Block 4S, Central Park
Abercrombie Street, Chippendale
Construction Traffic Management Plan

transportation planning, design and delivery

12S1395000 21/12/12

GTAconsultants

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Issue: A 21/12/12

Client: Frasers Broadway Pty. Ltd
Reference: 12S1395000
GTA Consultants Office: NSW

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Issue	Date	Description	Prepared By	Checked By	Approved By
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1. Introduction

1.1 Background

A development application for a State Significant Development (SSD 5700-2012) is being lodged with the Department of Planning and Infrastructure (DoPI) for student accommodation on Block 4S within the Central Park development.

Central Park is a mixed-use precinct on the former Carlton United Breweries site, in Chippendale, south of Sydney CBD. It is proposed to incorporate a retail area, public parkland, residential apartments (including student accommodation), commercial office space, and hotel over the 6 hectare site.

GTA Consultants was commissioned by Frasers Broadway Pty Ltd in December 2012 to undertake a Construction Traffic Management Plan (CTMP) to address items raised in the Director General Requirements (DGRs) and submission from Roads and Maritime Services (RMS) Land Use Planning and Assessment Manager to DoPI, dated 19 December 2012.

1.2 Purpose of this Report

This report addresses the traffic and transport impacts during the construction phase of the development and accompanies the traffic and transport report for the development also prepared by GTA Consultants.

The objectives of this report are:

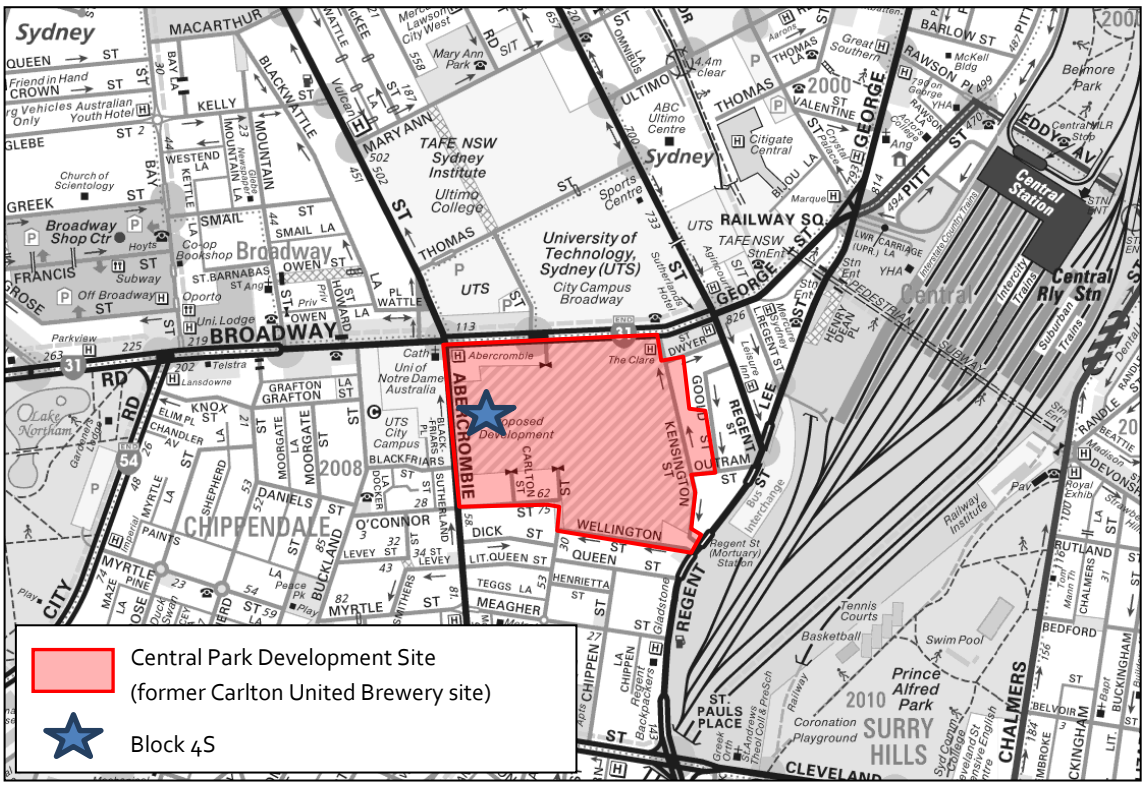
- To provide a detailed description of the project and construction activities
- To examine and consider the proposal's likely impact on traffic
- Provide mitigating measures to address any traffic and transport impacts.

