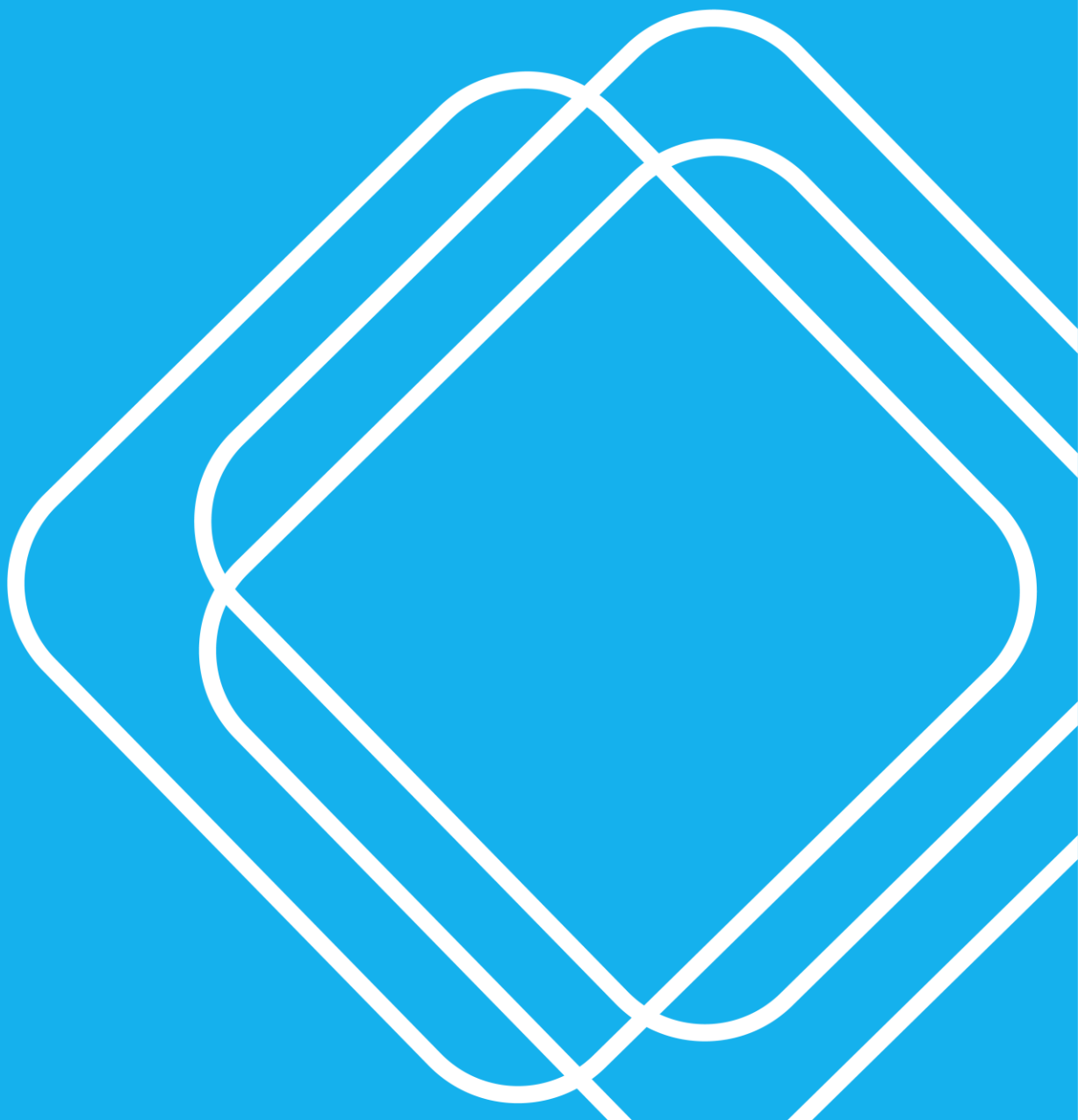
SCT Consulting

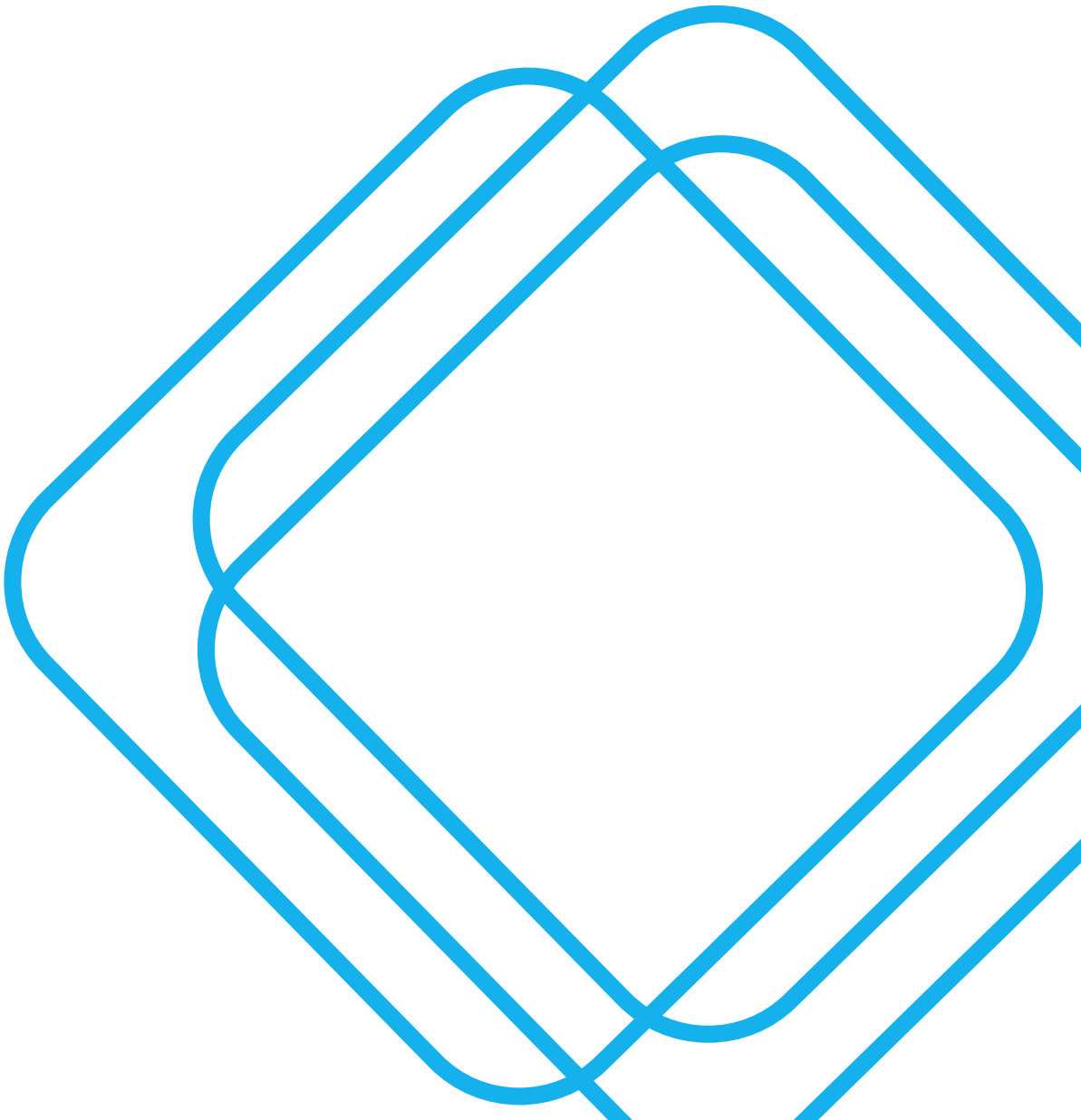
TYRECYCLE RECYCLING FACILITY, ERSKINE PARK

Traffic and Transport Impact Assessment

21 FEBRUARY 2023



SCT Consulting acknowledges the traditional owners of the lands on which we work.
We pay our respects to Elders past, present and emerging.



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Executive Summary

Tyrecycle Pty Ltd (Tyrecycle) is one of Australia's largest tyre processing companies and currently operates a tyre processing facility at 1-21 Grady Crescent, Erskine Park (Lot 9 DP 1261030), which is approved to process up to 29,000 tonnes per annum of passenger, four-wheel drive and truck tyres.

