Lendlease Building

Fort Street Public School

Construction Traffic Pedestrian Management Sub Plan

REP-02

Rev A | 21 April 2021

Job number 278722-00

Arup Australia Pty Ltd ABN 76 625 912 665

Arup
Level 5
151 Clarence Street
Sydney NSW 2000
Australia
www.arup.com

ARUP

Document verification

ARUP

Job title		Fort Street Public School			**Job number** 278722-00
Document title		Construction Traffic Pedestrian Management Sub Plan			**File reference**
Document ref		REP-02			
Revision	**Date**	**Filename**	FSPS CPTMSP Draft Report.docx		
Draft 1	26 Nov 2020	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 2	07 Dec 2020	**Filename**	FSPS CPTMSP Draft Report v2.docx		
		Description			
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 3	18 Dec 2020	**Filename**	FSPS CPTMSP Draft Report v3.docx		
		Description			
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 4	11 Jan 2021	**Filename**	FSPS CPTMSP Draft Report v4.docx		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
				Issue Document verification with document	✓

Document Verification

Job title		Fort Street Public School			**Job number** 278722-00
Document title		Construction Traffic Pedestrian Management Sub Plan			**File reference**
Document ref		REP-02			
Revision	**Date**	**Filename**	FSPS CPTMSP Draft Report v5.docx		
Draft 5	21 Jan 21	**Description**			
			Prepared by	Checked by	Approved by
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 6	05 Mar 21	**Filename**	FSPS CPTMSP Draft Report v6.docx		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 7	15 Mar 21	**Filename**	FSPS CTPMSP Draft Report v6.docx		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Draft 7	19 Mar 21	**Filename**	FSPS CTPMSP Draft Report v7.docx		
		Description	Update to CTPMSP following consultation with CoS and TfNSW on 11/03/21 to include dimensioned drawing of the northern section of the SHB shared path diversion.		
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
				Issue Document Verification with Document	✓

Document Verification

Job title		Fort Street Public School			**Job number** 278722-00
Document title		Construction Traffic Pedestrian Management Sub Plan			**File reference**
Document ref		REP-02			
Revision	**Date**	**Filename**	FSPS CTPMSP Draft Report Issue.docx		
Issue	25 Mar 2021	**Description**	Issue version encompassing all comments from Road Safety Audit and City of Sydney		
			Prepared by	**Checked by**	**Approved by**
		Name	Aimy Nguyen	Michael Cavallaro	Michael Cavallaro
		Signature			
Rev A	21 Apr 2021	**Filename**	FSPS CTPMSP Draft Report RevA.docx		
		Description	Minor change to works zone location		
			Prepared by	**Checked by**	**Approved by**
		Name	Michael Cavallaro	Michael Cavallaro	Michael Cavallaro
		Signature			
		Filename			
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name			
		Signature			
				Issue Document Verification with Document	✓

Contents

1 Introduction

Lendlease Building (LLB) and Schools Infrastructure NSW (SINSW) have commissioned Arup to develop a Construction Traffic Pedestrian Management Sub Plan (CTPMSP) for the Fort Street Public School project. The site is located on Upper Fort Street in Millers Point. The existing school has been in operation since 1849 making it one of the oldest government schools in Australia.

1.1 Site description

Fort Street Public School is located in the City of Sydney (CoS) council area. The School site is bordered by the Cahill Expressway to the north west and south and Upper Fort Street and Bradfield Highway to the east.

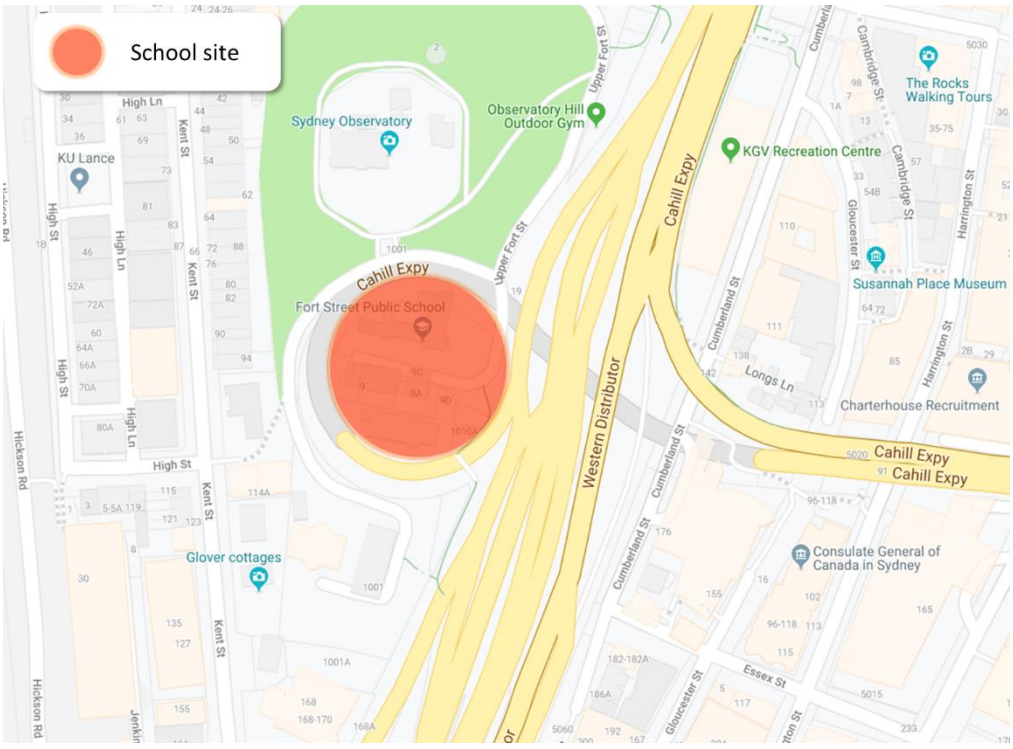


Figure 1: School site boundary

1.2 Development description

Approval has been given for the expansion of Fort Street Public School to accommodate a total of 550 primary school students. The works include:

Site preparation, demolition and excavation

- Site remediation;
- Demolition of the EEC building, the garage and storage shed west and east of the Bureau of Meteorology Building (the Met Building), and the toilet block adjoining the main school building;

- Selective removal of various elements of the main school building, as well as minor and insignificant elements of the Messenger's Cottage to facilitate refurbishment and future use of these buildings and the Met Building including demolition of the existing internal structure due to dilapidation and contamination;
- Bulk excavation works to facilitate the new southern buildings and onsite detention;
- Tree removal; and
- Installation of hydraulic and electrical services.

Land use

- Use of all buildings for the purpose of a school.

Existing buildings

- Retention, refurbishment and extension of the existing Fort Street Public School building, including construction of a new roof and rooftop additions on Level 2;
- Retention and refurbishment of the Met Building and internal alterations and additions; and
- Retention and minor alterations and additions to the Messenger's Cottage.

Construction of New buildings

- Construction of one new building on the western part of the site for a staff room;
- Construction of two new, interconnected school buildings on the southern third of the site; and
- Construction of a new communal hall and canteen building.

Landscaping

- Retention of the existing large fig tree; and
- Landscaping works throughout the site, including construction of a new amphitheatre, new central plaza, and a multi-purpose forecourt.

Other works

- Works to the existing entrance road, including alterations to the Bradfield Services Shed. The works is expected to commence in October 2021 lasting for a period of six (6) months;
- Widening of Upper Fort Street at the identified pinch point location;
- Modifications to existing pick-up / drop-off arrangements which includes a new loop road arrangement at the entry to the school;
- Provision of signage zones; and
- Installation of on-site detention.

1.3 Objectives

The key objective of the Plan is to address the conditions of consent received on 7th October 2020 which require the development of the following plans:

- Construction Traffic and Pedestrian Management Sub Plan (CTPMSP – this document);
- Construction Worker Transportation Strategy (refer to Section 4.7); and
- Driver Code of Conduct for heavy vehicle drivers (refer to **Appendix A**).

1.4 Report structure

This document will follow the general structure outlined in Table 1.

Table 1: Content and report structure

Section	Content
1. Introduction	Provides summary of the context of the school and description of proposed developments. This section also defines the objective of the CTPMSP.
2. Description of proposed works	Defines the hours of work and indicative construction programme.
3. Construction traffic	Provides forecast of construction traffic and workers. This section also outlines expected vehicles types general construction site access.
4. Impact of proposed measures	Outlines the proposed truck routes and controls and expected network impacts.
5. Effects on existing and future infrastructure	Details neighbouring developments and proposed works to be undertaken which may be impacted by the project.
6. Provisions for emergency vehicles, heavy vehicles and cyclists.	Outlines measures during construction to accommodate emergency vehicles, heavy vehicles and cyclists.
7. Measures to ameliorate impacts	Summarises potential measures to implement to minimise impacts of the project.
8. Public transport	Outlines potential impacts to public transport operators in the vicinity of the site.
9. Public consultation	Summarises approvals processes for the document including public consultation and temporary road works.

1.5 Conditions of consent

This plan has been produced to assess Conditions B18, B22, B27 and B48 associated with SSD-10340. The conditions are presented in Table 2 along with the sections of the document which addresses each point.

Table 2: Traffic and transport conditions of consent

Condition		Section
B18. A Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:		
a)	be prepared by a suitably qualified and experienced person(s);	Appendix C
b)	be prepared in consultation with Council and the Sydney Coordination Office within TfNSW;	1.6
c)	be submitted to the Coordinator General, Transport within TfNSW for endorsement, unless otherwise agreed to in writing by the Planning Secretary;	9
d) i)	crane arrangement including the location of any crane(s);	3.3
d) ii)	commitment to providing the site manager's direct contact number to business adjoining or impacted by the construction work, the Transport Management Centre and the Sydney Coordination office within TfNSW to resolve issues relating to traffic, public transport, freight, servicing and pedestrian access in real time;	9
d) iii)	the predicted number of construction vehicle movements and detail of vehicle types, nothing that vehicle movements are to be minimised during peak periods;	3
d) iv)	specific measures to ensure the arrival of construction vehicles to the site do not cause queuing on public roads;	3.4 and 4
d) v)	a monitoring regime for maintaining the simultaneous operation of buses and construction vehicles on roads surrounding the site;	4
d) vi)	measures to avoid construction worker vehicle movements within the Sydney Central Business District;	4.7
d) vii)	cumulative construction impacts of projects including Sydney Metro City and South West with reference to the construction traffic and pedestrian management plans for developments within or around the development site to ensure that coordination of work activities is managed to minimise impacts on the surrounding road network;	5
d) viii)	the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and light rail and bus services; and	4, 6 and 7
d) ix)	heavy vehicle routes, access and parking arrangements.	4.1 and 4.2
B22. A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:		
a)	minimise the impacts of earthworks and construction on the local and regional road network;	7.2 and Appendix A
b)	minimise conflicts with other road users;	
c)	minimise road traffic noise; and	
d)	ensure truck drivers use specified routes.	

Condition		Section
B27. Prior to the commencement of construction, the Applicant must submit a Construction Worker Transportation Strategy to the Certifier. The Strategy must detail the provision of travel arrangements for construction workers in order to avoid parking in nearby public and residential streets or public parking facilities. A copy of the strategy must be provided to the Planning Secretary for information.		4.7
B48. Construction Access Arrangements – Prior to the commencement of construction, evidence of compliance of construction access arrangements with the following requirements must be submitted to the Certifier:		
a)	all vehicles must enter and leave the site in a forward direction;	7.2
b)	the swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, is in accordance with the latest version of AS 2890.2; and	4.1.2 and 4.1.3
c)	the safety of vehicles and pedestrians accessing adjoining properties, where shared vehicle and pedestrian access occurs, has been addressed.	5, 5, 6 and 7

1.6 Stakeholder consultation

The stakeholders outlined below have been identified for consultation. Responses from consultation undertaken to date are summarised in Table 3. The consultation undertaken with the stakeholders summarised below mainly concerned a cycleway diversion route running along Kent Street and Argyle Street. This has since been removed from consideration. It should be noted that a number of these stakeholders are still undergoing consultation.

- City of Sydney (CoS);
- Customer Journey Planning (formerly known as the Sydney Coordination Office); and
- Transport for New South Wales (TfNSW);

Table 3: Summary of stakeholder responses

Agency	Response
CoS	• Preference to maintain two-way operation on High Street with angled parking (90-degree) in the dog-legged section only. • No objections to one-way northbound option.
TfNSW	• No objections with one-way northbound options and temporary removal of bus stop on Argyle Street near Watson Street. • Concerns of pinch point at High Street/ Argyle Street intersection.

The documented minutes from the consultation sessions are provided in **Appendix B**.

2 Description of proposed works

2.1 Construction programme

Construction work is set to commence in May 2021, lasting for a period of approximately 20 months. Table 4 provides a timeframe of the construction activities for the project.

Table 4: Construction programme

Activity	**2021**			**2022**			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site establishment							
Demolition							
Excavation/ footings							
Structure							
Façade							
Services/ finishes							
External works							

2.2 Hours of work

The hours of works through the course of the project will be in accordance with standard Sydney CBD working hours as detailed below:

- Monday to Friday – 7:00am to 6:00pm;
- Saturday – 8:00am to 1:00pm; and
- Sundays and public holidays – No works.

Deliveries in cars or vans may be undertaken during Sydney CBD extended hours of work. These hours are applicable for activities defined as quiet works where ambient noise levels do not increase above 5 decibels (dB). The extended hours of worked are outlined below.

- Monday to Friday – 6:00pm to 7:00pm; and
- Saturday – 1:00pm to 4:00pm.

Applications for ‘out of hours’ works will be considered on a case by case basis. All out of hours applications will need to be approved by the relevant authority. Reasons for out of hours work may include but are not limited to the following;

- As a result of an emergency;
- The works create a hazardous environment;
- Plant break down have delayed works; or
- Minimise impact to the surrounding community.

3 Construction traffic

3.1 Construction traffic volumes

Construction traffic will consist of utes/ vans and trucks. The number of vehicles accessing the site will vary over the project lifespan, depending on the requirements for each construction activity. To make sure the management of construction traffic is robust, the peak daily vehicle trips have been considered as outlined below. Vehicle movements will be scheduled to occur outside of peak periods where practical to minimise impacts to the road network.

- Utes/ vans: 50 daily vehicle trips; and
- Trucks: 50 daily vehicle trips.

3.2 Construction workers

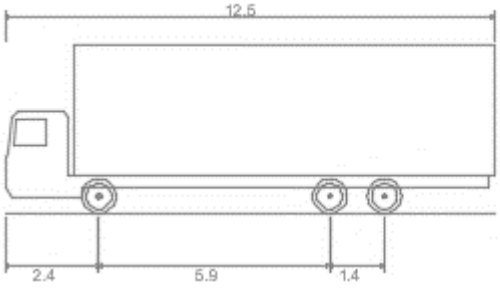
During the peak of construction, 90 workers are expected onsite. Refer to Section 4.7 for the Construction Worker Transportation Strategy.

3.3 Vehicle types expected

The construction vehicles accessing the site will mainly comprise of Medium and Heavy Rigid vehicles (MRVs and HRVs). During certain stages of construction, concrete pumps and a mobile crane will also be used onsite.

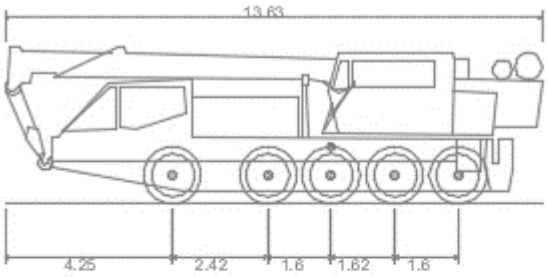
The longest construction vehicle that will be typically used is a HRV with a length of 12.5m. The vehicle dimensions are shown in Figure 2.

It is expected that a 100-tonne mobile crane will require access to the site. This will be a one-off event with the crane entering at the start of construction and exiting at the end of construction. The vehicle dimensions for a typical 100-tonne mobile crane is shown in Figure 3. The vehicle length can range up to 13.6m.



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

Figure 2: HRV vehicle dimensions



Liebherr LTM 1100-5.1 Mobile Crane	
Overall Length	13.630m
Overall Width	2.440m
Overall Body Height	3.995m
Min Body Ground Clearance	0.295m
Track Width	2.440m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	8.990m

Figure 3: Mobile crane vehicle dimensions

3.4 Site access arrangements

The main vehicle access to the site will be on Upper Fort Street which provides a connection to the Argyle Street via Watson Road.

During day-to-day works, traffic management will be required to the north and south of the pinch point on Upper Fort Street in the form of accredited traffic controllers who will be responsible for general site access, coordinating vehicle and cyclist movements and managing access for construction vehicles. An additional traffic controller will be employed at the Argyle Street and Watson Road intersection during occasions an oversize or over-mass heavy vehicle requires access to the site.

A management strategy will be employed between the traffic controllers which includes the use of a two-way radio to coordinate control vehicles along the length

of Watson Road and Upper Fort Street. The location of the pinch point and proposed location of the traffic controllers are displayed in Figure 4.

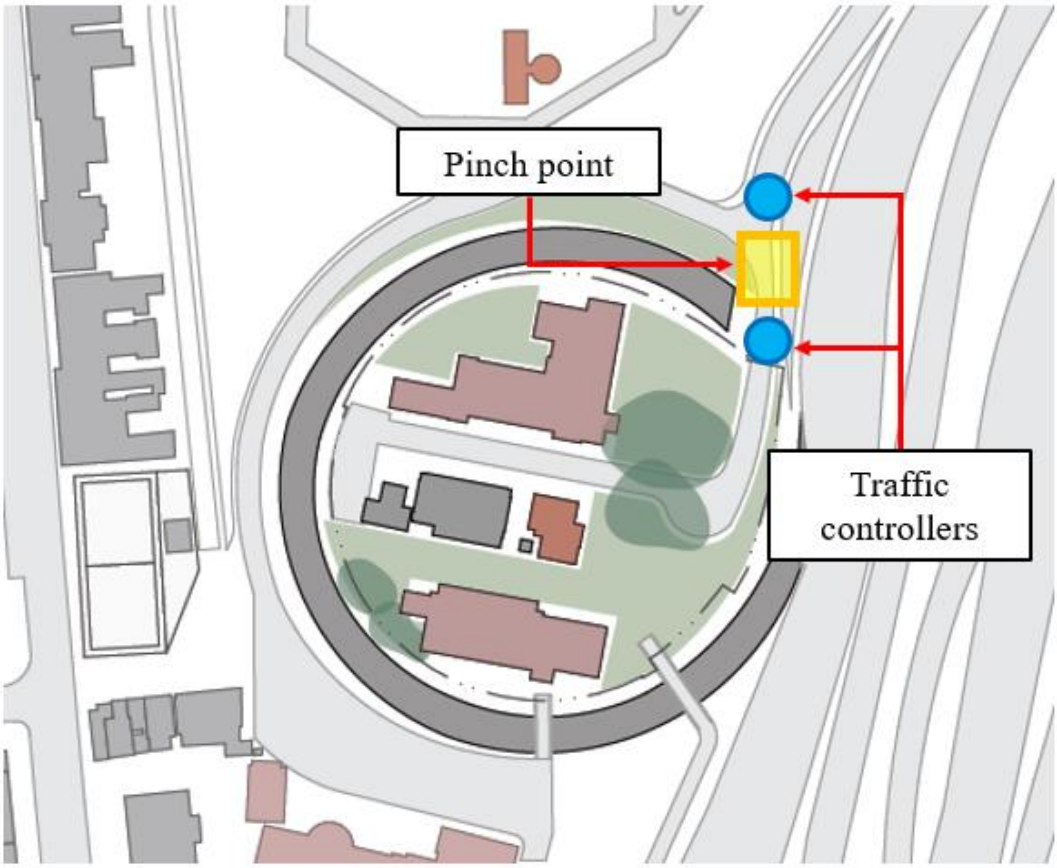


Figure 4: Location of pinch point and traffic controller

3.5 Works zone

The construction works will require 20m of existing kerbside space to establish a works zone adjacent to the work site, allowing for two (2) truck waiting bays. This works zone will operate during the approved hours of works outlined in the project's development application (DA). The Contractor will be required to submit an application to the relevant authority, with CoS having jurisdiction over local and regional roads and TfNSW for State roads.

In order to minimise impacts to the road network, the use of works zones are to be kept to a minimum and not impact existing public transport locations where possible. In the case a public transport operator is impacted, an alternative stop location must be agreed with the relevant operators and TfNSW.

3.6 Hoarding and fencing

During site establishment and construction of FSPS, the project is expected to use a combination of existing fences and Type A hoarding in order to secure the boundary of the site as shown in Figure 5. The extents of the hoarding and fences will be within the project site and so, no impact is expected on Council roads.

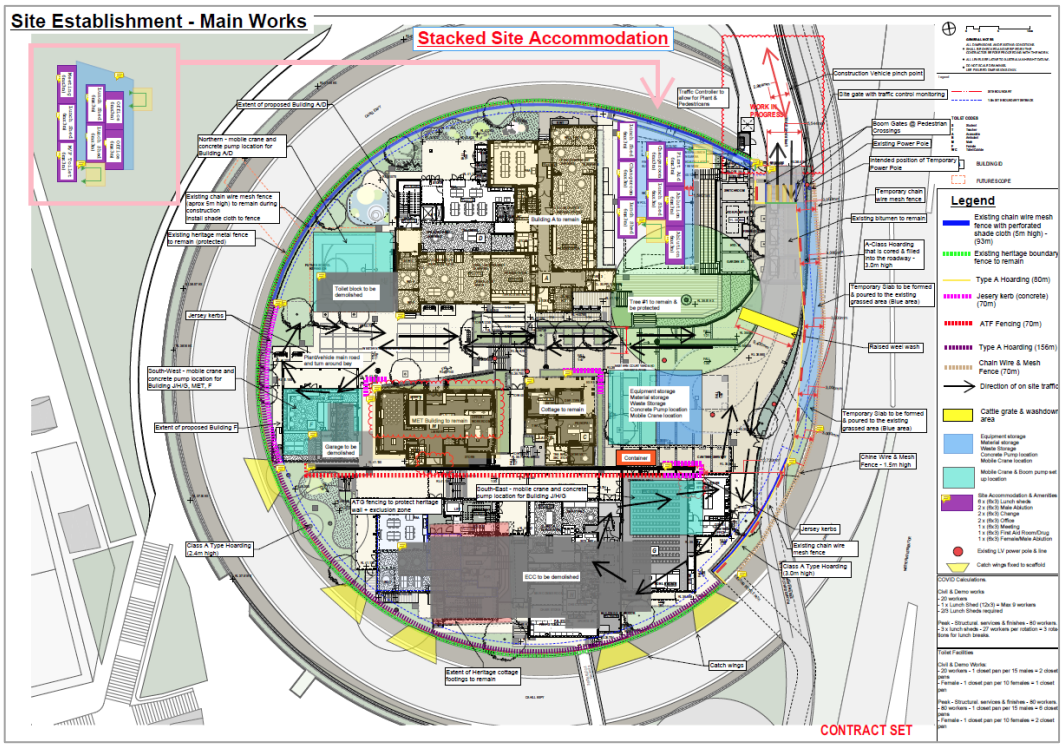


Figure 5: Hoarding and fencing boundary line for redevelopment of FSPS works

However, as outlined in Section 1.2, other works will be undertaken in the vicinity of the FSPS site. The works include modifications to the Bradfield Tunnel Services Shed and the widening of Upper Fort Street. The hoarding and fencing requirements for these works will be outside of the FSPS project boundary and on Council property as shown in Figure 6. Further detail on how this area will be managed during the works is provided in Section 4.3.