It is noted that at this stage a building contractor has yet to be appointed. Therefore, this CTMP will be reviewed and updated accordingly by the appointed contractor in the future. The review and updating of the CTMP will need to give consideration to the adopted construction methods, any revisions to the construction program and the completion of the construction stages on other construction activities within the Central Park development.

2. Existing Conditions

The Central Park development site is located in Chippendale on the southern edge of the Sydney CBD, in close proximity to Central railway station, the University of Technology Sydney (UTS) and Broadway Shopping Centre. The site is bounded by Broadway to the north and Abercrombie Street to the west, with Block 4S located on the western fringe of the site as shown in Figure 2.1.

Figure 2.1: Subject Site and its Environs



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2.1 Road Network

2.1.1 Adjoining Roads

Broadway

Broadway is a State Road (HW5) in the vicinity of the site and is aligned in an east-west direction. It is a two-way road configured with four lanes in each direction (including one bus lane in each direction) and functions as one of the main routes for traffic into and out of the Sydney CBD. East of the Regent Street/ Harris Street intersection (60 metres east of the site), Broadway becomes George Street and carries approximately 72,000 vehicles per day[1].

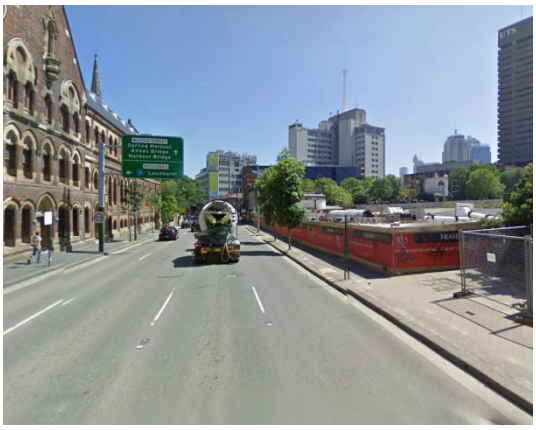
1 Based on 2005 Roads and Maritime Services (RMS) AADT data.

Abercrombie Street

Abercrombie Street is a classified State Road (MR594) in the vicinity of the site aligned in a north-south direction. It is a one-way northbound road configured with a four-lane, 14m wide carriageway, set within a 24m wide road reserve (approx). Abercrombie Street is shown in Figure 2.3 and carries approximately 18,000 vehicles per day[2].

Figure 2.2: Broadway (looking west)

Figure 2.3: Abercrombie Street (looking north)



O'Connor Street

O'Connor Street is a local road in the vicinity of the site aligned in an east-west direction. East of Abercrombie Street it is a two-way, 9m wide carriageway, set within a 15m wide road reserve (approx), while west of Abercrombie Street it is a one-way westbound road.

East of Abercrombie Street, it is currently a no-through road with all vehicular access via right-in, right-out movements from Abercrombie Street as the western extent of the road is yet to be established. On completion of the Central Park development, O'Connor Street will function as a key east-west link along the precinct's southern fringe.

2.1.2 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Abercrombie Street/ Broadway/ Wattle Street (signalised)
- Abercrombie Street / O'Connor Street (signalised)
- Broadway/ Balfour Street (signalised).

2.2 Public Transport

The site is well serviced by high frequency public transport with Central Transport Interchange, the key transport hub in Sydney located 750m east of the site.

2 Based on 2005 Roads and Maritime Services (RMS) AADT data.

2.2.1 Bus Network

The subject site is located in close proximity to several key bus corridors including George Street to the east and Broadway to the north. Central Transport Interchange features five main bus hubs at Railway Square (750m east of the site), George Street, Eddy Avenue and Chalmers Street which serve destinations across the Sydney Metropolitan Area including Sydney's south, eastern suburbs, inner-west, northern beaches and north-west.

