

PTG.04756

Transport Impact Assessment Proposed Extractive Industry Lots 3938 & 7971 Catterick Road, Catterick

2 July 2026 | Revision A
Prepared for Iron Horse Pastoral Pty Ltd

CONTENTS

1 Introduction	1
1.1 Background	1
1.2 Site Location.....	1
2 Existing Situation.....	2
2.1 Existing Site Use	2
2.2 Surrounding Land Uses	2
2.3 Existing Parking and Demand	3
2.4 Existing Access Arrangements	3
2.5 Existing Site Traffic	4
2.6 Existing Road Network and Traffic Management	4
2.6.1 Road Hierarchy.....	4
2.6.2 Existing RAV Network.....	6
2.7 Traffic Volumes on Surrounding Roads.....	7
2.8 Existing Pedestrian/Cycle Networks	7
2.9 Existing Public Transport Services	7
2.10 Existing School Bus Routes.....	8
2.11 Crash Assessment.....	9
3 Proposed Development	10
3.1 Proposed Land Use.....	10
3.2 Hours of Operation	12
3.3 Access Arrangements	12
3.4 Parking Provision	13
3.4.1 Parking Requirements	13
3.4.2 Bicycle Parking and End-of-Trip Facilities.....	13
4 Integration with Surrounding Area	14
4.1 Surrounding Major Attractors/ Generators	14
4.2 Committed Development and Transport Proposals.....	14
4.3 Proposed Changes to Land Uses within 1200 metres	15
4.4 Adequacy and Deficiencies of the Existing Transport Network	15
5 Traffic Generation and Distribution	16
5.1 Calculation of the Number of Truck Trips Generated	16
5.1.1 Clay/Gravel Extraction.....	16
5.1.2 Crushed Hard Rock Extraction.....	16
5.1.3 Combined Material Extraction	17
5.2 Calculation of Trips Generated by Staff/Employees.....	17
5.3 Development Traffic Generation.....	18
5.4 Distribution of Generated Traffic	18
6 Analysis of Transport Network.....	19

6.1 Analysis of the Development Access	19
6.1.1 Geometry.....	19
6.1.2 Existing Condition.....	20
6.1.3 Sight Distance	22
6.1.4 Summary of Recommended Works	25
6.2 Analysis of Catterick Road	25
6.2.1 Geometry.....	25
6.2.2 Road Condition.....	26
6.2.3 Traffic Impact	31
6.2.4 Conclusion	31
6.3 Analysis of Catterick Road/South Western Highway Intersection	31
6.3.1 Geometry.....	31
6.3.2 Intersection Analysis.....	34
7 Road Safety and Accessibility Impact	36
7.1 Impact on Neighbouring Areas	36
7.2 Road Safety	36
7.3 Public Transport Access	36
7.4 Pedestrian/ Cycle Access Amenity	36
7.5 Analysis of Pedestrian/Cycle Network	36
7.6 Safe Walk/ Cycle to School.....	36
7.7 Traffic Management Plan	36
8 Summary	37
Appendix A – WAPC Checklist.....	40
Appendix B – Site Plans	42
Appendix C – Swept Paths	43
Appendix D – Sight Distance Assessment	44

REPORT DETAIL

Unique Document Identification

	Information
Document Title	Transport Impact Assessment – Proposed Extractive Industry – Lots 3938 & 7971 Catterick Road, Catterick
Project Number	PTG.04756
Document ID	R001 - Rev A
Client	Iron Horse Pastoral Pty Ltd

PTG Consulting Office Details

	Information
Location	Perth, WA
Address	Level 4, 167 St Georges Terrace, Perth WA 6000
Telephone	+61 8 6188 4500
Email	Ray.cook@ptgconsulting.com.au
Web	www.ptgconsulting.com.au

Revision Details

Revision No.	Date	Comments	Author	Approve/Review
A	2/07/26	For Issue	SC/BS	SL

1 INTRODUCTION

1.1 Background

PTG Consulting (PTG) has been commissioned by Iron Horse Pastoral Pty Ltd ('the Client') to prepare a Transport Impact Assessment (TIA) for a proposed extractive industry development located at Lots 3938 & 7971 Catterick Road, Catterick.

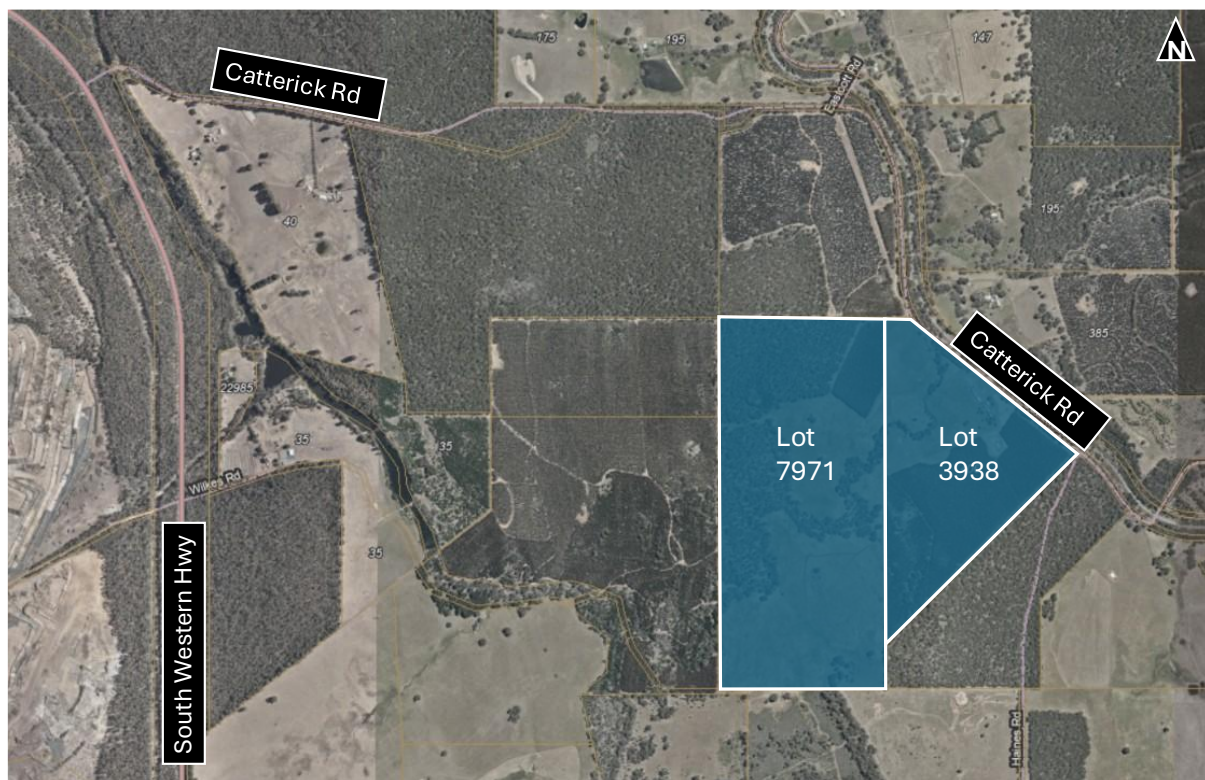
This report has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Assessment Guidelines for Developments: Volume 4- Individual Developments (2016)* and the *Shire of Bridgetown-Greenbushes Policy Manual – Land Use and Planning Policy No. 11 – Extractive Industry Policy*. The WAPC TIA Checklist is included in **Appendix A**.

This report aims to assess the operations of the proposed development, its connections to the adjacent road network, and the proposed haulage route.

1.2 Site Location

The site is located at Lots 3938 & 7971 Catterick Road, Catterick, as shown in **Figure 1**. The Site is located within the municipality of the Shire of Bridgetown-Greenbushes, approximately 5.7 km southeast of Greenbushes.

Figure 1 – Site Location



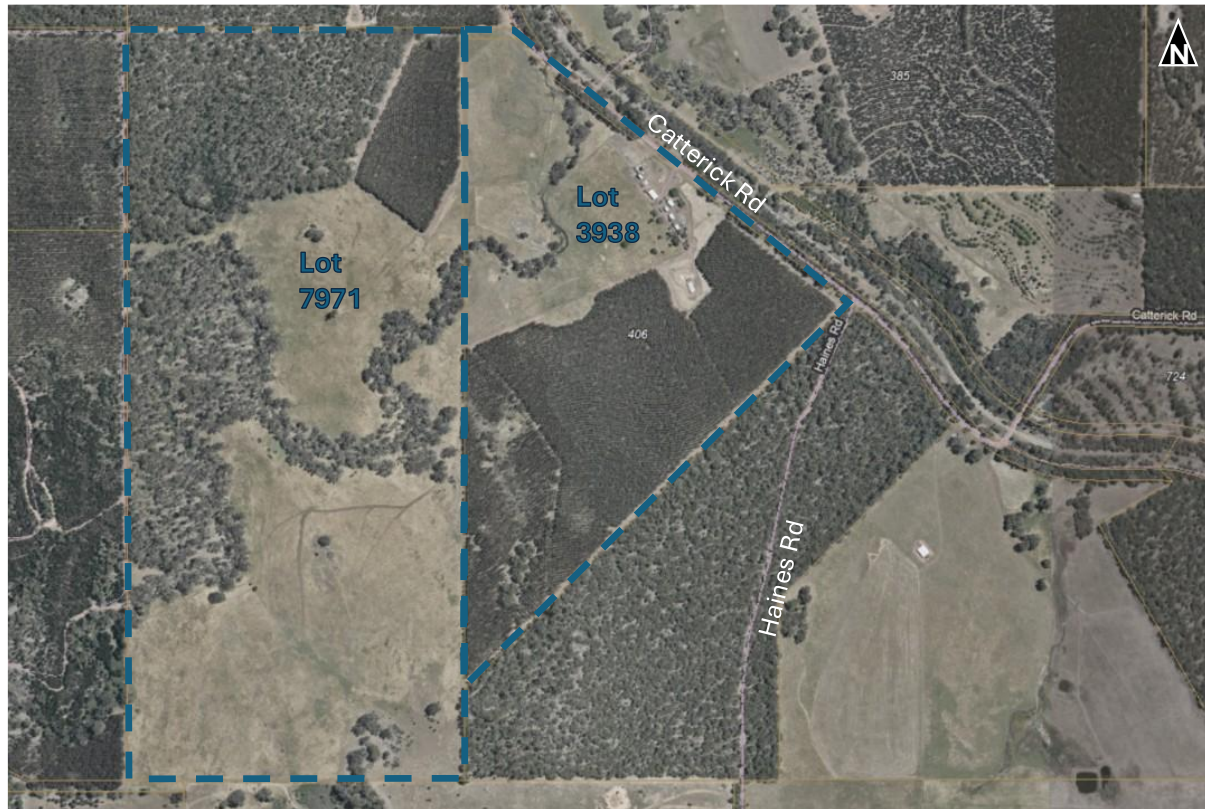
Source: Landgate Locate V5

2 EXISTING SITUATION

2.1 Existing Site Use

According to the Client, the subject site contains a recently cleared blue gum plantation along with areas of previously farmed land. The western section of the Site (Lot 7971) is mostly vacant, as shown in Figure 2.

