Construction Traffic Management Plan

4 Brookvale Avenue, Brookvale NSW 2100

February 2018

APEX ENGINEERS

Type of Assessment: Construction Traffic Management Plan
Site Location: 4 Brookvale Avenue, Brookvale NSW 2100
Prepared for: Lotus Projects
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APEX ENGINEERS

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1. Introduction

APEX Engineers were engaged by Lotus Projects to prepare a Construction Traffic Management Plan (CTMP) for the proposed multi-unit residential development located at 4 Brookvale Avenue, Brookvale NSW 2100.

The scope of this report is as follows:

- Review the existing traffic, pedestrian and road network conditions proximate to the proposed construction site;
- Identify the anticipated scope of works and the order of the demolition and construction works;
- Identify the anticipated haulage routes to and from the subject site;
- Identify the proposed work zone and temporary hoarding areas based on the site survey plans;
- Forecast the level of construction traffic and identify the anticipated mix of construction vehicles;
- Outline the proposed ingress and egress routes of the construction vehicles to and from the subject site;
- Identify the traffic hazards and potential risks during all stages of work; and
- Outline the required traffic and pedestrian protection measures to be implemented within and in the vicinity of the subject site, in particular whilst construction vehicles are entering and leaving the subject site.

The proposed traffic and pedestrian management measures are identified to demonstrate the feasibility of managing the potential impacts. Prior to the works proceeding, further development of the temporary measures, such as Traffic Control Plans, and any associated road related licenses should be prepared by the contractor.

2. Existing Conditions

The subject site is located at 4 Brookvale Avenue in Brookvale. At the site frontage, Brookvale Avenue is a local access road, which includes an undivided carriageway with kerbside parking on either side. In addition, paved footpaths are provided, for pedestrians, on either side of Brookvale Road.

Brookvale Avenue includes a cul-de-sac end approx. 300m from its roundabout intersection with Old Pittwater Road. The immediate site vicinity, on the north side of Old Pittwater Road, is characterised by residential uses. The south side of Old Pittwater Road, within the site vicinity, includes light industrial and commercial land uses.

Figure 1 Highlights the site location from an aerial perspective.

Figure 1: Location of the Subject Site

3. Proposal Details

3.1 Proposed Works

The subject proposal involves demolition of the existing residential dwelling at the subject site and subsequent excavation and construction of a multi-unit residential building.

Details of demolition, excavation and construction works and their respective durations will be clarified and informed to the Council at later stages of this development.

3.2 Anticipated Construction Vehicle Traffic Generation

Demolition, Excavation and Soil Removal Stage

The demolition stage involves;

- Demolition of all existing buildings, sheds, carports, garages, steps, ramps, brickwork and footings on site.
- Removal of all existing roofing, fascias, capping, gutters and downpipes.
- Demolition of all existing pathways, hard surface areas, fences, railings, planter boxes, turf, letter boxes, hot water units and meter boards on-site.
- Removal of some existing trees on-site.

Depending on the tipper size used (largest anticipated design vehicle to access the subject site is a medium rigid vehicle – 8.8m long), this stage will lead to between **50-60** trips over the total excavation stage. This traffic generation shall be evenly dispersed throughout the day. This will lead to infrequent trips, and are not anticipated to interrupt regular traffic conditions.

Construction Stage

During this stage, concrete pumps/pourers will access the subject site. It was estimated that approximately **60-80** pouring trips will be realised over the pouring period. Similarly, these trips shall be spread out evenly over each working day.

When considering the above traffic generations, it was predicted that the associated works shall generate approximately **2-3** vehicle trips per hour.

Traffic Controls

All work shall be confined to within the subject site. Traffic associated with these works will be low in volume, and easily accommodated by the local roads, which have been appropriately designed for heavy vehicle traffic. As such, no road closures will be necessary.

In the unlikely event that road closures are required, advance notification shall be given to Council and RMS along with a detailed traffic control plan (prepared by the contractor). This plan would include all information as required by Council, including a public information campaign to notify public of temporary road changes.

3.3 Work Zone Area

The primary work zone is proposed within the boundary of the property due to the scope of the construction work. The site perimeter should be secured by 1.8m high protective fencing – on order to prevent public access to the site. **Figure 2** below highlights the external characteristics of the proposed work zone area.