This Traffic and Transport Impact Assessment was prepared to support a modification application, which is to increase the processing capacity of the tyre recycling facility from 29,000tpa of tyres to 60,000tpa. As the proposed increase in production capacity at the tyre recycling facility is forecast to result in minimal environmental impact, Tyrecycle propose to modify the existing development consent under section 4.55 (2) of the NSW Environmental Planning and Assessment Act 1979.

The Traffic and Transport Impact Assessment indicated that:

– There would be minimal impacts on traffic operations on the surrounding road network during the traffic peak hours, as:
  - No additional light vehicles would be generated
  - Changes in staff shift times would move employee shift change times further away from the AM and PM traffic peaks on the surrounding road network
  - There is no proposed change to heavy vehicle volumes in the traffic peak periods.
– Additional heavy vehicle generation at other times of the day are low.
– There is no forecast impact on the surrounding public transport and active transport networks.

The assessment confirmed that the proposed modification to increase the processing capacity of the tyre recycling facility from 29,000tpa of tyres to 60,000tpa is not forecast to have any significant impact on the traffic and transport system around the site.

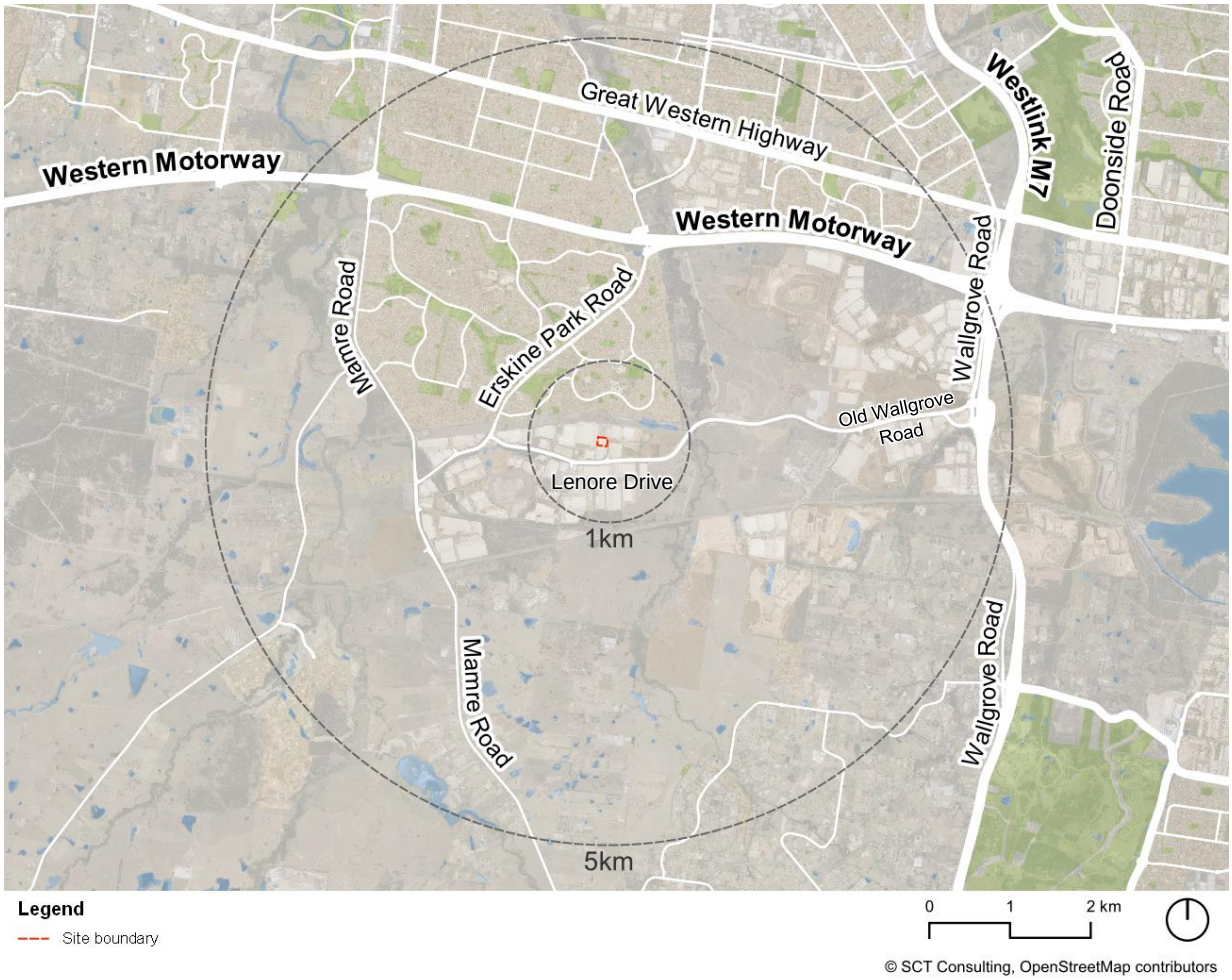
1.0 Introduction

1.1 Background

Tyrecycle Pty Ltd (Tyrecycle) is one of Australia's largest tyre processing companies and currently operates a tyre processing facility at 1-21 Grady Crescent, Erskine Park (Lot 9 DP 1261030) (hereafter referred to as 'the site'), which processes up to 29,000 tonnes per annum of passenger, four-wheel drive and truck tyres.

SCT Consulting has been engaged by Element Environment to prepare a Traffic and Transport Impact Assessment (TTIA) to support a proposed modification to an existing development consent at the site.

Figure 1–1 Site context