Moreover, diversion of the existing SHB shared path will require the provision of a Class A hoarding structure in line with CoS hoarding and scaffolding guidelines as shown in Figure 7. This will provide the required separation between construction vehicles and vulnerable road users and allows for both pedestrians and cyclists to maintain existing access along Upper Fort Street.

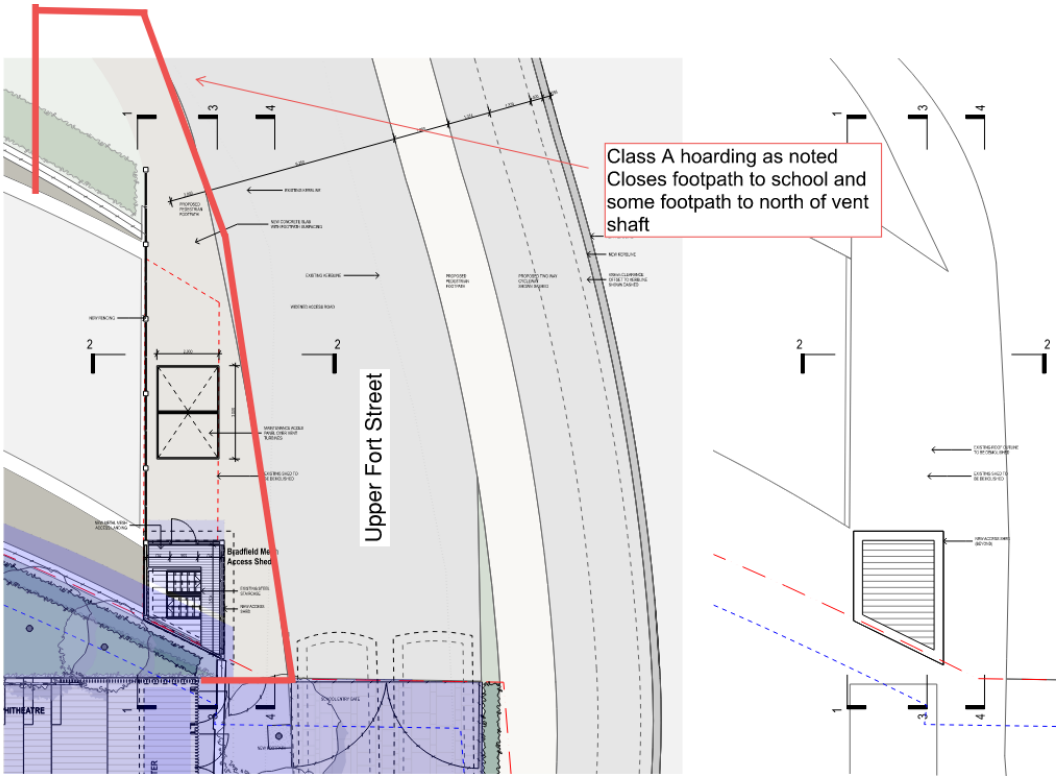


Figure 6: Hoarding boundary line for Bradfield Tunnel Services Shed modification works

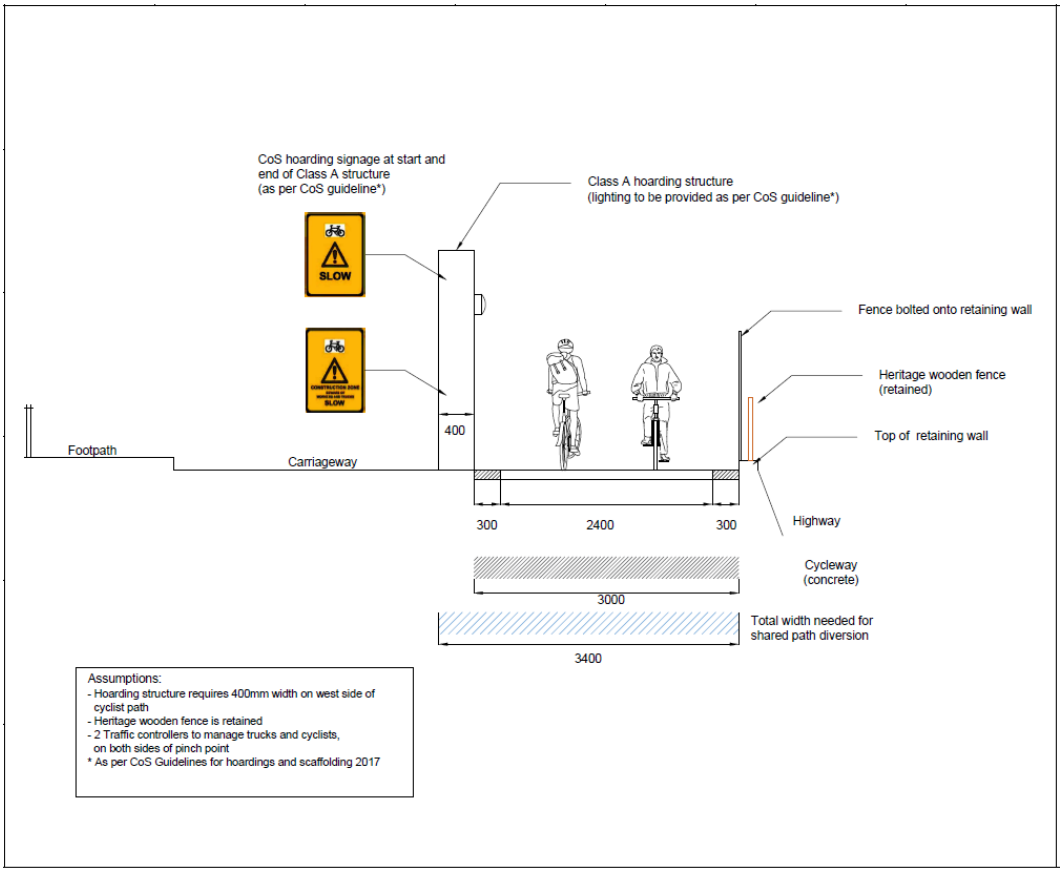


Figure 7: SHB shared path diversion hoarding structure

4 Impact of proposed measures

4.1 Truck routes and controls

4.1.1 Medium and Heavy rigid trucks

Construction vehicle access to the site is limited to Upper Fort Street connecting from Argyle Street via Watson Road. Trucks will access Watson Road using the eastbound lane of Argyle Street which connects into Upper Fort Street.

All truck turning movements would occur within the site, with vehicles entering and exiting via Upper Fort Street as shown in Figure 8. It is likely that it will be necessary to provide queuing space for up to two trucks on Upper Fort Street. As a result, a works zone has been proposed at the location shown in Figure 9.

Traffic controllers will manage vehicles passing each other however, during operation if there are any issues identified the Contractor will update the CTPMSP to include a passing bay and the removal of two parking spaces. This will require an application to CoS as an extension of the works zone.

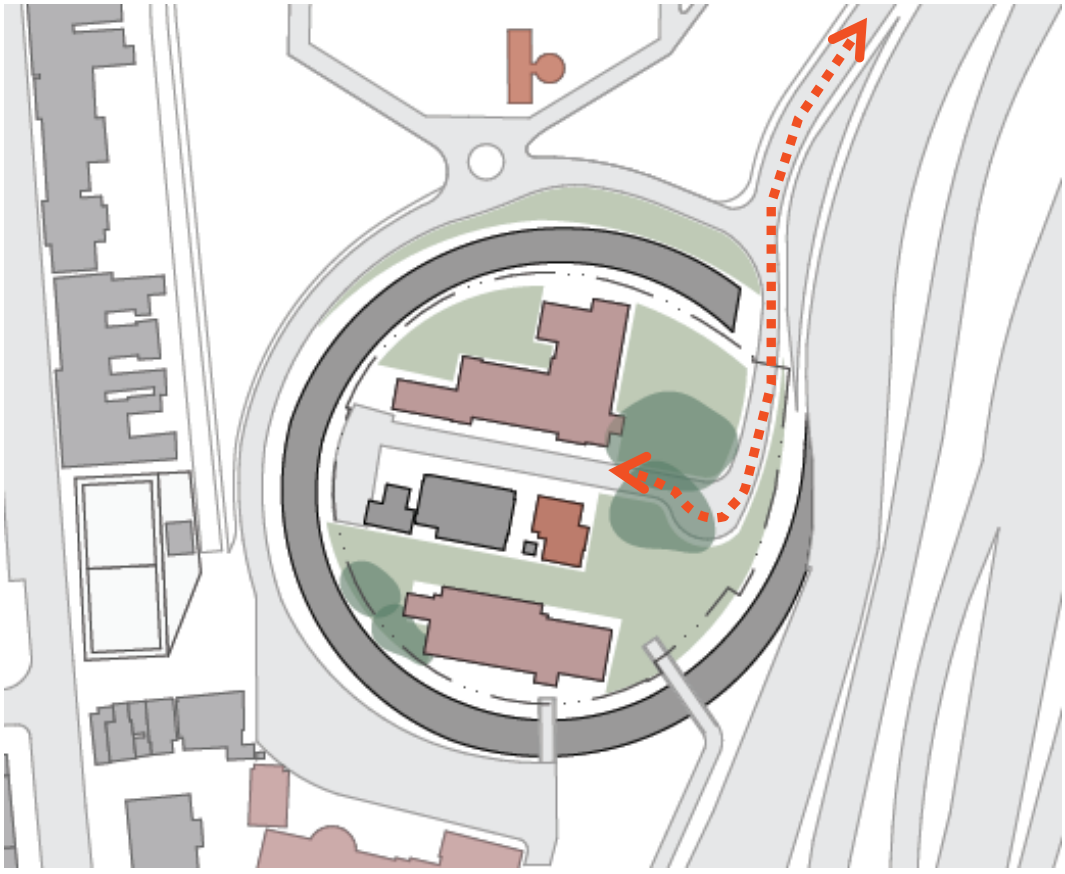


Figure 8: Construction vehicle access to the site

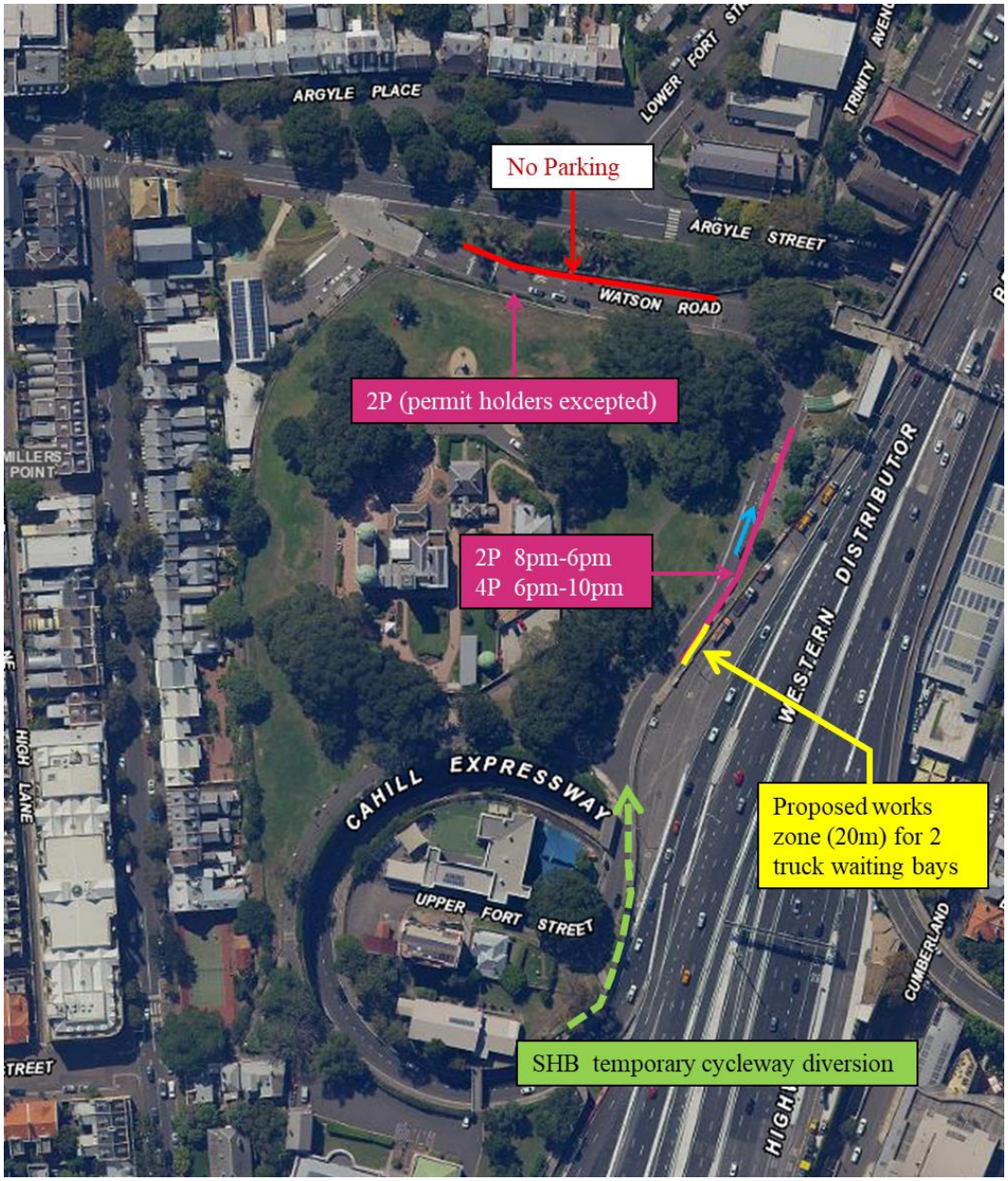


Figure 9: Proposed works zone

4.1.2 HRV truck swept paths

The HRV truck swept paths have been considered for access between Argyle Street and Watson Road as it has been identified as the longest construction vehicle which would typically access the site. The swept paths have been undertaken in accordance with *AS2890.2: Parking facilities – Off-street commercial vehicle facilities* and are displayed in Figure 10 and Figure 11. The paths show that access is available for these larger trucks. Careful manoeuvring will be required along Upper Fort Street due to vehicles parked along the kerb. All vehicles will be required to enter and exit the site in a forward direction to and from the site.

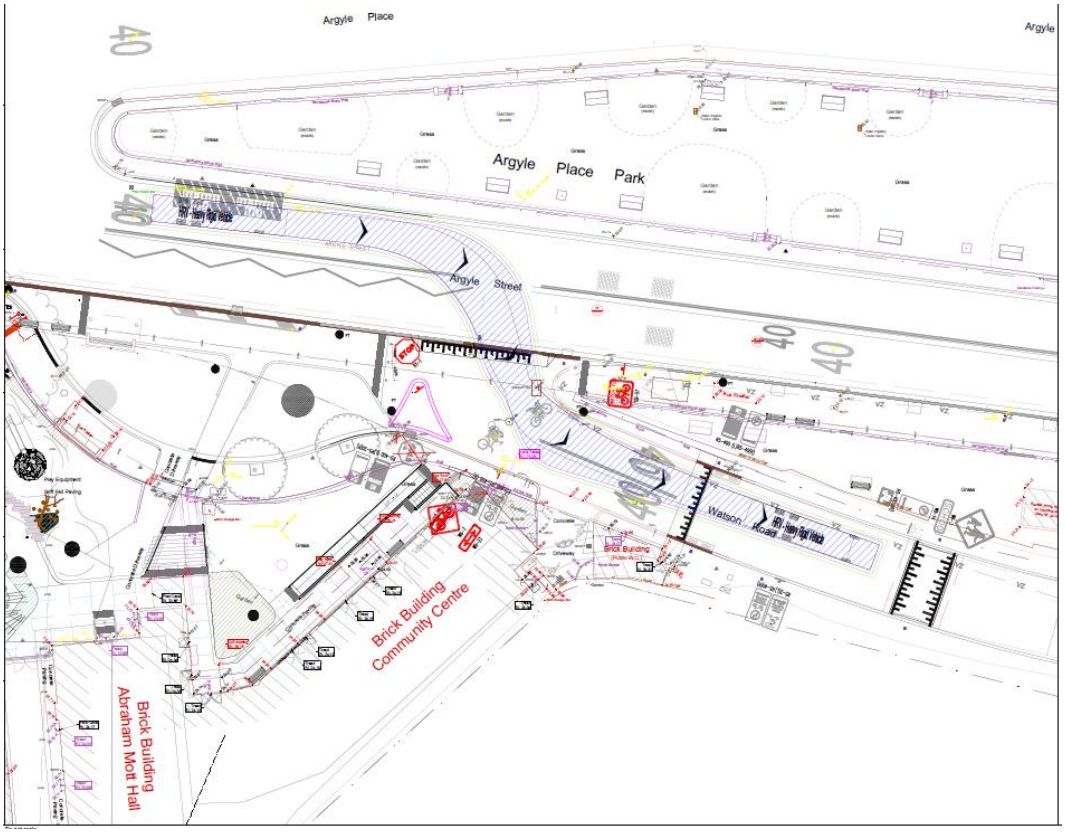


Figure 10: HRV entry path from Argyle Street into Watson Road

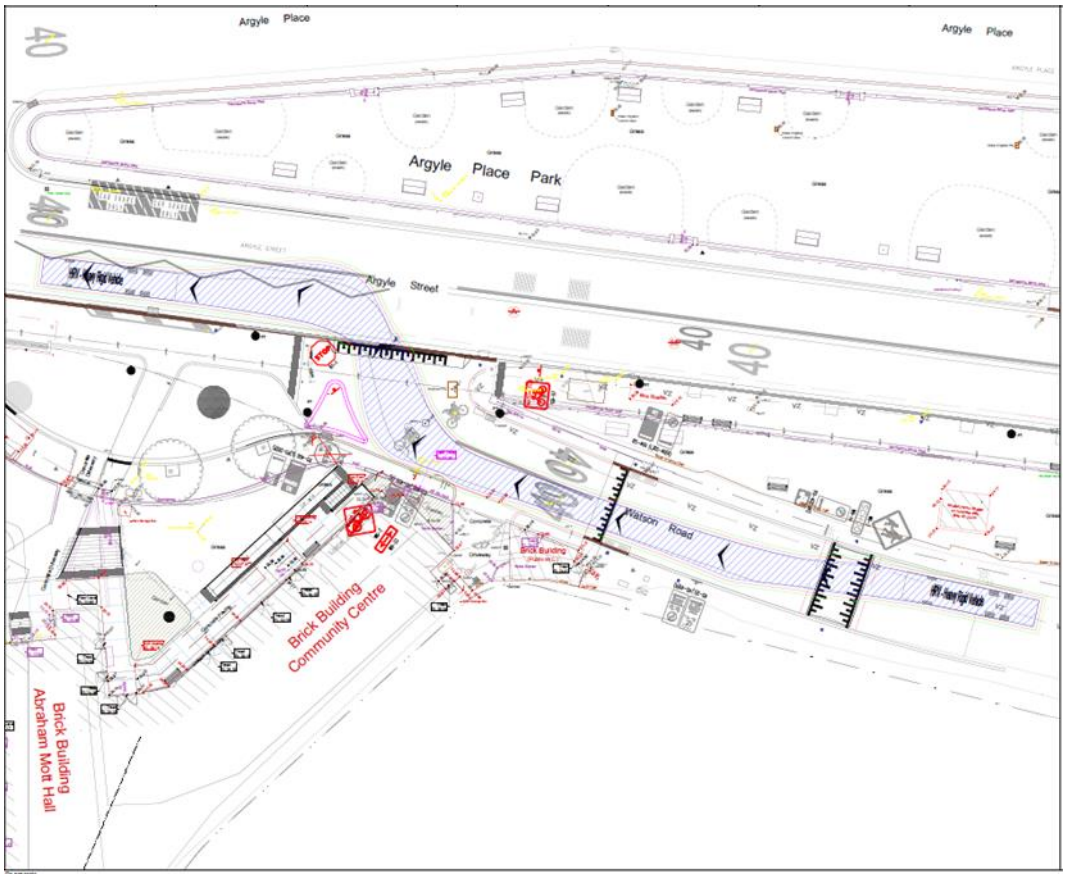


Figure 11: HRV exit from Watson Road to Argyle Street

4.1.3 Mobile crane swept paths

A mobile crane has been identified as the longest vehicle accessing the site during construction. The vehicle is expected to access the site only once during the start of construction and exiting at the end of the construction works. Swept paths have been undertaken for this vehicle at the Watson Road and Argyle Street intersection in accordance with *AS2890.2: Parking facilities – Off-street commercial vehicle facilities* as shown in Figure 12 and Figure 13. These swept paths indicate that the vehicle will be able to satisfactory manoeuvre along this route. However, similar to HRVs, careful manoeuvring will be required with the assistance of the traffic controller in order to navigate past parked vehicles on Watson Road. The mobile crane will be required to enter and exit in a forward direction.