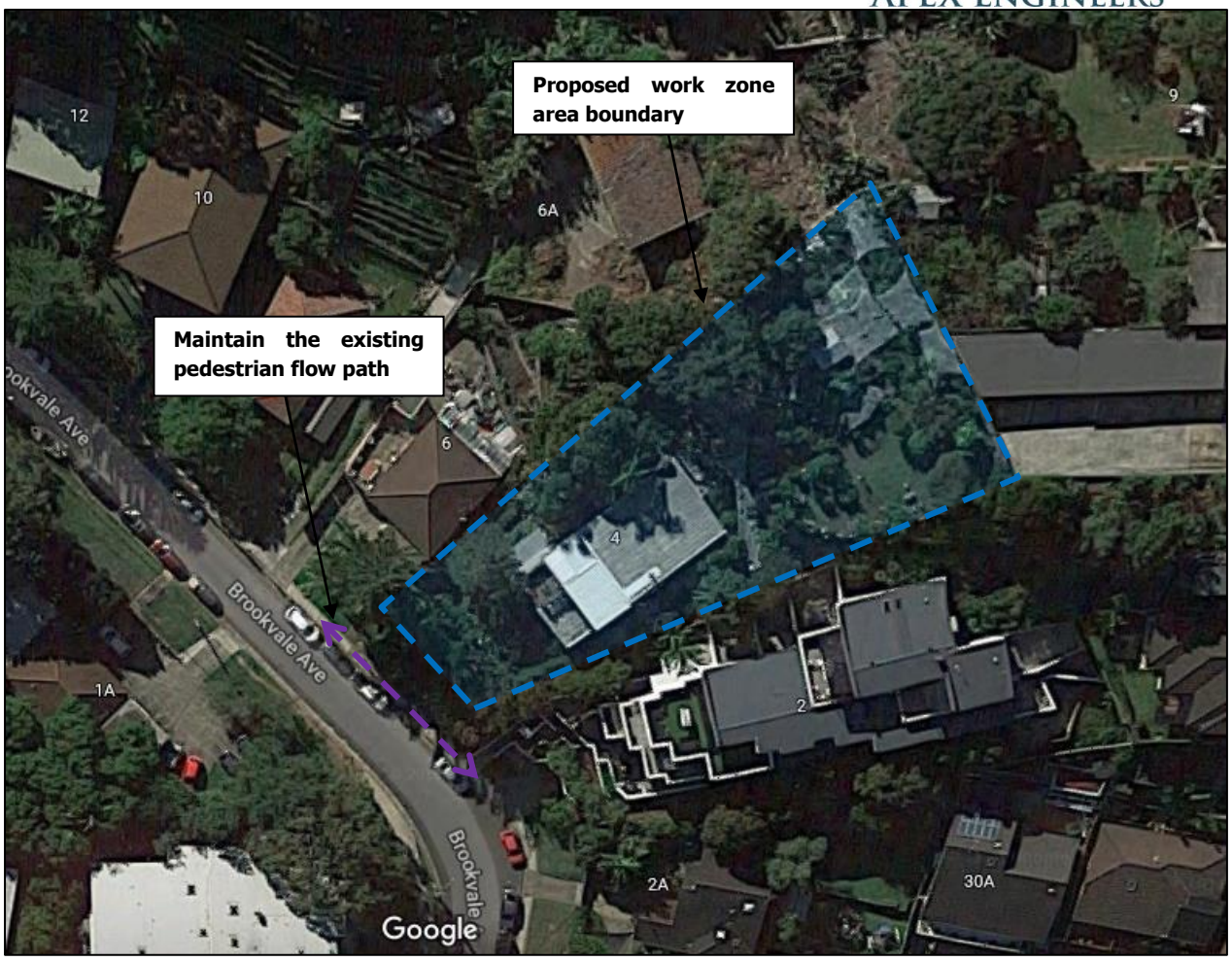

Figure 2: External Characteristics of the Proposed Work Zone Area

The following figure illustrates the internal characteristics of the proposed work zone area – i.e. proposed parking, site shed, storage and loading/unloading areas.