1.2 Existing consent and operations

The tyre recycling facility was approved by the Sydney Western City Planning Panel (SWCPP) on 20 December 2020 (DA 20/0589).

Used tyres are received at the site and are processed into tyre derived fuel (TDF) or other tyre derived products (TDP) rather than sending the tyres to landfill. The TDF is used for either energy recovery (i.e. co-processing for use within cement kilns) or for energy generation within export markets.

Tyres collected that are still attached to the rim are separated and the wheels sorted into steel and aluminium streams prior to being removed off-site for recycling. The majority of truck tyres are processed on site into crumbed rubber. Some truck tyres are also transported down to Tyrecycle's Somerton (Victoria) operations for further processing (into crumbed rubber products). Off the road (OTR) tyres are also received and processed on site.

By-products of the operational process, including steel and fibre textile are sold as recyclable materials. There are no unwanted or hazardous by-products from the shredding process. All tyres collected or received at the site are either processed into TDF or TDP, with steel and textile recovered as recyclable materials. There is no need for chemical processing or heating, with the processing of tyres via a mechanical size reduction process.

The existing tyre recycling facility includes:

– Receival and temporary storage of tyres.

– Processing and shredding of tyres (up to 29,000 tonnes per annum).

– Dispatch of processed TDF and other TDP.

1.3 Report purpose

As the proposed increase in production capacity at the tyre recycling facility is forecast to result in minimal environmental impact, Tyrecycle propose to modify the existing development consent under section 4.55 (2) of the NSW Environmental Planning and Assessment Act 1979.

This TTIA is prepared to support this modification application, which is to increase the processing capacity of the tyre recycling facility from 29,000tpa of tyres to 60,000tpa.

