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Construction Traffic Management Plan for **Lot 9 DP 367229, 6 Orchard Street,** **Warriewood, NSW**

Prepared by

LOKA CONSULTING ENGINEERS

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1. Introduction

Loka Consulting Engineers Pty Ltd has been engaged by Sky Corp Australia to provide a Construction Traffic Management Plan for the site at Lot 9 DP 367229, 6 Orchard Street, Warriewood, NSW located within Northern beaches Council (Figure1.1 and Figure1.2) for CC stage.

The site is bounded by:

- Lot 8 DP 367229 on the East;
- Fern Creek Road on the West;
- Lot 8 DP 367229 on the North; and
- Kite Street on the South.

The proposed development will facilitate the Construction of a dwelling house within a site area of 406.6m².

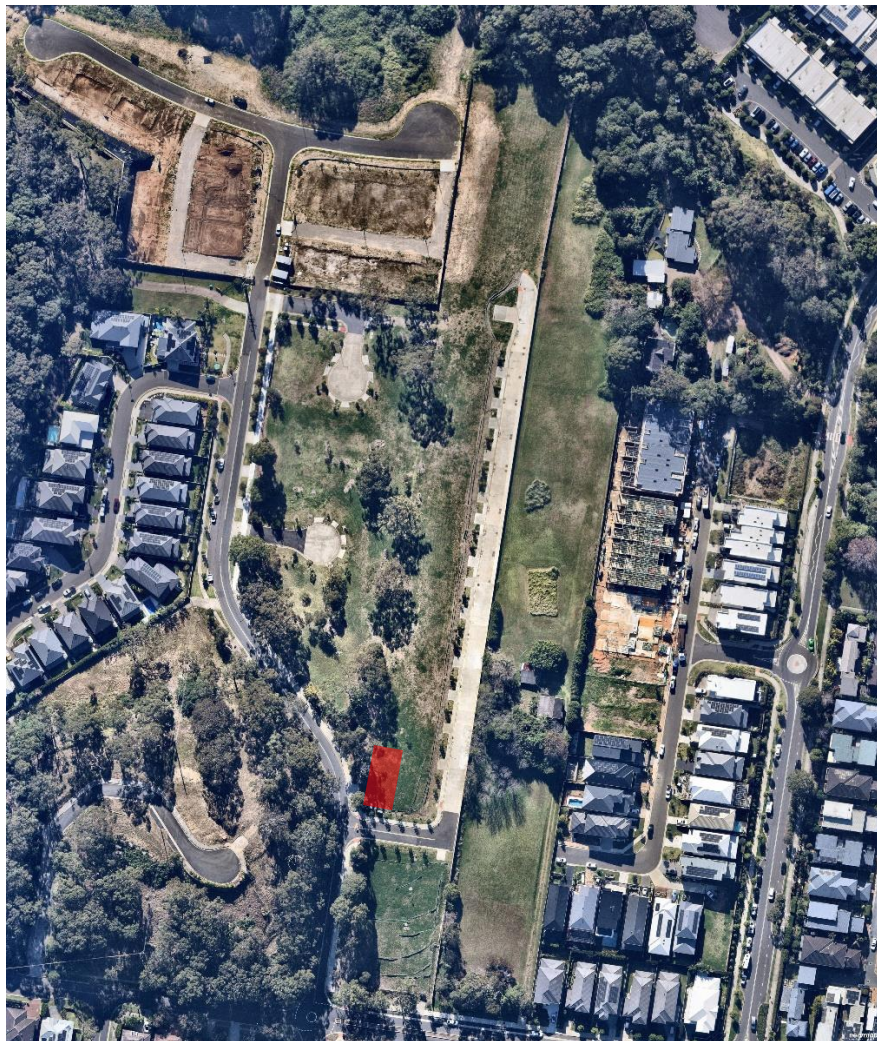


Figure 1.1 Subject site (from nearmap)