Figure 2 - Existing Site Use



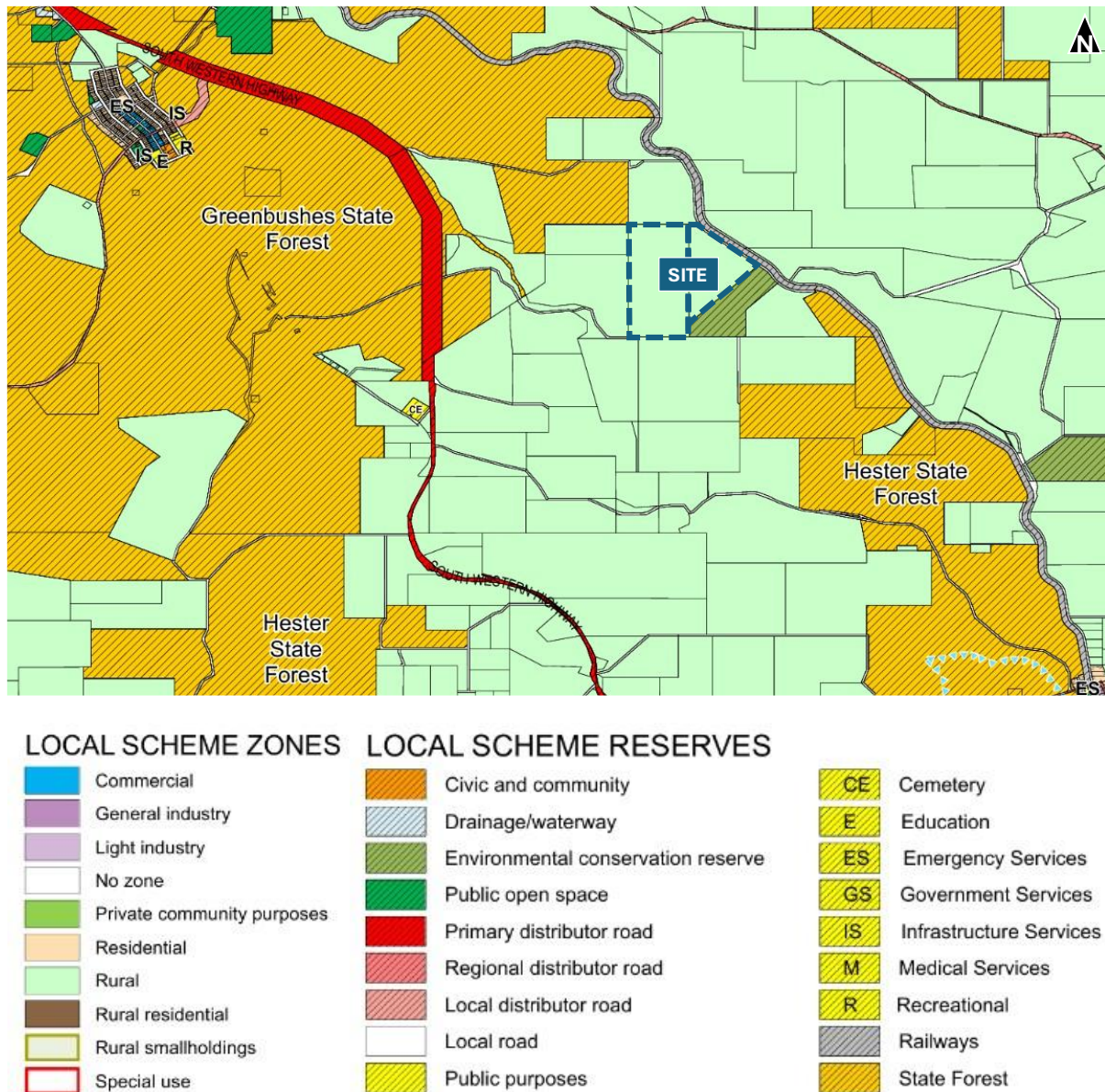
Source: Landgate Locate V5

2.2 Surrounding Land Uses

The Shire of Bridgetown-Greenbushes' *Local Planning Scheme No. 6 (Draft for Public Comment, 2026)* classifies the Site for 'Rural' uses, as shown in Figure 3. Properties immediately surrounding the Site are similarly zoned for rural uses as well, with some lots classified for 'Environmental Conservation Reserve' and as 'State Forest'.

According to the Shire's *Draft LSP No. 6 Table 17 Zoning Table*, use of land for extractive industries within 'Rural' zones are not permitted unless the local government exercises its discretion to grant development approval.

Figure 3 - Land Uses Adjacent to the Subject Site



Source: Shire of Bridgetown-Greenbushes Local Planning Scheme No. 6 (Draft for Advertising, 2026)

2.3 Existing Parking and Demand

With the current use of land within the Site, generation for parking demand is expected to be minimal to none.

2.4 Existing Access Arrangements

Access to the Site is provided through an existing crossover at the northeastern side of Lot 3938 along Catterick Road, as shown in Figure 4. The access is approximately 4km from South Western Highway and 4.9km from Greenbushes – Boyup Brook Road.

Figure 4 - Existing Access Point



Source: Landgate Locate V5

2.5 Existing Site Traffic

With the current use of land within the Site, generation of vehicular trips is expected to be minimal to none.

2.6 Existing Road Network and Traffic Management

2.6.1 Road Hierarchy

The road network within Western Australia is defined by Main Roads WA Road Hierarchy, which describes the function, characteristic and management of each type of road. A description of each road type as per Main Roads WA Road Hierarchy criteria is summarised in **Table 1** below.

Table 1 – Road Hierarchy Description

Road Type	Description
Primary Distributors	Provide for major regional and inter-regional traffic movement and carry large volumes of generally fast-moving traffic. Some are strategic freight routes and all are State Roads. They are managed by Main Roads Western Australia.
District Distributor A	Carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by local government.
District Distributor B	Perform a similar function to type A District Distributors but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with a traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and generally not through them, forming a grid which would ideally space them around 1.5 kilometres apart. They are managed by local government.
Regional Distributor	Roads that are not Primary Distributors but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by local government.

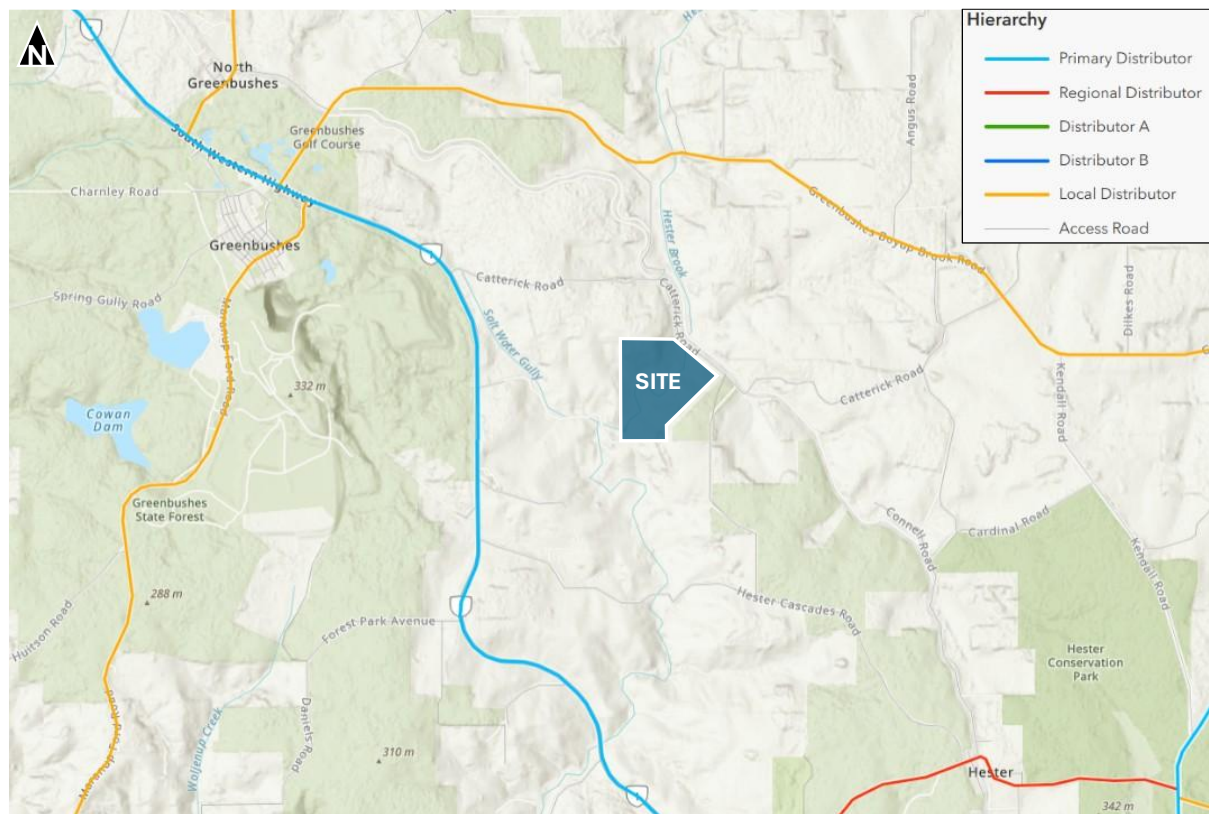
Local Distributor (Urban)	Roads that carry traffic within a cell and link District Distributors or Regional Distributors at the boundary, to access roads. The route of Local Distributors should discourage through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. Urban Local Distributor roads are managed by local government.
Local Distributor (Rural)	Connect to other Rural Distributors and to Rural Access Roads. Not Regional Distributors, but which are designed for efficient movement of people and goods within regional areas. Rural Local Distributor roads are managed by local government.
Access Roads	Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by local government.

Figure 5 and Figure 6 shows the road hierarchy and speed of the surrounding roads, respectively. Table 2 provides a summary of the characteristics of the surrounding road network. Based on remote investigation, Catterick Road is primarily unsealed, except for the first 100-metre (estimated) sealed section from South Western Highway.

Table 2 - Road Network Classification

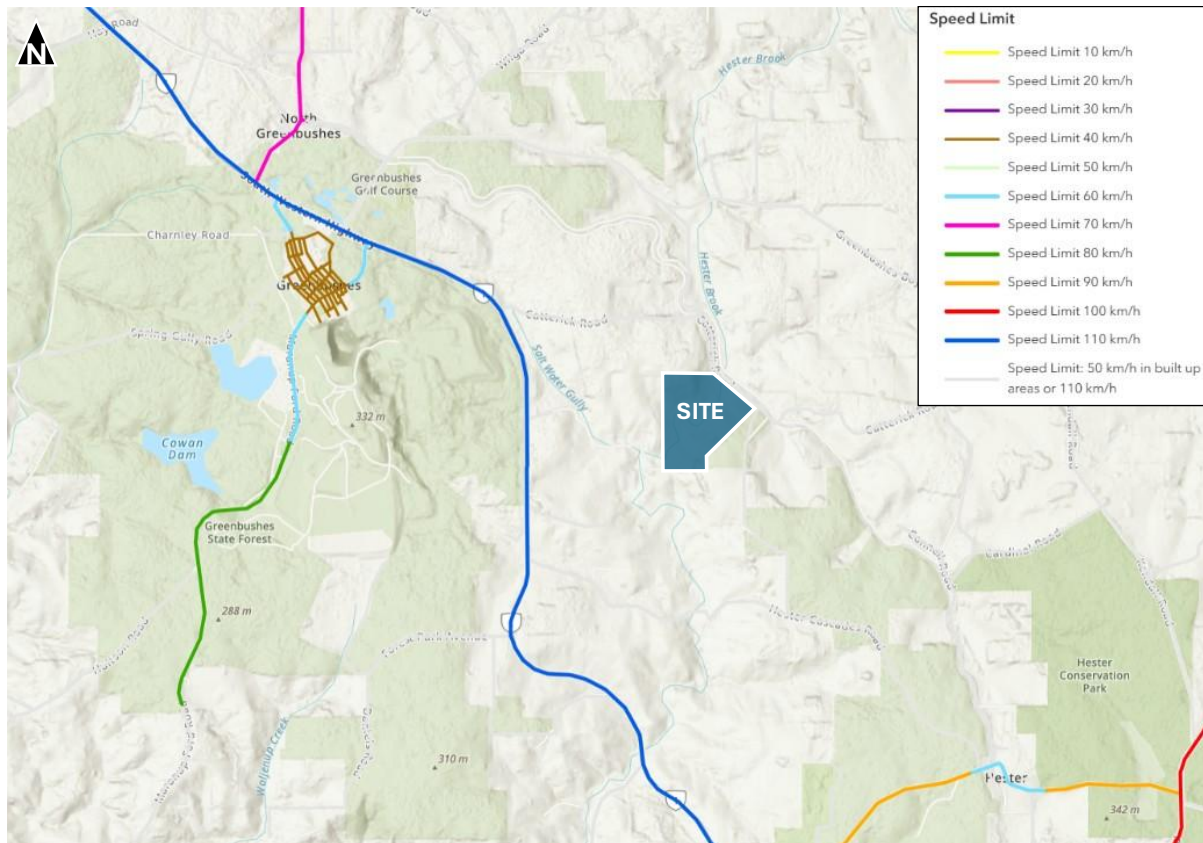
Road Name	Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Sealed Width (m)	Speed Limit (km/h)
South Western Highway	Primary Distributor	MRWA	2	N/A	~12.0	110
Catterick Road	Access Road	Local Government	2	N/A	~4.0 for 100m sealed section	110 (rural default)

Figure 5 - Road Hierarchy of the Surrounding Road Network



Source: MRWA Road Information Mapping

Figure 6 – Speed Limit on the Surrounding Road Network



Source: MRWA Road Information Mapping

2.6.2 Existing RAV Network

The existing RAV Network in the vicinity of the Site is shown in **Figure 7**. Both South Western Highway and Catterick Road are currently approved for Tandem Drive Network 4 which allow vehicles up to 27.5m long to access these roads. However, Catterick Road (from SLK 0.0 to SLK 9.16) is approved for Tandem Drive Network 4 given that the following operating conditions are followed:

- » Headlights are to be switched on at all times,
- » Low volume (LV),
- » Maximum speed is set at 40km/h,
- » When travelling at night, the RAV must travel at a maximum speed of 40km/h and display an amber flashing warning light on the prime mover, and
- » Direct radio contact must be maintained with other restricted access vehicles to establish their position on or near the road (suggested UHF channel 40).

Figure 7 - Existing RAV Network



Source: MRWA HVS Network Map

2.7 Traffic Volumes on Surrounding Roads

Existing traffic volumes on the surrounding road network were sourced from MRWA's Traffic Map database and are summarised in **Table 3**. While no counts were available for Catterick Road, during the site visit which lasted close to 2 hours, only 1 vehicle was noted using the road, a truck entering from South Western Highway and accessing a farm property approximately 1.7km from the highway.