2.0 Existing traffic and transport conditions

2.1 Road network

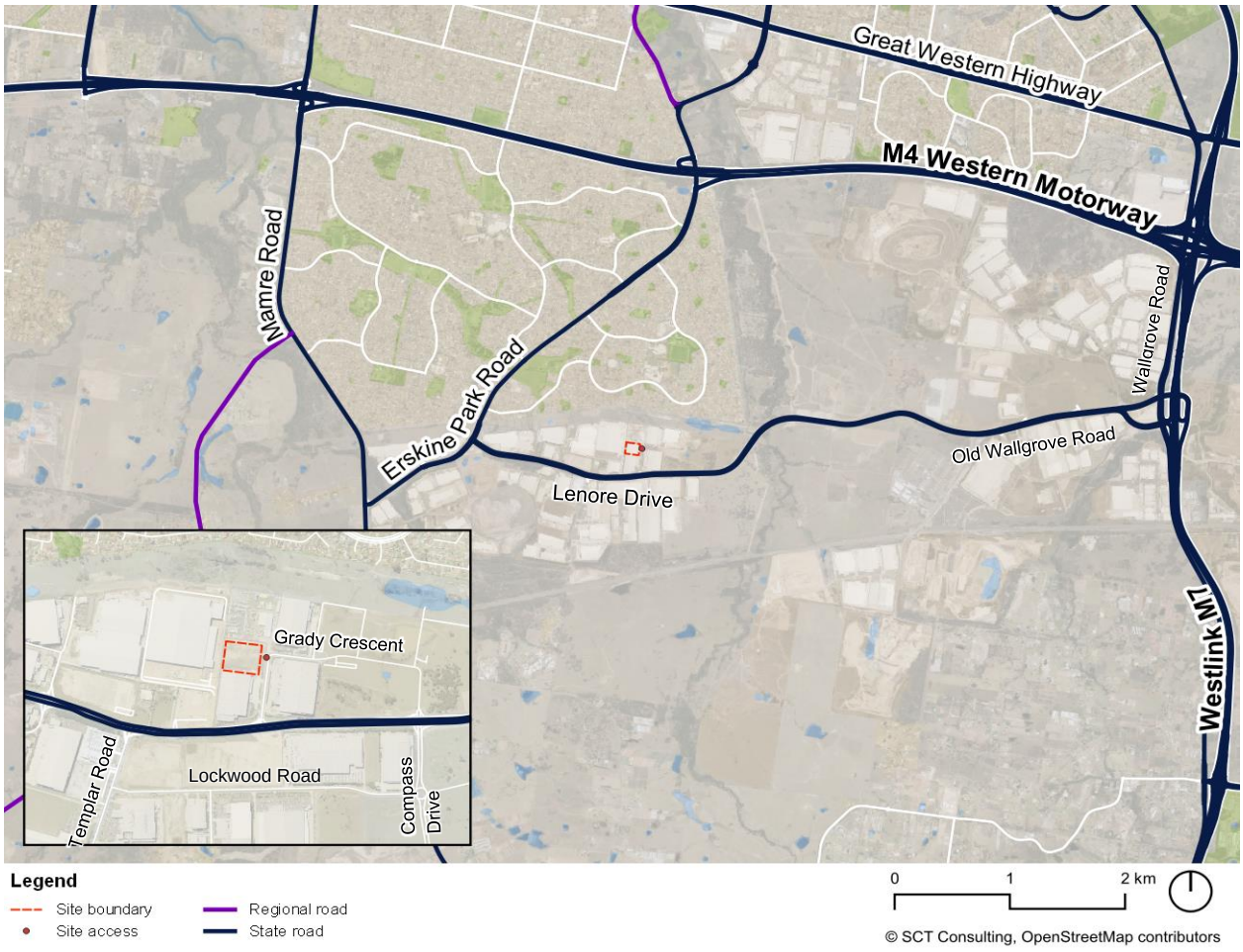
The road network surrounding the site is shown in **Figure 2–1.** Site vehicles access Grady Crescent, a 50 km/h local road, via Lenore Drive. Lenore Drive is an 80 km/h, dual-carriageway State Road, which forms the primary access to the Erskine Park Employment Lands. Unrestricted on-street parking is available on both sides of Grady Crescent with no on-street parking permitted along Lenore Drive.

To the east, Lenore Drive connects with Old Walgrove Road at Eastern Creek, which connects with Walgrove Road and the Westlink M7 Motorway, while to the west, Lenore Drive connects with Erskine Park Road, which connects to the M4 Motorway directly or via Mamre Road.

Grady Crescent connects to Lenore Drive at two intersections – a western intersection and an eastern intersection. The western intersection is closest to the site and is likely to be used by most of the vehicles accessing the site. It is a seagull T-junction configuration, allowing all movements, while the eastern intersection is a signalised intersection.

An intersection traffic survey undertaken at the western Lenore Drive / Grady Crescent intersection on Tuesday 6 September 2022 indicated that the AM and PM peak hours are 6.15am to 7.15am and 4pm to 5pm. Eastbound and westbound traffic on Lenore Drive is the main traffic movement with traffic predominantly turning into Grady Crescent in the AM peak hour and exiting Grady Crescent in the PM peak hour. There is significant spare capacity at the intersection. Traffic survey data is provided in **Appendix A**.

