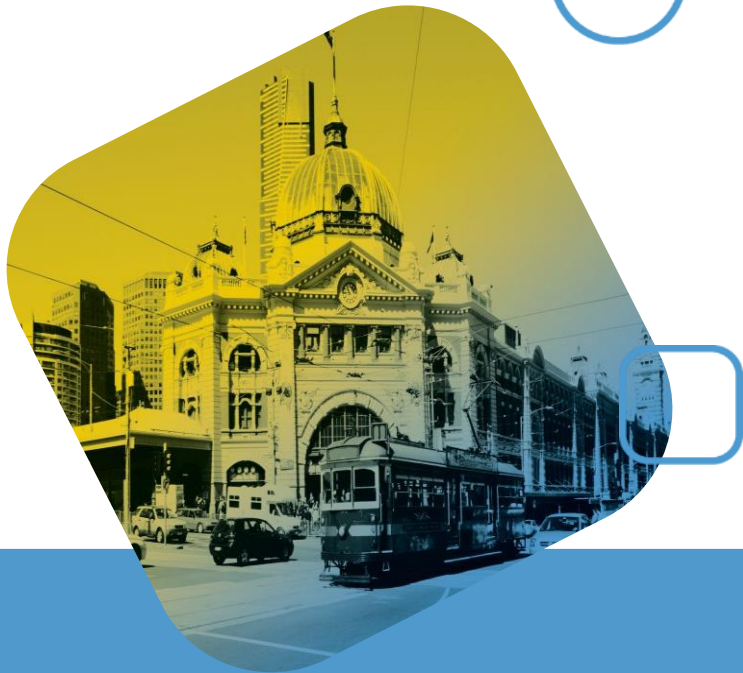


37°42'26.3"S
144°51'48.2"E

Data Centre, 85 Sharps Road, Tullamarine



Traffic & Transport Impact Assessment

29 August 2024
Prepared for EMKC³

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Impact

Company Information

Impact Traffic Engineering Pty Ltd

Level 17, 31 Queen Street, Melbourne, Victoria, 3000
ABN: 78 611 424 107

Email create@impactaustralia.com.au

Website www.impactaustralia.com.au

Document Information

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Appendices

APPENDIX A	Swept Path Analysis
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1 IMPACT[®] Snap Shot

Development Proposition

Location	37°42'26.3"S 144°51'48.2"E	85 Sharps Road, Tullamarine
Use		Data Centre
Yield		80,651 sqm site area
Parking	179 car spaces, five (5) motorbike spaces, eight (8) bicycle spaces	
Access Arrangements	Two (2) ingress and one (1) egress only connections to Sharps Road and one (1) egress only connection to Keilor Park Drive	

Statutory Controls

Particular Provisions

Clause 52.06: Car Parking

Requirement vs Provision

Requirement to the satisfaction of the responsible authority. 179 spaces provided.

ABS Journey to Work data indicates a 'driver' mode share of 78% for employee with a place of employment in the Brimbank local government area. We however, expect 'driver' mode share to Tullamarine to be higher at 86%.

Adequacy of Provision

Application of the above 'driver' mode of travel rate to the maximum number of personal on site at any one time (108 patrons) results in a car parking demand for 93 spaces.

It is expected that the provision of 179 spaces on the site will adequately accommodate peak parking requirements by personal on the site, in addition to surplus parking to accommodate short periods of increased demand associated with shift changeover periods

Design Considerations

The proposed car parking layout and accessways have been assessed and determined to have satisfied the relevant design guidelines contained within Clause 52.06 and AS2890.1:2004.

Clause 52.29 - Land Adjacent to the Principal Road Network

Design Considerations

Total movements are likely to be less than the current movements attributed to the site. These movements will be concentrated to the primary access (easternmost ingress and egress from Sharps Road). Limited use of the secondary ingress and egress will occur, with gates to be shut other than during emergency operations and power outages.

Access connections will conform to the relevant design guidelines set out in Clause 52.06 and not deemed to affect public safety.

Clause 52.34 - Bicycle Parking

Requirement vs Provision

Requirement to the satisfaction of the responsible authority. Eight (8) bicycle parking spaces provided.

Adequacy of Provision

The proposed provision will encourage bicycle trips by staff to the site.

Design Considerations

The proposed bicycle parking spaces have been assessed and determined to have satisfied the relevant design guidelines contained within Clause 52.34 and AS2890.3:2015.

[Clause 65.01: Loading Arrangements](#)**Design Considerations**

The proposed loading arrangements have been assessed and determined to have satisfied the relevant design guidelines / principles contained within Clause 65.01 and AS2890.2:2002.

Traffic Considerations**Traffic Impact**

The proposal will generate up to 36 vehicle trips in a peak hour, which will not have any discernible impact on the surrounding road network.

Conclusion

- The proposed development satisfies relevant statutory requirements and where the statutory requirements are not explicitly met, the development is deemed to satisfy decision guidelines that allow for a reduction or waiver of the said requirement.
- There are no traffic and transport grounds that should prevent the issue of a permit.

2 Introduction

2.1 Engagement

IMPACT[®] have been engaged by EMKC³ to undertake a Traffic & Transport Impact Assessment for the proposed data centre at 85 Sharps Road, Tullamarine.

2.2 Scope of Engagement

This Traffic and Transport Impact Assessment has been prepared to accompany a town planning submission.

In preparing this assessment we have referenced the following:

- Development plans prepared by Greenbox;
- Brimbank Planning Scheme, specifically:
 - Clause 52.06 - Car Parking
 - Clause 52.29 - Land Adjacent to the Principal Road Network
 - Clause 52.34 - Bicycle Facilities
 - Clause 65.01 - Approval of an Application or Plan (Loading Facilities)
- Australian Standard AS2890.1:2004, AS2890.2:2018, AS2890.3:2015 and AS2890.6:2009.

3 Existing Conditions

3.1 Location

The subject site is located on the south-east corner of the Sharps Road / Keilor Park Drive intersection as illustrated in Figure 1.

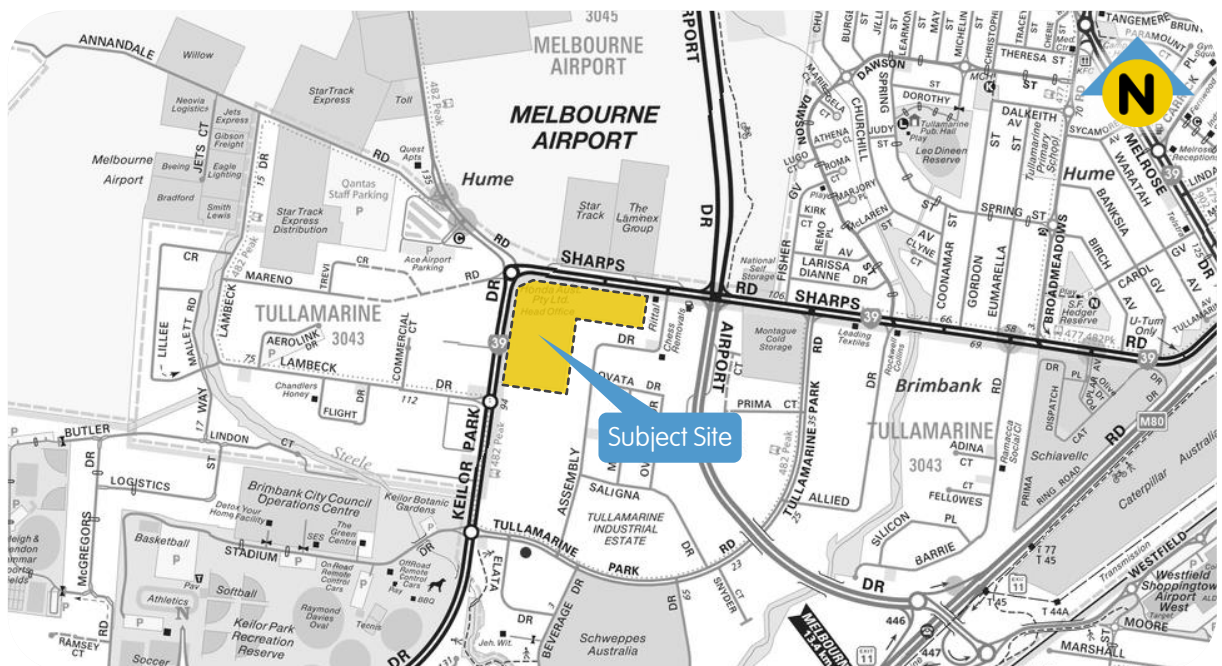


Figure 1 Location of Subject Site

The subject site is irregular in shape, with a frontage to both Sharps Road and Keilor Park Drive. Neighbouring land uses are predominantly industrial.

3.2 Planning Zone

The subject site is located within the Industrial 1 Zone (IN1Z) as illustrated in Figure 2.

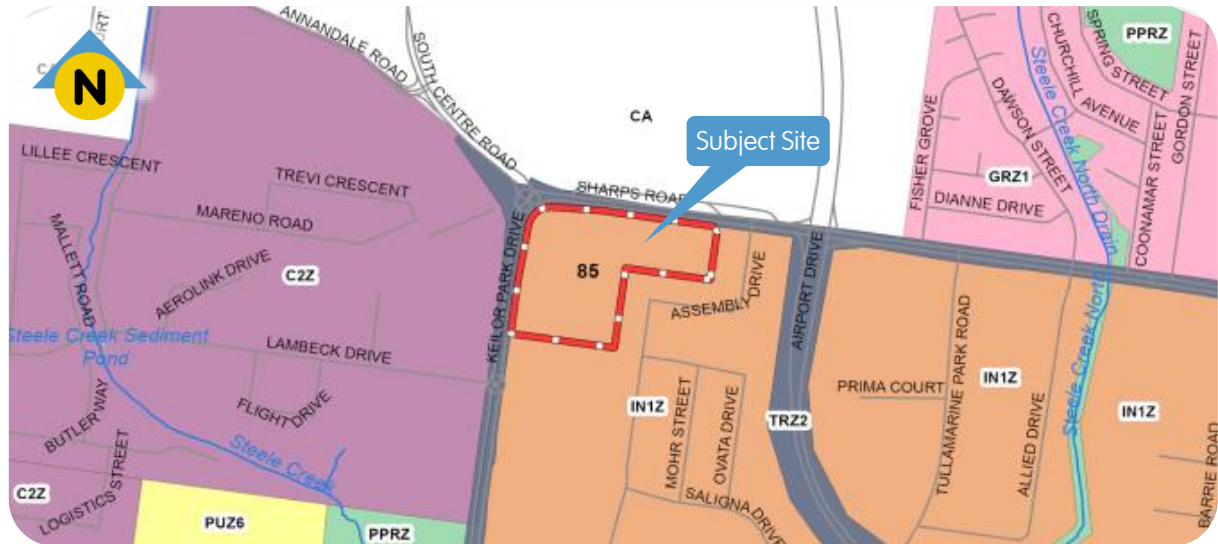


Figure 2 Land Use Planning Zone

The purpose of this zone is to provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities.

3.3 Road Network

3.3.1 Sharps Road

Sharps Road functions as an arterial road aligned in an east-west direction between Melrose Drive to the east and Keilor Park Drive to the west.

Along the site frontage, Sharps Road is configured with separated carriageways each measuring 9.5 metres which provides for two (2) lanes of traffic and one (1) bicycle lane in each direction.

A speed limit of 70km/hr applies.

Its typical cross-section is illustrated in Figure 3 overleaf.



Figure 3 Sharps Road, facing west adjacent the subject site

3.3.2 Keilor Park Drive

Keilor Park Drive functions as an arterial road generally aligned in a north-south direction between Sharps Road to the north and Milleara Road to the south.

Along the site frontage, Keilor Park Drive is configured with separated carriageways each measuring 9.5 metres which provides for two (2) lanes of traffic and one (1) bicycle lane in each direction.

A speed limit of 80km/hr applies.

Its typical cross-section is illustrated in Figure 4.



Figure 4 Keilor Park Drive, facing south adjacent the subject site

3.4 Sustainable Transport

The site has limited connectivity to public transport and active transport infrastructure. The route 482 bus (Airport West Shopp Centre to Melbourne Airport) operates along Keilor Park Drive, south of Lambeck Drive, with bus stops located 200m south of the southern boundary of the subject site.

4 Development Proposition

4.1 Use and Yield

It is planned to develop the site as a data centre, known as MEL2, providing eight (8) data hall shells, each four (4) levels in height, and associated tech buildings. The site area is 80,651 sqm.

4.2 Parking

A total of 179 car parking spaces, five (5) motorbike spaces, and eight (8) bicycle spaces are proposed.

4.3 Access Arrangements

Access arrangements are illustrated in Figure 5. These access points will operate as follows:

- **Crossover C1:** will operate as an ingress only to the internal roadway of the site, via a left turn deceleration lane
- **Crossover C2:** will operate as an ingress only to the internal roadway of the site, via a left turn deceleration lane
- **Crossover C3:** will operate as an egress only from the internal roadway of the site
- **Crossover C4:** will operate infrequently as an egress only from the internal roadway of the site.

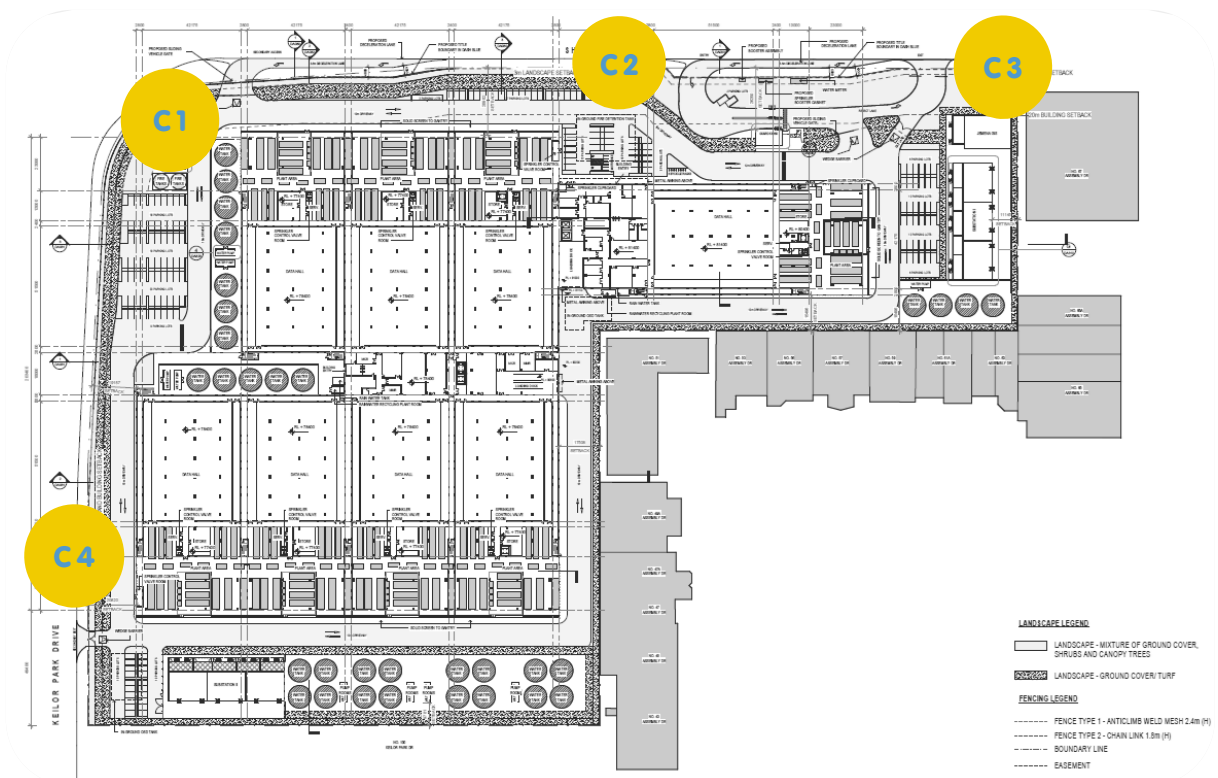


Figure 5 Access Arrangements

5 Statutory Controls

The relevant transport related Statutory Controls are:

Particular Provisions

- Clause 52.06 - Car Parking
- Clause 52.29 - Land Adjacent to the Principal Road Network
- Clause 52.34 - Bicycle Facilities
- Clause 65.01 - Approval of an Application or Plan.

5.1 Clause 52.06 - Car Parking

5.1.1 Purpose

The purpose of Clause 52.06 is:

- To ensure that car parking is provided in accordance with the Municipal Planning Strategy and Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

5.1.2 Provision and Design Requirements

To satisfy the above purpose, Clause 52.06 of the Brimbank Planning Scheme specifies requirements relating to the provision and design of car parking as follows.