Table 3 – Existing Traffic Volumes

Road Name	Count Year	Weekday AM Peak Volume	Weekday PM Peak Volume	Weekday Avg. Daily Volume	% Heavy Vehicles
South Western Highway <i>South of Daronchs Rd</i>	2024/2025	272	355	3,970	36.6
South Western Highway <i>North of Blackwood Park Rd</i>	2025/2026	254	319	3,551	23.4

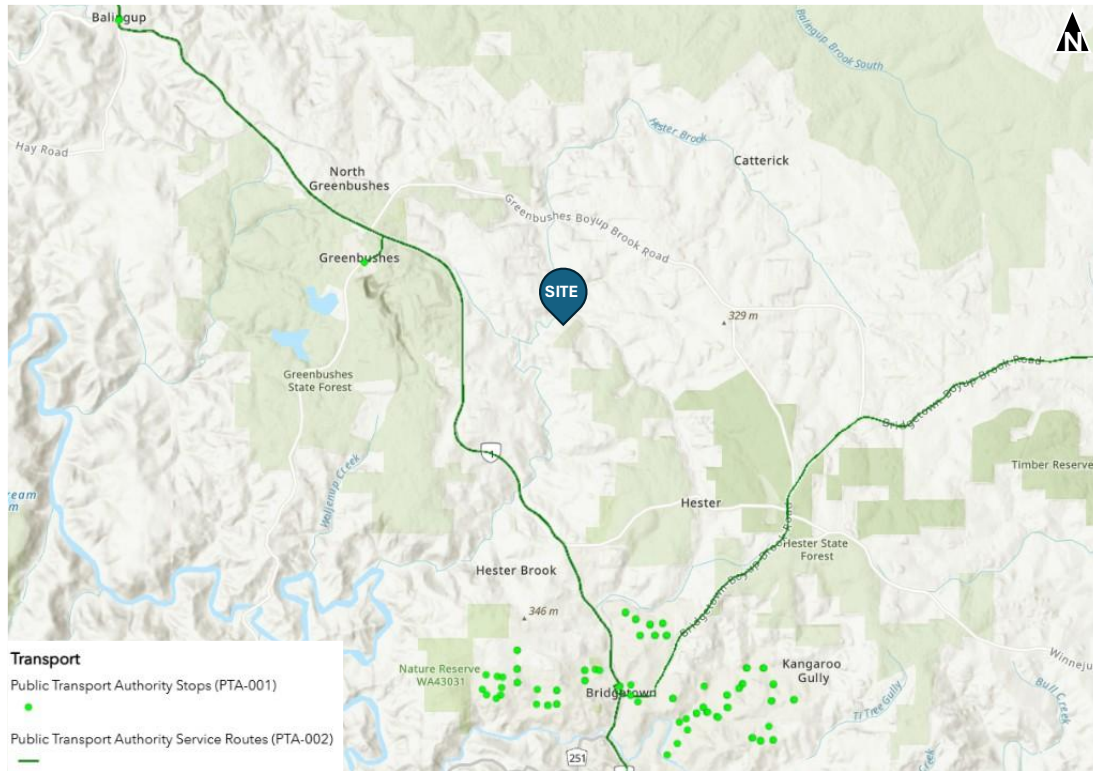
2.8 Existing Pedestrian/Cycle Networks

There are no existing footpaths and cycling paths along South Western Highway or Catterick Road.

2.9 Existing Public Transport Services

TransWA operates several regional bus routes along South Western Highway as shown in **Figure 8**, with the nearest bus stop at Greenbushes, approximately 6.0km away (linear distance) from the Site. TransWA bus services and stops are also currently present at Bridgetown but are at least 10.0km from the Site.

Figure 8 - Location of Existing Bus Stops and Services

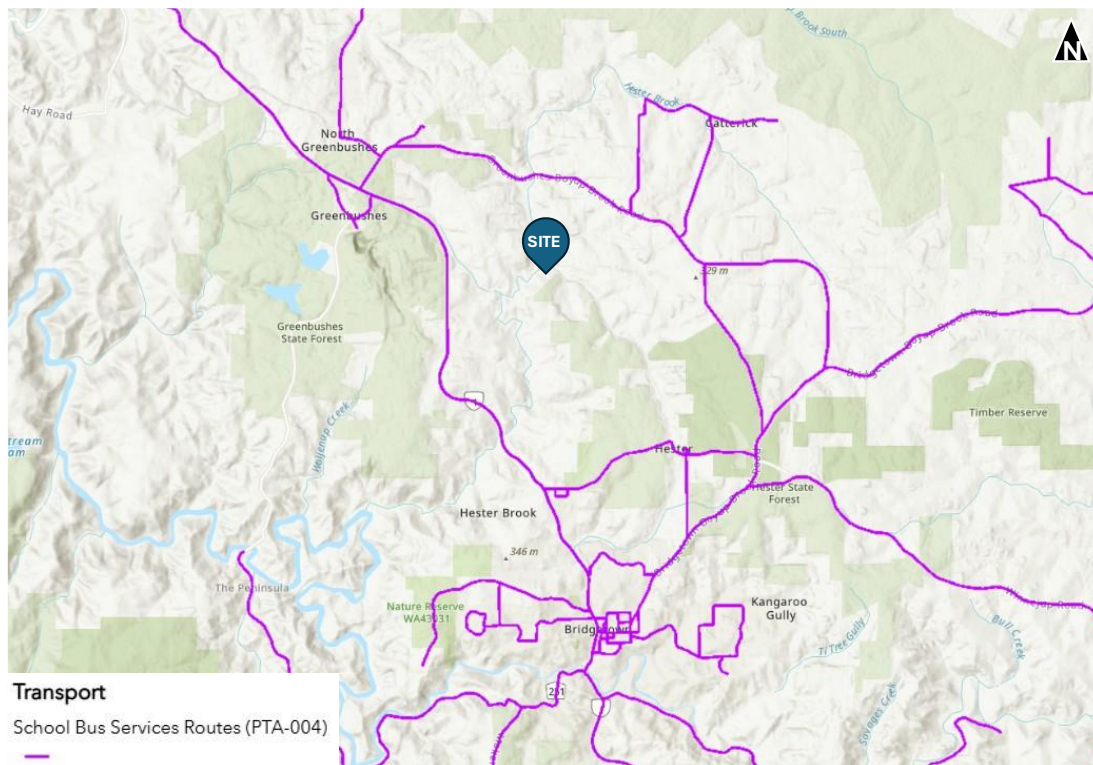


Source: Landgate Locate V5

2.10 Existing School Bus Routes

South Western Highway is identified as a school bus route, as shown in Figure 9. Catterick Road is not identified as a school bus route.

Figure 9 – Existing School Bus Route

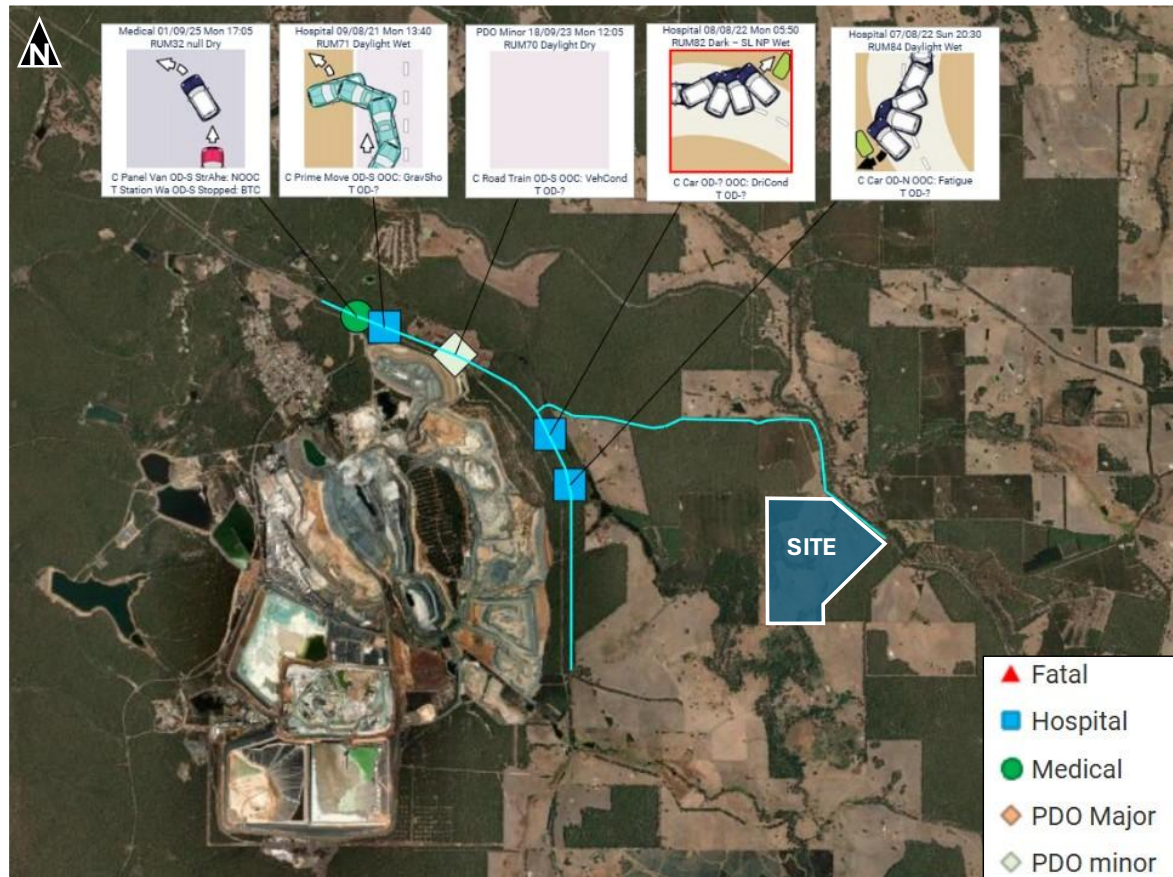


Source: Public Transport Authority

2.11 Crash Assessment

Crash data between 1st January 2021 and 31st December 2025 was obtained from MRWA's Crash Reporting Centre database. Sections along South Western Highway and Catterick Road were considered for this assessment. Findings are summarised in Table 4 and location of the crashes are illustrated in Figure 10.

Figure 10 – Location of Crashes in the Surrounding Area



Source: MRWA Crash Map

Table 4 – Crash Assessment Summary

Crash Nature	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total Crashes
Rear End	-	-	1	-	-	1
Hit Object	-	2	-	-	-	2
Non-collision	-	1	-	-	1	2
Total Crashes	-	3	1	-	1	5

Crash findings are summarised as follows:

- » No crashes recorded along Catterick Road between the Site access and South Western Highway.
- » No serious or fatal injuries were reported in the assessed road sections, particularly at the intersection of South Western Highway and Catterick Road and along Catterick Road up to the Site. Crashes recorded along South Western Highway includes:
 - Two Hit object crashes resulted in Hospital severity
 - Two non-collision crashes, one resulted in Hospital severity, and another resulted in property damage minor only.
 - One rear end crash resulted in Medical severity.

3 PROPOSED DEVELOPMENT

3.1 Proposed Land Use

The proposed development seeks the extraction of gravel, clay, and hard rock at specific areas within the Site, as shown in **Figure 12**.

The gravel and clay quarry will cover an area of approximately 11.7 hectares, with a current maximum elevation ranging from 263m to 205m of the Australian Height Datum (AHD). Materials will be excavated to a maximum depth of 3.0m below ground level (BGL) in six cells, ranging from 1.9 ha to 2.0 ha in for each cell. It is estimated that the total maximum volume of gravel and clay material to be removed from the six cells will be approximately 350,000m³, with approximately 35,000m³ excavated each year, depending on supply and demand.

The hard rock quarry will cover an area of approximately 2 hectares, with a current maximum elevation ranging from 240m AHD to 205m AHD. It will be excavated to a maximum depth of 15.0m BGL in only one cell of approximately 2.0 ha in size. It is expected that blasting will occur twice a month for a 3-month campaign to harvest the hard rock material. The estimated total maximum volume of hard rock material to be removed from the initial 2-hectare cell will be approximately 300,000m³, with approximately 30,000m³ excavated each year, depending on supply and demand.

Overall, the Client seeks to extract approximately 650,000m³ of materials over 10-20 years period, or a combined volume of up to 65,000m³ annually. According to the Client, extraction of either materials within the Site can be concurrent, depending on supply and demand. A high-resolution version of the proposed extraction site extent plan is included in **Appendix B**.

Figure 11 – Proposed Extraction Site Extent



Legend

- | | |
|---------------------------|--|
| Lot boundary | ROM, Stockpile and Laydown areas |
| Gravel/clay extraction | Gravel/clay ROM, stockpile and laydown areas |
| Hard rock haulage route | Hard Rock ROM, stockpile and laydown areas |
| Gravel/clay haulage route | Test Pits |

Source: Accendo Australia Pty Ltd (2024)

3.2 Hours of Operation

According to the Client, typical operating hours for quarries will be adopted for the Site which starts at 7:30AM and ends at 5:30PM every Monday to Friday, and Saturdays between 7:30AM to 1:00PM upon necessity. The Site will not be operating during public holidays. The Site will be worked by 3 to 5 persons, depending on market demand.

3.3 Access Arrangements

Access to the Site is primarily proposed along the existing crossover on Catterick Road including existing internal tracks within the Site, as shown in **Figure 12**. Haulage of extracted materials is anticipated to be undertaken by semi-trailers (19m) and B-doubles (27.5m). Vehicles are expected to utilise Catterick Road to move extracted materials out of the Site and to delivery destinations via South Western Highway.

As discussed in **Section 2.6.2**, both South Western Highway and Catterick Road are currently classified for RAV 4 which allows vehicle access on these roads up to a length of 27.5m. As such, improvements at the intersection of South Western Highway and Catterick Road are not proposed.

