

**ATTACHMENT 11 - APPLICANT UPDATED TRAFFIC
MANAGEMENT PLAN**

August 2025

Final

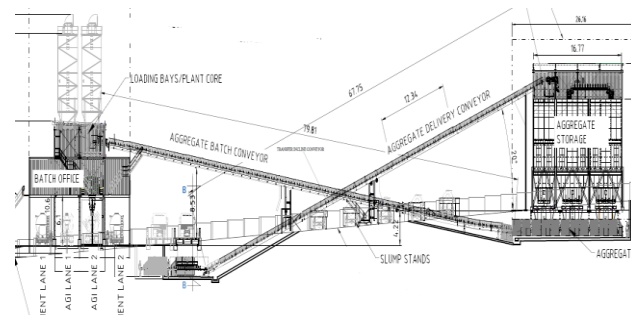
TOWN OF VICTORIA PARK
Received: 12/08/2025

Briggs Street, Carlisle

Prepared For:
Holcim (Australia) Pty Ltd



Transport Impact Statement Report



DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	9/05/2025	Draft Report	CS/MG	DNV	DNV
0	1	29/05/2025	Final Draft Report	MG	DNV	DNV
1	0	10/06/2025	Final Report	MG	DNV	DNV
1	1	13/06/2025	Final Report – Revised Drawing set	MG	DNV	DNV
1	2	18/06/2025	Final Report – minor edits	MG	DNV	DNV
1	3	19/06/2025	Final Report – Revised Drawing set	MG	DNV	DNV
1	4	08/08/2025	Final Report – minor edits	MG	DNV	DNV

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Donald Veal Consultants Pty Ltd

August 2025

1. INTRODUCTION

1.1 BACKGROUND

Holcim Concrete Australia (Holcim) is investigating the option of upgrading its Welshpool batching plant located in Carlisle within the Town of Victoria Park to handle an increase in production capacity from 200,000m³ to 300,000m³. Holcim has appointed Donald Veal Consultants (DVC) to prepare a Transport Impact Statement (TIS) report to support an application for the redevelopment of the site.

1.2 SCOPE OF THIS REPORT

This TIS report has been prepared in accordance with the Western Australian Planning Commission's (WAPC's) *Transport Impact Assessment Guidelines for Developments Volume 4 Individual Developments* (August 2016). Its intent is to provide the approving authority with sufficient traffic information to confirm that the proponent has adequately considered the traffic aspects of the development and that it would not have an adverse traffic impact on the surrounding area.

2. EXISTING SITE CONDITIONS

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2.1 LOCATION

The site location is shown in **Figures 2.1** and **2.2**, in a metropolitan and local context, respectively. It lies between Cohn Street and Briggs Street and is bounded by a range of other industrial uses on the south, east and west sides. To the north (Cohn Street) is residential development.

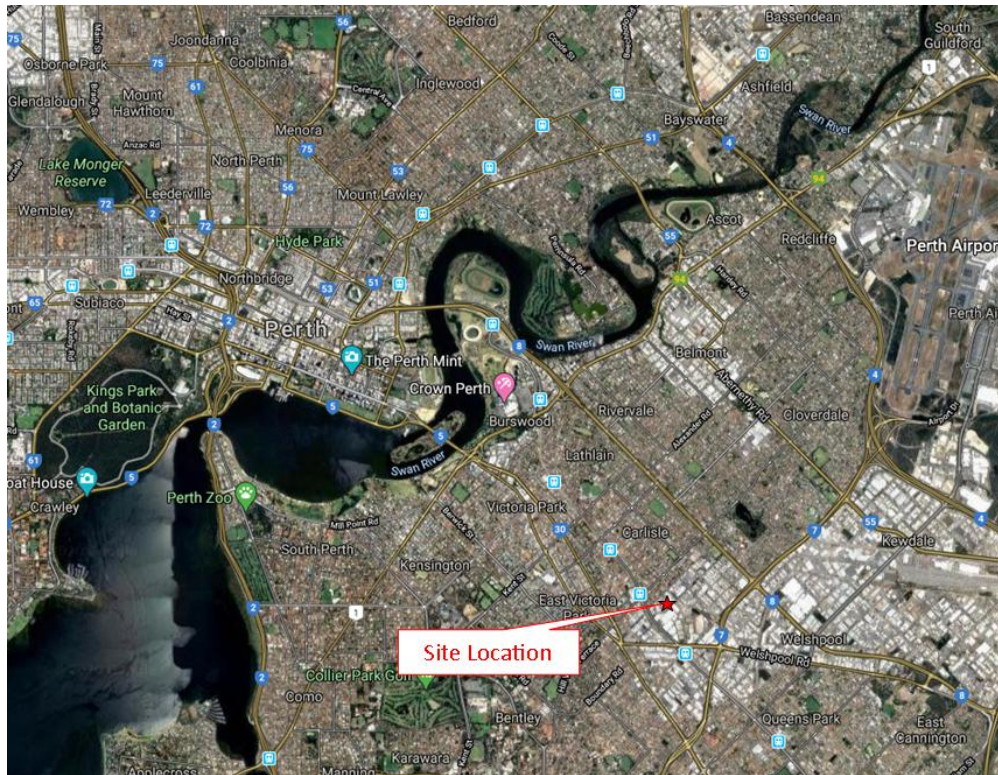


Figure 2.1: Site Location in the Metropolitan Context

Source: Google Maps

Client: Holcim (Australia) Pty Ltd

Project: Briggs Street, Carlisle

**Figure 2.2: Site Location in the Local Context***Source: MetroMap*

2.2 CURRENT LAND USES

The site is owned and operated as a Concrete Plant by Holcim. Currently, the site is approved for producing 200,000 m³ of concrete per annum.

2.3 EXISTING ACCESS

Current access to the site is provided by a single crossover onto Cohn Street and another onto Briggs Street.

2.4 ADJACENT ROAD NETWORK

Briggs Street, adjacent to the southern side of the site, is classified as a Local Distributor according to the Main Roads Western Australia (MRWA) Road Hierarchy (see **Figure 2.3**). East of Planet Street, Briggs Street changes classification to an access road. The road pavement adjacent to the site is 8m wide within a 22m road reserve. It intersects with Orrong Road to the east as a full 4-way intersection with stop signs on the minor legs (Briggs Street). At its western end Briggs Street intersects Rutland Avenue as a T-intersection.

Cohn Street to the north is classified as an access road in the MRWA Road Hierarchy. The road pavement is 8m wide in a road reserve of 20m. At the eastern end it intersects with Orrong Road as a T-intersection with only left-in and left-out turning movements permitted at Cohn Street. At the western end it intersects as a T-intersection with Rutland Avenue. Rutland Avenue runs parallel to and along the eastern side of the Armadale Line railway.

Client: Holcim (Australia) Pty Ltd

Project: Briggs Street, Carlisle



Figure 2.3: MRWA Functional Road Hierarchy

Source: MRWA

2.5 RESTRICTED ACCESS VEHICLE NETWORK

All roads in the area adjacent to the site are included in the MRWA RAV4 network as shown in **Figure 2.4**. These roads are also included in the Tri Drive Network Level 1. DVC understands that Holcim delivery trucks are mainly RAV1 and RAV2. Occasionally RAV3 and RAV4 combinations are used for long distance haulage of materials from Esperance, Carnarvon or Geraldton.