5.1.3 Clause 52.06-5: Car Parking Provision

Table 1 to Clause 52.06-05 of the Brimbank Planning Scheme provides rates for various land uses. A 'Data Centre' use is nested under the 'Utility Installation' land use group, however neither 'Data Centre' nor 'Utility Installation' is provided with a parking rate within Table 1 to Clause 52.06-05.

Where the Planning Scheme does not specify a car parking rate for a land use, Clause 52.06-6 of the Planning Scheme states the following:

- Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority.

The development is planned with 179 spaces.

As car parking must be provided to the satisfaction of the responsible authority to address the provision of 179 spaces, a car parking demand assessment is required.

5.1.4 Car Park Demand Assessment - Empirical Assessment

The data centre is proposed to operate on a 24 hour per day / 7 day per week basis, with up to 180 people onsite (staff and customers). Due to shift arrangements and customer variance throughout typical operations, we are advised peak personal levels on the site at any time will be 108 patrons.

To determine the car parking requirements associated with the entire use, reference is drawn to the ABS Census 2016 Method of Travel to Work data for the local government area of Brimbank to provide guidance on the baseline number of staff / customers to the site which are expected to utilise private vehicle mode share, and thus generate parking demands at the site.

Note: the 2016 Census data is being utilised as the more recent 2021 data will be heavily compromised by the Covid-19 pandemic.

The Method of Travel to Work data is shown in Table 1.

Table 1 Journey to Work Data (Commuting to Brimbank) - 2016 Census Data

Mode of Travel for 'journey to work' trips to Brimbank	Mode Split %
Car (as driver)	78.2%
Car (as passenger)	5.2%
Train	1.2%
Bus	0.9%
Motorcycle / Scooter	0.3%
Walking	1.0%
Cycling	0.3%
Work from Home / Did not go to Work / Other / NA	12.2%

On the basis of the maximum number of personal on site at any one time (108 patrons) and the current proportion of private vehicle trips / mode share for workers within the Brimbank local government area (78%), up to 84 spaces are estimated to be required to accommodate peak patron numbers at the site.

Notwithstanding the above, the area of Tullamarine is considered to exhibit a reduced connection to public and alternative transport services in comparison to Brimbank, with a greater proportion of staff and customers expected to drive to the site.

For the purposes of the assessment, the following mode split has been assumed as outlined in Table 2.

Table 2 Journey to Work Data (Commuting to Tullamarine) - Site Specific

Mode of Travel for 'journey to work' trips to Tullamarine	Rationale	Mode Split %
Car (as driver)	Driver trips replace N/A modes beyond ABS rate	86.0%
Car (as passenger)	Share trips encouraged - ABS rate maintained	5.2%
Train	No train services in close proximity - ABS rate reduced	0.5%
Bus	Limited bus services - ABS rate reduced	0.5%
Motorcycle / Scooter	Five motorcycle parking spaces proposed - ABS rate maintained	0.3%
Walking	Limited path network - ABS rate reduced	0.5%
Cycling	Eight (8) spaces provided	7.0%
Work from Home / Did not go to Work / Other / NA	Not applicable to site	0%

Application of the above 'driver' mode of travel rate to the maximum number of personal on site at any one time (108 patrons) results in a car parking demand for 93 spaces. Allowance is also required however for arriving staff prior to their shift, when staff of the current shift are still at the site. Dependent on shift staggering, for short durations around shift changeover time, an increased demand could occur.

It is expected however that the provision of 179 spaces on the site will adequately accommodate peak parking requirements by personal on the site, in addition to surplus parking to accommodate short periods of increased demand associated with shift changeover periods.

5.1.5 Conclusion - Car Parking Provision

We can conclude that an adequate number of spaces are provided to cater for the projected demand.

Accordingly, the development proposition satisfies the purpose of Clause 52.06, specifically:

- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.

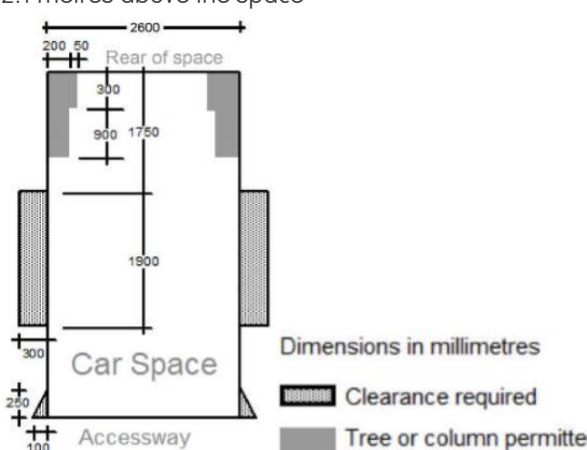
5.1.6 Clause 52.06 - 9: Design Standard for Car Parking

We have assessed the proposed car parking design and access arrangements against the requirements of Clause 52.06-9 of the Brimbank Planning Scheme. Our findings are as follows:

5.1.6.1 Design Standard 1 - Accessways

Requirements	Design Response	Status
Accessways Must:		
1 Be at least 3 metres wide.	Accessways exceed 3 metres in width.	Comply
2 Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide	Minimum 4.2m width at change of directions.	Comply
3 Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre.	Forward egress can occur with one manoeuvre.	Comply
4 Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres.	No overhead obstructions.	N/A
5 If the accessway serves four or more car spaces or connects to a road in a Transport Zone, the accessway must be designed so that cars can exit the site in a forward direction	Cars can exit the site in a forward direction.	Comply
6 Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Transport Zone.	Separate ingress and egress accessways are proposed.	Comply
7 Have a corner splay or area at least 50 percent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	An area at least 50 percent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of each exit lane and 2.5 metres along the exit lane from the frontage is provided. Where gates are provided, they will be permeable.	Comply
8 If an accessway to four or more car parking spaces is from land in a Transport Zone, the access to the car spaces must be at least 6 metres from the road carriageway.	Accessways are at least 6 metres from the road carriageway	Comply
9 If entry to the car spaces is from a road, the width of the road accessway may include the road.	N/A	N/A

5.1.6.2 Design Standard 2 - Car Parking Spaces

Requirements	Design Response	Status																													
<p>1 Car parking spaces and accessways must have the minimum dimensions in Table 2 of Clause 52.06-5</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #333; color: white;">Angle of car parking spaces to access way</th> <th style="background-color: #333; color: white;">Accessway width</th> <th style="background-color: #333; color: white;">Car space width</th> <th style="background-color: #333; color: white;">Car space length</th> </tr> </thead> <tbody> <tr> <td>Parallel</td> <td>3.6 m</td> <td>2.3 m</td> <td>6.7 m</td> </tr> <tr> <td>45°</td> <td>3.5 m</td> <td>2.6 m</td> <td>4.9 m</td> </tr> <tr> <td>60°</td> <td>4.9 m</td> <td>2.6 m</td> <td>4.9 m</td> </tr> <tr> <td rowspan="4">90°</td> <td>6.4 m</td> <td>2.6 m</td> <td>4.9 m</td> </tr> <tr> <td>5.8 m</td> <td>2.8 m</td> <td>4.9 m</td> </tr> <tr> <td>5.2 m</td> <td>3.0 m</td> <td>4.9 m</td> </tr> <tr> <td>4.8 m</td> <td>3.2 m</td> <td>4.9 m</td> </tr> </tbody> </table>	Angle of car parking spaces to access way	Accessway width	Car space width	Car space length	Parallel	3.6 m	2.3 m	6.7 m	45°	3.5 m	2.6 m	4.9 m	60°	4.9 m	2.6 m	4.9 m	90°	6.4 m	2.6 m	4.9 m	5.8 m	2.8 m	4.9 m	5.2 m	3.0 m	4.9 m	4.8 m	3.2 m	4.9 m	<p>Parking spaces are designed to meet the requirements shown within Table 2.</p>	Comply
Angle of car parking spaces to access way	Accessway width	Car space width	Car space length																												
Parallel	3.6 m	2.3 m	6.7 m																												
45°	3.5 m	2.6 m	4.9 m																												
60°	4.9 m	2.6 m	4.9 m																												
90°	6.4 m	2.6 m	4.9 m																												
	5.8 m	2.8 m	4.9 m																												
	5.2 m	3.0 m	4.9 m																												
	4.8 m	3.2 m	4.9 m																												
<p>2 A wall, fence, column, tree, tree guard or any other structure that abuts a car space must not encroach into the area marked 'clearance required' on Diagram 1 other than: A column, tree or tree guard, which may project into a space if it is within the area marked 'tree or column permitted' on Diagram 1 of the design standard A structure, which may project into the space if it is at least 2.1 metres above the space</p> 	<p>Adequate clearance is provided to obstructions.</p>	Comply																													
<p>3 Car spaces in garages or carports must be at least 6 metres long and 3.5 metres wide for a single space and 5.5 metres wide for a double space measured inside the garage or carport.</p>	<p>No garages or carports are proposed</p>	N/A																													
<p>4 Where parking spaces are provided in tandem (one space behind another) an additional 500mm in length must be provided between each space.</p>	<p>No tandem spaces proposed</p>	N/A																													
<p>5 Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover</p>	<p>No dwellings proposed</p>	N/A																													
<p>6 Disabled car parking spaces must be designed in accordance with AS 2890.6-2009 (disabled) and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 by 500mm</p>	<p>Disabled car parking has been designed in accordance with AS2890.6-2009.</p>	Comply																													

5.1.6.3 Design Standard 3 - Gradients

Requirements	Design Response	Status													
<p>1 Accessway grades must not be steeper than 1:10 (10 per cent) within 5 metres of the frontage to ensure safety for pedestrians and vehicles. The design must have regard to the wheelbase of the vehicle being designed for; pedestrian and vehicular traffic volumes; the nature of the car park; and the slope and configuration of the vehicle crossover at the site frontage. This does not apply to accessways serving three dwellings or less.</p>	Grades at accessways do not exceed 1:10.	Comply													
<p>2 Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 and be designed for vehicles travelling in a forward direction.</p> <table border="1"> <thead> <tr> <th>Type of car park</th> <th>Length of ramp</th> <th>Maximum grade</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Public car parks</td> <td>20 metres or less</td> <td>1:5 (20%)</td> </tr> <tr> <td>longer than 20 metres</td> <td>1:6 (16.7%)</td> </tr> <tr> <td rowspan="2">Private or residential car parks</td> <td>20 metres or less</td> <td>1:4 (25%)</td> </tr> <tr> <td>longer than 20 metres</td> <td>1:5 (20%)</td> </tr> </tbody> </table>	Type of car park	Length of ramp	Maximum grade	Public car parks	20 metres or less	1:5 (20%)	longer than 20 metres	1:6 (16.7%)	Private or residential car parks	20 metres or less	1:4 (25%)	longer than 20 metres	1:5 (20%)	Minimal grading is proposed throughout the site.	Comply
Type of car park	Length of ramp	Maximum grade													
Public car parks	20 metres or less	1:5 (20%)													
	longer than 20 metres	1:6 (16.7%)													
Private or residential car parks	20 metres or less	1:4 (25%)													
	longer than 20 metres	1:5 (20%)													
<p>3 Where the difference in grade between two sections of ramp or floor is greater than 1:8 (12.5 per cent) for a summit grade change, or greater than 1:6.7 (15 per cent) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming</p>	Minimal grading is proposed throughout the site.	Comply													
<p>4 Plans must include an assessment of grade changes of greater than 1:5.6 (18 per cent) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority.</p>	No grade changes in excess of 1:5.6 (18 per cent) or less than 3 metres apart.	N/A													

5.1.6.4 Design Standards 4-7

Design standards 4-7 do not apply to the development.

5.1.6.5 Conclusion - Car Park Design

The proposed car park and accessways have been assessed and determined to have satisfied the relevant design guidelines contained within Clause 52.06 and AS2890.1:2004

Accordingly, the proposal satisfies the purpose of Clause 52.06, specifically:

- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

5.2 Clause 52.29 - Land Adjacent to the Principal Road Network

5.2.1 Purpose

The purpose of Clause 52.29 is to:

- Ensure appropriate access to the Principal Road Network or land planned to form part of the Principal Road Network; and
- Ensure appropriate subdivision of land adjacent to the Principal Road Network or land planned to form part of the Principal Road Network.

5.2.2 Permit Requirement

A permit is required to:

- Create or alter access to:
 - A road in a Transport Zone 2;
 - Land in a Public Acquisition Overlay if a transport manager (other than a municipal council) is the acquiring authority and the acquisition is for the purpose of a road.
- Subdivide land adjacent to:
 - A road in a Transport Zone 2;
 - Land in a Public Acquisition Overlay if a transport manager (other than a municipal council) is the acquiring authority and the acquisition is for the purpose of a road

In response to the above, it is noted that the proposal seeks to modify the existing access connections to Sharps Road and Keilor Park Drive. Specifically, the proposal seeks to split the two (2) existing combined ingress and egress connections to Sharps Road, to provide two (2) separate ingress and two (2) separate egress connections. Sharps Road will facilitate both ingress connections via left turn deceleration lanes, whilst one (1) egress connection each to Sharps Road and Keilor Park Drive are proposed.

This access strategy maintains the existing number of ingress and egress connections to the Transport Zone 2, albeit as separate connections.

A permit under Clause 52.29 is therefore required.

5.2.3 Decision Guidelines

Before deciding on an application, in addition to the decision guideline in Clause 65, the responsible authority must consider:

- The Municipal Planning Strategy and the Planning Policy Framework;
- The view of the relevant road authority;
- The effect of the proposal on the operation of the road and on public safety; and
- Any policy made by the relevant road authority pursuant to Schedule 2, Clause 3 of the Road Management Act 2004 regarding access between a controlled access road and adjacent land.

5.2.4 Response to Decision Guidelines

5.2.4.1 Effect of the Proposal on the Operation of the Road

As described in Section 6, without regard for existing traffic movement credits from the current onsite use, the proposal will generate up to 36 vehicle movements during the peak periods, noting that total movement are likely to be less than the current movements attributed to the site, thus a net reduction of traffic movements is likely to occur. The easternmost ingress and egress will facilitate the vast majority of site movements noting the westernmost ingress and the egress to Keilor Park Drive are secondary connections for use only in extraneous circumstances (i.e. power outages to ensure emergency access and fuel delivery to generators

can be maintained). Both the secondary ingress and egress connections will be gated and will remain closed during all non-extraneous circumstances / normal site operation.

5.2.4.2 Effect of the Proposal on Public Safety

The proposal contemplates the use of the same number of ingress and egress connections commensurate with the existing conditions.

Access connections will conform to the relevant design guidelines set out in Clause 52.06, specifically:

- If the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3, the accessway must be designed so that cars can exit the site in a forward direction.
 - **Design Response:** The accessway is designed so that cars can exit the site in a forward direction (Swept paths attached in Appendix A).
- Have a corner splay area at least 50 percent 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.
 - **Design Response:** Adequate pedestrian sight splays are provided on each side of the egress lane despite no frontage road pedestrian paths. Landscaping and structures within the pedestrian sight triangle areas is to remain below 900mm in height.
- If an accessway to four or more car parking spaces is from land in a Transport Zone 2 or Transport Zone 3, the access to the car spaces must be at least 6 metres from the road carriageway.
 - **Design Response:** Access to the car spaces is at least 6 metres from the road carriageway.

On the above basis, the proposal is not deemed to effect public safety.

5.2.5 Conclusion - Access to a Road within the Principal Road Network

We have assessed the proposal to modify the existing access connection to Sharps Road and Keilor Park Drive and do not expect any adverse effects on the operation of the road network or on public safety.

Accordingly, the proposal satisfies the purpose of Clause 52.29, specifically:

- To ensure appropriate access to identified roads; and
- To ensure appropriate subdivision of land adjacent to identified roads.

5.3 Clause 52.34 - Bicycle Facilities

5.3.1 Purpose

The purpose of Clause 52.34 is to encourage cycling as a mode of transport, and provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.

5.3.2 Provision Requirements - Clause 52.34.3

To satisfy the above purpose, Clause 52.34-5 of the Brimbank Planning Scheme specifies the bicycle parking provision requirements for a variety of different uses within Table 1.

A 'Data Centre' use is nested under the 'Utility Installation' land use group, however neither 'Data Centre' nor 'Utility Installation' is provided with a parking rate within Table 1 to Clause 52.34-5. Bicycle parking is to be provided to the satisfaction of the responsible authority.

Notwithstanding, the development plans outline the provision of eight (8) bicycle spaces adjacent the main building entry point.

Clause 52.34-5 also requires that if five (5) or more employee bicycle spaces are required, one (1) shower should be provided for the first five (5) employee bicycle spaces, plus one (1) to each 10 employee bicycle spaces thereafter. Again noting a 'Data Centre' use is an unlisted use, there are no requirements to provide end-of-trip facilities.

5.3.3 Adequacy of Provision

The provision of eight (8) parking spaces satisfies the requirements of Clause 52.34-5.

This provision of bicycle parking spaces will contribute to encouraging active transport modes of travel to / from the subject site.

