WorleyParsons
resources & energy

North Penrith

Stage 1 Project Application

Construction Traffic Management Plan

Summary

Objectives

The objectives of this plan are to ensure that the impacts of construction works on the public domain, in particular to vehicular and pedestrian traffic, are considered by the proponent. This plan ensures public safety is maintained at all times and that whenever possible interruption to the use of public spaces is minimised.

Methods and findings

This plan summarises the construction traffic that is likely to be generated during the construction works for the proposed development, and incorporates the comments provided by PB in the North Penrith Transport Mobility and Accessibility Plan (TMAP).

Key elements of expected construction traffic are considered, including truck routes, site entry, internal movements and manoeuvring, and impacts including public parking and pedestrians.

Contents

1. Objectives of assessment

At a glance

This section provides a summary of the key objectives of this Construction Traffic Management Plan

Purpose and Scope

The purpose of a Construction Traffic Management Plan is to ensure that the impacts of construction works on the public domain, in particular to vehicular and pedestrian traffic, are considered by the proponent and reviewed by the appropriate authority. This plan must ensure that public safety is maintained at all times and that whenever possible interruption to the use of public spaces is minimised.

The Construction Traffic Management Plan would ensure that:

- The safety of all road users is maintained when construction vehicles enter and exit the construction site;
- The safety of all road users is maintained on surrounding roads;
- Truck routes;
- Transport incident management
- Disruptions to local residents are minimised.

2. Background

At a glance

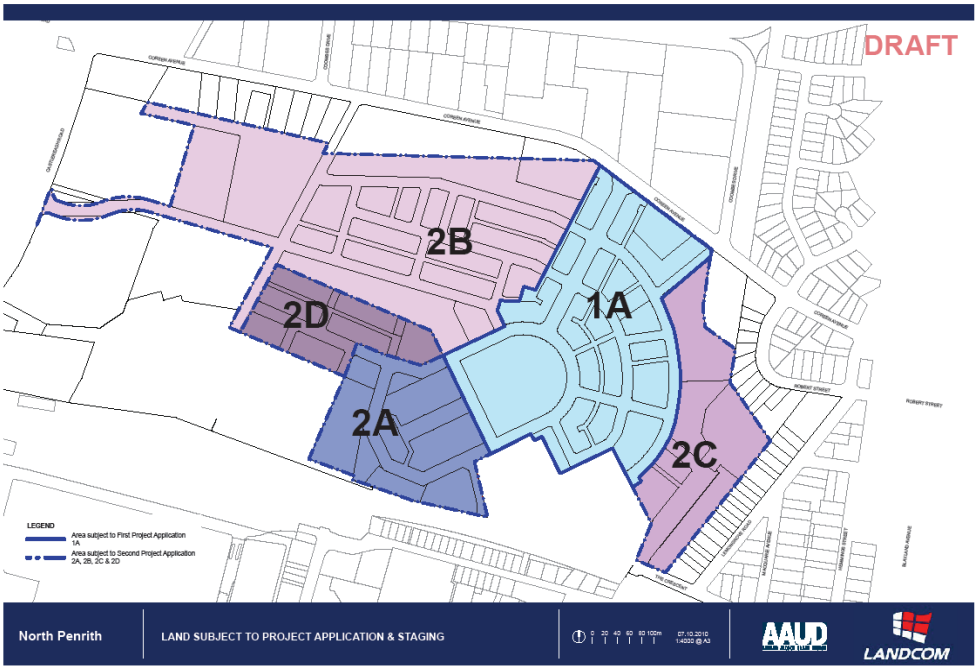
This section describes the background to the project and pertinent information and background to construction traffic

Introduction

WorleyParsons (*WP*) has been engaged by Landcom to develop this Construction Traffic Management Plan (*CTMP*) for the Stage 1 Project Application phase of the proposed North Penrith development.

Figure 1 shows the locality and the approximate outline of the proposed development site including the Stage 1 Project Application area.

Figure 1 – Location Map



Project Overview

Landcom propose to develop a 40 hectare mixed use development as shown in **Figure 1**.

