NSW Department of Education

North Kellyville New Primary School Development

Construction Traffic Management Plan

November 2017

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1. Introduction

1.1 Background

GHD has been engaged by the NSW Department of Education to undertake a Construction Traffic Management Plan (CTMP) in support of a Development Application for the construction of the Kellyville North New Primary School.

Information included in the Environmental Impact Assessment for North Kellyville indicates that the school will consist of:

- A new two storey building which will house an “innovative learning precinct” comprising of workrooms, learning zones and ancillary areas such as resource rooms, performance rooms, storage rooms and staff rooms.
- Sports facilities including a soccer field and netball/basketball courts.
- Playgrounds and a covered outdoor learning area (COLA) within a central courtyard.

The proposed school is expected to have a population of 1,000 students, 40 teachers and 30 support staff.

1.2 Purpose of this report

This CTMP has been prepared to address items contained within the Secretary's Environmental Assessment Requirements (SEARs).

A CTMP is to be prepared in consultation with NSW Department of Education, and provided to Council and RMS as required. The CTMP would be the primary management tool to manage potential traffic impacts associated with demolition and construction activities.

This report has been prepared to present the construction related traffic and pedestrian management arrangements associated with the construction of the proposed development.

This report presents the considerations in relation to the construction traffic management plan, as follows:

- Section 1: Introduction and assumptions;
- Section 2: A description of the project;
- Section 3: A description of the road network and transport facilities serving the site; and
- Section 4: Details of the Construction Traffic Management Plan outlining the management of construction vehicles, pedestrians and site contact details.

1.3 Assumptions and limitations

This report is limited by the following:

- Construction information, activity and staging of works provided by Department of Education (DOE)
- This CTMP is preliminary and does not provide a Traffic Control Plan (TCP) for the proposed works
- Staff numbers and work times have not been provided

This report: has been prepared by GHD for NSW Department of Education and *may only be used and relied on by NSW Department of Education for the purpose agreed between GHD and the NSW Department of Education as set out in section 1.2 of this report.*

GHD otherwise disclaims responsibility to any person other than NSW Department of Education arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

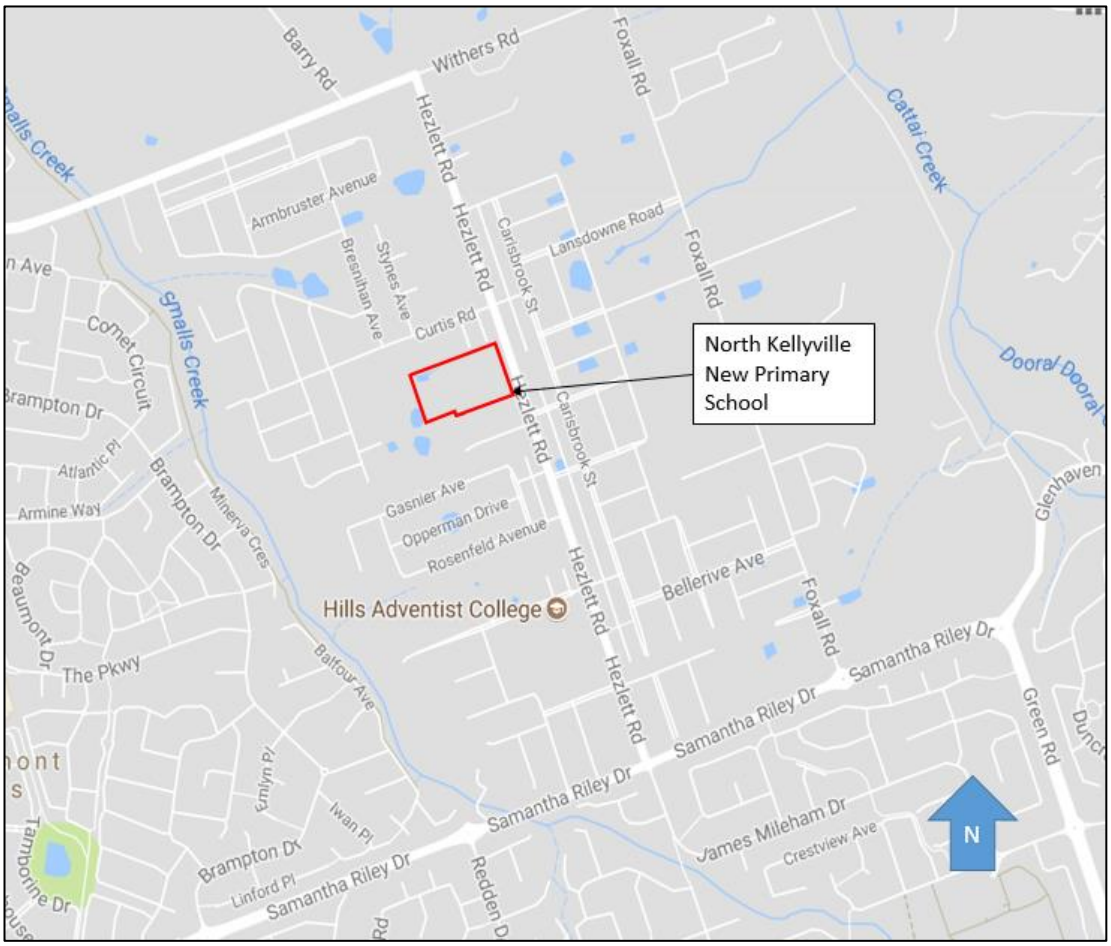
GHD has prepared this report on the basis of information provided by NSW Department of Education and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Project Description