Client: Holcim (Australia) Pty Ltd

Project: Briggs Street, Carlisle

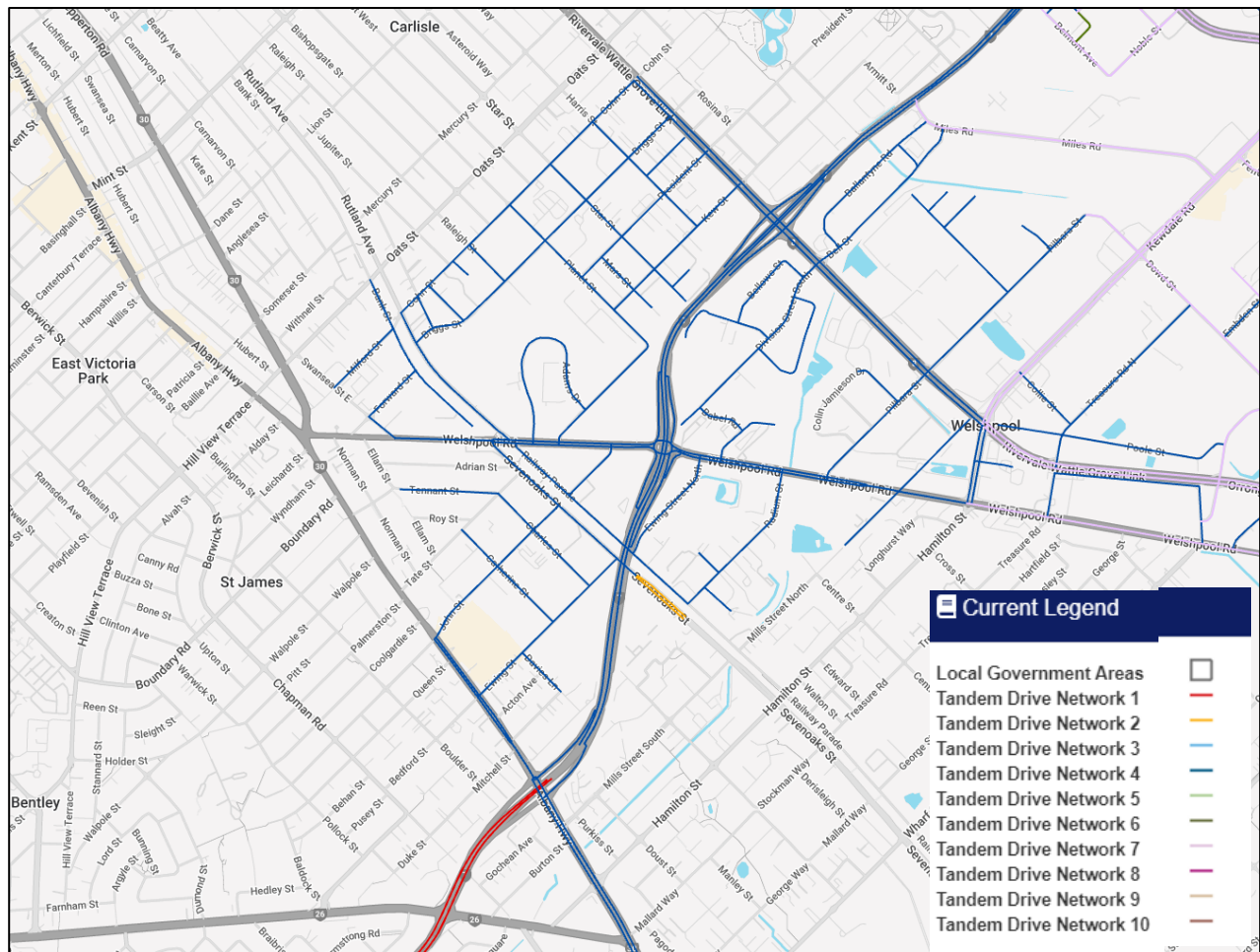


Figure 2.4: MRWA RAV Network

Source: MRWA

2.6 EXISTING TRAFFIC VOLUMES

Traffic volume information is available from the MRWA Traffic Map. Relevant traffic volumes are summarized in **Table 2.1**.

Table 2.1: Existing Traffic Volumes

Source: MRWA Traffic Map

Road	Location	Average Weekday Traffic (vpd)	% Heavy Vehicles
Orrong Rd	North of Leach Hwy	52,963	10.2%
Leach Hwy	East of Orrong Rd	82,998	10.1%
Welshpool Rd	West of Leach Hwy	19,353	17.8%
Briggs St	South of Star St	2,090	26.7%
Cohn St	South of Star St	2,140	13.0%

2.7 CRASH HISTORY

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The crash history along Briggs Street and Cohn Street between Rutland Road and Orrong Road has been investigated for the 5-year assessment period between 2020 and 2024. **Figure 2.5** summarises the crash history in the vicinity of the Holcim site.

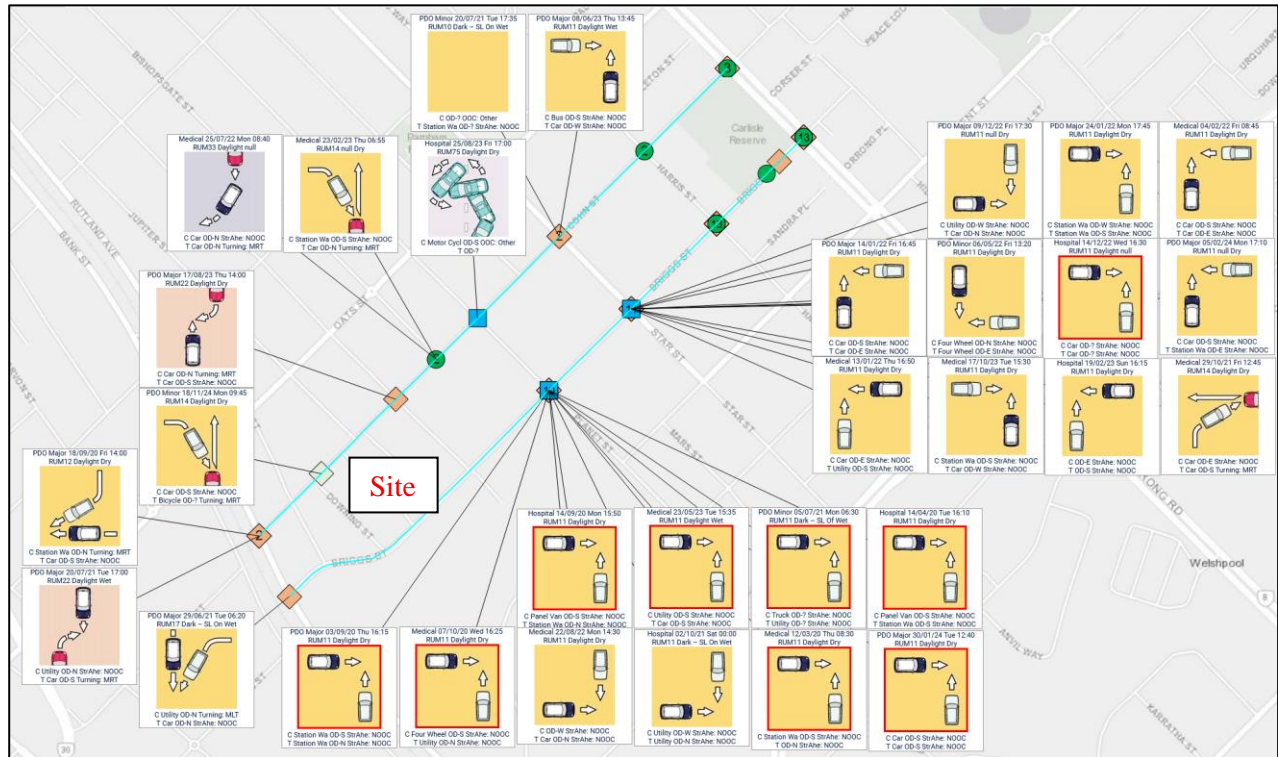


Figure 2.5: Crash results

Source: MRWA CrashMap

In total, there were 50 recorded crashes along Briggs Street and 14 crashes along Cohn Street during this 5-year period. Most of the crashes (32) on Briggs Street occurred at intersections with the remainder occurring midblock. The Orrong Road intersection experienced 13 crashes, Harris Street 13 crashes, Star Street recorded 11 crashes and Planet Street intersection experienced 10 crashes. There were five crashes requiring hospitalisation, 21 required medical attention, 3 minor property damage crashes and 21 major property damage crashes. The crashes at Star Street may be indicative of visibility issues as most were right-angle crashes.