Figure 12 – Proposed Access Arrangement



Legend

Haulage Routes

— Hard rock

— Gravel

— Catterick Road

□ Lot boundary

□ Gravel and clay extraction area

□ Hard rock extraction area

Source: Accendo Australia Pty Ltd (2024)

3.4 Parking Provision

3.4.1 Parking Requirements

No formalised parking is proposed on the extractive site. Suitable informal areas for the parking of light and heavy vehicles will be developed in accordance with operational requirements.

3.4.2 Bicycle Parking and End-of-Trip Facilities

As the site is located in a rural area and used for an extractive industry (gravel/clay and hard rock), no end-of-trip facilities will be provided.

4 INTEGRATION WITH SURROUNDING AREA

4.1 Surrounding Major Attractors/ Generators

Bridgetown is the closest major town from the Site, which is located approximately 18km to the south. The Bridgetown Hospital is a public hospital located at the northern periphery of the town, which is accessible by vehicle through South Western Highway.

The closest town from the Site is Greenbushes, approximately 7km northwest of the Site. Attractions and town facilities are primarily mine-oriented as the town is adjacent to a large open-pit mine.

Figure 13 illustrates the key attractors and generators surrounding the Site.

Figure 13 – Surrounding Attractors/Generators

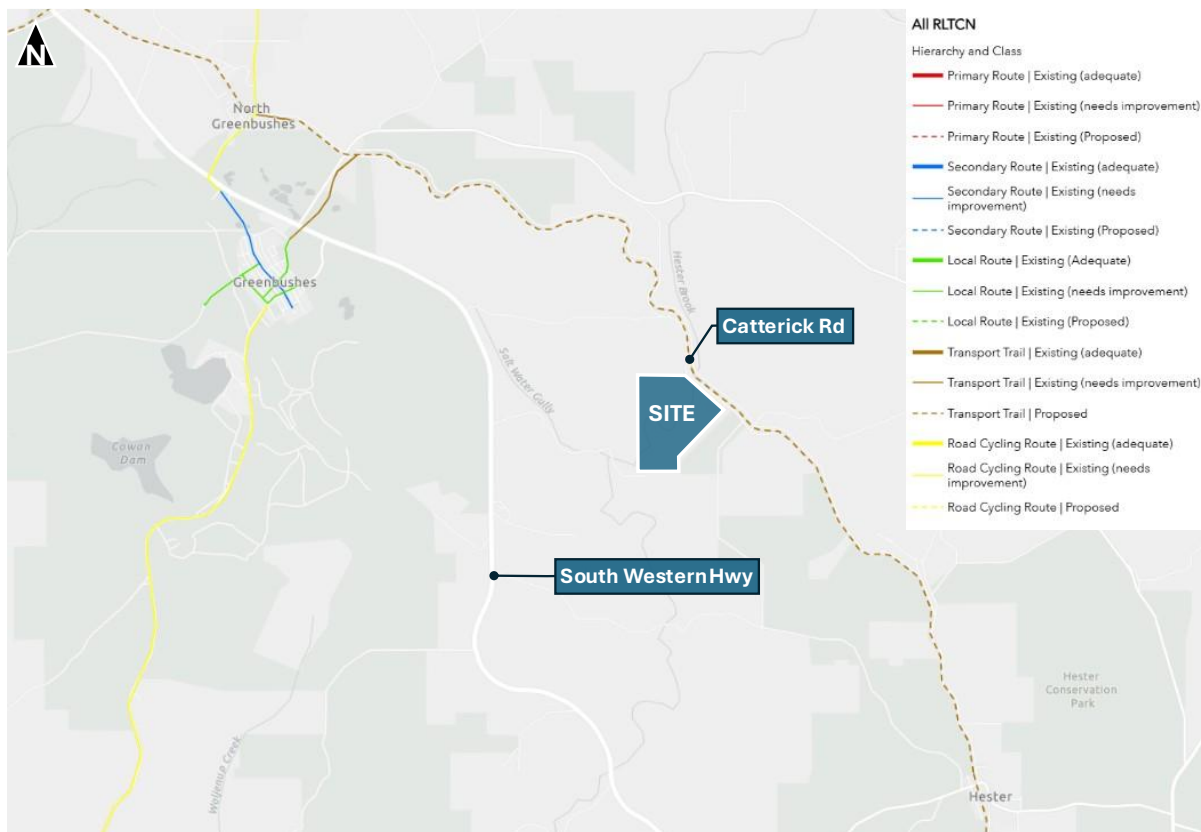


Source: Landgate Locate V5

4.2 Committed Development and Transport Proposals

Figure 14 shows the bicycle routes as identified in the Regional Long-Term Cycle Network (RLTCN) Map. Catterick Road is primarily identified as a proposed 'Transport Trail'. According to the Department of Transport, 'Transport Trails' provide long-distance, off-road (predominantly unsealed) riding experiences through natural settings, away from motorised traffic. They often support recreational and tourism trips between towns and regions. It is noted that this is a long-term aspirational strategy, and funding or timeframe for the implementation of these works are uncertain and have not materialised yet.

Figure 14 – Regional Long-Term Cycling Network



Source: Department of Transport

PTG is not aware of any other future development and transport proposals in the vicinity of the Site.

4.3 Proposed Changes to Land Uses within 1200 metres

There are no planned changes to the land uses within the surrounding area of the Site.

4.4 Adequacy and Deficiencies of the Existing Transport Network

The existing transport network in the vicinity of the Site is adequate for the current and known future land uses.

5 TRAFFIC GENERATION AND DISTRIBUTION

5.1 Calculation of the Number of Truck Trips Generated

To demonstrate that the annual volume of extracted material can be accommodated within the anticipated truck haulage specifications specified by the Client, this report has undertaken the estimation for the number of truck trips using the methodology specified in the *City of Busselton's Local Planning Policy No. 2.3 – Extractive Industries*. The calculation of truck trips is split into two (2) sections considering that the proposal seeks to extract both clay/gravel and crushed hard rock materials.

5.1.1 Clay/Gravel Extraction

The following assumptions are noted in the estimation of the number of truck trip generated by the extraction of clay and/or gravel:

- » The maximum haulage volume of clay/gravel is 35,000 Bank Cubic Metres (BCM) annually,
- » 70% of the annual haulage volume will be undertaken between October to May (main extraction season), which translates to 32 weeks of haulage,
- » With only five (5) working days per week, and
- » A 15% bulking factor is considered for excavated materials.

The **average daily extraction rate** during the main extraction season is $35,000\text{BCM} \times 70\% / 32 \text{ weeks} \times 5 \text{ working days per week} \times 1.15 \text{ (bulking factor)} = 178 \text{ Loose Cubic Metre (LCM) per day}$

To estimate the number of truck trips per day, the following truck capacities were considered in this assessment:

- » 13.9 LCM per truck for 19m trucks (25-tonne capacity), and
- » 27.8 LCM per truck for 27.5m trucks (50-tonne capacity)

The estimated number of truck trips are:

- » Using 19m trucks: $178 \text{ LCM per day} / 13.9 \text{ LCM per truck} \times 2 \text{ (in and out trips)} = 26 \text{ truck movements per day}$
- » Using 27.5m trucks: $178 \text{ LCM per day} / 27.8 \text{ LCM per truck} \times 2 \text{ (in and out trips)} = 14 \text{ truck movements per day}$

The *City of Busselton's LPP No. 2.3 – Extractive Industry Policy* considers that the demand for extracted materials may vary day to day during the peak extraction season and that it is reasonable to assume that peak day truck trips may be twice the of the estimated average daily truck trips. As such, the policy recommends that a factor of two (2) should be applied to derive the peak daily truck trips. For robustness, this report will consider the peak factor multiplier as specified within the City of Busselton's guidelines. As such, the indicative peak-day daily truck trips are as follows:

- » Using 19m trucks: $26 \text{ trucks per day} \times 2 \text{ (peak factor multiplier)} = 52 \text{ truck trips per day}$ during peak day of the main extraction season, and/or
- » Using 27.5m trucks: $14 \text{ trucks per day} \times 2 \text{ (peak factor multiplier)} = 28 \text{ truck trips per day}$ during peak day of the main extraction season.

5.1.2 Crushed Hard Rock Extraction

Following the same pattern in the previous section, the estimation of the number of truck trips generated by the extraction of crushed hard rock considers the following:

- » The maximum haulage volume of clay/gravel is 30,000 Bank Cubic Metres (BCM) annually,
- » 70% of the annual haulage volume will be undertaken between October to May (main extraction season), which translates to 32 weeks of haulage,
- » With only five (5) working days per week, and
- » A 15% bulking factor is considered for excavated materials.

The **average daily extraction rate** during the main extraction season is $30,000\text{BCM} \times 70\% / 32 \text{ weeks} \times 5 \text{ working days per week} \times 1.15 \text{ (bulking factor)} = \mathbf{152 \text{ Loose Cubic Metre (LCM) per day}}$

Two (2) trucks are being considered for haulage movements to and from the Site; 19m trucks with a semi-trailer and 27.5m trucks with double semi-trailers. To estimate the number of truck trips per day, the hauling capacities of these trucks were considered and are detailed as follows:

- » 13.9 LCM per truck for 19m trucks (single semi-trailers with 25-tonne capacity), and
- » 27.8 LCM per truck for 27.5m trucks (double semi-trailers with 50-tonne capacity)

The estimated number of truck trips are:

- » Using 19m trucks: $152 \text{ LCM per day} / 13.9 \text{ LCM per truck} \times 2 \text{ (in and out trips)} = 22 \text{ trucks per day}$
- » Using 27.5m trucks: $152 \text{ LCM per day} / 27.88 \text{ LCM per truck} \times 2 \text{ (in and out trips)} = 10 \text{ trucks per day}$

Considering the same peak factor multiplier as specified within the *City of Busselton's LPP No. 2.3 – Extractive Industry Policy*, the indicative peak-day daily truck trips are as follows:

- » Using 19m trucks: $22 \text{ trucks per day} \times 2 \text{ (peak factor multiplier)} = \mathbf{44 \text{ truck trips per day}}$ during peak day of the main extraction season, and/or
- » Using 27.5m trucks: $12 \text{ trucks per day} \times 2 \text{ (peak factor multiplier)} = \mathbf{20 \text{ truck trips per day}}$ during peak day of the main extraction season.

5.1.3 Combined Material Extraction

Table 5 summarises the estimated truck trips generated for both extracted materials within the Site, considering either 19m or 27.5m haulage trucks. According to the Client, extraction of both materials within the Site can be concurrent, depending on supply and demand.

Table 5 – Estimated Truck Trip Generation

		Clay/Gravel	Crushed Hard Rock	Combined Material
Annual Maximum Haulage Volume	BCM per year	35,000	30,000	65,000
Average Daily Extraction Rate	LCM per day	178	152	330
Estimated Truck Movements during peak day of the main extraction season	With 19m trucks single semi-trailer with 25-tonne capacity	52 truck trips per day	44 truck trips per day	96 truck trips per day
	With 27.5m trucks double semi-trailers with 50-tonne capacity	28 truck trips per day	20 truck trips per day	48 truck trips per day

5.2 Calculation of Trips Generated by Staff/Employees

The estimation of trips generated by on-site staff or employees (using cars or light vehicles) considers the following assumptions:

- » According to the Client, the number of on-site staff may vary between 3 to 5 people depending on market demand and supply. For robustness, this report will consider the maximum number of on-site staff which is five (5) people at any given time.
- » It is assumed that staff movements to and from the Site will occur at least four (4) times within the workday: arriving in the morning, heading out for lunch, returning from lunch, and leaving in the afternoon.
- » Staff movements are considered to occur outside of the Site's peak-hour traffic generation but are included in the daily trips.

As such, the trip generation of staff/employees are summarised below in **Table 6**.

Table 6 – Estimated Staff/Employee Trip Generation

	Peak Hour		Daily	
	IN	OUT	IN	OUT
Staff/Employee using cars or light vehicles	0	0	10	10
	0		20	

Staff/employee trip generation is estimated to be 20 vehicle trips daily. Light vehicle trips generated by on-site staff / employees are expected to occur outside of the typical network peak periods.

5.3 Development Traffic Generation

With the discussions of traffic generation from haulage trucks and staff/employee movements in the previous sections, the overall peak-hour and daily traffic generation of the Site is summarised in **Table 7**. The estimated development-generated trips further consider the following assumptions:

- » The indicative peak day truck trip is likely to occur during the peak period of the year, which occurs within the main extraction season, between October to May,
- » During the rest of the season and outside of the main extraction season, the average daily truck trips volume is expected to be lower.
- » Peak haulage movements are expected to occur during the first hour of operation (7:30am to 8:30am), with an estimated maximum of **12 truck trips** within the hour for 19m haulage trucks and an estimated maximum of **8 truck trips** for 27.5m haulage trucks.
- » It is expected that the remaining haulage movements will be spread out across the rest of the 9-hour workday.

Table 7 – Estimated Development Trip Generation

	19m Trucks				27.5m Trucks			
	Peak Hour		Daily		Peak Hour		Daily	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Staff/Employee	0	0	10	10	0	0	10	10
Truck Haulage	6	6	48	48	4	4	24	24
Total	6	6	58	58	4	4	34	34
	12		116		8		68	

The proposed development is estimated to generate a maximum of approximately 116 vehicle trips daily and 12 vehicle trips in the peak-hour period, which considers utilisation of 19m trucks for haulage operations. The peak-hour trip generation slightly reduces to only 8 vehicle trips if 27.5m trucks will be used for haulage operations. It should be noted that during the Site's peak hour, trip generation is expected to come from truck movements only.