2.1 Location

The proposed Kellyville North New Primary School is located at 120 Hezlett Road, approximately 150 m south-west of the intersection of Hezlett Road / Curtis Road / Camrose Street, as displayed below in Figure 2-1.

Figure 2-1 – Subject Site Location



Hills Adventist College (which provided classes from kindergarten to year 12) is located on Hezlett Road south of the Kellyville North New Primary School subject site.

2.2 .Existing Road Network Characteristics

2.2.1 Samantha Riley Drive

Samantha Riley Drive Street is a 3.7 km (approximately) sub-arterial road located in that connects Kellyville (in the east) and Stanhope Gardens (in the west).

Samantha Riley Drive is a key route that provides access to numerous commercial, industrial and residential areas whilst also providing a link between the state roads of Windsor Road and Old Windsor Road.

In proximity to the subject site Samantha Riley Drive has the following characteristics:

- A two lane - two way road, with the provision of turning lanes and roundabouts at key intersections.
- Currently, no dedicated pedestrian facilities are provided along Samantha Riley Drive.

- A sealed undivided carriageway with a width of approximately 9 metres.
- A sign posted speed limit of 60 km/h.

Figure 2-2 – Samantha Riley Drive at Hezlett Road (facing east)

Source: GHD

Figure 2-3 - Samantha Riley Drive at Hezlett Road (facing west)

Source: GHD

As part of the Hills Shire Council's initiative to meet the forecasted growth demands within the North Kellyville Precinct due to the construction of the Sydney Metro Link Stage 1 (formerly known as North West Rail Link), works are underway to upgrade and widen Samantha Riley Drive to a four-lane carriageway. Therefore, temporary roundabouts have been installed on Samantha Riley Drive at its intersections with Redden Drive, Hezlett Road and Foxall Road.

Samantha Riley Drive intersects Hezlett Road at an unsignalised roundabout, with no provision of pedestrian crossing facilities.

2.2.2 Hezlett Road

Hezlett Road is a 1.7 km (approximately) collector road located in the upper north west of Sydney. The road links Kellyville (in the south) with Rouse Hill (in the north). Hezlett Road will provide an access route to Kellyville North New Primary School whilst also serving as a connection to a small number of low density residential dwellings and the nearby retail and commercial developments.

In proximity to the subject site, Hezlett Road has the following characteristics:

- A two lane - two way collector road, with the provision of turning lanes at key intersections.