5.3.4 Design Requirements

Bicycle spaces should:

- Provide a space for a bicycle of minimum dimensions of 1.7 metres in length, 1.2 metres in height and 0.7 metres in width at the handlebars.
- Be located to allow a bicycle to be ridden to within 30 metres of the bicycle parking space.
- Be located to provide convenient access from surrounding bicycle routes and main building entrances.
- Not interfere with reasonable access to doorways, loading areas, access covers, furniture, services and infrastructure.
- Not cause a hazard.
- Be adequately lit during periods of use.

5.3.5 Decision Guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 65, 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 on the land for users other than cyclists are available to cyclists.
- The opportunities for sharing of bicycle facilities by multiple uses, either because of variation of bicycle parking demand over time or because of efficiencies gained from the consolidation of shared bicycle facilities.
- Australian Standard AS 2890.3 2015 Parking facilities Part 3: Bicycle parking facilities.
- Any relevant bicycle parking strategy or equivalent.

5.3.6 Proposed Design

Bicycle spaces are proposed as ground mounted racks adjacent to the main building entry point each within a 1.0m x 1.7m envelope accessed from a 1.5m aisle. The bicycle parking location provides the bicycle racks / rails which are both secure and in a highly visible location.

This arrangement meets the requirements of Clause 52.34-6.

5.3.7 Conclusion - Bicycle Parking

We can conclude that bicycle parking provided as part of this development satisfies the purpose of Clause 52.34, specifically:

- To encourage cycling as a mode of transport, and provide secure, accessible and convenient bicycle parking spaces.

5.4 Loading Considerations (Clause 65.01)

5.4.1 Loading Requirements and Objectives

To address the adequacy of loading, the Brimbank Planning Scheme specifies the following:

- Clause 65.01 - The responsible authority must consider, as appropriate, the adequacy of loading and loading facilities and any associated amenity, traffic flow and road safety impacts.

5.4.2 Adequacy of Proposed Loading Facilities

In response, we note that sufficient off-street loading areas will be provided for the site capable of accommodating 12.5m Heavy Rigid Vehicle and 20m Semi-Trailer vehicles.

Swept path analysis, attached as Appendix A, demonstrates adequate access by 12.5m Heavy Rigid Vehicle and 20m Semi-Trailer vehicles, capable of entering and exiting the site in a forward direction.

As such, we conclude that the loading arrangements for the site are considered satisfactory.

6 Traffic Considerations

6.1 Traffic Generation

To understand traffic demands of the site, a case study investigation has been undertaken of an existing data centre use at 176 Swann Drive and a portion of the site at 210 Swann Drive.

IMPACT[®] commissioned BVY Traffic Survey Pty Ltd to undertake accumulation surveys at the site by capturing all inbound and outbound vehicle movements at all site access points. It is noted a portion of the site at 210 Swann Drive is currently under construction however construction vehicle activity is confined to the south-west corner of the site via a dedicated construction access. Thus, construction vehicle activity can be excluded from operational vehicle activity of the site.

Site area of the operational areas is currently 66,000 sqm.

The accumulation surveys were undertaken on Tuesday 9 July 2024 and indicates a data centre use generates peak traffic movements at the following rates:

- AM Peak
 - 0.045 vehicle movements per 100 sqm of site area
- PM Peak
 - 0.033 vehicle movements per 100 sqm of site area

In addition, the following directional splits were recorded:

- AM Peak
 - 80% of vehicle movements being inbound and 20% of movements being outbound; and
- PM Peak
 - 27% of vehicle movements being inbound and 73% of movements being outbound.

The above traffic generation rates and directional splits have been applied to the proposed site encompassing a site area of 80,651 sqm, which equates to the following traffic generation:

- AM Peak: 36 vehicle movements during the AM peak, comprising 29 inbound vehicle movements and seven (7) outbound vehicle movements;
- PM Peak: 27 vehicle movements during the PM peak, comprising eight (8) inbound vehicle movements and seven 19 outbound vehicle movements.

6.2 Traffic Impact

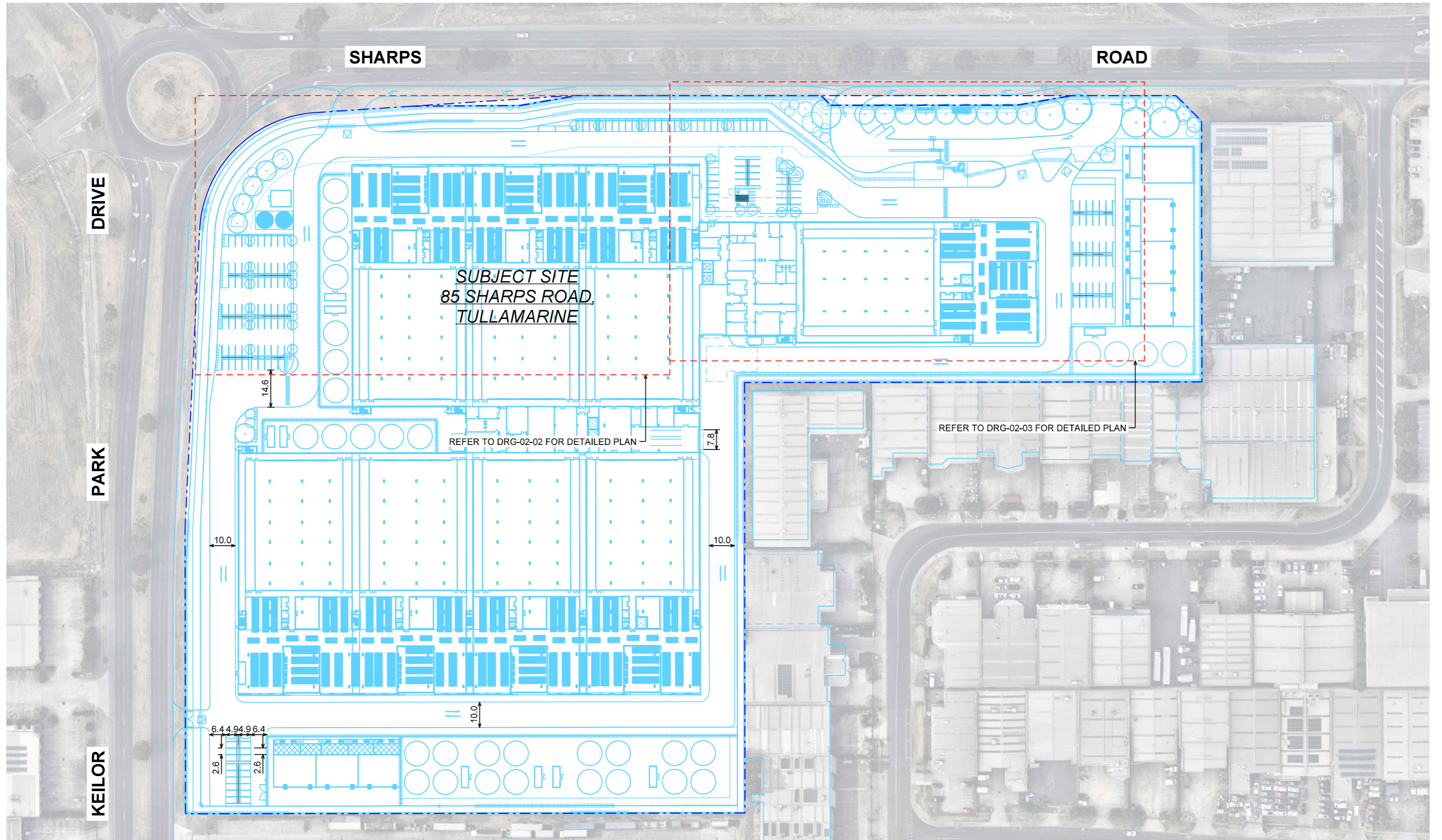
The proposal is anticipated to contribute up to 36 vehicle movements to the road network in any peak hour. This level of traffic is deemed low in traffic engineering terms and will not have any detrimental impacts to the operation of the surrounding road network.

APPENDIX A

Swept Path Analysis

Design Vehicles:

- 12.5 Metre Heavy Rigid Vehicle
- 20 Metre Semi-trailer Articulated Vehicle



GENERAL NOTES:

1. ALL DIMENSIONS ARE TO FACE OF KERB AND CHANNEL UNLESS NOTED OTHERWISE.
2. DECLARED ROAD - SHARPS ROAD (SPEED ZONE 70KM/H).
3. BASE INFORMATION FROM NEARMAP AERIAL PHOTOGRAPHY DATED 14.12.2023 AND GREENBOX ARCHITECTURE PTY LTD DA011.C_OVERALL LEVEL 1 PLAN.dwg RECEIVED 26.08.2024

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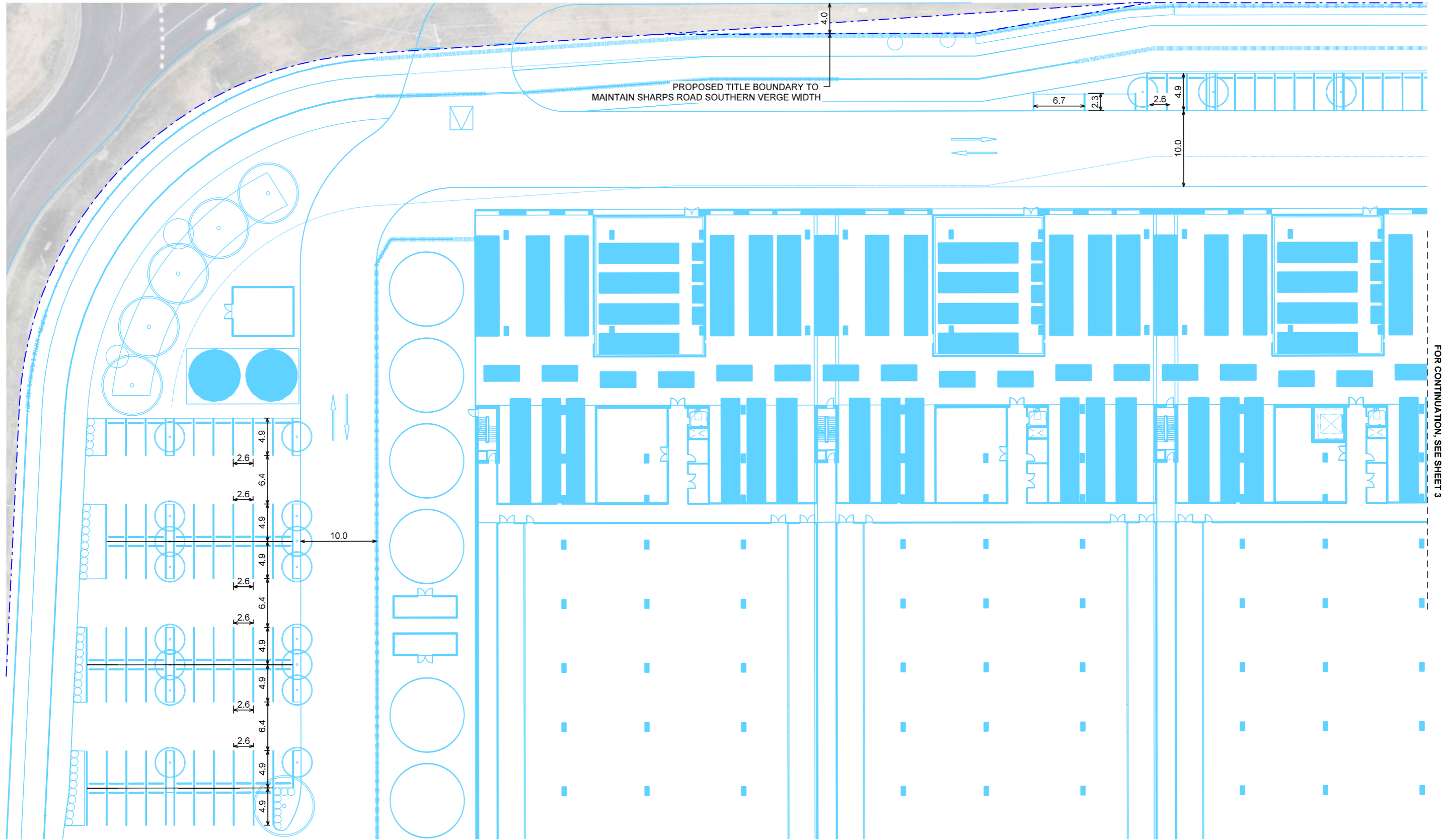
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 impactaustralia.com.au

MELWAY ONLINE REF:MAP 15 E3

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Client AIRTRUNK	Date 2024-08-29
Project PROPOSED DATA CENTRE EXPANSION 85 SHARPS ROAD, TULLAMARINE CITY OF HUME	Drawn / Approved SGM / SM
Status PRELIMINARY	Revision C
Drawing Number IMP2407002 - DRG-02-01	Title TRAFFIC AND TRANSPORT ASSESSMENT OVERALL SITE LAYOUT PLAN



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LEVEL 17, 31 QUEEN STREET, MELBOURNE VIC 3000
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Client
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Project
**PROPOSED DATA CENTRE EXPANSION
85 SHARPS ROAD, TULLAMARINE
CITY OF HUME**

Status
PRELIMINARY

Date **2024-08-29**
Drawn / Approved **SGM / SM**

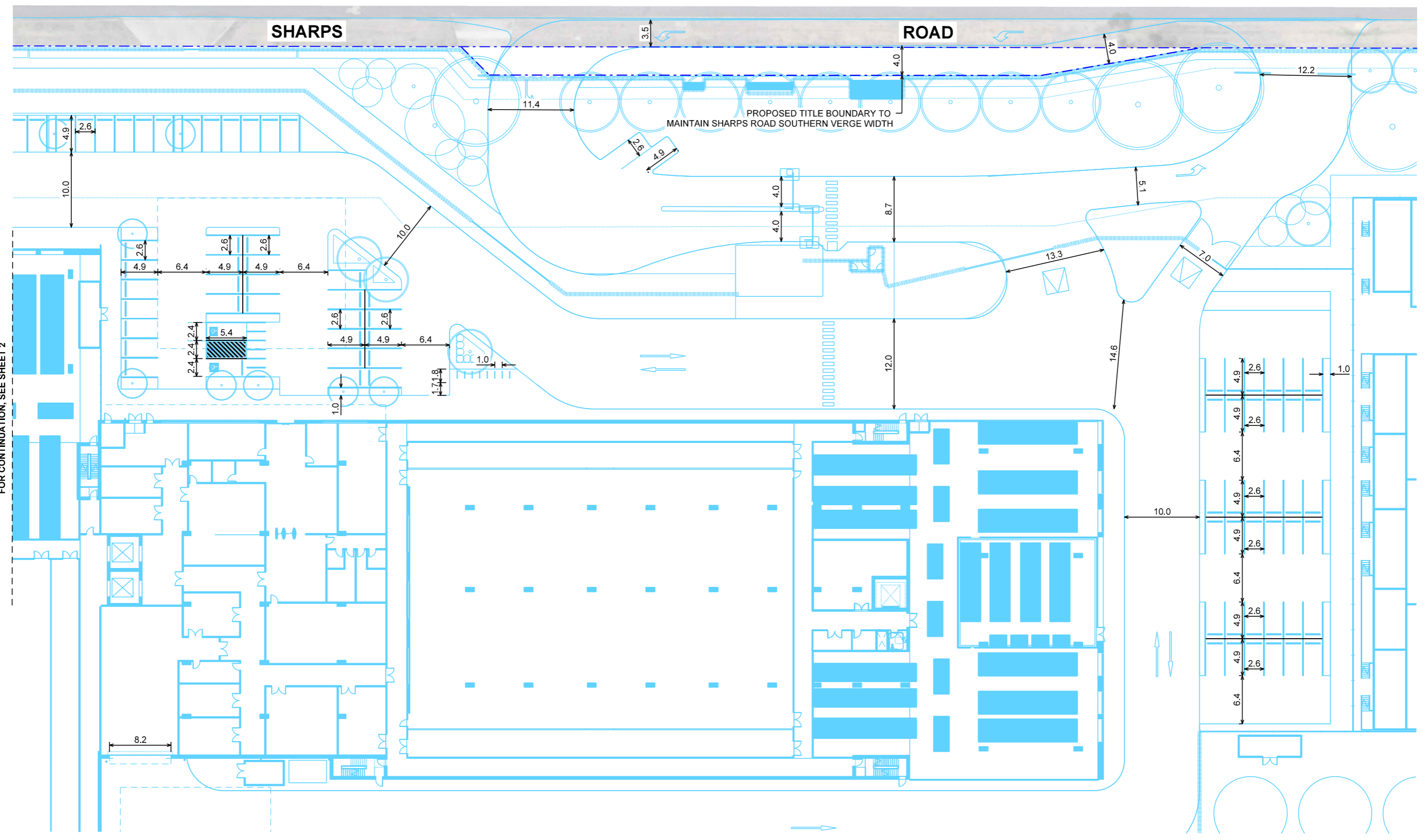
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SITE LAYOUT PLAN**