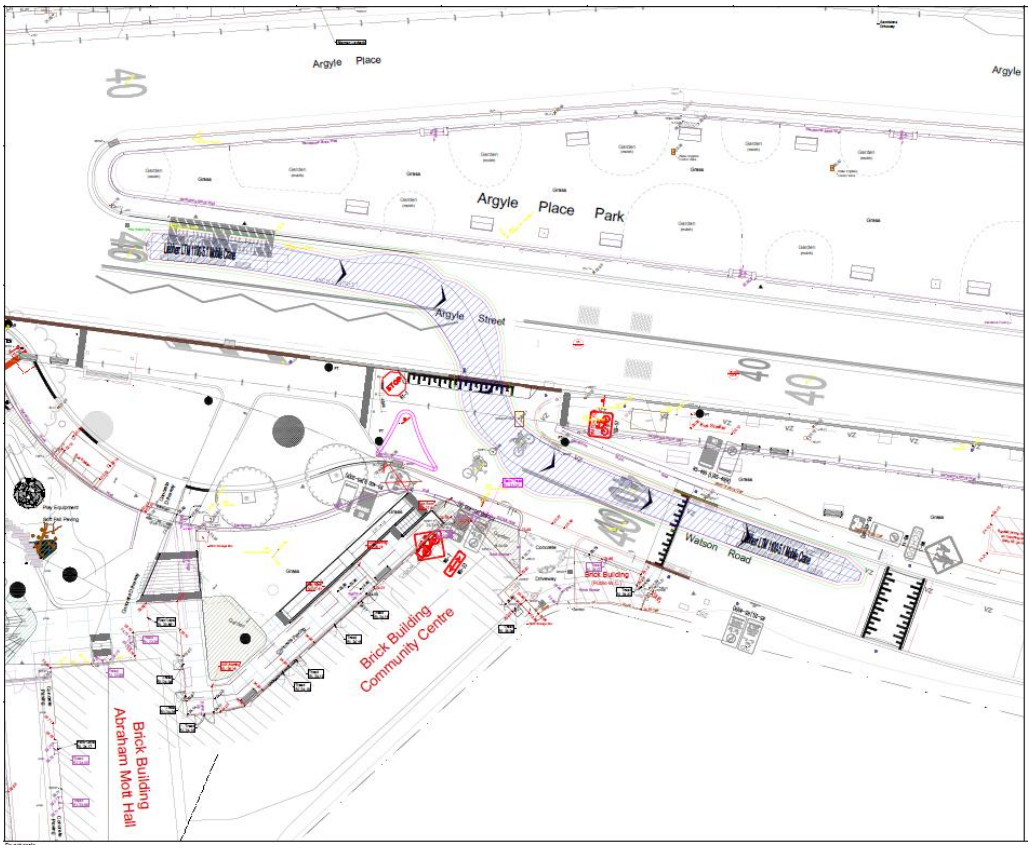


Figure 12: Mobile crane entry from Argyle Street into Watson Road

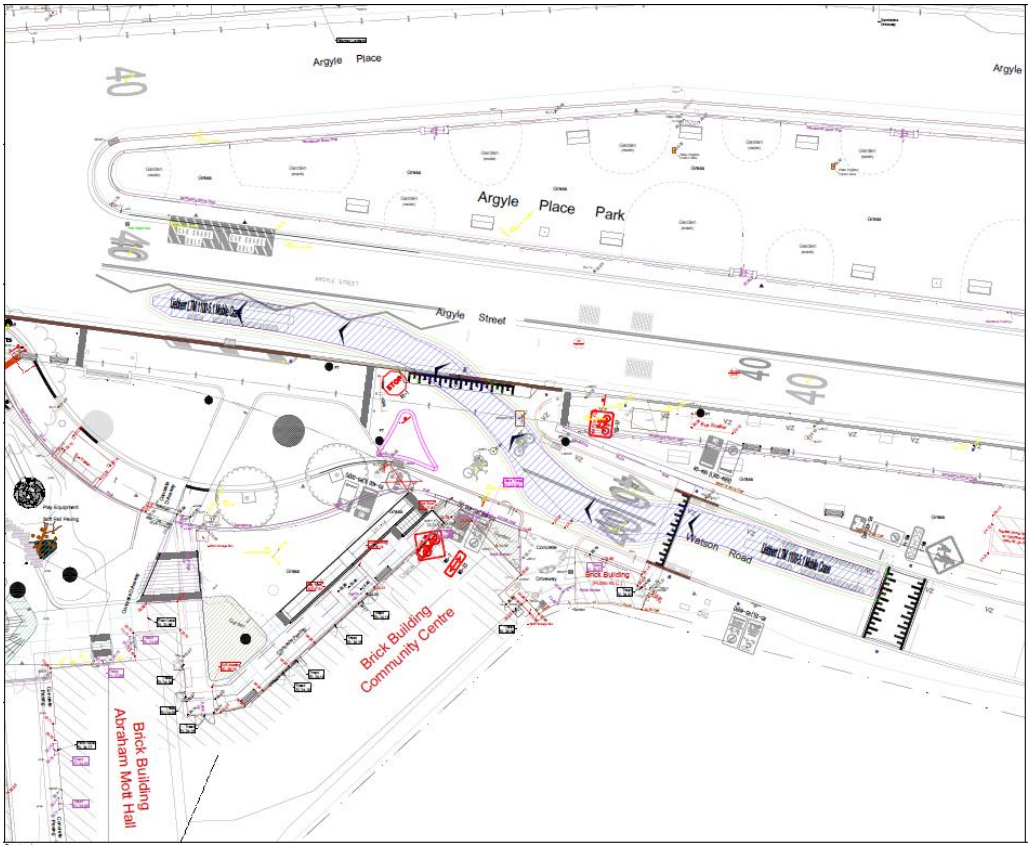


Figure 13: Mobile crane exit from Watson Road to Argyle Street

4.2 SHB temporary shared path diversion

In order to maintain existing connections and to provide both pedestrians and cyclists safe passage during construction, the section of the SHB shared path which runs through the project boundary has been proposed for diversion as shown in Figure 14.

The diversion has been proposed to be constructed in two stages, the first stage consisting of the future permanent concrete cycleway path as part of Phase 1 of the SHB cycleway (shown in grey below). The second stage will connect the Phase 1 cycleway to Upper Fort Street through a temporary concrete shared path shown in the green hatching below. The surface level for both sections will be constructed to align with the levels of the existing service pits and maintain a smooth, trip hazard free surface. Upon completion of construction, the temporary section will be removed and the shared path will divert to Upper Fort Street as per Phase 1 of the FSPS school layout.

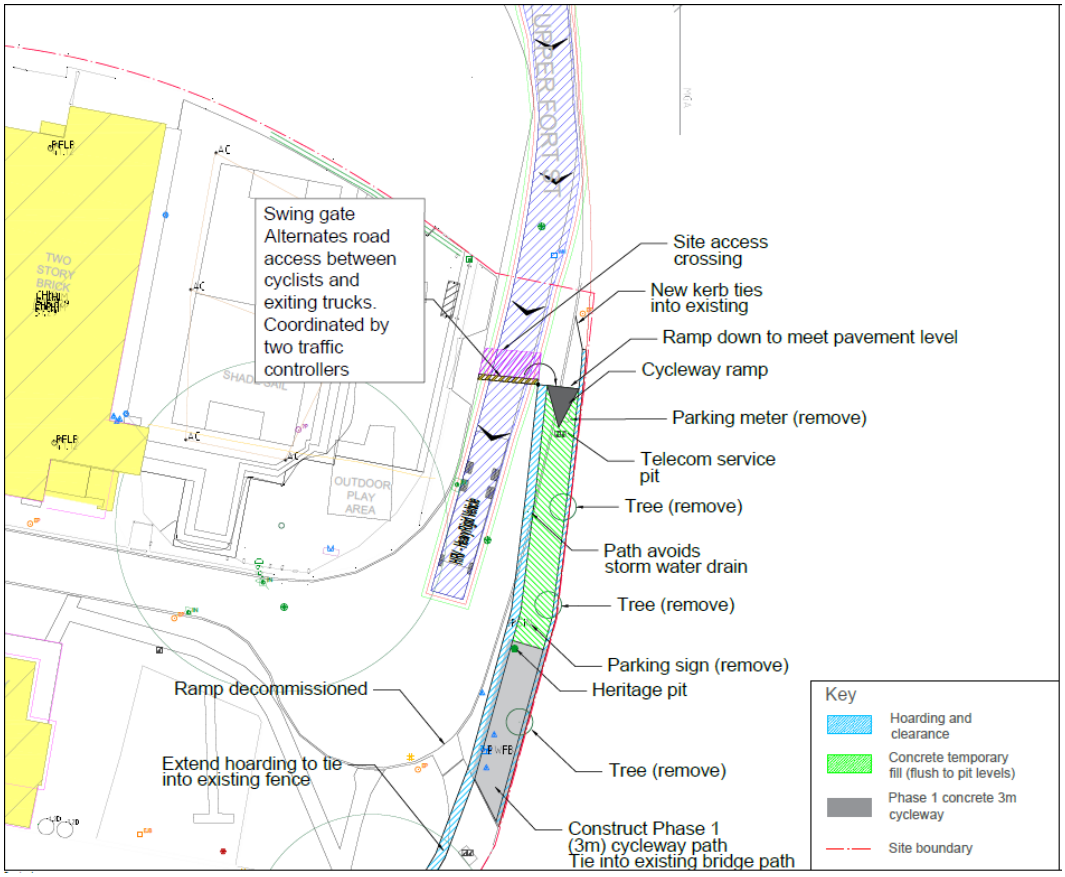


Figure 14: SHB Phase 1 and SHB shared path diversion

Arup have undertaken works to develop a concept plan for diverting the existing SHB shared path. The intention of the design is to minimise impacts to current operations of the shared path whilst controlling interactions between pedestrians, cyclists and construction vehicles. This is a result of Upper Fort Street being proposed as the main vehicle access to site which will be maintained as a shared zone for cyclists, pedestrians and vehicles during construction.

The two-way separated temporary shared path will run along the eastern kerb of Upper Fort Street tying into the existing kerb to the north via a temporary ramp, just south of the pinch point and connecting directly into the existing shared ramp to the south of the site.

Figure 15 provides a plan view of the carriageway south of the pinch point which includes the construction gate line and SHB shared path diversion.

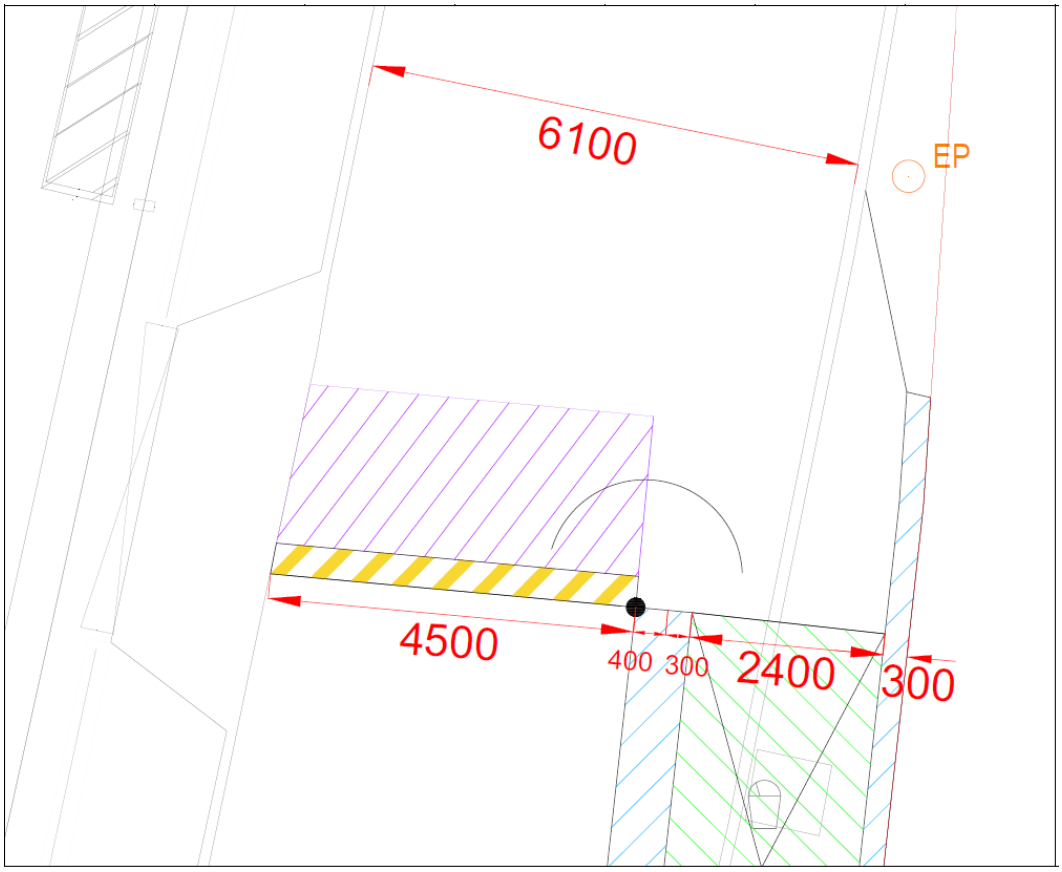


Figure 15: Dimensioned plan view of construction gate line and SHB shared path diversion

The proposed cross section of the SHB shared path diversion is outlined below from left to right and displayed in Figure 16.

- Class A hoarding structure – 400mm;
- Manoeuvring clearance from hoarding structure – 300mm;
- Two-way shared path lane – 2400mm; and
- Manoeuvring clearance from eastern retaining wall – 300mm.

Therefore, the SHB shared path diversion has a total width of 3400mm.

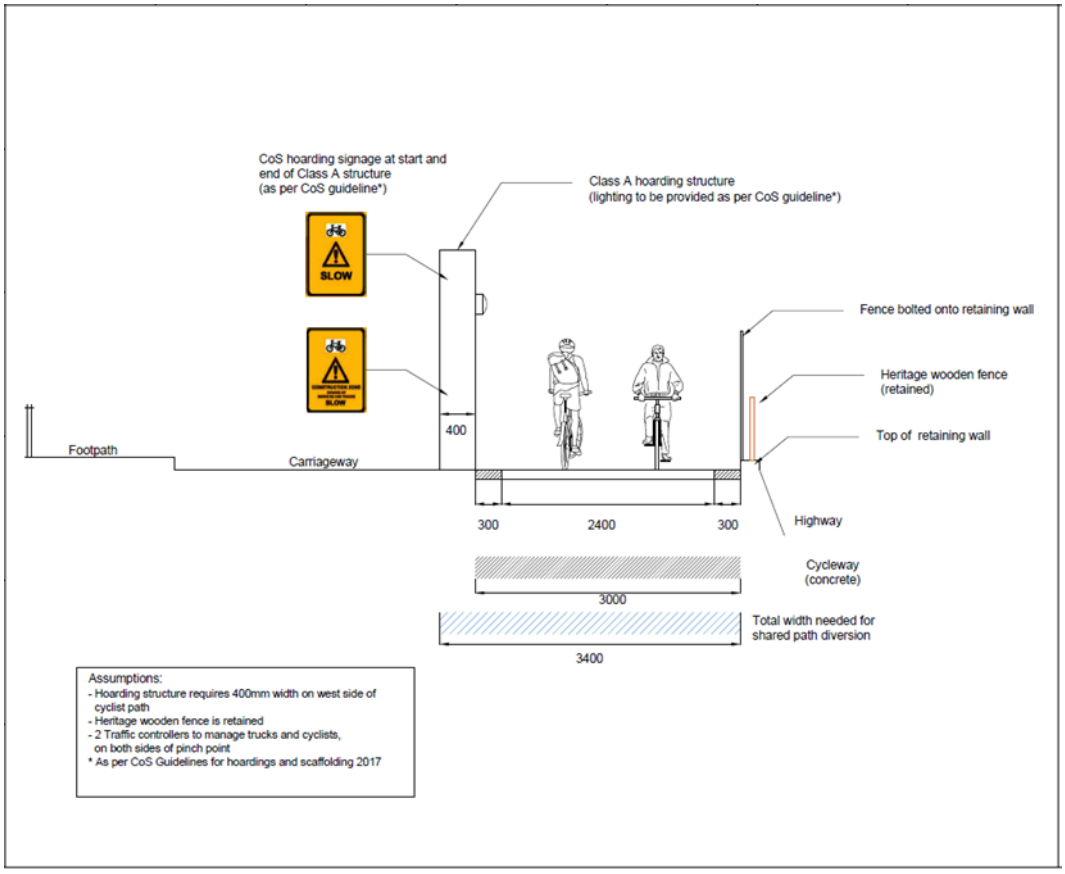


Figure 16: SHB shared path diversion cross section

To manage the interactions between pedestrians, cyclists and construction vehicles along this section the design includes the key following measures:

- Two traffic controllers will manage construction vehicle access north and south of the pinch point on Upper Fort Street to ensure vehicles and pedestrians and cyclists accessing the SHB shared path diversion are able to safely pass each other. The traffic controllers will also be responsible for holding vehicles at a stop in any instances it is not safe to pass and releasing when it is deemed safe to travel;
- Warning signage such as “prepare to stop” will be located at access points to the SHB shared path to provide pedestrians and cyclist adequate notice prior to travelling through the construction area;
- Cycleway approaching and departing the hoarding structure will be provided with line marking S4 and include pavement arrows and pavement shared path symbols;
- Austroads end treatments of a centreline bollard placed to control speed and ensure vehicles do not attempt to use the shared path;
- Construction vehicles will be scheduled to avoid the morning and afternoon peak periods where practical to minimise the interaction between vehicles and cyclists during periods with increased cyclist activity; and

- All drivers must comply with LLB's driver code of conduct which outlines the roles and responsibilities for drivers operating heavy vehicles to meet the requirements of the National Heavy Vehicle Legislation (NHVL). This document stipulates pedestrians and cyclists are to receive right of way during all undertakings.

In the instance where a construction vehicle requires access to the site, the vehicle(s), pedestrians and cyclists accessing the SHB shared path diversion will be managed as follows:

- Construction vehicles accessing the site will first be required to pull into the works zone on Upper Fort Street. At this location they will be held by the traffic controller located to the north of the pinch point;
- The traffic controller located to the south of the pinch point will then open the gate to the site. When fully open the gate will restrict access at the northern end of the hoarding structure, temporarily holding pedestrians and cyclists accessing the SHB shared path diversion from the south;
- The construction vehicle will then proceed to enter the site gate from the works zone. Once the vehicle has cleared the traffic controller will then close the gate and pedestrians and cyclists will then be able to travel through the work site. It should be noted that outside of the site boundary, operation of the SHB shared path will be maintained as that of the existing case.

Figure 17 displays the operation of the SHB shared path diversion within the site boundary.

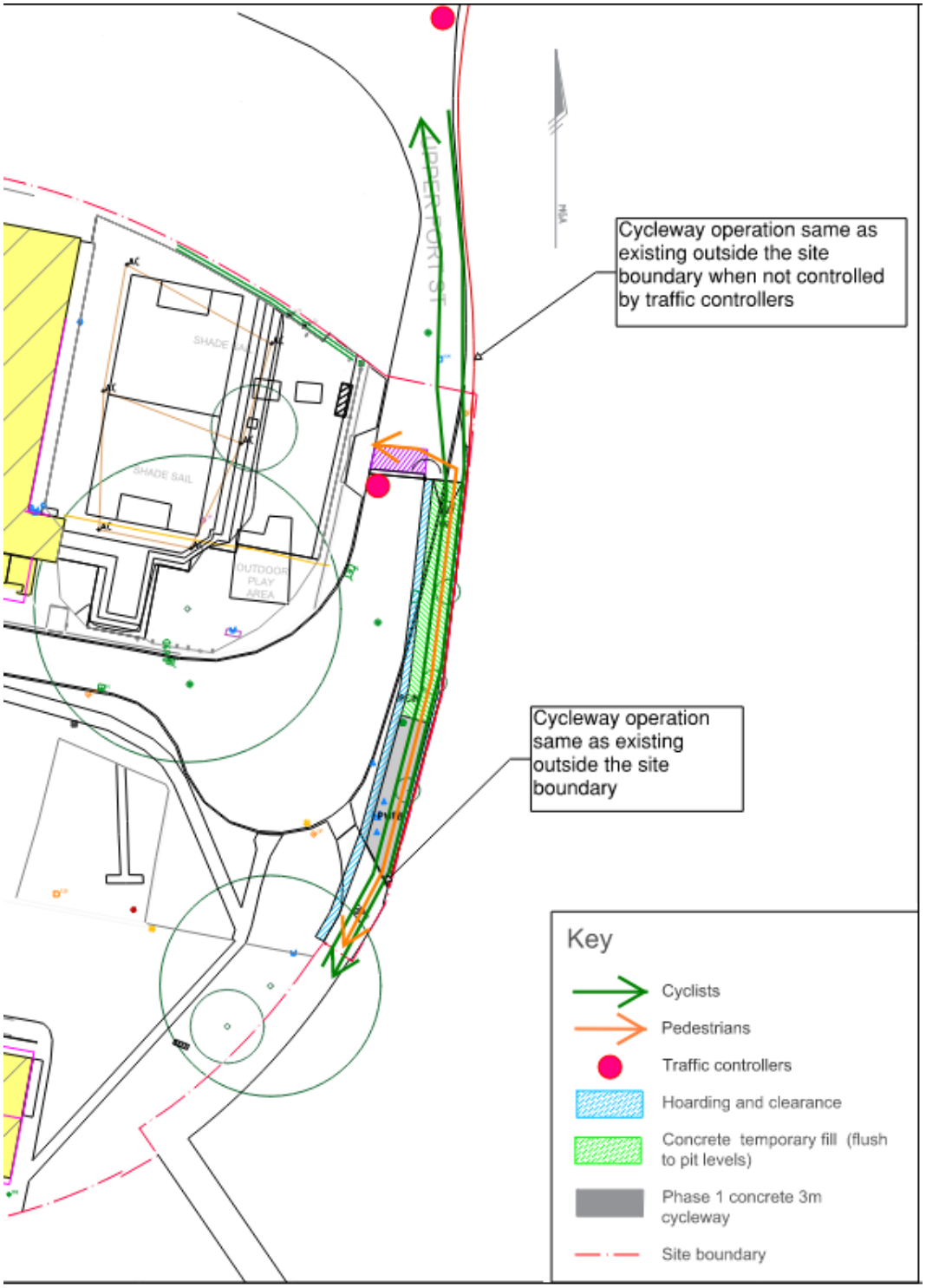


Figure 17: Operation of SHB shared path diversion

4.3 Bradfield Tunnel Services Shed

To maintain access for the shared path past the hoarding while the Bradfield Tunnel Services Shed works are occurring, pedestrians will also be required to walk along the roadway through the pinch point. As a result, this area (shown in Figure 18) has been proposed to operate as a shared zone, with the traffic controller located north of the pinch point responsible for holding pedestrians, cyclists and vehicles at this location.

This would only be required during the works involving the Bradfield Tunnel Services Shed and pinch point widening, or until the hoarding can be moved to the current shed wall and the pedestrian footpath restored.

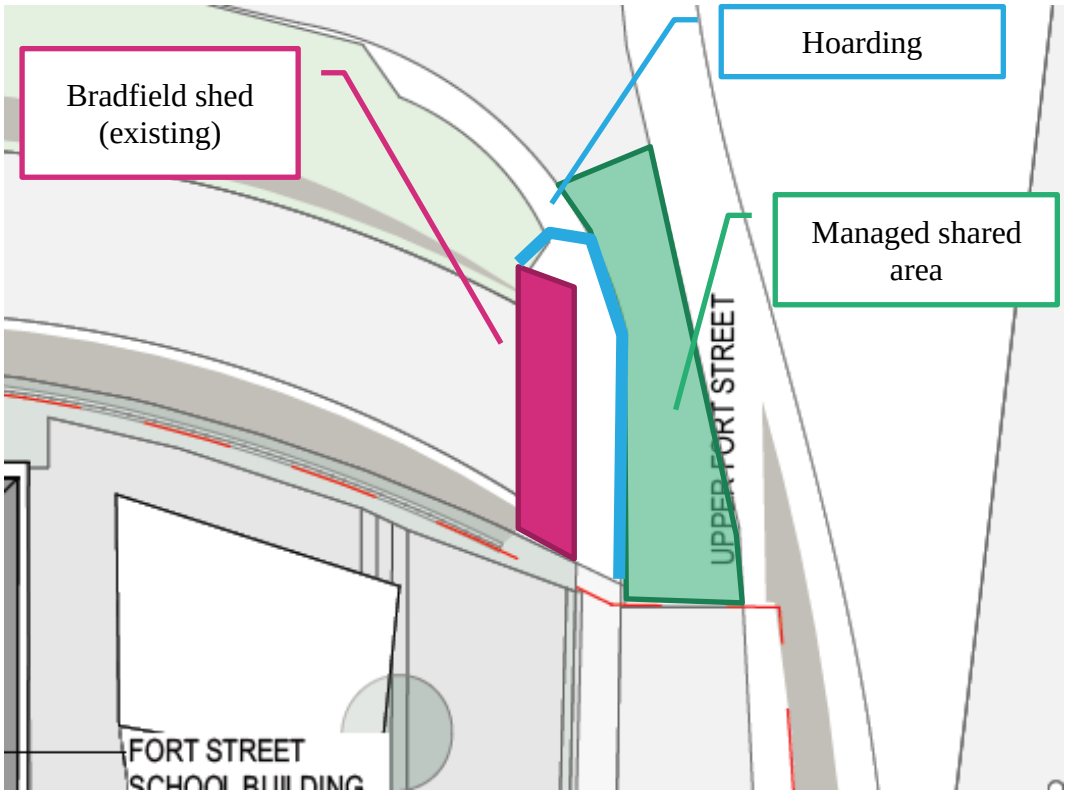


Figure 18: Bradfield Tunnel Service Shed traffic management

4.4 Pedestrians

As outlined previously, traffic controllers will be responsible for managing both pedestrian and cyclist movements around the site. Clear signage will be displayed on Upper Fort Street and at the Western Distributor to notify pedestrians accessing facilities near the site such as the SHB shared path diversion of any potential changes to their route and alternative paths to be taken.