- Currently, no dedicated pedestrian facilities are provided along Hezlett Road.
- A sealed undivided carriageway with a width of approximately 9 metres.
- A sign posted speed limit of 60 km/h, with 40 km/h zone on school days (8:00 am - 9:30 am and 2:30 pm – 4:00 pm) in proximity to the Hills Adventist College.

Figure 2-4 – Hezlett Road at Samantha Riley Drive (facing north)

Source: GHD

Figure 2-5 – Hezlett Road at Samantha Riley Drive (facing south)

Source: GHD

2.2.3 Curtis Road

Curtis Road is a local road with an east-west alignment adjacent to the north of the proposed. Curtis Road provides access to a small number of residential dwellings and also acts a potential secondary access to Kellyville North New Primary School via its extension to Hipwell Avenue (subject to Council approval).

Curtis Road has the following characteristics:

- A single travel lane and parking lane in either direction.
- An 11 m wide carriageway.
- Newly constructed pedestrian footpaths on both sides of the road to facilitate pedestrian mobility.
- The default speed limit for local urban roads of 50 km/h applies.

Figure 2-6 – Curtis Road at Hezlett Street (facing west)

Source: GHD

Figure 2-7 – Curtis Road at Hezlett Street (facing east)

Source: GHD

2.2.4 Withers Road

Withers Road is a collector road with an east-west alignment approximately 650 m to the north of the school subject site. Withers Road provides access to residential land uses and the North Kellyville Local Centre.

In proximity to the subject site Withers Road has the following characteristics:

- A single travel lane in either direction.
- An 8 m wide carriageway.
- No dedicated pedestrian facilities are currently provided along Withers Road.
- A sign posted speed limit of 60 km/h.

Figure 2-8 – Withers Road at Hezlett Road (facing west)

Source: GHD

Figure 2-9 – Withers Road at Hezlett Road (facing east)