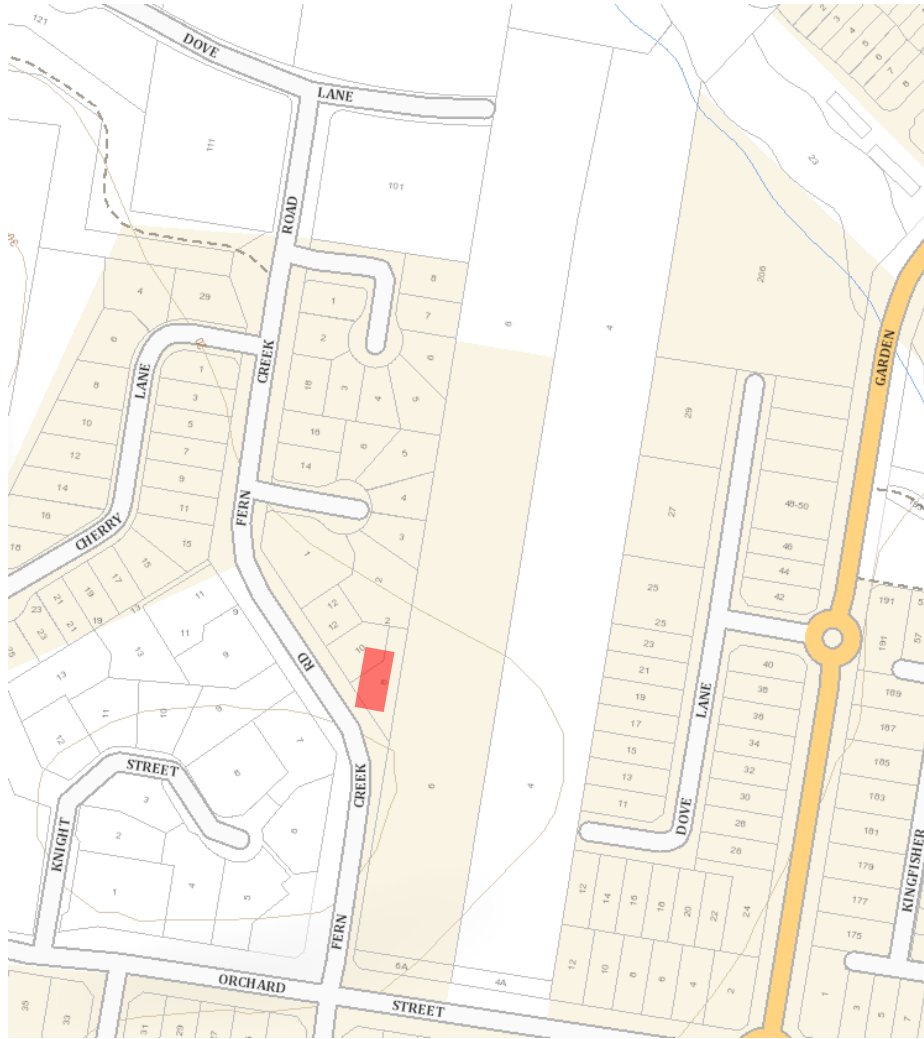


Figure 1.2 Site Location (Source SIX map)

2. Site Access and Parking

2.1 Public Transportations

- It takes 4 minutes walking (300m) from the site to Garden St at Shearwater Dr, Warriewood bus stop (refer to figure 2.1).

Table 2.1 shows the bus line name; routes and the time between two successive trips. Refer to Transport NSW for accurate details.

Table 2.1 Bus line, route, and time

Bus stop	Line Name	Route	Weekday hours	Weekday interval	Weekend hours	Weekend interval
1	182	Mona Vale to Narrabeen	05:25 - 21:29	60 mins.	06:29 - 19:29	60 mins.
	185	Mona Vale to Narrabeen via Warriewood Valley	05:46 - 23:48	10 mins.	05:51 - 23:47	30 mins.