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FOR CONTINUATION, SEE SHEET 2



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ABN 78 611 424 107
LEVEL 17, 31 QUEEN STREET, MELBOURNE VIC 3000
create@impactaustralia.com.au
impactaustralia.com.au

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Client
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Project
PROPOSED DATA CENTRE EXPANSION
85 SHARPS ROAD, TULLAMARINE
CITY OF HUME

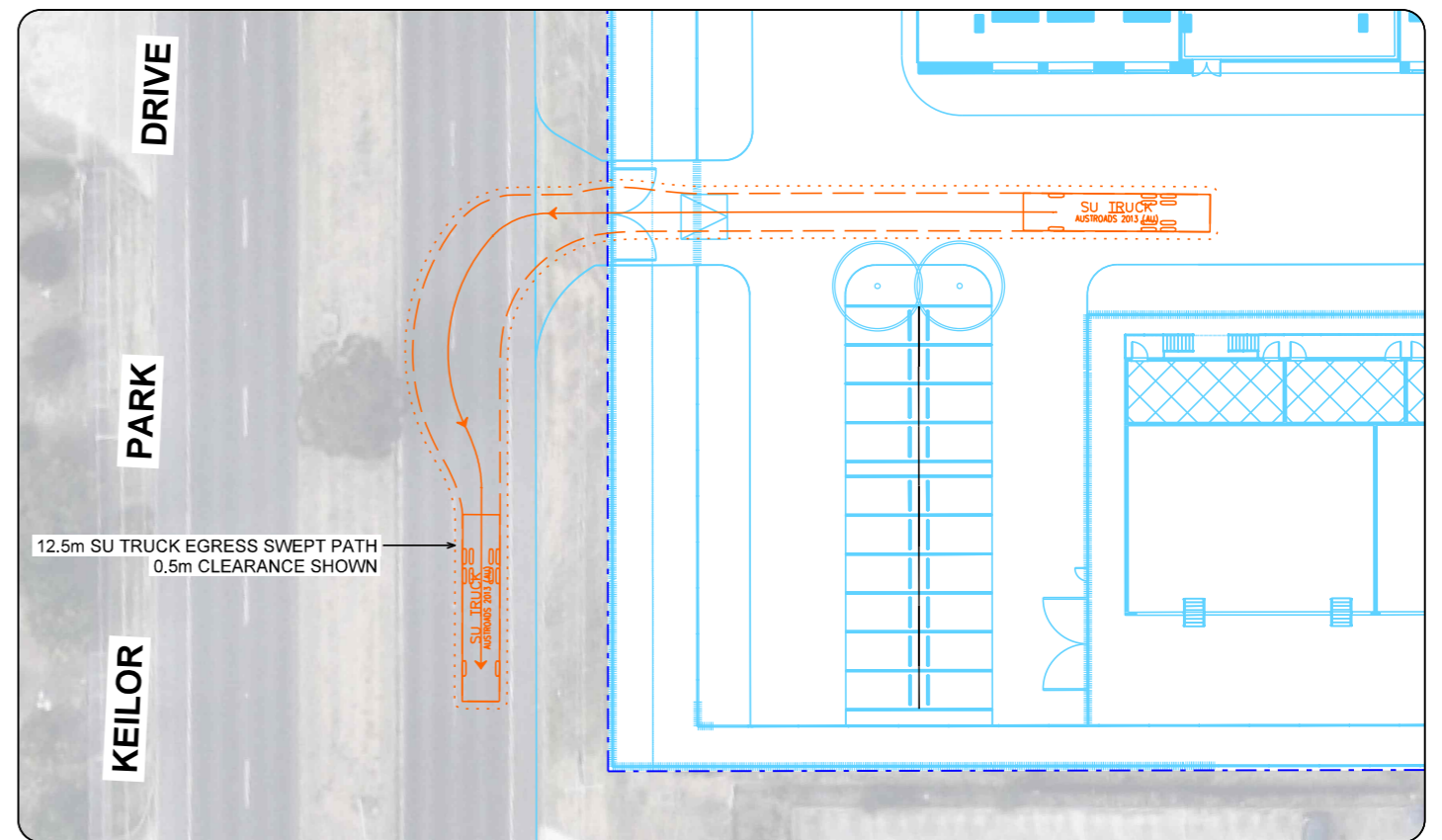