4.5 Public transport impacts

Currently there is a bus stop located on Argyle Street near Watson Road. There will be no impact to bus operations, as this stop will be maintained during the construction works.

4.6 Road network impacts

To reduce the impact of construction traffic on the surrounding network, it is necessary to define routes for construction traffic to and from the site.

Possible truck approach and departure routes are shown in Figure 19 and Figure 20. The routes will be focused on the western side of the Sydney CBD utilising Sussex Street and Hickson Road.

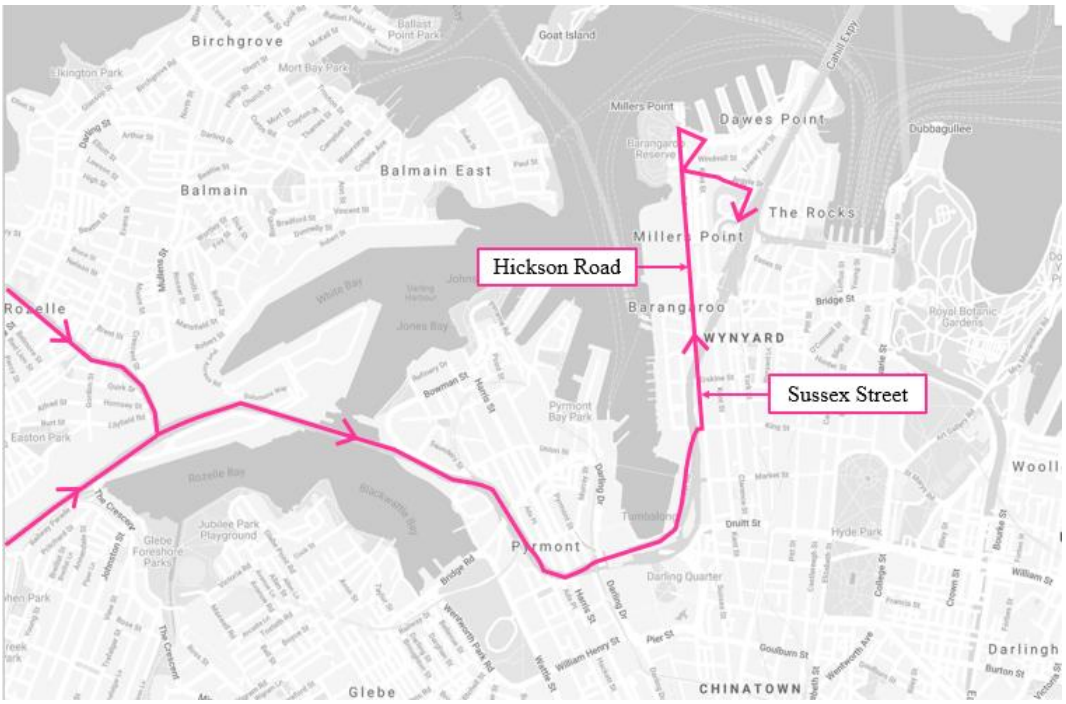


Figure 19: Indicative truck arrival routes

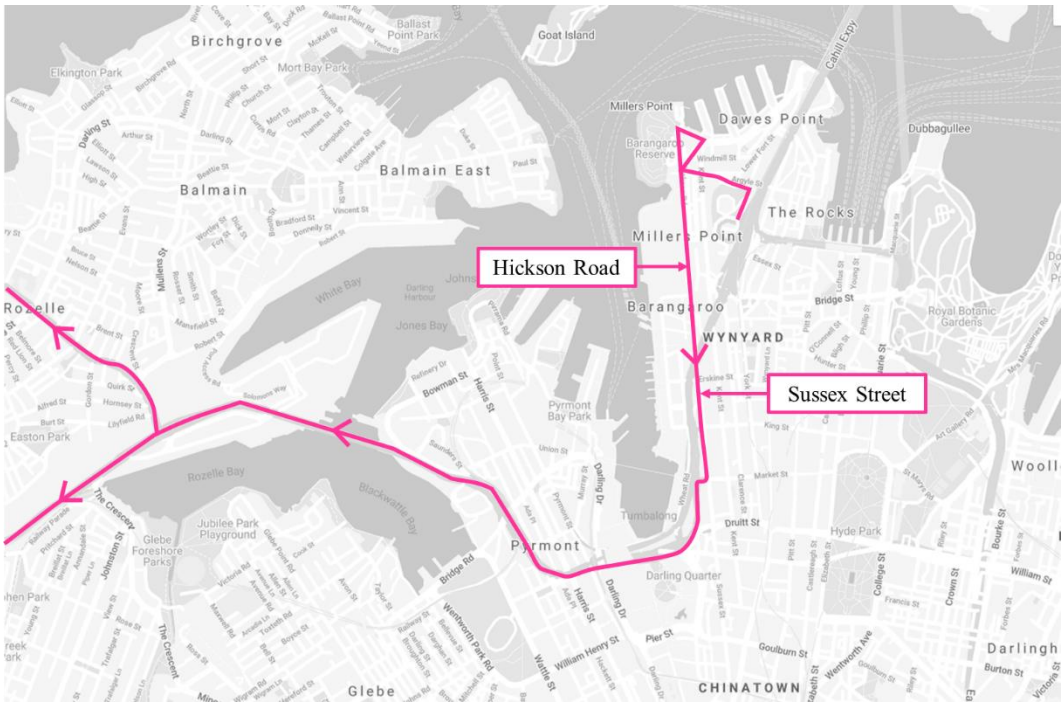


Figure 20: Indicative truck departure routes

4.7 Construction worker transportation strategy

No on-site parking has been proposed for private construction vehicles. Construction vehicles will only be permitted to use works zones and internal circulation routes.

Workers will be required to use the alternative modes to travel to the site as outlined below:

- Surrounding public transport, bus, light rail and train; and
- Walk and cycle.

To encourage construction workers to use active or public transport options, a Travel Access Guide (TAG) should be developed. It should present workers with reasonable transport options aimed to reduce the emphasis on car travel. The TAG should highlight key public transport routes, walking and cycling routes and the location of bicycle parking, carpooling and car share services which can be taken when travelling to or from site. It should be presented in the form of a map within a 2 – 3 km catchment showing relevant bus, train, cycling and walking networks. The TAG will form part of the subcontractor engagement and be included in the site induction.

Additional measures which can be implemented to encourage workers to take public transport/ active transport can include:

- Host active travel events – such as ‘Ride to Work Days’;
- Safe riding days; and
- Communication of benefits and measurements of improvements.

Should workers still wish to drive, they may park at the nearby public car park shown in Figure 21. The nearest car park is located on 55 Harrington Street, The Rocks and provides early bird and all day secure parking at hourly and monthly rates. LLB may organise an internal car-pool scheme where workers can share the cost of parking at the car park by connecting workers with similar shift times and postcodes reducing the amount of car travel related to construction workers. End-of-trip facilities and storage for personal tools should be provided onsite in order to support workers travelling to and from site via the alternative modes of transport.

Figure 21: Public car park location

5 Effects on existing and future developments

The construction site is in proximity to a number of existing developments as shown in Figure 22. In order to minimise impacts to these sites during construction, the CTPMSP has considered potential future developments at these locations as outlined in the section below.

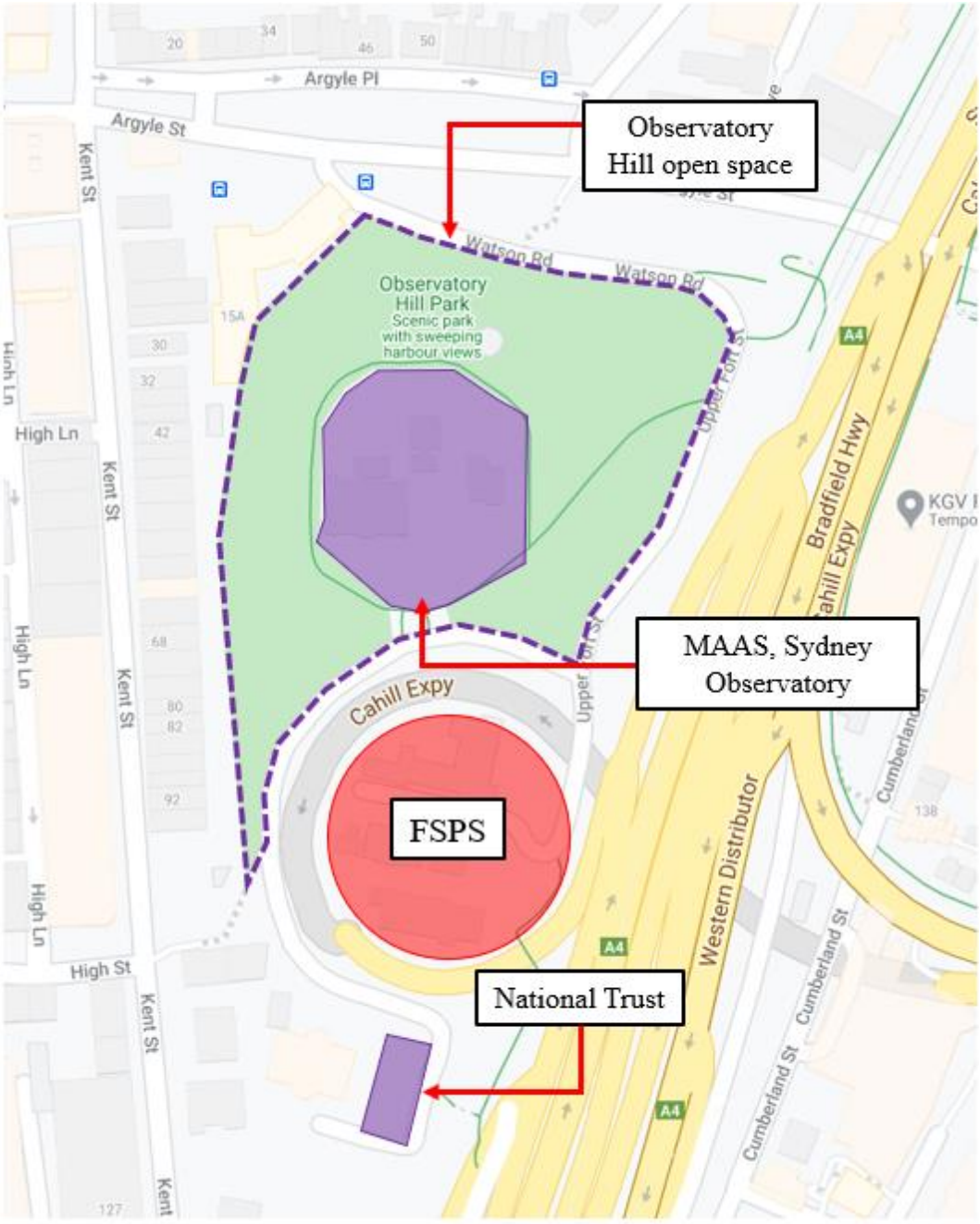


Figure 22: Impacted existing developments near the site

5.1 Museum of Applied Arts & Sciences (MAAS)

5.1.1 Current visitation volume

Average annual visitation is 140,000. 43 % of visitors are from Sydney with the remainder either regional NSW, interstate or overseas visitors.

Current hours of operation and travel:

- Opening hours for general public entry are 10am-5pm, seven days.
- Ticketed tours take place nightly from 6pm-10pm
- Peak times are 10am-1pm, for education groups
- There is general parking and public transport information on the website: https://maas.museum/sydney-observatory/#getting-here
- Event organisers and guests are advised that parking is not available onsite. Visitors using private vehicle can park on Watson Road or Argyle Street and walk up via Watson Road or take public transport and taxis.
- Respondents to visitation surveys conducted in 2017 indicate that 37% of visitors choose to drive and park their car nearby as there is limited short parking on Observatory Hill.

5.1.2 Site access

During construction, site access will be maintained via Watson Road and the Observatory Hill Park. Pedestrians coming from the Agar steps to the west of the site will not be impacted by construction traffic. However, pedestrians travelling via Watson Road and Upper Fort Street will be managed by a traffic controller.

5.1.3 Status of work at MASS

- Scope & aspirations
  - Development of a new Conservation Management Plan
  - Development of a Masterplan which addresses current and future accommodation requirements for MAAS public, education and events programs
  - Development of a Preliminary Business Case to support implementation of the Masterplan (on hold pending finalisation of Masterplan and implementation/funding strategy)
- Current status
  - Masterplan complete to preliminary options – finalisation of masterplanning is pending completion of CMP as of late 2019.
- Timeframes
  - CMP and Masterplan was due for completion late 2019. This is currently still ongoing.

- Masterplan likely to be implemented in phases over 5+ years from 2020, dependent on funding.

- Planning approval strategy
  - Implementation, funding and approvals strategy dependent on scope of development proposed in final Masterplan

5.2 National Trust

The National Trust has published a Strategic Plan for the NSW branch for 2020 – 2024 in order to achieve their vision of 'Bringing the NSW heritage to life for future generations'. This Plan has outlined six (6) key objectives as outlined below and the timeline of completion.

1. Grow, diversify and better engaged members, volunteers, supporters, donors and the wider community;
2. Create a clear property strategy, including investment in a fresh visitor experience;
3. Be a bold advocate and leader;
4. Increase financial strength;
5. Invest in people and systems; and
6. Modernise governance structure.

5.2.1 Site access

During construction, existing access to the site is will be maintained via Upper Fort Street and the access road to the National Trust.

5.3 Observatory Hill Park open space use

Observatory Hill Park is used for occasional events including wedding photographs. Then other key use is daily fitness training sessions. All construction vehicle access on Upper Fort Street will be managed to limit impacts on events. Construction management will include ongoing liaison with CoS regarding booked events and potential limitations on construction activity on these days.

The CoS and the institutions located in the Observatory Hill precinct have been involved in the ongoing Stakeholder Working Group Meetings to date.

5.3.1 Site access

The open space area can be accessed via Upper Fort Street from the east or the Agar steps and through Observatory Hill Park to the west. Both access points will be maintained during construction with traffic controllers located on Upper Fort Street to direct pedestrians around the site where required.

5.4 Sydney CBD North

There are a number of projects either under determination, committed or underway in the northern Sydney CBD as shown Figure 23.

Figure 23: Construction projects in the northern Sydney CBD

The key projects to be considered are the three (3) projects associated with Barangaroo:

- Barangaroo Central;
- Barangaroo South (including Crown Resort); and
- Barangaroo Metro Station.

Construction traffic will be sharing Sussex Street – Hickson Road for access. Circular Quay precinct and Martin Place Metro, amongst other Central Sydney developments may not impact on the FSPS construction access routes. There is also significant construction and refurbishment activity along George Street.

5.5 Sydney Overseas Passenger Terminal

The Sydney Overseas Passenger Terminal at Circular Quay is heavily utilised through the summer cruise season with at least one ship per day visiting and increasing activity likely to result in two ships docking per day at peak operation. This will result in significant provisioning truck activity with the key access route being via Hickson Road. The timing of peak activity will need to be considered when scheduling high activity days at the FSPS site with shared truck access via Hickson Road.

Further details regarding the arrivals and departure schedule at the Sydney Harbour port is provided on https://www.portauthoritynsw.com.au/sydney-harbour/. LLB will review the port schedules on a regular basis for coordination of deliveries.

6 Provisions for emergency vehicles, heavy vehicles and cyclists

6.1 SHB temporary shared path diversion

Refer to Section 4.2 and 4.3 for details regarding provisions for cyclists and pedestrians.

6.2 Emergency vehicles

Existing access will be maintained for fire trucks accessing the SHB emergency breakdown bay.

6.3 Heavy vehicles including oversize or over-mass vehicles and loads (OSOM)

Trucks accessing the site will be subject to a predetermined route to and from site as displayed in Figure 19 and Figure 20 of Section 4.2. Traffic controllers will be stationed at the pinch point on Upper Fort Street to manage vehicles accessing the site.

OSOM vehicles travelling on City of Sydney Council roads will be required to submit an application via the National Heavy Vehicle Regulator (NHVR) portal. This process will incur a route assessment fee of $265. The Council will then have 28 days to make a determination on the NHVR application. OSOM vehicles travelling on State roads will be assessed by TfNSW and will not incur an assessment fee.

Drivers will operate in accordance with LLB's driver code of conduct throughout any undertakings. This document outlines the actions all workers will need to comply with in order to enable safe heavy vehicle operations and meet the requirements of the NHVL. Further details are provided in Section 7.2, with LLB's driver code of conduct provided in **Appendix A.**

Trucks will only be scheduled for standard hours of work. No extended hours of works will be permitted as to not impact the ambient noise levels of the surrounding area as outlined in Section 2.2.

6.4 Pedestrians

Existing access to Sydney Observatory via the Agar steps and Upper Fort Street will be maintained during construction. In the case that changes to the footpath are required, clear signage and a barrier separating pedestrians and vehicles will need to be established. This will be in addition to the traffic controllers whose responsibilities also include directing pedestrians to alternative paths around the site.

7 Measure to ameliorate impacts

The measures proposed to ameliorate the impacts of the construction work are:

- The establishment of a works zone; and
- Traffic control.

Drivers wishing to access the site for any reason will need to report to the traffic controller located north of the pinch point in order to receive instructions and guidance. Scheduling will be the main management method in ensuring minimal multi-vehicle arrivals. The LLB booking and delivery schedule will manage multiple vehicle arrivals and allow for circulation routes around the site.

A traffic control plan has been developed by LLB and is provided in **Appendix D**. This document details measures that will be implemented for traffic control and construction related parking activities during the site establishment and construction works.

7.1 Vehicle movements

Mitigation measures would be adopted during the construction phase to ensure traffic movements have minimal impact on surrounding land uses and the community in general, and would include the following:

- Truck loads would be covered during transportation off-site;
- Establishment and enforcement of appropriate on-site vehicle speed limits (20km/h), which would be reviewed depending on weather conditions or safety requirements;
- Neighbouring properties would be notified of construction works and timing. Any comments would be recorded and taken into consideration when planning construction activities;
- All activities, including the delivery of materials would not impede traffic flow along local roads and highways;
- Materials would be delivered, and spoil removed during standard construction hours. Out of hours works may be undertaken, however, this is will require an application to the relevant authority and will be assessed on a case by case basis as outlined in Section 2.2;
- Avoid idling trucks alongside sensitive receivers;
- Deliveries would be planned to ensure a consistent and minimal number of trucks arriving at site at any one time;
- City of Sydney and Customer Journey Planning will be notified of any future disruption to roadways and footpaths; and
- Construction vehicle access routes will be focussed on the western side of the Sydney CBD utilising Sussex Street and Hickson Road.

7.2 Driver code of conduct

Prior to the operation of any heavy vehicles, drivers will need to be inducted to understand all requirements of LLB's driver code of conduct as shown in **Appendix A**. This document sets out requirements to ensure safe heavy vehicle operations and compliance with the NHVL.

Queuing or marshalling of trucks will only occur in designated and agreed locations. All vehicles must enter and exit the site in a forward direction.

Vehicles entering, exiting and driving around the site will be required to give way to pedestrians and cyclists on the SHB temporary shared path diversion at all times unless under the direction of the traffic controllers.

8 Public transport services affected

No public transport services will be affected by the works as existing operations will be maintained during the construction works.

9 Public consultation

The next stage of the approvals process will involve the submission of the CTPMSP to the CoS Area Traffic Manager and TfNSW for the final approval.

Should temporary road closures be required at any phase during the construction period, the Contractor would be required to obtain a permit in line with the requirements of the relevant road authority. The process for local roads is as follows:

- Completion of application form provided on https://www.cityofsydney.nsw.gov.au/construction-permits-approvals/apply-for-road-closure;
- Development of a site-specific traffic control plan in line with AS1742.43 requirements by a certified Roads and Maritime Services designer. This is to be included in the application; and
- Preparation of a consultation letter to local residents and businesses and a temporary road closure advertisement. This is to be included in the application.

All applications for works zones and temporary road closures will require approval by the Local Pedestrian Cycling and Traffic Calming Committee (LPCTCC). These applications should be submitted at the earliest convenience by the Contractor as upon approval of the CTPMSP, the submitted applications will be referred to the next committee meeting. It should be noted that a two (2) month lead time will apply for applications requiring approval by the committee.

Ongoing consultation will be conducted with the surrounding residents, institutions and businesses by the Contractor in accordance with LLB's communication strategy to ensure all user groups are updated on the construction

of the works. All impacted individuals and groups will be provided with the site manager's direct contact number to resolve any issues which may arise during construction.

Appendix A – Driver code of conduct for heavy vehicle drivers

CHAIN OF RESPONSIBILITY PROCEDURE

DOCUMENT HISTORY

Content Owner	Ross Trethewy

Issue	Change Type	Purpose and Summary of Amendments	Author	Approved by	Date
1.0	Publish new	Initial document	Phill Smith	Ross Trethewy	17/01/2019
1.1	Update	Include reference to CoR provisions into Road Safety legislation in WA and the NT	Phill Smith	Ross Trethewy	05/04/2019

TABLE OF CONTENTS

1.0 INTRODUCTION

Lendlease Building is committed to implementing the National Heavy Vehicle Legislation – Chain of Responsibility (COR) to ensure safe heavy vehicle operations where it is applicable across its business operations and undertakings.

Heavy Vehicle National Law (HVNL) and associated regulations commenced across Australia (except WA and NT) on 10th February 2014. Four regulations exist under the HVNL framework; i.e. Heavy Vehicle (Fatigue Management) National Regulation; Heavy Vehicle (General) National Regulation; Heavy Vehicle (Mass, Dimension and Loading) National Regulation; and Heavy Vehicle (Vehicle Standards) National Regulation. The National Heavy Vehicle Regulator (NHVR) looks after one rule book for heavy vehicles over 4.5 tonnes gross vehicle mass. State and territory police; and authorised officers are appointed to enforce heavy vehicle offences under the HVNL.

Part of the legislation includes Chain of Responsibility requirements. If you consign, pack, load or receive goods as part of your business undertakings you fall under the requirements and must comply with HVNL. That is, even though you have no direct role in driving or operating a heavy vehicle. In addition, corporate entities, directors, partners and managers are accountable for the actions of people under their management or control. This is referred to by the legislation as 'Chain of Responsibility' (COR).

The aim of COR is to make sure everyone in the supply chain shares equal responsibility for ensuring so far as reasonably practicable breaches of HVNL do not occur. Under COR laws if you exercise (or have the capability of exercising) control or influence over any transport task involving a heavy vehicle, you are part of the supply chain and therefore have a responsibility to ensure the HVNL is complied with.

For this reason, under HVNL, each party in the road 'chain' are required to ensure, so far as reasonably practicable that risks to health and safety are managed by:

- eliminating or minimising risks related to transport activities;
- ensuring their conduct does not directly, or indirectly cause, or encourage a driver of a heavy vehicle to breach the Law or exceed a speed limit;
- not causing or encouraging another person, including another party in the Chain of Responsibility, to break the Law;
- not asking, directing or requiring (directly or indirectly) the driver of a heavy vehicle, or a party in the chain of responsibility to do, or not do, something that would have the effect of causing the driver to:
  - exceed a speed limit; or
  - drive a regulated heavy vehicle while impaired by fatigue; or
  - drive a regulated heavy vehicle while in breach of the driver's work and rest hours option.
- the vehicle's load not exceeding the vehicle's overall and per-axle capacity; and
- the heavy vehicle load being properly restrained.