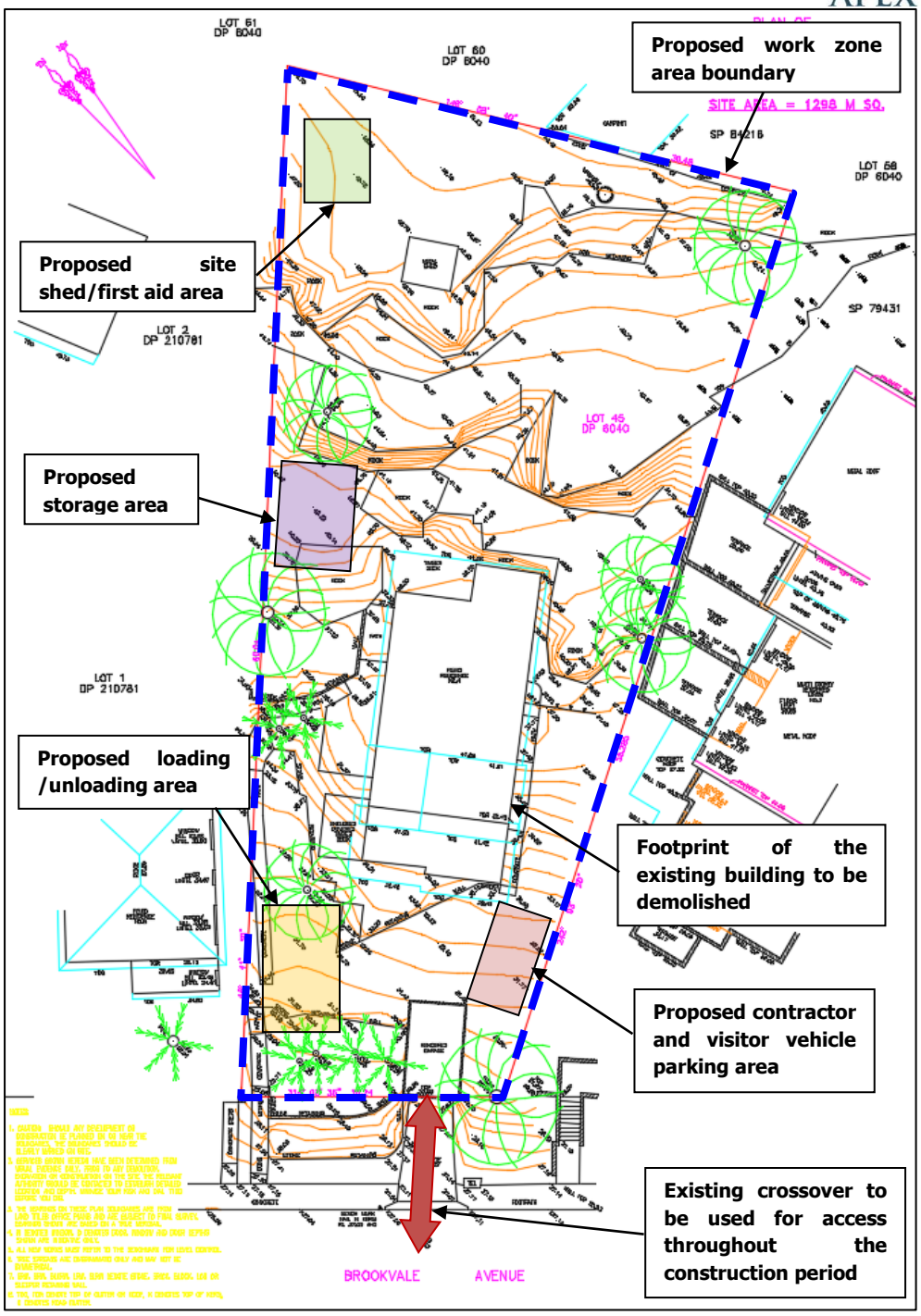

Figure 3: Internal Characteristics of the Proposed Work Zone Area

During the times of the above works, contruction vehicle traffic and pedestrian conflicts along the footpath at the site frontage should be managed as per the recommendations outlined in **Sections 4.4** and **4.5**.

