TRAFFIC MANAGEMENT PLAN

NARACOOPA MINERAL SANDS (PTY) LTD

KING ISLAND COUNCIL
APPROVED – REVISED DOCUMENT
DA 06/00
22 January 2020
DATE
GENERAL MANAGER

HEAVY MINERAL SAND EXPORT

13 November 2019

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Contents

DEFINITIONS AND ABBRIVIATIONS **3**

INTRODUCTION **4**

PURPOSE **4**

OBJECTIVES **4**

STATUTORY REQUIREMENTS **5**

Planning Approvals *5*

Road Rules and road management *5*

Work Health and Safety *5*

Responsibilities of people managing traffic at the workplace *5*

Stakeholder Consultation *6*

Community 6

EXISTING ENVIRONMENT AND OPERATIONAL ACTIVITIES **7**

Operational Activities *7*

Operational Hours *7*

Operational Vehicle Types *7*

Requirements for large vehicles *9*

PREDICTED TRAFFIC IMPACTS **12**

Traffic Impact Assessment and the results *12*

TRAFFIC MANAGEMENT MEASURES **13**

Haulage Routes and speed limitations *13*

Onsite traffic route diagram *14*

Onsite Walkways *15*

Loading Areas / Fork Lift Operating Areas *15*

Driver Management *16*

Professional Conduct 16

Workplace Safety 16

Drivers Licence Requirements 16

Management Strategies *16*

TRAFFIC MONITORING, REVIEW AND REPORTING **17**

Monitoring Program *17*
Road Monitoring *17*
Performance reporting and review *18*

Table of Figures

Figure 1:Haulage Route 11
Figure 2: Site Map - Naracoopa Mineral Sands Site 14
Figure 3: Heavy Vehicle Route and Site walkways 15

Table of Tables

Table 1: Roles and responsibilities 5
Table 2: Requirements for large vehicles 9
Table 3: Traffic Impact Assessment 12
Table 4: Speed Limits 14
Table 5: Traffic Monitoring Program 17

DEFINITIONS AND ABBRIVIATIONS

TERM	DEFINITION
TMP	Traffic Management Plan
NMS	Naracoopa Mineral Sands Pty Ltd
WHS	Work Health and Safety (Act and Regulations)
EPN	Environment Protection Notice
Powered mobile plant	Defined by the *Work Health and Safety Regulation 2011* (WHS Regulation) to mean any plant that is provided with some form of self-propulsion that is ordinarily under the direct control of an operator and includes forklifts and earthmoving machinery (e.g. rollers, bobcats).
Site	Part 2 of Mining Lease 1673 P/M, known as 7 Short Street, Naracoopa
Staff	Refer to both paid and unpaid persons undertaking work for or on behalf of Naracoopa Mineral Sands (Pty) Ltd. Staff are workers under the WHS Act.
Structure	Means the same as described in the *Work Health and Safety Act 2011*. Relevant examples --- a) a roadway or pathway b) foundations, earth retention works and other earthworks c) formwork, falsework or any other structure designed or used to provide support, access or containment during construction work d) a sewer or sewerage or drainage works

INTRODUCTION

In 2011 Naracoopa Mineral Sands Pty Ltd started heavy mineral sand processing in Mining Lease 1673 P/M which is split into two parts, the Northern Area (Part 1) and the Southern Area (Part 2). The main products are **Zircon** ($ZrSiO_4$) and **Rutile** (TiO_2) with **Ilmenite** ($FeTiO_3$) as the by-product.

The Site relevant to this Traffic Management Plan is Part 2 of Mining Lease 1673 P/M, known as 7 Short Street, Naracoopa, which borders the southern end of Sea Elephant Road to the west, Sea Elephant Bay to the east and Fraser River to the south. It is from the Site that trucks transport sand material to Grassy Harbour (Port of Grassy) for international export via Melbourne.

The TMP is a requirement of the planning approval for the mining activity and needs to identify and address impacts to road infrastructure, other road users and associated environmental impacts.

