Construction Traffic Management Plan

Proposed Residential Development
Avon Road, Pymble

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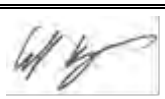
15.026r02v04 TRAFFIX Avon Rd, CTMP	Prepared by:	GH	11-11-2015	
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1. Introduction

TRAFFIX has been commissioned by Ausbao Pymble Pty Limited to prepare an initial Construction Traffic Management Plan (CTMP), which is required by Council prior to the approval of a Development Application for the residential development at Avon Road, Pymble.

This CTMP gives the expected programme of works and site access arrangements. A more detailed assessment will be made prior to construction when construction contractors have been appointed and a programme of works has been finalised.

This CTMP relates to the demolition of all existing buildings with the exception of a heritage building at 1 Avon Road, excavation of the site and construction of a mixed-use development consisting of 176 residential units in three blocks and four detached residential dwellings.

A Location Plan is presented in **Figure 1** below, for ease of reference.

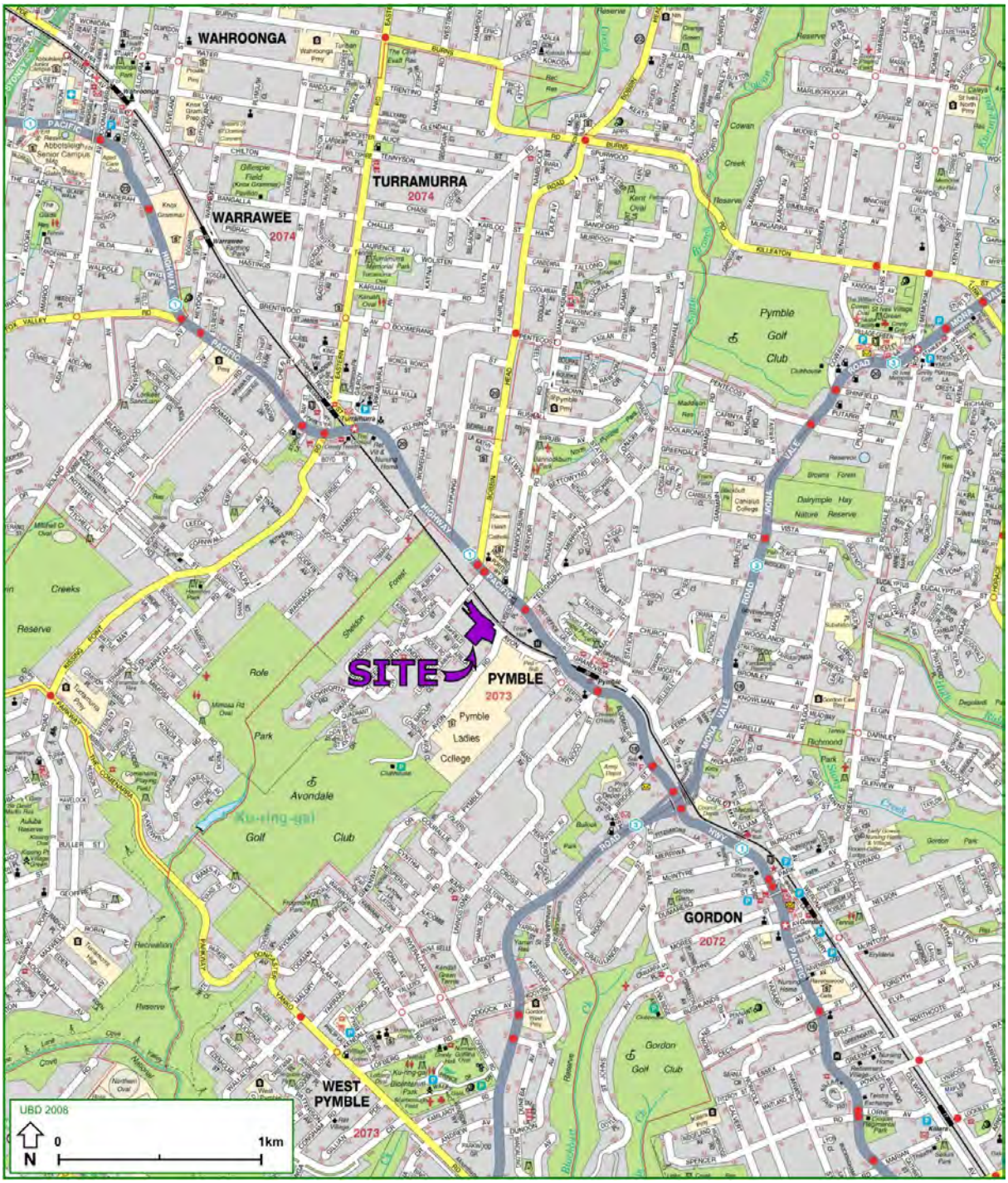

Figure 1: Location Plan

2. Implementation

The Traffic Control Plans that are included in this report, should be implemented taking due account of on-site conditions as will occur over the construction period. Accordingly, construction crew are expected to respond in a pro-active manner to ensure that the plan is implemented to maximum effect and with no obvious safety issues being overlooked. In particular, the following matters are considered noteworthy:

- All signs are to be placed where clear visibility is available,
- Installations should be checked intermittently during the course of the day/s, and
- A certified Traffic Controller should be on-site at all times to supervise truck movements.

It is noted that TRAFFIX is responsible for the preparation of this CTMP only and not for its implementation, which is the responsibility of the project manager/builder.

3. Existing Conditions

3.1 Location and Site

The subject site is situated between Avon Road and Beechworth Road, Pymble. The consolidated subject site includes the lots of 1, 1A, 3 & 5 Avon Road, and 4 & 8 Beechworth Road. The site is located within the Ku-ring-gai Council LGA, approximately 600 metres west of Pymble Railway Station and 15 kilometres northwest of the Sydney CBD.