2.2.2 Rail Network

Central Railway Station Central serves as the key rail hub in Sydney for CityRail services to destinations across the Sydney Metropolitan Area, the Illawarra, Blue Mountains and Central Coast. Central station is also the hub for interstate rail services in Sydney. Central station is also the main terminus for the Central to Lilyfield Light Rail Network.

2.3 Pedestrian Infrastructure

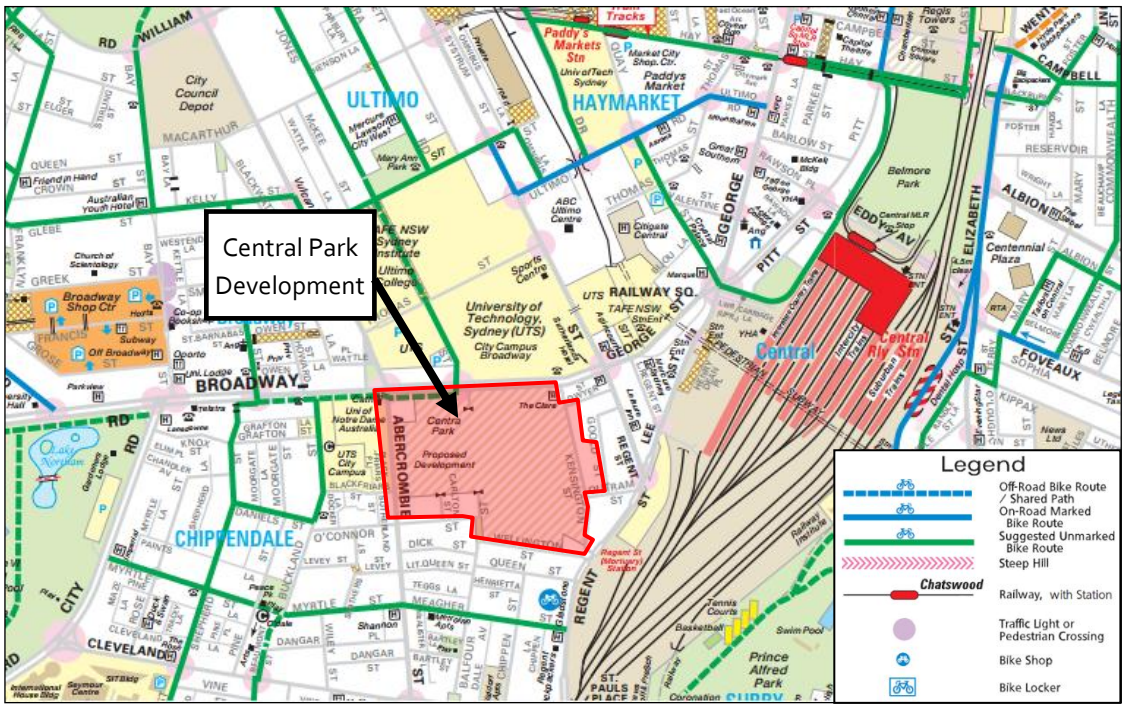
The pedestrian network surrounding the site is well established with pedestrian paths located on both sides of Abercrombie Street, Broadway and O'Connor Street. Safe crossing facilities are provided at the following locations:

- all legs of the Abercrombie Street/ Broadway/ Wattle Street intersection
- all legs of the Abercrombie Street / O'Connor Street intersection.

2.4 Cycle Infrastructure

The site is located within close proximity to both on and off-road cycling facilities as indicated in an extract from the City of Sydney's cycle network map shown in Figure 2.4

Figure 2.4: Cycle Network



Source: City of Sydney Cycling Guide

3. Overview of Construction Activities

This section of the report outlines the proposed construction methodology and details for the development of Block 4S within the Central Park development.