Furthermore, NMS has a primary duty of care under s19 of the *Work Health and Safety Act 2011* and to ensure, so far as is reasonably practicable, the health and safety of workers and others from work being carried out, they need to manage traffic risks at a workplace as one of their duties.

PURPOSE

This Traffic Management Plan (TMP) describes the use of the haulage route between Grassy Harbor (Port of Grassy) and the Site and how NMS manages the subsequent traffic risks and environmental impacts.

Risks include those to pedestrians, other road users on the haulage route and from and to plant and vehicle traffic in the workplace. Particular attention was given to the Naracoopa residential area as this area was identified as the highest population density along the haulage route.

Environmental issues include those that relate to unreasonable noise emissions and fugitive dust emissions from road use and loads.

OBJECTIVES

The objectives of the TMP are to document the –

- traffic volume directly attributable to the operation of the sand mine;
- types of vehicles used to operate the sand mine; and
- mitigation strategies to lessen traffic related impacts to road infrastructure, residential uses adjacent to roads and other road users.

Stakeholders will be periodically consulted to assess potential impacts of mining vehicles and road usage on other road users and residents.

The TMP should be reviewed annually or as required to accommodate changes in mining operations.

This TMP applies to all staff, workers, contractors, sub-contractors and visitors to the NMS site.

STATUTORY REQUIREMENTS

Planning Approvals

The sand mine activity, and associated truck haulage of sand material for export, operates under the following planning approvals –

- DA 06/00A (Council issued planning permit); and
- Environment Protection Notice No. 7678/3.

There are relevant conditions within each planning approval instrument for the management of traffic. These have been incorporated into this TMP.

Road Rules and road management

The rules that govern driving on Tasmania's roads are described in the *Road Rules 2009*. All road users that have a license to operate a vehicle on a road must abide by the Road Rules.

The roads on King Island are managed by the Local Council under the *Local Government (Highways) Act 1982* with Grassy Road specifically managed by the Department of State Growth.

Work Health and Safety

Traffic management is a risk management process, and NMS has a statutory duty under the WHS Regulations to identify hazards, assess risks and consider means to control the risk exposure.

Responsibilities of people managing traffic at the workplace

The roles and responsibilities of persons/entities managing traffic and traffic associated safety risks are provided in Table 1.

Table 1: Roles and responsibilities

Directors	• Support implementation of the TMP as it relates to the NMS Health and Safety Policy. • Provide resources to implement traffic management across the processing plant as it relates to health and safety. • Provide resources to implement environmental controls to mitigate unreasonable noise and dust emissions from traffic operation.
Mine Manager	• Provide clear direction to all levels of management on traffic management. • Allocate responsibility and resources for traffic management and delegation of authority to staff. • Ensure Traffic Manager is aware of responsibilities in relation to traffic management at NMS Site and haulage routes. • Report ongoing health and safety risks to Directors. • Facilitate consultative processes regarding health and safety issues between management and staff.

Traffic Manager	• Ensure Mine Manager is aware of their responsibilities in relation to traffic management. • Ensure staff, workers, contractors and visitors are inducted of the company policies, procedures and any safe work procedures in relation to traffic management. • Conduct risk assessments and control risks on relevant activities related to traffic management. • Ensure TMP is kept up to date and is reflective of activities being undertaken by the NMS and existing environment at the workplace. • Report ongoing traffic management issues to Mine Manager.
Staff, workers and contractors	• Follow company policies, procedures and any safe work procedures especially in relation to traffic management. • Cooperate and actively contribute to the health and safety of themselves and others within the workplace that may be affected by their acts or omissions. • Comply with the requirements of the TMP and ensure no activity is undertaken that will endanger the safety of other workers or the general public • Undertake work activities in a manner which prevents personal injury or injury to others and any damage to property.
Visitors	• Enter and leave the NMS premises by approved routes and in accordance with safe work practices and reasonable directions provided by staff. • Follow all company policies, procedures and any safe work procedures. • Follow all reasonable directions provided by Mine Manager. • Report incidents, hazards and near misses to relevant Mine Manager.