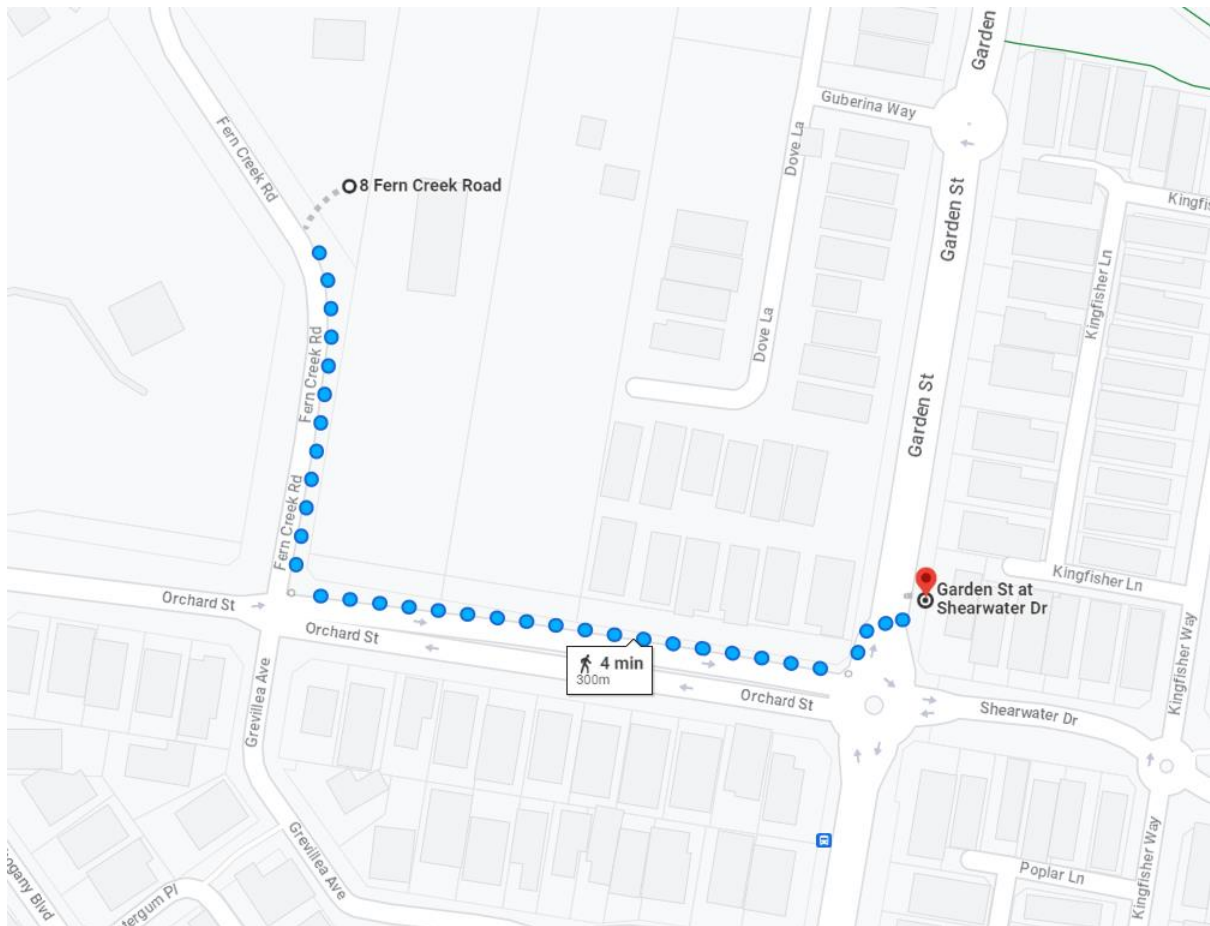


Figure 2.1 Site to Garden St at Shearwater Dr, Warriewood bus stop (Source Google maps)

2.2 Site Entrance and Exit

All site access during all construction stages will be via the proposed driveway on Fern Creek Road. (Refer to Appendix C).

One certified traffic controller is required on Fern Creek Road during all deliveries stages, while construction vehicles are entering and exiting the site to safely manage the interaction between pedestrians, public and construction vehicles in the frontage roadway.

All signage will be erected for the duration of the work and will be laid out as per the attached Traffic Control Plan (Refer to Appendix C).

It is the traffic controller's responsibility to ensure that all signage is erected in a manner that poses no hazard to pedestrian or vehicular traffic and does not impede the site distances for vehicular traffic entering/exiting driveways of neighbouring properties. Outside working hours and on days where traffic controllers are not present, the Traffic Control Signs must be covered.

2.3 Car Parking

There is no kerb side parking along Fern Creek Road. However, there is unlimited kerb side parking along Orchard Street. Therefore, sufficient parking spaces are provided for staffs and workers onsite. However, carpooling system would be encouraged amongst personnel reaching the site.

Neighbours' driveways to be kept clear at all times during construction period.

Work vehicles parked on street close to the work site, should be in accordance with the signposted parking restrictions and NSW Road Rules, not obstructing any local resident access.



Figure 2.3: kerbside parking spaces along Orchard Street (Source: Google Map)

2.4 Emergency Vehicle Access

Emergency vehicle access to and from the site will be available at all work durations as the site is occupied by construction workers. Emergency protocols on site would include a requirement for traffic controllers to assist with emergency access from the street.

2.5 Pedestrian and Cyclist Access

During construction it is expected that construction vehicles will be traffic controlled (i.e., stop / go personnel). This will manage the interaction of pedestrian and cyclist flows across site access driveways.

Notes:

All concrete or construction trucks to:

1. Avoid waiting in front of any neighbours' driveways
2. Must limit the speed to 50 km/hr or less on Fern Creek Road and adjacent streets.

3. Must not wait on the road while delivering and picking up the materials except in the work zone.

Paved road in front of the site should be kept clear at all times. One traffic controller is required to be placed on Fern Creek Road to safely manage pedestrians, public vehicles and construction vehicles at the frontage roadways during construction vehicles entering and exiting the construction site.

2.6 Temporary Construction Signage

During deliveries, there will be a construction signage at both direction of Fern Creek Road to give warning to the pedestrians and drivers to prepare that there is a construction site which may need to slow down or stop. All the construction signage and spacing must be according to the Australian Standard 1742-3.

These signs are as following:

- 1- Work ahead
- 2- Prepare to stop
- 3- Traffic controller ahead
- 4- Pedestrians watch your step
- 5- End road work
- 6- Road work on side road

2.7 Work Zone

No work zone is required during construction and deliveries as there is plenty of space inside the development to hold construction trucks and the trucks will enter and exit the development in a forward direction. Please refer to Appendix C for more details.

Any oversized vehicles proposed to operate on council property (including council approved Works Zones) will obtain a Permit on each occasion.