In a more local context, the site has two western frontages, one adjoining Beechworth Road, the other adjoining neighbouring residential properties, and generally two eastern frontages, one adjoining Avon Road and the other adjoining neighbouring residential properties. The subject site shares a northern 150 metre boundary with the T1 North Shore Railway Line and its southern boundaries, which adjoin neighbouring properties, have a combined length of approximately 275 metres. The site is generally L-shaped in configuration with a site area of about 24,643m^2.

The subject site currently accommodates four dwelling houses, each with separate domestic driveways that access either Avon Road or Beechworth Road. The property at 1 Avon Road is heritage listed and is to be retained as part of the Revised Concept Plan Proposal for the subject site

A Site Plan is provided in **Figure 2** which provides a more detailed appreciation of the site in the context of neighbouring properties.

Figure 2: Site Plan

3.2 Road Hierarchy

The surrounding road network and hierarchy can be summarised as follows:

- Avon Road — a local road that has an 'L-shaped' alignment and provides direct vehicular access to the subject site. Avon Road is a collector route which provides access from the surrounding area to the classified RMS arterial road network. It has 50km/h speed zoning restricted to 40km/h during school operation hours.

- Beechworth Road: a local road that runs in a north-south direction. It provides direct vehicular access to the subject site. Beechworth Road is a non-delineated road (i.e. is not lane marked); however, nominally provides a single lane of traffic and unrestricted kerbside parking in both directions and has a posted speed limit of 50km/h. There is an existing footpath on the eastern side and a partial footpath on the western side.

- Pacific Highway: an RMS State Highway (SH10) that generally runs in a north-south direction and connects Hornsby in the north and North Sydney in the south. In the vicinity of the site, the Pacific Highway generally consists of three traffic lanes in either direction and carries about 64 000 vehicles per day (2005 AADT). It is subject to a 60 km/h speed zoning.

- Ryde Road: an RMS Main Road (MR162) generally runs in an east-west direction continuing from Lady Game Drive in the east to the Pacific Highway in the west. It continues as Mona Vale Road to the north and Lane Cove Road to the south. In the vicinity of the site, Ryde Road generally consists of three traffic lanes in either direction and carries about 62 000 vehicles per day (2005 AADT). It is subject to a 70 km/h speed zoning. Ryde Road allows for U-turns at the junction with the Pacific Highway.

It can be seen from **Figure 3** that the site is conveniently located with respect to the arterial road network, thereby minimising impacts on residential streets and on the amenity of neighbouring residents during all stages of construction.