Stakeholder Consultation

Community

NMS aims to keep the local community informed of traffic management arrangements in a pro-active and responsive manner.

The key objectives of the communication and consultation program include:

- Advising stakeholders of key aspects of the mining activity with a focus on traffic management.
- Facilitation of community views and concerns to be expressed via the NMS Community Consultative Committee.

NMS's communication about its transport related activities may include the following:

- Public notices, announcements and/or attendance at meetings;

- Information disseminated via the members of the NMS Community Consultative Committee;
- Meetings and correspondence with appropriate regulatory authorities; and/or
- Discussions with adjoining landowners/neighbours who may be affected by transport operations.

The following avenues provide additional availability of information to community members:

- Community telephone line:

Location	
NMS feedback line (8.00am to 5.00pm Monday to Friday)	0455 296 989
NMS office (9.00am to 5.00pm Monday to Friday)	03 6461 1407

- Dedicated email address:

  naracoopamineralsands@gmail.com

EXISTING ENVIRONMENT AND OPERATIONAL ACTIVITIES

Operational Activities

Trucks which a maximum tare weight including trailer not exceeding 14.8 tonnes will cart empty shipping containers from Grassy Harbour to the Site along the predefined route shown in Figure 1. This route is the only route authorised for use (as stipulated in the planning permit) by NMS to cart material for export.

The shipping containers will be loaded with the **total** weight of a loaded container not exceeding 28 tonnes. The containers will be transported back to Grassy Harbour. Forklifts will be used to load and unload containers throughout the process. One complete round trip by a truck (to collect a container from Grassy Harbour, take it to the NMS site and return it to Grassy Harbour) will take around 90 minutes.

Operational Hours

Trucks will operate on the road network between 7.00 am (0700 hrs) and 6.00 pm (1800 hrs) on weekdays. Each truck is likely to do 6 trips per day and no more than three trucks will be operated on any given day.

Operational Vehicle Types

The following machines and vehicles are to be used in the loading and transport of product for transport to Grassy Harbour –

- 15.5 m long container trucks will be used to transport containers between the NMS site to Grassy Harbour.
- Forklifts will be operated in both NMS site and Grassy Harbour for loading and unloading containers.
- Tele Handler with an open bucket (JCB) will operate to load sand into containers.

Images of the machinery and equipment are provided below.