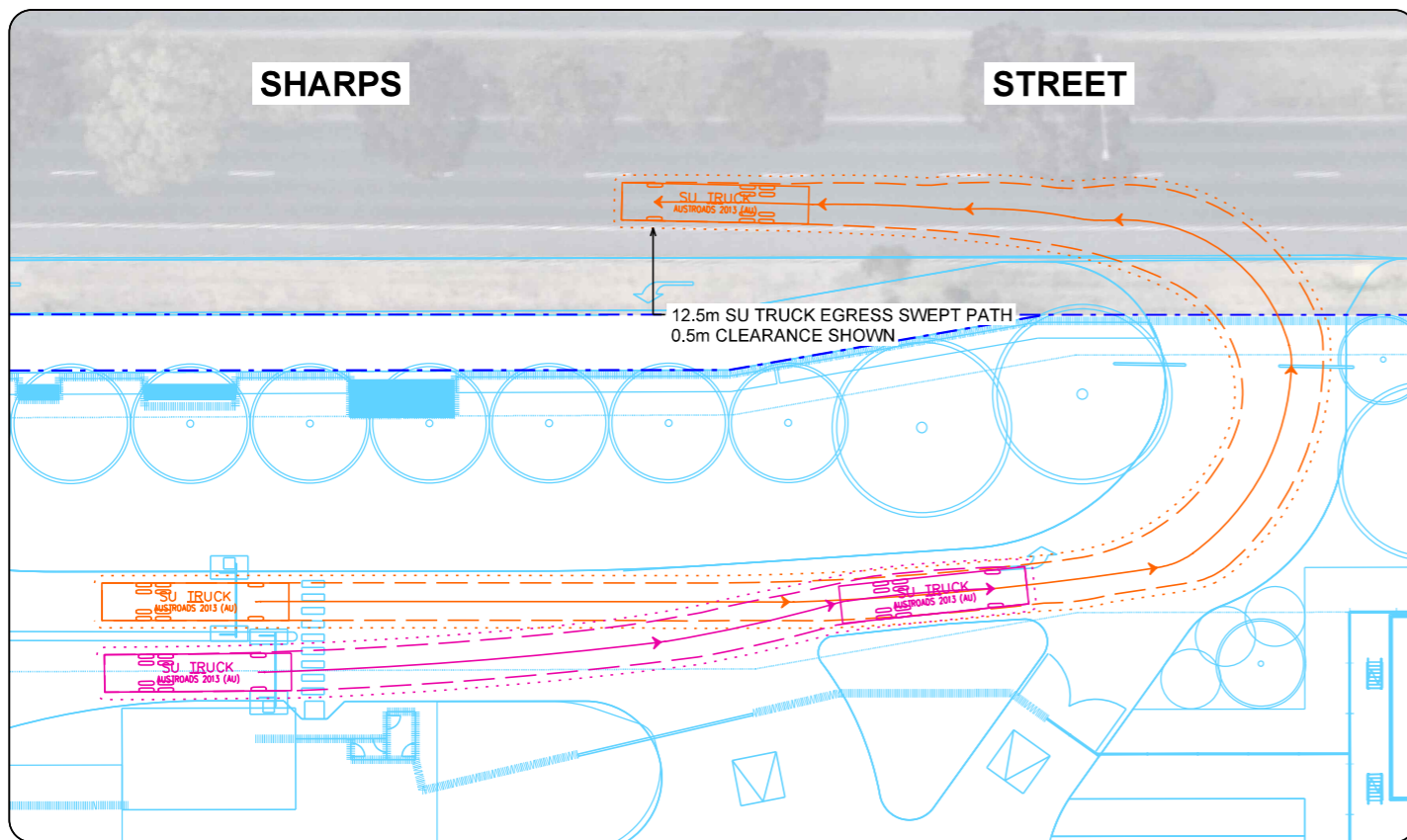
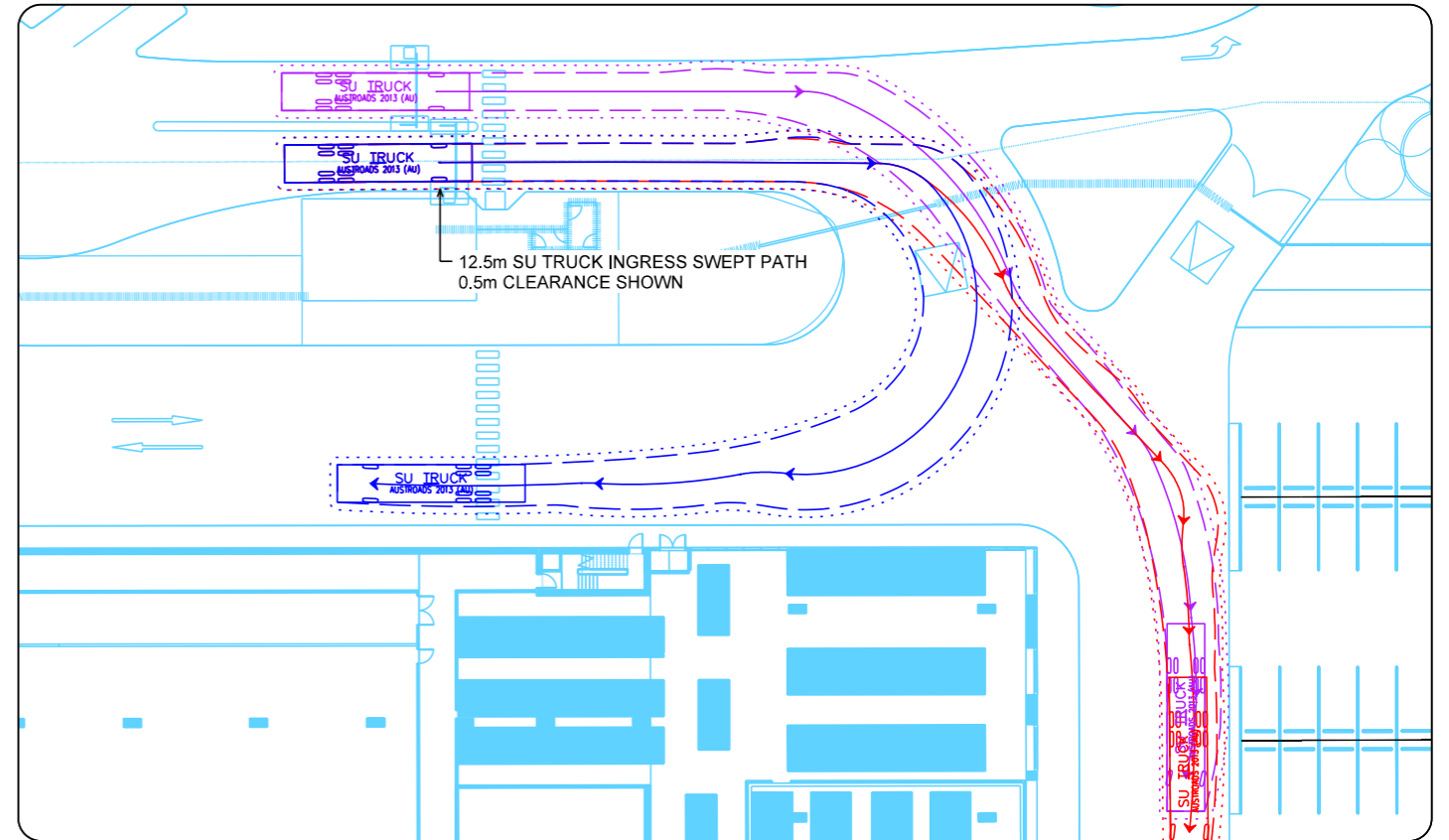
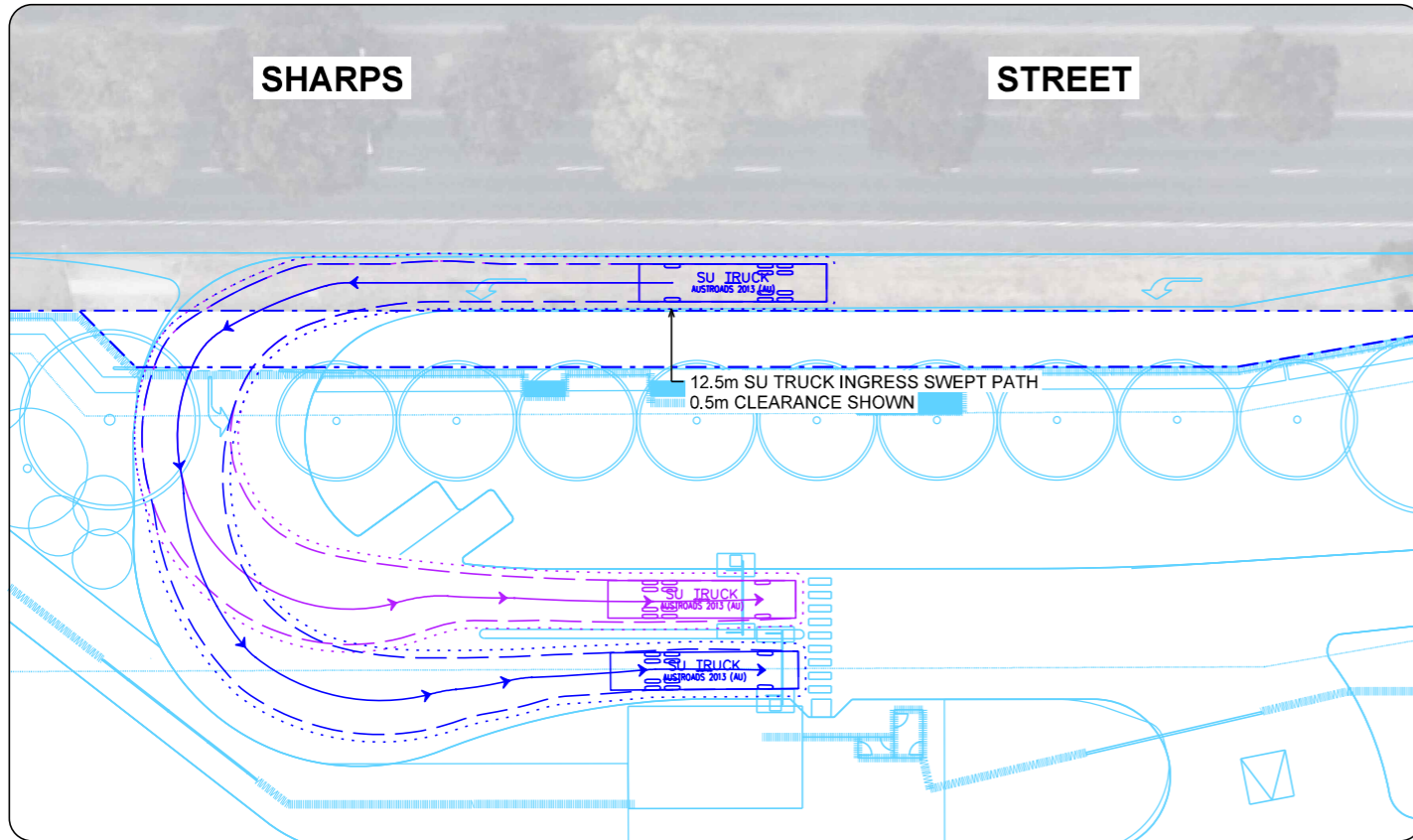
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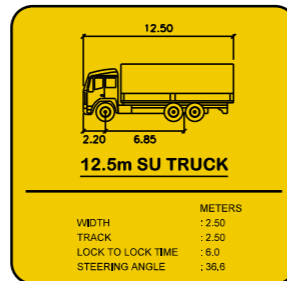
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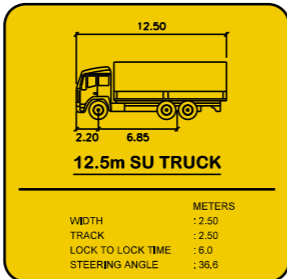
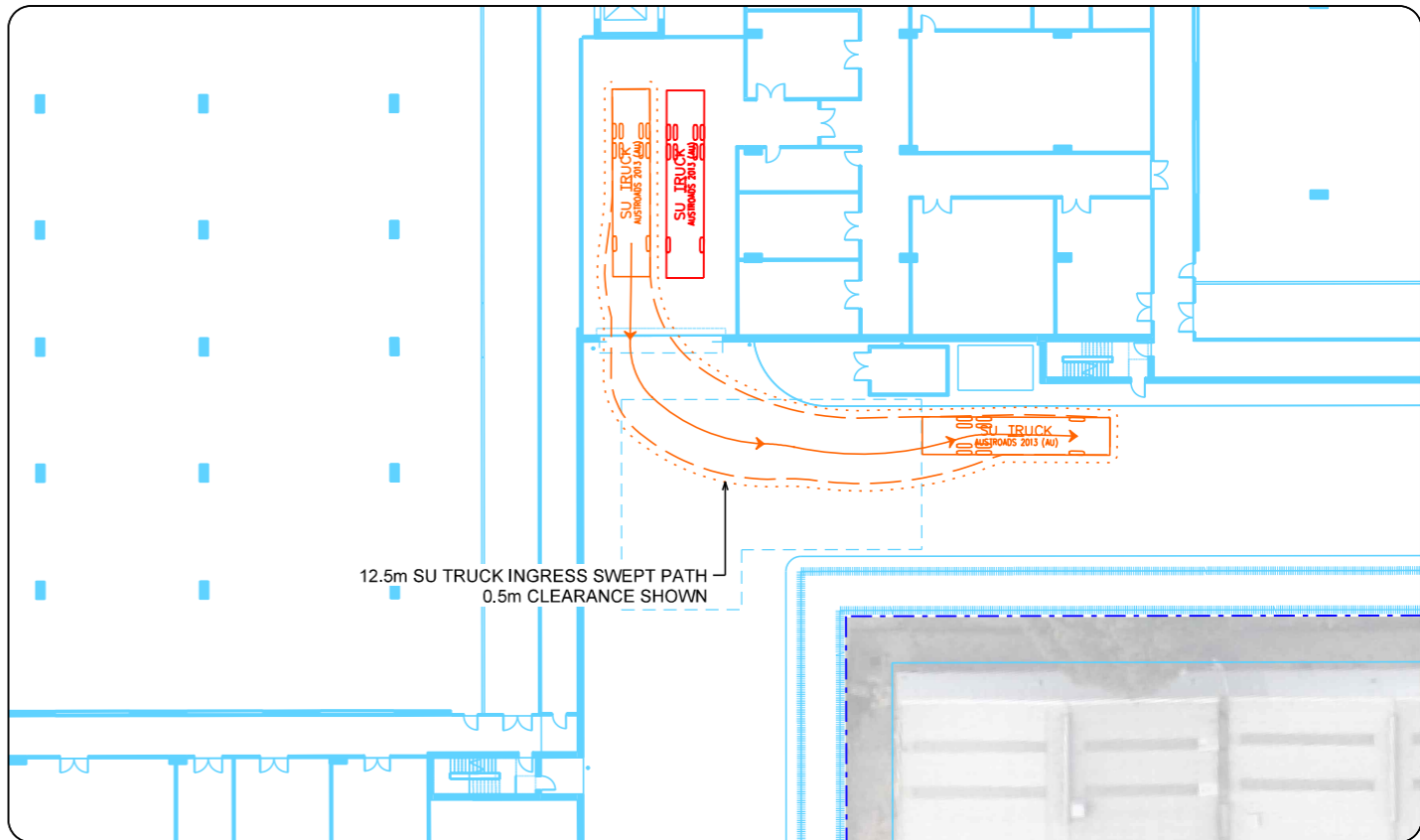
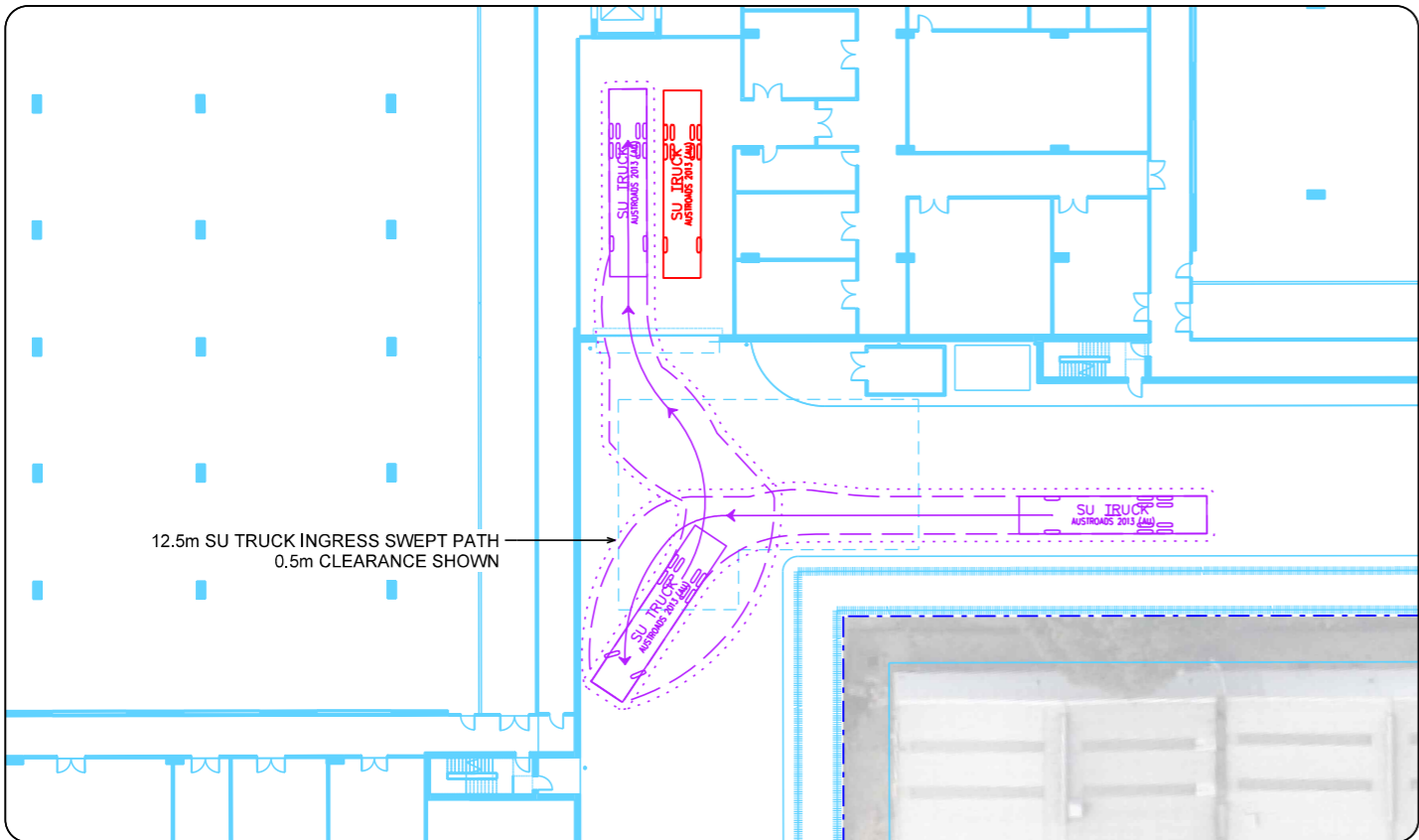
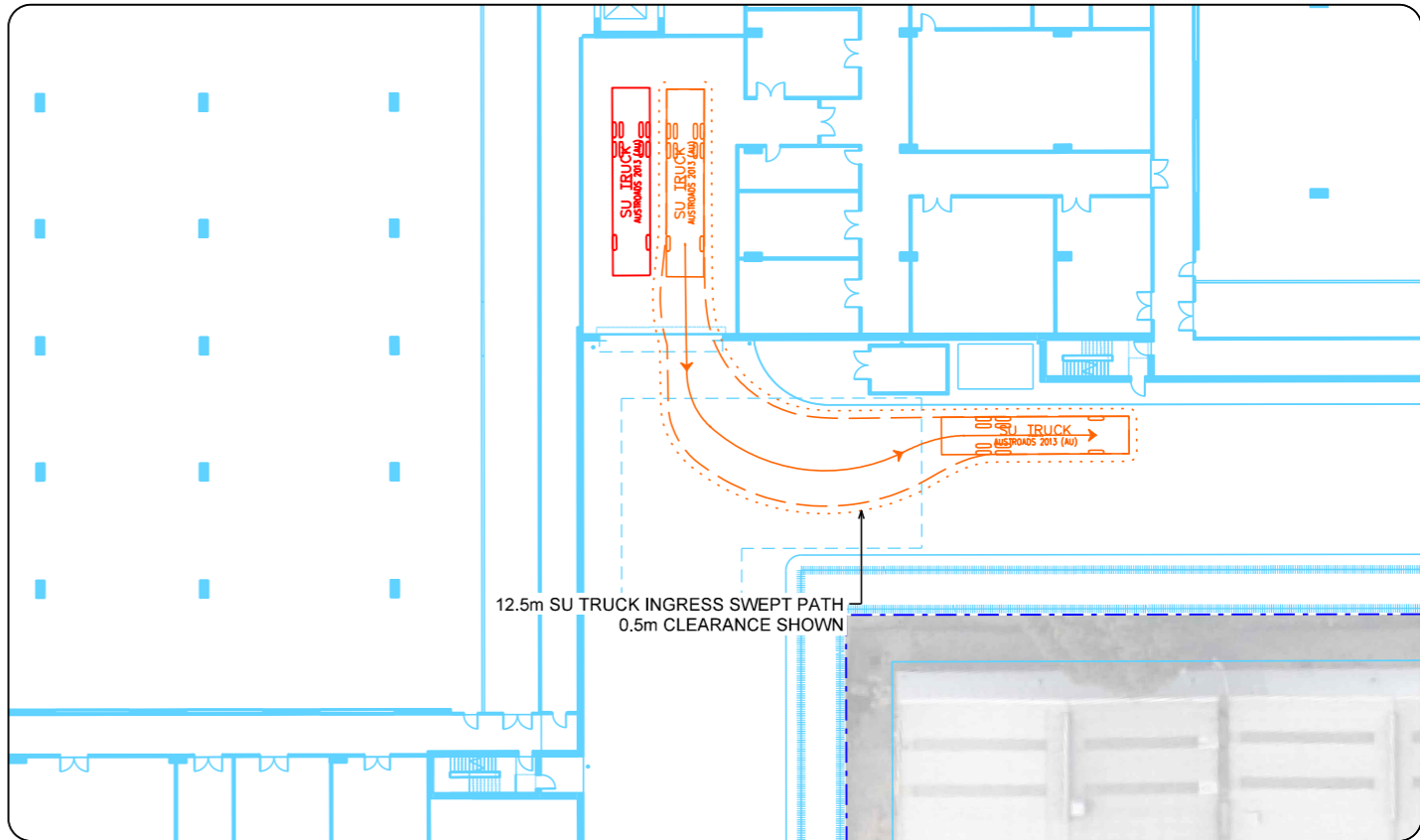
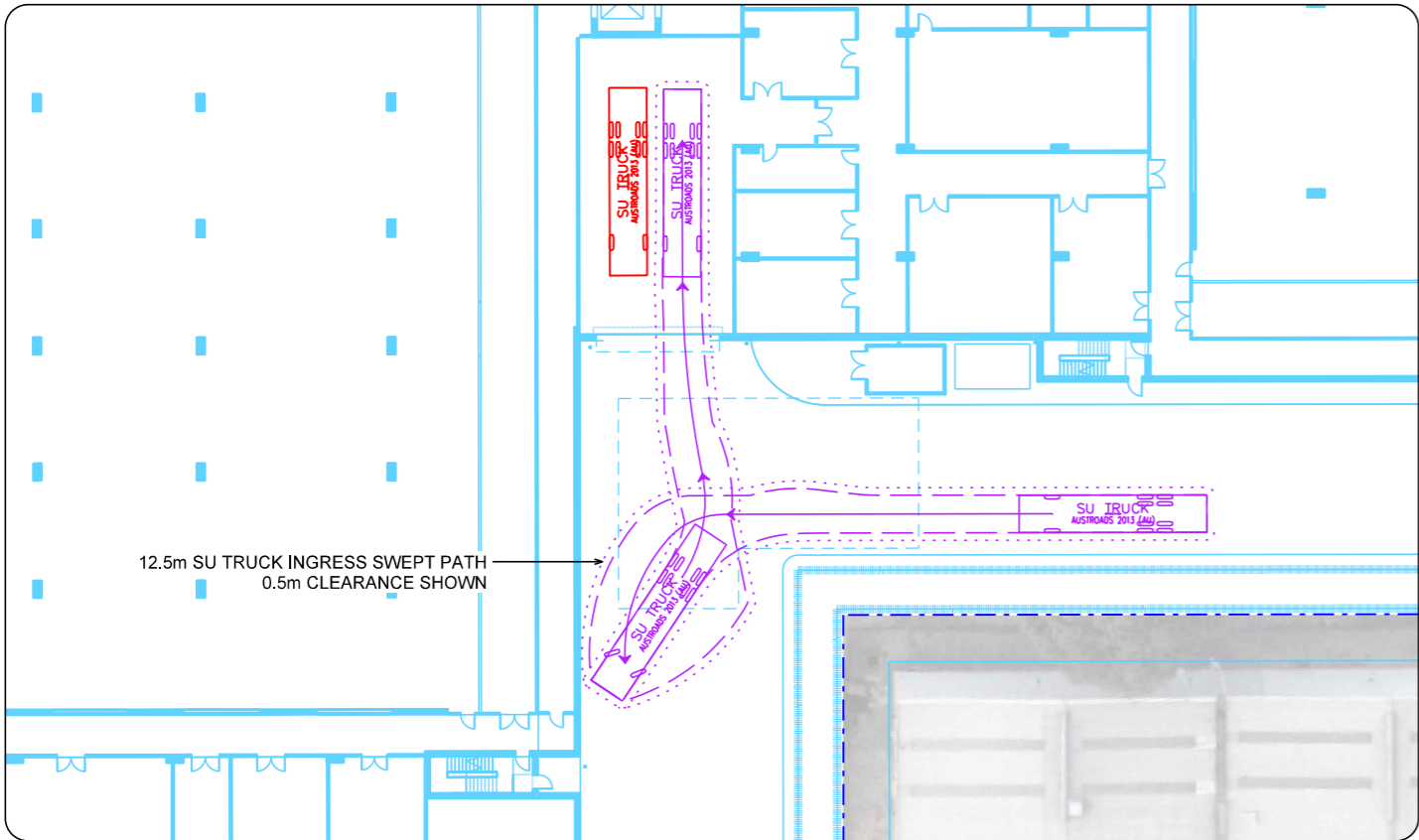