Road occupancy approval is required for works within the existing public road reserve including but not limited to installing hoardings and barriers and placing construction plants such as concrete pumps, mobile crane etc within the footpath or public road reserve.

Road opening approval is also required for works within the public road reserve including connections to existing services.

2.8 School Zone

There are a number of schools located within a 1.5 km vicinity of proposed site, including Mater Maria Catholic College, The Writing School, Elanora Heights Community Preschool & Narrabeen North Public School (Refer to Figure 2.7).

All construction trucks are NOT permitted to arrive or depart site during school zone period from 8:00am – 9:30am and 2:30pm – 4:00pm on school days.

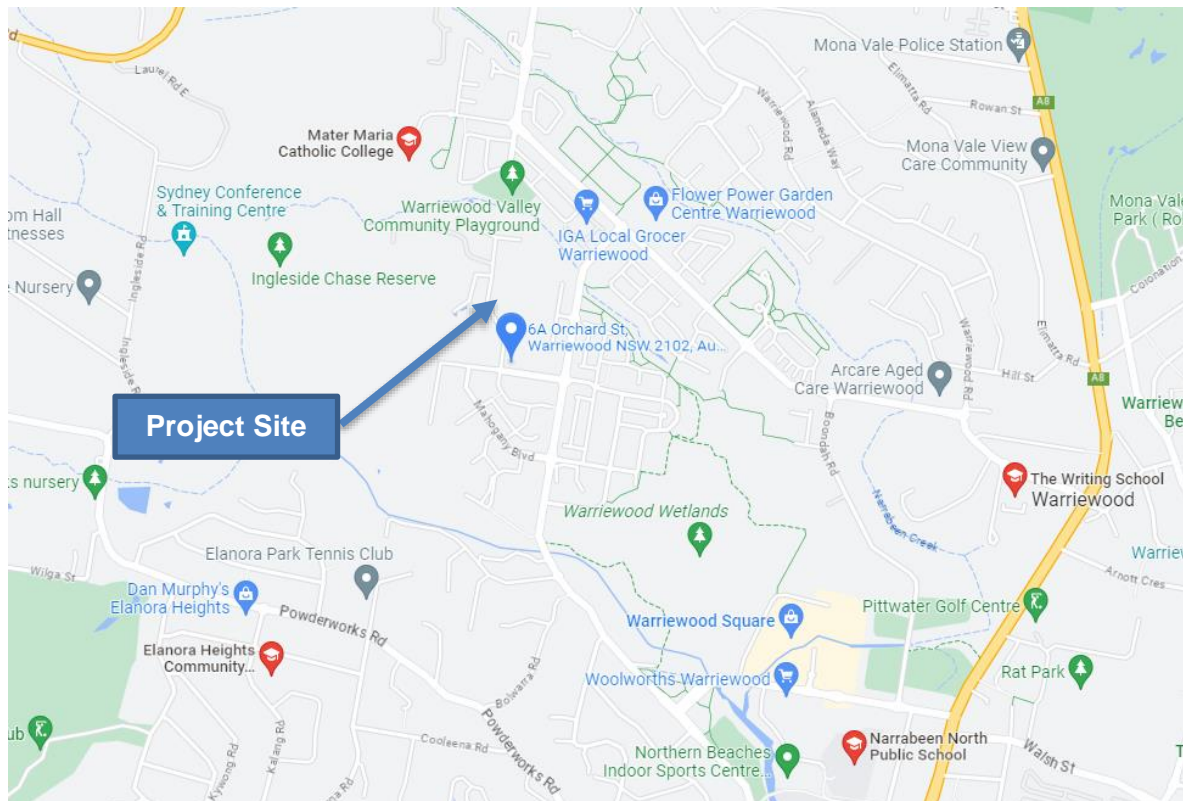


Figure 2.7: Schools at Vicinity (Source: Google Map)

3. General Control

3.1 Public Notification

Prior to demolition, the applicant must notify all adjoining property owners and occupiers of the construction schedule and the approved working hours.

Prior to demolition, the applicant must erect a sign at the front of the site to notify the public about the proposed development with the following:

- a) Unauthorised entry of the work site is prohibited.
- b) A notice with contact names and mobile phone numbers of site supervisors be displayed at the entrance to the site for community to make contacts regarding work activities.
- c) The name, address and telephone number of the Principal Certifying Authority.
- d) The development consent approved construction hours.

3.2 Precaution for Protecting Adjoining Properties

The adjoining or adjacent public area is not to be obstructed by any materials, vehicles, refuse skips and the like under any circumstances unless approved in writing by Council.

The person having the benefit of the development consent must, at their own cost, rectify any damage caused to other properties during the construction of the project.

The area fronting the site and in the vicinity of the development shall be made safe for pedestrian and vehicular traffic at all time.

3.3 Precaution for Protecting Council Properties

During construction and any associated deliveries activities, care must be taken to protect council's infrastructure, including street signs, footpath, kerb, gutter, drainage pits etc. Protecting measures shall be maintained in state of good and safe condition throughout the course of construction.