Container on Truck

Tele Handler with Open Bucket

Forklift at the Site

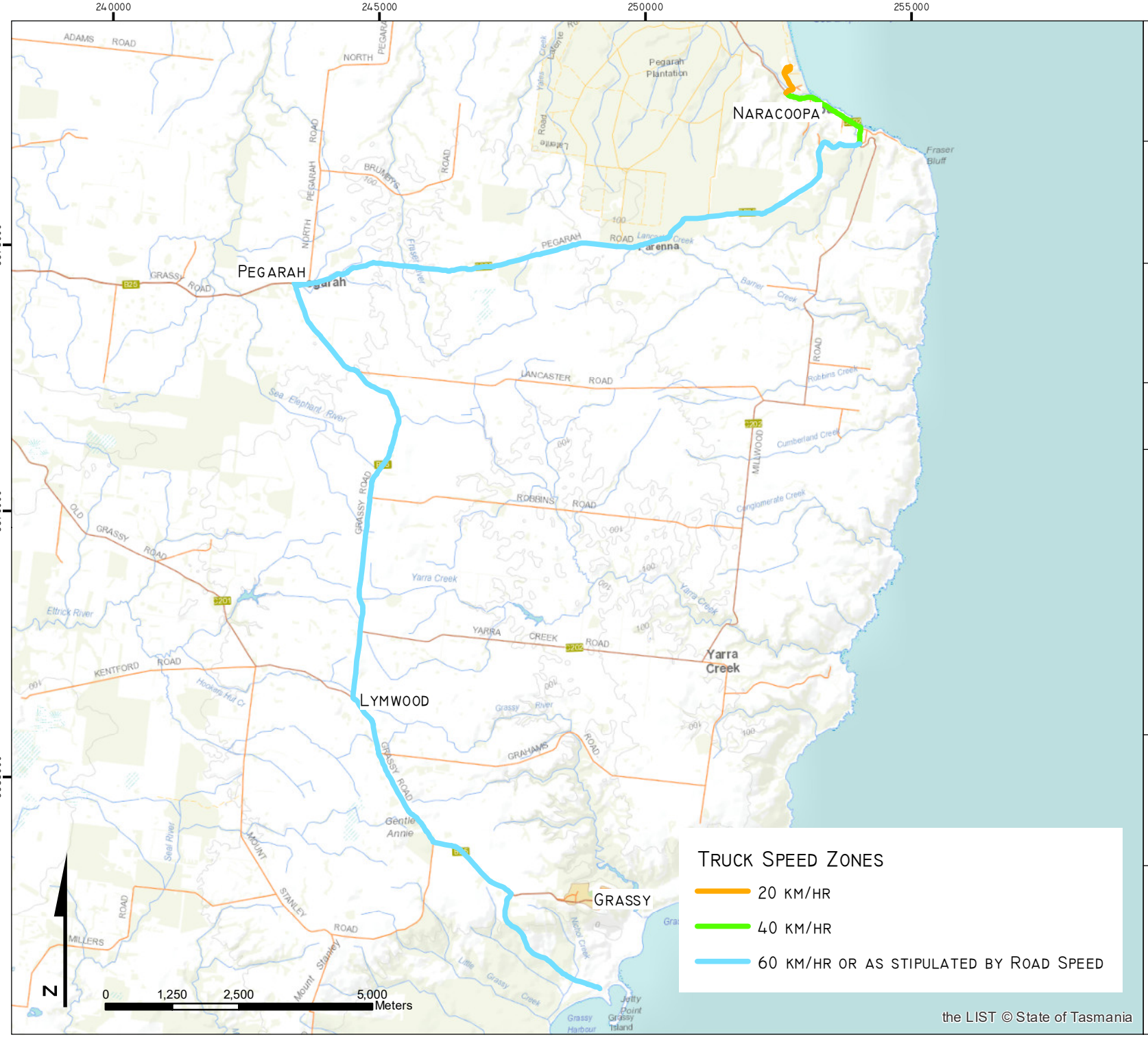
Requirements for large vehicles

Safety and operational requirements for larger vehicles and equipment at the Site is stipulated in Table 2. The forklift and associated machinery at Grassy Harbour (Port of Grassy) is the responsibility of TasPorts to supply and maintain.

Table 2: Requirements for large vehicles

Vehicle Type	Requirements
Trucks hauling containers	• Total weight with loaded container must not exceed a weight of 42.5 tonnes. • Must meet statutory safety requirements including proper brake system, reverse alarm system, seatbelt. • Trucks (and trailers) must be registered in the State of Tasmania. • Drivers must hold a valid license issued in any Australian jurisdiction that confirms their competency to drive and operate the truck (with or without trailer)

JCB Tele handler with open loading bucket	• Must meet statutory safety requirements including proper brake system, reverse alarm system, seatbelt. • Must be coupled with functional two-way radio system during operation. • Will only be (i) operated within the designated loading area and (ii) by persons whom hold the necessary licenses to operate the machine.
Forklift at the Site	• Must be coupled with two-way radio system • Will operate within the designated loading area • Must meet the statutory safety requirements including proper brake system, reverse alarm system. • Will only be operated by a forklift ticket holder.