2.0 PURPOSE

To describe the Lendlease Building process for managing compliance requirements under the Heavy Vehicle National Law (HVNL) and 'Chain of Responsibility' by relevant parties, in relation to heavy vehicle movements to and from projects.

3.0 SCOPE

This procedure applies to all Lendlease Building workplaces where it is likely that the use of Heavy Vehicles with a Gross Vehicle Mass of over 4.5tonnes is anticipated.

4.0 RELATIONSHIP TO GLOBAL MINIMUM REQUIREMENTS

This Procedure will assist with achieving compliance with:

- Section 4.3 Vehicle and Plant Incident (Work Sites)
- Section 4.14 Vehicle and Plant Incident (Public Areas)

of the Lendlease Global Minimum Requirements (GMR) for Environment, Health & Safety.

5.0 LEGAL REQUIREMENTS

Heavy Vehicle Transport Legislation applies to all states and territories across Australia except Western Australia and Northern Territory. Although the HVNL has not commenced in Western Australia or the Northern Territory, CoR provisions have been included into existing Road Safety legislation in WA and the NT. HVNL applies equally to vehicles from those jurisdictions when they cross into one of the states or territories where HVNL does apply.

In some cases, drivers may also need to comply with certain aspects of the HVNL before they cross the border (e.g. vehicle log/ work diary requirements). Please refer to Appendix 2 of the Project EHS Management Plan for the current listing of the Heavy Vehicle Legislation (HVNL) in each state or territory.
National Heavy Vehicle Regulator (NHVR) – www.nhvr.gov.au

6.0 RELATED DOCUMENTS

The related documents available for use in conjunction with this Procedure are as follows:

- Contract conditions and EHS Schedule H;
- Lendlease Global Minimum Requirements for EHS;
- Lendlease Building Workplace Delivery Code (WDC);
- National Heavy Vehicle Act and Regulations in each jurisdiction where enacted;
- National Transport Commission - Load Restraint Guide 2018;
- Australian Trucking Association and Australian Logistics Council – Master Industry Code of Practice;

7.0 PROCESS

7.1 Overall approach to compliance with the HVNL

The key chain of responsibility compliance requirements are:

1. **Mass and Dimension**: ensuring the load is not in excess of the heavy vehicle's capacity and that dimension limits are adhered to;
2. **Load Restraint**: ensuring the load is adequately secured to the heavy vehicle;
3. **Speed**: ensuring the driver of the heavy vehicle is not induced or encouraged to speed;

4. **Fatigue**: ensuring the driver of the heavy vehicle is not fatigued when driving; and
5. **Vehicle Standards and Maintenance**: ensuring the heavy vehicle is properly maintained and roadworthy.

Works must be undertaken in accordance with the Lendlease Global Minimum Requirements for Environment Health & Safety, the Project EHS Management Plan, the Project Chain of Responsibility Management Sub Plan and the Lendlease Building Workplace Delivery Code. These documents detail the Lendlease approach and commitment to pro-active and responsible site management.

Projects or other Lendlease Building workplaces must implement the requirements of this Procedure so far as reasonably practicable in relation to the road transport 'chains' arising from their specific project/workplace activities. Compliance verification activities shall be undertaken on a risk-based approach; with attention to:

- service providers performing project haulage (routine) activities;
- those areas of COR compliance within the control or influence of Lendlease; and
- in accordance with industry practices and standards.

8.0 RISK MANAGEMENT

Transport safety risks are to be managed in accordance with LLB EHS Risk Management Procedure. The Impacts & Hazards Risk Assessment (IHRA) documents hazards associated with work activities and as part of this process specific road transport chains must be selected for compliance observation sampling.

Section 3 (planning & control) of the Lendlease Building Chain of Responsibility Management Sub Plan includes examples of COR initiating potential risk events and hazards, including additional factors to be considered during the development of the associated project or workplace related control measures.

Material changes to the IHRA or the Chain of Responsibility Management Sub Plan will be communicated to relevant parties in the 'chain'.

8.1 Contracts / Agreements and Chain of responsibility

Lendlease Building contracts or other supply or carrier agreements must outline compliance with Heavy Vehicle National Law and Chain of Responsibility as a contractual requirement. As part of the tender assessment and contract award phase, subcontractor service provider suppliers or their proposed carriers must demonstrate compliance with HVNL and COR including but not limited to

- Holding accreditation to a National Heavy Vehicle Accreditation Scheme/TruckSafe (preferred); and
- Implementing a system of adequate training of drivers regarding mass, dimension, loading and restraint requirements under HVNL; and
- Implementing a system to verify loads are the correct mass, restrained appropriately and are within dimension limits as prescribed by HVNL; and
- Demonstrating that appropriate fatigue management processes are verified and schedules managed to prevent Driver breach of the HVNL e.g. hours, rest breaks and speed.
- Implementing a system of vehicle standards and maintenance of heavy vehicles

When engaging a Subcontractor/Supplier Service Providers, preference shall be given to engaging those that can demonstrate an understanding of their COR responsibilities and a systematic approach to the above compliance requirements. This can be demonstrated by holding relevant and current accreditation under the National Heavy Vehicle Accreditation Scheme (NHVAS). Accreditations are available for:

- Mass management;
- Fatigue (two different accreditation regimes can apply); and
- Vehicle maintenance.

8.2 Consultation and communication with Service Providers

Consultation with Subcontractor/Supplier Service Providers requires:

- Relevant COR information is shared;
- Reasonable opportunity is provided to express their views;
- Reasonable opportunity is provided to contribute to the decision-making process;
- Views are considered before making a decision; and
- Outcomes are advised in a timely manner.

8.3 Identification of heavy vehicle road transport chains for COR compliance observation sampling

The project/workplace team shall identify road transport chains for compliance observation sampling during each six-weekly review of the Project/Workplace Impacts & Hazards Risk Assessment. Work activities that are selected for sampling will be notated in the IHRA by the lettering 'COR Sampling'. That is, within the control measures nominated for the subcontractor supply/trade activity and its related road transport to or from the workplace.

Compliance observation sampling is carried out with the Enablon Safety Observation App. The 'how to' guide on how to complete COR compliance observation sampling is outlined in Appendix 2 of this Procedure

8.4 Identification of responsibilities within the heavy vehicle road transport chain for compliance observation sampling

The project team will identify observation items for those work activities and related road transport chains identified in the IHRA for 'COR sampling' for incoming and outgoing heavy vehicle transport including:

- **mass and dimension** (the load is observed as not in excess of the heavy vehicle's capacity, axle and dimension limits including bulk loads such as excavated spoil or demolition material);
- **any heavy vehicle packing, loading or load restraint activities** at a project/workplace for departure and transport onto a public road must be carried out by workers that have completed formal HVNL accredited training relevant to these activities; or the activities are completed under the direct supervision of a person(s) formal HVNL accredited training relevant to the activity;
- **load restraint** (the load on arrival or on departure from the project/workplace is observed as adequately restrained, with no shift of goods or materials during transport and ropes/straps/tie downs are taut);
- **fatigue** (the driver when requested can demonstrate adequate rest breaks and a vehicle Work Diary when more than 100klms from home and the heavy vehicle haulage activity is on schedule);
- **Vehicle Standards and Maintenance**: (observation reveals no obvious defects to the exterior of the heavy vehicle and vehicle maintenance logs are verified as current).

9.0 COMPLIANCE WITH MASS, DIMENSION AND LOADING REQUIREMENTS

Loading and Unloading of Heavy Vehicles

LLB will ensure adequate facilities are provided at the workplace for loading/unloading vehicles safely. This may include safe parking, loading and unloading areas, safe tarping capability, amenities, weighing and docking facilities.

Mass, Dimension, Loading & Restraint

Where LLB has influence or control over;

- the mass of components of heavy vehicles or of the mass of the heavy vehicle; or
- the dimension of the heavy vehicle, the components of the heavy vehicle or of the heavy vehicles load.

LLB will take all reasonably practicable steps to ensure compliance with the prescribed mass and dimension requirements. For bulk excavation, remediation or demolition stages of projects weighing and docking facilities, or vehicle telematics including on-board mass measurement, or estimates through Loadrite or other smart scale technology and confirmation through a weigh bridge unloading/delivery destination will be required to ensure the mass of each vehicle leaving a project or other LLB workplace involved with heavy vehicle loading and transport.

All heavy vehicles operating at a workplace must display their maximum load mass. Further detail may also be required to confirm the relevant axle loads for the vehicle (if the axle load exceeds the total allowable mass).

Where LLB has responsibility for the way that a load is placed, secured and restrained on a heavy vehicle, competent personnel trained in COR awareness and responsibilities will undertake reasonable steps to ensure that the load is placed, secured and restrained in a manner that complies with the prescribed loading requirements and HVNL.

Route mapping of local roads and infrastructure to identify any dimensional restrictions for heavy vehicle deliveries to and from site must be undertaken by the relevant service provider.

Heavy Vehicle Safety & Compliance Register

Where heavy vehicles subject to the HVNL are operating continuously at a workplace i.e. not simply for the one-off delivery or pick-up of goods, a Heavy Vehicle Safety & Compliance Register will be used to record heavy vehicle load details. Details of truck and trailer configurations, axle codes, gross vehicle mass, tare weight, load weight and variances to legal weight will be recorded onto the Register. The Register is contained in Appendix 3 of the LLB Chain Of Responsibility Management Sub Plan.

Fatigue & Speed

Regardless of its role in the particular road transport ‘Chain’, Lendlease Building will implement the following principles:

- LLB will not cause, incentivise or encourage any driver to drive while affected by fatigue; and

- Where LLB has direct responsibility for any matter which could impact a Driver's work and rest hours LLB will take reasonable steps to assess and minimise any negative impact of any of its activities, e.g. delivery scheduling, on a Driver's work and rest hours options; and
- LLB will not cause, incentivise or encourage any Driver to exceed speed limits; and
- Where LLB has direct responsibility for a matter which may impact a driver's speed, such as a Driver's schedule, LLB will take reasonable steps to ensure they do not impact on a Driver's ability to drive within the speed limit.

10.0 VEHICLE STANDARDS AND MAINTENANCE REQUIREMENTS

Heavy Vehicle Inspection and Maintenance

Heavy vehicles operating at a workplace will meet the relevant registration and compliance standards and be maintained by the service provider in accordance with the manufacturer's specifications or recommendations.

Maintenance is primarily the responsibility of the heavy vehicle transport service provider. However, LLB will take available steps to observe compliance with HVNL, i.e. by conducting selected compliance observations of maintenance and inspection records.

Pre-commencement requirements

As part of the tender assessment and contract award phase, subcontractor service provider suppliers or their proposed carriers must demonstrate compliance with HVNL and COR.

Prior to undertaking any works for the first time on the Project, the LLB project team will undertake sampling inspections of registration, load capacity, servicing and maintenance records.

All heavy vehicle drivers will hold a copy of the appropriate vehicle class of driver's licence for the heavy vehicle and provide a copy of the current licence at the site induction or provide visual verification where they are not required to attend a site or workplace induction.

Drivers of routine heavy vehicles employed by Lendlease Building may be required to demonstrate competence in their understanding of the COR requirements (including fatigue). Where driver(s) are employed by service providers, LLB requires Service Providers to confirm that training of their personnel is current.

Operators of mobile plant used for loading and unloading of heavy vehicles, must be appropriately licensed, qualified and trained in its safe operation.

Ongoing requirements

All routine heavy vehicle service providers are to conduct regular pre-start checks, inspections and maintenance at a standard that ensures compliance with the Heavy Vehicle National Law and to a standard not less than that recommended by the vehicle manufacturer or servicing agent. Attention must be given to safety critical components such as brakes, couplings, steering and suspension, tyres, lights and mirrors.

Regular pre-start checks and inspections should also include a review of the effectiveness of other components that could affect heavy vehicle roadworthiness and impact the safety of drivers, other road

users and the general public including (but not limited to); structure and body condition, seats and seatbelts, lights and reflectors, windscreen and windows.

Updated maintenance and service records available for compliance observation for heavy vehicles following the most recent maintenance and servicing; or at any other time at the request of the Project.

Where any maintenance deficiencies come to the attention of LLB, the workplace will:

- Seek assurance from the affected Driver that steps have been taken to properly maintain that vehicle, and confirm that any maintenance issues do not affect the whole of the relevant heavy vehicle fleet; and
- Where maintenance deficiencies are observed LLB in consultation with the Driver will consider if the heavy vehicle is fit for purpose to continue with its operations; and
- Report the deficiency in Enablon.

11.0 COMPLIANCE SAMPLING

In the implementation section (4.0) of the LLB Chain of Responsibility Management Sub Plan, there are specific key performance objectives and targets that project /workplace teams are required to implement to monitor compliance. This can include direct observations, but also undertaking and requesting sample inspections of COR related documentation. These can range from maintenance inspections, copies of log books, loading procedures, driver work diary and supplier inspections.

The frequency of sampling via direct observation of heavy vehicles shall be determined by the project team during and outlined in the Impacts & Hazards Risk Assessment and must be based on the load types and frequency of heavy vehicle movements to/from the project. The frequency of sampling should be agreed in consultation with the Business Unit EHS and Operations Manager. Section 8.3 and 8.4 of this Procedure provides further information and sampling and compliance observations.

LLB Project teams are to monitor the implementation of COR in Enablon by generating ‘safe’ observations or ‘at-risk’ observations. Potential COR related observations may relate to any mass, load restraint, maintenance of potential fatigue related.

12.0 TRAINING

At the commencement of a project or at an Lendlease Building workplace, a documented Training Needs Analysis that includes the requirements of COR must be undertaken. Appropriate training must be provided to LLB personnel engaged in the procurement of goods and services transported to/from the project via heavy vehicles greater than 4.5t gross vehicle mass.

Transport service providers may be included in the Lendlease COR training programs to ensure consistency of standards and processes at the project/workplace. Implementation of this training must be determined by Lendlease Building after an assessment of the current level of training of the Service Provider(s).

The following training is to be completed

Course	Modules	Target Audience
COR Awareness Training (Non-accredited)	· Chain of Responsibility Legislation · Target areas and key responsibilities · Risks of Load Restraint · Risks of Mass, Dimension and Loading · Roles and responsibilities within COR Training Link - http://www.lendleasetraining.com/	Those procuring goods & services; loaders, packers, dispatchers, receivers of loads (on Project). LLB Project/Workplace Team – CM/SM/Engineers/Foreman/EHS – additions based on the Workplace Training Needs Analysis (TNA).
COR Load Restraint Training Load Goods and Cargo (TLID2004) – Accredited training	· Gain a basic understanding of load restraint · Understand the danger of poor load restraint · Understand the technical impacts of load restraint; and · Undertake load process inspections and audits.	Loaders, packers of loads (on Projects / Plant Yards). Training undertaken based on the TNA review for the LLB operation or workplace where LLB personnel are required to 'exercise judgement' in packing or loading, or supervising packing or loading, of any heavy vehicle over 4.5t gross vehicle mass.
COR Awareness Due Diligence Training For Executive Officers	· About Chain of Responsibility Legislation · Roles & responsibilities for COR · Multiple transport tasks · Executive Officer key responsibilities · Case Studies · Possible penalties · Systems & controls	Executive Officers; General Managers,

13.0 RECORD KEEPING

COR records generated by Lendlease Building personnel that demonstrate compliance with Heavy Vehicle Transport Laws must be retained as a minimum for the duration of the Project, or not less than 5 years for other non-project related business undertakings. Subcontractor Service Provider/ Supplier COR records are required to be kept by the supplier / service contractor for thirty (30) days. Where a COR breach of

legislation is identified records related to the breach details and its corrective actions must be maintained for not less than five years.

Documents that could be applicable include:

- Supplier/Service Provider works contract and COR requirements;
- Copies of compliance observations;
- Copies of COR incident reports and related corrective actions;
- Copies of the LLB Heavy Vehicle Safety & Compliance Register;
- Any declared breaches.

14.0 BREACH REPORTING

Breaches, fines, notices or other notifications issued for any COR/HVNL regulatory authority alleged/actual offence at a Lendlease Building Project or other LLB workplace must be provided to the Regional EHS Manager and LLB EHS Head Office Service Function within 5 working days.

13.0 KEY DEFINITIONS (COR)

Chain of Responsibility
A policy concept used in Australian transport legislation to place legal obligations on all parties in the heavy vehicle transport supply chain.

Consignee

In a contract of carriage, the Consignee is the entity who is financially responsible (the buyer) for the receipt of a shipment. Generally, but not always, the Consignee is the same as the Receiver.

Consignor

The Consignor, in a contract of carriage, is the person/entity sending a shipment to be delivered whether by land, sea or air. Some carriers use the term "sender" or "shipper" which has the same meaning as a Consignor.

Heavy Vehicle

A vehicle that has a Gross Vehicle Mass (GVM) of more than 4.5 tonnes.

Loader

A Worker who loads or unloads a road transport vehicle.

Loading Manager

A Worker who supervises loading/unloading, or manages the premises where this occurs.

Packer
A Worker who packs goods for transport into any type of container for transport e.g. pallet, stillage, box, freight container and the like.

Parties in the Supply Chain

Any person with an influence and/or control in the transport chain is a 'party' and includes, but is not limited to:

- corporations, partnerships, unincorporated associations or other bodies corporate employers and company directors;
- exporters/importers;
- primary producers;
- drivers (including a bus driver and an owner-driver;)
- prime contractors of drivers;
- the Driver of a vehicle;
- schedulers of goods or passengers for transport in or on a vehicle, and the scheduler of its driver;
- consignors/consignees/receivers of the goods for transport;
- loaders/unloaders of goods; and
- loading managers (the person who supervises loading/unloading, or manages the premises where this occurs).

Scheduler

A worker who schedules or arranges goods or passengers for transport in or on a vehicle, and the scheduler of its driver

APPENDIX 1 – CHAIN OF RESPONSIBILITY AWARENESS TRAINING COMPLETION GUIDE

Completion of the Lendlease Chain of Responsibility Awareness Training is a legislative requirement for all those Lendlease employees, managers and others engaged in the supply and procurement of goods and services to/from our projects or workplaces on heavy vehicles greater than 4.5tonnes gross vehicle mass.

Please note that this is awareness training only (comprising 3 modules and a brief assessment) and is not a nationally accredited module.

Guide to completion

- The course should take approx. 45 mins.

  To be completed by LLB Project Teams – CM/SM/Engineers/Foreman/EHS and National, Regional, SBU EHS Managers, all Plant Yard personnel.

  Note - that General Managers, Operations Managers and others also benefit from completing the training for awareness and Due Diligence purposes.

- Link to the training - **http://www.lendleasetraining.com/**
- **For registration – the PIN code required is 14846532**
- Note the PIN code is to be used for LLB employees and sub-contractors (for LLB projects) and should be used by other Lendlease businesses.
- Registration guidance – refer to the registration **guidance in the explanatory notes.**
- **Preferred internet Browser - Google Chrome**
- It can be completed on a computer or a tablet but not a mobile device.
- There are voice-overs throughout so **headphones will be needed**, or a quiet place to complete it.
- Refreshers - at this stage a 3-yearly refresher is anticipated, however if any significant COR changes (to legislation) occur, the course content will be updated and the need for the awareness training to be completed again will be evaluated by the Lendlease Building Head of Environment Health & Safety.
- Upon completion of the assessment, the participant will be **able to download, or email a completion certificate** and will be able to access the certificate separately, by logging back in.
- Lendlease employees are to save the Certificate to their desktop and have the Certificate on hand in the event of an audit.
- IT / Technical support – if anyone experiences technical issues when completing the course, please don't contact the Lendlease ICT service desk, technical support is provided by the training provider with the following options for obtaining help

  o Click the "Need Help?" button on the right side (within the course) which will you to the troubleshooting page with an explanation on how to solve technical issues and contact support staff through LiveChat or;

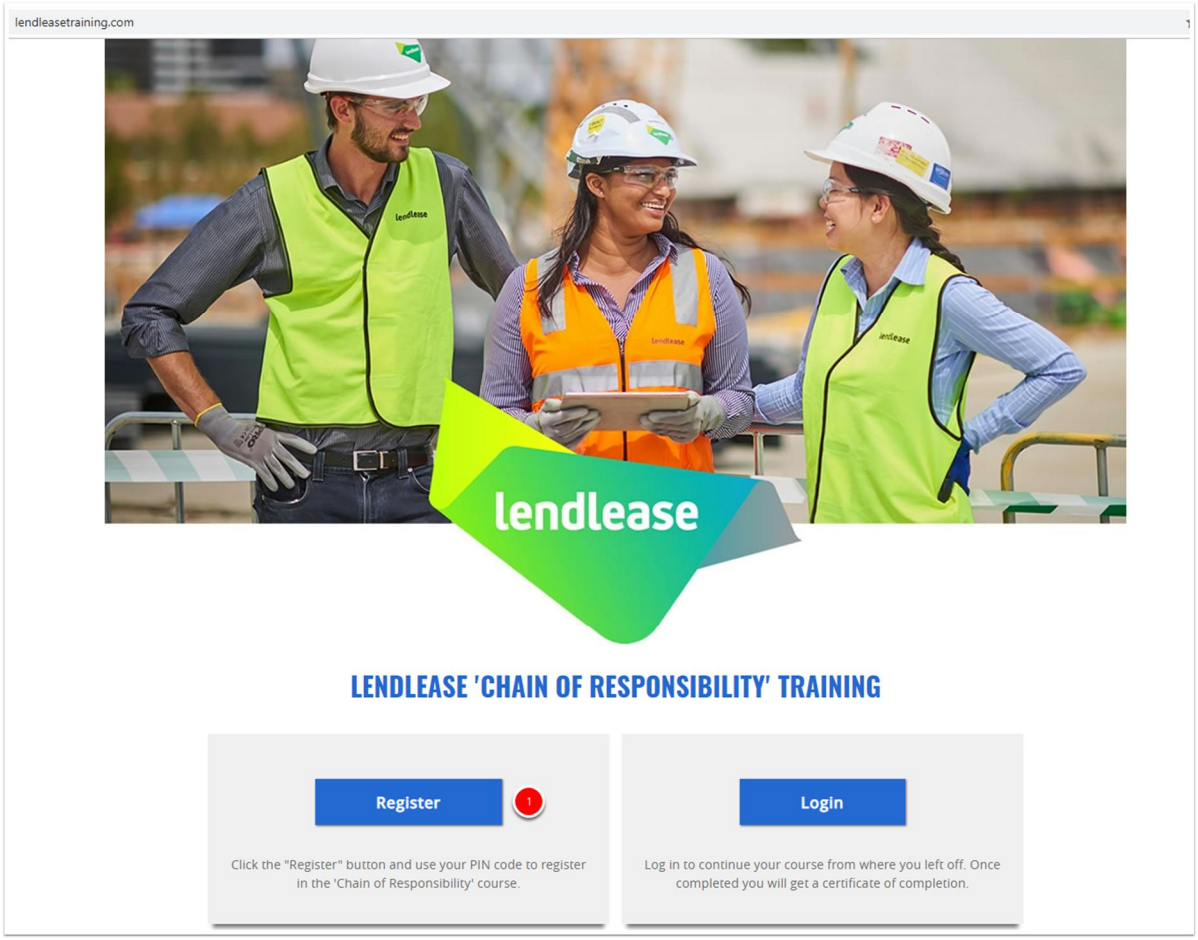
- Call the training providers support line on 1300 886 092 (support team is available Monday to Friday 8am – 5pm AEST)

Completion / Progress reporting

- Reporting capabilities in the back end of the training modules enable the business to track completion. Completion statistics will be shared with projects monthly.
- Project teams will need to report on this training in your 6 weekly project review meetings.