3.3.1 Access and Vehicle Standing

All vehicles accessing and egressing from the site shall only use the existing crossover off Brookvale Avenue. It is anticipated that the number of standing construction vehicles at any one point shall be minimal, and can be accommodated within assigned parking area (within the loading and unloading area) within the site boundary. A separate area has been nominated within the site for contractor and visitor vehicle parking.

3.3.2 Protection of Pedestrians, Vehicles and Public Assets

The numbers (frequency) of vehicular movements are likely to be less than 2 every 30 minutes. This traffic generation rate is minor. As such, the associated construction traffic is not expected to cause any significant hazards to adjacent properties, pedestrians, parked vehicles or public assets.

3.3.3 Construction Hours

It is noted that all construction work relating to this proposal will be undertaken only between the hours of 7am to 5pm – Monday to Friday. In order to retain the surrounding amenity, no work shall be undertaken on weekends or public holidays.

3.3.4 Site Safety

The work site would be secured using the site perimeter fencing (1.8m high) to prevent unauthorised public access, in particular to prevent access outside of the work hours.

3.4 Anticipated Haulage Routes

It is noted that at these early stages, the contractor for the demolition and construction works are yet to be nominated by the developer. However, the anticipated truck haulage routes are expected to be along Pittwater Road - (signalised intersection) - Old Pittwater Road – (roundabout) - Brookvale Avenue, as illustrated in **Figure 4**.