NARACOOPA MINERAL SANDS (PTY) LTD

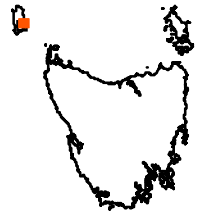
TRAFFIC MANAGEMENT PLAN

Figure 1. Haulage Route

TASMAP:	LGA:
NA	KING ISLAND

BASE DATA BY TASMAP. © STATE OF TASMANIA
BASE IMAGE BY TASMAP. © STATE OF TASMANIA

Van Diemen CONSULTING
PO Box 1 New Town TAS 7008



DATUM: GDA94
GRID: MGA ZONE 55
SCALE: @A4 - NA

CLIENT: NARACOOPA MINERAL SANDS (PTY) LTD

DATE: 30 SEPT 2019

PREDICTED TRAFFIC IMPACTS

Traffic Impact Assessment and the results

A traffic impact assessment was undertaken as part of preparing the Traffic Management Plan to assess the potential impacts of the project on traffic and transport routes.

The assessment is described in Table 3.

Table 3: Traffic Impact Assessment

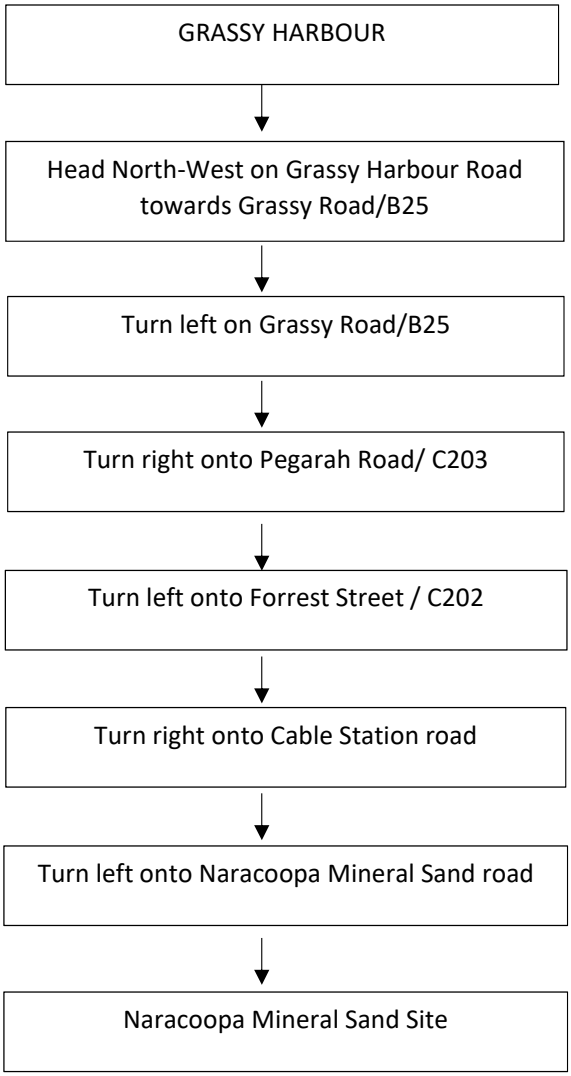
Issue	Potential Impacts	Comment	Preliminary Risk Ranking
Traffic and access	Increased traffic volumes and frequency, including heavy vehicles, placing pressure on intersection and road capacities within the vicinity of the Site.	Generally two trucks will be operated in one day (*Maximum of three trucks will be operated when needed*). Per one cycle (start from NMS site and go to Grassy Harbour and come back). It will take around 90mins. Second truck will start its transportation activities 45mins after the first truck's commencement.	Moderate
	Reduction in road safety as a result of increased number of heavy vehicles on the road networks around Naracoopa residential areas.	Per one hour there will be around two truck turns	Moderate
	Accidents occurring on-site as a result of light and heavy vehicles, mobile plants (fork lifts) and machinery operating in close proximity.	The operation of numerous vehicles on the Site, including trucks, front-end loaders and fork lifts, has the potential to result in a collision if not appropriately managed.	High
Noise and vibration	Noise impacts on adjacent receivers from Site operations.	Operational noise and vibration in relation to loading, unloading and dropping of containers and from reversing vehicles.	Very Low
	Noise impacts on adjacent receivers from trucks accessing the Site.	Increased noise from vehicular traffic going to and from the Site.	Low

TRAFFIC MANAGEMENT MEASURES

Haulage Routes and speed limitations

During the induction process, all truck drivers will be advised of the haulage route (Figure 1) and speed limitations.

