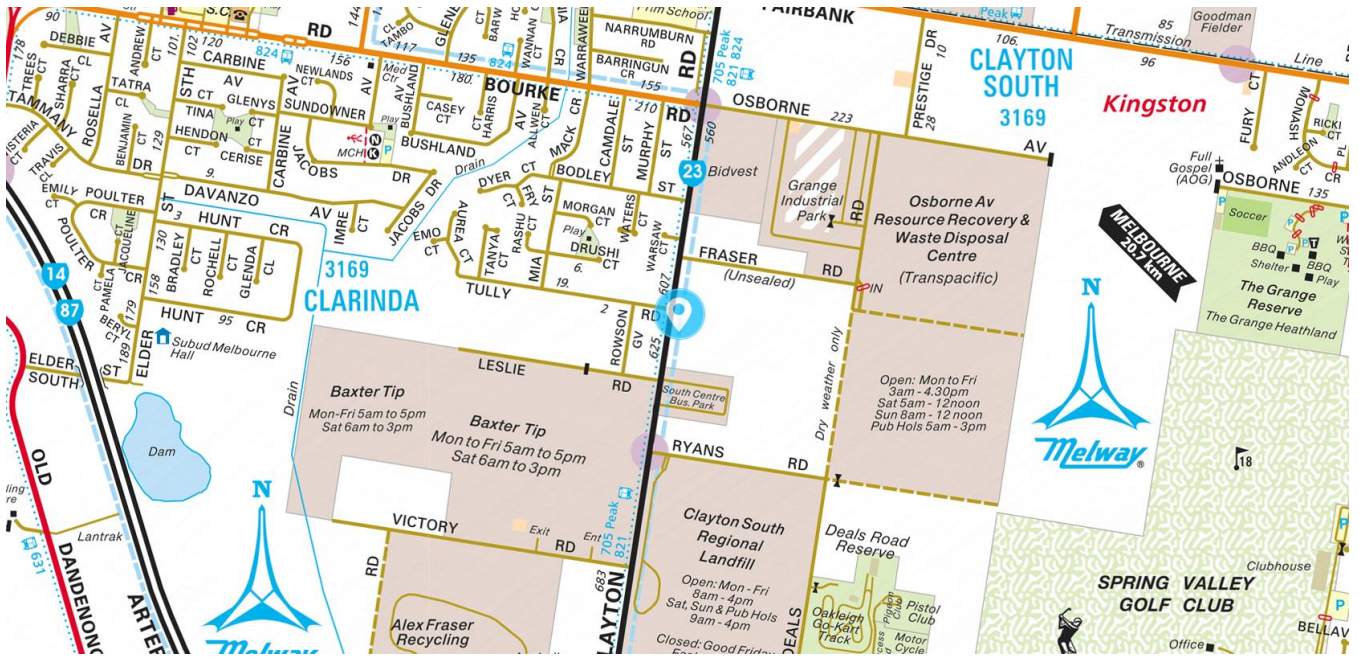


FIGURE 2.2: LAND USE MAP



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2.2 ROAD NETWORK

Key roads and intersections surrounding the subject site are outlined in Table 2.1,

TABLE 2.1: ROAD NETWORK

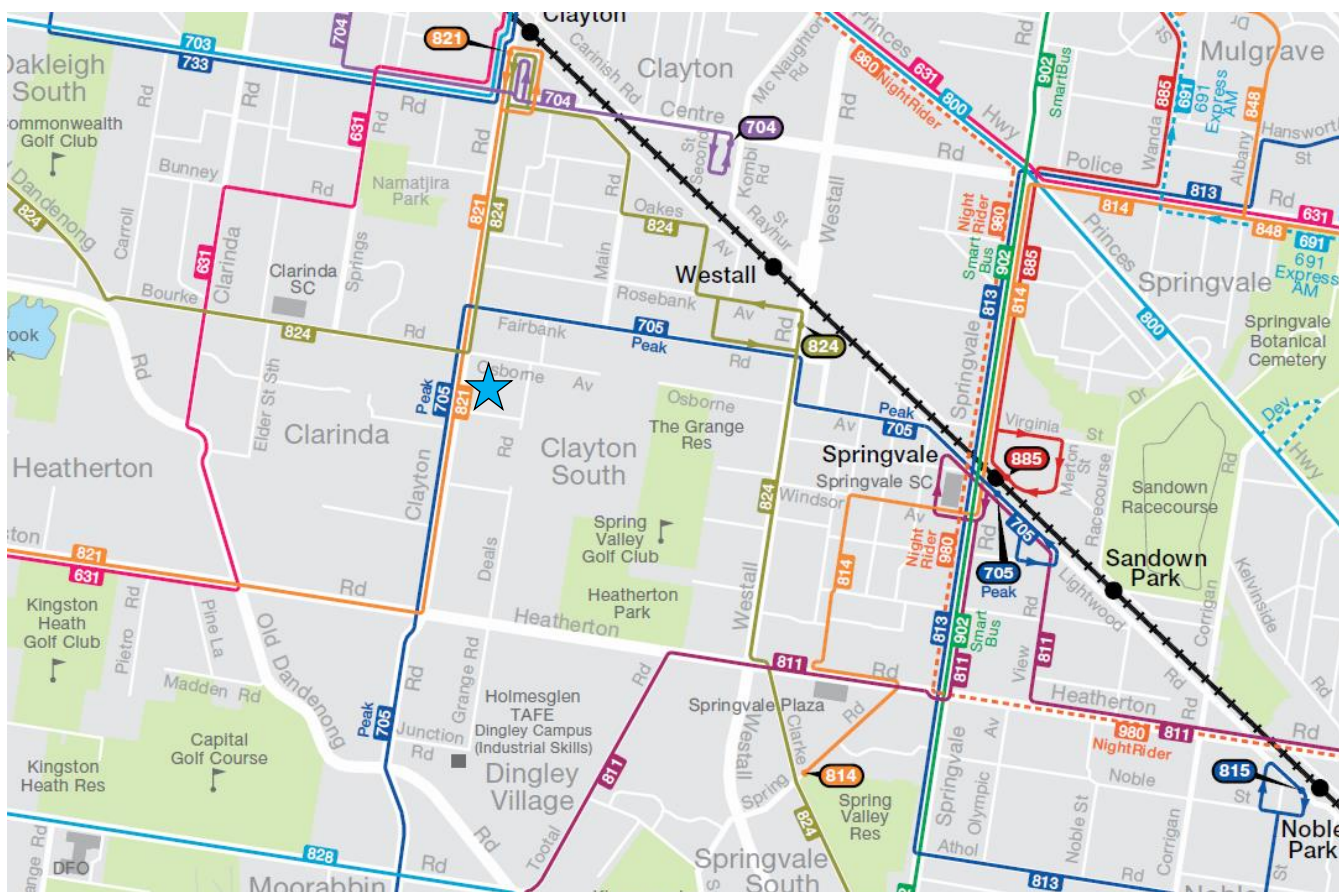
Road Name	Classification	Configuration	Parking
Clayton Road	Primary Arterial Road Zone (Transport Zone 2)	Two-way road with 2 traffic lanes in each direction	Kerbside parking is prohibited along Clayton Road within the vicinity of the site.
Tully Road	Local Road	Two-way road with a single traffic lane in each direction	Unrestricted kerbside parking is permitted on both kerbs.
Fraser Road	Local Road	Unsealed two-way road running along the northern boundary of the site	Not Applicable

2.3 SUSTAINABLE TRANSPORT

The subject site is moderately serviced by public transport connectivity with Bus Routes 705 and 821 operating along Clayton Road and Route 842 along Bourke Road to the north. Pedestrian paths are provided along the western side of Clayton Road providing connections to nearby bus stops adjacent to the subject site.

The site located some 2km from Clayton and Westall Stations.

FIGURE 2.3 PUBLIC TRANSPORT MAP



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SITE & SURROUNDS

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3. THE PROPOSAL

3.1 LAND USES

The following analysis has been provided on the development plans, as follows:

- Warehouse 1 10,823sqm
- Warehouse 2 16,265sqm
- Warehouse 3 10,003sqm
- Warehouse 4 11,478sqm
- Total 48,569sqm

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3.2 VEHICLE ACCESS

Vehicle access to the overall site is proposed via a new unsignalised intersection with Clayton Road. The site access road terminating with a cul-de-sac suitable of accommodating 25m B-Double manoeuvring.

A concept plan of the proposed intersection is attached in Appendix A. The intersection is designed with separate left and right turn lanes, localised widening and a relocated bus stop with a pedestrian path leading towards the site.

Access to each individual hard stand area is provided via separate ingress (located opposite recessed docks) and egress crossovers from the central access road.

Crossovers to 7 separate parking areas also extend from the central access road.

3.3 CAR PARKING

Car parking is provided over 8 separate areas totalling 395 car spaces (including 9 x DDA spaces and 9 x EV charging bays), as follows:

- Warehouse 1A 42 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 1B 49 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 2A 49 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 2B&2C 62 spaces (including 2 x DDA spaces and 2 x EV spaces)
- Warehouse 3A 46 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 3B 54 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 4A 48 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 4B 45 spaces (including 1 x DDA space and 1 x EV space)

The allocation of parking is further discussed in Section 5 of this report.

3.4 PEDESTRIAN ACCESS

Pedestrian access to the site is provided via a footpath along the northern verge linking the site to the external pedestrian network. Access to the individual tenancies is provided via the car parking areas.

3.5 WASTE COLLECTION

Storage for waste is located within each individual tenancy for private collection via the internal road network. Waste collection will be undertaken in accordance with the waste management plan accompanying the application prepared by MGA.

4. PARKING ASSESSMENT

4.1 STATUTORY REQUIREMENTS

Statutory requirements for the car parking provision associated with a development are set out in Clause 52.06 of the Planning Scheme. Table 1 to the Clause outlines applicable parking rates per land use with an assessment of the statutory parking requirements for the proposal set out in Table 4.1.

TABLE 4.1: STATUTORY PARKING REQUIREMENTS

Use	Size	Statutory Parking Rate	Statutory Parking Requirement
Warehouse	4 warehouses 9 tenancies (48,569sqm)	2 spaces to each premises + 1.5 spaces per 100sqm	18 spaces + 729 spaces
Total			747 spaces

The above assessment indicates a statutory parking requirement of 747 spaces.

In this instance, the proposed on-site parking provision of 395 car spaces does not meet the statutory requirement and a permit is being sought to reduce this requirement.

As per Clause 52.06-7 of the Planning Scheme, an application to reduce (including reduce to zero) the number of car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay must be accompanied by a Car Parking Demand Assessment. This Clause also states that before granting a permit to reduce the number of spaces, the responsible authority must consider various decision guidelines.