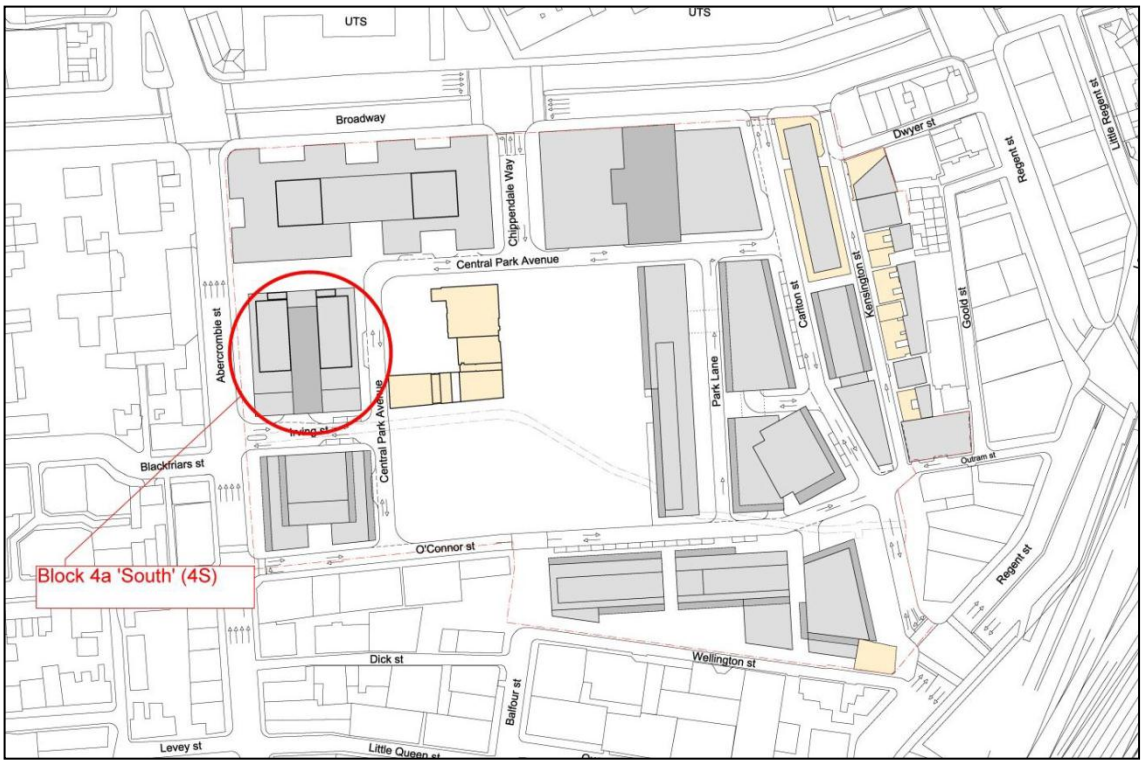
3.1 Description of Works

Block 4S is proposed as a student accommodation facility for 826 students in 688 bedrooms with a Gross Floor Area of 22,763m^2. The development is comprised of two building wings each with 15 levels, with each wing interconnected by bridge-link common areas. No on-site parking is proposed as part of the development.

Block 4S is located on the western fringe of the Central Park development and is bound by Abercrombie Street to the west, the unformed Irving Street to the south and the partially formed Central Park Avenue to the east.

The location of Block 4S within the Central Park Development is shown in Figure 3.1.

Figure 3.1: Central Park Development and Block 4S



Source: Correspondence from JBA Planning to DoPI, 20 November 2012

3.2 Duration and Staging of Works

It is anticipated that construction will commence in April 2013 subject to approvals by the relevant authorities with construction completed by December 2014.

The staging, description and estimated duration of construction activities are summarised in Table 3.1.

Table 3.1: Construction Staging, Description and Duration

Stage	Description	Duration
1. Site establishment, demolition and excavation	Clearance of the existing site and demolition of any residual in ground material, in ground excavation of Block 4S basement.	1 month
2. Groundworks	Installation of piles, capping beams and ground floor slab construction.	2 months
3. Construction	Erection of tower crane, construction of new building superstructure, facade, services and fit out.	14 months
4. Public domain works	Public domain works within and around the buildings.	2 months

As shown in Table 3.1, the construction works associated with Block 4S are anticipated to take approximately 19 months to complete.

3.3 Construction Details

3.3.1 Plant and Equipment

Construction vehicles which are likely to be generated by the proposed construction activities include:

- articulated flat bed trucks would be used to transport large machinery at the start and at the completion of their use
- heavy and medium rigid trucks, small rigid vehicles, vans and couriers for building material delivery
- small excavators for internal demolition works.

3.3.2 Work Hours

Construction activities will be undertaken in accordance with City of Sydney consent conditions which would generally be between the following times:

- 7:30am - 5:30pm, Monday to Friday
- 7:30am - 3:30pm, Saturdays.