Of the 14 crashes on Cohn Street, one occurred midblock and the rest at intersections. There were 3 recorded crashes at its intersection with Orrong Road. In terms of severity, these 14 crashes comprised one hospitalisation crash, five required medical attention, two minor property damage crashes and 6 major property damage crashes.

The patterns and frequency of crashes do not point to any significant issues with safety in the vicinity of the Holcim site.

2.8 PLANNED CHANGES TO THE ROAD NETWORK

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DVC has reviewed the available information on the MRWA website pertaining to new projects in the surrounding area. Two major projects were identified.

The Victoria Park-Canning Level Crossing Removal Project is Perth's first major elevated rail. Key features of the project include:

- Construction of five new elevated stations at Carlisle, Oats Street, Queens Park, Cannington, and Beckenham; and
- Removal of six level crossings along the Armadale Line, with all boom gates between Victoria Park and Beckenham eliminated to improve safety and traffic flow.

This project is well underway and is aimed at enhancing public transport safety, easing traffic congestion, and creating vibrant community spaces. Approximately 4kms of elevated rail have been completed so far, with the entire project expected to be finished by late 2025.

The second project is in the planning stage for an upgrade of Orrong Road to address capacity and safety issues. At this stage a preferred concept plan has been developed (see **Figure 3.2**) and some initial public consultation has been undertaken. The preferred concept would see a 5km section of Orrong Road between Leach Highway and Great Eastern Highway built as an expressway below ground level, while maintaining key local road connections.

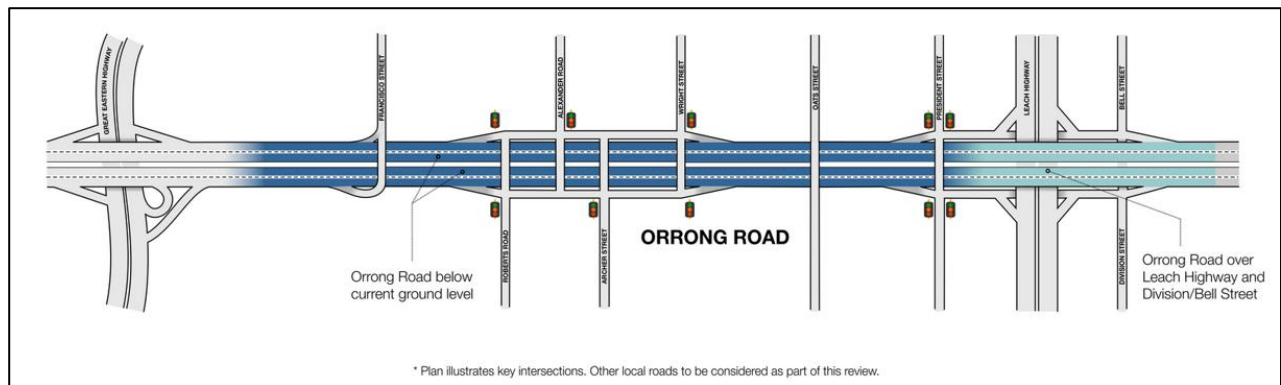


Figure 3.2 Orrong Road Upgrade Preferred Concept

Source: MRWA

This project is currently in the planning phase and no funding has yet been allocated for construction. As this is only a planning study it is not certain which of the local roads will be connected to the Orrong Road expressway. If it is constructed as per this diagram, it appears that connection to Briggs Street and Cohn Street would be severed. President Street is included in the current RAV4 network and would be a suitable alternative access route.

Metropolitan Regional Scheme

The Metropolitan Regional Scheme (MRS) Map Sheets 16 (Perth Airport) and 20 (Langford) show the extent of the land identified as being required for future road schemes in red. There is no land in the vicinity of the site which is required for future road construction other than those identified above.

3. DEVELOPMENT PROPOSAL

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3.1 BACKGROUND

Holcim currently operates a concrete batching plant in East Perth that may be closed and replaced by providing additional capacity at its existing Briggs Street site in Carlisle. A previous layout for the proposed redevelopment of the Briggs Street site was approved in 2021. Holcim is now submitting a new Development Application (DA) for the Welshpool site, featuring a revised plant layout as shown in **Figure 3.1**. The new layout is expected to increase throughput to approximately 300,000 m³/year. This will be achieved with more days in the year operating around an average of 1,000m³/day.

A key feature retained from the previously approved layout (2021) is the separation of vehicle access. Heavy vehicles will continue to access the site via Briggs Street, utilising separate entry and exit crossovers, whilst light vehicles will use Cohn Street. This arrangement minimises environmental impacts (primarily noise) on the residential area to the north. The existing noise wall and gate along Cohn Street will remain, with a new crossover introduced for light vehicle access. The existing noise wall gate will be made inoperable, and its crossover removed and replaced with landscaping. The new crossover will be provided with noise attenuating sliding gates.

The main change from the existing layout is the reversal of the entrance and exit configuration on Briggs Street which improves internal vehicular circulation.

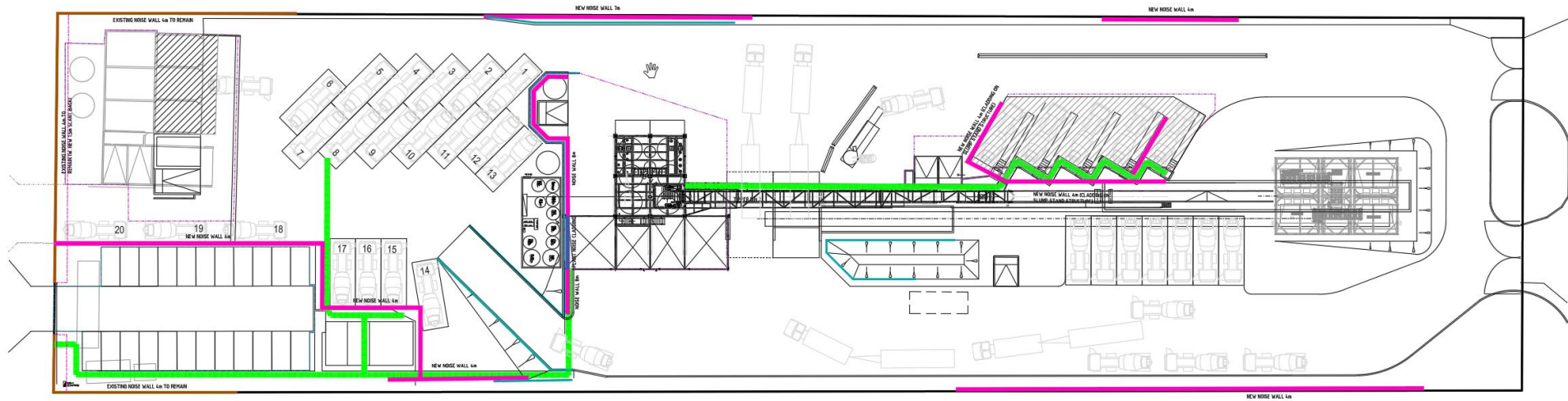


Figure 3.1: Proposed Layout

Source: Holcim Drawing HOL-691-001 (Received 19/06/2025)

3.2 TRIP GENERATION

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The increased annual production to 300,000 m³ will be achieved by operating more days per year at around an average rate of 1,000 m³/day. For reference, the following summary outlines the changes in production capacity from the existing plant to the previous DA approval:

- The current Briggs Street site has a peak production capacity at maximum load size of approximately 100m³ per hour. The upgraded plant will increase this to around 300m³ per hour.
- The average load size will rise from 4.2m³ to around 6.0m³.
- The peak production at average load size will increase from 65m³ per hour to in the order of 200m³ per hour.
- The average day production would increase from 400 m³ to around 1,000 m³.