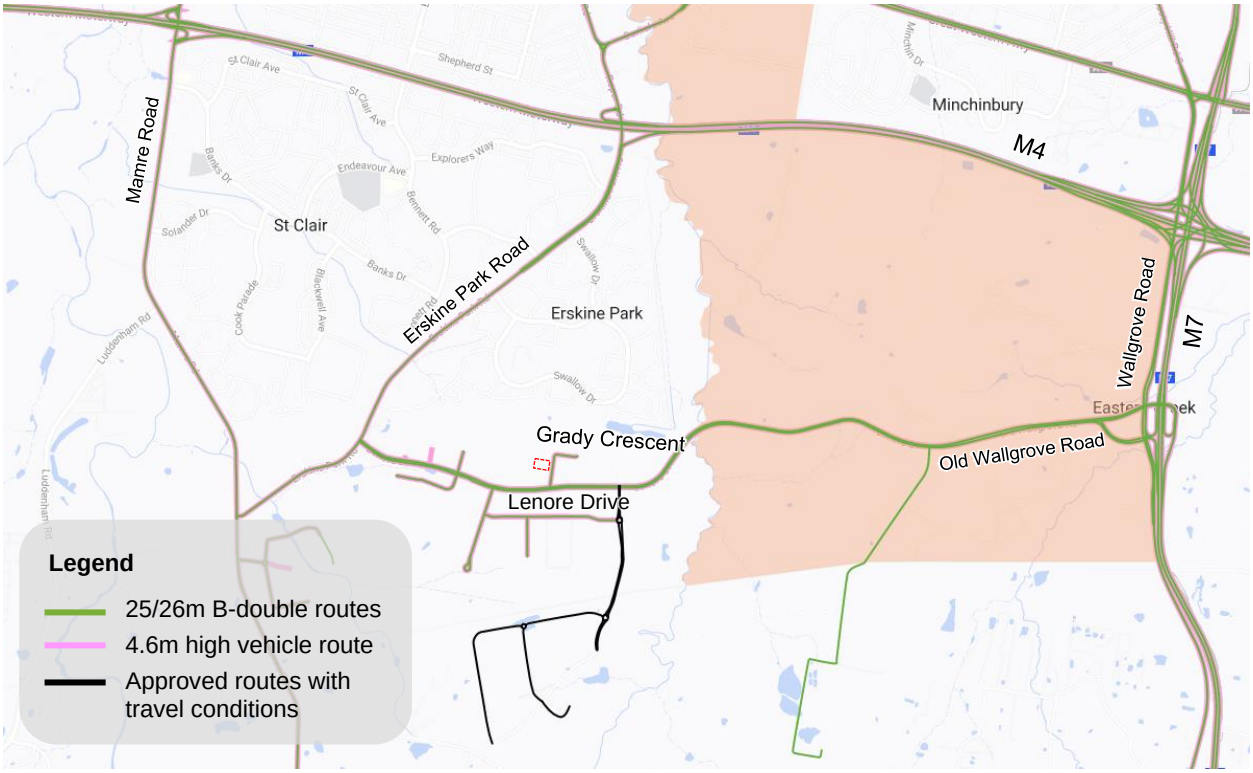
Figure 2–1 Road network



2.1.1 Heavy vehicle approved routes

As shown in **Figure 2–2**, both Lenore Drive and Grady Crescent are part of the Restricted Access Vehicles (RAV) approved routes for B-doubles and 4.6m high vehicles.

Figure 2–2 Restricted Access Vehicle (RAV) route map



Source: Transport for NSW

2.2 Active transport network

Limited active transport infrastructure is available around the site. There are footpaths on both sides of Grady Crescent and on the northern side of Lenore Drive.

No pedestrian movements were captured in the intersection survey at the western Lenore Drive / Grady Crescent intersection and there are no pedestrian crossing facilities at the intersection.