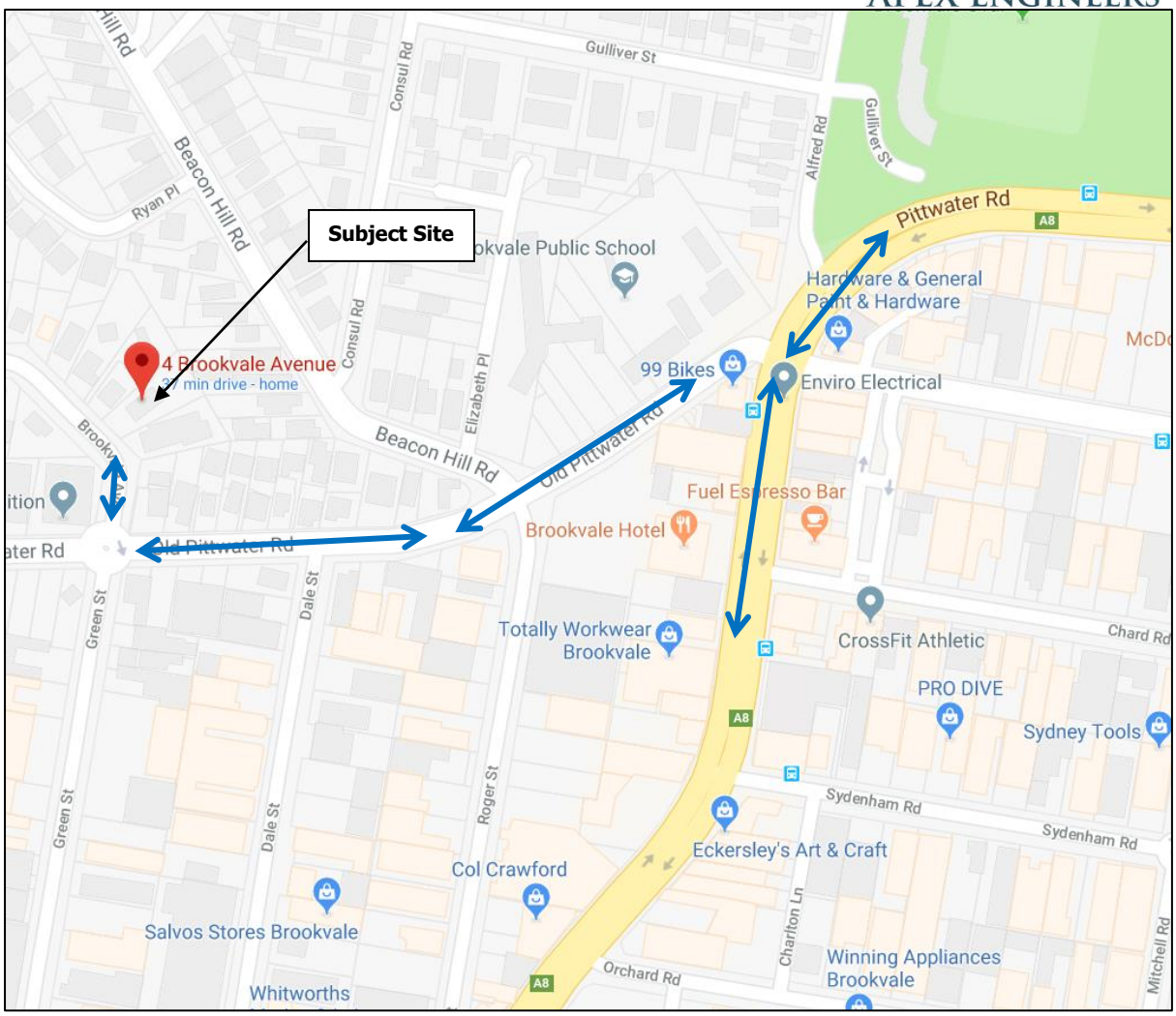

Figure 4: Anticipated Truck Haulage Routes

4. Traffic and Pedestrian Management Measures

4.1 Primary Contact

The developer of the land has been nominated as the primary contact as follows;

Contact: Frank Lucia at Lotus Projects

Mobile Phone: 0417 268 834

Email: frank@lotusprojects.com.au

This person has authority to comply with any instructions issued by Council or Police.

4.2 Keeping Pedestrians and Vehicles Apart

The contractor should adopt the following actions which ensure that pedestrians and vehicles are kept apart, both on-site and when vehicles enter or exit the site:

- Secure the areas where vehicles and powered mobile plant are being used, for example pedestrian barriers or traffic control barricades.
- Provide separate clearly marked pedestrian walkways that take a direct route where possible.
- Where walkways cross roadways, provide a clearly signed and lit crossing point where drivers and pedestrians can see each other clearly.
- When exiting the site, make sure drivers driving out onto public roads can see both ways along the footway before they move on to it.
- Do not block walkways so that pedestrians have to step onto the vehicle route.
- Create 'no go' zones for powered mobile plant.
- Designate specific parking areas for workers' and visitors' vehicles outside the construction zone, within the work zone area.

4.3 Minimising Vehicle Movements and Vehicles Reversing

A key component of traffic and pedestrian conflict management involves minimising vehicle movements, in particular, the reversing movements by vehicles. The need for vehicles to reverse should be avoided where possible as reversing is a major cause of accidents.

Where it is absolutely necessary for vehicles to reverse:

- Use reversing sensors, reversing cameras and mirrors and warning devices such as reversing alarms.
- Ensure drivers have another person to direct them before reversing if they cannot see clearly behind. The driver should maintain visual contact with the person directing them and signallers should wear high visibility clothing.
- Ensure workers and other people are familiar with reversing areas and reversing areas are clearly marked.
- Ensure operational plant movements are alerted to workers including swing radius, articulation points and overhead load movement.

4.4 Short Term Footpath Works

It is imperative to implement pedestrian management measures whenever works are being undertaken on the footpath at the site frontage (or whenever the footpath area overlaps the works zone area).

For short term footpath works, or when construction vehicles are ingressing and egressing the subject site through the existing crossover, a person with the necessary training or qualifications should direct the vehicles and notify the pedestrians to give way to the construction vehicles as required.

4.5 Medium and Long Term Footpath Works

For medium and longer term periods where footpath at the site frontage is anticipated to be affected due to the construction works, in addition to a person with the necessary training or qualifications directing the vehicles and notifying the pedestrians, the following should also be implemented;

- Mirrors, reversing cameras and sensors that can help drivers see movement all-round the vehicle.
- A trained person (wearing high-visibility or reflective clothing) who can be appointed to control manoeuvres (by notifying the vehicle drivers and pedestrians about who and when to give way).
- The use of positive communication, for example hand signals, eye contact and verbal confirmation. When using a radio as your primary form of communication, a back-up communication process should be in place in the event of radio failure. Line of sight communication can include the use hand signals or cap lamp light signals. The person receiving the message must provide acknowledgement that the message has been received and understood.
- Prominently display clear warning signs in relevant, well-lit areas to remind persons of the traffic management hazards and requirements.