4.2 CAR PARKING DEMAND ASSESSMENT

A Car Parking Demand Assessment must assess the car parking demand likely to be generated by the proposed:

- new use; or
- increase in the floor areas or site area of the existing use; or
- increase to the existing use by the measure specified in Column C of Table 1 in Clause 52.06-5

The Car Parking Demand Assessment must address the following matters, to the satisfaction of the responsible authority:

- “The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- The variation of car parking demand likely to be generated by the proposed use over time.
- The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.
- Any empirical assessment or case study.”

A car parking demand assessment is provided below.

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LARGE WAREHOUSES

The statutory car parking rate of 2 spaces per tenancy plus 1.5 spaces per 100sqm of net floor area overestimates the car parking demands likely to be generated by very large warehouses.

The RTA Guide indicates that car parking demands for warehouse uses should be provided at a rate of 0.33 spaces per 100sqm. It is noted that the RTA data sets range from 0.1 to 1.25 spaces per 100sqm with the variation between sites resulting from employment density. As warehouses become larger, it is expected that a greater proportion of the site will be used for ancillary purposes such as storage which would result in a reduced employment density and corresponding car parking demand rate.

Given that the proposed warehouses are very large and having regard to the above, it is anticipated that the proposed warehouse tenancies will generate car parking demands in the order of 0.33 spaces per 100sqm of floor area. Application of this rate to the overall floor area of 48,569sqm yields an anticipated peak parking demand of 160 spaces. A breakdown of the anticipated peak demand rate of 0.33 spaces per 100sqm applied against each individual tenancy is provided in Table 4.2.

TABLE 4.2: ANTICIPATED PARKING DEMAND

Tenancy	Size	Anticipated Demand [1]	Provision	Provision Rate [3]
Tenancy 1a	5,800sqm	19 spaces	42 spaces	0.72
Tenancy 1b	5,023sqm	17 spaces	49 spaces	0.98
Tenancy 2a	5,864sqm	19 spaces	49 spaces	0.84
Tenancy 2b	5,391sqm	18 spaces	62 spaces [2]	0.60 [2]
Tenancy 2c	5,010sqm	17 spaces		
Tenancy 3a	4,887sqm	16 spaces	46 spaces	0.94
Tenancy 3b	5,116sqm	17 spaces	54 spaces	1.06
Tenancy 4a	5,733sqm	19 spaces	48 spaces	0.84
Tenancy 4b	5,745sqm	19 spaces	45 spaces	0.78
Total Floor Area	48,569sqm	160 spaces	395 spaces	0.81

[1] Based on a demand rate of 0.33 spaces per 100sqm.

[2] Tenancy 2b and 2c will share parking along the eastern boundary.

[3] Spaces per 100sqm.

4.3 ADEQUACY OF PARKING PROVISION

As per Clause 52.06-7, before granting a permit to reduce the number of spaces, the responsible authority must consider the Car Parking Demand Assessment.

Based on the above assessment, the proposed parking provision is considered satisfactory. The provision of 395 spaces on the site can satisfactorily accommodate the anticipated demand of 160 spaces. In addition, the parking available to each tenancy is adequate to support the parking demand generated by each tenancy.

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5. PARKING PLAN

Clause 52.06-8 of the Planning Scheme requires that plans must be prepared to the satisfaction of the responsible authority. The plans must show, as appropriate:

- All car parking spaces that are proposed to be provided (whether on the land or on other land).
- Access lanes, driveways and associated works.
- Allocation of car parking spaces to different uses or tenancies, if applicable.
- Any landscaping and water sensitive urban design treatments.
- Finished levels, if required by the responsible authority.
- Any other matter specified in a schedule to the Parking Overlay.

The development plans provide the above information with the provision and allocation of parking further discussed below.

5.1 CAR PARKING PROVISION

Car parking is provided over 8 separate areas totalling 395 car spaces (including 9 x DDA spaces and 9 x EV charging bays), as follows:

- Warehouse 1A 42 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 1B 49 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 2A 49 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 2B&2C 62 spaces (including 2 x DDA spaces and 2 x EV spaces)
- Warehouse 3A 46 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 3B 54 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 4A 48 spaces (including 1 x DDA space and 1 x EV space)
- Warehouse 4B 45 spaces (including 1 x DDA space and 1 x EV space)

5.2 PARKING ALLOCATION

The parking allocation below takes in to account the following items:

- Parking (for the most part) is proposed to remain unallocated.
- Each tenancy will be provided its own designated car parking area for staff and visitor use.

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6. SITE LAYOUT & DESIGN

6.1 DESIGN STANDARDS

The proposed parking layout has been assessed in respect to the relevant Design Standards set out in the following design references:

- Clause 52.06 of the Kingston Bay Planning Scheme
- Australian Standard Parking Facilities Part 1: Off-Street Parking Facilities AS2890.1-2004
- Australian Standard Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities AS2890.2-2002
- Australian Standard Parking Facilities Part 6: Off-street Parking for People with Disabilities AS2890.6-2009

A summary of the relevant design standards as they pertain to this application is provided below:

ACCESSWAYS

- All accessways meet or exceed the minimum required width of 3 metres.
- All aisles and accessways are provided with an internal radius of at least 4 metres at changes of direction or intersect with an aisle at least 4.2 metres wide.
- The design allows for vehicles parked in the last space of a dead-end aisle to exit in a forward direction.
- The car park and aisles provide at least 2.1 metres of headroom beneath overhead obstructions.
- The site accesses provide passing areas at the entrances to allow two-way simultaneous access.
- The site accesses are provided with corner splays or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road.

CAR PARKING SPACES

- Car parking spaces and aisles have been designed to meet or exceed the minimum dimensions in Table 2 of Clause 52.06.
- Disabled car parking spaces are designed in accordance with AS 2890.6-2009.
- All spaces do not encroach into the area marked ‘clearance required’ on Diagram 1 of Clause 52.06 without adequate widening provided.

GRADIENTS

- Accessway grades (access driveways) are not steeper than 1:20 for 5m (accommodating the longest wheelbase vehicle) at the property line to ensure safety for pedestrians and vehicles as per Section 3.4.4 of AS 2890.2—2002.
- Ramps (except within 5 m of the frontage) have been designed in accordance with the maximum grades and transitions outlined in Table 3.2 of AS2890.2-2002 for the largest design vehicle (8.8m MRV).

SAFETY

- Lighting and signage are not shown but should be incorporated at the detailed design stage.
- Car parking areas must be well lit and clearly signed.
- Pedestrian access to car parking areas is convenient and within close proximity to key destinations and access points.

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7. BICYCLE PARKING

Clause 52.34 of the Planning Scheme seeks to encourage cycling as a mode of transport. Before deciding on an application, the responsible authority must consider, as appropriate:

- Whether the proposed number, location and design of bicycle facilities meets the purpose of this clause.
- The location of the proposed land use and the distance a cyclist would need to travel to reach the land.
- The users of the land and their opportunities for bicycle travel.
- Whether showers and change rooms provided for users other than cyclists are available to cyclists.
- The opportunities for sharing of bicycle facilities by multiple uses
- Australian Standard AS 2890.3 1993 Parking facilities Part 3: Bicycle parking facilities.
- Any relevant bicycle parking strategy or equivalent.

7.1 STATUTORY REQUIREMENTS

Tables 1, 2 and 3 of Clause 52.34 this clause set out the number and type of bicycle facilities required. Bicycle parking facilities are required if the use is listed in Column 1 of Table 1. The amount of bicycle parking required is the sum of Columns 2 and 3 of Table 1.

The proposed uses do not carry a statutory bicycle requirement. Notwithstanding, it is proposed to provide 3x bicycle parking racks for staff within each tenancy with shower and change rooms also provided as part of the amenities to each tenancy.

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8. LOADING & WASTE COLLECTION

8.1 LOADING FACILITIES

Clause 65 of the Planning Scheme outlines a number of decision guidelines the responsible authority must consider whether the proposal will produce acceptable outcomes relating to (amongst others), “...*the adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*”

All tenancies provide dedicated loading areas within the front setbacks, as summarised below:

- All sites have been designed to facilitate access for vehicles up to and including B-Doubles. Some tenancies will require B-Doubles to utilise the court bowl to enable entry. This arrangement is considered acceptable.
- All sites provide hard stand / manoeuvring areas which can adequately facilitate the manoeuvring of the required design vehicles.
- Loading area awnings are a minimum of 4.5m in height in accordance with the requirements of Australian Standard Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities AS2890.2-2002

Swept path assessments of accessibility into the loading areas is provided in Appendix B.

8.2 WASTE COLLECTION

Waste collection will be undertaken in accordance with the waste management plan accompanying the application prepared by MGA.

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9. TRAFFIC ASSESSMENT

9.1 GENERATION

Traffic generation estimates for the proposed development have been sourced from the RMS (formerly the RTA NSW) Guide to Traffic Generating Developments – October 2002 and their supplementary Technical Direction document. This reference provides guidance on several matters related to the traffic impacts of land use developments, most notably on matters relating to traffic generation and parking.

The document nominates a peak hour traffic generation rate for warehouses of 0.5 movements per 100sqm of gross floor area with a daily generation rate of 4 movements per 100sqm gross floor area.

This data is consistent with empirical data collated by MGA for larger industrial subdivisions which ranges from approximately 0.2-0.5 movements per 100sqm gross floor area. This set data also indicates that larger tenancies such as distribution or storage facilities generate traffic toward the lower end of the range. Given the size of the warehouses proposed, a rate of 0.3 movements per 100sqm in either peak is considered applicable.

Given the above, the following traffic generation rates have been adopted:

- Weekday Peak Hours: 0.3 vehicle movements per 100sqm
- Weekday Daily: 3.0 vehicle movements per 100sqm

Application of the above rates to the proposal represents a traffic generation of approximately 145 movements in either peak with 1,450 movements over an entire day.

9.2 DISTRIBUTION

The directional distribution and assignment of traffic generated by the proposed development will be influenced by several factors including the road network layout and access to key arterial roads, with distributions likely to be as follows.