The haulage route from Grassy Harbour to the Site is as follows –



For some areas maximum posted road speed limits will be reduced as prescribed in Table 4.

Email: naracoopamineralsands@gmail.com
Tel: 03 6461 1407

Table 4: Speed Limits

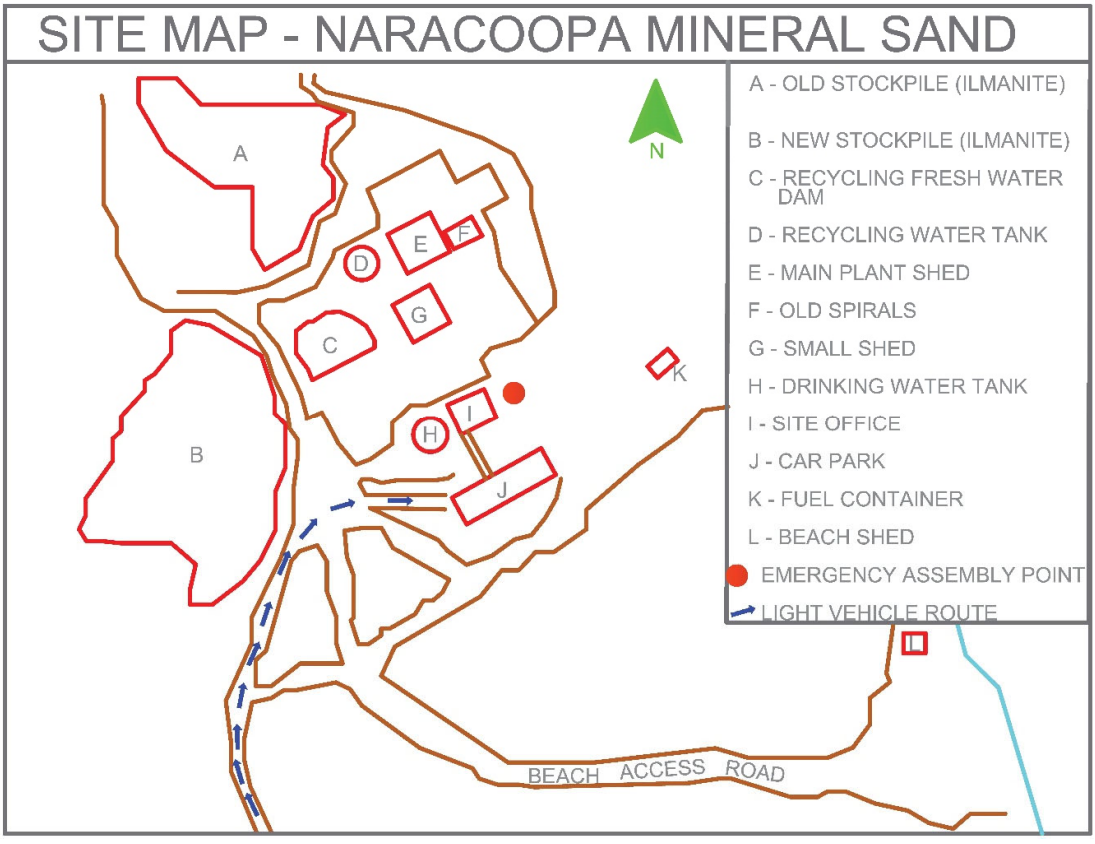
Route	Road posted speed limit	Speed limit defined by TMP
Site to Forrest Street (C202)	20 km/h	20 km/h
Forrest Street(C202) to Pegarah Road (C203) / Naracoopa Residential Area	60 km/h	40 km/h
Pegarah Road to Grassy Harbour	Posted speed limit per road rules	Posted speed limit per road rules

Onsite traffic route diagram

The onsite traffic route, shown in Figure 2, has been designed to minimise the risk of collisions and accidents between moving vehicles and with pedestrians working or visiting the Site.