The estimated trip generation values associated with the development falls within the “moderate impact” range according to WAPC TIA guidelines, and no detailed intersection analysis is warranted.

5.4 Distribution of Generated Traffic

Haulage of extracted materials will primarily be undertaken via Catterick Road to access South Western Highway. It is estimated that half of these vehicles (50%) will travel to/from the north of Catterick Road while the remaining half (50%) will travel to/from the south along South Western Highway.

To inform the assessment, a site inspection of the crossover and haulage route was carried out by PTG on Friday, 08 June 2026. The weather at the time of the inspection was cloudy with occasional rain, and the road surface was wet.

6.1 Analysis of the Development Access

6.1.1 Geometry

The Site's existing crossover (at SLK 4.14) and the section of Catterick Road fronting the Site are currently unsealed with only wood fencing and a gate along the perimeter as physical obstructions to vehicle movements.

A swept path analysis was undertaken using the proposed 27.5m and 19m haulage trucks. As shown in **Figure 15** and **Figure 16**, the design vehicle can adequately manoeuvre in and out of the Site. However, two trucks will not be able to turn in/out at the crossover simultaneously. As the truck volumes are relatively low and spread evenly throughout the workday it is considered that this arrangement is acceptable for the proposed 10-year life of the pit with traffic management measures in place to manage arrivals and departures.

A high-resolution version of swept path plans is included in **Appendix C**.

Figure 15 – Swept Path Analysis – 27.5m Truck

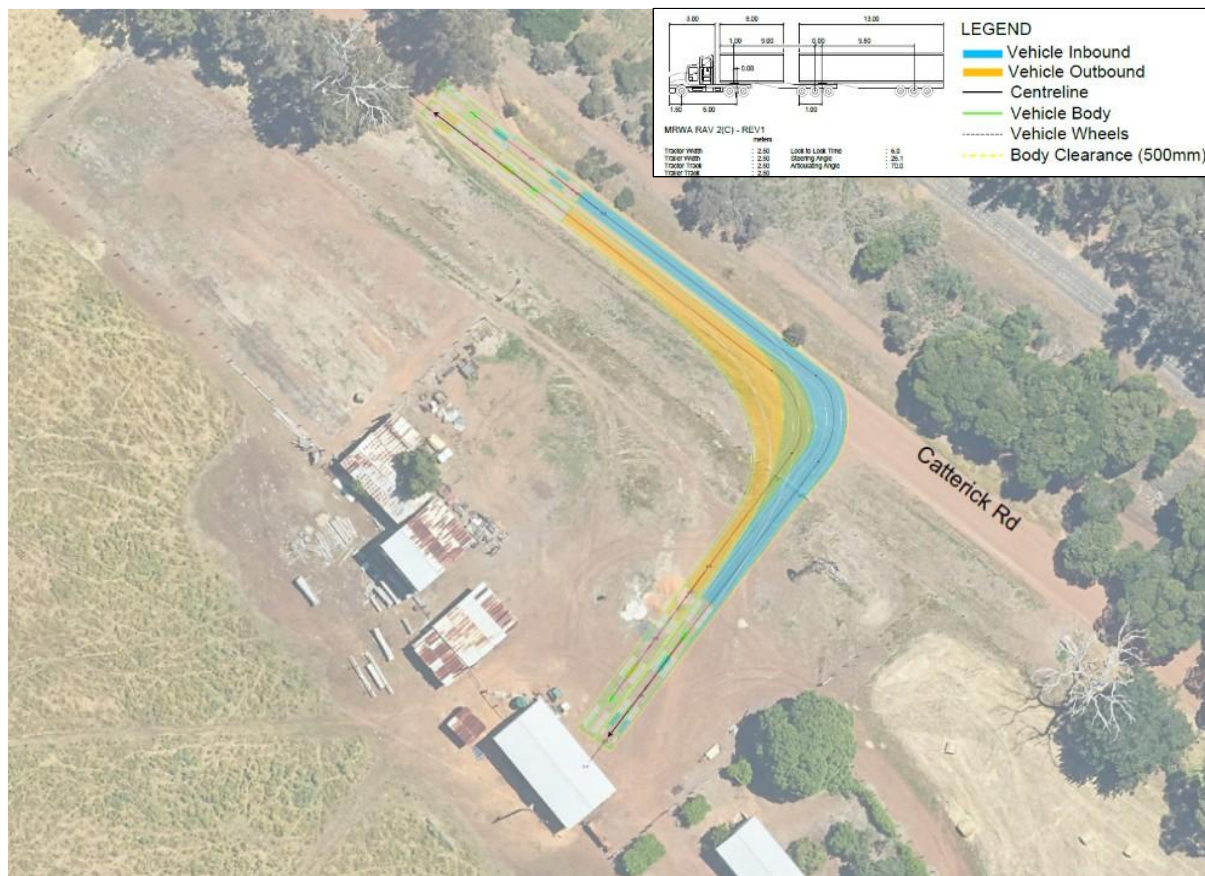


Figure 17 – Existing Crossover - Eastbound along Catterick Road



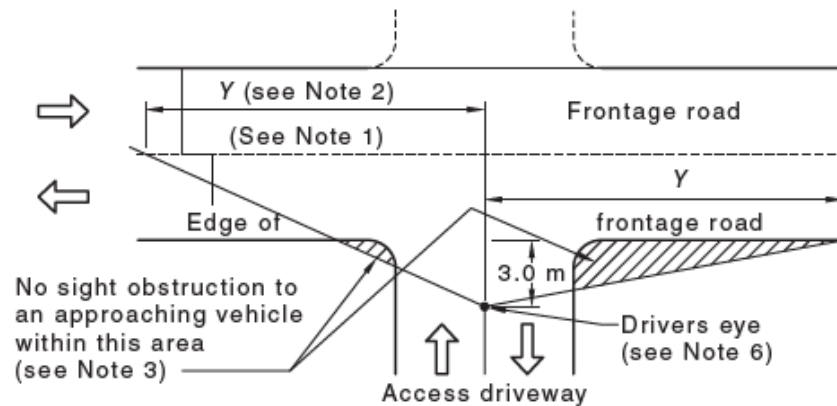
Figure 18 – Existing Crossover - Westbound along Catterick Road



6.1.3 Sight Distance

A sight distance assessment for commercial vehicles was undertaken for the access driveway in accordance with Australian Standards AS2890.2 – *Off-street Commercial Vehicle Facilities*. As shown in **Figure 19**, the required sight distance for a frontage road speed of 110km/h is **153m** for a 5-second gap and **244m** for an 8-second gap.

Figure 19 – Required Sight Distance



Frontage road speed (see Note 4) km/h	Distance (Y) along frontage road (see Note 5) m	
	5 s gap	8 s gap
40	55	89
50	69	111
60	83	133
70	97	156
80	111	178
90	125	200
100	139	222
110	153	244

Source: AS2890.2

As shown in **Figure 20** and **Figure 21**, large tree trunks and low-hanging tree branches partially obstructs the sightline towards the Site's existing crossover. Minor pruning of low-hanging tree branches and surrounding vegetation can improve the sightline towards the Site's access point. It is noted however that given the unsealed nature of Catterick Road and the general road geometry, vehicles using the road would likely be travelling at speeds significantly lower than 110km/h.

Figure 20 – Sightline at approximately 153m to the Site (at SLK 3.97)



Figure 21 – Sightline at approximately 244m to the Site (at SLK 3.89)



As shown in **Figure 22**, The minimum required sight distance of 153m is theoretically available to the right of the existing crossover since Catterick Road continues eastward in a linear horizontal alignment. However, due to the presence of dense vegetation along Catterick Road, the sightline may partially be obstructed. Minor pruning of low-hanging tree branches and surrounding vegetation may improve the sightline to and from the Site.

Figure 22 – Sight Distance to the Right of the Existing Crossover



Figure 23 shows the summary of the sight line assessment. Since it is anticipated that haulage trucks will exit the site and head towards South Western Highway, only the left side of the existing crossover was assessed for the required sight distance's viability along Catterick Road.

Overall, the minimum required sight distance of 153m to either side of the existing crossover is achievable and can be further improved by clearing the vegetation and low-hanging branches. A high-resolution version of the figure is provided in **Appendix D**.

Figure 23 - Sight Line Assessment



6.1.4 Summary of Recommended Works

Overall, it is considered that the existing crossover is suitable for the proposed development. However, vegetation should be cleared within the sight triangles to a height of 2.5m above road level to provide adequate sight lines.

6.2 Analysis of Catterick Road

6.2.1 Geometry

The section of Catterick Road fronting the Site is unsealed and unkerbed and is approximately 7.0m wide. The section of Catterick Road leading to South Western Highway is also unsealed and unkerbed, except for the last 100m leading into the highway (between SLK 0.0 to SLK 0.1). This sealed section of Catterick Road is approximately 9.0m wide and is also unkerbed.

Another sealed section of Catterick Road was identified between SLK 3.75 and SLK 3.85 and is approximately 100m in length. This sealed section of Catterick Road includes an existing bridge (3703A) that crosses the Hester Brook Creek and is measured to be approximately 7.0m wide. This bridge is also unkerbed as with the rest of the sealed section of Catterick Road.

Between South Western Highway and the Site Access, the widths of the unsealed sections of Catterick Road were measured to vary between 5.0m and 7.0m. The unsealed section approximately between SLK 1.75 and SLK 3.73 was generally observed to be narrow with at least 5.0m carriageway width. This section of road is surrounded by dense vegetation with thick tree trunks running along its unkerbed edges.

The traffic expected to be generated by the extractive site and existing traffic on Catterick Road is low. However, it is recommended that a few localised areas should be widened to facilitate two-way passing of vehicles within the narrow sections of Catterick Road. Majority of Catterick Road is unsealed and is surrounded by dense verge vegetation. As such, it is recommended that regular dust mitigation, verge clearing, and vegetation pruning measures be conducted during mining operations to reduce any potential impacts along Catterick Road.

6.2.2 Road Condition

An inspection of Catterick Road between SLK 0.0 (intersection with South Western Highway) and SLK 4.14 (Site Access) was undertaken during June 2026. This section of Catterick Road is already approved for Tandem Drive Network 4, which allows vehicle access up to 27.5m long (see **Section 2.6.2**).

Figure 24 to Figure 32 shows the general road conditions along the assessed section of Catterick Road.

Figure 24 – Catterick Road approaching South Western Highway (looking south east)



Figure 25 – Catterick Road approaching South Western Highway (looking north west)



Figure 26 – Catterick Road at SLK 2.31 (Narrow Unsealed Section)



Figure 27 – Catterick Road at SLK 2.41 (Narrow Unsealed Section)



Figure 28 – Catterick Road at SLK 2.42 (Narrow Unsealed Section)



Figure 29 – Catterick Road at SLK 3.21 (Narrow Unsealed Section)



Figure 30 – Catterick Road at SLK 3.32 (Narrow Unsealed Section)