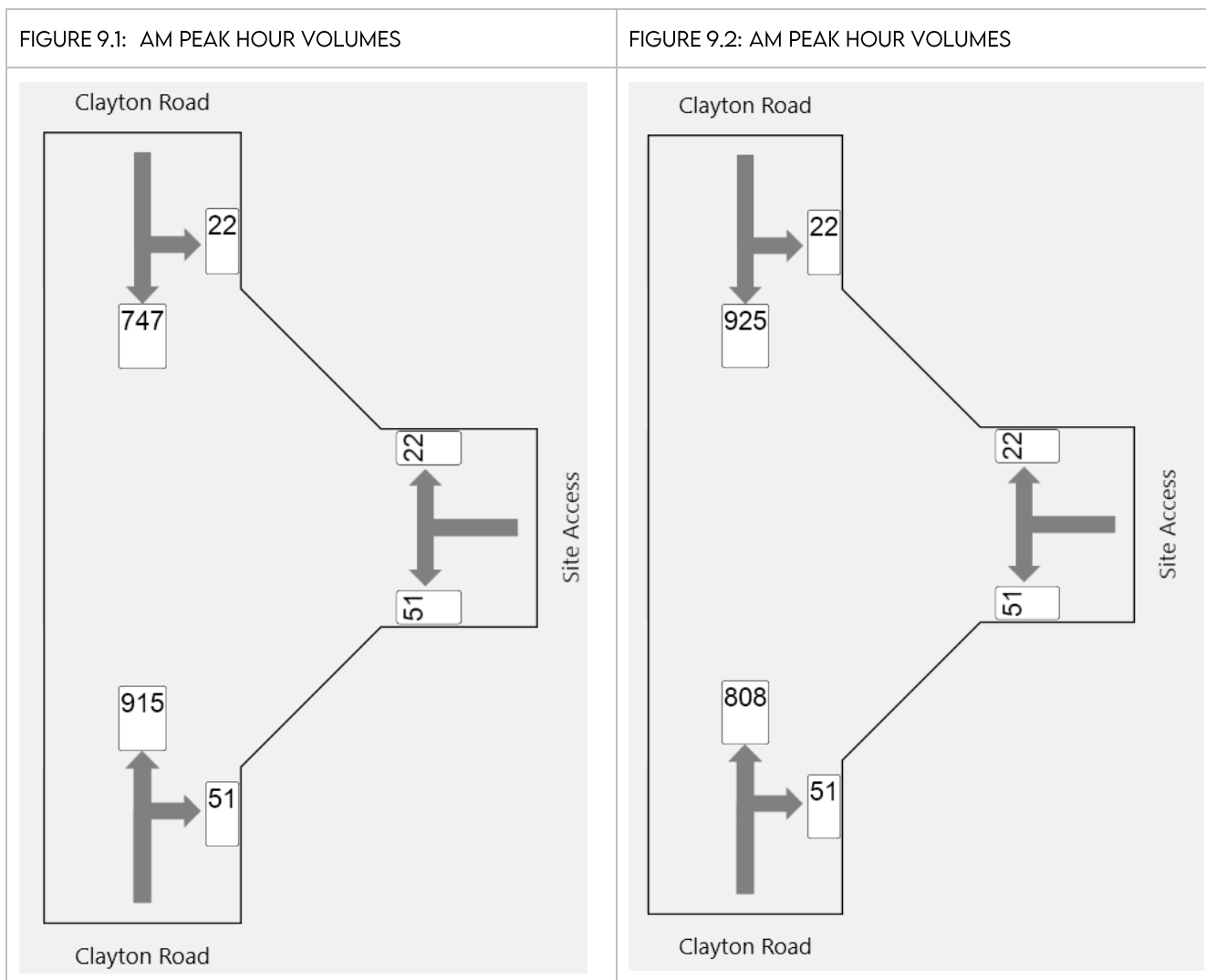
- to/from Clayton Road (north) 30%
- to/from Clayton Road (south) 70%

In addition, the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) is assumed to be 50/50.

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9.3 TRAFFIC VOLUMES

The post development traffic volumes in the AM and PM network peak hours are shown in Figures 9.1 and 9.2. It is noted that peak hour through volumes derived from SCATS data for nearby intersection of Clayton Road and Ryans Road. (see Appendix C)



9.4 TRAFFIC IMPACT

Vehicle access to the overall site is proposed via a new unsignalised intersection between Clayton Road and a new private access road (see Appendix A).

In order to provide an assessment of the adequacy of the proposed site access arrangements and the impacts on the surrounding road network, the proposed unsignalised intersection has been assessed using Sidra, a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance is referred to as the Degree of Saturation (DOS). The DOS represents the flow-to-capacity ratio for the most critical movement on each leg of the intersection. For unsignalised intersections, a DOS of around 0.90 has been typically considered the ‘ideal’ limit, beyond which queues and delays increase disproportionately.

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Utilising peak hour traffic volume information for Clayton Road obtained from SCATS data of the nearby intersection of Clayton Road / Ryans Road, and the traffic generation and distribution data above, a summary of the site operation during both the AM and PM peak periods is presented in Table 9.1 with full results presented in Appendix C of this report.

TABLE 9.1: CLAYTON ROAD / SITE ACCESS OPERATING CONDITIONS

Approach	Movement	DOS	Avg. Delay (sec)	95%ile Queue (m)
AM Peak				
Clayton Road (South)	Through	0.26 #	-	-
	Right	0.09	13.1	2.5
Site Access (East)	Left	0.06	11.0	1.9
	Right	0.15	32.5	3.6
Clayton Road (North)	Left	0.01	8.2	-
	Through	0.21	-	-
PM Peak				
Clayton Road (South)	Through	0.23	-	-
	Right	0.12	15.0	2.1
Site Access (East)	Left	0.07	12.0	1.6
	Right	0.17	36.2	3.2
Clayton Road (North)	Left	0.01	8.2	-
	Through	0.26#	-	-

DOS – Degree of Saturation, # - Intersection DOS

Based on the results provided in Table 9.1, the proposed external access arrangements are expected to operate under satisfactory conditions with the unsignalised intersection between the site access and Clayton Road not expected to compromise the safety or function of the surrounding external road network.

The external intersection and internal access arrangements are considered satisfactory and have been designed to adequately accommodate the design vehicles required to service the proposal.

Moreover, the use of Clayton Road by vehicles accessing industry-type uses which abut them is entirely appropriate and consistent with their functional role in the road network.

A concept functional layout of the proposed intersection (Site Access with Clayton Road) is provided in Appendix A. The intersection is satisfactorily off set from Tully Road with a separate right turn lane provided into Tully Road rather than a painted median which will improve existing conditions.

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10. CONCLUSION

Based on the analysis and discussions presented within this report, the following conclusions are made:

- i The proposed development generates a statutory parking requirement of 747 spaces, for those uses with nominated rates.
- ii The site is expected to generate a demand for 160 car parking spaces. This will be able to be accommodated on-site via the provision of 395 spaces.
- iii The proposed parking layout is consistent with the dimensional requirements as set out in the Planning Scheme and/or Australian/New Zealand Standards for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009).
- iv The provision of loading for all tenancies is adequate to accommodate access and manoeuvrability for the required design vehicles.
- v The site is expected to generate up to 176 vehicle movements in any peak hour.
- vi The impact of the overall site generate traffic has been assessed in the context of the surrounding road network and the proposed intersection with Clayton Road.
- vii The proposed unsignalised intersection of the site access and Clayton Road is anticipated to operate under satisfactory conditions following development of the site.

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APPENDIX A

CONCEPT FUNCTIONAL LAYOUT PLAN

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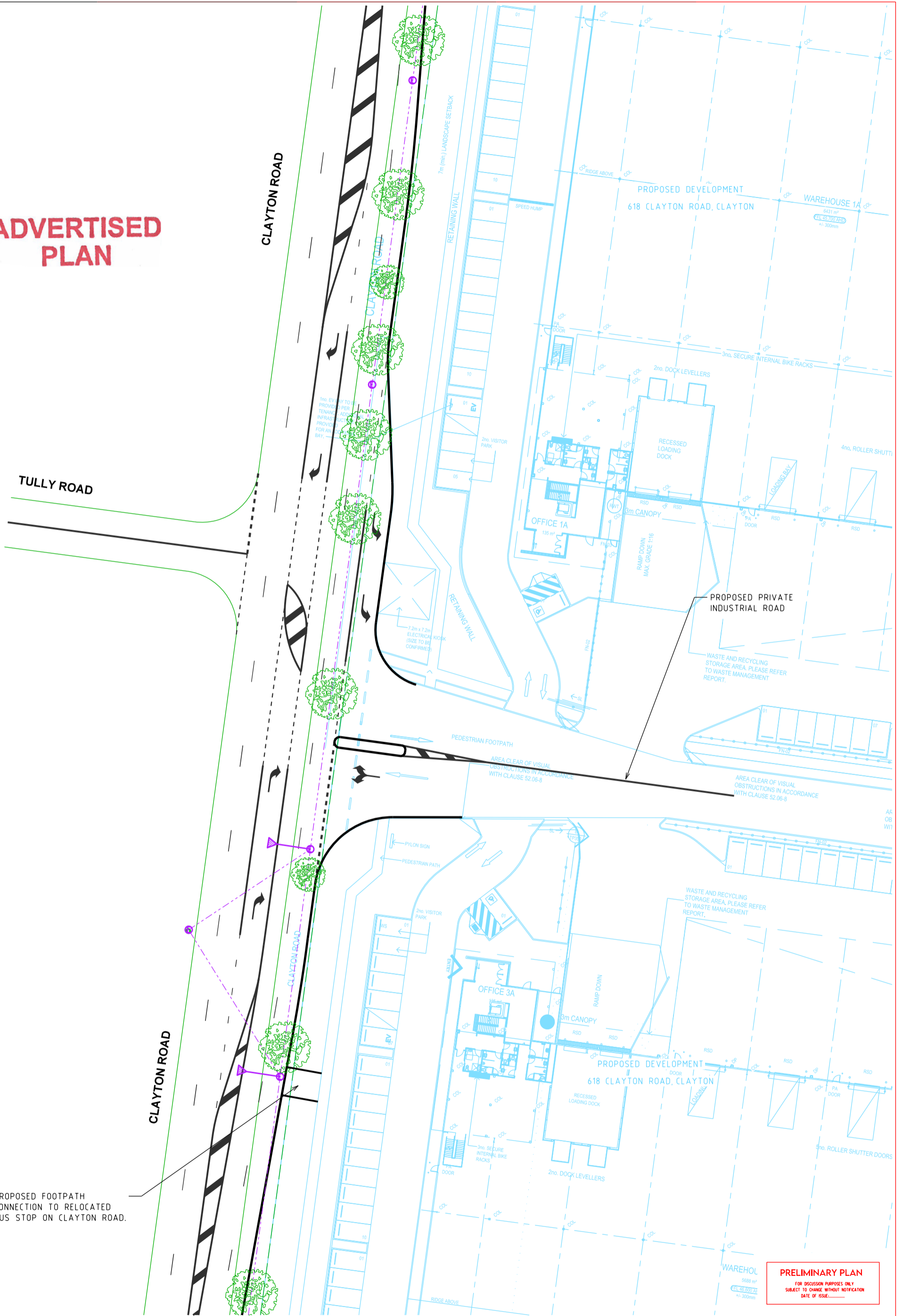
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TULLY ROAD

CLAYTON ROAD

CLAYTON ROAD

PROPOSED FOOTPATH CONNECTION TO RELOCATED BUS STOP ON CLAYTON ROAD.