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Project PROPOSED DATA CENTRE EXPANSION 85 SHARPS ROAD, TULLAMARINE CITY OF HUME	Title TRAFFIC AND TRANSPORT ASSESSMENT SWEEP PATH ANALYSIS 12m SU TRUCK - DESIGN VEHICLE
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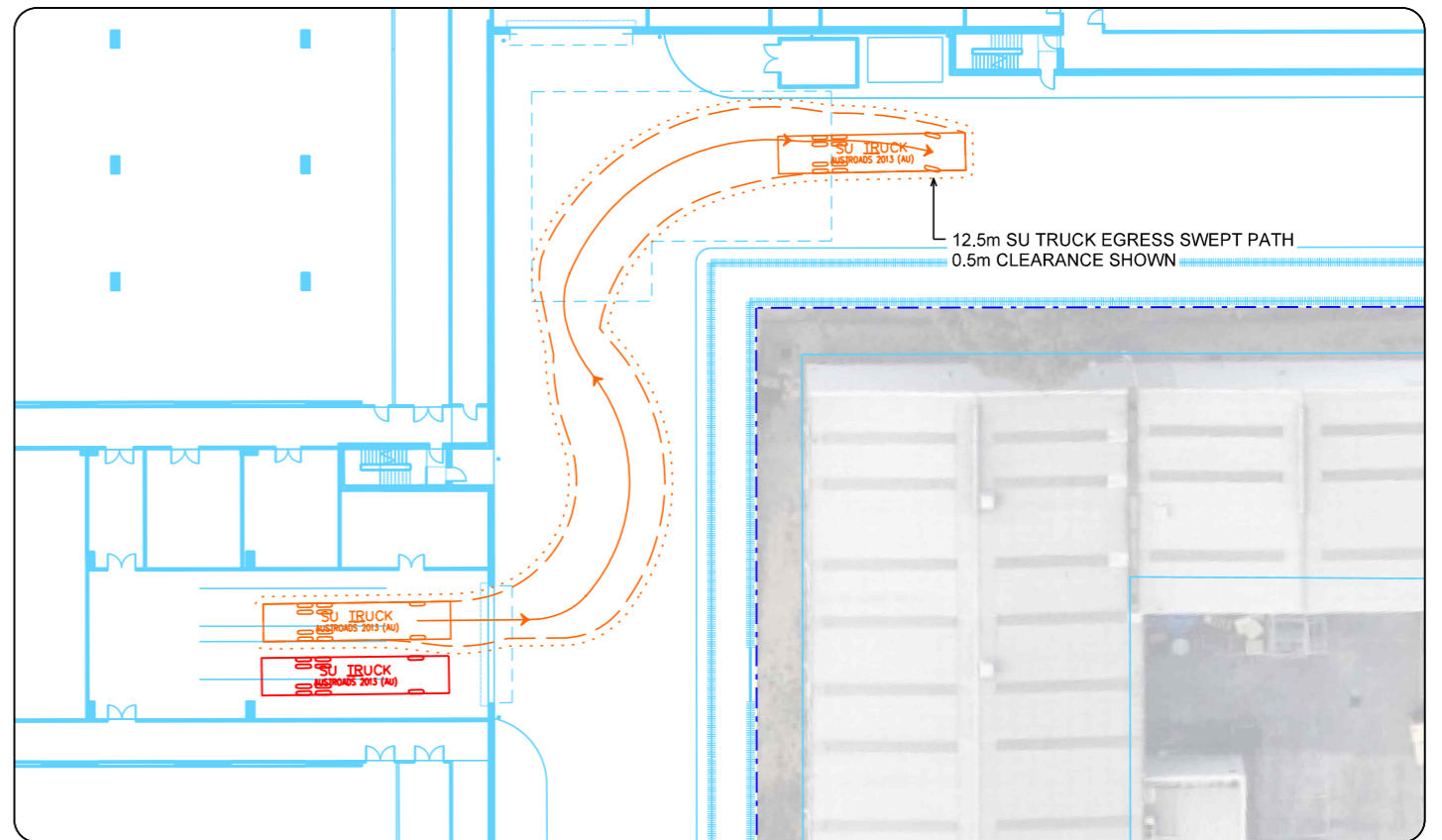
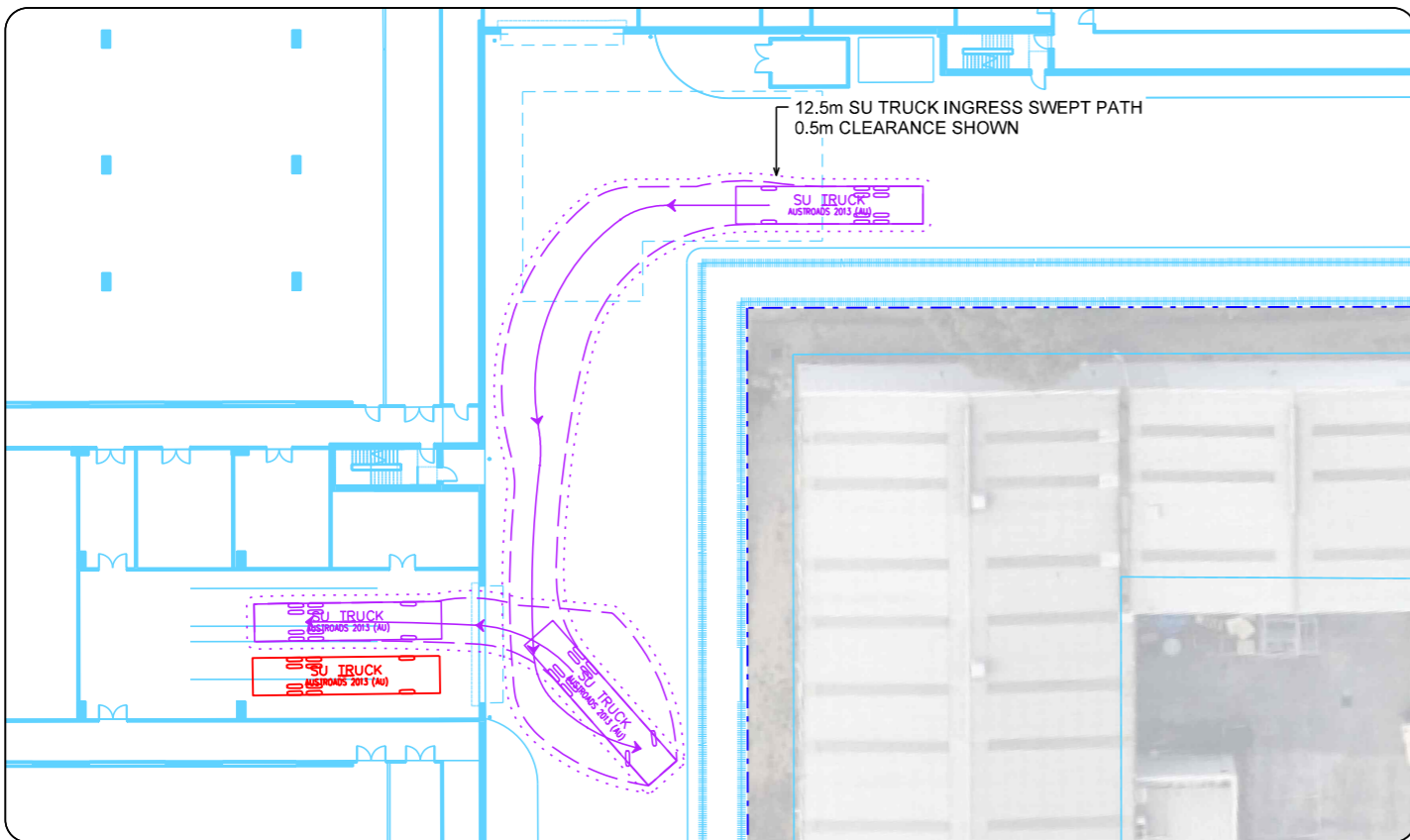
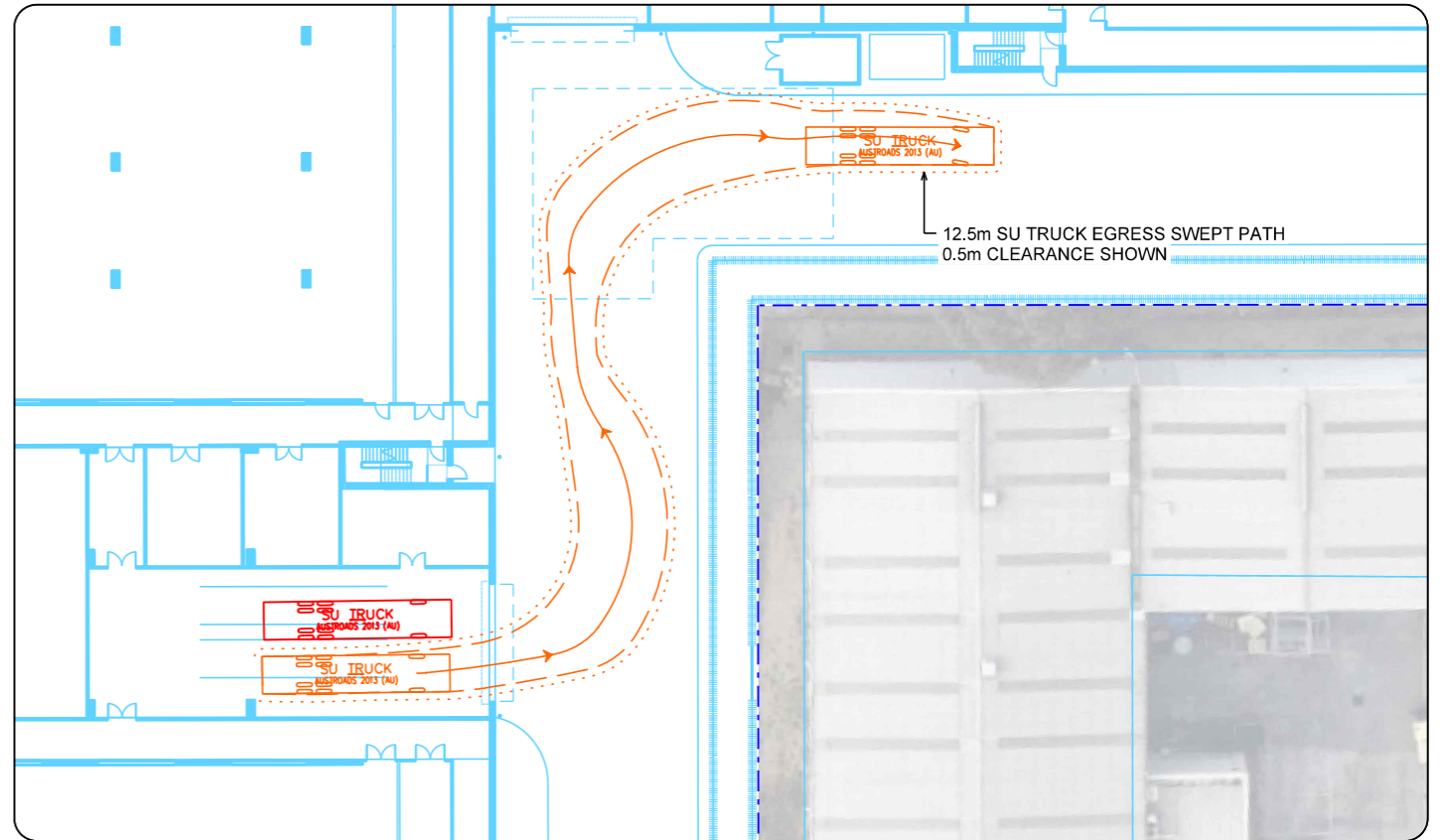
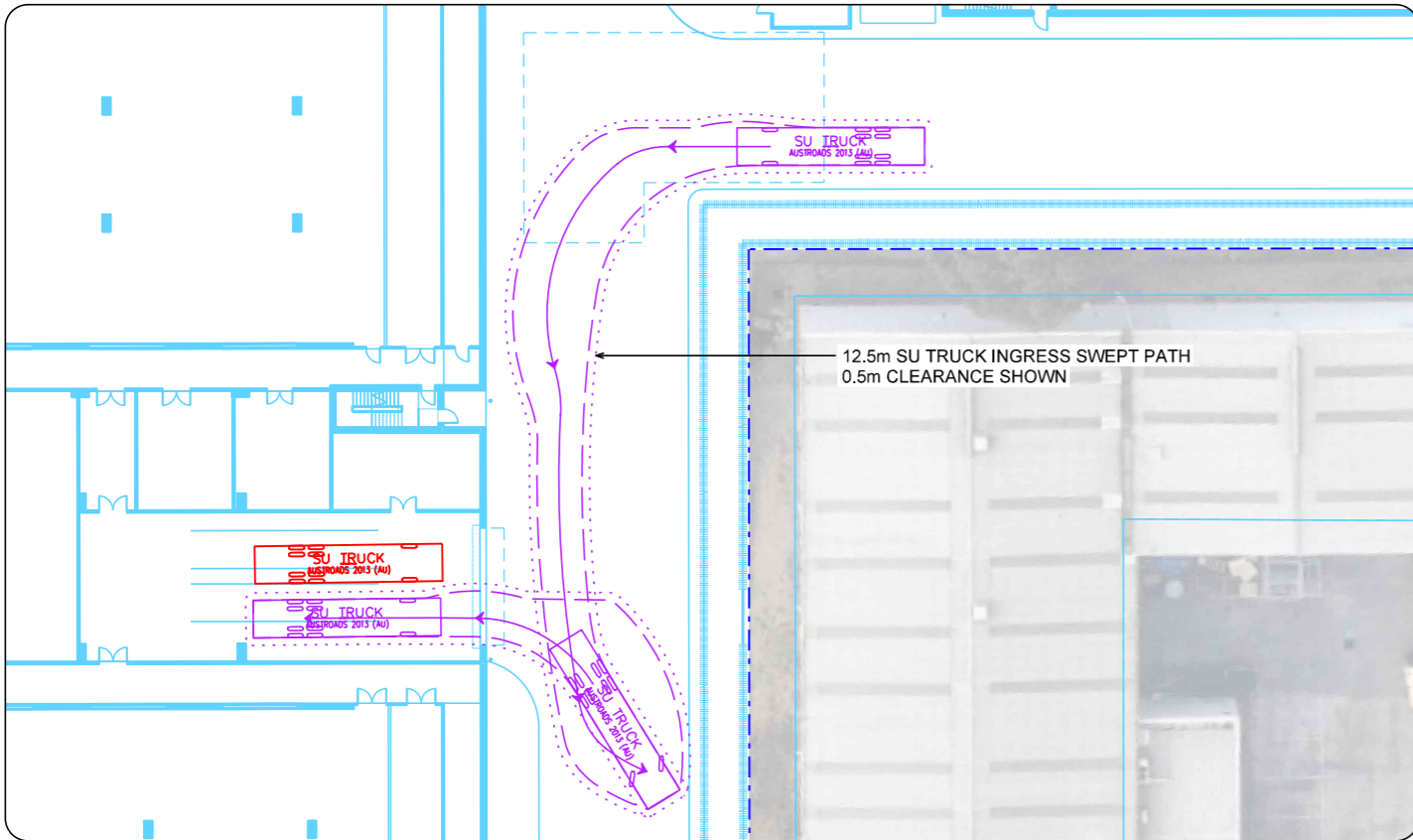
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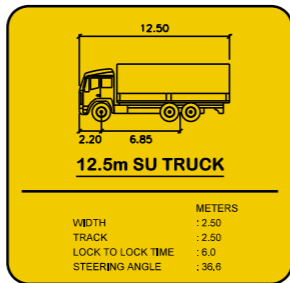
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Status PRELIMINARY	Revision C
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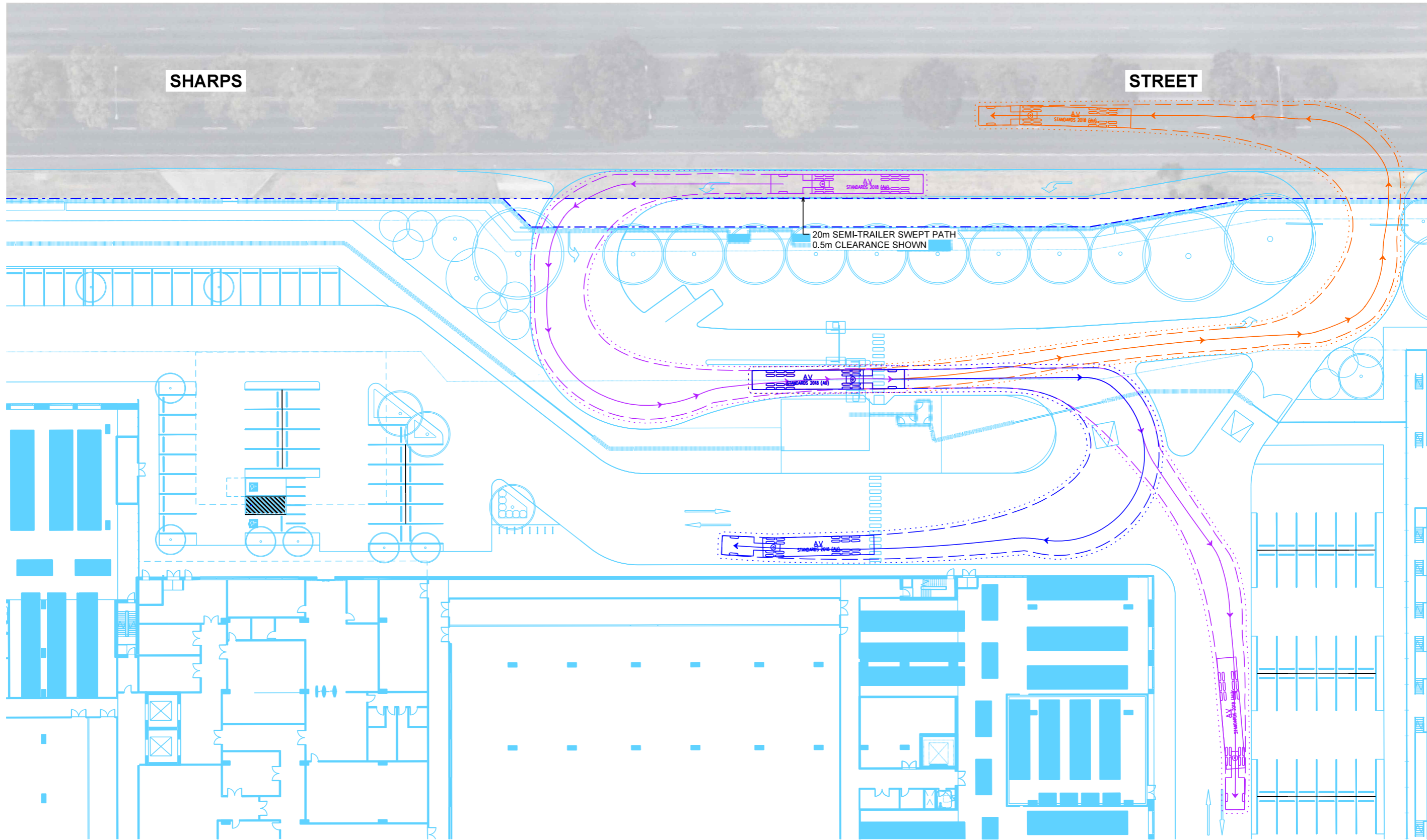