No work will be undertaken on Sundays or public holidays.

3.3.3 Staff Parking

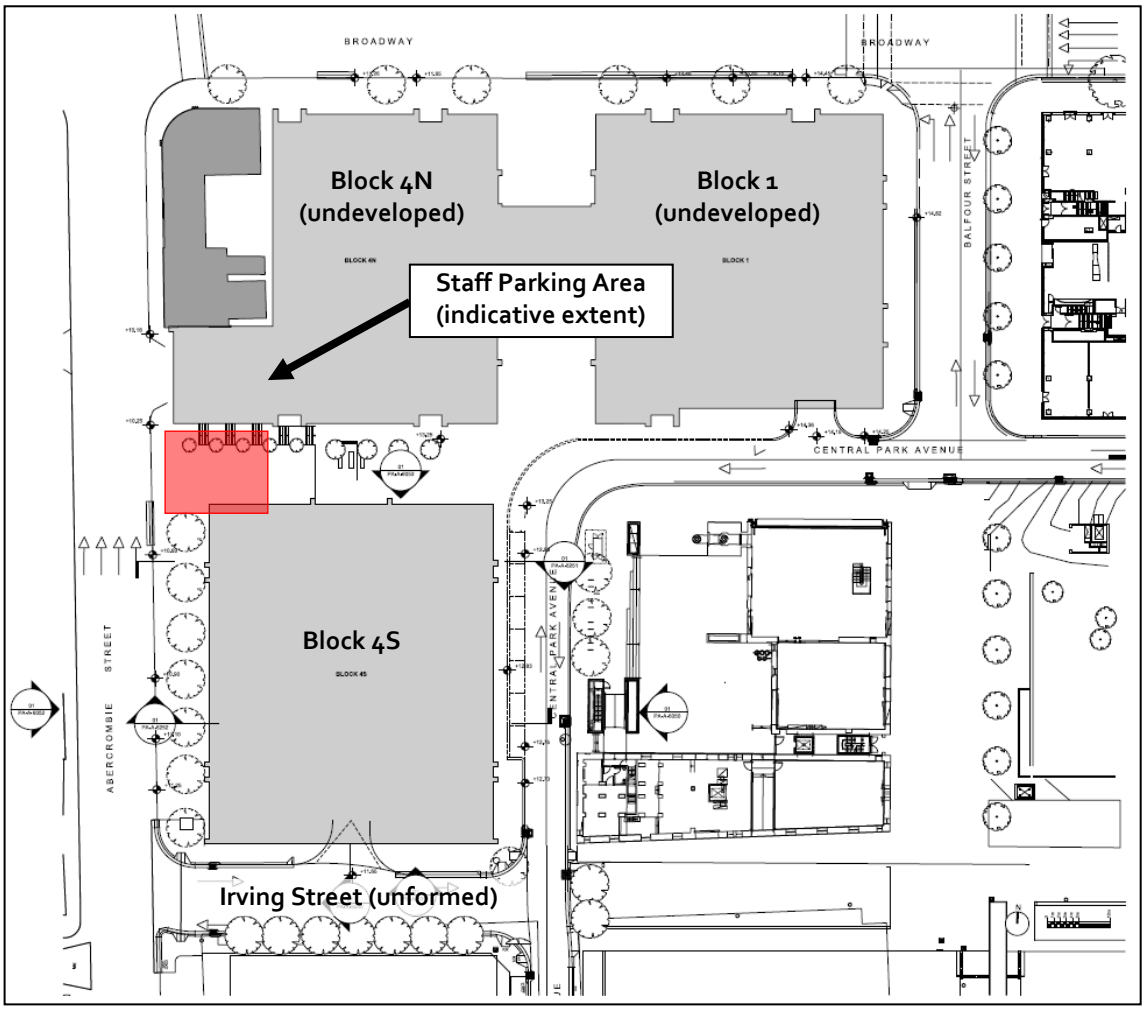
Staff parking will be provided in the area between Block 1 and Block 4S which will be accessed via Balfour Street, Central Park Avenue and Broadway. This location of the staff parking area is shown in Figure 3.2.