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION
DATE OF ISSUE:

CLIENT:
TROON GROUP
PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
TITLE:
CONCEPT FUNCTIONAL DESIGN
CLAYTON ROAD / SITE ACCESS

MGA REF:
MGA23038-01P6-01
SCALE:
1:500 A3
DATE:
NOVEMBER 2023
DRAWN:
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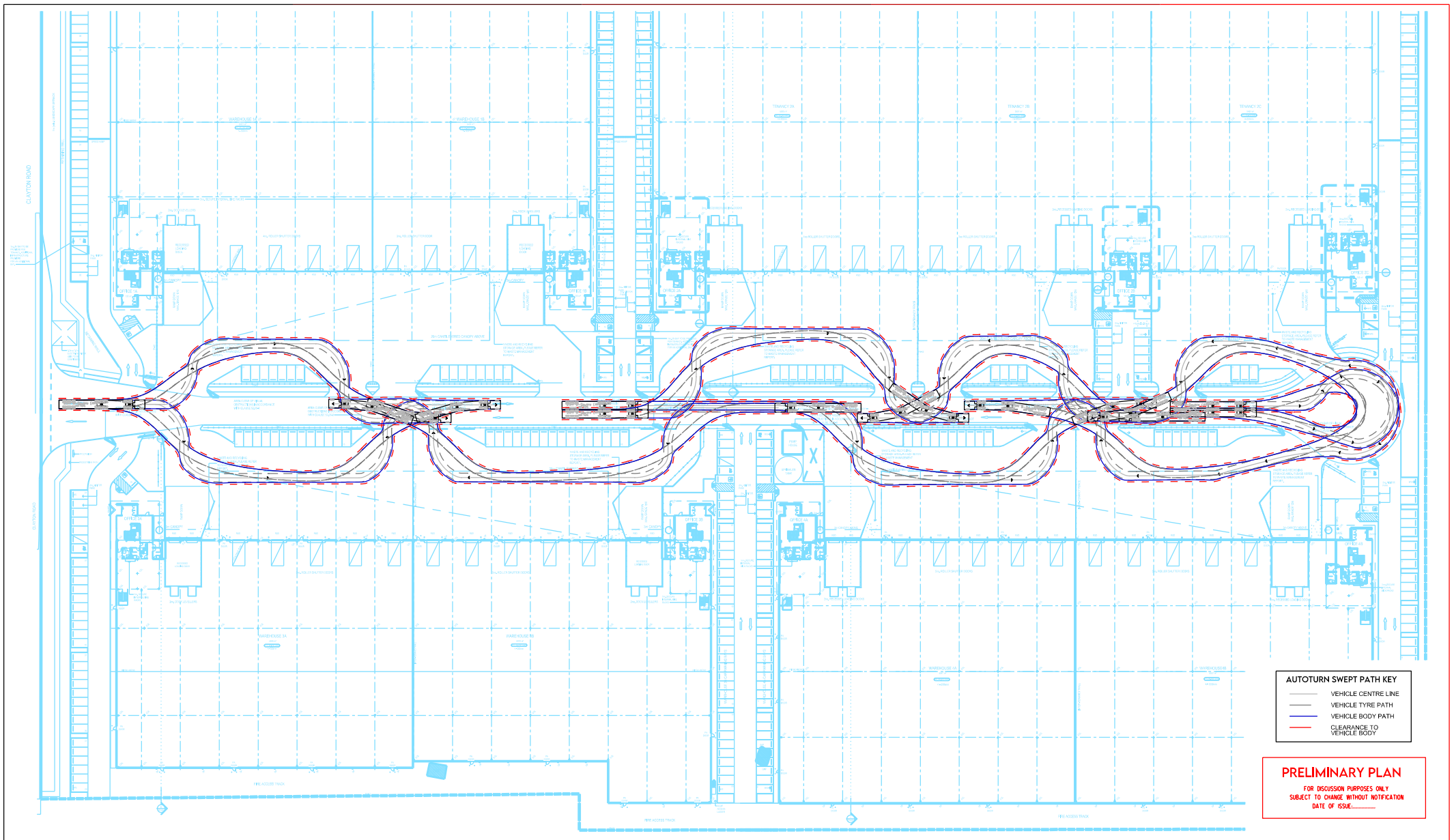


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APPENDIX B

SWEPT PATH ASSESSMENTS

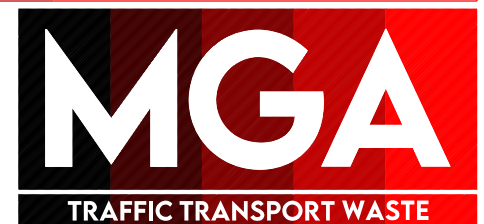
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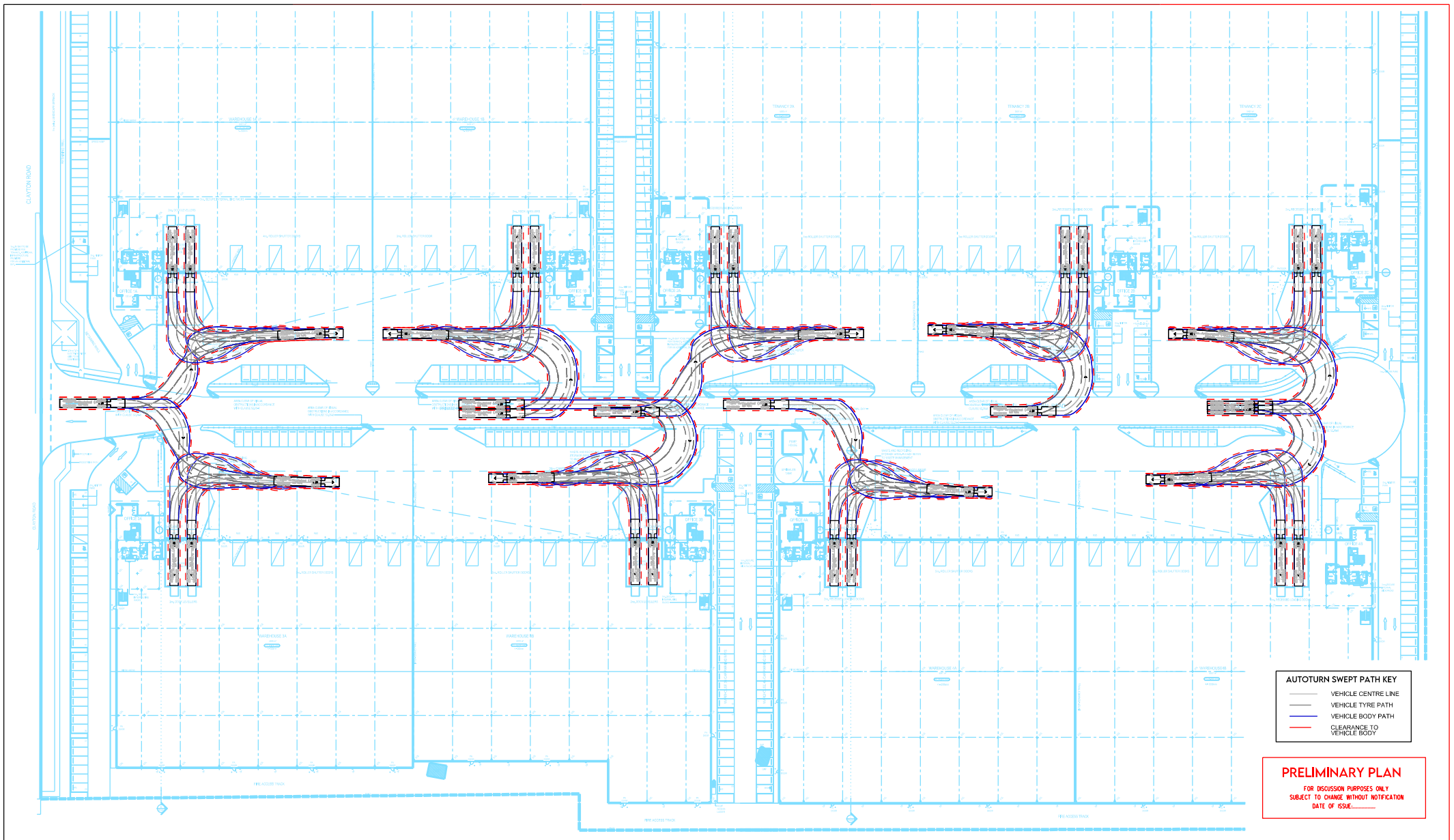
CLIENT:
TROON GROUP
PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
TITLE:
SWEEP PATH ASSESSMENT
DESIGN VEHICLE: 25M B-DOUBLE
SITE ACCESS AND CIRCULATION

MGA REF:
MGA23038-AT02-01
SCALE:
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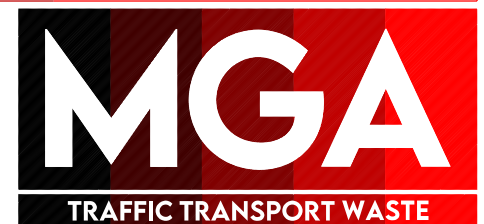
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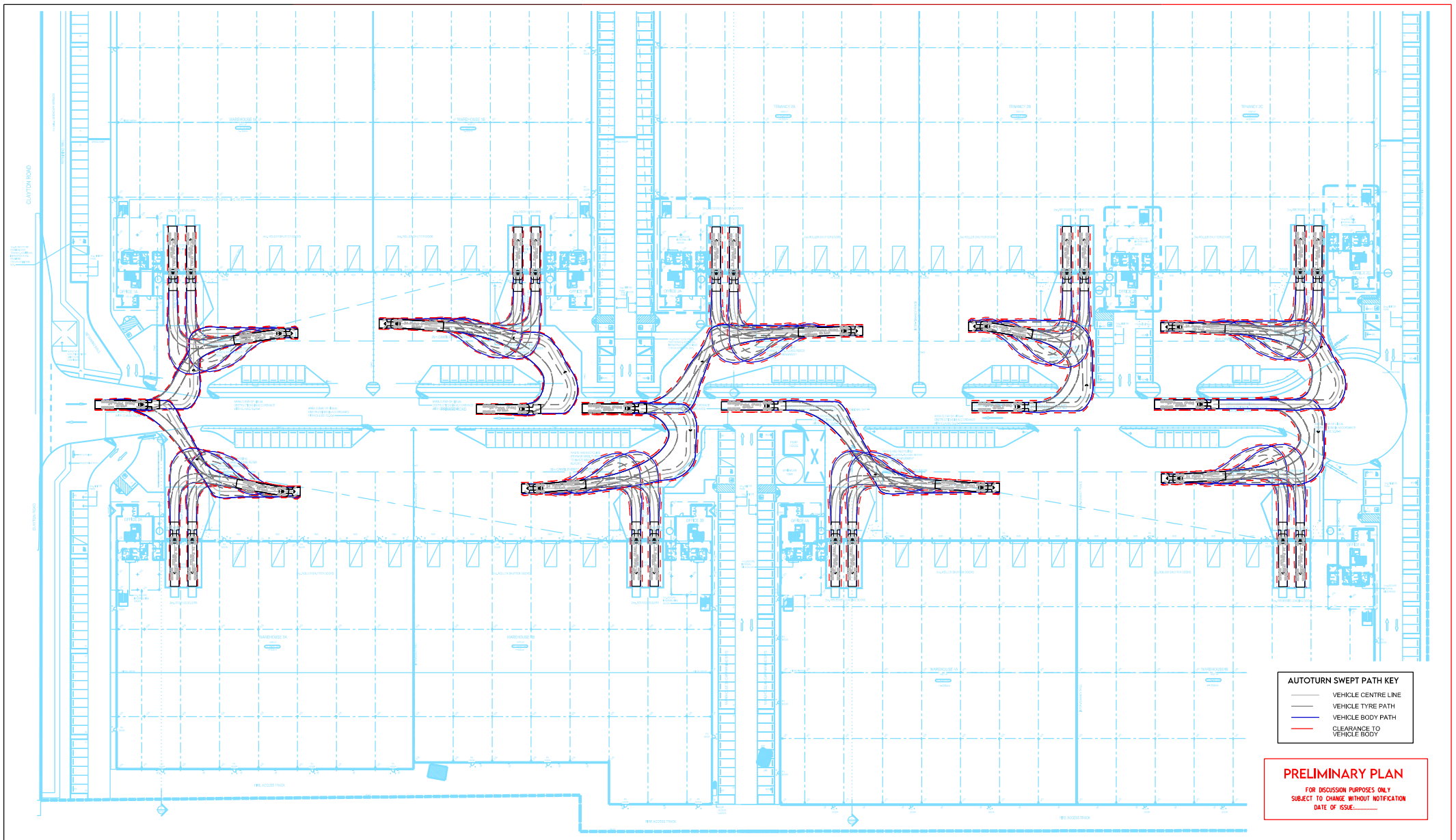
CLIENT:
TROON GROUP
PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
TITLE:
SWEEP PATH ASSESSMENT
DESIGN VEHICLE: 19M (AR)
RECESSED DOCK ACCESS