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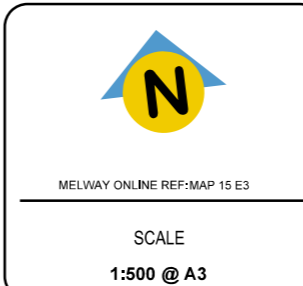
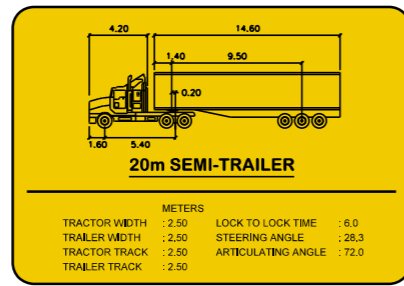
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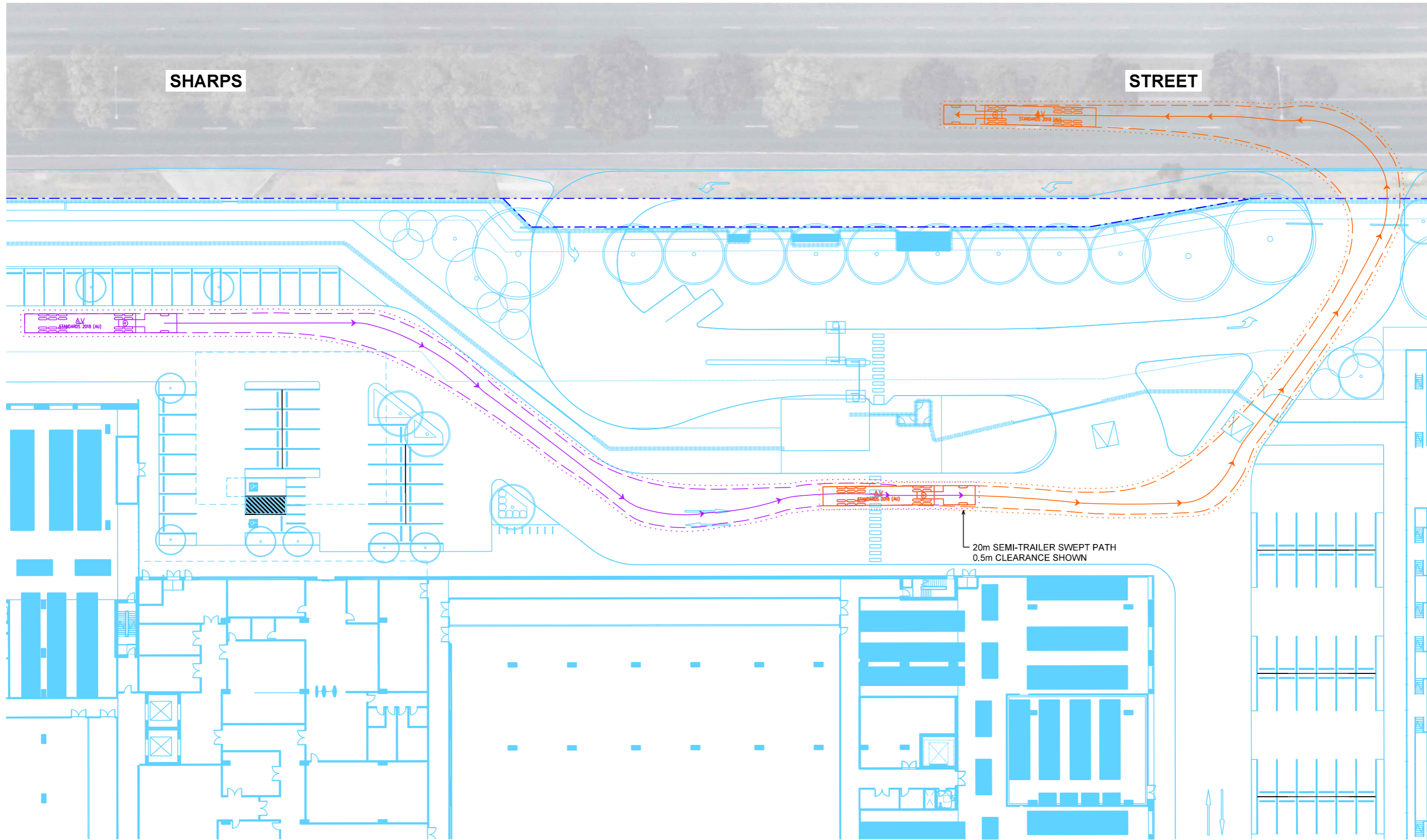
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Status PRELIMINARY	Revision C
Title TRAFFIC AND TRANSPORT ASSESSMENT SWEEP PATH ANALYSIS 12m SU TRUCK - DESIGN VEHICLE	Drawing Number IMP2407002 - DRG-02-06