This preliminary CTMP applies to the Stage 1 area, approximately 15 hectares incorporating the main entrance off Coreen Avenue which follows a loop road system that circumnavigates

the oval before returning to Coreen Ave. to the North, the infill area comprises mostly low rise townhouses and broad acre lots.

Infrastructure will comprise of bulk earthworks, grading, servicing & road works. The approximate number of dwellings in Stage 1 would be 178.

Subject to the review and approval of the Part 3A Project Application, Stage 1 works within the North Penrith site are due to commence in the second half of 2011.

The projected timeframe for completion of the Stage 1 works is approximately 30 weeks with the total project works to have a construction duration of approximately 5 years.
The main Infrastructure Works associated with construction of Stage 1 will include as a minimum:

- Site Establishment and Security;
- Establishment of Environmental and Safety Controls;
- Establishment of Traffic Control Measures;
- Construction of Road/Site Access;
- Construction of pit and pipe Drainage and Stormwater Management Infrastructure
- Bulk Earthworks – cut and fill to provide a surface conducive with proposed development;
- Recycling of suitable existing in-situ asphalt and concrete slabs;
- Installation of servicing infrastructure, namely electrical, sewerage, telecoms, potable water & gas;
- Landscaping; and
- Site De-establishment.

Legislation

1. Penrith City Council Draft DCP
2. Transport Administration Act 1988
3. Roads Act 1993
4. Traffic Control Act 1909

3. Construction Traffic

At a glance

This section describes the proposed construction traffic generating activities, potential impacts and mitigation requirements.

Landcom's appointed Main Works Contractor will manage, direct, and protect all pedestrians, RTA access road and construction traffic that could be affected by the construction activities. The Stage 1 work zone is located off the street inside the fenced off work area (refer Stage 1A in **Figure 1**).

Individual Site Traffic Management Plans (STMP's) will be developed for specific areas of work or activities that are considered to impact local traffic in some way on Coreen Ave, Lemongrove Rd, The Crescent & Castlereagh Rd. STMP's describe in detail the area of work or activity, the extent of the expected traffic impact, and the management and responsibility measures to be implemented.

Following engagement, it is expected that the Contractor for the works would provide a Construction Management Plan which would include:

1. Details of the methodology for reducing the amount of traffic on site;
2. Details of the mechanism for advising staff and subcontractors of obligations to remain within the site (disturbed) area;
3. Details of the location of all contractor parking within a defined precinct in the contractors' site area; and
4. Details of the internal site road network during construction.

The following information includes details provided by PB in the North Penrith Transport Mobility and Accessibility Plan (TMAP).

Construction Traffic Management

Construction traffic is likely to be generated by the following activities:

- Importation of fill
- Disposal of fill material offsite
- Delivery of materials and equipment to site
- Vehicles associated with workers and contractors

The potential impacts of construction on public car parking and pedestrians is described below:

Public Car Parking

Given the available land for development, the impact on local traffic will be kept to a minimum and it not expected to provide a substantial impact to the public. The following will be implemented to achieve this:

- Delivery vehicles, tradesman vehicles and trucks will park to load/unload on site.
- Labourers will car pool to and from the site each day where possible.

Pedestrians

Pedestrians will not be affected by the works. The entire perimeter of the worksite will be fenced off for security and safety in accordance with Workcover requirements.

Truck sizes & frequencies

The following are expected (not including traffic associated with bulk earthworks and concrete works):

Site Establishment - utilities and small delivery trucks

Site Servicing Works & Demolition - tipper trucks, excavators, loaders, various delivery trucks

Excavation and Bulk Site Filling - tipper trucks, dozers, low loader float for excavator

Concrete Floor Slabs - concrete agitator trucks & pump

Framing - timber delivery semi trailer, crane

Roofing - semi delivery truck, crane

Brickwork - concrete agitator trucks & pump

Glazing and Lock-Up - utilities and small delivery trucks

Finishing & Fit-Out Trades - utilities and small delivery trucks

Tradesman utility vehicles, water carts, delivery trucks and heavy vehicles such as lifting cranes & dozers are expected to deliver bulk earthworks & infrastructure servicing works. Generally each civil & building contractor will complete their section of work prior to the next trade arriving on site ensuring smooth running of the project and safety on site, and thus minimising the number of daily vehicle movements.