MGA REF:
MGA23038-AT02-02
SCALE:
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DATE:
14 NOVEMBER 2023
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F. GUADAGNUOLO
CHECKED:
F. GUADAGNUOLO

**ADVERTISED
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AUTOTURN SWEEP PATH KEY

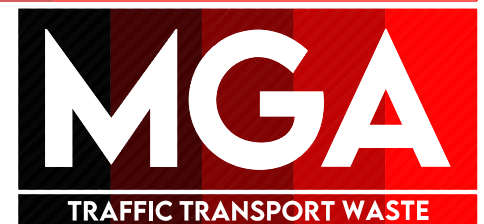
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - - CLEARANCE TO VEHICLE BODY

PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES ONLY
 SUBJECT TO CHANGE WITHOUT NOTIFICATION
 DATE OF ISSUE: _____

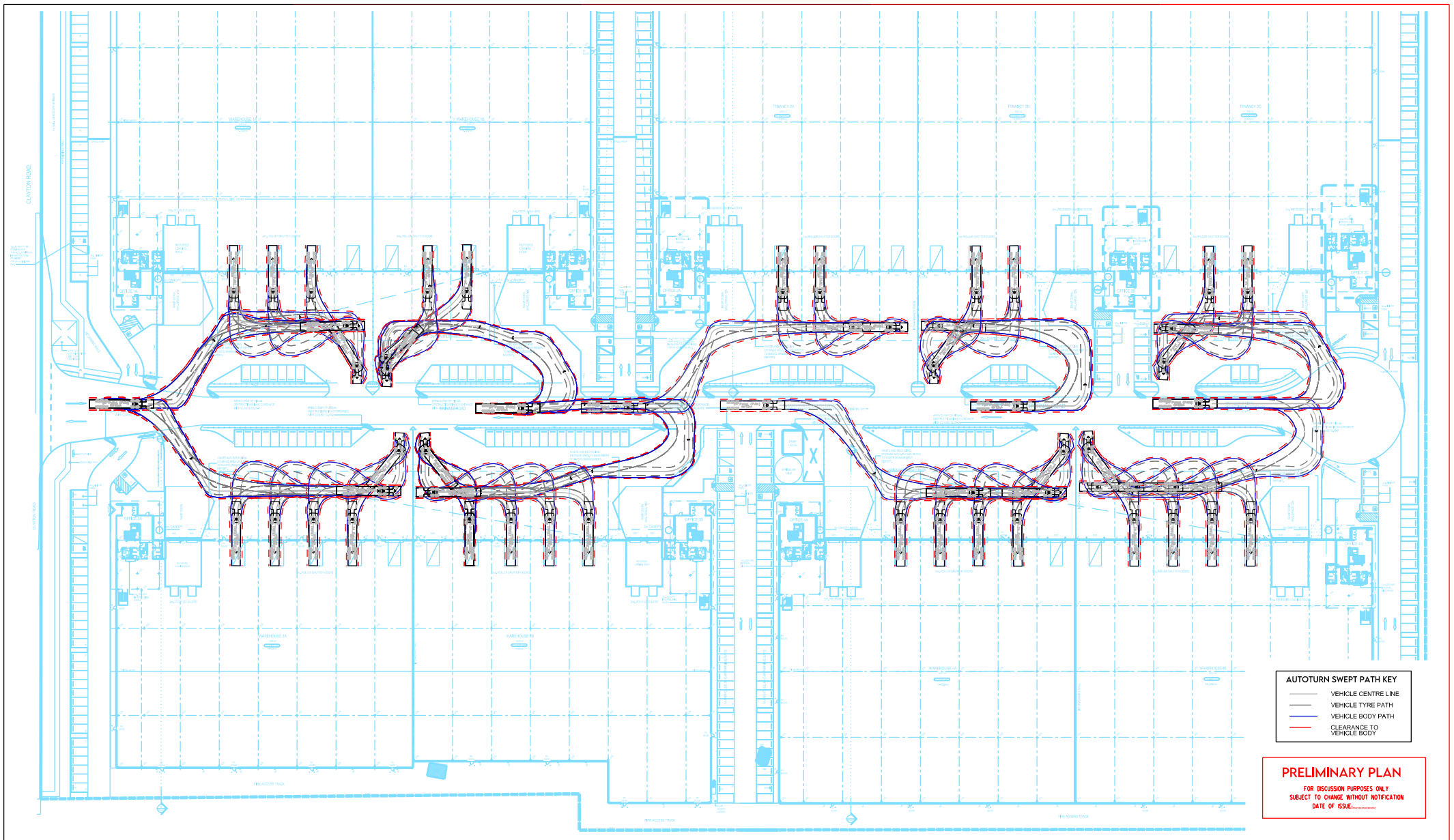
CLIENT:
TROON GROUP
 PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
 TITLE:
SWEPT PATH ASSESSMENT
 DESIGN VEHICLE: 19M (24 PALLET)
 RECESSED DOCK ACCESS

MGA REF:
MGA23038-AT02-03
 SCALE:
1:1500 A3
 DATE:
14 NOVEMBER 2023
 DRAWN:
F. GUADAGNUOLO
 CHECKED:
F. GUADAGNUOLO

**ADVERTISED
 PLAN**



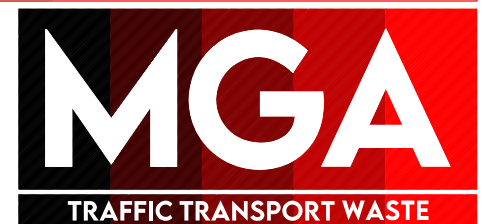
MGA TRAFFIC PTY PTD
 CORPORATE ONE - 84 HOTHAM STREET, PRESTON VICTORIA 3072
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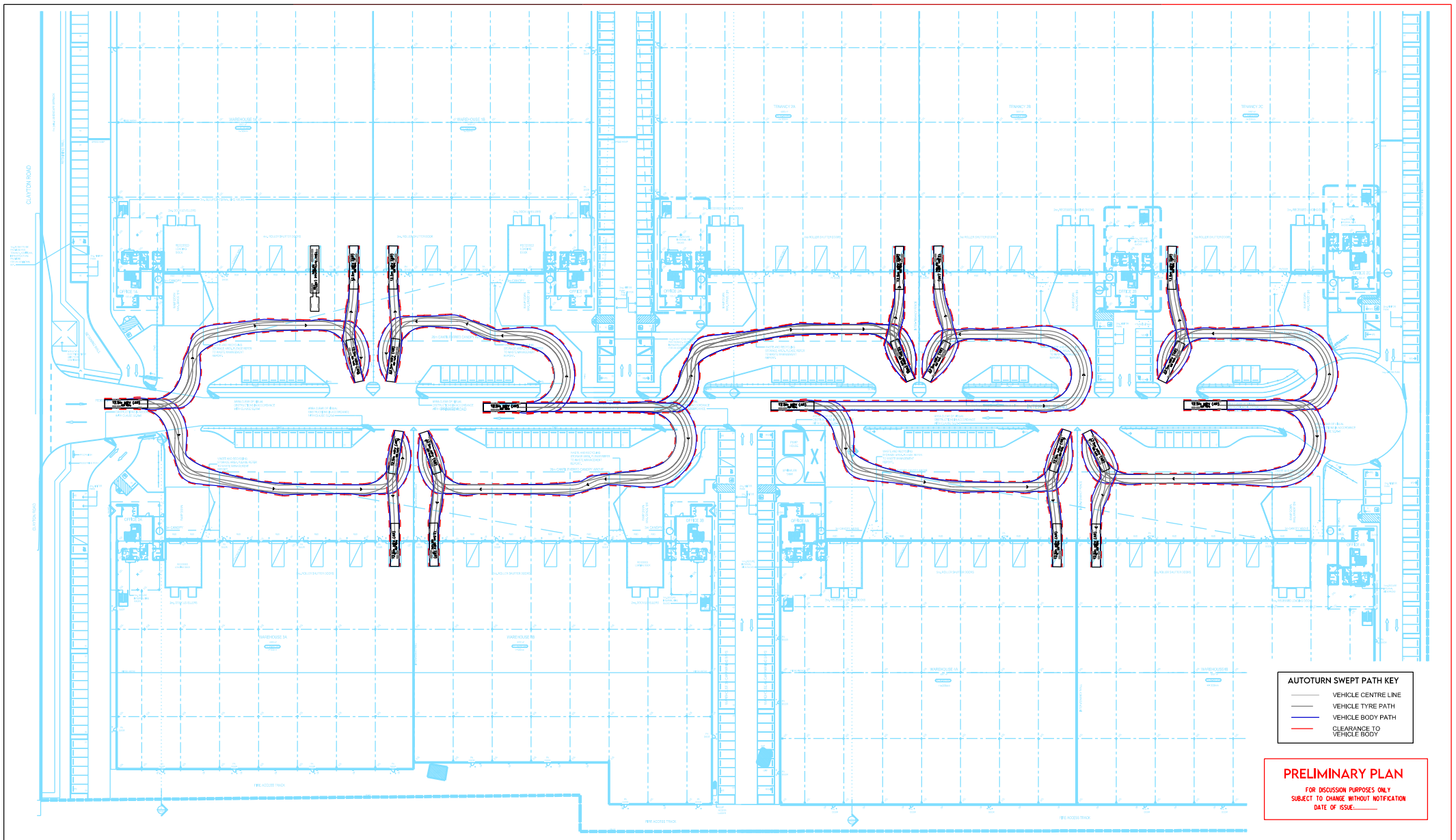
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TROON GROUP
PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
TITLE:
SWEEP PATH ASSESSMENT
DESIGN VEHICLE: 19M (24 PALLET)
DOCK ACCESS