Details of the current and expected truck and car movements in/out of the Briggs Street site were provided by Holcim, based on the operating characteristics above. These show the current and anticipated vehicle movements in and out of the site with details of vehicle type, distinguishing between car, tanker, aggregate truck and agitator truck traffic. This information is summarised in **Table 3.1**.

Table 3.1 indicates that there will be an increase in the order of 110 total vehicles per day (vpd) generated by the proposed redevelopment (55 inbound and 55 outbound) during normal business (daytime) hours. In the morning peak hour, the increase would be around 5 vehicles per hour (vph) and nighttime operations would contribute to the average daily increase. The site is expected to operate up to 7 days per week dependent on market demand.

3.3 ACCESS ROUTES

DVC has discussed the current site access routes with Holcim. Holcim has confirmed that there will be no change to the transport routes except that the entrance and exit on Briggs Street has been reversed compared to the previously approved Development Application (2021).

Under the proposed redevelopment layout, all aggregate and cement trucks will enter and leave the site via Briggs Street (as approved in 2021) as shown in **Figure 3.3**. All aggregate trucks and the cement tankers currently approach the site via Orrong Road from Tonkin Highway. Trucks from north of Perth use Tonkin Highway and Leach Highway, whilst trucks from the south of Perth exit Tonkin Highway at Welshpool Road to reach Orrong Road. From Orrong Road trucks either turn left into Briggs Street directly or turn left into Kew Street and travel via Planet Street and then Briggs Street, the latter being the preferred route. The return journey for aggregate trucks is mostly along Briggs Street to the west, then via Rutland Avenue to Welshpool Road and beyond. Drivers experience more delays retracing the approach routes and prefer to use the Rutland Avenue route.

Agitator trucks too would enter and leave the site via Briggs Street as they currently do as in **Figure 3.3**. Only light vehicle traffic would enter and leave the site via Cohn Street.

Table 3.1: Approved and Proposed Vehicle Movements (Typical Volumes)

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Vehicle Type	Existing Traffic			Approved (2021)			Proposed (2025)			Notes
	In	Out	Total	In	Out	Total	In	Out	Total	
Light Vehicles										
Peak Hour	15	0	15	25	0	25	25	5	30	6 am – 5 pm
Nighttime Peak Hour	0	0	0	0	0	0	10	10	20	
Daytime	37	37	74	47	47	94	47	47	94	5 pm – 6 am
Nighttime	0	0	0	0	0	0	10	10	20	
Daily	37	37	74	47	47	94	57	57	114	24 hours
Agitator Trucks										
Peak Hour	15	12	27	20	20	40	20	20	40	6 am – 5 pm
Nighttime Peak Hour	0	0	0	0	0	0	20	20	40	5 pm – 6 am
Daytime	95	95	190	166	166	332	166	166	332	6 am – 5 pm
Nighttime	0	0	0	0	0	0	33	33	66	5 pm – 6 am
Daily	95	95	190	166	166	332	199	199	398	24 hours
Delivery Trucks										
Peak Hour	4	4	8	6	6	12	6	6	12	Current =6am to 6pm
Nighttime Peak Hour	0	0	0	0	0	0	5	5	10	
Daytime	28	28	56	58	58	116	58	58	116	Proposed =24h x 7 days
Nighttime	0	0	0	0	0	0	12	12	24	
Daily	28	28	56	58	58	116	70	70	140	
Total										
Peak Hour	34	16	50	51	26	77	51	31	82	
Nighttime Peak Hour	0	0	0	0	0	0	35	35	70	
Daytime	160	160	320	271	271	542	271	271	542	
Nighttime	0	0	0	0	0	0	55	55	110	
Daily	160	160	320	271	271	542	326	326	652	