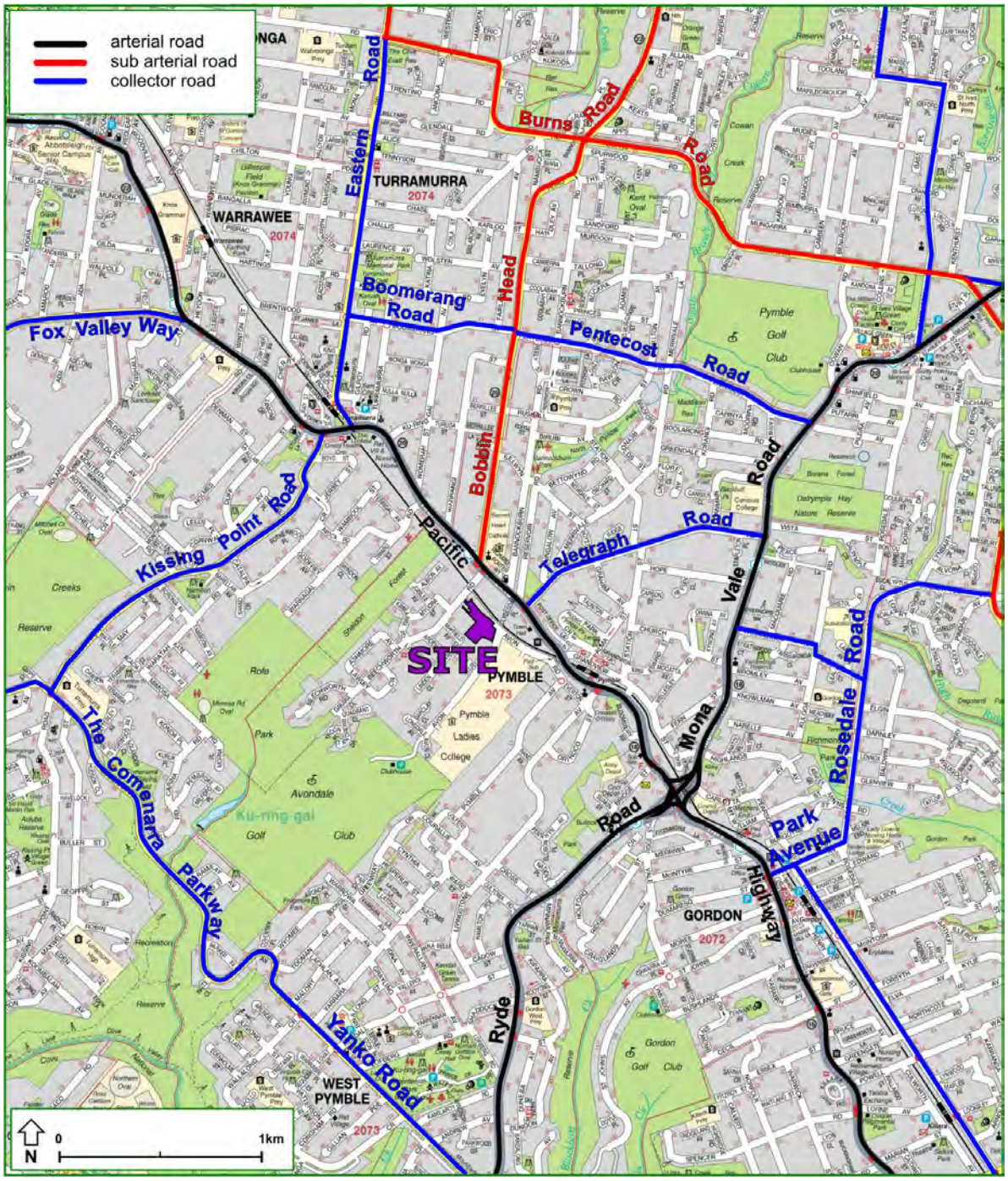

Figure 3: Road Hierarchy

4. Overview of Construction Program

4.1 Times of Operation

The total construction period is expected to occur over approximately 100 weeks. The hours of operation will be in accordance with the conditions of consent which would typically be similar to the following:

- Monday-Friday: 7:00am to 6:00pm;
- Saturday: 8:00am to 1:00pm.