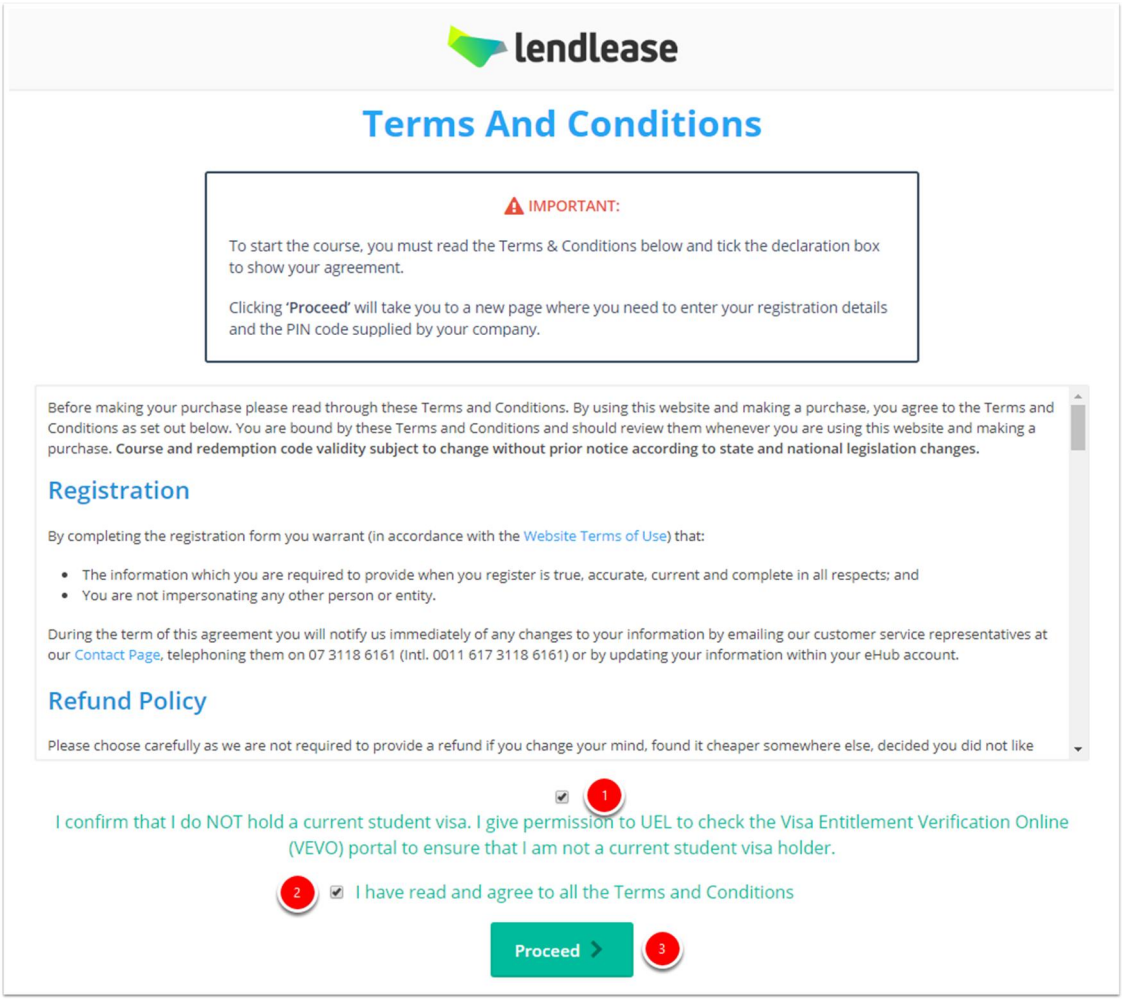
COR online awareness training – registration guidance

In your browser (Google Chrome Preferred) go to http://lendleasetraining.com/ and click on the 'Register' (1) button



Read and Agree to Terms and Conditions

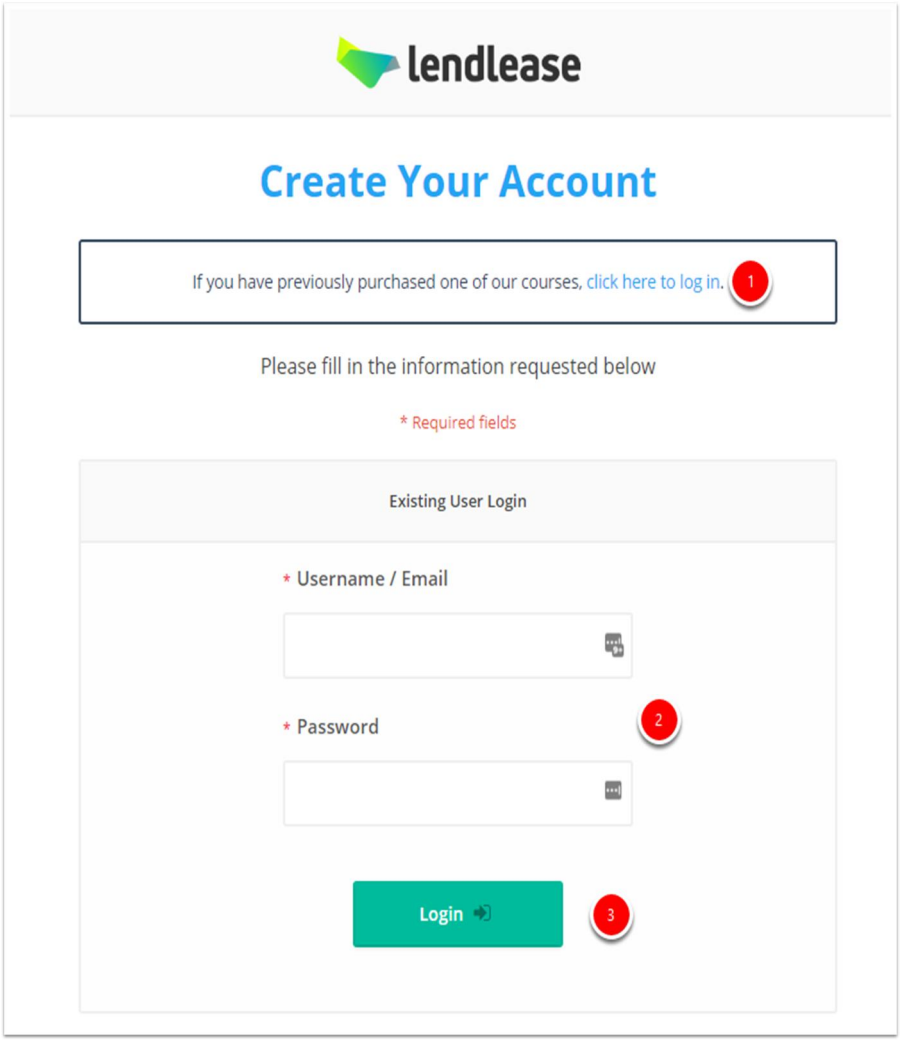
Please read the Terms and Conditions carefully, tick the checkboxes (1) (2) and click the 'Proceed' button (3) to continue to the registration page.



Log in as an existing user

You can log in to the system if you have an existing student account. This will allow you to add the course to your existing account.

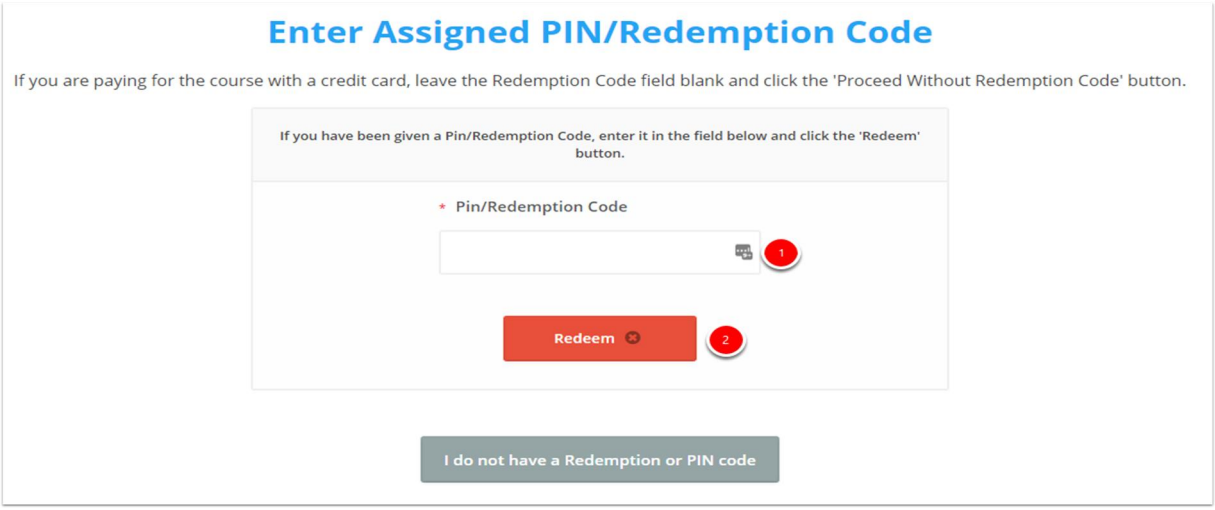
Click the 'click here to log in' link (1) to show the login form, enter your login details (2) and click the 'Login' button (3).



Redeem PIN code

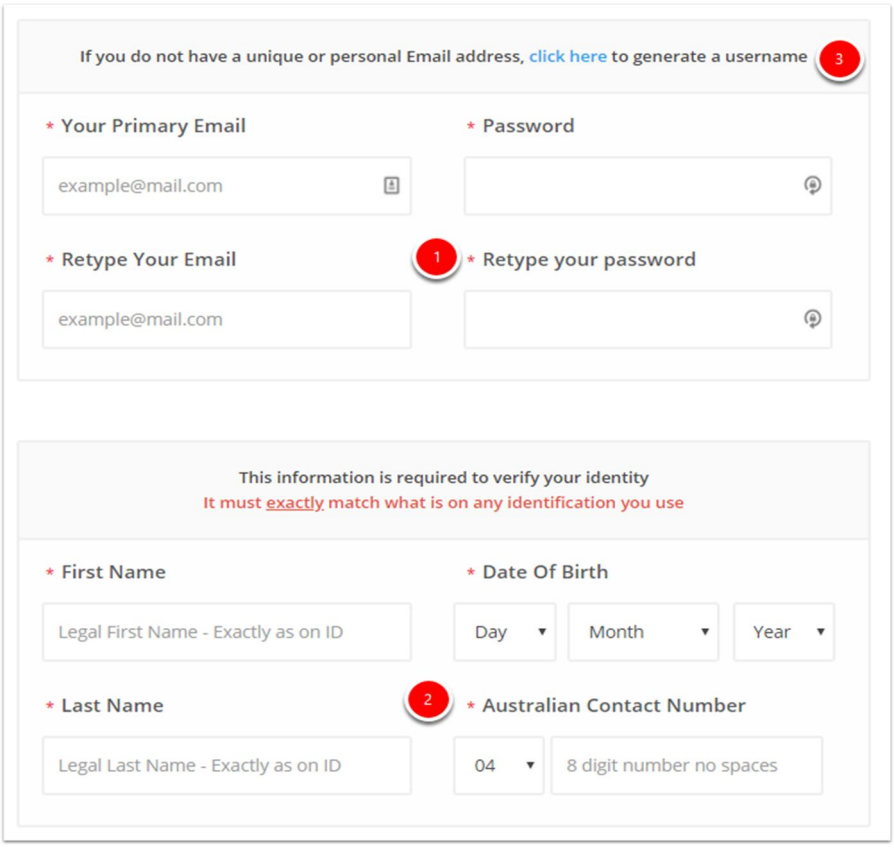
Once you have logged in, you will be able to enter the PIN code (**14846532 for LLB staff and sub-contractors on LLB projects or other LLB workplaces)** and click the 'Redeem' button.

The course will be added to your existing student account and you will be able to start your course.



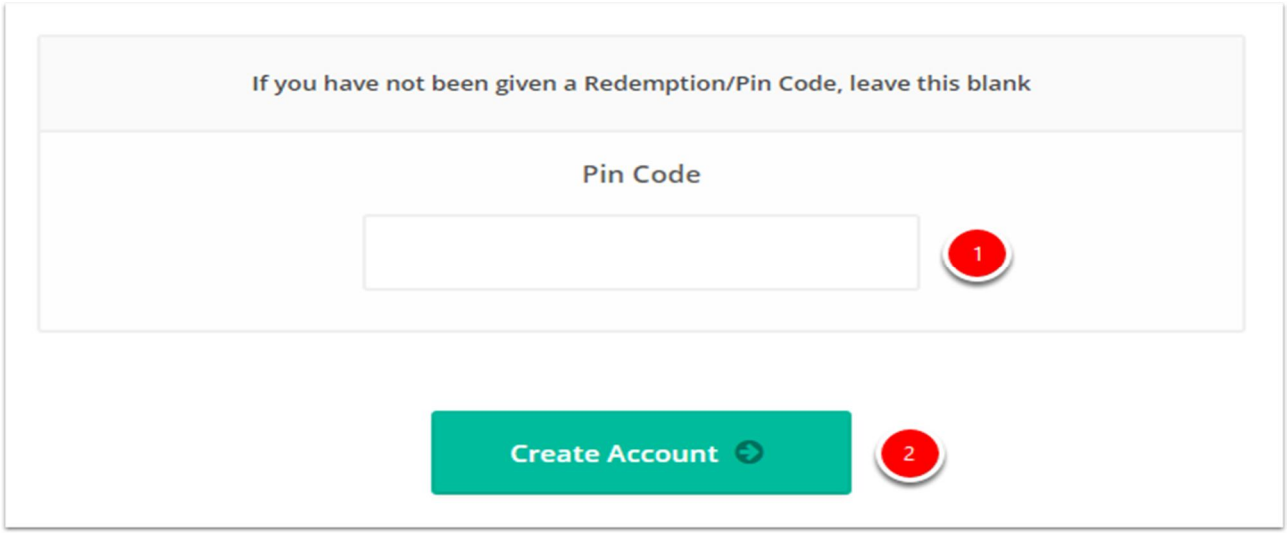
Create a new account with a shared email address

If you do not have a student account and you are using a shared email address: enter email (1), First and Last name (2) and click on the 'click here to generate a username' (3), complete the registration form, enter your PIN and click on the 'Create Account' button (image below).



Create a new account with your own email address

If you do not have a student account: complete the registration form, enter your PIN (1) and click on the 'Create Account' button (2).



APPENDIX 2 - HOW TO GUIDANCE – HEAVY VEHICLES >4.5 (COR) INCIDENT OR COMPLIANCE OBSERVATION REPORTING

Where projects or other workplaces have identified the usage of Heavy Vehicles (>4.5t GVM), have developed and are implementing the Chain of Responsibility Management Sub Plan, a number of objectives and targets have been identified for project teams to perform incident and observation reporting to demonstrate due diligence and compliance with the National Heavy Vehicle Regulations (NHVR).

To assist project teams in completing incident and observation (safe or at risk) reporting relating to Heavy Vehicle (Chain of Responsibility), the activity listing in Enablon has been updated to include specific activities relating to Heavy Vehicles (greater than 4.5 tonnes Gross Vehicle Mass (GVM).

This document has been developed to assist teams to identify examples of what could be a COR related Incident and what could be deemed as a COR related Observation.

When Incidents or Observations are being entered, teams are advised to continue to select the appropriate Circumstance (e.g. Fall of Person, Fall of Material/Object, or Vehicle and plant incident).

COR related incidents or Observations will be identified as such when it comes to selecting the appropriate 'Activity'. That is the means of identifying if the event (incident or observation) relates to Heavy Vehicles (specifically COR), and to also assist with specific COR event trending and analysis.

As with other Enablon event entries, teams are encouraged to insert/include a photo to accompany the photo (noting – where it's appropriate for projects without photography restrictions.)

<u>Enablon Activity Listing Relating to Heavy Vehicles >4.5t (COR)</u>

The following additional activities have been added into Enablon, to be selected (as required) for Incidents or Observations involving heavy vehicles >4.5t.

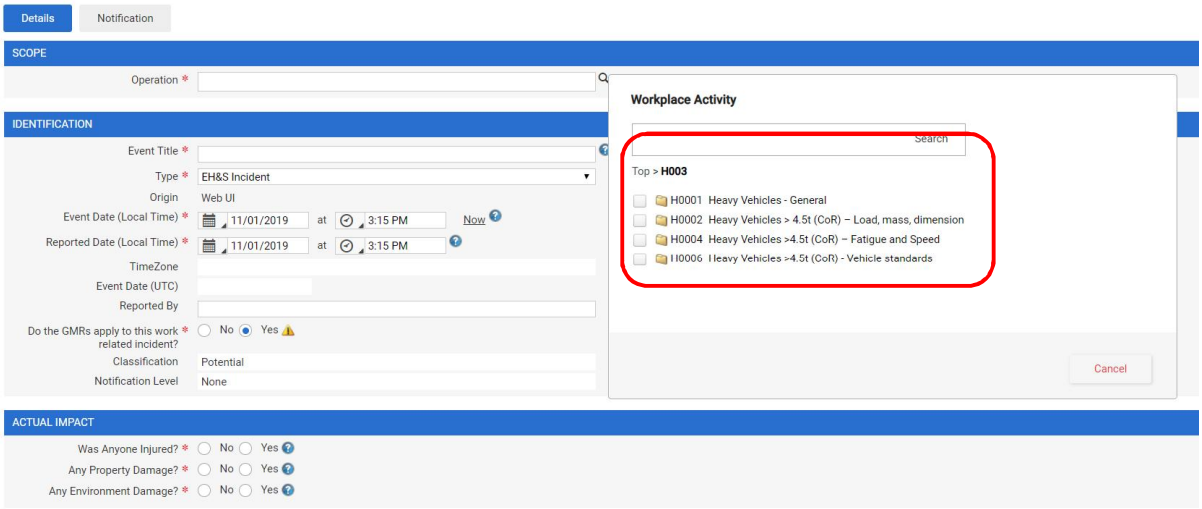
1. **Heavy Vehicles > 4.5t (COR) Load, Mass, Dimension** – where the observation relates to the load (position), the mass of the load or the dimension of the load.
2. **Heavy Vehicles >4.5t (COR) – Fatigue and Speed** – where the observation relates to fatigue and speed related items for the driver
3. **Heavy Vehicles >4.5t (COR) – Vehicle Standards** – where the observation relates to maintenance standards or conditions of the heavy vehicle – including inspection and maintenance implementation for the heavy vehicle (including record keeping)

Heavy Vehicles – COR incident Reporting

Potential examples of Heavy Vehicle COR related incidents could be (but not limited to)

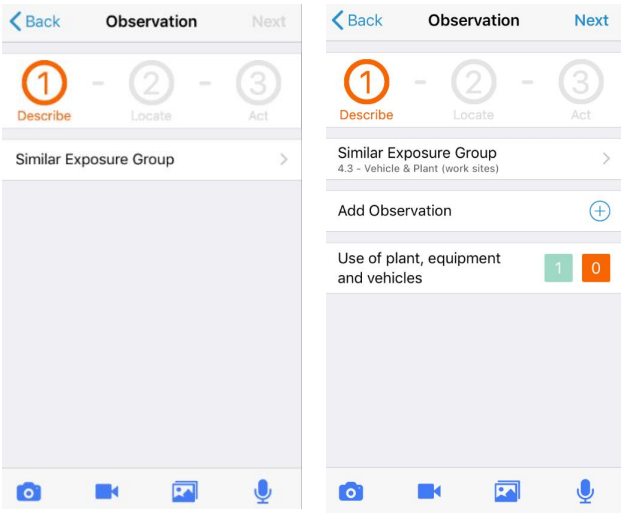
- The loss of a load from a heavy vehicle on a public road due to inadequate load restraint.
- A truck driver is involved in an incident, where the other vehicle was damaged by a load that was extending more than 1.2 metres behind the truck and didn't have a warning signal attached.
- A fatigued driver loses concentration and swerves onto the wrong side of the road, narrowly missing an oncoming car.
- A heavy vehicle driver is stopped and fined by police for exceeding the speed limit.

If the incident relates to Heavy Vehicles – COR, in the 'workplace activity' section search for 'Heavy Vehicles' and you'll see the following activity options;

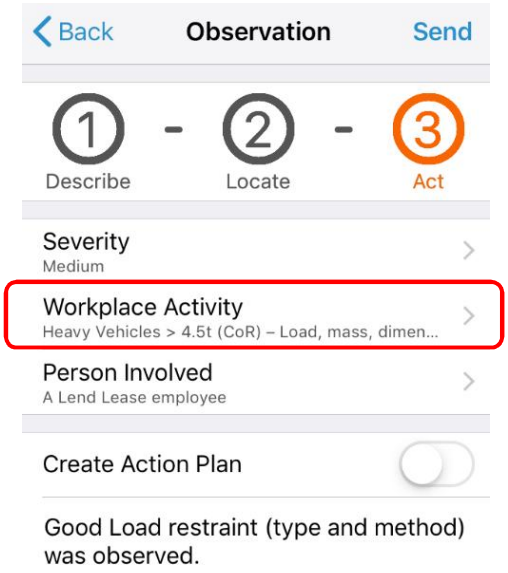


Entering a Heavy Vehicle (COR) related observation in the Enablon Safety App

As with other observations complete steps 1 (Describe) and 2 (Locate)

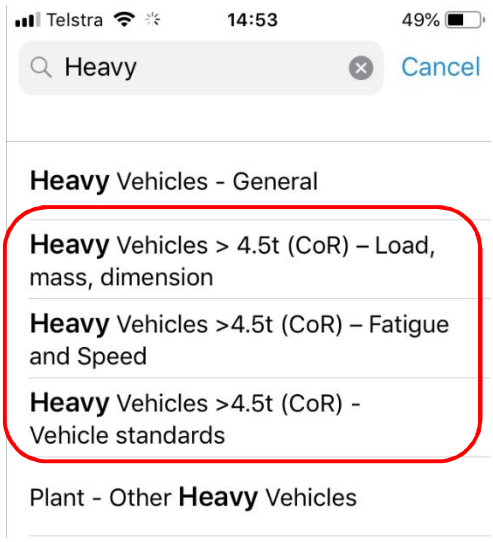


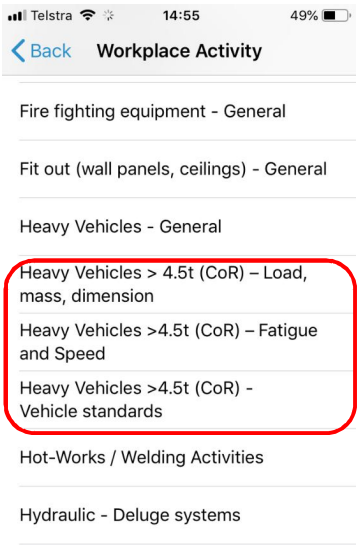
In step 3 'ACT' - If the Observation relates to Heavy Vehicles (COR), the respective activity should be selected.



To find the 'Heavy Vehicle – COR' activity in the listing, either;

1) Start to type 'Heavy' Vehicles in the activity listing (left hand image below) or
2) scroll down the list of activities until you find 'Heavy Vehicles' (Right hand image below)





Observations relating to Loading / Unloading / Mass or Dimension

Heavy Vehicles > 4.5t (COR) Load, Mass, Dimension – where the observation relates to the load (position), the mass of the load or the dimension of the load.

Safe Observations – Potential Examples

- The Heavy Vehicle Driver can demonstrate that the load has been restrained as per the Load Restraint Guide and has a load plan available.