Client: Holcim (Australia) Pty Ltd
Project: Briggs Street, Carlisle

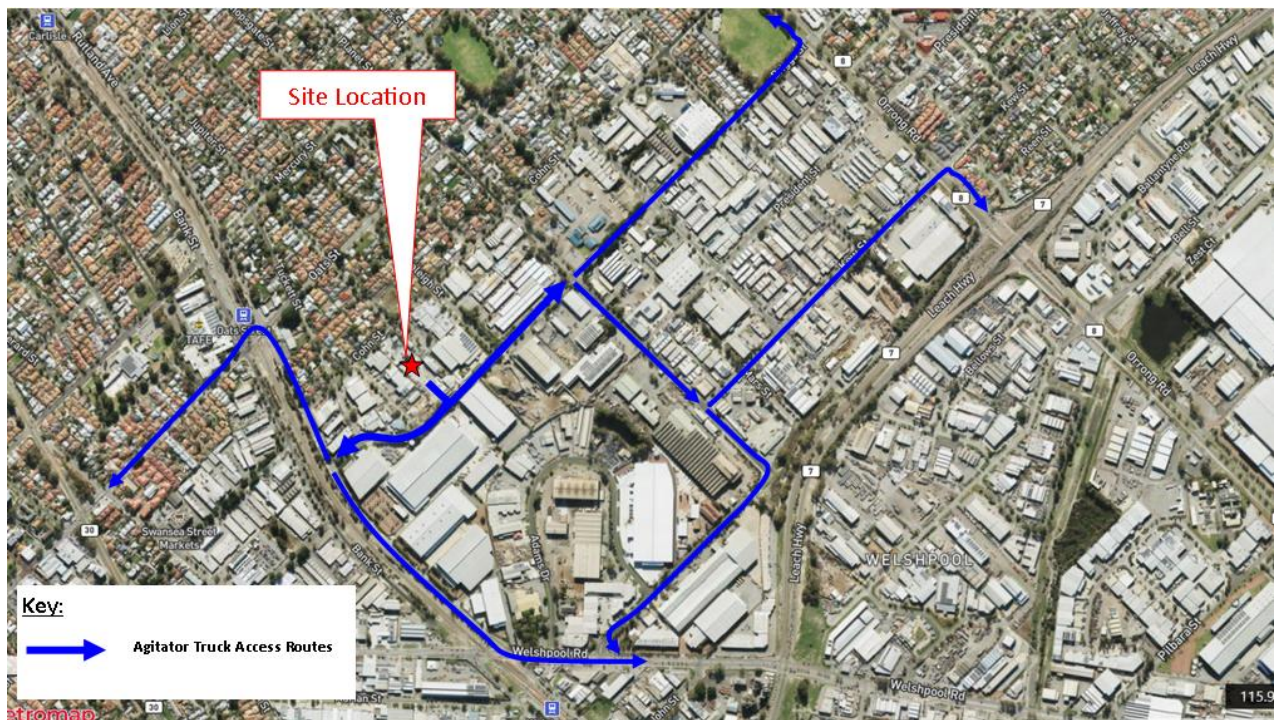


Figure 3.2: Access Routes for Concrete Agitator Trucks

Source: Holcim

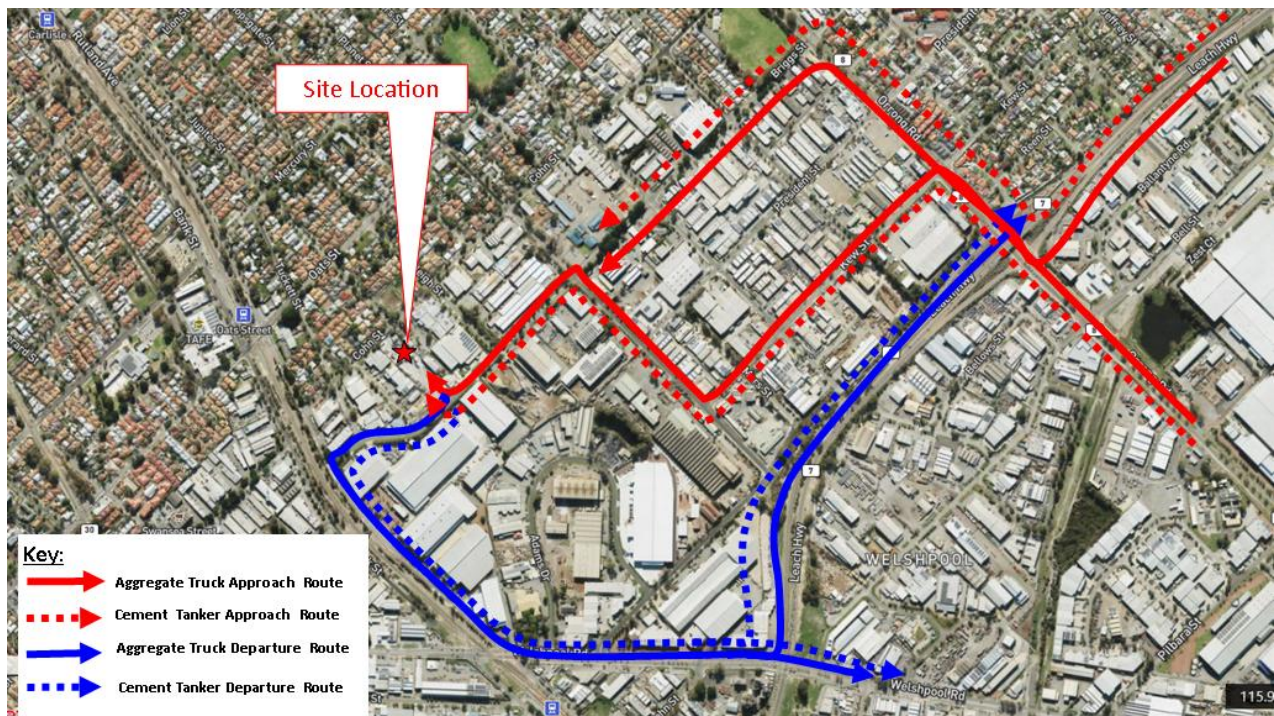


Figure 3.3: Access Routes for Aggregate and Cement Trucks

Source: Holcim

4. TRAFFIC IMPACT

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The proposed redevelopment of the site will typically generate an additional 110vpd on the surrounding road network, which increase is mainly attributed to the proposed increase in nighttime traffic. The surrounding road network can readily accommodate these increased traffic levels. Briggs Street adjacent to the site is classified as a Local Distributor with a maximum desirable traffic volume of 6,000vpd. The current traffic volume on Briggs Street west of Orrong Road is around 2,000vpd.

Roads further away from the site will experience even lower traffic volumes as site traffic dissipates across the metropolitan area.

Nighttime operations are estimated on average to be 33 agitator trucks outbound and 33 inbound and 58 delivery trucks outbound and 58 inbound every day and these will all use the Briggs Street access. There are no road capacity issues with these increases, but it would be advisable for drivers to avoid routes through residential areas outside of the precinct, if possible, for example along Oats Street between Shepperton Road and the railway line. A short equivalent route could be via Tomlinson Road and Welshpool Road to the south of the site. Evening traffic volumes on Welshpool Road would be low, making this route both safe and efficient.

The site currently has access via Cohn Street. Under the proposed layout, only light vehicle traffic would use the Cohn Street access. It is anticipated that there will be 114 light vehicle trips per day using this entrance (57 inbound and 57 outbound). During the morning peak hour, it is anticipated that up to 25 light vehicles will arrive at the site. During the remainder of the day only one or two light vehicles will typically visit the site each hour. Nighttime trips for light vehicles are estimated to be 10 outbound and 10 inbound trips. Cohn Street has adequate capacity to accommodate the anticipated forecast traffic volumes.

The proposed layout separates light vehicle and heavy vehicle traffic, thus creating a safer road environment on site and at the main entrance on Briggs Street.

The future road improvement projects identified earlier are aimed at improving safety and reducing congestion along Leach Highway and Orrong Road. The grade separation of the Leach Highway and Welshpool Road intersection will reduce congestion and delays at this intersection and should assist any Holcim site traffic using it. These projects are not expected to have any negative impact on site traffic.

The impact of the Orrong Road expressway is more difficult to assess as the ultimate road layout is not finalized. It can be expected that some roads which currently intersect with Orrong Road will become cul-de-sac. However, it can also be expected that a high degree of connectivity will be retained between the industrial area and Orrong Road. The current concept sketch suggests that President Street will become a major connection, requiring only marginal adjustments to access routes for Holcim site traffic.

5. PARKING AND ON-SITE ACTIVITY

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5.1 PARKING

The Town of Victoria Park Parking Policy requires industrial-use properties to provide 3 bays for the first 150m² of net leasable area (NLA) and thereafter an additional bay for every 75m² NLA. Given the nature of the batching plant operations, parking based on NLA would not be a suitable way of estimating parking requirements. Instead, a review of staff numbers would provide a better estimate.

Agitator trucks are parked on-site overnight and therefore their drivers need to commute to and from work. In addition, the proposal is for three plant staff and one management staff member to be based on site. Holcim has confirmed that parking will be required for a maximum of 22 personnel on site plus one visitor bay, totaling 23 bays.

The proposed layout in **Figure 3.1** shows 23 bays being provided for light vehicles within the site and therefore the Town's parking requirement for the site has been met.

5.2 SITE TRAFFIC CIRCULATION

DVC understands that a number of different trucks will be used for deliveries to and from the site. The largest concrete (agitator) truck will be an 8-wheel with dual steer front axles. The largest cement or aggregate delivery truck will be a 21.37m B-Double. There will also be smaller 19.0m semi-trailer aggregate trucks.

DVC has tested the relevant swept paths of the largest trucks accessing the site and no problems are anticipated with circulation and parking. The swept path drawings are contained in **Appendix A** of this report.

6. SUSTAINABLE TRANSPORT

6.1 PUBLIC TRANSPORT

There are limited bus services in the vicinity of the site: route 284 travels along Kew Street and Star Street between Belmont Forum and the Curtin Central Bus Station on weekdays only. It is a low frequency service, approximately every 40 minutes in the morning between 7:00AM and 11:30AM. In the reverse direction in the afternoon, it operates hourly between 12Noon and 6:00PM.

Bus route 285 travels along Orrong Road between Kewdale (Abernethy Road) and Oats Street Station. There are three services between 7:00AM and 7:40AM and a further three in the PM between 3:50PM and 5:05PM.

The site is approximately 500m from the Oats Street train station on the Thornlie and Armadale railway lines.