Source: GHD

2.3 Public Transport

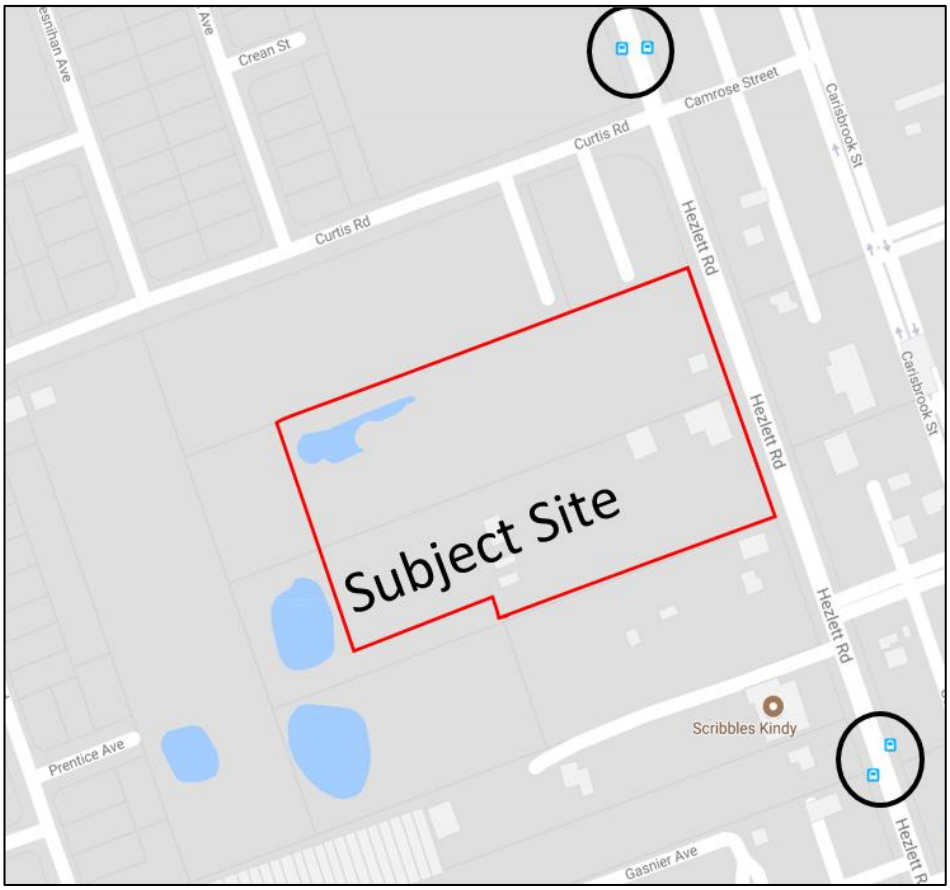
2.3.1 Train Services

Currently, the North-Western region of Sydney, in which Kellyville North New Primary School is proposed to be located, is not serviced by train services.

2.3.2 Bus Services

The nearest public bus stops in proximity to the subject site are located on both sides of Hezlett Road within 200 m of the school, as shown in Figure 2-10.

Figure 2-10 – Bus stop in proximity to Kellyville North New Primary School



A summary of the bus routes operating from these bus stops and their approximate frequency is provided in Table 2-1.

Table 2-1 – Bus Routes and Frequencies

Bus Route	Origin – Destination	Frequency (minutes)	
		Peak	Off-peak
603	Rouse Hill Town Centre to Parramatta Interchange	30	60
615X	North Kellyville to City	15	30

2.4 Active Transport

2.4.1 Existing Pedestrian Facilities

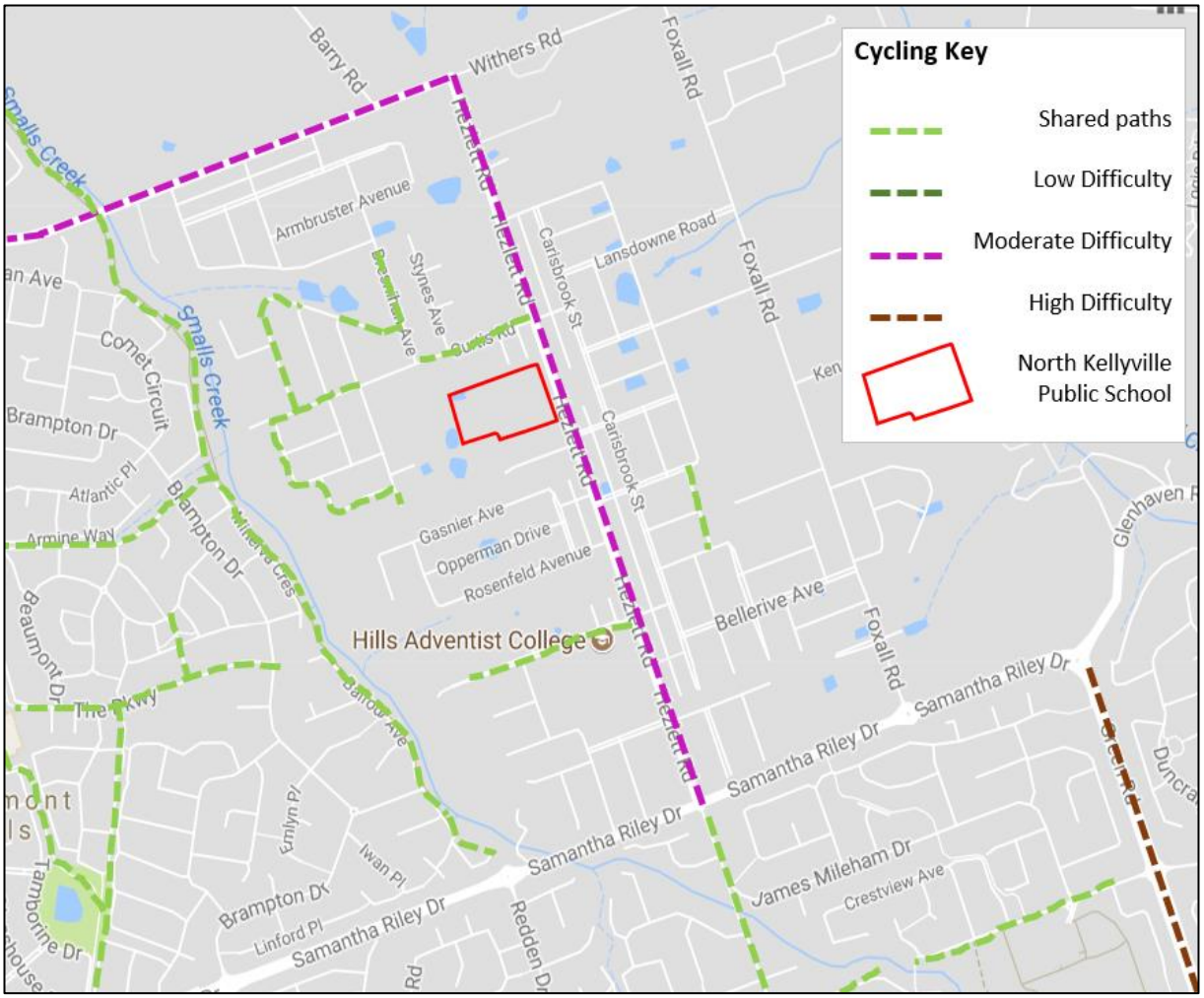
Site visits indicate that key streets in proximity to the school such as Hezlett Road, Samantha Riley Drive and Withers Road currently do not provide formalised pedestrian paths.