No truck activity is permitted by vehicles larger than 6.4m (Medium Rigid Vehicles or larger) between 7.30am - 8:30am and 2:30pm - 4pm on weekdays (the school peaks) during school terms.

In addition to the above it is noted that no work would be expected to be carried out on Sundays and public holidays

4.2 Avon Road Stage 1 – Demolition and Bulk Excavation

- **Stage Duration:** Approximately 20 week period.
- **Daily Workforce:** Average workforce of 30 people at any one time.
- **Works Zone:** All loading and unloading of materials will be undertaken on-site.
- **Truck Size:** The largest truck to be utilised during this stage would be a 17.0 metre truck and dog combination, to ensure that all site entry and exit manoeuvres occur in a forward direction.
- **Truck Frequency:** This daily demand for truck movements associated with this stage will be up to 70 truck arrivals with a peak demand of 10 truck arrivals (10 in, 10 out) per hour.

- **Site Access:** Trucks will be loaded on site with access provided via the existing driveways on Avon Road, with all trucks to enter and exit the site in a forward direction. The proposed site access arrangements are also illustrated by **Figure 4** below.

- **Traffic Control:** Traffic Controllers will manage all truck entry and exit manoeuvres to the site and Works Zone. All site entry / exit manoeuvres will occur under Traffic Controller supervision in a forward direction.

- **Communication:** All trucks will be linked via CB radio (and hands free mobile phones). Trucks will only be called to the site when there is capacity onsite to accommodate the standing of an additional truck.