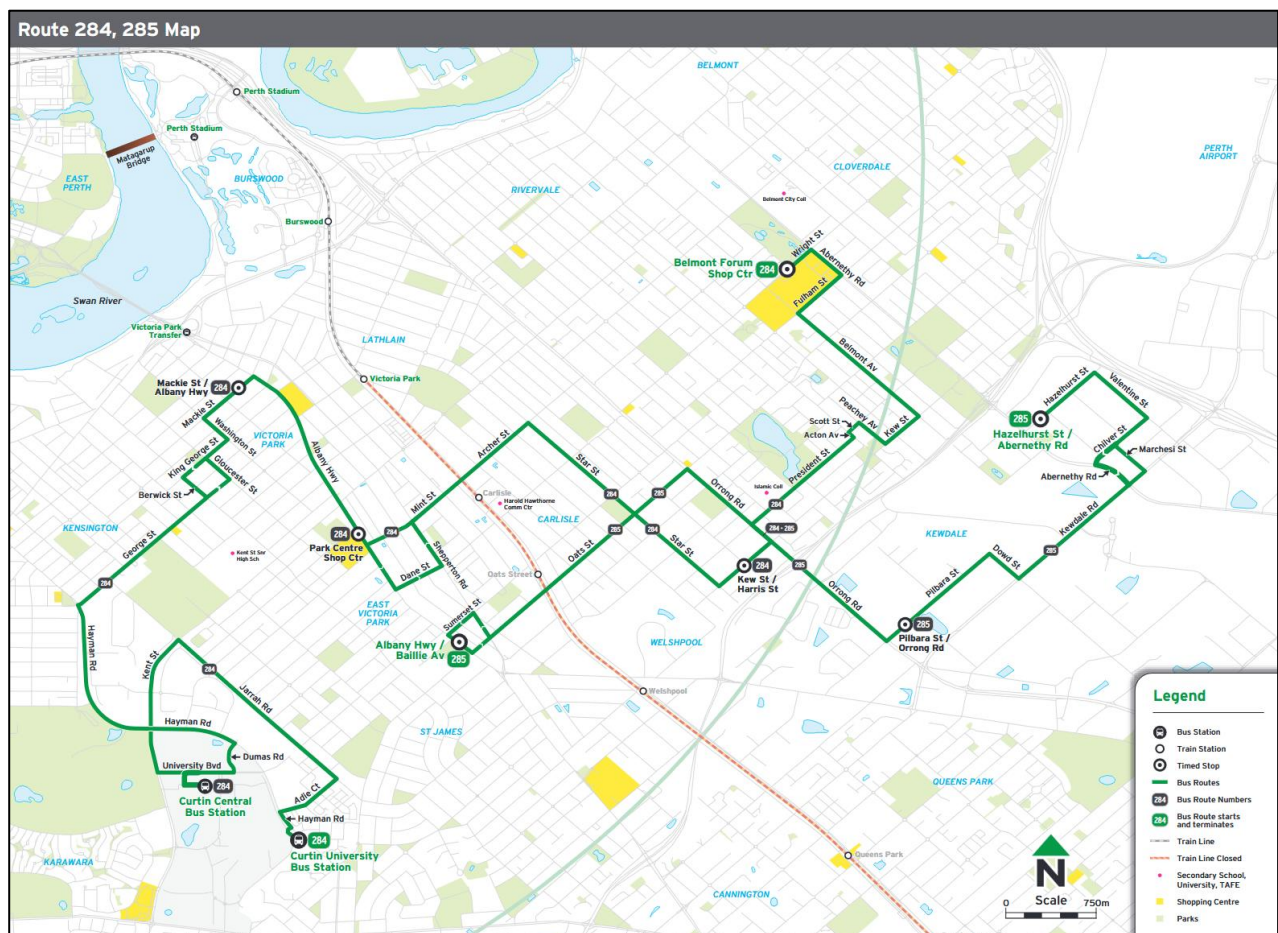


Figure 6.1: Bus routes 284 and 285 timetable servicing the site

Source: Transperth

The site is well connected to the Perth Bicycle Network (PBN) with nearby Kew Street designated a good road environment for cycling as is Star Street which connects it to the residential suburbs of Carlisle and Lathlain. To the east of Orrong Road is PBN Route SE21 which travels along Surrey Street (designated a Safe Active Street). Similarly, Route SE22 runs adjacent to the Armadale railway line and south of Welshpool Station SE22 is a Principal Shared Path.

7. SUMMARY AND RECOMMENDATIONS

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7.1 SUMMARY

Holcim has appointed Donald Veal Consultants (DVC) to prepare a Transport Impact Statement (TIS) report to support an application for the redevelopment of its Welshpool batching plant in Carlisle within the Town of Victoria Park to handle an increase in production capacity from 200,000m³ to 300,000m³ per year.

An earlier version of the layout for the proposed redevelopment was previously approved in 2021. Holcim is now submitting a new Development Application (DA) for the Welshpool site, featuring a revised plant layout to increase its throughput to approximately 300,000 m³/year. This will be achieved with more days in the year operating around an average of 1,000m³/day.

Details of the current and expected truck and car movements in/out of the Briggs Street site were provided by Holcim, based on the operating characteristics above. The proposed redevelopment of the site will typically generate an additional 110vpd on the surrounding road network, attributed in part to the proposed increase in nighttime activity.

No road safety or road capacity issues associated with the proposed redevelopment of Holcim's site on Briggs Street have been identified. The forecast increase in traffic volumes can readily be absorbed by the surrounding road network and there are no significant traffic safety concerns with the proposal.

Access to the site is currently good and the adjacent RAV network accommodates the trucks currently servicing the site. All heavy vehicle traffic will enter and leave the site via Briggs Street. In the near future the intersection of Welshpool Road and Leach Highway is expected to be grade-separated which will reduce congestion there and marginally improve conditions for Holcim traffic.

The upgrade of Orrong Road is currently at the planning stage and no funds have yet been allocated for construction. Early concept plans indicate that good connectivity will be retained between the Holcim site and Orrong Road with little or no impact to future traffic.

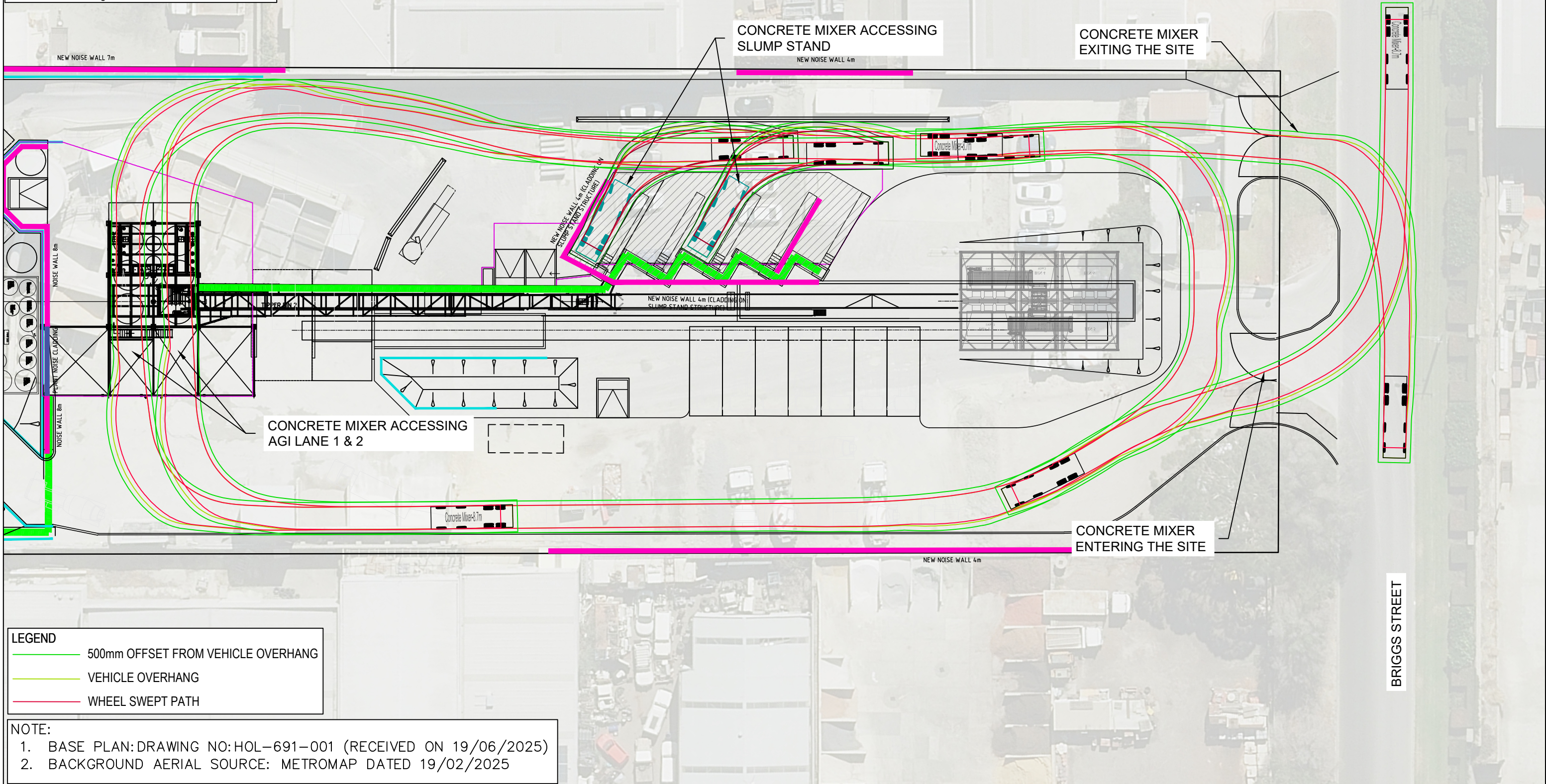
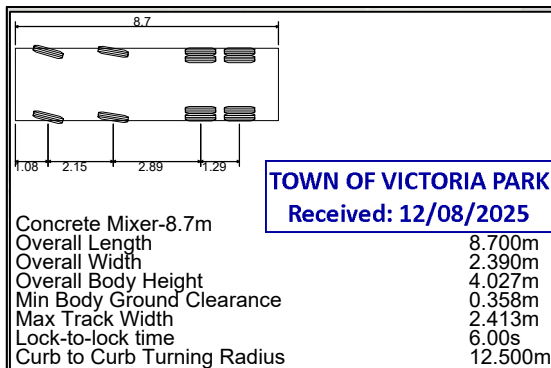
The Town of Victoria Park's parking requirements are met by the proposed 23 bay on site car park. Internal circulation routes have been checked using swept path analysis and no issues found.