Currently there are no zebra crossing or signalised pedestrian crossings in the vicinity of the proposed school.

2.4.2 Existing Bicycle Facilities

The bicycle network in the vicinity of Kellyville North New Primary School has been identified using the Roads and Maritime Cycleway Finder (www.rms.nsw.gov.au/roads/bicycles/cyclewayfinder/index.html), and is displayed in Figure 2-11.

Figure 2-11 – Cycling Routes in proximity to Kellyville North New Primary School



Source: RMS Cycle Finder modified by GHD

Figure 2-11 indicates that cycling facilities in proximity to Kellyville North New Primary School are limited, with Hezlett Road and Withers Road designated as “moderate difficulty” on-road bicycle routes.

No on-road markings are currently provided on Hezlett Road and Withers Road to indicate their inclusion in a cycle network.

In proximity to the school, shared paths around Kellyville North New Primary School are also present on nearby local roads such as Curtis Road and Bramhall Avenue but their use by children seeking to cycle to and from school may be limited due to the areas that they serve.

3. Construction Traffic Management Plan

3.1 Objectives

The CTMP aims to facilitate the safety of all workers and road users within the vicinity of the construction site. The following outlines the primary objectives:

- To minimise the impact of the construction vehicle traffic on the operation of the adjoining road network;
- To facilitate continuous, safe and efficient movement of traffic for both the general public and construction workers;
- Identify appropriate locations for the installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To facilitate the establishment of a safe pedestrian environment in the vicinity of the site;
- To provide a description of the types of vehicles and estimated vehicle volumes during each stage of construction; and
- To provide information regarding the access arrangement and a description of the proposed routes for vehicles accessing and egressing the construction site.

3.2 Construction staging

The construction will be carried out over a number of months and will generate different vehicle types and volumes, depending on the stage of the project. Table 3-1 outlines the stages involved throughout the course of the project and the estimated time to complete each stage.

Table 3-1 Construction staging and duration

Stage / Phase	Duration (Approx.)
Demolition	N/A
Excavation	8 Weeks
Construction	30 Weeks
Fit Out	24 Weeks

3.3 Construction vehicle types and volumes

The project involves the demolition of existing buildings, excavation of the site and the construction and fit out of school buildings.

The demolition, excavation and construction phases of the school are likely to use 40.5 tonne 19.5m ‘Truck and Dog’ combination (articulated heavy vehicles), while the fit out phase will utilise trucks of up to 12.5m in length (Heavy Rigid Vehicles) in accordance with Australian Standard vehicle types.

A Swept Path Analysis has been carried out for the largest construction vehicle (19 m Truck and Dog) at the roundabout of Samantha Riley Drive and at an indicative access and egress location at the site (see Appendix A). The analysis shows that the vehicle would satisfactorily manoeuvre through the roundabout without obstruction to opposing vehicles. At the site location on Hezlett Road, the access and egress location would require a maximum width of approximately 10 metres to allow the largest vehicles to enter and exit.