Any damage to council's infrastructure shall be fully repaired in accordance with council's specification and Australian standard at no cost to council.

3.4 Clean Up Trucks, Vehicles and Plant Wheels

Shaker grid to be provided at the exit of the site; all vehicles leaving the site to be hosed down before exiting the site. However, if any dirt is spilled on the roads by the vehicles exiting the site, the site manager is going to organize the sweeping of the affected areas.

Any run-off from washing down shall be directed to the sediment control system provided within the site.

Pavement surfaces adjacent to ingress and egress points are to be swept and kept clear of earth, mud and other materials at all times and particular at the end of each working day.

During the Construction period, the road and the footpath shall be maintained in clean and tidy state at all times.

3.5 Site Amenities

It is proposed that the site amenities for the construction stage shall be provided within the fenced area. A detailed layout of planned amenities is available in Appendix A.

3.6 Materials Handling and Bin Storage Areas

Materials handling will be predominantly by the use of tip trucks operating generally within the site. The removal of materials will be by load covered trucks and waste bins.

Perimeter scaffold/screens and personnel access shall be provided within the boundary of the construction site as per current legislation, codes and requirements for various stages of the construction works.

A detailed material handling risk assessment and SWMS shall be documented and submitted by the contractors for approval by the construction manager prior to any works. All plant and equipment used for materials handling shall comply with all sections of the CTMP and legislation, regulations and codes.

During all stages, the material loading and unloading will be within the site. The on-site loading and unloading points are indicated in Appendix A.

No materials (including waste and soil), equipment, structures or goods of any type are to be stored, kept or placed on Council footpath or roadway without prior approval from Council. The use of the roadway for the storage of building materials is not permitted under any circumstances.

All construction trucks leaving the site carrying any material to ensure their loads are properly covered and do not drop soil or waste materials onto the roads.

3.7 Building Materials on Public Way Policy

No building materials will be stored on the public way at any time. Wash down water is not to be directed onto the roadway's storm water system.

3.8 Noise and Dust

Suitable screens and/or barricades shall be erected during construction stages to reduce the emission of noise, dust, water effluent or other matter from the site.

The following measures must be taken to control the emission of dust:

- a) Activities occurring during the construction phase of the development must be carried out in a manner that will minimise the generation of dust.
- b) All dusty surfaces must be wet down and any dust created must be suppressed by means of a fine water spray. Water used for dust suppression must not be allowed to enter the stormwater system.
- c) All stockpiles of materials that are likely to generate dust must be kept damp or covered.
- d) Trucks which are entering or leaving the site and carrying loads must be sealed or covered at all times, except during loading and unloading.

Noise emissions and vibration must be minimised. Vibration levels resulting from construction activities must not exceed 5mm/sec peak particle velocity (PPV) when measured at the footing of any nearby building. In addition, plant operators should be aware of their responsibilities in avoiding excess noise and dust. If there is any noise or dust complaints from neighbouring businesses steps should be taken by the Site Manager to reduce noise and/or dust output or improve the construction methodology.

3.9 Hours of Operation

Construction hours will be in accordance with those specified by council in the development consent.

Notes:

1. No work is permitted on Sundays or Public Holidays.
2. Written notice is to be given to Council prior to the commencement of any works by at least two (2) days.
3. A minimum of seven (7) days notification must be delivered to adjoining property owners prior to the implementation of any temporary traffic control measures.
4. The site must be enclosed by a 1.8m high or above security fence, erected wholly within the confines of the site, to prevent unauthorized access and to be approved by the Principal Certifying Authority to exclude public access. The fencing must be erected before the commencement of any construction works and maintained thereafter.

3.10 Crane

There will be no crane proposed for this development.

3.11 Hoarding

There will be no hoarding proposed for this development.

3.12 Protection of trees

All street trees and trees on private property that are protected under Council's controls shall be retained and protected during construction works except where Council's prior written consent has been obtained. Damaged trees shall be repaired / replaced to the satisfaction of Council.

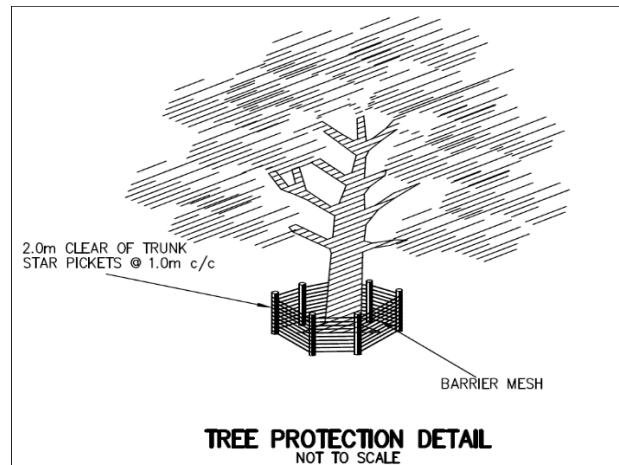


Figure 3.13: Illustration for Tree Protection

4. Construction Schedule

The construction activities are expected to be undertaken over the following duration after C.C approval as set out below.