5. Training, Inspection, Monitoring and Auditing

The construction contractor shall implement appropriate training and induction in the requirements of this pedestrian management plan. All employees, contractors and utility staff working on site will undergo site induction training which includes Environmental Due Diligence Training. The induction shall address the following issues:

- This construction traffic and pedestrian management plan;
- The existence of traffic restrictions and what this means for the project;
- Delivery hours and locations;
- Reporting and recording environmental incidents related to traffic; and
- Traffic control measures and the development and implementation of Traffic Control Plans.

Records will be kept of all personnel undertaking the site induction and training, including the contents of the training, date and name of trainer(s).

5.1 Inspections

The requirement to inspect traffic control is stipulated in Section 6 of the RMS's Traffic Control at Worksites Manual and Appendix A of Australian Standards 1742.3. The traffic control (only if required) in this project will be primarily short term control and therefore the pre-start and pre-closedown inspections should be undertaken. The construction Contractor has the responsibility of conducting the inspections, which are:

- Daily observational monitoring before work starts; and
- Regularly through the shift and prior to closing down.

5.2 Monitoring

Traffic monitoring during the construction phase will be undertaken generally and will include daily pre-start visual inspections of vehicles to ensure vehicles are maintained in good working order and in accordance with manufacturer

specifications, and noise controls (efficient silencers, low-noise mufflers etc.) have been installed and maintained (where reasonable and practicable).

5.3 Reporting and Auditing

Reporting and auditing shall be conducted by the contractor on a needs basis. Given the short time span of the construction works (maximum of six months) – comprehensive reporting and auditing is not deemed required.

5.4 Summary of Contractor Responsibilities

The following table summarises the anticipated contractor responsibilities throughout the period of demolition/construction.

Table 1: Summary of Contractor Responsibilities

Control measure	Timing	Source/Reference
General		
Site induction (including environmental due diligence training) to include driver training on use of approved routes and a transport code of conduct for the Project site.	Prior to construction commencing and ongoing	Best Practice
Vehicles will be maintained in good working order in accordance with manufacturer's requirements to minimise noise and exhaust emissions.	Ongoing	Best Practice
All reasonable and practicable, noise controls (e.g. low-noise mufflers) will be installed and maintained on plant and equipment.	Ongoing	Best Practice
All heavy vehicles entering and leaving the site that are carrying loads will be covered.	Ongoing	Best Practice
Drivers will only use approved routes and comply with the speed limits and road rules both on site and within the local road network.	Ongoing	Best Practice
Traffic to the site will obey curfew times and driver instructions.	Ongoing	Best Practice
Vehicles will not park or queue on local roads in	Ongoing	Best Practice

the vicinity of the project site.		
Traffic entering the site will be directed to the appropriate area - for example staff and visitors to the car park by appropriate signage or traffic control.	Ongoing	Best Practice
Vehicles reversing out on to the frontage road should be prohibited at all times. Whenever reversing is the only option, a nominated traffic control person should assist the reverse process by alerting pedestrians and other vehicles within the vicinity.	Ongoing	Best Practice
Traffic Control Plans		
All TCP's used during the construction activity will be developed by the Contractor in accordance with *Australian Standard 1742.3-2002 Manual of uniform traffic control devices Part 3 Traffic control devices for works on roads* and the RTA's *Guide to Traffic Control at Worksites* Version 4, 2010. It should be noted that a TCP can only be prepared by a person who has undertaken and passed the RTA's "Traffic Control at Worksites Manual" training course and holds a current certification.	As required	Best Practice
All TCP's will be implemented by suitably qualified personnel in accordance with the RTA's "Guide to Traffic Control at Worksites" with particular attention paid to the spacing of traffic control devices.	As required	Best Practice
Inspections		
Daily pre-start and pre-closedown inspections of short term traffic control will be completed using the checklist in the RTA's "Traffic Control at Worksites" Manual.	Daily	Section 6 of the RTA's "Traffic Control at Worksites Manual and Appendix A of Australian Standard 1742.3
Weekly inspections of long term traffic control will be completed using the checklist in the RTA's "Traffic Control at Worksites Manual", additional notes may also be included on the Environmental Site Inspection Checklist.	Weekly	