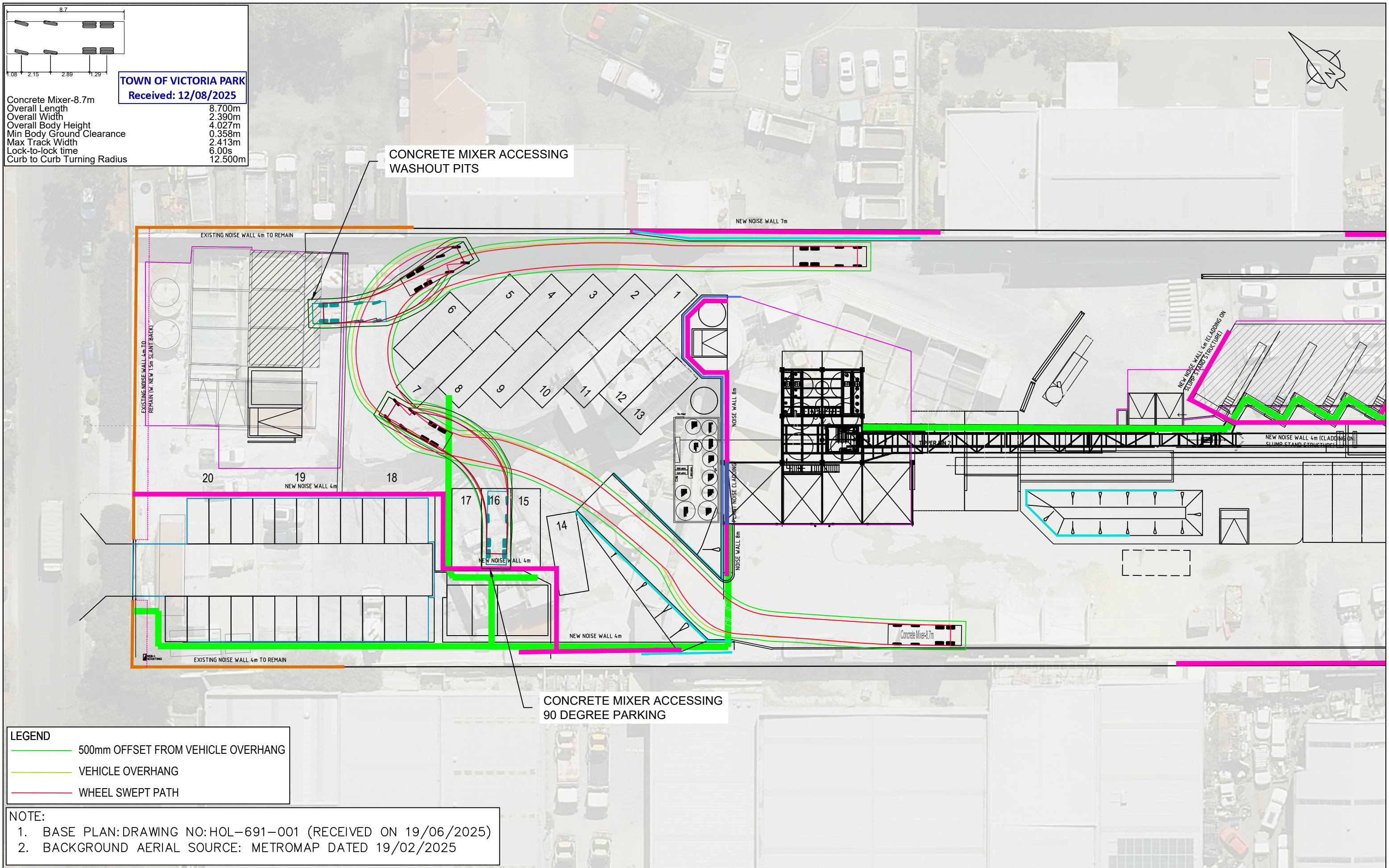
7.2 RECOMMENDATIONS

Based on the traffic assessment herein, DVC supports the development application in terms of its traffic and road safety impact and recommends its approval.

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APPENDIX A: SWEPT PATH ANALYSIS





NOTE: 1. BASE PLAN: DRAWING NO: HOL-691-001 (RECEIVED ON 19/06/2025) 2. BACKGROUND AERIAL SOURCE: METROMAP DATED 19/02/2025