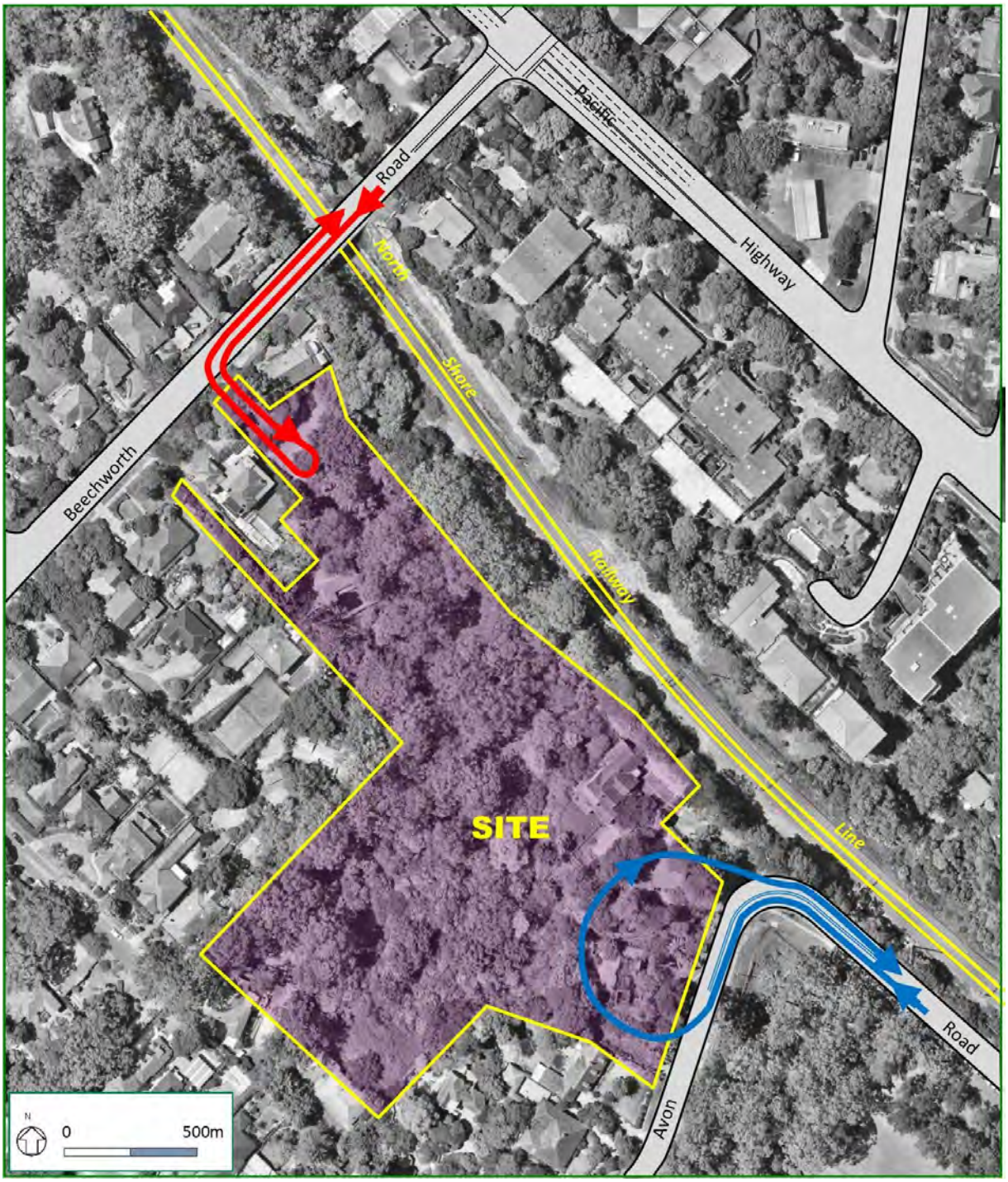

Figure 4: Construction Management Plan – Demolition & Excavation Stage

4.3 Avon Road Stage 2 – Structure and Fitout

- **Stage Duration:** Approximately 80 week period, following excavation stage.
- **Daily workforce:** The average workforce (including management) will increase over time from 30 people per day to a typical average of 180 people and a typical maximum of 300 people.
- **Work Zone:** The construction site arrangements are illustrated by **Figure 5** below. A 30 metre Works Zone (marked in green) will be required on site during the Structure and Fitout stage. All loading and unloading of materials to be undertaken from the Works Zone, with further details provided in Section 4.5. It is expected that a tower crane (marked in red) will be used to lift materials from the trucks.
- **Truck Size:** It is expected the largest truck to be utilised during this stage will be an 12.5m heavy rigid vehicle (HRV), with all loading / unloading to be undertaken from within the Works Zone as discussed above.
- **Truck Frequency:** This stage has a typical average truck arrivals of 40 per day with a maximum of 5 truck arrivals per hour (5 in, 5 out).
- **Site Access:** Site access will be provided from Avon Road utilising an existing access driveway to provide access to the works zone. It is noted that once the permanent vehicular access driveway has been constructed, this will be utilised by contractors for parking of private vehicles in the basement car park. All vehicles will enter and exit the site in a forward direction, undertaking a 3 point turn on site.
- **Traffic Control:** Traffic Controllers will manage all truck entry and exit from the Works Zone to and from Avon Road.
- **Communication:** All trucks will be linked via CB radio (and hands free mobile phones) and will only be called to the site when there is capacity within the Works Zone to accommodate the standing of additional trucks. This management of truck arrivals will ensure that no trucks are required to queue on-street.

4.4 Beechworth Road – Construction of 4 housing dwellings

- **Stage Duration:** Works are concurrent to Avon Road construction period.
- **Daily Workforce:** Average workforce of 15 people at any one time.
- **Work Zone:** All loading and unloading of materials to be undertaken from the private road, constructed to provide access to the residential houses from Beechworth Road.
- **Truck Size:** It is expected the largest truck to be utilised during this stage will be an 6.4m small rigid vehicle (SRV), with all loading / unloading to be undertaken from within the private road as discussed above.
- **Truck Frequency:** This stage has a low demand for truck movements with a typical average of 4 truck arrivals per day (4 in, 4 out).
- **Site Access:** Site access will be provided from Beechworth Road utilising a private road. All vehicles will enter and exit the site in a forward direction, undertaking a 3 point turn on site.
- **Traffic Control:** Traffic Controllers will manage all truck entry and exit from the private road to and from Beechworth Road.
- **Communication:** All trucks will be linked via CB radio (and hands free mobile phones) and will only be called to the site when there is capacity to accommodate the standing of additional trucks on the access road.