It is anticipated that the site works will typically generate up to 20 truck movements per day during day to day activities. The number of truck movements is considered low and would fall within typical fluctuations of traffic movements. To minimise any impact on the performance and safety of the local road network from construction vehicles:

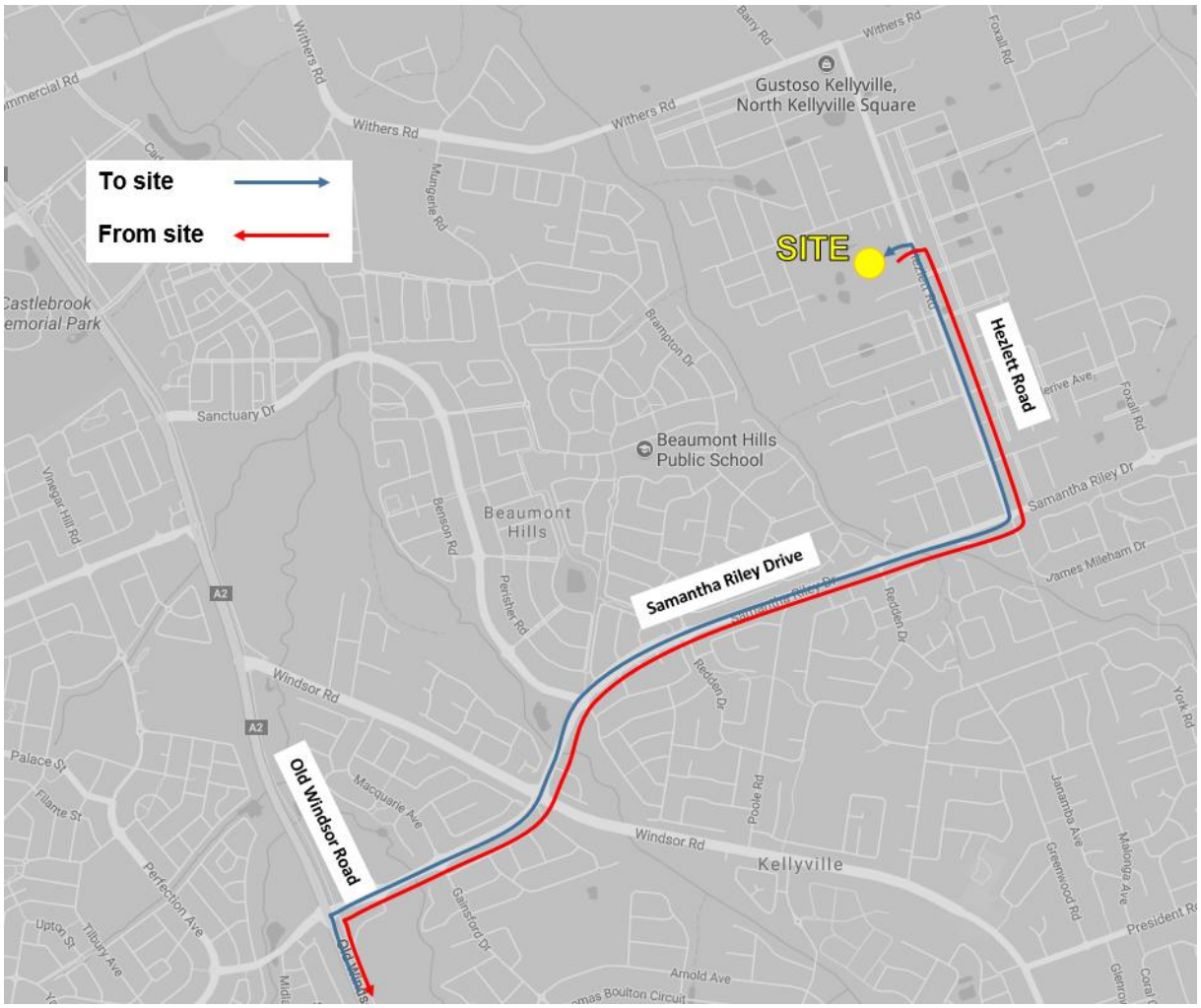
1. All deliveries will be within the approved work hours, with emphasis made on deliveries to be outside peak periods of road network activity where possible in order to reduce the impacts on traffic flows and safety to drivers.
2. Deliveries of materials to the site will be staggered over the course of a working day so that any queuing of vehicles occurs within the work site. The access road to the site from Hezlett Road will need to provide sufficient capacity to accommodate queued vehicles within the site boundaries and construction vehicles are not expected to tailback and impede traffic flow on the adjoining road network.