MGA REF:
MGA23038-AT02-04
SCALE:
1:1500 A3
DATE:
14 NOVEMBER 2023
DRAWN:
F. GUADAGNUOLO
CHECKED:
F. GUADAGNUOLO

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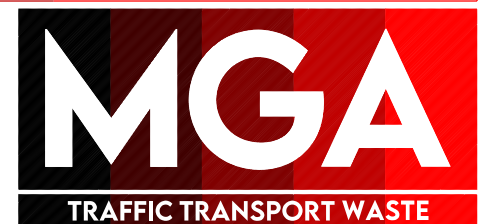
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	VEHICLE TYRE PATH
	VEHICLE BODY PATH
	CLEARANCE TO VEHICLE BODY

PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES ONLY
 SUBJECT TO CHANGE WITHOUT NOTIFICATION
 DATE OF ISSUE: _____

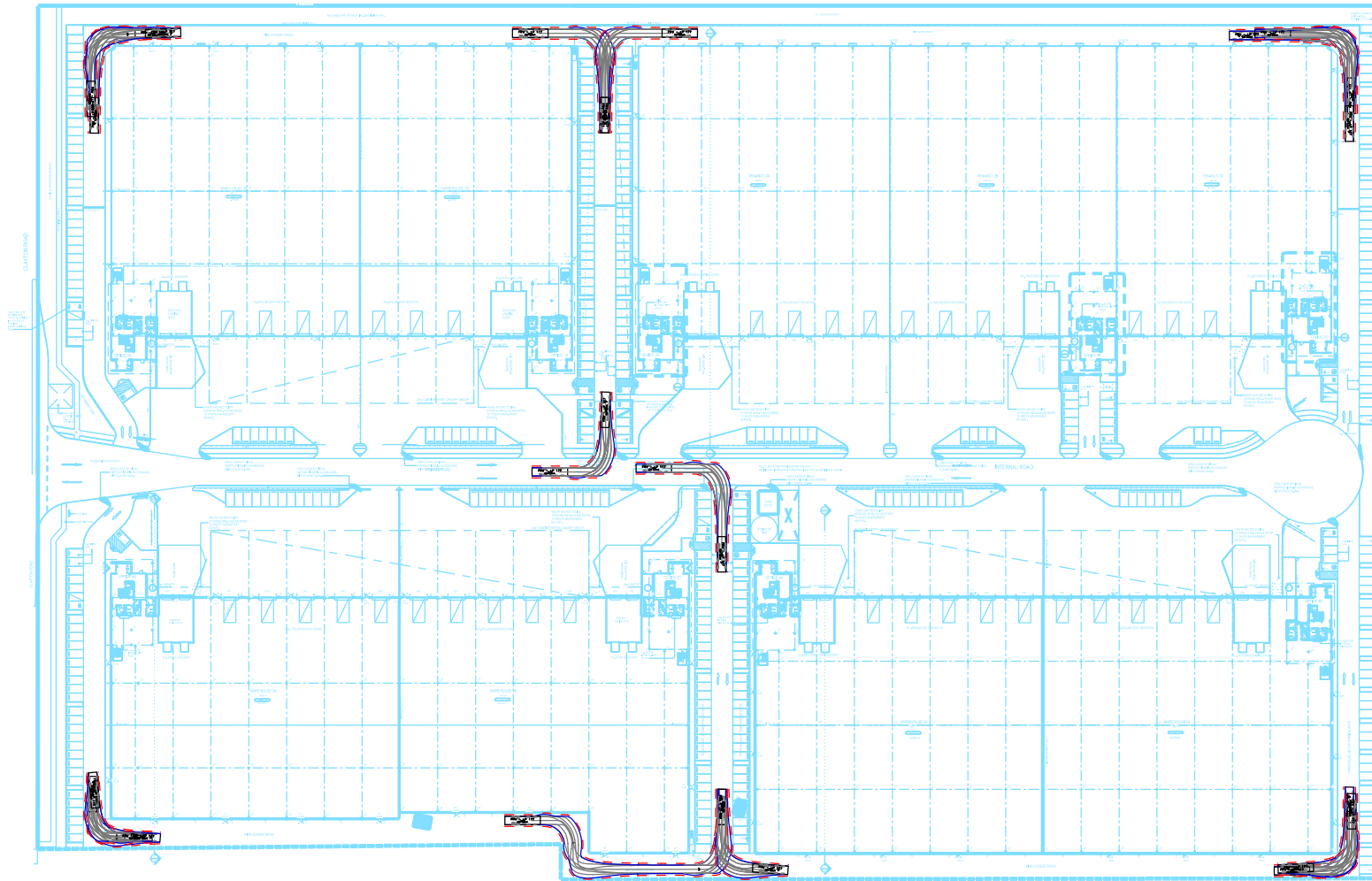
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 PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
 TITLE:
SWEPT PATH ASSESSMENT
 DESIGN VEHICLE: 19M (SMALL HEAD)
 DOCK ACCESS

MGA REF:
MGA23038-AT02-04
 SCALE:
1:1500 A3
 DATE:
14 NOVEMBER 2023
 DRAWN:
F. GUADAGNUOLO
 CHECKED:
F. GUADAGNUOLO

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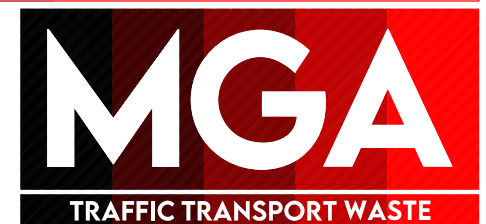
ADVERTISED PLAN

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	VEHICLE TYRE PATH
	VEHICLE BODY PATH
	CLEARANCE TO VEHICLE BODY

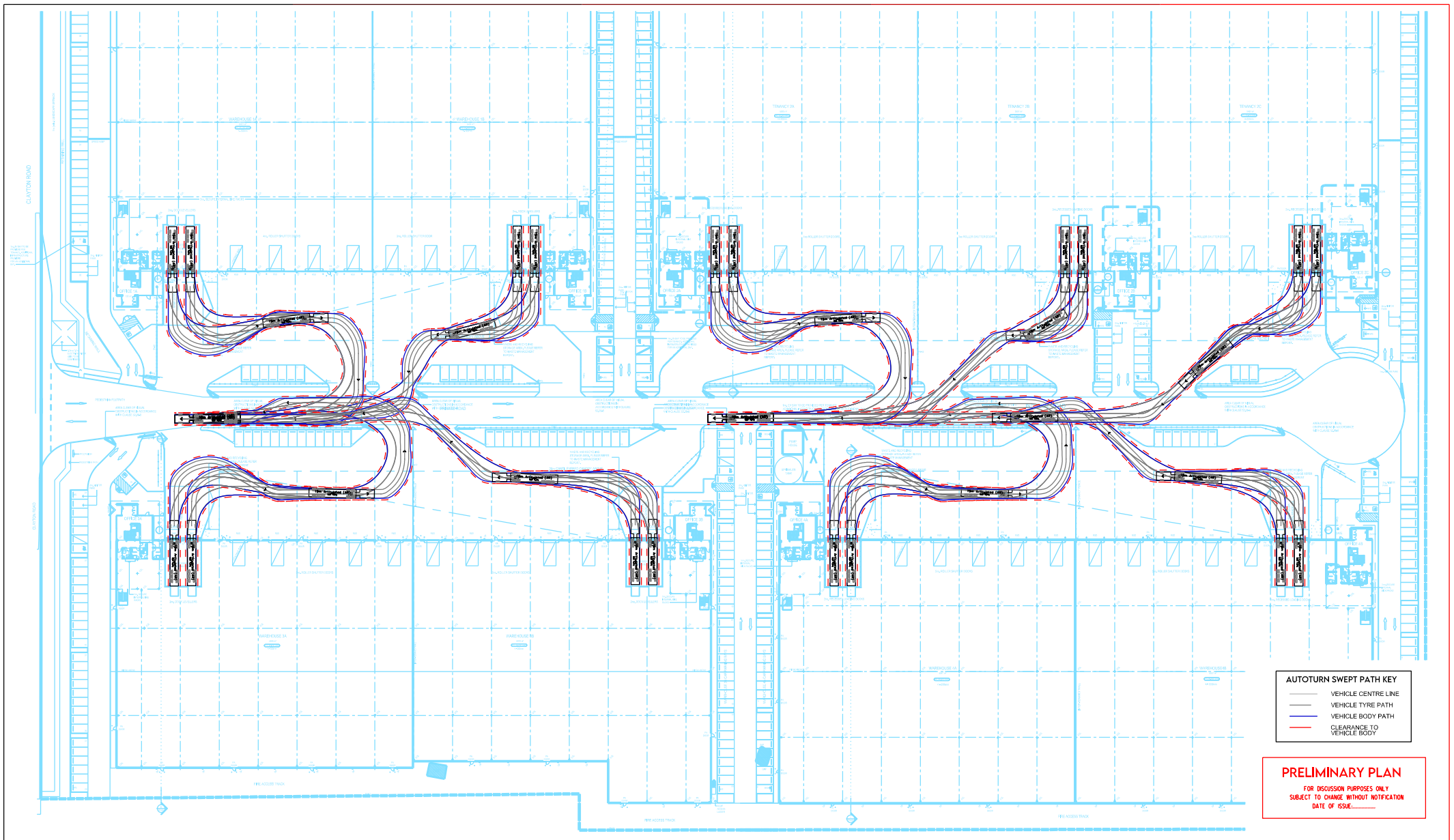
PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES ONLY
 SUBJECT TO CHANGE WITHOUT NOTIFICATION
 DATE OF ISSUE: _____

CLIENT:
TROON GROUP
 PROJECT:
**618 CLAYTON ROAD, CLAYTON
 CITY OF MONASH**
 TITLE:
**SWEPT PATH ASSESSMENT
 DESIGN VEHICLE: FIRE APPLIANCE
 SITE ACCESS AND CIRCULATION**