3.3.4 Loading

It is envisaged that the majority of loading and unloading will occur within the extent of the Block 4S site. All other loading/ unloading will occur on Irving Street, south of Block 4S. It is understood that Irving Street will not be completely established until after the construction of Block 4S is complete and as such will not be open to general traffic during this time.

In the event that loading zones are required on existing roads, the contractor will seek approval from the relevant authorities. There is also the potential to utilise the forecourt of Block 8 (undeveloped) as a vehicle staging area. There may also be an opportunity to utilise Block 4N (undeveloped) as a materials storage area during construction.

Figure 3.2: Staff Parking Area



Source: Block 1+4 Section Elevation Setout Plan, Foster+Partners Architects, drawing no. PA-A-5032, rev. 02, dated 31 August 2012

3.3.5 Truck Wash Down Area

A truck wash down area is proposed along Irving Street, adjacent to Block 4S.

4. Construction Traffic Assessment

This section of the report outlines specific tasks during the construction of Block 4S and the associated works that will require traffic control.

4.1 Truck Movements

The estimated truck movements associated with each stage of construction of Block 4S are summarised in Table 4.1.As shown in Table 4.1 the construction of Block 4s is expected to generate between 6 and 30 truck movements (two-way) per day, with peak truck movements expected to occur during the Construction Stage.

Table 4.1: Summary of Construction Traffic Movements

Stage	Description	Approx. Working days	Average Truck Movements Per Peak Hour	Average Truck Movements Per Day
1. Site establishment, demolition and excavation	Clearance of the existing site and demolition of any residual in ground material, in ground excavation of Block 4S basement.	24	4	10
2. Groundworks	Installation of piles, capping beams and ground floor slab construction.	48	4	20
3. Construction	Erection of tower crane, construction of new building superstructure, facade, services and fit out.	336	6	30
4. Public domain works	Public domain works within and around the buildings.	48	2	6

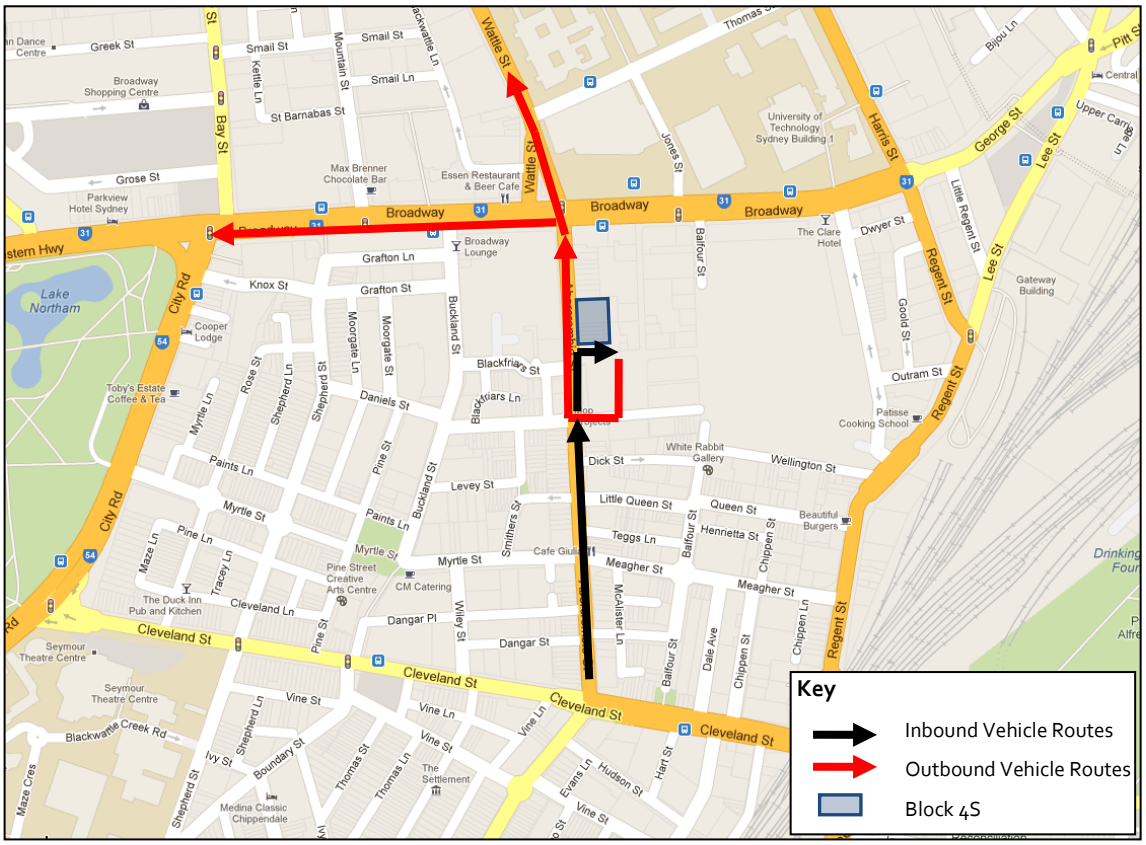
As shown in Table 4.1 the construction of Block 4s is expected to generate between 6 and 30 truck movements (two-way) per day, with peak truck movements expected to occur during the Construction Stage.