2.3 Public transport network

Two bus routes operate on Lenore Drive, with the closest bus stops located to the east of the Lenore Drive / Grady Crescent intersection, as shown in **Figure 2–3**. The eastbound bus stop is within 300m walking distance of the site. However, there is no pedestrian connection across Lenore Drive to the bus stop on the westbound carriageway.

The 779 route operates between Kemps Creek and St Marys with services generally once per hour, while the 835 route only operates in the weekday AM and PM peak periods between Penrith and Prairiewood.

Figure 2–3 Bus network

3.0 Proposed modification

3.1 The proposal

The proposed modification to the existing development consent seeks to increase the processing capacity of the tyre recycling facility from 29,000tpa of tyres to 60,000tpa.

There is no proposed change to the following approved aspects of the development:

– Operating methodology or site infrastructure
– Building and infrastructure footprints
– Vehicle parking requirements
– Vehicle access and internal movement pathways
– Hours of operation
– Employment
– Land ownership
– Landscaping
– Stormwater management
– Utility services
– Lighting, security and signage.

The following changes in staff shift times are proposed:

– Day shift: 7am to 3pm changing to 5am to 1pm
– Afternoon shift: 3pm to 11pm change to 1pm to 9pm
– Night shift: 11pm to 7am changing to 9pm to 5am.

3.2 Trip generation

The proposed changes in traffic generation and operations are indicated in **Table 3–1**.

Table 3–1 Proposed changes in traffic generation and operations

Existing operations	Proposed operations
– Morning peak (4am to 7am) – seven outbound heavy vehicles trips and 30 light vehicle trips (25 inbound and 5 outbound). – Afternoon peak (4pm to 6pm) – seven inbound heavy vehicles trips and 30 light vehicle trips (5 inbound and 25 outbound).	– Current peak hour traffic movements would remain the same.
– About six trucks collect and drop-off tyres and products per day	– Collection and drop-off trucks would increase from six to 10 trucks per day and would enter and leave site between 8pm and 4am.
– About 50 pallets are loaded and dispatched per day, equating to two B-double collections per day.	– A maximum of 100 pallets would be loaded and dispatched per day, equating to four B-double collections per day.

4.0 Traffic and transport impact assessment

4.1 Road network impact

There is no proposed change to staff / employee numbers, so no additional light vehicles would be generated. Changes in staff shift times appear to move employee shift change times further away from the AM and PM traffic peaks on the surrounding road network reducing impacts.

There is no proposed change to heavy vehicle volumes in the AM and PM traffic peak periods. Therefore, there would be no additional impact on traffic operations in these peak periods.

The additional heavy vehicle generation is:

– Collection and drop-off truck volumes would increase from six to 10 trucks but are planned to arrive and leave between 8pm and 4am. There would be minimal impact on traffic operations in this night-time period.

– B-doubles would increase from two to four B-doubles per day, which again would have minimal impact to traffic operations.

4.2 Public transport impact

Given there is no change that would not generate additional public transport demand, there would be no impact on the public transport network. The additional vehicles are forecast to have minimal impact on intersection performance and therefore for travel times for the bus services in the area.

4.3 Active transport impact

There is also likely to be minimal impact to active transport due to the modification. No additional active transport demand would be generated, given there is no change in staff volume. The additional vehicles entering and exiting the site are likely to have minimal impact on any active transport movement in the area.

5.0 Conclusion

This assessment indicated that:

– There would be minimal impacts on traffic operations on the surrounding road network during the traffic peak hours, as:
  - No additional light vehicles would be generated
  - Changes in staff shift times would move employee shift change times further away from the AM and PM traffic peaks on the surrounding road network
  - There is no proposed change to heavy vehicle volumes in the traffic peak periods.

– Additional heavy vehicle generation at other times of the day are low.

– There is no forecast impact on the public transport and active transport networks.

Therefore, the assessment confirmed that the proposed modification to increase the processing capacity of the tyre recycling facility from 29,000tpa of tyres to 60,000tpa is not forecast to have any significant impact on the traffic and transport system around the site.