It is noted that the proposed works will occur within a newly developed residential area that may have construction activities operating parallel to the school constriction. Within the context of the broader road network, construction traffic activity from the school at this level will be spread throughout each day, as such is unlikely to cause a notable impact upon the capacity or operation of the road network with vehicles to be queued within the site.

3.4 Construction vehicle access route

Access to the worksite for construction, delivery and workers' vehicles is proposed to utilise the site access from Hezlett Road. The access route from the south will utilise Old Windsor Road and Samantha Riley Drive to access Hezlett Road. Construction routes to and from the site are displayed in Figure 3-1.

Figure 3-1 Construction routes



3.5 Construction employee traffic generation and parking

Due to the location of the site and the limited public transport options, it is anticipated that workers will travel to and from the site via private vehicles. A designated area for contractor vehicle parking will be provided within the construction site boundaries. The allocated area is anticipated to accommodate parked vehicles informally.

No personnel will be permitted to park on local streets adjacent to the proposed site.

Contractors will be encouraged to assist in the transportation of workers by encouraging carpooling arrangements to decrease the number of employee trips.

3.6 Traffic management

Vehicles will be permitted to travel past the work site on Hezlett Road with appropriate traffic signage (which will be detailed in a Traffic Control Plan (TCP) developed in accordance with Roads and Maritime Traffic Control at Works Sites and AS1742.3 – Traffic Control for Works on Roads) to advise motorists of changes in road network conditions/operation or the expected vehicle movements to/from the site. TCP's are to be developed during the development of the Detail Construction Traffic Management Plan and be coordinated with the onsite staging requirements. TCP's are to be developed by authorised Roads and Maritime accredited personnel prior to the commencement of construction.

During construction the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TCP and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required.

Any variation to the layout of the TCP on site is to be recorded and certified by authorised Roads and Maritime accredited personnel. The associated TCP road signage will inform drivers of works activities in the area including truck movements in operation.

3.7 Pedestrian management

Site access will be restricted to authorised personnel only. It is anticipated that the pedestrian activity in public areas surrounding the site will be low due to the relatively new residential development area and the lack of formalised pedestrian facilities on Hezlett Road. However, a traffic controller shall be monitoring the site at all times and ensuring that pedestrians in the vicinity of the site are protected from heavy vehicles entering and leaving the site.

3.8 Road closures

Road closures are not proposed on the road network for the duration of works.

3.9 Works zones

Works zones are not proposed on the road network for the duration of works.

3.10 Roadwork speed zone

As the proposed works are anticipated to be contained within the boundary of the site, no Roadwork Speed Zones are proposed along Hezlett Road on the approaches to the site access. Should the proposed works include road work activities, the Roadwork Speed Zone may be reviewed in accordance with the Roads and Maritime Traffic Control at Worksite manual to assist in the safety in proximity to the road work activities.

Applications of the Roadwork Speed Zone are to be submitted to the Roads and Maritime for approval, with notifications given to Council and the local police.

The Roadwork Speed Zone is not to be implemented without prior approvals.

Inspections and records of implementation of the Roadwork Speed Zone is to be maintained in accordance with Roads and Maritime Traffic Control at Worksite manual and Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads).

Roadwork Speed Zone signs (R4-212 and T4-216) are to be covered during periods on non-work activities.