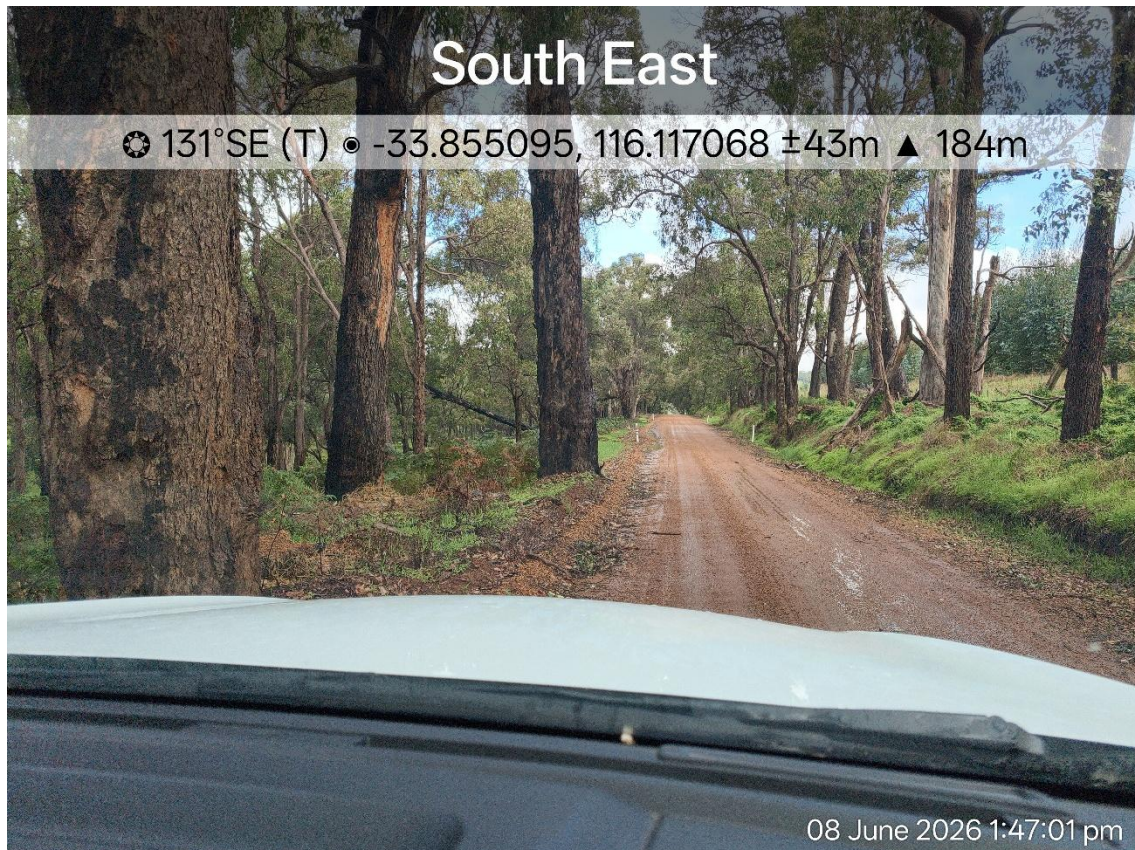
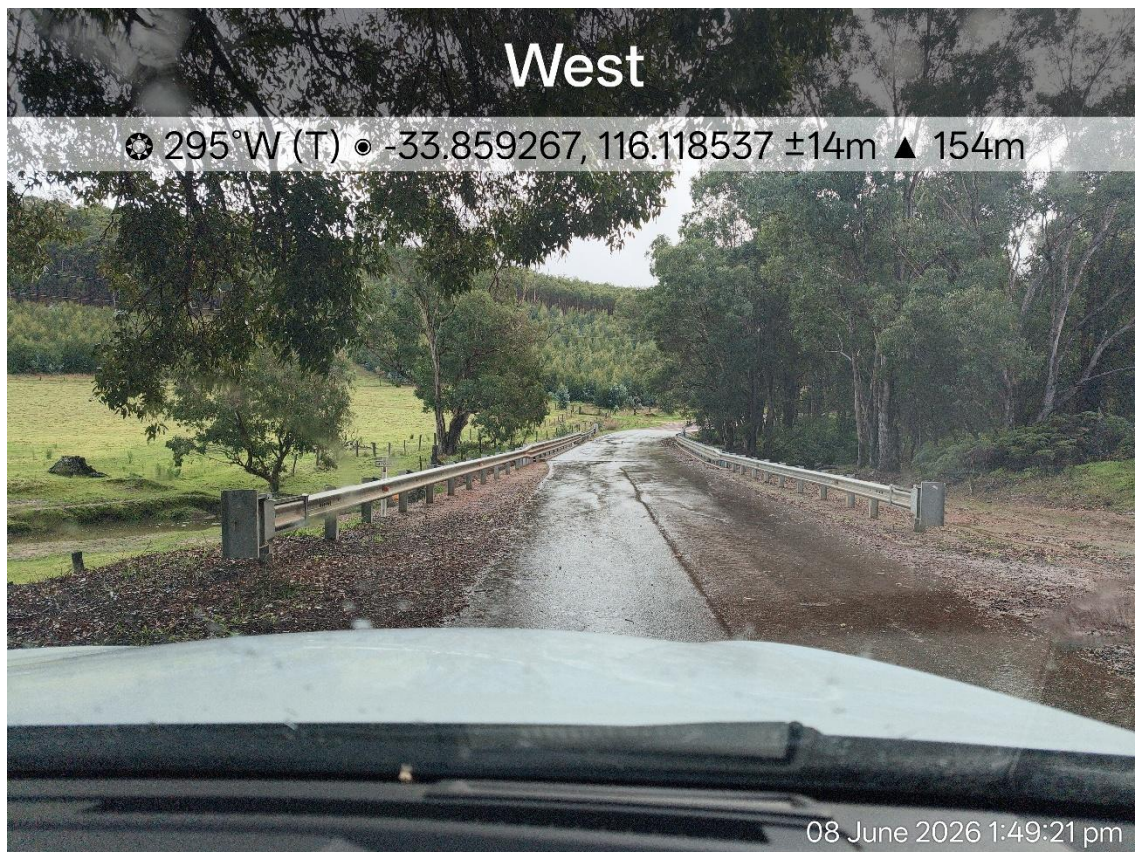


Figure 31 – Catterick Road at SLK 3.74 (Existing Bridge crossing the Hester Brook Creek)



Figure 32 – Catterick Road at SLK 3.87 (Existing Bridge crossing the Hester Brook Creek)



6.2.3 Traffic Impact

As outlined in **Section 5.3**, the proposed development is estimated to generate a total of between 68 and 116 vehicle movements per day considering utilisation of 27.5m and 19m haulage trucks. Daily traffic movements will comprise of the following:

- » 20 light vehicle movements, and
- » Up to 24 laden and empty 27.5m truck movements, or
- » Up to 48 laden and empty 19m truck movements.

In terms of peak-hour traffic generation, it is estimated the Site will generate the following peak-hour vehicle movements considering the type of truck used for haulage:

- » 8 vehicle movements using 27.5m trucks, or
- » 12 vehicle movements using 19.0m trucks.

According to the WAPC TIA Guidelines, if a development's estimated peak-hour trip generation falls between 10 to 100 vehicle trips, a moderate impact is anticipated on the Site's surrounding road network. Low impact is anticipated if a development's peak-hour trip generation is estimated to be less than 10 vehicle trips.

6.2.4 Conclusion

Overall, the proposed extractive industry is unlikely to have a significant impact on the overall safety and operations of the surrounding road network.

Haulage movements can also follow a one-way flow along Catterick Road wherein trucks enter from the east of the Site and exit to the west heading to South Western Highway. In this way, impacts along the narrow sections of Catterick Road can be reduced. Using restricted access vehicles (RAVs) is also recommended as it results in less trips being generated for haulage operations. Since Catterick Road is currently approved for RAV operations under conditions specified in **Section 2.6.2**, the overall impact of the haulage operations along Catterick Road may be further mitigated.

6.3 Analysis of Catterick Road/South Western Highway Intersection

6.3.1 Geometry

The intersection of Catterick Road and South Western Highway entails simple turn treatments (Type SR & SL), as shown below in **Figure 33**.

Figure 33 – Aerial View of Catterick Road/South Western Highway Intersection



Source: Landgate Locate V5

A swept path assessment was conducted to verify turn movements of 19m and 27.5m haulage trucks at this intersection. **Figure 34** and **Figure 35** shows the swept paths diagrams of the haulage trucks as it enters and exits Catterick Road. A high-resolution version of swept path plans is included in **Appendix C**.

In general, the swept paths indicate that the existing intersection layout can accommodate the turning movements of either haulage trucks considered. However, the following specific findings were observed in using the haulage trucks at this intersection:

- » A lane-correct entry of a 27.5m truck into Catterick Road entails occupying almost the entire width of the Catterick Road approach leaving little to no space available for outgoing traffic heading into South Western Highway.
- » On the other hand, there seems to be enough space for outgoing traffic along Catterick Road when a 19m truck turns in.
- » A southbound (left-turning) 27.5m truck will need to occupy the opposing traffic lane of South Western Highway. For a right-turning truck, a portion of the sealed shoulder will be occupied momentarily before reaching the northbound lane of South Western Highway.
- » For a 19.0m truck, minimal to no encroachments were identified in any of the turning movements into South Western Highway.

Figure 34 – Swept Path at Existing Intersection – 27.5m Truck

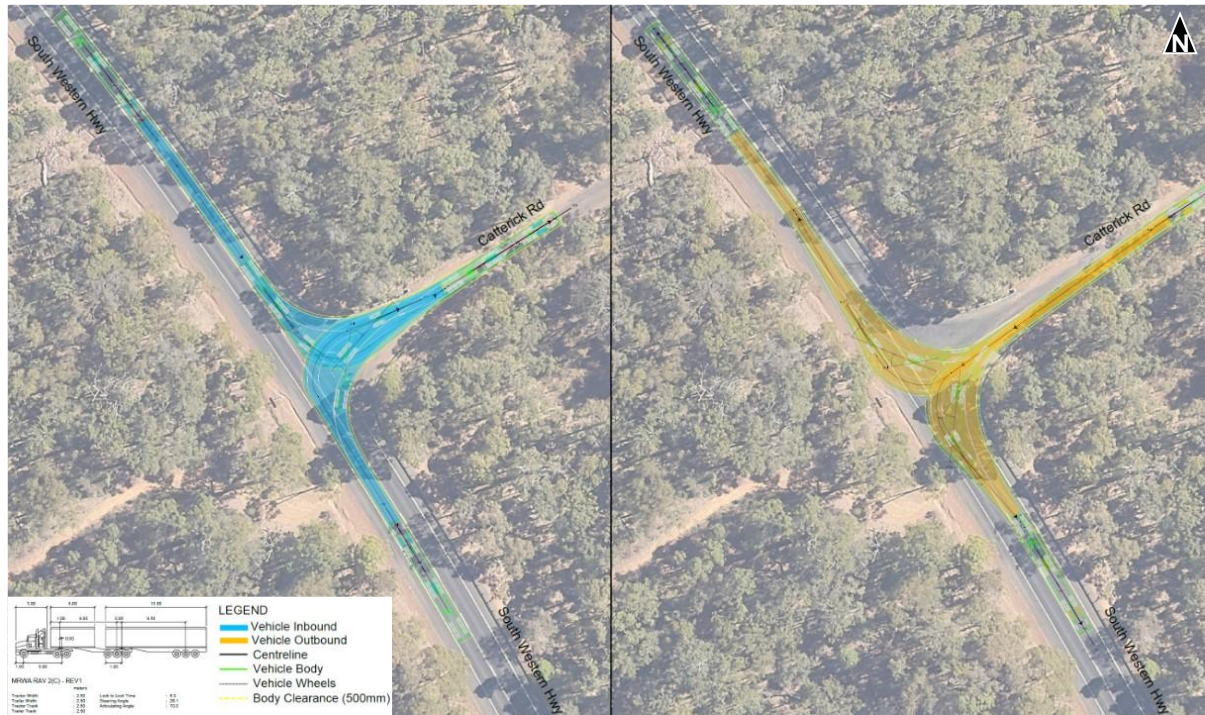


Figure 35 – Swept Path at Existing Intersection – 19.0m Truck



6.3.2 Intersection Analysis

As the traffic volumes generated by the proposed development are well below 100vph, no detailed intersection analysis (e.g. SIDRA) is warranted under the WAPC *Transport Assessment Guidelines*.

A turn warrant assessment was undertaken in accordance with the MRWA Supplement to Austroads Guide to Traffic Management Part 6, for Catterick Road/South Western Highway intersection for the Site's peak hour traffic volumes.

There are no existing traffic volumes on the intersection of Catterick Road and South Western Highway. As such, the peak-hour traffic flow along South Western Highway for the existing year (2026) was adopted from existing counts as summarised in **Table 3**. Since no traffic counts are available along Catterick Road, only development-generated trips were considered in this assessment.

As mentioned in **Section 5.4**, development traffic is equally distributed to/from South Western Highway (50% northbound and 50% southbound). These traffic volumes are used as an input for the turn warrant assessment in the existing year (2026) scenario to further verify the current turn treatments at this intersection. **Figure 36** and **Figure 37** illustrates the peak-hour volume inputs for the turn warrant assessment, considering usage of 27.5m and 19.0m haulage trucks.