- The Heavy Vehicle driver can demonstrate that they completed National Accredited training (Loading/Packing)
- The Load is visually placed on the centre of the heavy vehicle, with restraints observed to be in good condition and taut.

At-Risk Observations – Potential Examples

- A loader has finished loading a singly heavy item onto a vehicle. They have loaded it onto one side of the vehicle causing it to tilt heavily.
- The load plan is checked and it is noted that the total load mass of the load greatly exceeds the gross vehicle mass for that vehicle and its axle loads.
- Worn or damaged Load Restraints are observed in use.
- The Driver (Loader) can't demonstrate completion of COR training either awareness training or nationally accredited training or other training (i.e. in Loading or Packing)

Observations Relating to Fatigue and Speed

Heavy Vehicles >4.5t (COR) – Fatigue and Speed – where the observation relates to fatigue and speed related items for the driver

Safe Observations – Potential Examples

- A heavy driver can demonstrate (with evidence) that they have observed the required rest breaks.
- A heavy vehicle driver has in their vehicle an electronic diary, that monitors driving hours and rest periods.

At-Risk Observations – Potential Examples

- A Heavy vehicle drivers schedule is sighted, and it is observed that it doesn't include the minimum rest hours.
- A heavy vehicle driver does not complete a driver work diary – where required to driver more than 100km from base.

Observations relating to Vehicle Standards or Maintenance

Heavy Vehicles >4.5t (COR) – Vehicle Standards or Maintenance – where the observation relates to standards or conditions on the heavy vehicle – including inspection and maintenance implementation for the heavy vehicle (including record keeping)

Safe Observations – Potential Examples

- A heavy Vehicle Driver can produce evidence of completing daily pre-start inspections.
- The Pre-start inspections include as a minimum 'safety critical components' and other components such as mirrors, lights, rear signage, seats and seatbelts.
- A heavy vehicle driver or heavy vehicle supplier can demonstrate a documented system for recording, reporting and repairing vehicle faults.

At-Risk Observations – Potential Examples

- A Driver not performing daily pre-start inspections of their heavy vehicle.
- Visible Damage or defects to mirrors, lights, tyres or rear signage.

Example Observations relating to Loading / Unloading / Mass or Dimension

Crown Sydney Hotel Resort - Observation

BBS Details

Title	OBS-AU.CSHR-051218-00496024
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Large

Timeline and Status

Performed By	Phill Smith
Mobile	✓
Observation Date	05/12/18 09:31 am
Workplace Activity	Heavy Vehicles > 4.5t (CoR) – Load, mass, dimension
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	ONESTEEL REINFORCING PTY LTD (ABN:22004148289)
Offline / Contractor / Service Provider	
Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✗	✓	✗		✗	COR - Load restraint inspections

Total

Safe	1	At Risk	0

Description

Description	The driver of the heavy vehicle was asked about loading inspections prior to leaving the depot. An inspection is undertaken in the depot once loaded. The driver then performs an additional inspection before departure, and verbally mentioned that if he's not comfortable with the load restraint or positioning, he won't leave the yard.
Location	Harbour Street - NE

Files

Files: Media1.jpg

Crown Sydney Hotel Resort - Observation

BBS Details

Title	OBS-AU.CSHR-051218-00496054
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Medium

Timeline and Status

Performed By	Phill Smith
Mobile	✔
Observation Date	05/12/18 10:17 am
Workplace Activity	Heavy Vehicles > 4.5t (CoR) – Load, mass, dimension
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	ALIMAK AUSTRALIA PTY LTD
Offline / Contractor / Service Provider	
Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✘	✔	✘		✘	Heavy Vehicle driver -accredited loading training

Total

Safe	1	At Risk	0

Description

Description	A driver (owner) delivering hoist screens was asked what formal loading training he had received. He had completed accredited loading training - sighted the training card.
Location	BARANGAROO Avenue -NE

Files

Files: Media1.jpg

Observations relating to Fatigue and Speed

Crown Sydney Hotel Resort - Observation

BBS Details

Title	OBS-AU.CSHR-051218-00496016
Observation Type	All GMR 4.11-4.20
Severity of Observation	Large

Timeline and Status

Performed By	Phill Smith
Mobile	✓
Observation Date	05/12/18 09:25 am
Workplace Activity	Heavy Vehicles >4.5t (CoR) – Fatigue and Speed
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	ONESTEEL REINFORCING PTY LTD (ABN:22004148289)
Offline / Contractor / Service Provider Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	4.12 - Mental Health and fatigue
Observation Type	Individual

4.11-4.20 GMR Risk Events	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - 4.12 - Mental Health and fatigue	✗	✓	✗		✗	Good fatigue management and break monitoring

Total

Safe	1	At Risk	0

Description

Description	A driver was asked about his fatigue management and rest break processes. He demonstrated the GPS (electronic)work diary included prompts on the screen when rest breaks are needed. - good practice
Location	Harbour street - NW - vehicle offloading

Files

Files: Media1.jpg

Observations relating to Vehicle Standards or Maintenance

Darling Square NE plot - Observation

BBS Details

Title	OBS-AU.DSNEP-061218-00496978
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Medium

Timeline and Status

Performed By	Phill Smith
Mobile	✔
Observation Date	05/12/18 01:15 pm
Workplace Activity	Heavy Vehicles >4.5t (CoR) - Vehicle standards
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	TITAN CRANES & RIGGING PTY LTD (ABN:68109564721)
Offline / Contractor / Service Provider Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✘	✔	✘		✘	CoR - vehicle inspection and fatigue template

Total

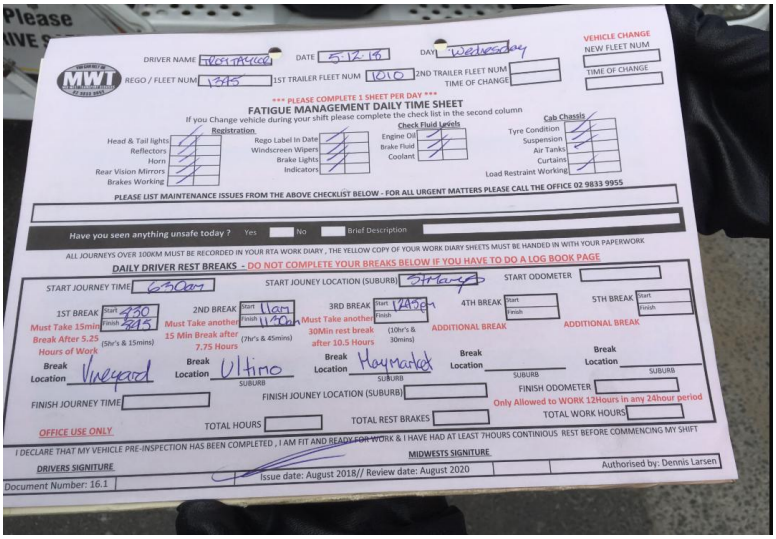
Safe	1	At Risk	0

Description

Description	The driver (for midwestern transport) delivering a load (crane mast section) was asked what vehicle inspections he perfoms (in addition to how fatigue and rest breaks are tracked). He went through the MWT daily fatigue templates that he's required to complete and hands in daily that includes a brief checklist of items to inspect on the vehicle. In terms of loading the vehicle he mentioned that the load that day was pre loaded onto the Titan trailer and he hitched it to the truck for delivery.
Location	Material loading area

Files

Files: Media1.jpg



Darling Square SE Plot - Observation

Filter:
Created by = Phill Smith (Phill.Smith@lendlease.com) {Local Admin EH&S & CSA Contributor}

BBS Details

Title	OBS-AU.DSSEP-061218-00497260
Observation Type	4.3 - Vehicle & Plant (work sites)
Severity of Observation	Medium

Timeline and Status

Performed By	Phill Smith
Mobile	✔
Observation Date	05/12/18 01:45 pm
Workplace Activity	Heavy Vehicles >4.5t (CoR) - Vehicle standards
Person Observed	Contractor \ Service Provider
Contractor / Service Provider	
Offline / Contractor / Service Provider	
Not Listed	

Checklist

Observation Checklist Type	Custom
Select Behaviors	Use of plant, equipment and vehicles
Observation Type	Individual

4.3 - Vehicle and Plant (Workplace)	Not Applicable	Safe	At Risk	Causes	Corrected	Comment
1 - Use of plant, equipment and vehicles	✘	✘	✔		✘	Heavy Vehicle - Regular Inspections

Total

Safe	0	At Risk	1

Description

Description	During a discussion with a heavy vehicle driver with a delivery of steel , it was observed that the driver didn't record regular vehicle inspections. The supervisor was asked to reinforce to their drivers and suppliers the need to perform vehicle inspections.
Location	GF Loading Zone

Files

Files	

Appendix B – Record of stakeholder consultations

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	City of Sydney, Transport for NSW (TfNSW), RMS,
Consultation type:	Teams Meeting
When is consultation required?	Prior to the commencement of construction and site establishment works.
Why	Condition B23
When was consultation scheduled/held	06/11/2020
When was consultation held	06/11/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) Lisa McGill (TfNSW – Ass Dir. CBD Planning, Transport Coordination) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Dylan Connell (TfNSW – Senior Manager CBD, SELR & WestConnex) Dan Herbertson (SINSW – Senior Project Director) Karissa Kendall (SINSW – Project Director) Shane Lee (SINSW/DoE – Ass. Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Justine Butler (Root Partnerships – Senior Project Manager) Abigail Cohen (Root Partnerships – Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.
What specific matters were discussed?	Overview of Preferred Option: TfNSW summarised the proposal • 2-way cycling lane diverted off Bridge via Watson Road into Kent Street • Temporary cycle lane on Kent Street extends down to Gas Lane • Kent Street becomes one way between Argyle Street and Gas Lane (may be North or Southbound) • High Street: Possible one way north Bound to allow off street parking Fire Brigade Initial Feedback

	• Brigade prefer one-way High Street/one-way Kent Street between Argyle Street and Gas Lane to avoid risk of 'choke point' along High Street • CoS has provided the feedback that speed will be a critical issue on High Street Cycleway Diversion: Project Team feedback Arup • Solution looks reasonable • Scope: some further work needed to resolve scope at crossings and intersections to North and South CoS Feedback • Existing pedestrian crossing zones may also require civil works including removal of planted zones • Parking losses ○ Scheme must aim to replace lost parking, not provide an increased amount overall ○ Parking losses on Kent Street may be regained on High Street ○ Van Le prefers maintaining two-way on High Street with angled parking in the dog-legged section only. Community Engagement TfNSW (DC) • Recommended a 2-week consultation period noting that if community feedback is negative, project may be delayed. CoS has provided the feedback that consultation notification to refer to condition of consent which requires the temporary diversion. • Recommended providing variables for community to express choice, such as voting on which way to run Kent Street
What matters were resolved?	Cost and Scope of Works Arup • Confirmed Arup has capacity to develop and document details of the scope once agreed.
What matters are unresolved?	All parties (TfNSW, CoS, SINSW) to confirm whether Review of Environmental Factors (REF) is required, or whether a Traffic Management Plan (TMP) will be sufficient. All parties (TfNSW, CoS, SINSW) to separately review planning approval requirements with their respective legal / planning teams. Concurrent works CoS (MP)

	• Signalising of the zebra crossing near Gas Lane is underway and will affect the proposed Cycleway Diversion. TfNSW / CoS to review further in offline meeting Cost and Scope of Works Root Partnerships (DH) • Contact TfNSW separately to review scope and distribution of costs for works
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW,
Consultation type:	Teams Meeting
When is consultation required?	Prior to the commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	16/11/2020
When was consultation held	16/11/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Fiona Campbell (CoS – Manager Cycling Strategy) Laurance Johnson (CoS – City Design) Dan Herbertson (SINSW – Senior Project Director) Karissa Kendall (SINSW – Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abigail Cohen (Root Partnerships – Project Manager) Abby Josie (Root Partnerships – Project Manager) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.

What specific matters were discussed?	Temporary Cycleway Diversion: Feedback from Fire Brigade
	• Fire brigade has no objections to the temporary Cycleway Diversion, but prefers Northbound Kent Street for the following reasons
	  ○ Observatory Hill is a key access point to the Harbour Bridge in the event of an emergency there
	  ○ The brigade guarantees a 6-minute response to the CBD and the fastest access is under the Harbour Bridge. The dog-leg corner on High Street creates a delay to the current response profile
	  ○ Fire Brigade confirmed that if the southbound Kent Street is required for safety reasons then the Brigade will accept this solution
	Temporary Cycleway Diversion Design Brief:
	Feedback from CoS
	• Arup (MC) Stepped through the design brief with CoS and TfNSW

	○ The design will be a 2D concept design that shows the parking and intersections and will use the standard CoS design and interfaces ○ Attachment 1 captures the comments received from CoS for the mid-block of Kent Street Feedback from TfNSW • Recommended that SINSW apply a certain level of environment assessment as part of satisfying the condition and to ensure it is not going beyond the SSD approval Planning Approval Pathways • Noted tha the SSD Condition of Consent (B23) already provides approval for the temporary cycleway diversion works. • CoS Traffic Committee approval is not required. However VL recommended the design be issued to the Traffic Committee for information only to notify of the changes as a temporary measure. VL confirmed that this process will not hold up construction of the works. The Committee dates are 19.11.20, 10.12.20, nil of Jan-21 and 18.02.21.
What matters were resolved?	• It was agreed that the design can be summarised through a Transport Management Plan (TMP) that will describe the impacts to the residents and will utilise CoS standards. The TMP will be all the design needs to progress to construction.
What matters are unresolved?	• VL to have offline discussion with DB(TfNSW) regarding approval pathway. • RP to track with TfNSW the status of ongoing TfNSW roadworks as they may delay temporary cycleway diversion program • Signage to be installed on harbour bridge and roads leading to the bridge • RP to develop short-range program for cycleway diversion works • Survey of Gas Lane to be issued by CoS. Completion of works to be tracked • MP/CoS to send through detailed drawings of the modifications to the design as discussed in the meting for all to review • Arup to undertake an assessment for the interface between vehicle movements and the proposed temporary cycleway at High Street and Kent Street.

	• Arup to undertake an assessment of two options as to which direction general traffic will travel on Kent Street
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	• SINSW to review planning approval requirements with their respective legal/planning teams • SINSW to obtain feedback on cycleway design from residents and public • SINSW to provide notifications to public not request for approval • SINGSW to liaise with TfNSW to install signage on Harbour Bridge and roads leading to the bridge.

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	18/11/2020
When was consultation held	18/11/2020
Identify persons and positions who were involved	Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Laurance Johnson (CoS – City Design) Karissa Kendall (SINSW – Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abigail Cohen (Root Partnerships – Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.

What specific matters were discussed?	Temporary Cycleway Diversion Design: Design Development
	• Arup undertook an assessment for the interface between vehicle movements and the proposed temporary cycleway at High Street and Kent Street. Two options from the assessment were presented
	• Arup has recommended Kent Street as one way and northbound for the cycleway diversion and leave High Street as two way. It was noted that Hickson Road will be closed for the metro works during periods and that buses will need to travel down High Street.
	• Issues to resolve with the recommendation are:
	  ○ High Street and Argyle Street intersection pinchpoint at the eastern side of zebra crossing
	  ○ Temporary removal of bus stop of Argyle Street near Watson Street. It was suggested that the bus stop could be relocated to the eastern side of Watson road
	  ○ Temporary relocation of post boxes – CoS and TfNSW to action
	
	Temporary Cycleway Diversion Design:

	Feedback from CoS
	• CoS has no objections with Kent Street being northbound. Consensus is High Street is left as two way. CoS believe the risk is very low in pushing heavy vehicles from Kent Street to High Street.
	• VL noted no requirement to change any line-marking for vehicles turning right from High Street and into Kent Street
	• It was noted that the loading dock for Langham Hotel on High Street. Arup's recommended option may be inconvenient with them regarding deliveries. SINSW to consult with Langham Hotel
	• Temporary removal of bus stop on Argyle Street near Watson Street
	  ○ VL has no objections in taking out parking on the park side of Argyle Street to create extended layover if it will provide a safety measure. Arup to confirm quantum of parking spots.
	Feedback from TfNSW
	• TfNSW has no objections with Kent Street being northbound. Consensus is High Street is left as two way. Good outcome for the community
	• TfNSW is concerned with the High Street and Argyle Street intersection and the pinch point at the eastern side of zebra crossing that will need to be resolved as it is not wide enough.
	  ○ Arup to run MRV or car assessment and this information can be shared
	• Temporary removal of bus stop on Argyle Street near Watson Street. No objections from TfNSW. DB to talk to bus operator and planning about the removal
	  ○ Post Meeting note: DB has received confirmation of no objections (99% confirmed) from State Transit Authority (STA) of the temporary removal of the bus stop. Some infrastructure will need to go.
	  ○ DB noted that this item will need to be included in the community consultation noting that some parking will be lost on Argyle Place
	Road Safety Audit
	• TfNSW offered to undertake the required Road Safety Audit (RSA). DB advised that the design is required to start the process followed by a co-ordination meeting by team and two site visits. The work is anticipated to take two weeks
	• RSA will be conditioned as a detailed design assessment (buildable drawings) and TfNSW will require that level of information to undertake the RSA
	• Progression of design drawings will be undertaken by LL/Arup

What matters were resolved?	N/A
What matters are unresolved?	• LJ has issued road survey of Gas Lane in DWG and PDF. Completion of Gas Lanes works to be tracked • MP/CoS to issue CAD Drawings / surveys of the intersections to assist Arup to validate design. For Example, As Built Drawings of a cycleway attaching to the mixed traffic and the co-kerb design • Arup to prepare a 2nd sketch of the Argyle and High Street intersection with an MRV and a car in various configurations to demonstrate two way access. Arup noted the investigation will be an estimated based on aerial imagery so there will be a margin of error • Arup to assess and determine the quantum of parking spots that will be lost on Kent Street with the diversion
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	Planning Approval Pathways • SINSW has formed a position regarding planning approval requirements (ie SSD Condition B23) and they will supplement evidence where required with a Travel Management Plan (TMP) Road Safety Audit • SINSW to advise TfNSW when the design is ready and then TfNSW will audit it.

Education
School Infrastructure

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	19/11/2020
When was consultation held	19/11/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Laurance Johnson (CoS – City Design) Karissa Kendall (SINSW – Project Director) Mark Piddington (SINSW/DoE – Director educational leadership) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning)
Provide the details of the consultation	Consultation to review the Cycleway Diversion plan preferred by CoS and TfNSW, provide feedback and agree on the next steps of the project.
What specific matters were discussed?	Temporary Cycleway Diversion Design: Design Development • Arup presented sketch designs of the Argyle and High Street intersection pinch point at the eastern side of zebra crossing with an MRV and a car in various configurations to demonstrate two way ac4ess and quantum of parking spots that may be lost on Kent Street with the diversion. The design of the bus stop's removal on Argyle Street near Watson Street was also presented. • Langham Hotel – it was noted that the Hotel are concerned about congestion issue with access in and out of their carpark on High Street. Arup will explore ways to mitigate the congestion issue. Temporary Cycleway Diversion Design: Feedback from CoS • CoS is broadly supportive of the design solution and noted the importance of a high-level diagrammatic design that can be taken to the community while finalising the design in the background • CoS recommended a parking loss assessment be undertaken by Arup so there is an understanding of the

	quantum of lost parking and location with the cycleway diversion ○ VL noted that absolute numbers of parking loss are not required. Rather more general numbers, with a statement that we are attempting to provide, if viable, angle parking in High to recover some of the lost parking. ○ Arup to quantify the expected parking loss on the different streets • It was noted that CoS is supportive of SINSW taking the design current as at 19/11/2020 to the local community Feedback from TfNSW • TfNSW is broadly supportive of the design solution and recommended a parking loss assessment be undertaken • It was noted that TfNSW is supportive of SINSW taking the design current as at 19/11/2020 to the local community, while finalising the design in the background
What matters were resolved?	
What matters are unresolved?	• Cos (LJ) to issue road survey of Gas Lane and the length of Kent Street. Completion of Gas Lane works to be tracked • Arup to develop buildable design to issue to TfNSW for an RSA • CoS (LJ) seeking information from SINSW for a briefing note to be issued to CoS CEO/LM/Councillors prior to any community notification going out
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	02/12/2020
When was consultation held	02/12/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) David Ballm (TfNSW – Ass Dir Planning (CBD), Greater Sydney, Sydney Coordination Office) Laurance Johnson (CoS – City Design) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Martin Fenn (Root Partnerships – Project Director) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Tasmin Trickett (Lendlease – Project Manager) Christine Eberl (Lendlease – Design Manager) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning) Aimy Nguyen (Arup – Traffic Management, Engineer Transport Planning)
Provide the details of the consultation	The purpose of this meeting was for Arup to present the developed design of the FSPS Cycleway works and specifically the proposed Gas Lane solution and confirm any further design standard requirements.
What specific matters were discussed?	Temporary Cycleway Diversion Design: Design Development • Arup presented the parking design options along Kent Street and High Street which included parallel, 90 degrees and 30 degrees to the kerb. Each option was modelled and the numbers of spaces versus the manoeuvrability into each considering oncoming traffic was explained • The intersection details for Watson Road, Kent/high Street were presented regarding HRV manoeuvring, cycle lane and zebra crossing integration and safety • Arup presented the Gas Lane crossing detail and its interface with the cycle lane and dedicated vehicle turning lanes Temporary Cycleway Diversion Design Brief: Feedback from TfNSW • TfNSW supports the 90-degree (rear to kerb) parking option considering the road centre line, traffic flow and manoeuvrability from the spaces. This option does not satisfy the Australian Standards as vehicles are required to

	cross the centreline when reversing into a car parking bay; however, this option has been agreed upon as traffic volumes are expected to be low on High Street and it also provides additional parking bays compared to parallel parking • TfNSW agreed to remove the dedicated left turn lane and a design that runs the cycleway through the signalised crossing. This allows for the under-construction kerbs to mostly be retained. One lane each way and the cycleway will be provided at this location. • TfNSW requested the relocation of the loading bay from Kent Street to parallel parking bay on High Street. Feedback from CoS: • CoS are in support of the design with consideration to all the above points raised by TfNSW • VL requested to limit line marking as sign posting will be acceptable and edge line needs to be marked. Any parking bays, islands etc. do not need to be marked • MP requested the stormwater storm water pit on Kent street to be relocated due to clash with cycle lane – • VL confirmed that the design can through an out of session for endorsement buy the traffic committee members. If the design is submitted prior to Christmas and an out of session review meeting would likely be in the new year. ○ RP sought clarification from CoS to the endorsement position as the pr4evious minutes of Workshop #2 dated 16/11/2020 state that CoS traffic committee approval is not required
What matters were resolved?	N/A
What matters are unresolved?	• Arup to confirm exact numbers and lengths of parking spaces • Arup to revise the design to include: ○ Watson Road – Arup to check turning path for taxi access to/from Watson Road ○ High Street – reduce driving lane from 3.2m to 3m to increase width of buffer ○ Relocation of loading bay from Kent Street to parallel parking bay on High Street ○ High Street/ Kent Street intersection – shift cycleway transition as north as possible near the existing zebra crossing to minimise safety issues with HRV manoeuvring from High Street. Provide a jersey barrier at this location to mitigate heavy vehicle overrun into the cycleway

	○ Gas Lane crossing – remove the dedicate left turn lane and a design that runs the cycleway through the signalised crossing ○ Relocation of stormwater pit on Kent Street to accommodate cycleway • VL to provide updated drawings of Watson Road, Arup to then look into construction traffic management plan for vehicle code of conduct • Once received Arup to update drawings
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Post Approval Consultation Record