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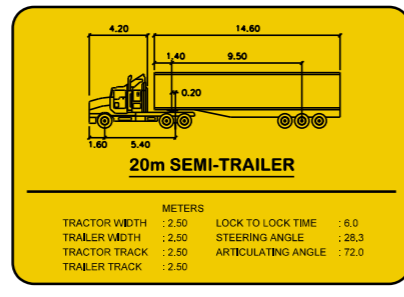


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Project PROPOSED DATA CENTRE EXPANSION 85 SHARPS ROAD, TULLAMARINE CITY OF HUME	Title TRAFFIC AND TRANSPORT ASSESSMENT SWEEP PATH ANALYSIS 20m SEMI-TRAILER - DESIGN VEHICLE
Status PRELIMINARY	Drawing Number IMP2407002 - DRG-02-07
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20m SEMI-TRAILER SWEEP PATH
0.5m CLEARANCE SHOWN

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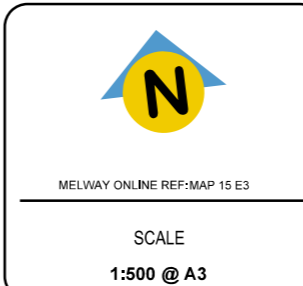
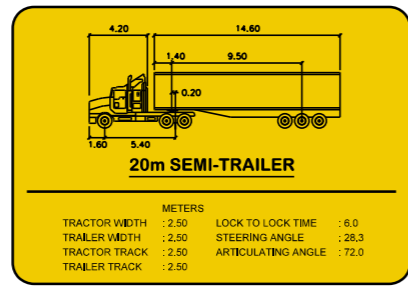
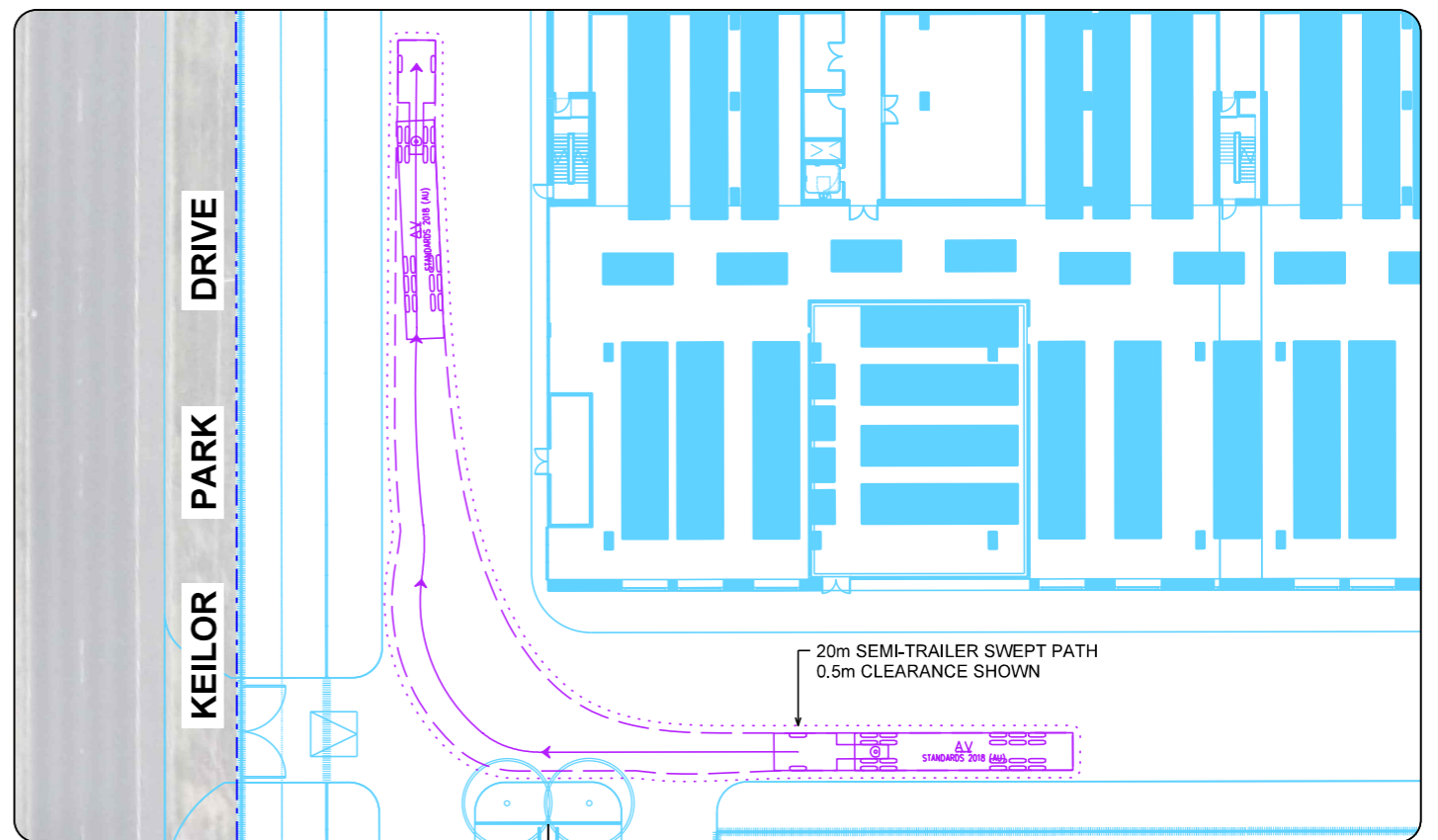
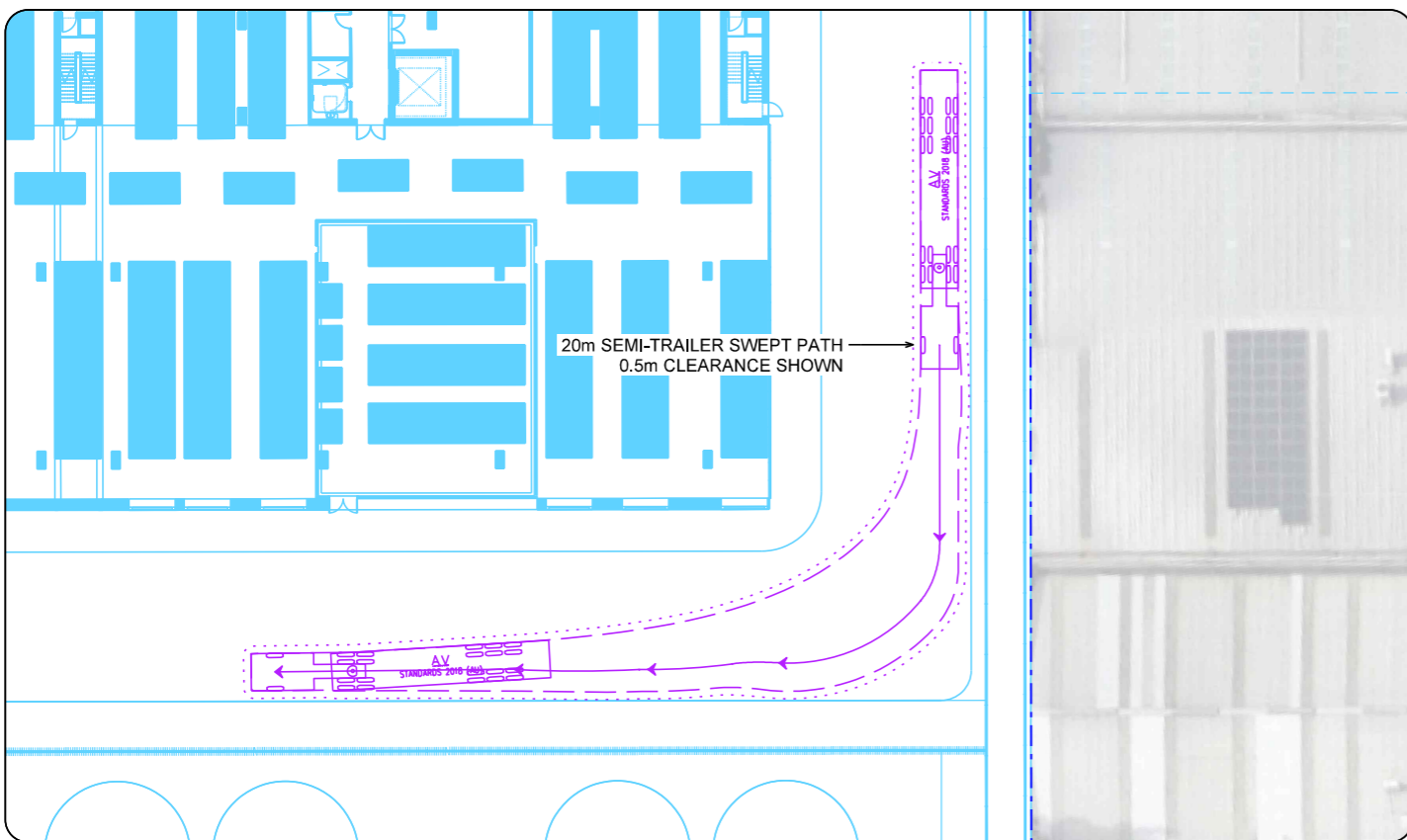
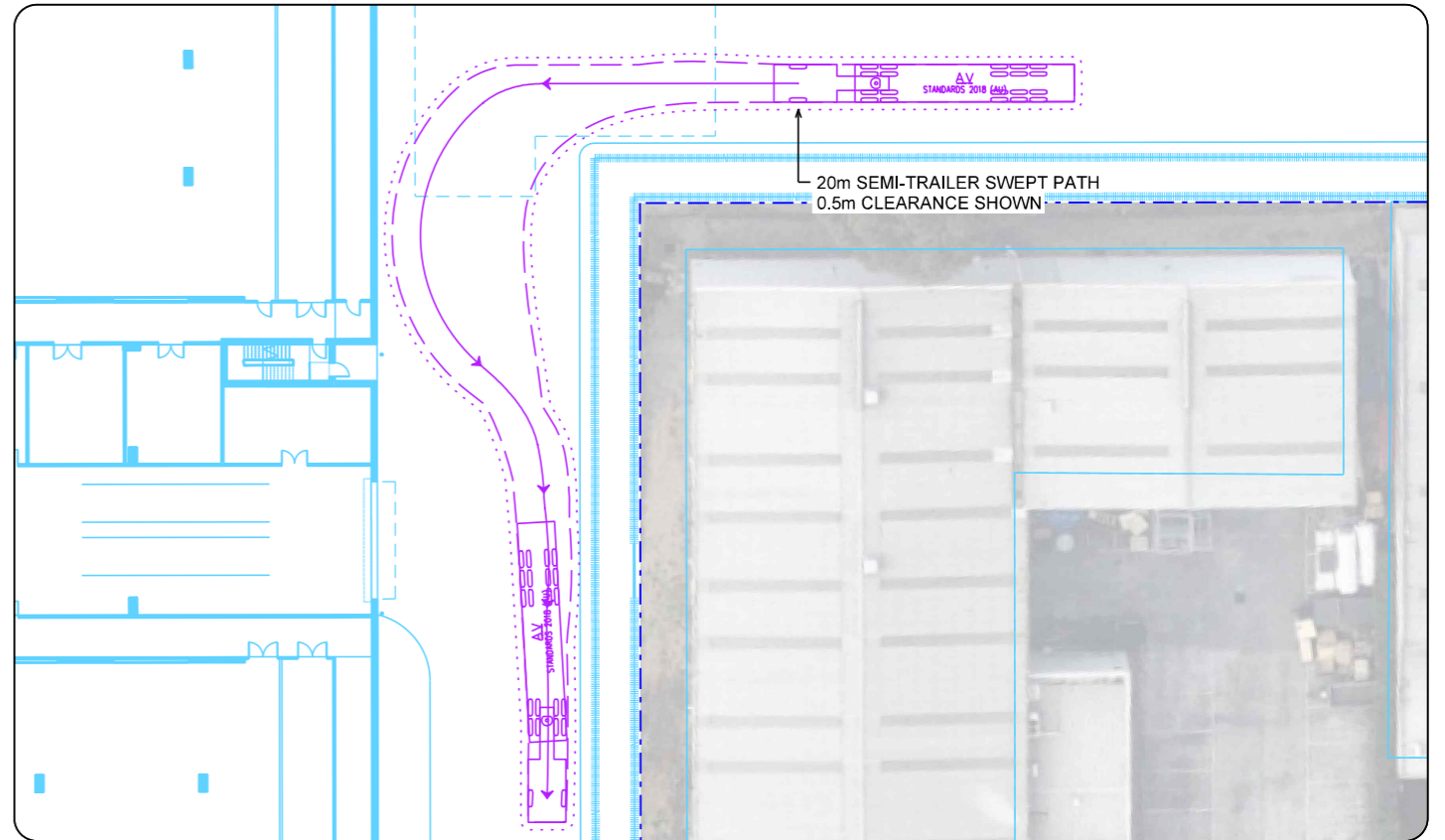
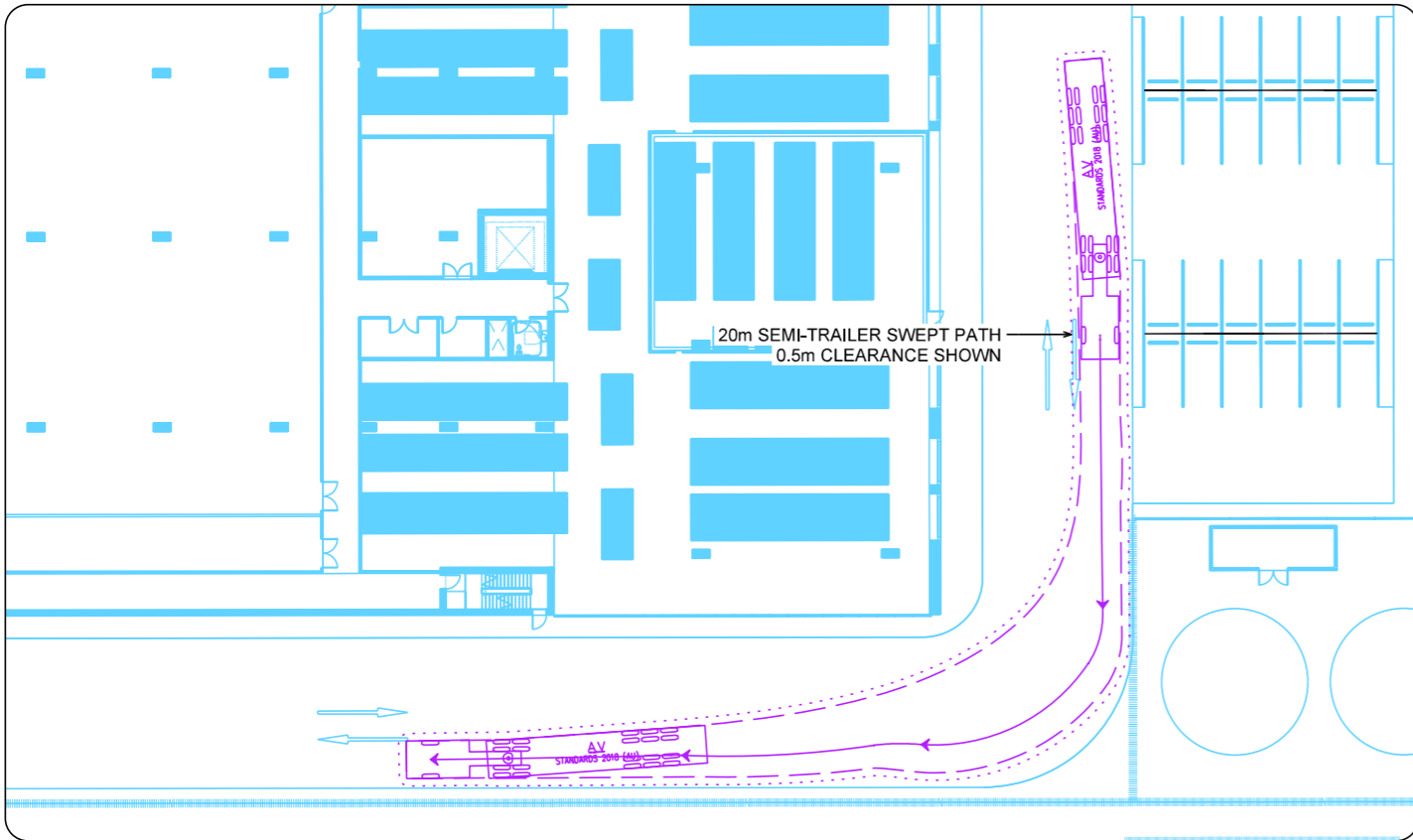
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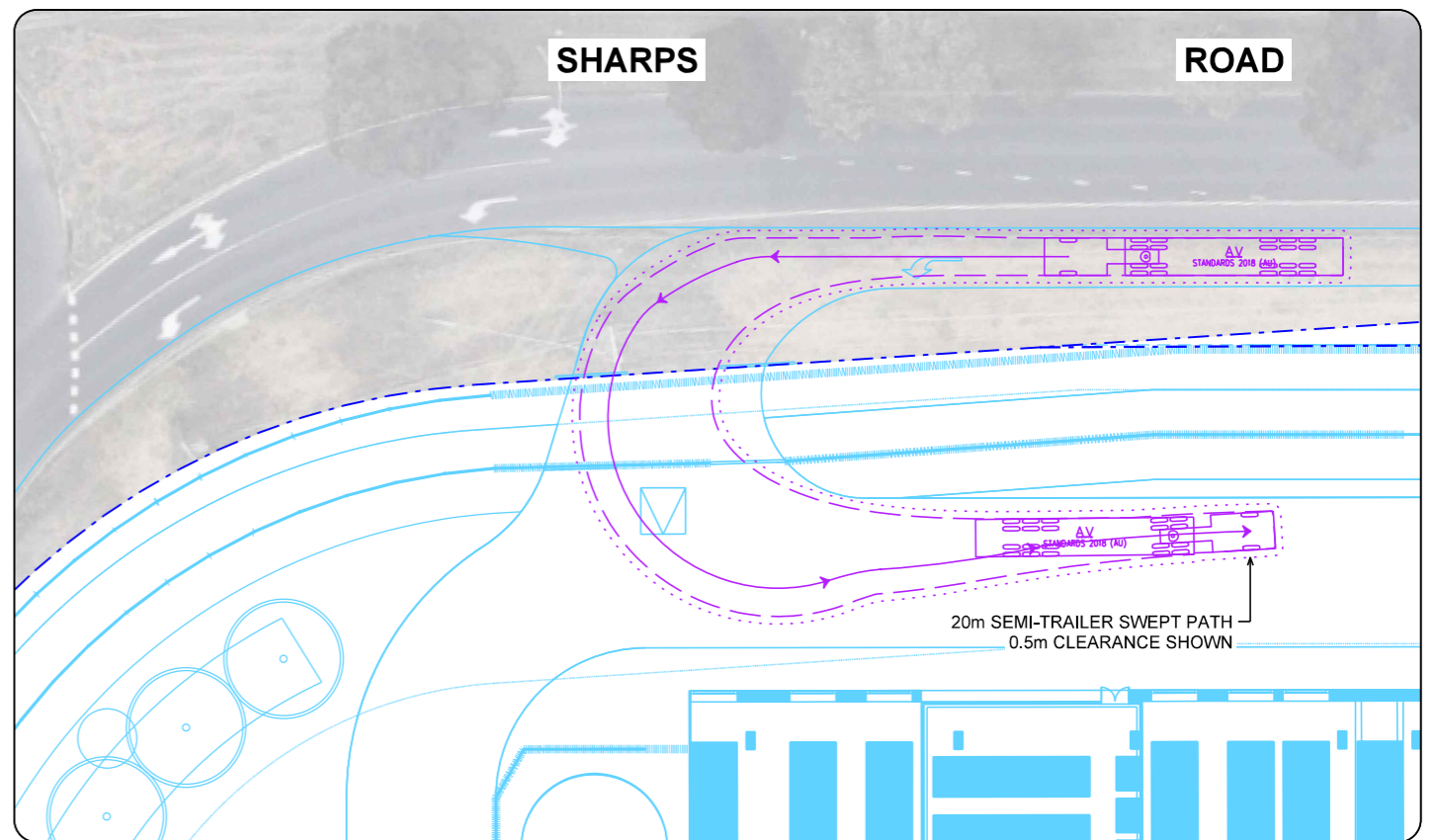
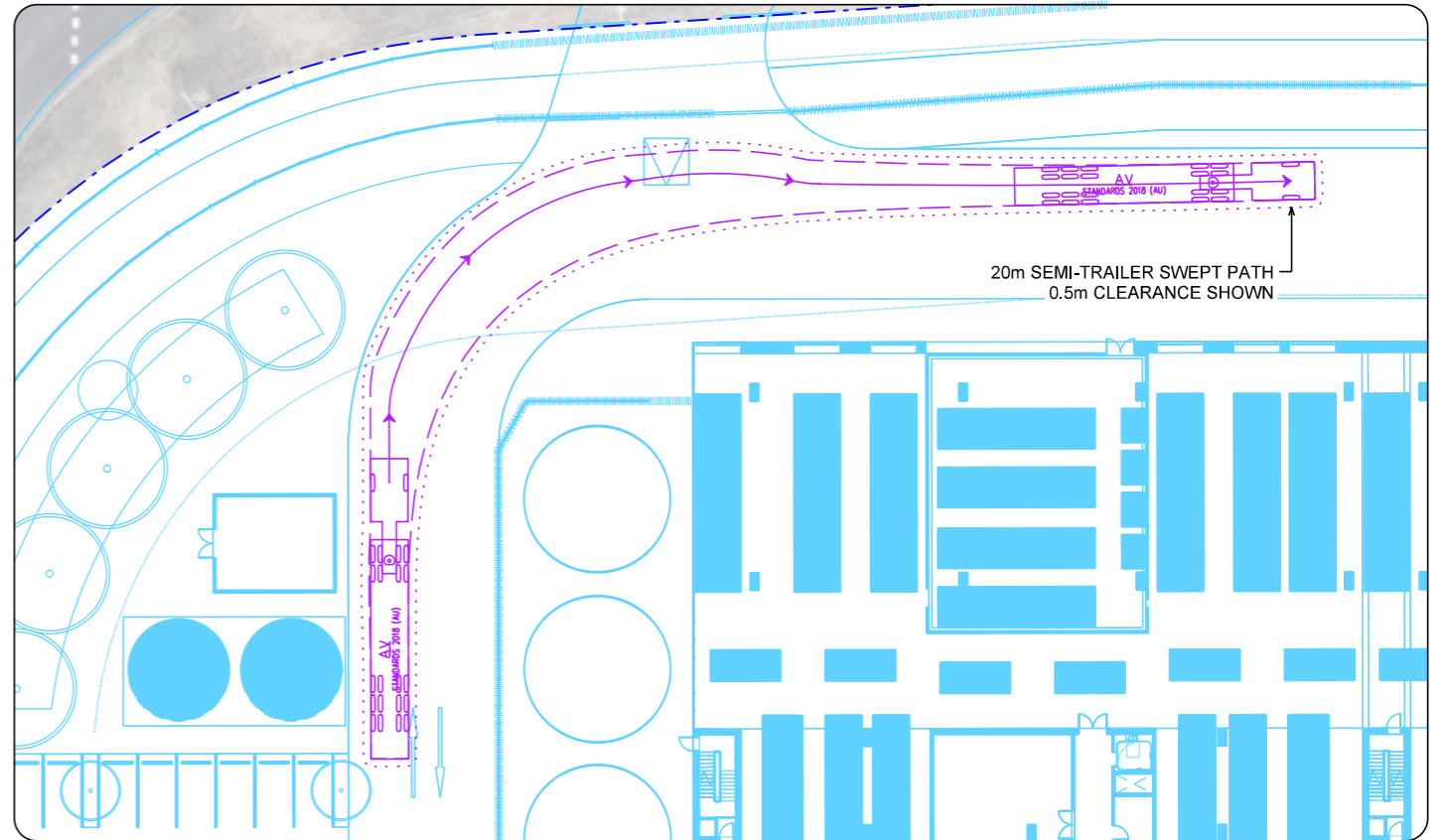
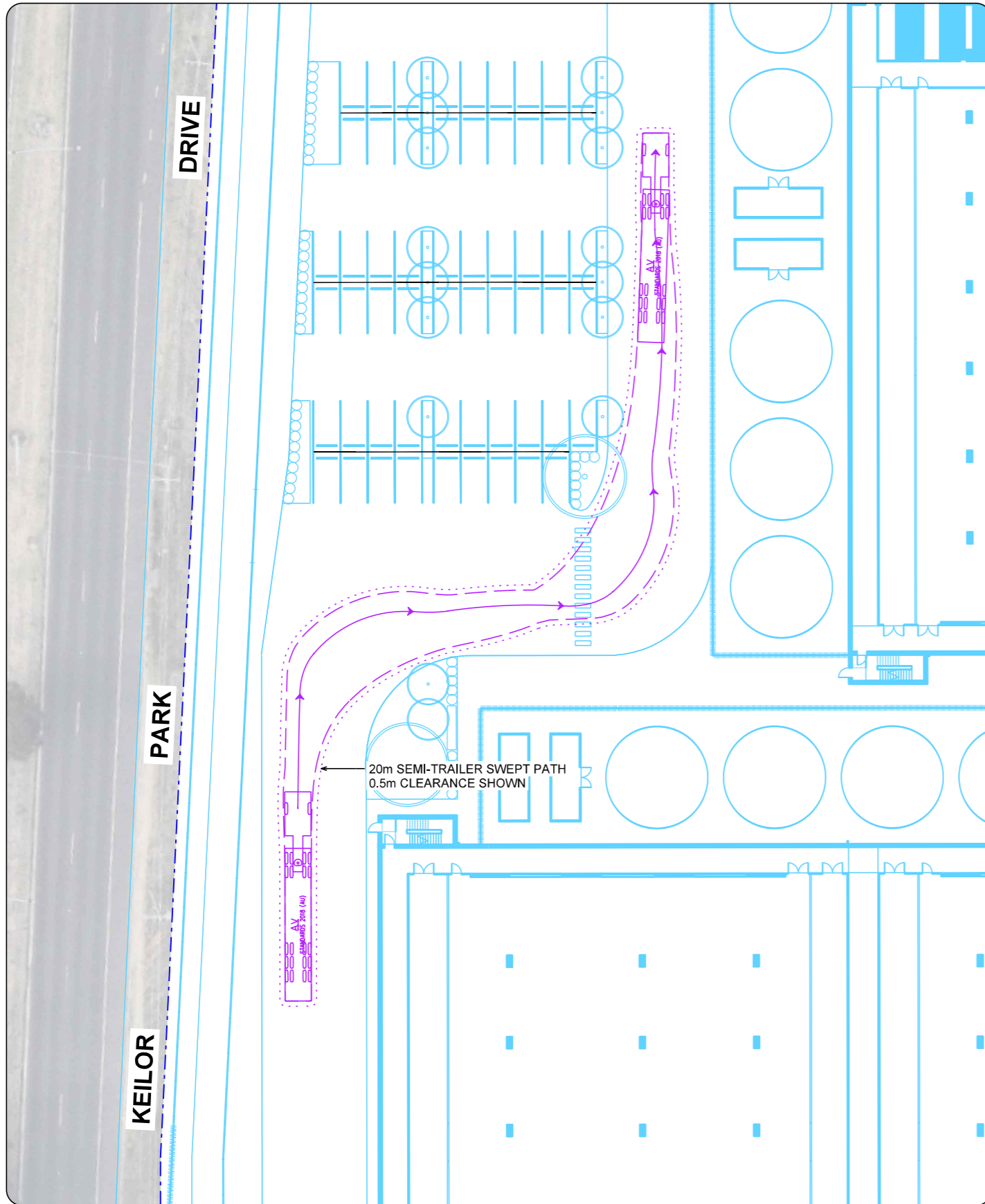
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Project PROPOSED DATA CENTRE EXPANSION 85 SHARPS ROAD, TULLAMARINE CITY OF HUME	Title TRAFFIC AND TRANSPORT ASSESSMENT SWEEP PATH ANALYSIS 20m SEMI-TRAILER - DESIGN VEHICLE
Status PRELIMINARY	Drawing Number IMP2407002 - DRG-02-08
	Revision C

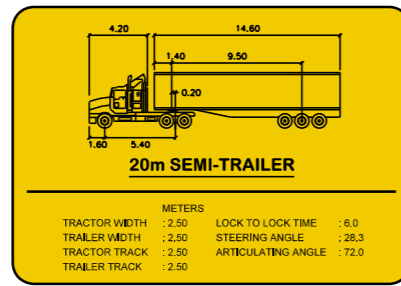


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Project PROPOSED DATA CENTRE EXPANSION 85 SHARPS ROAD, TULLAMARINE CITY OF HUME	Drawn / Approved SGM / SM
Status PRELIMINARY	Revision C
Title TRAFFIC AND TRANSPORT ASSESSMENT SWEEP PATH ANALYSIS 20m SEMI-TRAILER - DESIGN VEHICLE	
Drawing Number IMP2407002 - DRG-02-10	