4.1. Site Preparation Stage

Tree removal

Site establishment.

Duration for this stage is approximately 4 weeks.

There are approximately 1 – 2 small rigid truck enter and exit the site per day. This would not occur every day as they would not be loading out every day of the site preparation stage.

4.2. Excavation Stage

Cut in soil

Shoring stabilization, as per structural engineer's requirement.

Duration for this stage is approximately 2 months.

There are approximately 8 – 10 medium rigid trucks enter and exit the site per day. This would not occur every day as they would not be loading out every day of the excavation.

4.3. Construction stage

Construction of footing and building framework.

Construction of internal and external finishes.

Duration for this stage is approximately 10 months.

There are approximately 6 – 8 concrete medium rigid trucks enter and exit the site per day. This would not occur every day as they would not be loading out every day of the construction.

***Note: During major milestone activity, the maximum number of trucks may vary.**

4.4. General Deliveries

These works would occur intermittently throughout the project with the major deliveries being reinforcing steel, plasterboard and bricks. The major deliveries will generally comprise medium rigid trucks while the remainder would generally comprise smaller truck deliveries.









5. Conclusion

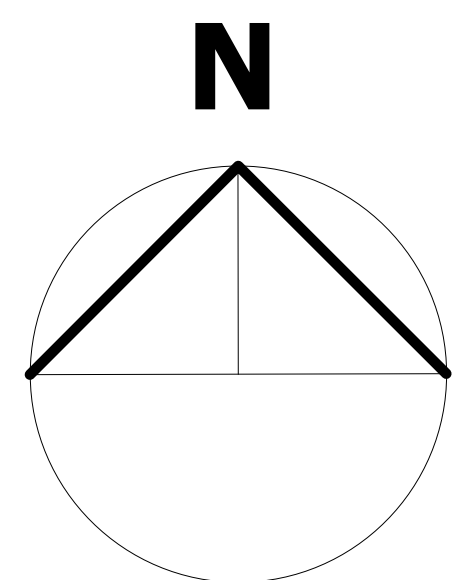
- There is sufficient capacity within the surrounding road network to accommodate traffic generation associated with the construction activities.
- The proposed vehicle access arrangements and associated routes, operating hours and material-handling measures are appropriate to minimise the potential amenity impacts to local residents (i.e., parking not affecting neighbourhood, construction vehicle routes avoiding local schools, traffic controls safely managing the interaction of pedestrian and cyclist).
- Guidelines are also provided for dust and noise control, keeping disturbance to local environment at a minimal level.

APPENDIX A

SITE MANAGEMENT PLAN



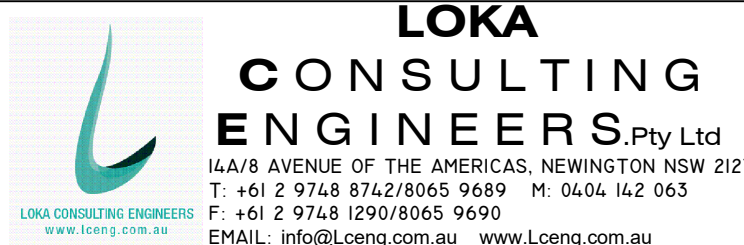
SYMBOL	LEGEND
	PROPOSED DRIVEWAY
	SUBJECT SITE
	STORAGE AREA
	SITE OFFICE
	TEMP. SITE TOILET
	RECYCLE
	SKIP PIN
	LOADING & UNLOADING AREA