3.11 Access to adjoining properties

Access to all adjoining properties will be maintained for the duration of works.

3.12 Site cranes

No tower crane/mobile crane is proposed to be used during construction and will be located within the work site to facilitate the loading and unloading of materials. Specific Traffic Control Plans and applications (if required) will be made by the specialist contractor for these operational deliveries.

3.13 Environmental control

Not withstanding the environmental requirements specified in the REF and other project documents, the following environmental requirements are to be adhered to:

- All vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or debris depositing onto the roadway during travel to and from the site including but not limited to construction rumble strips/wheels wash at the site egress location;
- The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles, to maintain the safety of all road users;
- Vehicles operating to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration;
- No tracked vehicles will be permitted on paved roads;
- Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances; and
- All subcontractors must be inducted by the lead contractor to encourage that all the relevant procedures are met.

3.14 Method of communicating traffic changes

TCPs developed in accordance with Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and Roads and Maritime Traffic Control at Worksites manual will identify appropriate signage (and location) to advise motorist of upcoming changes in the road network.

3.15 Monitoring of Traffic Control Plans (TCP)

During construction the contractor shall each morning, prior to commencing work, ensure all signage is erected in accordance with the TCP and is clearly visible to motorists. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required.

A review of the TCPs can be undertaken as required in order to determine any potential need for future amendments.

Any variation to the layout of the TCP on site is to be recorded and certified by accredited Roads and Maritime personnel

3.16 Occupational Health and Safety

Any workers required to undertake works or traffic control shall be suitably trained and hold the required accreditation to carry out works on site and will also be site inducted. All traffic control personnel will be required to hold Roads and Maritime accreditation in accordance with Section 2.4 of Roads and Maritime Traffic Control at Worksites Manual

3.17 Above ground electrical services

Above ground power lines are located close to the construction site. Construction vehicles traversing the under the power lines along the site access road are to be limited to a maximum height of 4.3 m so that appropriate safety clearance is maintained to the overhead electrical services at all times. Drivers and workers are to be made aware of the height limitation via tool box talks and site induction process. Additionally, a hazard height clearance bar set at 4.3 m is to be provided at the site access road entrance to further advise drivers of the height restriction.

3.18 Certificates and approvals

Approval is to be obtained from Council and other relevant authorities as required. Approvals that may need to be obtained for items such as but not limited to:

- Roadwork Speed Zone
- Council Road opening permits
- Road occupancy approvals
- Hoarding/fencing approvals
- Crane and barricades
- Oversize and Articulated Vehicle use on local roads

3.19 Staff induction

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will outline the requirements on the CTMP including site access routes, environmental and occupational health and safety responsibilities, emergency procedures, potential carpooling opportunities and vehicle height restriction under the power lines. Additionally, the Site Manager will discuss CTMP requirements regularly as a part of toolbox talks.

3.20 Contact of emergency services

In the event of an emergency related construction traffic incident on the public road network it will be the responsibility of the Site Manager to ensure that emergency services are notified. The emergency services include but are not limited to:

- Fire
- Ambulance
- Police

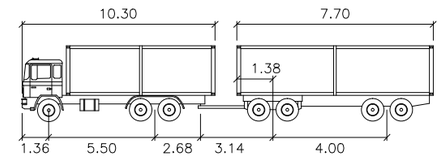
Phone “000” in cases of emergency.

Furthermore, it is the responsibility of the Site Manager to advise the emergency services of any restriction of vehicular access to the public and private areas (1) one week prior to its implementation.

Appendices

Appendix A - (Swept Paths)

Hezlett Road and Site Access



Tipper & Quad Dog meters

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 41.4
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

Hezlett Road / Samantha Riley Drive Intersection

Aerial Imagery: Sixmaps © DFSI Spatial Services 2017 (Imagery Date: 06/04/2016, Extraction Date: 23/11/2017)

PRELIMINARY DRAFT

NSW Department for Education

North Kellyville New Primary School

SWEPT PATH ANALYSIS

Hezlett Road and Hezlett Road/Samantha Riley Drive Intersection

21-26108-SK01 **REV A** 24/11/2017

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