MGA REF:
MGA23038-AT02-06
 SCALE:
1:1500 A3
 DATE:
14 NOVEMBER 2023
 DRAWN:
F. GUADAGNUOLO
 CHECKED:
F. GUADAGNUOLO



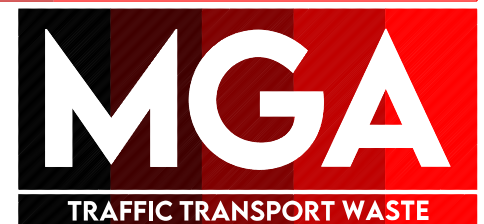
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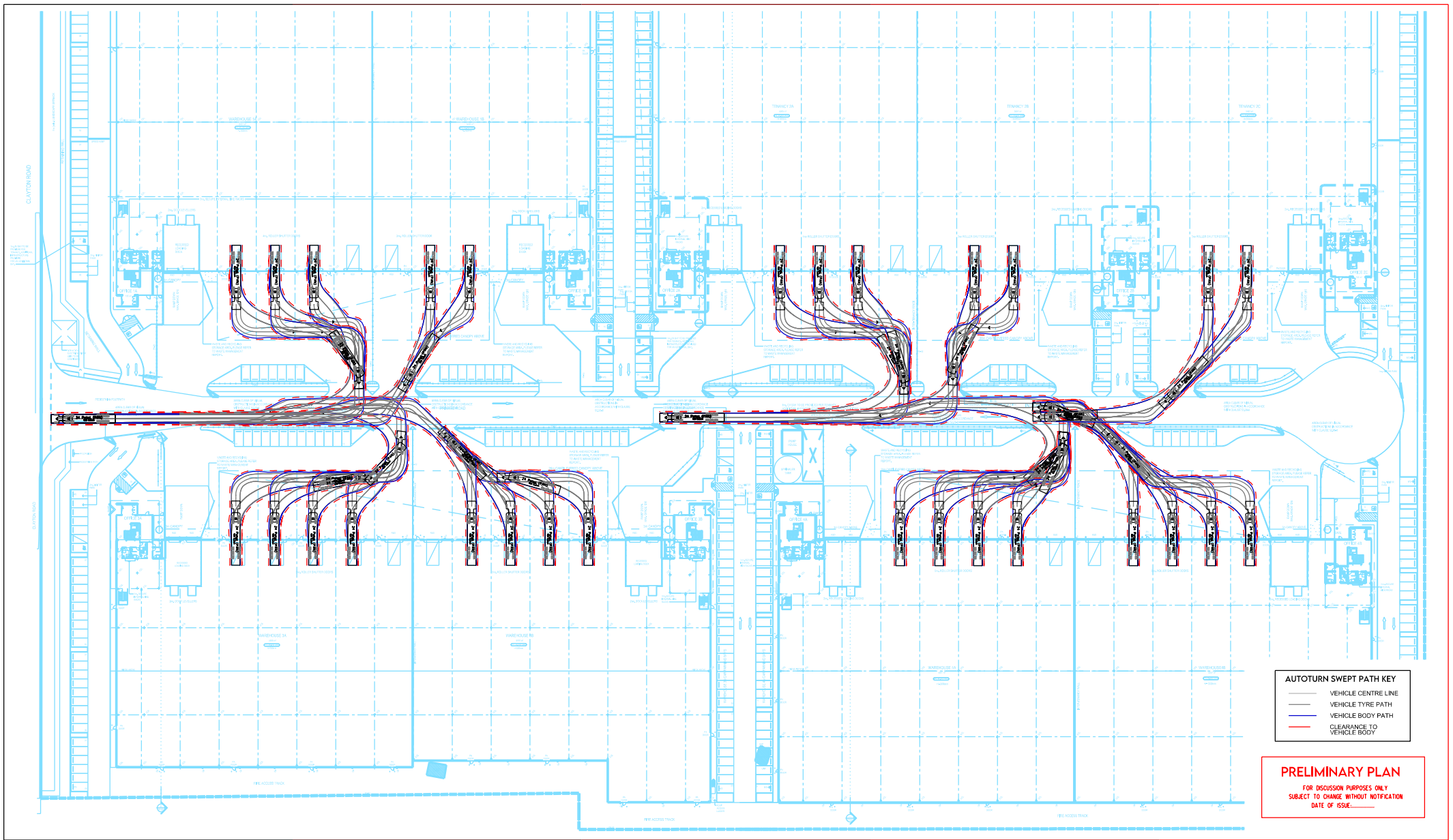
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TROON GROUP
PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
TITLE:
SWEEP PATH ASSESSMENT
DESIGN VEHICLE: 19M (AR)
RECESSED DOCK ACCESS

MGA REF:
MGA23038-AT02-07
SCALE:
1:1500 A3
DATE:
14 NOVEMBER 2023
DRAWN:
F. GUADAGNUOLO
CHECKED:
F. GUADAGNUOLO

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AUTOTURN SWEEP PATH KEY	
	VEHICLE CENTRE LINE
	VEHICLE TYRE PATH
	VEHICLE BODY PATH
	CLEARANCE TO VEHICLE BODY

PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES ONLY
 SUBJECT TO CHANGE WITHOUT NOTIFICATION
 DATE OF ISSUE: _____

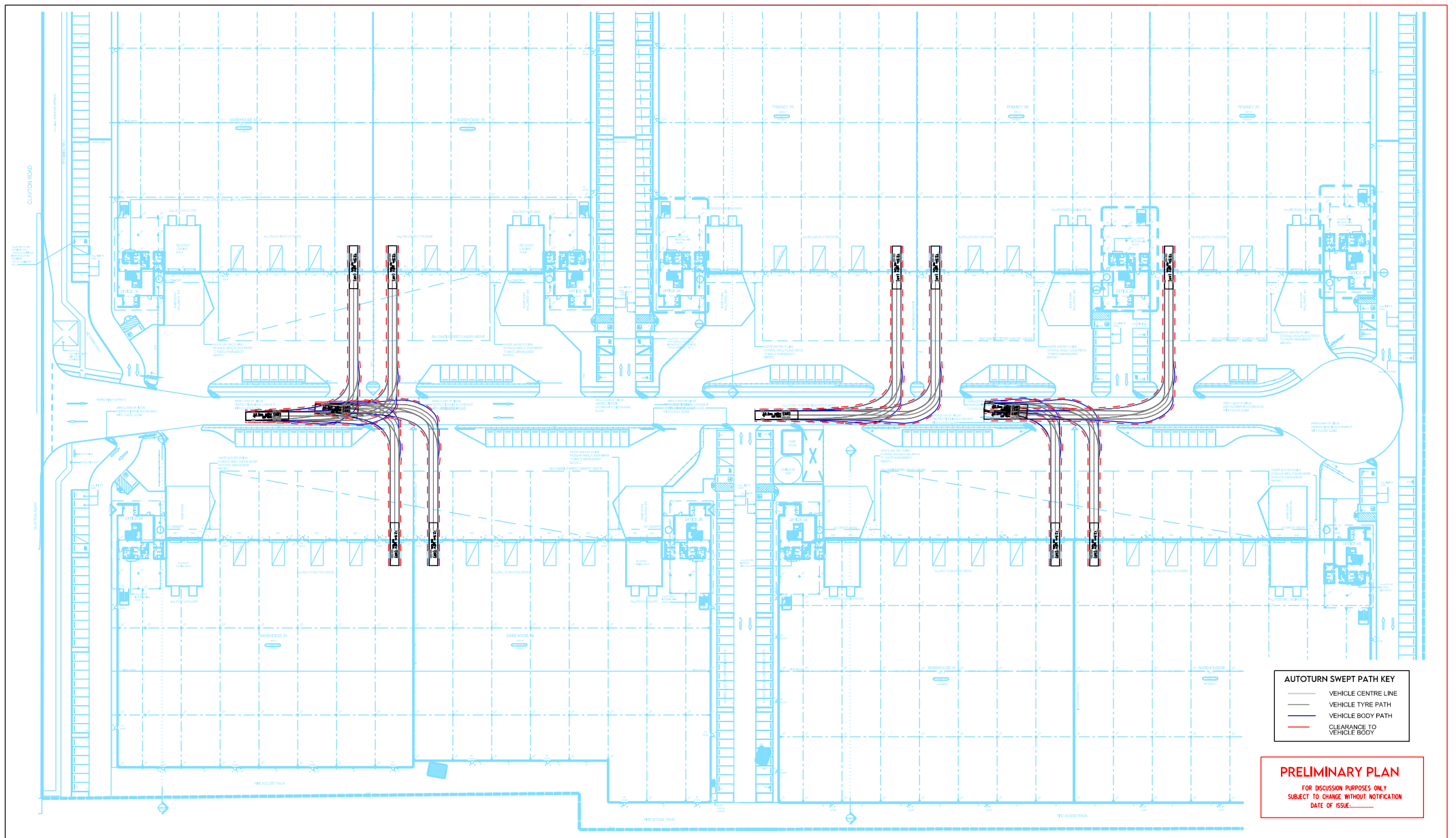
CLIENT:
TROON GROUP
 PROJECT:
**618 CLAYTON ROAD, CLAYTON
 CITY OF MONASH**
 TITLE:
SWEPT PATH ASSESSMENT
 DESIGN VEHICLE: 19M (24 PALLET)
 DOCK ACCESS

MGA REF:
MGA23038-AT02-08
 SCALE:
1:1500 A3
 DATE:
14 NOVEMBER 2023
 DRAWN:
F. GUADAGNUOLO
 CHECKED:
F. GUADAGNUOLO

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 CORPORATE ONE - 84 HOTHAM STREET, PRESTON VICTORIA 3072
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AUTOTURN SWEEP PATH KEY

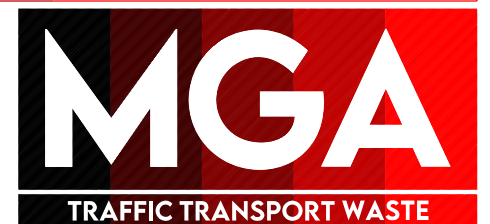
- VEHICLE CENTRE LINE
- - - VEHICLE TYRE PATH
- VEHICLE BODY PATH
- CLEARANCE TO VEHICLE BODY