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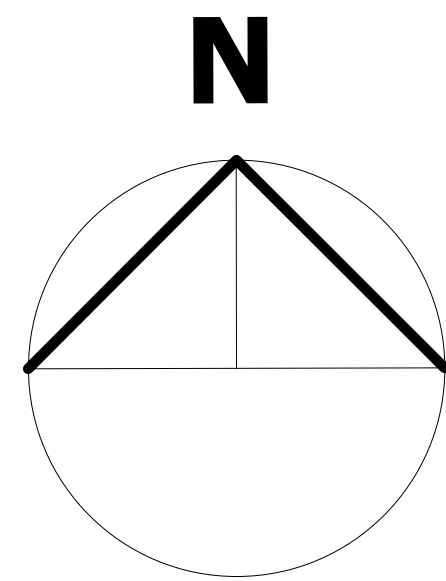
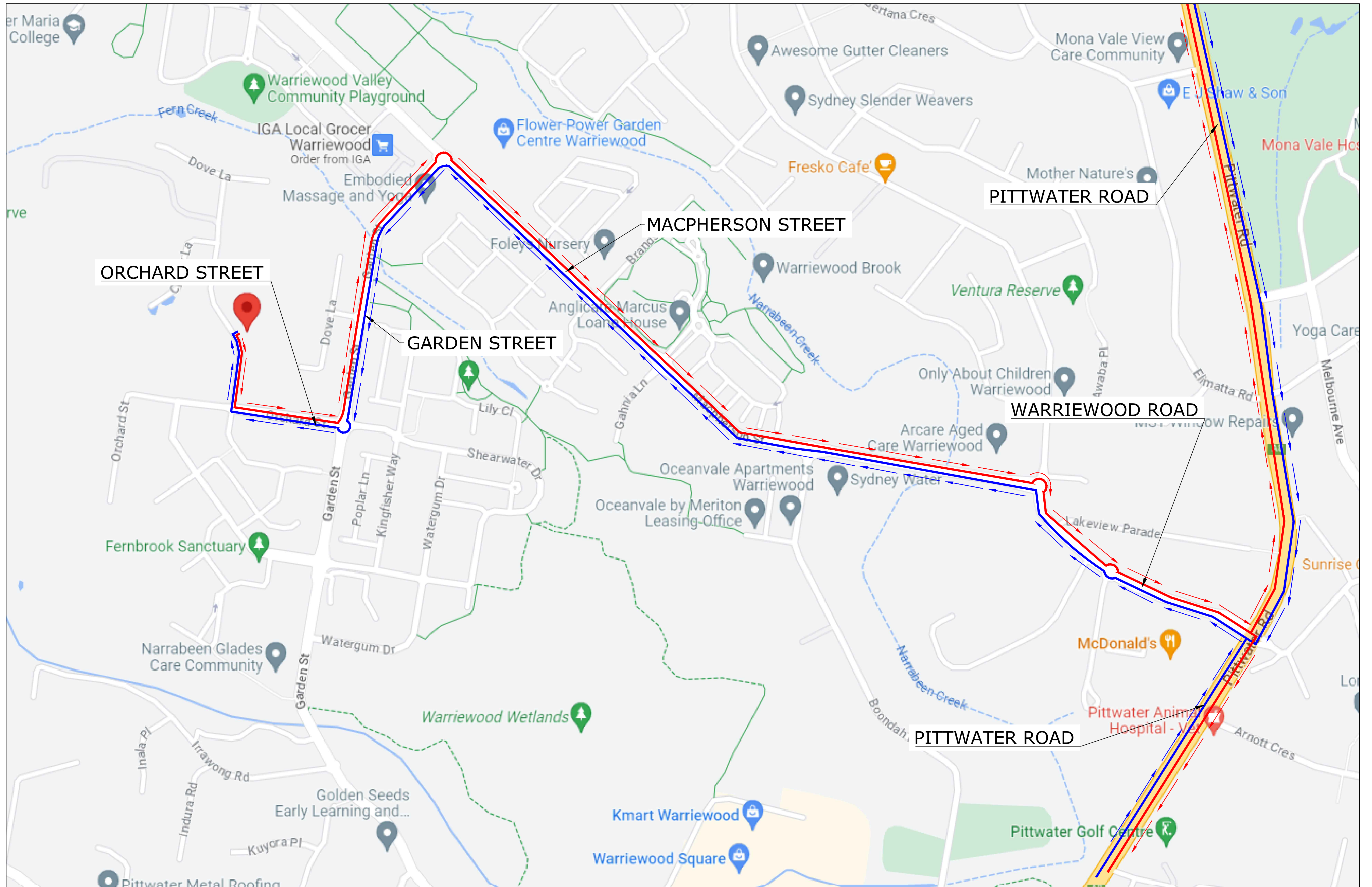



PROJECT	PROPOSED DWELLING HOUSE AT LOT 9 DP 367229 , 6 Orchard Street, WARRIEWOOD NSW
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CONSENT AUTHORITY:
NORTHERN BEACHES COUNCIL