8.7

1.08 2.15 2.89 1.29

Concrete Mixer-8.7m

Overall Length 8.700m

Overall Width 2.390m

Overall Body Height 4.027m

Min Body Ground Clearance 0.358m

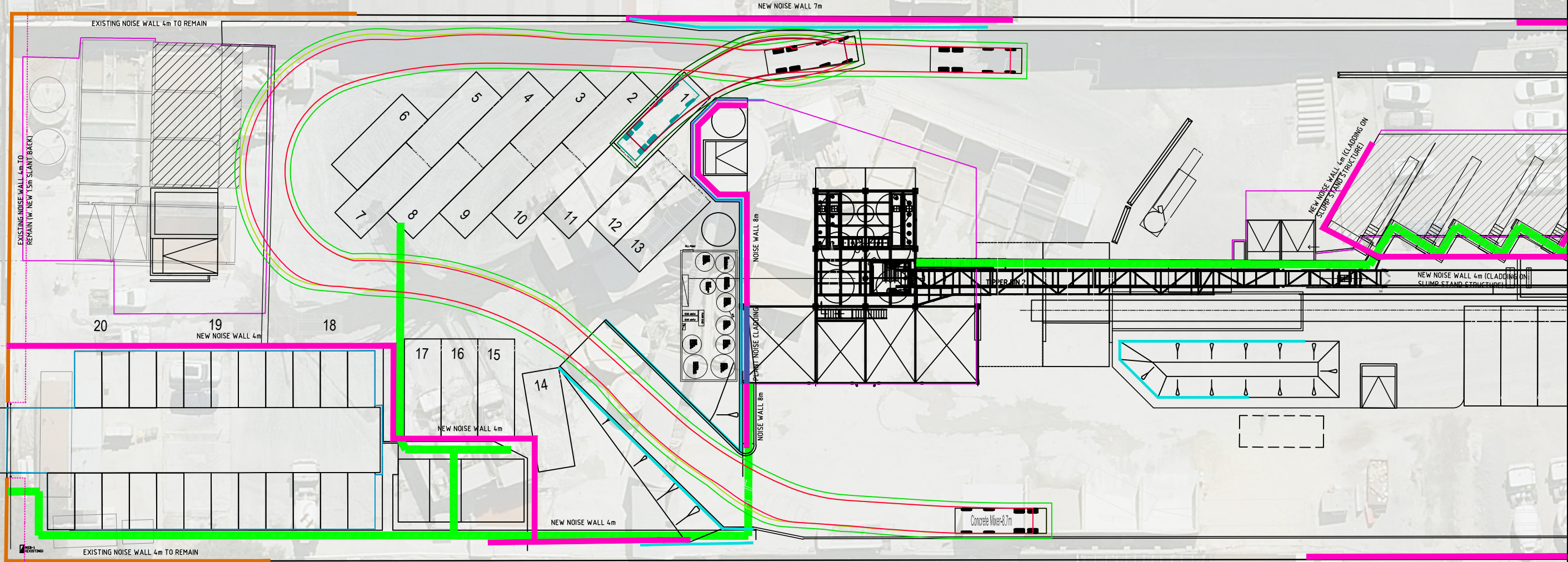
Max Track Width 2.413m

Lock-to-lock time 6.00s

Curb to Curb Turning Radius 12.500m

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LEGEND

500mm OFFSET FROM VEHICLE OVERHANG

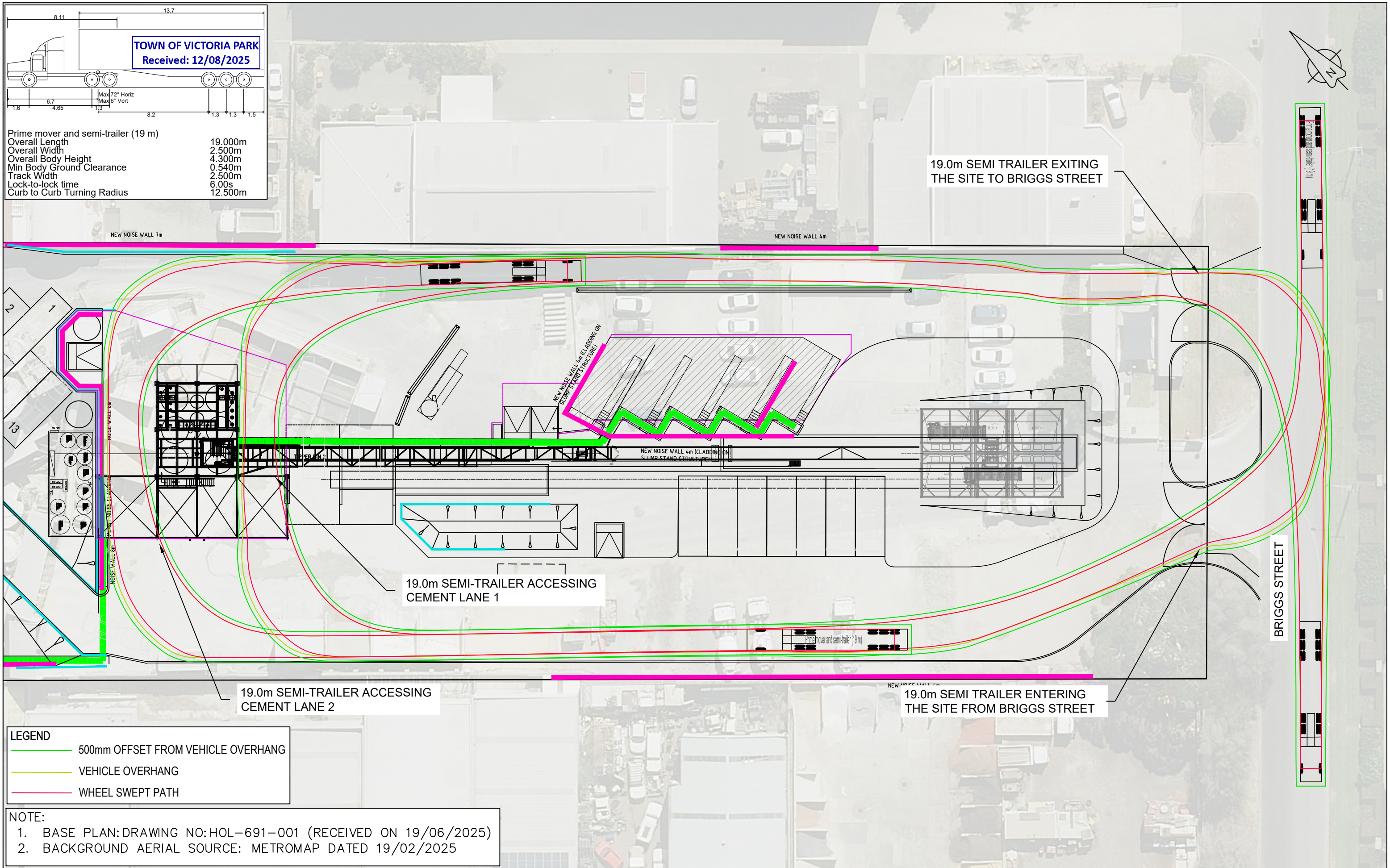
VEHICLE OVERHANG

WHEEL SWEEP PATH

NOTE:

1. BASE PLAN: DRAWING NO: HOL-691-001 (RECEIVED ON 19/06/2025)
2. BACKGROUND AERIAL SOURCE: METROMAP DATED 19/02/2025

	Project	HOLCIM - BRIGGS STREET SITE	Date	19/06/2025	<div>Donald Veal Consultants 6 Burgess Street Midland WA 6056 Telephone +61 8 9274 7076 Facsimile +61 8 9274 4854</div> <div>DONALD VEAL CONSULTANTS</div>				
	Title	SWEPT PATH - CONCRETE AGITATOR ANGLED PARKING	Designed						
	Client	HOLCIM CONCRETE AUSTRALIA	Drawn	M GEORGE					
			Checked	D VEAL					
			Scale	1:400 @ A3					
		Project Number	Z1057	Drawing File Name	DVC-Z1057-F	Drawing Number	SK03	Revision	F



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Prime mover and semi-trailer (19 m)

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Track Width

Lock-to-lock time

Curb to Curb Turning Radius

19.000m

2.500m

4.300m

0.540m

2.500m

6.00s

12.500m

LEGEND

500mm OFFSET FROM VEHICLE OVERHANG

VEHICLE OVERHANG

WHEEL SWEEP PATH

NOTE:

1. BASE PLAN: DRAWING NO: HOL-691-001 (RECEIVED ON 19/06/2025)

2. BACKGROUND AERIAL SOURCE: METROMAP DATED 19/02/2025

	Project	HOLCIM - BRIGGS STREET SITE	Date	19/06/2025	<div>Donald Veal Consultants 6 Burgess Street Midland WA 6056 Telephone +61 8 9274 7076 Facsimile +61 8 9274 4854</div> <div><div><div>DVC</div><div>DONALD VEAL</div><div>CONSULTANTS</div></div></div>				
	Title	SWEPT PATH - 19.0m SEMI TRAILER	Designed						
	Client	HOLCIM CONCRETE AUSTRALIA	Drawn	M GEORGE					
			Checked	D VEAL					
			Scale	1:400 @ A3					
		Project Number	Z1057	Drawing File Name	DVC-Z1057-F	Drawing Number	SK04	Revision	F