PRELIMINARY PLAN
 FOR DISCUSSION PURPOSES ONLY
 SUBJECT TO CHANGE WITHOUT NOTIFICATION
 DATE OF ISSUE: _____

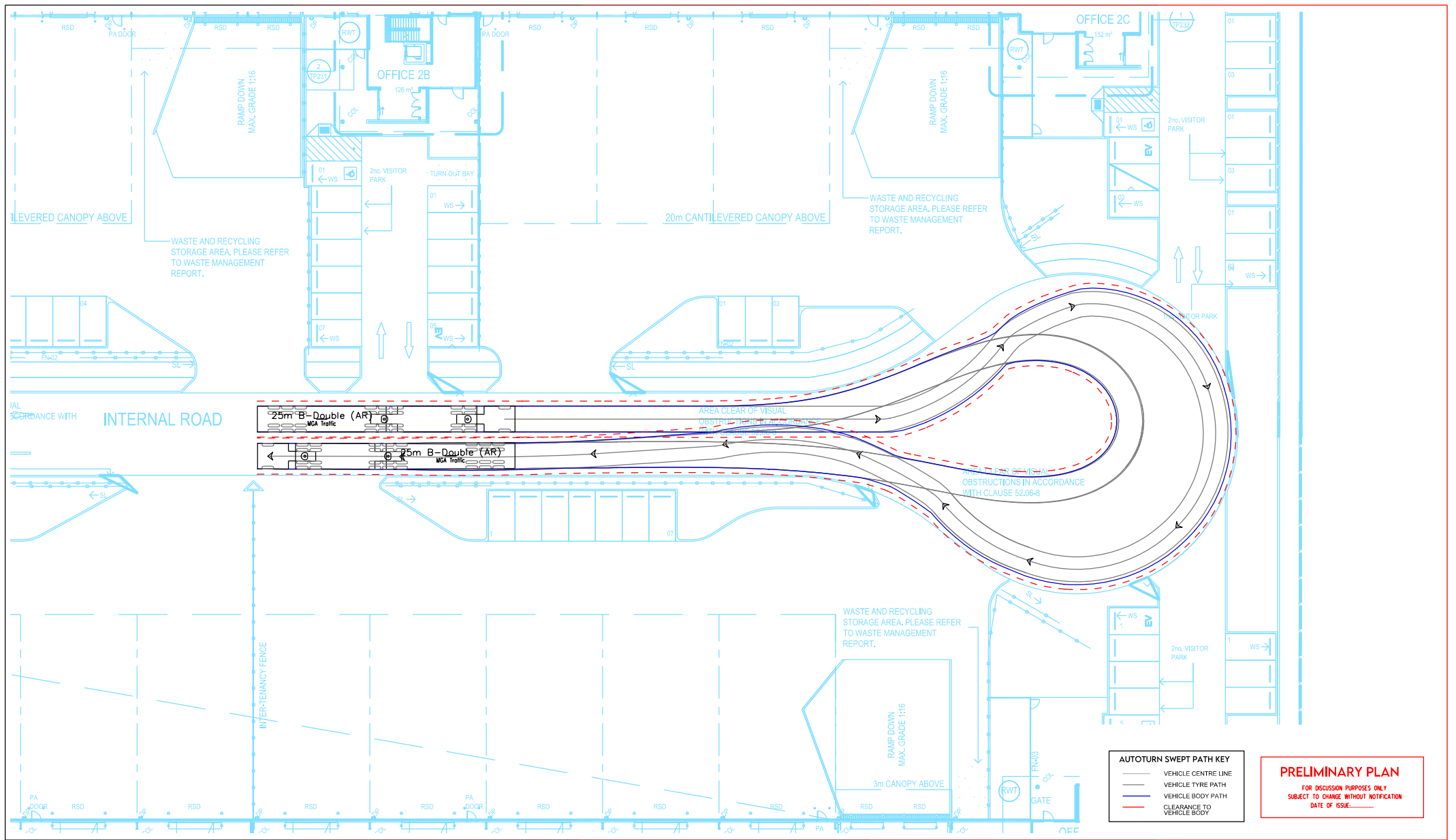
CLIENT:
TROON GROUP
 PROJECT:
**618 CLAYTON ROAD, CLAYTON
 CITY OF MONASH**
 TITLE:
**SWEPT PATH ASSESSMENT
 DESIGN VEHICLE: 12.5M HRV
 DOCK ACCESS**

MGA REF:
MGA23038-AT02-09
 SCALE:
1:1500 A3
 DATE:
14 NOVEMBER 2023
 DRAWN:
F. GUADAGNUOLO
 CHECKED:
F. GUADAGNUOLO

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 PLAN**



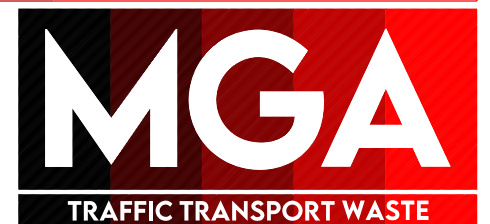
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 +61 3 9863 6480 | MAIL@MGATRAFFIC.COM.AU | MGATRAFFIC.COM.AU



CLIENT:
TROON GROUP
PROJECT:
618 CLAYTON ROAD, CLAYTON
CITY OF MONASH
TITLE:
SWEEP PATH ASSESSMENT
DESIGN VEHICLE: 25M B-DOUBLE
CUL-DE-SAC CIRCULATION

MGA REF:
MGA23038-AT02-10
SCALE:
1:400 A3
DATE:
14 NOVEMBER 2023
DRAWN:
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CHECKED:
F. GUADAGNUOLO

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MGA Traffic Pty Ltd

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+61 3 9863 6480

mail@mgattraffic.comaumgattraffic.com.au

ABN: 62 165 570 972



APPENDIX C

SIDRA RESULTS

**ADVERTISED
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MOVEMENT SUMMARY

Site: AM Peak

Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		veh/h	%	sec		Vehicles	Distance		per veh	km/h	
			v/c			veh	m				
South: Clayton Road											
2	T	963	5.0	0.255	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
3	R	51	0.0	0.094	13.1	LOS B	0.3	2.1	0.57	0.84	44.1
Approach		1014	4.7	0.255	0.7	NA	0.3	2.1	0.03	0.04	58.9
East: Site Access											
4	L	51	0.0	0.061	11.0	LOS B	0.2	1.6	0.57	0.74	46.1
6	R	22	0.0	0.152	32.5	LOS D	0.5	3.2	0.90	0.97	31.6
Approach		73	0.0	0.152	17.5	LOS C	0.5	3.2	0.67	0.81	40.5
North: Clayton Road											
7	L	22	0.0	0.012	8.2	LOS A	0.0	0.0	0.00	0.67	49.0
8	T	786	5.0	0.208	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		808	4.9	0.208	0.2	NA	0.0	0.0	0.00	0.02	59.6
All Vehicles		1895	4.6	0.255	1.1	NA	0.5	3.2	0.04	0.06	58.2

MOVEMENT SUMMARY

Site: PM Peak

Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed	
		veh/h	%	sec		Vehicles	Distance		per veh	km/h	
			v/c			veh	m				
South: Clayton Road											
2	T	851	5.0	0.225	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
3	R	51	0.0	0.117	15.0	LOS C	0.4	2.5	0.66	0.89	42.4
Approach		902	4.7	0.225	0.9	NA	0.4	2.5	0.04	0.05	58.6
East: Site Access											
4	L	51	0.0	0.065	12.0	LOS B	0.3	1.9	0.62	0.80	45.1
6	R	22	0.0	0.170	36.2	LOS E	0.5	3.6	0.91	0.97	30.0
Approach		73	0.0	0.170	19.3	LOS C	0.5	3.6	0.71	0.85	39.2
North: Clayton Road											
7	L	22	0.0	0.012	8.2	LOS A	0.0	0.0	0.00	0.67	49.0
8	T	974	5.0	0.258	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		996	4.9	0.258	0.2	NA	0.0	0.0	0.00	0.01	59.7
All Vehicles		1970	4.6	0.258	1.2	NA	0.5	3.6	0.04	0.06	58.1

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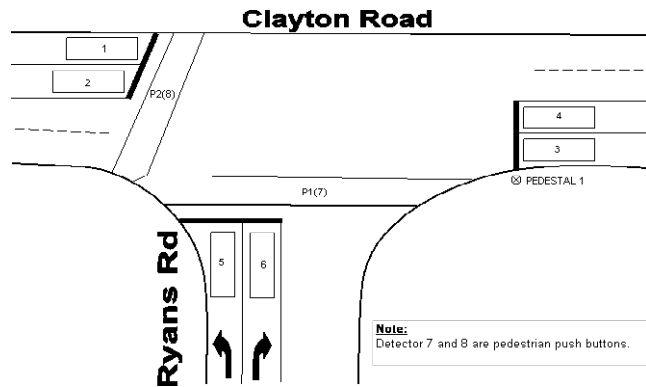


Scats Data Analysis Results

Summary by Day of Week

(15 minute Periods with Peak Hour Volumes)

Intersection of Clayton Road and Ryans Road



Date : Thursday 07 September 2023

AM Peak Period Summary

Time Start (15min periods)	North Approach	East Approach	South Approach	West Approach	Total All Approaches
06:00 - 06:15	80	2	78	-	160
06:15 - 06:30	111	1	122	-	234
06:30 - 06:45	138	-	176	-	314
06:45 - 07:00	148	1	164	-	313
07:00 - 07:15	116	1	167	-	284
07:15 - 07:30	147	1	190	-	338
07:30 - 07:45	193	-	180	-	373
07:45 - 08:00	200	1	253	-	454
08:00 - 08:15	181	1	230	-	412
08:15 - 08:30	176	17	217	-	410
08:30 - 08:45	190	3	215	-	408
08:45 - 09:00	157	-	226	-	383
Total (3 hr)	1,837	28	2,218	-	4,083

AM Peak Hour Summary

07:45 to 08:45	747	22	915	-	1,684
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PM Peak Period Summary

Time Start (15min periods)	North Approach	East Approach	South Approach	West Approach	Total All Approaches
15:00 - 15:15	223	11	159	-	393
15:15 - 15:30	221	8	193	-	422
15:30 - 15:45	233	2	152	-	387
15:45 - 16:00	204	5	197	-	406
16:00 - 16:15	237	4	208	-	449
16:15 - 16:30	259	4	215	-	478
16:30 - 16:45	225	3	188	-	416
16:45 - 17:00	220	11	172	-	403
17:00 - 17:15	248	5	190	-	443
17:15 - 17:30	234	1	223	-	458
17:30 - 17:45	243	-	192	-	435
17:45 - 18:00	168	-	167	-	335
18:00 - 18:15	163	-	156	-	319
18:15 - 18:30	152	1	131	-	284
18:30 - 18:45	129	1	80	-	210
18:45 - 19:00	122	3	73	-	198
Total (4 hr)	3,281	59	2,696	-	6,036

PM Peak Hour Summary

15:45 to 16:45	925	16	808	-	1,749
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ADVERTISED PLAN

MGA Traffic Pty Ltd

84 Hotham Street, Preston VIC 3072

+61 3 9863 6480

mail@mgattraffic.comaumgattraffic.com.au

ABN: 62 165 570 972