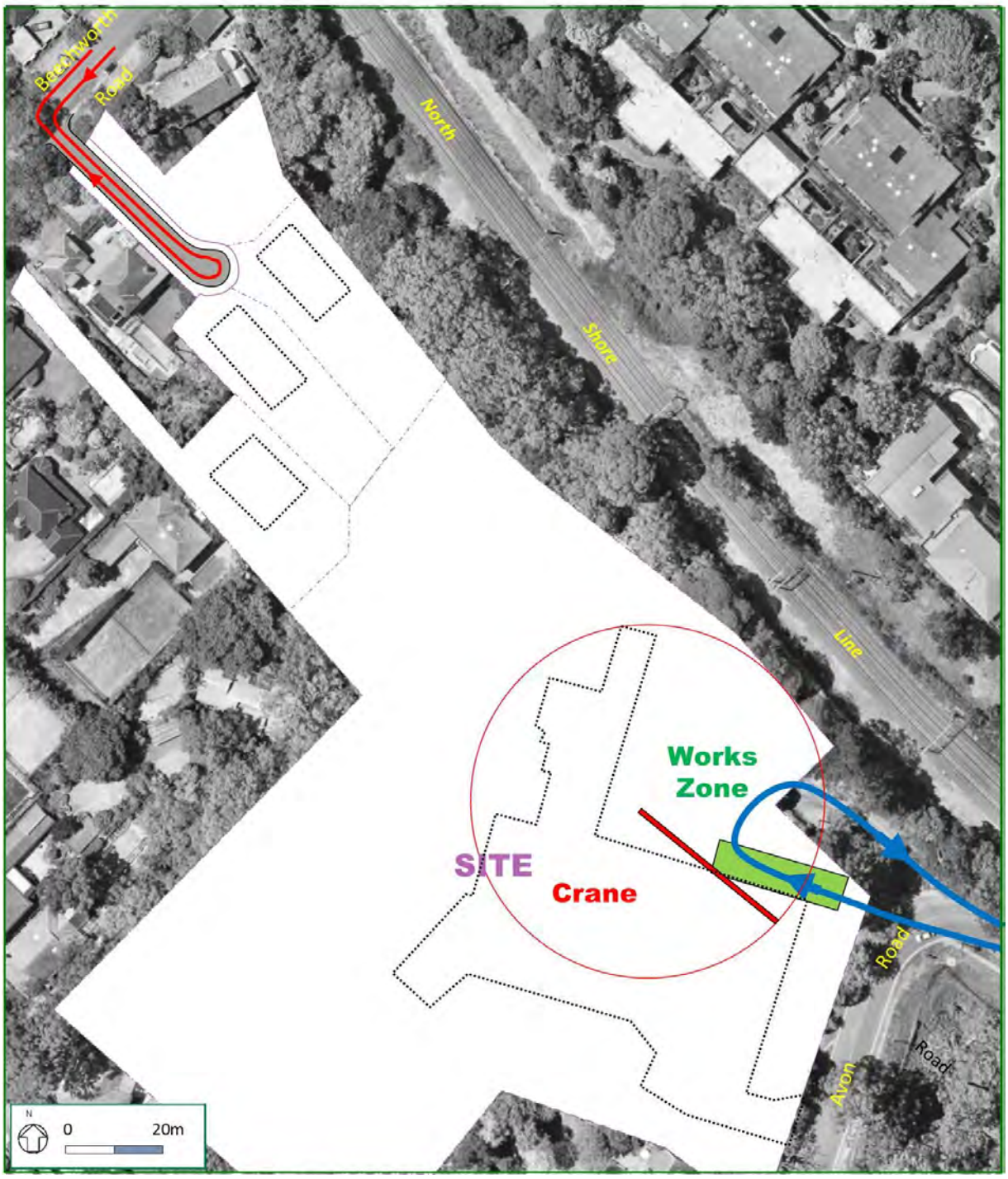

Figure 5: Construction Management Plan – Structure & Fitout Stage

4.5 Works Zone Requirements

As discussed above, a 30 metre Works Zone is required for the construction stage to load and unload trucks on the eastern portion of site servicing the apartment blocks. This will be provided within the site boundary, as illustrated by **Figure 5**. This length of the Works Zone is expected to be more than sufficient to accommodate the expected number of truck arrivals / deliveries for the duration of works and accordingly, these arrangements are considered acceptable.

4.6 Crane Requirements

It is expected the use of a tower crane will be required throughout the Structure and Fitout stage on the eastern portion of site, with an expected location illustrated on the Construction Management Plan, shown on Figure 5. This crane will be used for all loading / unloading of trucks via the proposed on-site Works Zone during the apartment construction stage.