4.2 Construction Traffic Routes

General construction vehicle traffic will have origins/ destinations throughout Sydney. These routes aim to take the shortest distances to/ from the arterial road network and are shown in Figure 4.1.

A site specific Traffic Control Plan (TCP) is contained in Appendix A.

Figure 4.1: Block 4S Construction Traffic Routes



4.2.1 Truck Routes

The designated truck routes for construction vehicles travelling to and from Block 4S are as follows:

- inbound (all directions) – travel north along Abercrombie Street, turn right into Irving Street (unformed)
- outbound to north – travel south on Central Park Avenue, turn right onto O'Connor Street and right onto Abercrombie Street and straight through to Wattle Street
- outbound to east – travel south on Central Park Avenue, turn right onto O'Connor Street and right onto Abercrombie Street and left onto Broadway.

All building contractors shall be notified of the truck routes and are required to adhere to the nominated routes when accessing the site. Construction vehicles are to radio site office on approach to the site to ensure access to the loading area is available.

Advisory road signage would be installed in accordance with AS 1742.3 Manual of uniform traffic control devices - Traffic control devices for works on roads and the RMS Traffic Control at Worksites. Signs will be installed and maintained throughout the construction period.

5. Construction Traffic Impacts

5.1 Construction Traffic Generation

Given the existing traffic volumes along Broadway and Regent Street, the addition of up to 30 truck movements per day associated with the construction of Block 4S would not adversely impact the operation of the surrounding road network.

5.2 Staff

The traffic impact of construction staff is considered to be negligible given the CBD location of the site and the close proximity to high frequency public transport services at Central Transport Interchange.

5.3 Public Transport Services

There will be no re-direction of public transport services during construction works. No adverse impacts are therefore expected to existing public transport services or facilities.

5.4 Pedestrian and Cyclist Access

Pedestrians and cyclists are not expected to be affected as a result of the construction works. As shown on the TCP contained in Appendix A, a traffic controller should be positioned at the site entry point to prevent conflict with vehicles turning into the site.

5.5 Emergency Vehicle Access

Emergency vehicle access to, from and around the construction site will be maintained at all times.

Liaison would be maintained with the police and emergency services agencies throughout the construction period and a 24-hour contact would be made available for 'out-of-hours' emergencies and access.

Emergency protocols on the site would include a requirement for the Principal Contractor to assist with emergency access along Irving Street.

Thus there will be no adverse impacts to the provision of existing emergency vehicle access to other neighbouring properties as a result of the proposed construction activities.

6. Construction Traffic Management Mitigation Measures

6.1 Traffic Management Measures

The following construction traffic management mitigation measures would be applied to the construction of Block 4S.

6.1.1 Traffic Signs and Devices

- Advisory road signage would be installed along Abercrombie Street on approach to the Central Park construction site in accordance with the RMS '*Traffic control at Work Sites*' (version 4.0 June 2010) guidelines.

6.1.2 Hours of Operation

- Work is to be undertaken during approved construction hours.
- Any work outside of the approved hours shall only be undertaken if work cannot be achieved during approved hours and will require separate approval.