All the trucks will use the one-way routes as shown in Figure 3.

Figure 2: Site Map - Naracoopa Mineral Sands Site



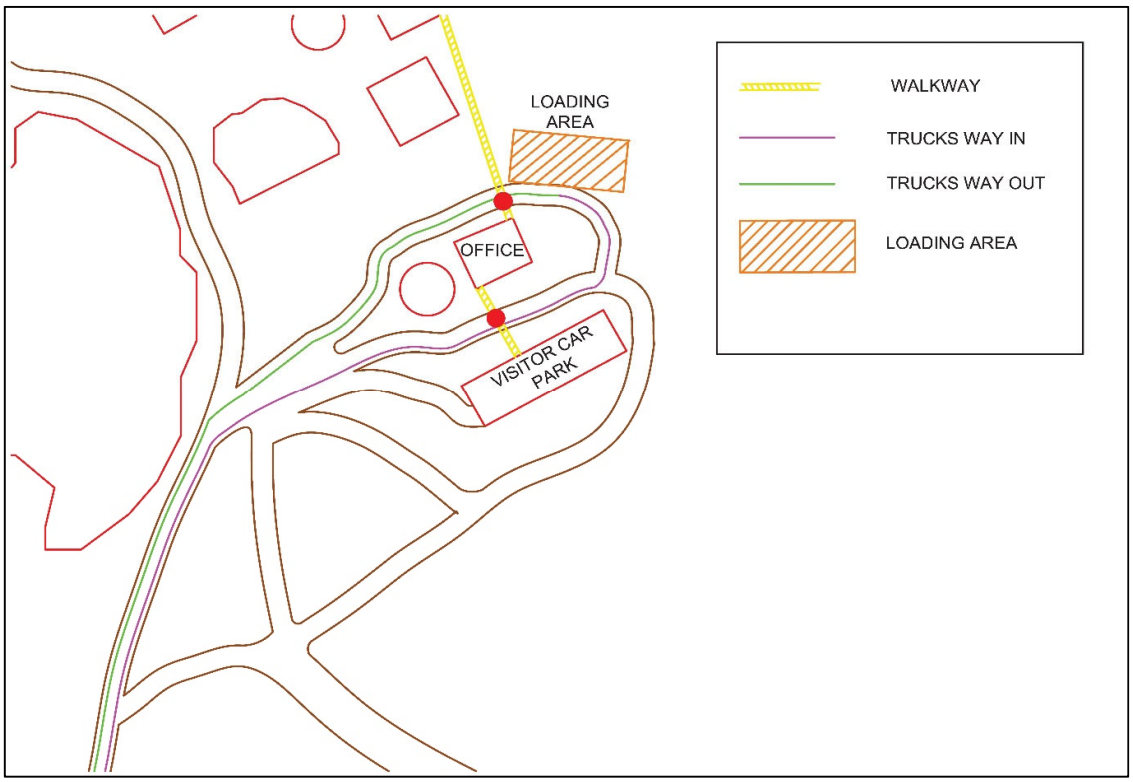
Onsite Walkways

There are two locations identified where heavy vehicle route and formal pedestrian walkways intersect – these are high-risk areas for a vehicle-pedestrian interaction. These locations are marked on Figure 3 as “red spots”.

To minimise potential safety risks the following measures will be implemented;

- During the induction sessions, all truck drivers will be advised about these high-risk areas.
- Danger signs will be installed to inform both truck drivers and pedestrians.
- Walkways will be marked with high visibility paint.
- All pedestrians, including staff and visitors, are not allowed to use walkways other than pre-defined ones unless there is a special case, such as maintenance activities. However, permission from the Mine Manager or safety officer is to be gained *before* such activities occur.

Figure 3: Heavy Vehicle Route and Site walkways



Loading Areas / Fork Lift Operating Areas

Fork lifts will be used to load and unload containers to the trucks. Fork lifts will be operated within the designated loading area and no one can enter the loading area while fork lifts are operating.