5. Traffic Management Plan

5.1 Truck Routes

5.1.1 Overview

The proposed truck routes seek to use the arterial road network as much as possible with the use of local roads only where required. A copy of these routes shall be provided to all drivers prior to attending the site.

5.1.2 Avon Road Site Access

The proposed truck routes to and from the site during the construction of the apartment blocks on the eastern portion of site is shown in **Figure 6** below and can be summarised as follows.

- Routes to the Site: All trucks will access the site via the Pacific Highway, Livingstone Avenue, Everton Street and Avon Road.
- Routes from the Site: All trucks will leave site via Avon Road, Everton Street, Livingstone Avenue and the Pacific Highway.

During the peak periods for the neighbouring school, 7:30-8:30am and 2:30-4:00pm school days, it is required that truck movements for vehicles larger than 6.4m long be halted along Avon Road.

5.1.3 Beechworth Road Site Access

The proposed truck routes to and from the site during the Beechworth Road construction is shown in **Figure 6** below and can be summarised as follows.

- Routes to the Site: All trucks will access the site via the Pacific Highway then Beechworth Road.

- Routes from the Site: All trucks will leave site via Beechworth Road and the Pacific Highway.

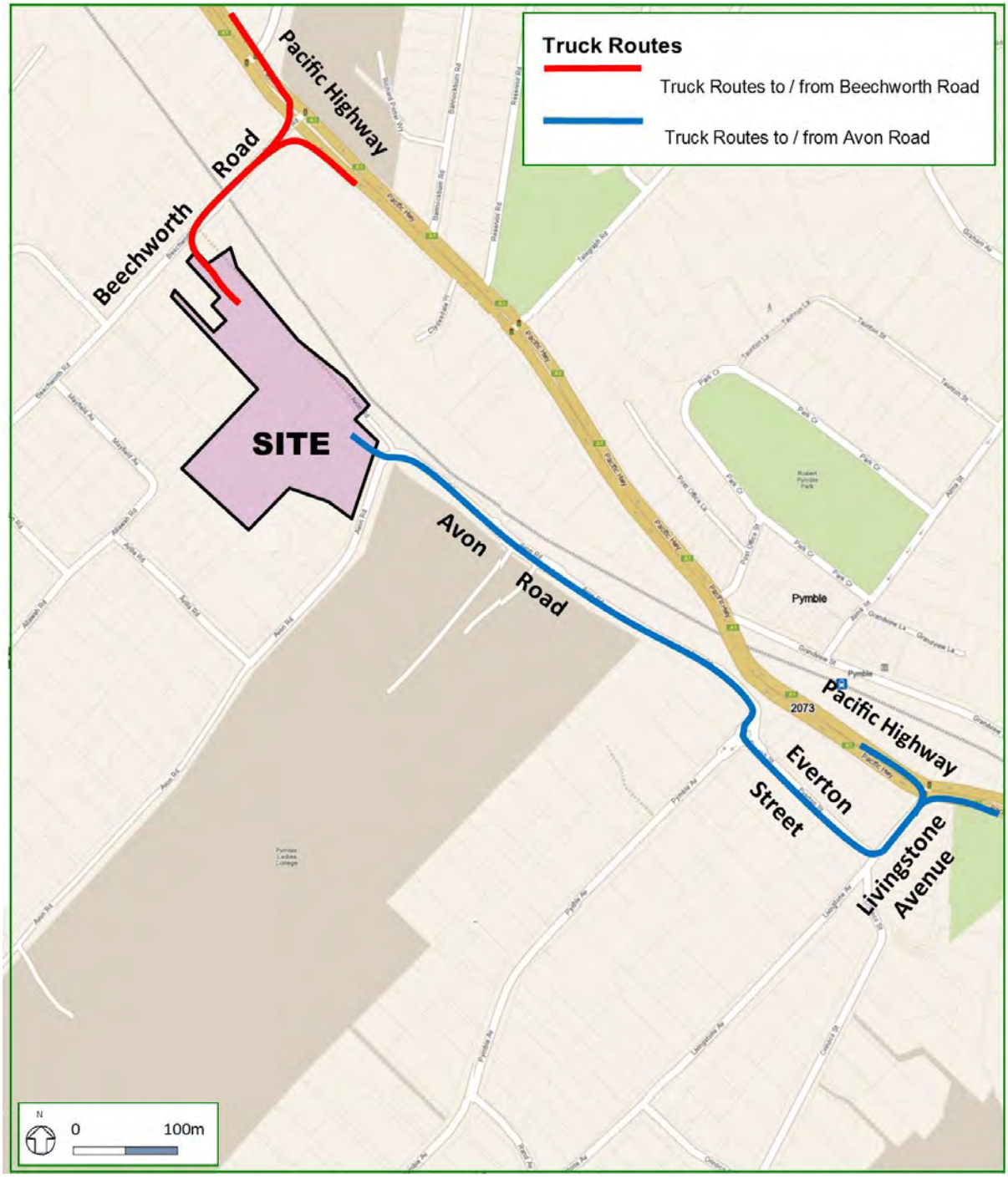

Figure 6: Proposed Truck Routes

5.2 Vehicular Access

Truck access to the site will be required during the duration of works. During the Structure and Fitout stage, all trucks will utilise the proposed on-site Works Zone for loading / unloading.

In addition to the above, it is expected that a 19m Articulated Vehicle (AV) will also be required to access the site on a very limited number of occasions for the delivery / removal of the on-site tower crane and excavator, using a reverse in / forward out movement.

For vehicles larger than an MRV these entry and exit manoeuvres, and the bend at the eastern end of Avon Road, will be required to be undertaken under the supervision / management of a Traffic Controller, implementing specific traffic control plans relating to the class of vehicle required. These movements would occur outside of peak periods, to minimise impacts.

It is reiterated that site access by an Articulated Vehicle will occur on a very limited number of occasions and is essential for delivery / removal if an on-site tower crane or excavator is proposed in the construction plan.

5.3 Pedestrian Control

RMS certified Traffic Controllers will be on-site during all stages of construction to supervise / manage all truck entry and exit manoeuvres to the site and Works Zone from Beechworth Road and Avon Road, ensuring all manoeuvres are undertaken in a forward direction. The proposed arrangements are considered acceptable and will ensure that pedestrian access and safety is maintained at all times.