APPENDIX A

Traffic survey data

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY trafficsurvey.com.au

Intersection of Lenore Dr and Grady Cres, Erskine Park

GPS -33.815705, 150.801684

Date:	Tue 06/09/22
Weather:	Fine
Suburban:	Erskine Park
Customer:	SCT

North:	Grady Cres
East:	Lenore Dr
South:	N/A
West:	Lenore Dr

Survey	AM:	6:00 AM-9:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	6:15 AM-7:15 AM
Peak	PM:	4:00 PM-5:00 PM

All Vehicles

Time		North Approach Grady Cres			East Approach Lenore Dr			West Approach Lenore Dr			Hourly Total	
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	Hour	Peak
6:00	6:15	0	2	2	0	3	63	0	164	9	1187	
6:15	6:30	0	3	3	0	4	60	0	222	12	1242	Peak
6:30	6:45	0	1	5	0	4	55	0	220	22	1219	
6:45	7:00	0	2	8	0	9	57	0	235	22	1230	
7:00	7:15	0	1	2	0	6	79	1	190	19	1224	
7:15	7:30	0	4	0	0	5	61	0	200	11	1195	
7:30	7:45	0	10	2	0	9	73	0	204	20	1163	
7:45	8:00	0	3	6	0	12	77	0	202	27	1124	
8:00	8:15	0	6	5	0	8	74	4	159	13	1035	
8:15	8:30	0	6	4	0	9	69	0	148	13		
8:30	8:45	0	4	2	0	5	83	1	168	16		
8:45	9:00	0	11	2	0	10	73	0	129	13		
16:00	16:15	0	31	7	0	5	205	8	79	5	1143	Peak
16:15	16:30	0	17	8	0	5	229	1	52	3	1091	
16:30	16:45	0	14	8	0	5	187	4	39	3	1078	
16:45	17:00	0	9	5	0	2	154	3	47	8	1092	
17:00	17:15	0	18	2	0	1	209	7	47	4	1069	
17:15	17:30	0	16	2	0	0	225	5	52	2	1003	
17:30	17:45	0	9	7	0	2	195	2	55	4	838	
17:45	18:00	0	7	1	0	0	136	1	58	2	680	
18:00	18:15	0	12	6	0	4	134	11	51	4	551	
18:15	18:30	0	7	1	0	1	79	2	45	2		
18:30	18:45	0	2	2	0	1	65	1	43	2		
18:45	19:00	0	1	0	0	0	44	0	31	0		

Peak Time		North Approach Grady Cres			East Approach Lenore Dr			West Approach Lenore Dr			Peak
Period Start	Period End	U	R	L	U	R	WB	U	EB	L	total
6:15	7:15	0	7	18	0	23	251	1	867	75	1242
16:00	17:00	0	71	28	0	17	775	16	217	19	1143

Pedestrians Crossing

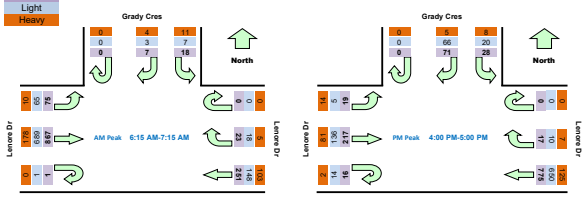
Time		North Approach Grady Cres		East Approach Lenore Dr		West Approach Lenore Dr		Hourly Total
Period Start	Period End	Westbound	Eastbound	Southbound	Northbound	Southbound	Northbound	
6:00	6:15	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	
8:30	8:45	0	0	0	0	0	0	
8:45	9:00	0	0	0	0	0	0	
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0
18:15	18:30	0	0	0	0	0	0	
18:30	18:45	0	0	0	0	0	0	
18:45	19:00	0	0	0	0	0	0	

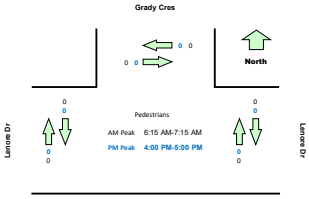
Peak Time		North Approach Grady Cres		East Approach Lenore Dr		West Approach Lenore Dr		Peak total
Period Start	Period End	Westbound	Eastbound	Southbound	Northbound	Southbound	Northbound	
6:15	7:15	0	0	0	0	0	0	0
16:00	17:00	0	0	0	0	0	0	0

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic

Total
Light
Heavy



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