APPENDIX B

ROUTE MAP



	ARRIVAL
	DEPARTURE

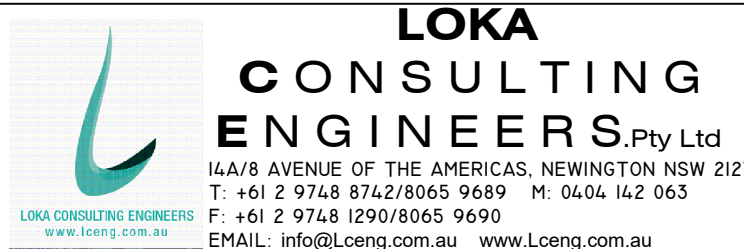
ROUTE MAP
NOT TO SCALE

A	FOR COORDINATION	A.R.	A.R.	08-08-23					
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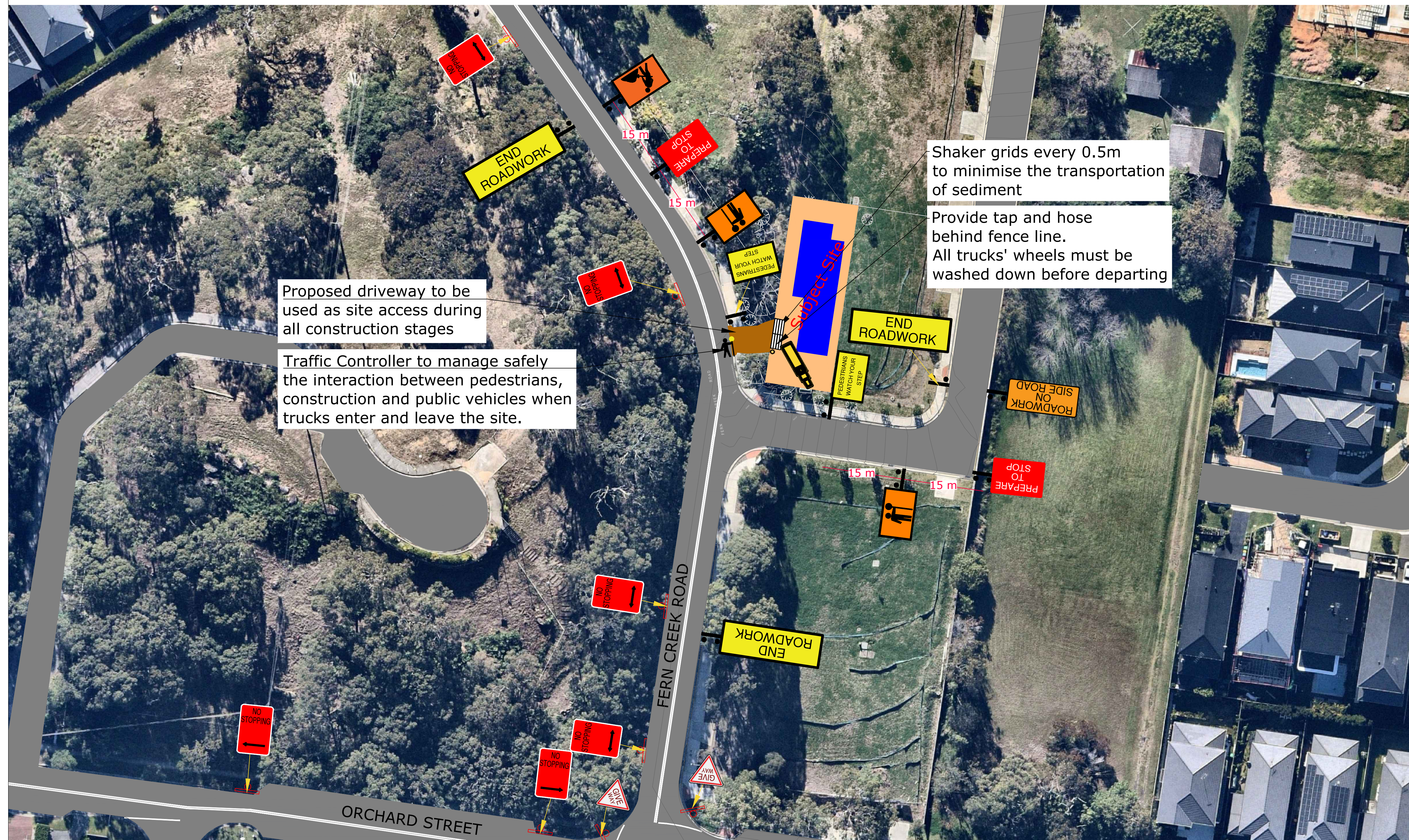
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PROJECT
PROPOSED DWELLING HOUSE AT LOT 9 DP 367229 , 6 Orchard Street, WARRIEWOOD NSW

CONSENT AUTHORITY:
NORTHERN BEACHES COUNCIL

APPENDIX C

TRAFFIC CONTROL PLAN



TRAFFIC CONTROL PLAN

SCALE 1:400

NOTE:
MATERIAL DELIVERIES AND PICK UP SHOULD BE UNDERTAKEN WITHIN THE SITE.

NOTE:
All signs and spacing must be in accordance with Australian Standard 1742-3

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


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PROJECT	PROPOSED DWELLING HOUSE AT LOT 9 DP
	367229 , 6 Orchard Street, WARRIEWOOD
	NSW
CONSENT AUTHORITY:	
	NORTHERN BEACHES COUNCIL

SYMBOL	LEGEND
	DELIVERY TRUCK
	PROPOSED DRIVEWAY
	SUBJECT SITE
	TRAFFIC CONTROLLER

VALUE OF DIMENSION BETWEEN SIGNS	
SPEED OF TRAFFIC km/h	DIMENSION D m
45 or less	0 to 5
46 to 55	15
56 to 65	45
Greater than 65	Equal to speed of traffic, in km/h