5.4 Traffic Control Plan

Detailed Traffic Control Plans are to be prepared once the construction schedule has been finalised and the truck and crane requirements are known.

Implementation of these TCPs will be required ensure that truck and pedestrian movements are managed safely and efficiently. In addition to the above, it is noted that the copies of the final approved TCPs are to be kept on-site at all times.

5.5 Employee Vehicles

The subject site is 500 metres from Pymble Railway Station which provides access to the T1 line, connecting to Hornsby, the City and Parramatta. The site is also located within 400m of local bus services connecting to Macquarie Park, Hornsby and east Turramurra.

Workers arriving on site will be encouraged to utilise the public transport options available. It is expected that the tools for the workers will be dropped off at the site at the start of the construction stage and will be stored at the site for the duration of this stage. A secure storage shed for tools is to be provided on site for this purpose. Any remaining contractors utilising private vehicles will be encouraged to ride share to / from the site, thereby reducing car parking demands.

All remaining contractors utilising private vehicles are to park on site, no parking is permitted on public roads. The site access logbook will be used to assess and record the parking arrangements of contractors arriving on site to ensure this condition is met.

A temporary on-site parking arrangement is to be provided for contractors using private vehicles. A parking provision for up to approximately 17 vehicles is available on site along the Avon Road frontage with a provision for an additional 15 vehicles available along the southern site boundary. Additional parking can be provided to the west of site once the Beachworth Road dwellings have been cleared if required. This arrangement will ensure that all employee parking is contained onsite with no impact to existing on-street car parking demands during construction.

Notwithstanding the above, it is noted that contractors will be able to utilise the on-site basement car parking, once this has been constructed, ensuring the full parking demands of the construction and fit out stages are met at these intensive stages.

6. Conclusions

The plan outlined above is considered a satisfactory representation of the expected construction plan and will minimise any disruptions to residents / tenants of neighbouring developments, as well as pedestrians in the area. This plan meets all requirements of AS 2890.2, AS 1742.3, RMS *Traffic Control at Work Sites Manual* and is recommended as the basis for development of a detail assessment at construction stage.