6.1.3 Vehicle Access

- Construction vehicles are to radio site office on approach to the site to ensure access to the site is available. All loading and unloading will be undertaken within the site.
- General vehicle access along Abercrombie Street will be maintained at all times.
- Vehicles using Irving Street, Central Park Avenue and O'Connor Street must do so at low speed (no greater than 10km/hr).
- If there are any materials spilt onto the road, site personnel and equipment should rectify, subject to appropriate OH&S provision.

6.1.4 Truck Routes

- Site induction would include procedures for accessing the site from Abercrombie Street.
- Drivers must adhere to the nominated truck routes, as shown in Figure 4.1.
- Drivers must be aware of pedestrians and cyclists in the vicinity of the site
- Drivers should be aware that the local area is signposted as 50km/h with Abercrombie Street signposted as 60km/h.

6.2 Site Inspections and Record Keeping

A daily inspection before the start of construction activity should take place to ensure that conditions accord with those stipulated in the plan and there are no potential hazards. Any possible adverse impacts would be recorded and dealt with if they arise.

6.3 Site Induction

All staff employed on the site by the Principal Contractor would be required to undergo a site induction.

The induction should include permitted access routes to and from the construction site for site staff and delivery vehicles as well as standard environmental, OH&S, driver protocols and emergency procedures.

7. Conclusion

This report has been prepared to document the proposed construction activities and associated construction traffic management measures necessary to facilitate the proposed construction of Block 4S of the Central Park development site.

Based on the findings of the report presented above, it is concluded that:

- The construction of Block 4s is expected to generate between 6 and 30 truck movements (two-way) per day, with peak truck movements expected to occur during the construction stage.
- Construction vehicle movements to and from the site can be satisfactorily accommodated by the surrounding road network.
- A traffic control plan has been provided which will not only assist vehicles entering and exiting the site but will also alert other drivers, pedestrians and cyclists that construction traffic movements are taking place.
- All vehicles associated with the construction of Block 4S will enter via a right turn from Abercrombie Street onto Irving Street. Irving Street is currently an unformed road which is not anticipated be open to general traffic until after the completion of construction of Block 4S.
- All vehicles exiting the site will do so via a right turn from Irving Street onto Central Park Avenue then a left right onto O'Connor Street and a right turn onto Abercrombie Street.
- A number of driver protocols would be established as part of the site induction procedure for drivers to ensure the safety of motorists, pedestrians and cyclists.
- The site is located in close proximity to Central Transport interchange which is served by high frequency public transport services.

The appointed contractor will update and modify this CTMP accordingly to better suit any proposed changes to the construction methodologies and staging etc.

In summary, it is concluded that the proposed measures will adequately address potential traffic related implications associated with the proposed construction of Block 4S.

Appendix A

Traffic Control Plan

RED CARD
WAYNE JOHNSON: LICENSE No. 2542040795

BROADWAY

BROADWAY

ABERCROMBIE STREET

IRVING STREET

CENTRAL PARK AVENUE

BLACKFRIARS STREET

O'CONNOR STREET

O'CONNOR STREET

DICK STREET

LEVEY STREET

LITTLE QUEEN STREET

TEGGS LANE

MEAGHER STREET

N

KEY

SIGN

TRAFFIC CONTROLLER

60m

60m

60m

50m

W5-22

W5-22

W5-205

TRUCKS TURNING

120 m ON RIGHT

W8-207(R)

W5-205

TRUCKS TURNING

120 m ON RIGHT

W8-207(R)

W5-205

TRUCKS TURNING

50 m

W8-5

ROADWORK ON SIDE ROAD

T1-25

T1-5-1

ROADWORK ON SIDE ROAD

T1-25

T1-5-1

PRELIMINARY PLAN

FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

NOTES

1. Traffic controller to be in place at site entrance to prevent conflict with pedestrians and vehicles entering.
2. All signs to be a minimum of size A.
3. Location of signs to be confirmed on-site to ensure appropriate visibility.
4. Hours of work: 7:30am - 5:30pm, Monday to Friday and 7:30am - 3:30pm, Saturday.

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CENTRAL PARK DEVELOPMENT
BLOCK 4S STUDENT ACCOMODATION
ABERCROMBIE STREET, CHIPPENDALE
21 DECEMBER '12
NOT TO SCALE
12S1395000-SK04-01-P1

PLOTTED BY : $USERNAME$ ON $DATE$ AT $TIME$

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