According to the PB TMAP, it is expected that 10-15 trucks per day will arrive to site with the exception of days when bulk excavation and concrete pouring.

Earthworks

Will be completed in accordance with practices and protocols nominated by *Geotechnique* in their capacity as Landcom's appointed Geotechnical Expert:

- Significant earthworks movements are required to prepare the proposed landform. Approximate Total movements for the whole project are expected in excess of 300,000m^3, with 100,000m^3 expected to be moved for Stage 1 however, this depends on the amount of available re-use material on site
- Approximately 20,000m^3 of material will need to be imported to the site for Stage 1
- 130,000m^3 of onsite cut works will be undertaken in creation of the central water body and adjoining road areas as well as the downstream constructed wetland during Stage 2 works. A small proportion of unsuitable material will require off-site disposal. Any offsite disposal will be in accordance with the relevant legislation and to a legal land-fill site but is expected to be minimal

- Approximately 220,000m^3 of engineered fill material will be needed to create the proposed landform
- The Stage 1 combined earthworks are expected to take approximately 20-30 weeks.

Truck Movements

Site Access

The primary vehicular entry for the site would be via the existing access road off Coreen Avenue. A secondary access could be utilised as require via the proposed new intersection off Correen Avenue. Both accesses would be in a forward motion. Once materials are unloaded, or at the completion of work, the vehicles will be able to manoeuvre on site and again leave the site in a forward motion. Forward egress will always be possible.

There is sufficient area within the development for all internal movements, manoeuvring, layout, stockpiling and loading. It is proposed that the existing access roads within the site would be utilised for internal access to Stage 1. Given the potential level differences between the Stage 1 boundary and the existing site, an interim access ramp may be required for access.

Construction traffic will be required to turn left when departing to Coreen Avenue (i.e. no right turn will be permitted).

During the operation phase of Stage 1 (i.e. following construction), the main access point for the Project will be maintained via the newly asphalted Coreen Avenue linking access to the Sales Centre and workshop buildings. This area will contain a car park facility (up to 80 car capacity) for employees and Visitors.

Traffic Control Measures

Traffic Control measures will be planned and used such as temporary signage, traffic barriers and placement, traffic control crew, delineation devices, ROL applications, temporary speed zones, etc which must be in place for the duration of the activity or work area impact.

Details and diagrams supporting the traffic management plan will be provided by the project appointed traffic engineer.

Truck Routes

Construction traffic would generally be exiting the site via Colleen Avenue, which is a short distance from Castlereagh Road, which is an main arterial road. Castlereagh Road connects directly to the M4 Motorway, which is the predominant major route in the region. It is expected that all major construction traffic would utilise this route.

Further route details and diagrams will be provided by the contractor prior to construction.

Construction Traffic Movement Numbers

Truck Movement Numbers are summarised for the life of the project in the following table for peak and off-peak works. Peak works are assumed to be during the bulk earthworks phase which is assumed to take 12 weeks.

Peak works activity	Fill (cubic metres)	Truck Movements	Average movements per day
Stage 1 imported fill	20,000	1667	25.3
Average other truck movements during peak			15
Total average truck movements per day			**40**
Total average truck movements per hour			**5.0**

It is anticipated that this peak works period would last 12 weeks. During the off-peak periods (with the exception of days when bulk excavation and concrete pouring is done), it is expected that 10-15 trucks per day will arrive to site.

Hours of Work

Construction activities will be undertaken in compliance with the prescribed work hours as follows:

Weekdays	7am – 6pm
Saturday	8am – 1pm
Sunday and Public Holidays	No construction

4. References

- North Penrith Development, Transport Mobility and Accessibility Plan (TMAP), Parsons Brinckerhoff, October 2010.