Figure 36 – Turn Warrant Assessment – Existing Year (2026) using 27.5m Trucks

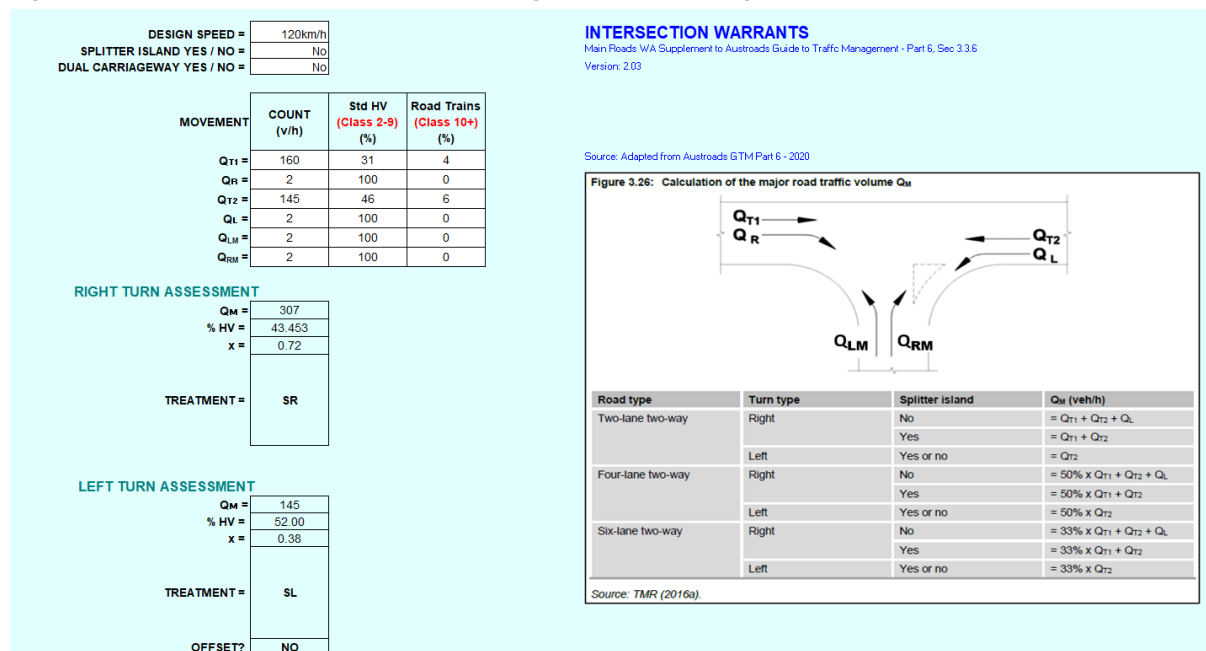
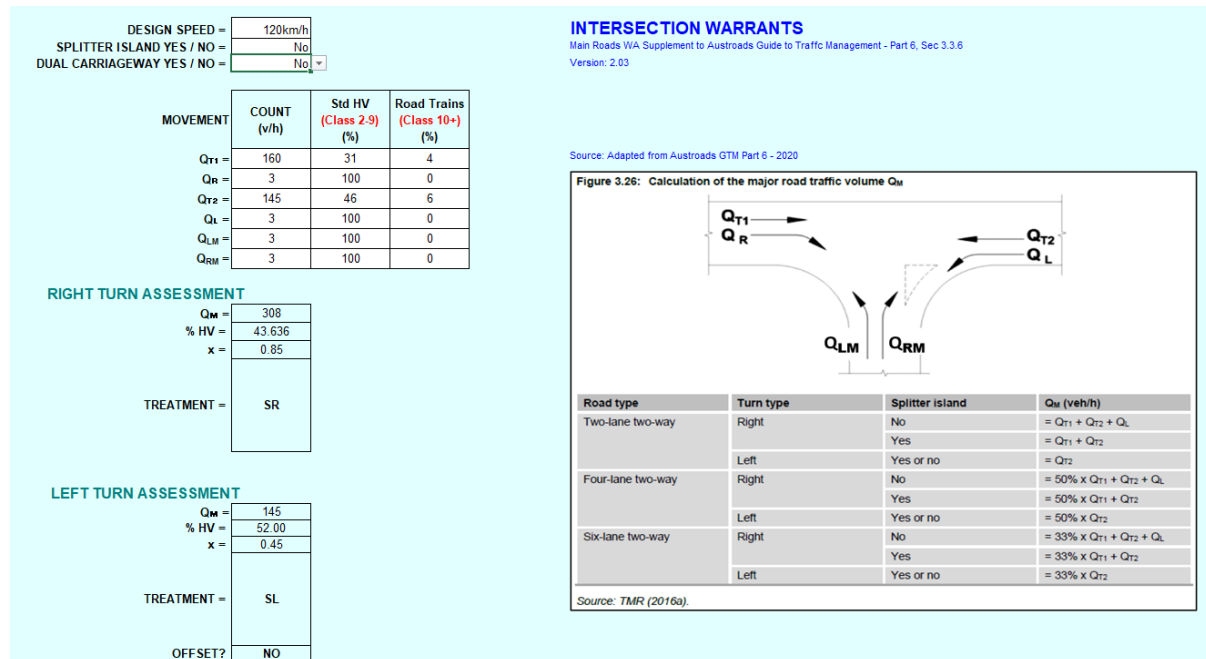


Figure 37 – Turn Warrant Assessment – Existing Year (2026) using 19.0m Trucks



The turn warrant assessments using the adopted existing year (2026) and development traffic volumes in the peak-hour period indicates that the required turn treatments are Simple Right (SR) and Simple Left (SL) treatments. It is noted that currently, this intersection entails both simple turn treatments (Type S). As such, the intersection already provides a suitable treatment that can accommodate the Site's peak-hour traffic movements. However, the turn warrant assessment did not consider background traffic growth along both South Western Highway and Catterick Road. Traffic counts should be conducted at this intersection to consider the background traffic movements in the existing and future year scenarios.

7 ROAD SAFETY AND ACCESSIBILITY IMPACT

7.1 Impact on Neighbouring Areas

A detailed analysis of traffic movements on Catterick Road and the cumulative impact of the proposed development is provided in **Section 6.2**.

As the proposed haulage route is located through a mostly rural area, the movement of haulage trucks, whether 27.5m or 19.0m in length, is consistent with the road environment of this road and the surrounding roads.

As overall volumes remain low, and the haulage times will not coincide with school bus pick-up and drop-off times and peak tourist times, impact on other road users is expected to be low. However, It is still recommended that haulage operations should occur outside of the school bus pick-up and drop-off times to avoid impacts particularly along South Western Highway.

7.2 Road Safety

The low volume of traffic movements generated by the proposed development is unlikely to have any material impact on road safety along Catterick Road as there were no recorded crashes on the proposed haulage route, particularly at the intersection of Catterick Road and South Western Highway.

7.3 Public Transport Access

Not applicable.

7.4 Pedestrian/ Cycle Access Amenity

Not applicable.

7.5 Analysis of Pedestrian/Cycle Network

Not applicable.

7.6 Safe Walk/ Cycle to School

Not applicable.

7.7 Traffic Management Plan

It is recommended that an operational Traffic Management Plan (TMP) be prepared to document operational requirements for internal and external haulage movements. The TMP should specify, but not be limited to, the following conditions:

- » Haulage time and days.
- » The size and payload of the trucks used for haulage.
- » Quarterly inspection of sight triangles at the site access and removal/pruning of vegetation to maintain adequate sight lines as required.
- » Installation of trucks turning warning signs (MR-WM-42) on Catterick Road on both approaches to the Site's access point.
- » Communication methods to manage the arrival and departure of trucks at the site to avoid conflicts at the site access crossover. For example, which UHF channel to use, which location(s) that drivers must 'call up' when arriving or departing, and the procedure for slowing or stopping to allow an entering truck to clear the crossover.

8 SUMMARY

This report has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments* (2016) and the *Shire of Bridgetown-Greenbushes Policy Manual – Land Use and Planning Policy No. 11 – Extractive Industry Policy*. The WAPC TIA Checklist is included in **Appendix A**.

The following conclusions can be drawn from this TIA:

- » The proposed development seeks to extract clay/gravel and crushed hard rock materials within the combined Lots 3938 and 7971 Catterick Road, Catterick. Approximately 650,000m³ of combined materials will be extracted within a ten-year period, or a combined volume of 65,000m³ annually. According to the Client, extraction of either materials within the Site can be concurrent, depending on supply and demand.
- » Typical operating hours for quarries will be adopted for the subject site which involves 7:30 am to 5:30 pm each Monday to Friday and Saturdays 7:30 am to 1 pm (if required), excluding public holidays. The subject site will be worked by 3 - 5 persons, depending on market demand.
- » Extracted material is proposed to be transported using 19m semi-trailers or 27.5m b-double trucks via an existing crossover along Catterick Road, then northwest along Catterick Road to South Western Highway.
- » The proposed haulage route is already approved for Tandem Drive Network 4, which allow vehicle access up to 27.5m long. However, Catterick Road is approved for Tandem Drive Network 4. However, Catterick Road (from SLK 0.0 to SLK 9.16) is approved for Tandem Drive Network 4 given that the following operating conditions are followed:
 - Headlights are to be switched on at all times,
 - Low volume (LV),
 - Maximum speed is set at 40km/h,
 - When travelling at night, the RAV must travel at a maximum speed of 40km/h and display an amber flashing warning light on the prime mover, and
 - Direct radio contact must be maintained with other restricted access vehicles to establish their position on or near the road (suggested UHF channel 40).
- » The estimated number of daily trips generated by the proposed development consists of 20 light vehicle movements and 48 heavy vehicle movements (24 laden and 24 unladen) during peak day haulage periods using 27.5m trucks. The number of heavy vehicle movements rises to 96 (48 laden and 48 unladen) if haulage is conducted using 19.0m trucks. The Site's daily traffic generation is estimated to range between 68 and 116 vehicle movements during the peak day of the main extraction season.
- » Following WAPC TIA Guidelines, the peak-hour vehicle movements generated by the Site falls within low to moderate impact category. As such, the proposed extractive industry is unlikely to impose significant impacts on the overall safety and operations of the surrounding road network, particularly on Catterick Road and South Western Highway.
- » The existing width, alignment and sealing condition of Catterick Road have been examined and it is recommended that a few localised areas should be widened to facilitate two-way passing of vehicles. In addition, a Traffic Management Plan (TMP) should be prepared post-approval to further mitigate the impacts along Catterick Road and to further support the proposed mining and haulage operations.
- » The intersection of Catterick Road and South Western Highway currently entails simple turn treatments. Based on swept path assessments at this intersection, the current turn treatments are able to accommodate turning manoeuvres of both 27.5m and 19.0m haulage trucks. In addition, turn warrant assessments in the existing year (2026) indicate that the current turn treatments at this intersection are adequate to accommodate the Site's generated traffic, particularly the heavy vehicle movements in the peak-hour period. The turn warrant assessment was conducted considering adopted traffic volumes along South Western Highway and the estimated haulage traffic volumes on Catterick Road.
- » As the site is an extractive industry operation located in a rural area, public transport, pedestrian, and cycling facilities are not necessary or applicable.
- » Due to the low volume of traffic generated by the development and the absence of any recorded crashes involving heavy vehicles, it is envisaged that any impact on road safety would be minimal.

- » Overall, the site is considered suitable for the proposed development, subject to minor recommended works.

Based on the findings of this report, the following minor works are recommended:

- » Vegetation should be cleared within the sight triangles to a height of 2.5m above road level to provide adequate sight lines.

It is also recommended that a Traffic Management Plan (TMP) be prepared post-approval to document operational requirements for internal and external haulage movements. The TMP should specify, but not be limited to, the following conditions:

- » Haulage time and days.
- » The size and payload of the trucks used for haulage.
- » Quarterly inspection of sight triangles at the site access and removal/pruning of vegetation to maintain adequate sight lines as required.
- » Installation of trucks turning warning signs (MR-WM-42) on Catterick Road on both approaches to the Site's access point.
- » Communication methods to manage the arrival and departure of trucks at the site to avoid conflicts at the site access crossover. For example, which UHF channel to use, which location(s) that drivers must 'call up' when arriving or departing, and the procedure for slowing or stopping to allow an entering truck to clear the crossover.

APPENDIX A

WAPC CHECKLIST



Appendix A – WAPC Checklist

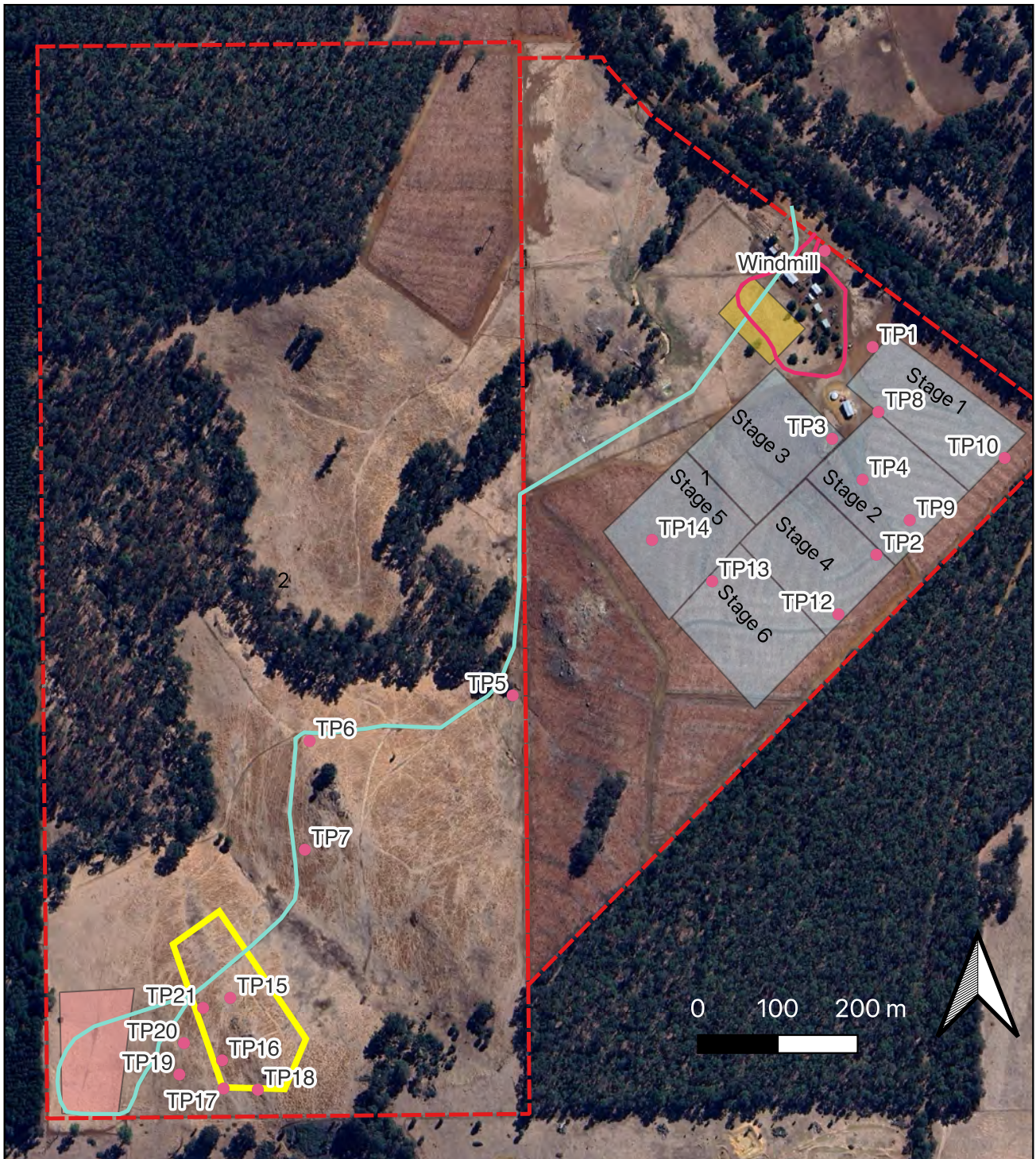
Item	Provided	Comments/ Proposals
Summary		
Introduction/Background		
Name of Applicant and Consultant	Section 1	
Development Location and Context	Section 1	
Brief Description of Development Proposal	Section 1	
Key Issues	N/A	
Background Information	Section 1	
Existing Situation		
Existing Site Uses (If Any)	Section 2	
Existing Parking and Demand (If Appropriate)	Section 2	
Existing Access Arrangements	Section 2	
Existing Site Traffic	Section 2	
Surrounding Land Uses	Section 2	
Surrounding Road Network	Section 2	
Traffic Management on Frontage Roads	N/A	
Traffic Flows on Surrounding Roads (Usually AM and PM Peak Hours)	Section 2	
Traffic Flows at Major Intersections (Usually AM and PM Peak Hours)	Section 2	
Operation of Surrounding Intersections	N/A	
Existing Pedestrian/Cycle Networks	Section 2	
Existing Public Transport Services Surrounding the Development	Section 2	
Crash Data	Section 2	
Development Proposal		
Regional Context	N/A	
Proposed Land Uses	Section 3	
Table of Land Uses and Quantities	Section 3	
Access Arrangements	Section 3	
Parking Provision	Section 3	
End of Trip Facilities	Section 3	
Any Specific Issues	N/A	
Road Network	N/A	
Intersection Layouts and Controls	N/A	
Pedestrian/Cycle Networks and Crossing Facilities	N/A	
Public Transport Services	N/A	
Integration With Surrounding Area		
Surrounding Major Attractors/Generators	Section 4	
Committed Developments and Transport Proposals	Section 4	
Proposed Changes to Land Uses Within 1200 Metres	Section 4	
Travel Desire Lines from Development to These Attractors/Generators	Section 4	