All truck drivers will be advised to communicate with the fork lift operators with a two-way radio through **UHF Channel 09** before entering the loading area.

Driver Management

Professional Conduct

All heavy vehicle drivers (truck drivers) and mobile plant operators (fork lifts) must maintain a high level of professional conduct and as a minimum they must:

- Adhere to posted speed limits and road signs.
- Use the horn only as a warning device.
- Minimise noise impacts by limiting truck compression braking and avoiding the use of engine brakes in residential areas (unless their use is necessary to avoid an accident – drivers must exercise due care and judgement).
- Allow enough room between vehicles for movement to occur without adverse interactions.
- Respect and be watchful for pedestrians and other drivers on the dedicated transport routes – apply the Road Rules.
- Follow instructions given by Police and road traffic authorities/controllers.

Workplace Safety

NMS has the responsibility to ensure that everything reasonably practicable is carried out to reduce the potential risk of injury and environmental harm, to employees, contractors, subcontractors and visitors. All employees, contractors and visitors have a duty to act in a responsible manner and to carry out works in such a way as to prevent injury to themselves and others and to prevent environmental harm.

All accidents and incidents must be reported and recorded on site, including environmental incidents and all accidents (including environmental accidents) must be reported to the Mine Manager as soon as practicably possible.

Drivers Licence Requirements

All Heavy Vehicle Drivers and Fork lift drivers must have the appropriate Drivers Licenses and High-Risk Work Perform Licenses.

Driver's name, truck registration number and driver's licence number will be recorded and held at the Site. All heavy vehicle and forklift drivers must have their Licence with them and make it available to NMS Management and relevant authorities upon request.

Management Strategies

The following traffic management strategies will be implemented to reduce the potential for identified hazards to cause concern, loss of amenity or risks to safety of residents:

- The Mine Manager will supervise, monitor and police the implementation of this Traffic Management Plan through monthly spot checks.
- The Mine Manager will be responsible for ensuring that all staff are appropriately licensed and that all vehicles operating on public roads are registered.
- The Mine Manager is responsible for checking that vehicles are in a roadworthy condition.
- Road intersections will have adequate line of sight for trucks exiting the mine site – the works would need to be conducted by Council as the road authority so the Mine Manager will need to provide feedback on roadside vegetation management to the Council.

- All personnel, contractors, sub-contractors and visitors will be briefed on the traffic rules and requirements on site through an induction process.

TRAFFIC MONITORING, REVIEW AND REPORTING

Monitoring Program

Inspection and monitoring results will be kept on NMS's document management system. This will ensure that all monitoring activities will assist to measure the effectiveness of the traffic control measures implemented.

The measures detailed in Table 5 are to monitor and record the movement of vehicles accessing the NMS site. NMS will use monitoring data to review and identify any exceedances against the goals with the appropriate corrective actions applied as discussed below in Table 5.

Table 5: Traffic Monitoring Program

Parameter	Monitoring Required	Frequency	Criteria/ Performance Measure/Trigger	Response
Onsite Truck routes	Spot Monitoring	Weekly	Onsite blockages or disturbance	Follow up with driver Review procedures
Traffic Flow	Congestion	As Required, but at least once per week	Complaints Detection	Respond according to result.
Driver Management	Spot Monitoring	Ongoing on a case by case basis	Complaints Detection	Review of procedures and operations Follow up with driver

Road Monitoring

Monitoring of Council infrastructure will include visual inspections as per below;

- Bridge on Fraser Road

  Monitor bridge performance during cartage operations by joint Council and Mine Manager (or their delegated representative) inspections.

- Esplanade Road Pavement
  Monitoring of the road pavement will be undertaken by the Council and the operator.

Where significant deterioration occurs, agreed remediation works will be undertaken.

Performance reporting and review

Annual management reviews of the environmental performance of the TMP will assess the continuing suitability, adequacy and effectiveness of the on-site environmental management measures implemented. This review will include performance against the goals of the TMP.