Adequacy of Existing Transport Networks	Section 4	
Deficiencies in Existing Transport Networks	Section 4	
Remedial Measures to Address Deficiencies	Section 4	
Analysis Of Transport Networks		
Assessment Years	Section 5	
Time Periods	Section 5	
Development Generated Traffic	Section 5	
Distribution of Generated Traffic	Section 5	
Parking Supply & Demand	N/A	
Base and "With Development" Traffic Flows	Section 6	
Analysis of Development Accesses	Section 6	
Impact on Surrounding Roads	Section 6	
Impact on Intersections	Section 6	
Impact on Neighbouring Areas	Section 7	
Traffic Noise and Vibration	Section 7	
Road Safety	Section 7	
Public Transport Access	Section 7	
Pedestrian Access/Amenity	Section 7	
Cycle Access/Amenity	Section 7	
Analysis of Pedestrian/Cycle Networks	Section 7	
Safe Walk/Cycle to School (For Residential and School Site Developments Only)	N/A	
Traffic Management Plan (Where Appropriate)	Section 7	
Conclusions	Section 8	

APPENDIX B

SITE PLANS





Legend

 Lot boundary	ROM, Stockpile and Laydown areas
 Gravel/clay extraction	 Gravel/clay ROM, stockpile and laydown areas
— Hard rock haulage route	 Hard Rock ROM, stockpile and laydown areas
— Gravel/clay haulage route	● Test Pits

PROJECT Catterick Road

DRAWING TITLE Figure 2 – Site Extent

CLIENT Jim Cross

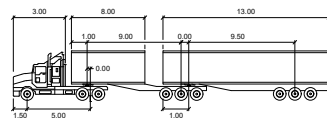
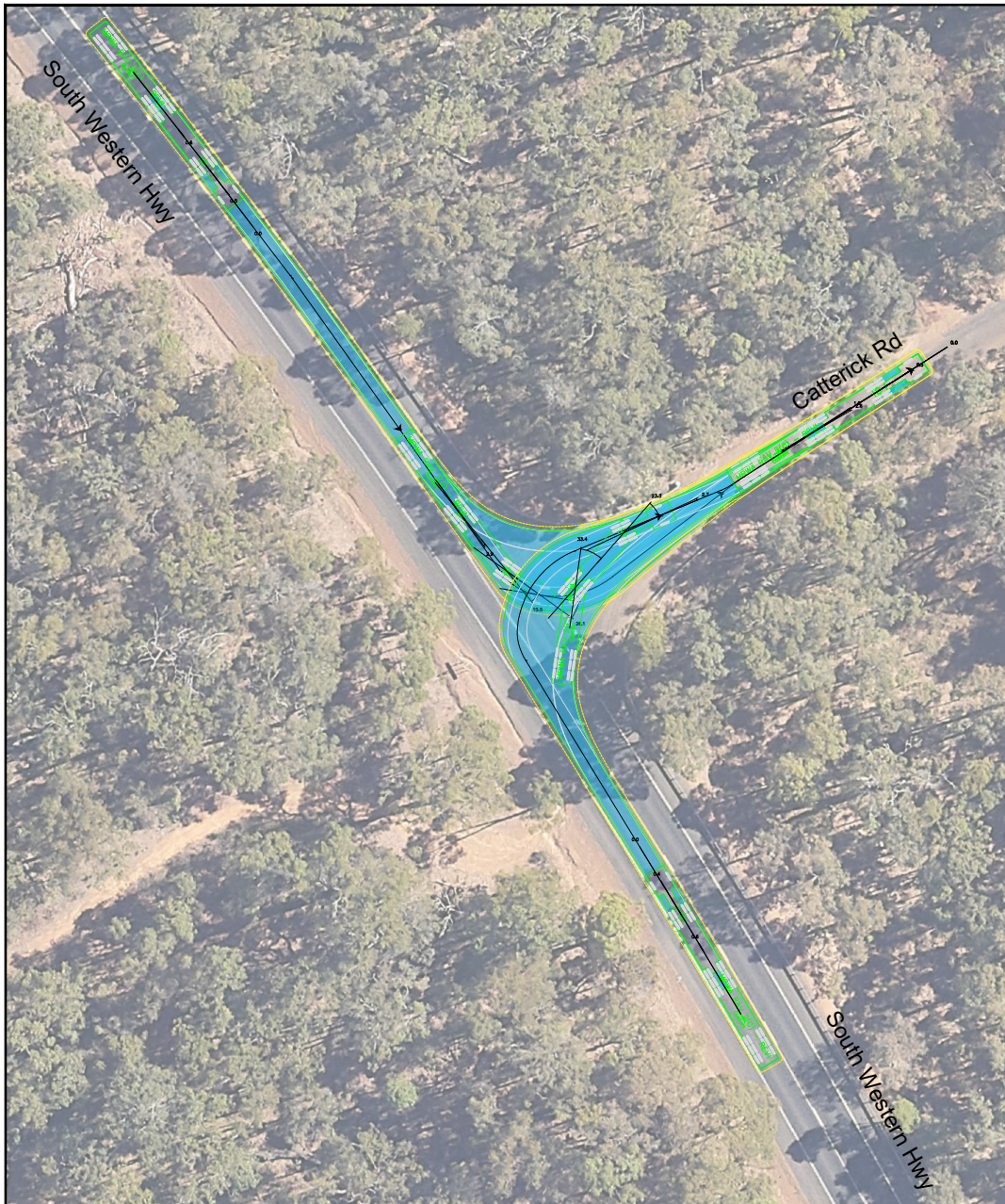


Project Number	2409	Drawing Number	Figure 2	Revision	A
Designed	PN	Checked			
Drawn	PN	Approved			
Date	25/11/2024				
Local Authority	Shire of Bridgetown Greenbushes				
Sheet 1 of 1					

APPENDIX C

SWEPT PATHS





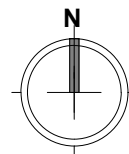
MRWA RAV 2(C) - REV1

Tractor Width	3.00	Lock to Lock Time	: 6.0
Trailer Width	2.50	Steering Angle	: 26.1
Tractor Track	2.50	Articulating Angle	: 70.0
Trailer Track	2.50		

LEGEND

- Vehicle Inbound
- Vehicle Outbound
- Centreline
- Vehicle Body
- Vehicle Wheels
- Body Clearance (500mm)

North



Prepared for
Iron Horse Pastoral Pty Ltd

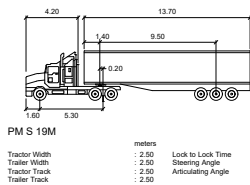
ptgi

PTG Consulting | ABN 89 668 880 448
Level 4, 167 St George Terrace, Perth, WA, 6000
Tel: (08) 6188 4500
Web: www.ptgconsulting.com.au

Drawing Title:

SWEPT PATH DIAGRAM
27.5m Haulage Truck
Proposed Extractive Industry
Lots 3938 & 7971 Catterick Road, Catterick

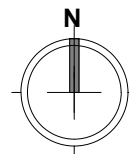
Drawn	Designed	Approved	Scale @ A4	Drawing Status
SC	SC		NTS	DRAFT
Date	Project No.	DWG No.	Revision	
15/06/26	PTG.04756	DWG-001	A	



LEGEND

- Vehicle Inbound
- Vehicle Outbound
- Centreline
- Vehicle Body
- Vehicle Wheels
- Body Clearance (500mm)

North



Prepared for
Iron Horse Pastoral Pty Ltd

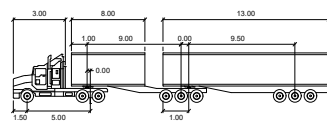
ptgi

PTG Consulting | ABN 89 668 880 448
Level 4, 167 St George Terrace, Perth, WA, 6000
Tel: (08) 6188 4500
Web: www.ptgconsulting.com.au

Drawing Title:

SWEPT PATH DIAGRAM
19.0m Haulage Truck
Proposed Extractive Industry
Lots 3938 & 7971 Catterick Road, Catterick

Drawn	Designed	Approved	Scale @ A4	Drawing Status
SC	SC		NTS	DRAFT
Date	Project No.	DWG No.	Revision	
15/06/26	PTG.04756	DWG-002	A	



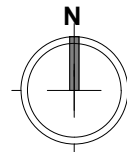
MRWA RAV 2(C) - REV1

Tractor Width	3.00	Lock to Lock Time	6.0
Trailer Width	6.00	Steering Angle	26.1
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

LEGEND

- Vehicle Inbound
- Vehicle Outbound
- Centreline
- Vehicle Body
- Vehicle Wheels
- Body Clearance (500mm)

North



Prepared for
Iron Horse Pastoral Pty Ltd

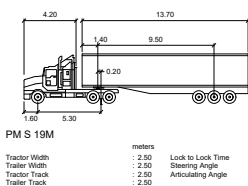
ptgi

PTG Consulting | ABN 89 668 880 448
Level 4, 167 St George Terrace, Perth, WA, 6000
Tel: (08) 6188 4500
Web: www.ptgconsulting.com.au

Drawing Title:

SWEPT PATH DIAGRAM
27.5m Haulage Truck
Proposed Extractive Industry
Lots 3938 & 7971 Catterick Road, Catterick

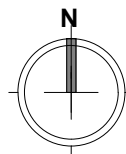
Drawn	Designed	Approved	Scale @ A4	Drawing Status
SC	SC		NTS	DRAFT
Date	Project No.	DWG No.	Revision	
15/06/26	PTG.04756	DWG-003	A	



LEGEND

- Vehicle Inbound
- Vehicle Outbound
- Centreline
- Vehicle Body
- Vehicle Wheels
- Body Clearance (500mm)

North



Prepared for
Iron Horse Pastoral Pty Ltd



PTG Consulting | ABN 89 668 880 448
Level 4, 167 St George Terrace, Perth, WA, 6000
Tel: (08) 6188 4500
Web: www.ptgconsulting.com.au

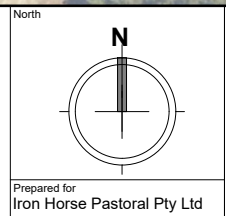
Drawing Title:
SWEPT PATH DIAGRAM
19.0m Haulage Truck
Proposed Extractive Industry
Lots 3938 & 7971 Catterick Road, Catterick

Drawn	Designed	Approved	Scale @ A4	Drawing Status
SC	SC		NTS	DRAFT
Date	Project No.	DWG No.	Revision	
15/06/26	PTG.04756	DWG-004	A	

APPENDIX D

SIGHT DISTANCE ASSESSMENT





PTG Consulting | ABN 89 668 880 448
Level 4, 167 St George Terrace, Perth, WA, 6000
Tel: (08) 6188 4500
Web: www.ptgconsulting.com.au

Drawing Title: SIGHT DISTANCE ASSESSMENT Existing Crossover Proposed Extractive Industry Lots 3938 & 7971 Catterick Road, Catterick				
Drawn SC	Designed SC	Approved	Scale @ A4 NTS	Drawing Status DRAFT
Date 30/06/26	Project No. PTG.04756	DWG No. DWG-005	Revision A	



www.ptgconsulting.com.au