Identified Party to Consult:	CoS, TfNSW
Consultation type:	Teams Meeting
When is consultation required?	Prior to commencement of construction and site establishment works
Why	Condition B23
When was consultation scheduled/held	11/12/2020
When was consultation held	11/12/2020
Identify persons and positions who were involved	Maren Parry (CoS – Development Manager, Bike Network) Van Le (CoS – Manager, Traffic (North)) Laurance Johnson (CoS – City Design) Karissa Kendall (SINSW – Project Director) Esben Jensen (SINSW – Community Engagement Manager) Justine Newby (Root Partnerships – Senior Project Manager) Abby Josie (Root Partnerships – Project Manager) Jon Davis (Lendlease – Project Director) Michael Cavallaro (Arup – Traffic management, Senior Engineering Transport Planning) Aimy Nguyen (Arup – Traffic Management, Engineer Transport Planning) Antonio Vilacorta (Arup – Traffic Management, Engineer Road Planning) Rachel Kohan (Arup – Traffic management, Engineer Transport Planning)
Provide the details of the consultation	The purpose of this meeting was for Arup to present the developed design of the FSPS Cycleway Works and specifically the proposed car parking provided on High Street, the draft RSA comments and confirm any further design standard requirements.
What specific matters were discussed?	Road Safety Audit • DB from TfNSW advised that the draft RSA will be issued on 14/12/2020 to SINSW/RP and noted there were no significant road safety items identified • Follow-up RSA review meeting to be scheduled post 14/12/2020 • Arup will confirm program on 02/12/2020 regarding the DD Temporary Cycleway Diversion: Design Development Feedback from CoS and TfNSW • It was noted that the scope of the temporary cycleway has increased by introducing new parking on High Street. • It was noted that CoS will not seek to recover the parking revenue from parking meters that are removed as part of the temporary cycleway diversion. • Arup presented the parking design options along Kent Street and High Street which included parallel, 90 degrees

	and 30 degrees to the kerb. CoS supportive of the 14 angle parking bays on High Street.
	• Kent Street / Argyle Street turn angle to be adjusted to deter vehicles from entering Kent St from Argyle Street
	• VL noted that CoS' comments had been taken on board and provided the following additional feedback:
	  ○ CoS / VL requested Arup's design ensures manoeuvrability regarding driveways. Arup confirmed that this will be addressed, and barriers will be adjusted at key interfacing locations
	  ○ CoS / VL requested Arup's design includes clear markings of existing and proposed parking bays along with details of signage. Details on buffer zone to be provided by Arup once barriers are chosen
	Asset Transfer: handover requirements and maintenance
	
	• SINSW is seeking clarification from CoS on maintenance of the cycleway. It is SINSW's expectations that all works on CoS roads that are actioned by TfNSW would be handed over to the road owner post construction. SINSW's contractor would be responsible for fixing defects, but other maintenance be the responsibility of CoS.
	• VL advised that CoS has no budget to maintain the cycleway diversion.
	• Budget for maintenance over the next 2 years of the cycleway to be reviewed and SINSW and CoS to arrange weekly meeting offline to discuss the maintenance requirements.
	• Milestone for Arup before Christmas to provide details regarding traffic committee.
	CoS Traffic Committee
	
	• Refer to Workshop #5 Minutes R1, Item 4.4 for details
	• CoS is seeking the temporary cycleway diversion design be submitted to the CoS Traffic Committee for endorsement. Submission process and information package: – a presentation is not required only an Information Pack which the Committee will review.
	• Composition of the Committee is 4 voting members: – CoS, Councillor Philip Thalis, TfNSW, Police. Police are concerned about access in case of emergencies.
	• SINSW/RP have consulted with Langham Hotel, community groups such as Observatory Towers, Police, Fire Brigade, and National Trust. These minutes will form part of the information package to be submitted to the Traffic Committee for review and as part of the endorsement process.
	• The team will need to demonstrate to CoS that all the B23 conditions are being satisfied.

What matters were resolved?	N/A
What matters are unresolved?	Arup to final detailed design incorporating the RSA before Christmas shutdown
Any remaining points of disagreement?	N/A
How will SINSW address matters not resolved?	N/A

Appendix C – CV of suitably qualified and experienced person

Michael Cavallaro

Profession
Transport Engineering

Current Position
Senior Consultant

Joined Arup
2007

Years of Experience
13

Qualifications
Bachelor of Engineering (Civil)
Diploma in Engineering Practice, University of Technology, Sydney

MIEAust CPEng

TCIB PTP

TCIB RSP

Professional Associations
Member, Engineers Australia
Member, ULI Toronto

Michael is a Chartered Transport Engineer (Australia) with skills in transport design and pedestrian/traffic safety. He has diverse range of skills in traffic analysis, modelling, concept design. Michael previously worked in Arup's Doha, Qatar, Dubai, United Arab Emirates and Toronto, Canada offices and has returned to Arup's Sydney office. He provides traffic engineering and design development advice on development projects, comfortably liaising with architects, project managers and contractors.

Michael is an accredited Road Safety Professional (RSP) in Canada and a Level 2 Road Safety Auditor in Australia and has completed numerous road safety audits at the design stage, pre-opening and on existing roads. Michael applies this training to all projects where safe design can be implemented.

Michael's skills cover a broad range of projects that stem from his skills in undertaking Traffic Impact Assessments. He has applied these skills on many projects including residential, mixed use, shopping centres, sporting facilities and major road and rail projects. He believes that the impact of such developments is not limited to vehicles. Pedestrians, bicycles and public transport impacts are equally important.

> We must consider the result of the any project or task before commencement. This allows one to produce a tailored output that suits each project and task.

North King's Town Secondary Plan TMP, Kingston ON

Michael was deputy project manager for this Transportation Master Plan which informs the Secondary Plan for the North King's Town area, north of downtown Kingston Ontario. The project involved consultation with the public, presenting the study at intermediate stages. Michael worked to present active transportation measures as an alternative to new road infrastructure.

01/2018 - 10/2019

Jumeirah Central Masterplan, UAE

Michael was heavily involved in the masterplan design and traffic impact study of this 3.8 million sqm GFA development in Dubai. A mixed-use development, Michael led the team completing the traffic impact study for this development and worked with leading experts in Autonomous vehicles and Aerial Gondola's to develop the transport masterplan which has eight modes of travel planned. This also included a centre running extension of the Dubai Tram and links to the existing and proposed extensions to the Dubai Metro. Michael also liaised with developers, master

planning architects and utility engineers to develop a workable masterplan that considered all aspects of the design with practicality.

02/2016 – 10/2016

Reem Island Sector 4 Masterplan, UAE

Tamouh Investments were completing the masterplan approvals for Reem Island's Sector 4, located on a 120ha peninsula. Sector 4 will have residential population of around 27,000 people. The master plan embraces principles of walkability and human scale, which is made possible by building on the site's ideal dimensions, future public transport infrastructure—such as metro and LRT—and benefitting from the microclimatic context of cooling sea breezes. Michael provided traffic engineering analysis of the strategic and intersection modelling for this area. He also directed concept design of the intersections incorporating safe design solutions and road design best practice.

06/2015 – 08/2016

Msheireb Downtown Doha High Level TIS update, Qatar

Msheireb Properties were completing the masterplan approvals for their 750,000sqm development. Michael assisted in the High Level TIS update for an updated land use plan for the Msheireb project. He summarised the changes to land use and oversaw the modelling to provide an easily digestible assessment of the differences in traffic generation of the new land use plan. Michael also used his road design skills to provide high level sketch designs of mitigations for site junctions impacted by planned changes to Msheireb Street.

09/2013 – 07/2014

Newtown-Enmore Parking Study, Australia

Traffic consultant for a parking study for the Newtown-Enmore precinct. Scope of Arup services included transport and parking advice and analysis to Marrickville Council for their upcoming parking study. Michael provided traffic engineering advice and GIS maps of parking restrictions for this project.

11/2012 – 05/2013

Fort Street Public School, Australia

Schools Infrastructure NSW are upgrading the Fort Street Public School in the Rocks, with the school population increasing three-fold. Michael is project manager for this project and is responsible for delivering the traffic and transport aspects of this project. This includes design advice on the transport facilities adjacent to the site, developing a school travel plan that outlines sustainable means of travel to school and programs to support

this, and developing a construction pedestrian and traffic management plan.

12/2019 – Current

Fort Street Public School Temporary Accommodation, Australia

Schools infrastructure are upgrading the Fort Street Public School in the Rocks and require a temporary accommodation while these upgrades are taking place. Ultimo Public School has recently undergone the same process, using a temporary school within Wentworth Park. FSPS proposes to use these temporary buildings while construction is underway. Michael completed the traffic and transport assessment for the REF amendment which extended the use of the temporary accommodation and considered concurrent operation of FSPS and UPS and the traffic impacts of these.

12/2019 – Current

Lindfield Learning Village, Australia

Working for Schools Infrastructure NSW, Michael is leading the traffic and transportation response to submissions to the application and providing an integrated and connected transport plan for the school looking at modes of travel and accommodating the different users across the site. This State Significant Planning Application (SSDA) with the NSW Department of Planning Industry and Environment is in a constrained location, with limited access and therefore Michael has worked with stakeholders and approval agencies to outline a workable traffic and transport access strategy for the school.

12/2019 – Current

UTS Gehry Building, Australia

Michael was the traffic engineer during the design development and tender documentation phase of the UTS Dr Chau Chak School of Business designed by American architect Frank Gehry. The building included a small basement which presented many challenges to Michael and the design team. Flooding issues on Ultimo affected the design of the ramp, which needed to be finessed with the standards to suit. Structure issues with the complex beams and columns needed for the interesting shape of the building also created issues within the car park which Michael was able to solve, working with both the architect and Arup structural engineers.

08/2011 – 08/2013

Macquarie University Study, Australia

A project that dealt with the traffic surrounding Macquarie University and the effects of additional development on the site of the university. Michael was involved in the micro-simulation

modelling of North Ryde and Macquarie Park. He was responsible for concept design of and modelling of improvement options to evaluate the impact of future traffic volumes.

04/2012 – 08/2012

Blacktown Mt Druitt Hospital, Australia

Michael developed a contraction traffic management plan for the hospital site that was staged over a period of ten years. Michael reviewed the campus and assigned construction accesses and routes that least disrupted normal hospital operations. Michael also designed the multi storey car park and completed design checks for the ramps, entry and exit.

10/2010 – 09/2013

Sutherland Hospital Car Park Demand Study, Australia

Michael developed a survey plan for the parking of this hospital. He then assessed the parking survey results to determine potential paid parking arrangements. He then documented and recommended a paid parking strategy and a parking arrangement when the hospital was developed.

03/2012 – 05/2012

Sydney Gateway Bid Design, Australia

For this bid design for the new Sydney Gateway motorway project from Transport for NSW, Michael was the operational traffic technical lead engineer on this project, coordinating a small team of modellers and providing design advice to the bid design team with a focus of the traffic impacts of these alternate designs. Michael provided advice within the contract requirements and in line with NSW Roads and Maritime Services traffic modelling guidelines.

12/2019 – Current

Road Safety Audits, Australia:

Lane Cove Road, Lady Game Drive to Yanko Road, Australia

Pennant Hills Road and Marsden Road, Australia

Michael was the driving team member of the audit team for the Stage 3 (Detailed Design) Road Safety Audit of these two Arup Civil designs. Michael worked independently from the Civil design team to complete the audit and present the report with Corrective Action Requests.

03/2012 – 06/2013

Commuter car parks Revesby and Woy Woy, Australia

Michael completed Stage 4 Pre-Opening Road Safety Audits on two commuter car parks built adjacent to railway stations in Revesby and Woy Woy Stations in Sydney. The task was to review the car park before use to note safety concerns.

04/2010 – 04/2011

Malvern Avenue, Australia

Remembrance Avenue, Australia

He also completed detailed design audits of intersection upgrades at Malvern Avenue, Chatswood and Remembrance Avenue, Liverpool, completing the site visits and writing the reports.

Urana Road and Merrylands Road, Australia

Michael was part of the Arup team that performed a Stage 5 (Existing Road) Road Safety Audit of Urana and Jelbart Roads for the RTA and another Stage 5 (Existing Road) audit on Merrylands Road for Holroyd City Council. Michael visited the site and noted poor or hazardous situations. Michael wrote the reports of these two road safety audits which detailed the issues observed.

DohAlive Hotel Traffic Impact Study, Qatar

Michael was responsible for the completion and approval of a Transport Impact Study (TIS) for a 235-room hotel and retail development in a constrained location. Working closely with the architect, Michael managed the parking requirements and trip generation impacts of this development against the proposed provision with limited access opportunities. Michael was responsible for all aspects of the TIS including coordinating strategic modelling; completing junction modelling; design of a mitigation plan for the development and collating this into a cohesive Traffic Impact Study Report.

08/2013 – 08/2015

Thredbo Infrastructure Assessment, Australia

Transport consultant for this infrastructure assessment of an extension to the ski village and resort. Michael provided advice on road sizing and layouts for this ski resort to maintain access for appropriate vehicles in ski season. He was also responsible for the demand estimates for trip generation and assessed the road accesses into the village for the expected additional trips, providing concept designs of intersection improvements.

04/2013 – 08/2013

133 Murry Street, Australia

Traffic consultant for this proposed hotel building with 179 rooms, 12 apartments and only two basement levels. Michael designed the basement parking and loading areas. For the apartments, Michael proposed a mechanical parking system to provide two spaces in the space of one. This work also included a traffic impact assessment of the hotel on the Perth CBD.

11/2012 – 01/2013

478 George Street Sydney Construction Traffic Management, Australia

Michael developed a design for a construction access layby for the redevelopment of a mixed-use tower within Sydney's central business district (CBD). Construction traffic is subject to strict rules about timing and queuing of construction vehicles in the CBD area, so Michael developed a plan to manage the layby through radio communication. The layby occupied the pedestrian path, which was remade to suit the construction traffic and then to be repurposed back to pedestrians. In the meantime, Michael designed a pedestrian route through the building that maintained access for pedestrians and construction vehicles.

08/2012 – 01/2013

Wet'n'Wild Sydney, Australia

Traffic consultant for the new theme park in western Sydney, Wet'n'Wild. Michael provided car park and intersection design advice to civil engineers and liaised with the authorities for approval of the new signalised entry to the site. Michael managed the intersection design team, applying project management skills to ensure efficient completion of the intersection design.

04/2011 – 02/2012

Sydney Ports Road Safety Audit, Australia

Michael organised and completed the road safety audit of the three roads of Port Botany in Sydney. These roads experience high truck volumes throughout the day and the night, making safety a primary concern for Sydney Ports. Michael used best practise road safety audit techniques to report approximately 60 issues of varying levels of severity. The team developed several improvement options that aimed to simplify the readability of the road and encourage safe operations in Sydney's busiest port.

06/2012 – 08/2012

Sydney Ports Corporation Truck Marshalling Area, Australia

Traffic consultant for the development of the truck marshalling facility on Bumborah Point Road to address operational requirements for forecast container trade growth at Port Botany, New South Wales. The parking area was designed for over 45 B-double (25m long) trucks and included a ticketing system to call trucks to the ports. Michael providing traffic engineering input to the concept and detailed design of the site.

10/2011 – 01/2012

Relief Line South – Traffic Management, Toronto ON

Traffic Management Lead for the tunneling design of the Relief Line South 30% design for Toronto Transit Commission, which consisted of a 7.5km tunnel from downtown Toronto to Pape Station. Michael was responsible for the traffic management of

construction activities preparing a construction traffic management plan which detailed site operations for the tunnel related sites including two launch shaft sites. This required strong coordination between disciplines such as geotechnics, architecture and civil engineering on the layouts of these sites and how they would need to be serviced. Michael focussed on provided traffic management solutions that maintained access for all modes of travel, aiming to minimise potential disruption within Toronto's busy core.

01/2019 – 07/2019

Finch West LRT – Safety analysis, Toronto ON

Hazard analysis lead for the $1-billion Finch West LRT extension, which is one of Metrolinx's transit priorities as set out in the regional transportation plan known as 'The Big Move'. Arup is the lead designer for the 11-km line which includes 18 stops and stations and is being delivered under a DBFM model. Other key features include a portal, tunnel and underground station at Keele Street, a below-grade guideway. Michael was responsible for a hazard analysis of road vehicle collisions at stops where hazards were identified, assessed through a risk assessment tool and mitigation were developed. Michael presented this analysis to the stakeholder of FWLRT include Metrolinx and TTC for approval of the mitigations, leading several meetings of consultation to obtain all viewpoints and consider these in the analysis.

03/2019 – 09/2019

Finch West LRT – Vissim Model, Toronto ON

Traffic and Transit Modelling Lead for the $1-billion Finch West LRT extension, which is one of Metrolinx's transit priorities as set out in the regional transportation plan known as 'The Big Move'. Arup is the lead designer for the 11-km line which includes 18 stops and stations and is being delivered under a DBFM model. Other key features include a portal, tunnel and underground station at Keele Street, a below-grade guideway. Michael was responsible for the 30% design Vissim model, balancing good traffic flow and rail operations objectives. He was responsible for liaising with Road, Traffic Signals and Track designers to coordinate design aspects and report and present results to clients and stakeholders.

04/2018 – 08/2018

Ottawa Confederation Line LRT Bid Design, Ottawa ON

The Ottawa Confederation Line Stage 2 extended the Stage 1 LRT line to the west and east of the city totalling 24km of exclusive right of way LRT. Michael was responsible for the traffic management planning during construction staging of the main civil works of the line at stations and where the design for

the LRT proposed changes to the road network. Michael also reviewed the extensive OCTranspo bus network and proposed diversions and changes wherever needed.

09/2017 – 11/2018

Edmonton Valley Line LRT - Vissim Model, Edmonton AB

Vissim model lead for the Edmonton Valley Line LRT- Stage 1, which will connect the community of Mill Woods in southeast Edmonton to the city's downtown core. Key features of this $1.8 billion, 13km Valley Line include: 11 stops and 1.5km of elevated guideway structure, an elevated station incorporating a transit centre and park & ride, a transfer point to the existing Capital Line and Metro Line LRT at Churchill Square, a tunnel connecting downtown Edmonton to the River Valley, a new river bridge crossing the North Saskatchewan River and an operations and a maintenance facility. Arup is leading the design team providing multidisciplinary engineering services. The project is being procured using a DBFOM and vehicle supply P3 procurement model.

Michael was responsible for reviewing the model outputs and managing the priorities of the modelling process. He worked with modellers offering scenarios and alternative methods to solve client relevant issues. Michael also modelled bicycle lanes in Vissim for five downtown intersections, modelling a two-way bicycle lane interacting with signalised intersections and normal traffic lanes.

10/2016 – 03/2019

Edmonton Valley Line LRT – Traffic Signal Operation Design, Edmonton AB

Traffic signals operations task lead for the Edmonton Valley Line LRT- Stage 1, which will connect the community of Mill Woods in southeast Edmonton to the city's downtown core. Key features of this $1.8 billion, 13km Valley Line include: 11 stops and 1.5km of elevated guideway structure, an elevated station incorporating a transit centre and park & ride, a transfer point to the existing Capital Line and Metro Line LRT at Churchill Square, a tunnel connecting downtown Edmonton to the River Valley, a new river bridge crossing the North Saskatchewan River and an operations and a maintenance facility. Arup is leading the design team providing multidisciplinary engineering services. The project is being procured using a DBFOM and vehicle supply P3 procurement model.

Michael was responsible for developing the design of the Transit Signal Priority (TSP) operation for the LRT, liaising with the LRT signalling infrastructure team to produce a robust design that allowed for LRT priority when needed but also did not overly impact road traffic. Michael was responsible for writing the

operational specification for the traffic signals. This specification also required the development of signal timing plans.

10/2016 – 03/2019

Edmonton Valley Line LRT - Safety, Edmonton AB

Grade Crossing Hazard analysis task lead for the Edmonton Valley Line LRT- Stage 1, which will connect the community of Mill Woods in southeast Edmonton to the city's downtown core. Key features of this $1.8 billion, 13km Valley Line include: 11 stops and 1.5km of elevated guideway structure, an elevated station incorporating a transit centre and park & ride, a transfer point to the existing Capital Line and Metro Line LRT at Churchill Square, a tunnel connecting downtown Edmonton to the River Valley, a new river bridge crossing the North Saskatchewan River and an operations and a maintenance facility. Arup is leading the design team providing multidisciplinary engineering services. The project is being procured using a DBFOM and vehicle supply P3 procurement model.

Michael conducted the Grade Crossing Hazard Analysis, utilising his road safety experience to the review and improve the design at crossings of the LRT. Michael worked with the road designers to work on the best solutions for improving safety for pedestrians at the grade crossings.

10/2016 – 03/2019

Niagara Region GO Rail Station Area Plans, Niagara Region, ON

Deputy project manager for the concept design of four GO stations in the Niagara Region: Grimsby, Beamsville, St Catherines (Mobility Hub) and Niagara Falls. The purpose of the study was to seek planning approvals for the stations. Arup's role was to produce concept designs for the stations in support of secondary plans for the station areas prepared by the lead consultant, Dillon.

Michael led the technical team to delivered four station area plans to concept level. The stations were designed to the local GO Design Requirements Manual and the Regions Transport impact study of the stations. Michael also included green initiatives for the site, utilising Arup's expertise in green infrastructure to provide a framework document of what could be provided in the parking areas of the station given the specific issues at each site.

12/2016 – 04/2017

Rail Maintenance Facilities in Sydenham and Sutherland, Australia

Lead traffic consultant for this infrastructure led project to re-design two maintenance areas for Railcorp. Michael assessed the site layouts for suitability and provided advice on the vehicular access needs. Michael consulted with the future operators of these

sites to develop the site layout. Michael also let the traffic and transport assessment of these sites for the REF.

02/2013 – 08/2013

DAMAC Akoya Golf Community Traffic Impact Study, UAE

Michael was responsible for the day to day delivery of the traffic impact study for this 4sqkm development south of Sports City in Dubai. The development generated over 10,000 trips in the AM peak and consisted of mainly residential land uses. Michael was responsible for developing the methodology of the study, managing the strategic modelling and the SYNCHRO junction modelling of the study area.

02/2014 – 09/2014

George and York Building, Australia

Transport planner for a high-rise residential building. This building had a very small car park which required the design of car and truck lifts. Michael tested the design of these lifts to determine the sizes needed and tested the layout of the basement so that cars and trucks could execute the required manoeuvres successfully.

04/2010 – 09/2010

Retail:

CF Fairview Mall, Toronto ON

As part of its ongoing program to evolve its suburban shopping centre portfolio to a more urban form that is better integrated with its neighbouring communities, Cadillac Fairview (CF) commissioned Arup to provide services for site development and design, along with transportation planning and engineering, in support of a zoning by-law amendment application. Our services at CF Fairview Mall included contributing to the site design for the intensification of surface parking lots into high-rise residential, office, and hotel towers, designing improvements for pedestrian and cycling access and connectivity, and completing transportation impact and origin-destination studies in support of the planning application.

Michael provided traffic engineering advice as a consultant for this project including concept design of a pickup/drop-off area and a transportation impact study.

03/2018 - 10/2019

CF Masonville Place, London ON

As part of its ongoing program to evolve its suburban shopping centre portfolio to a more urban form that is better integrated with its neighbouring communities, Cadillac Fairview (CF) commissioned Arup to provide services for site development and design, along with transportation planning and engineering, in

support of a zoning by-law amendment application. Our services at CF Masonville Place included contributing to the site design for the intensification of surface parking lots into high-rise residential towers, designing improvements for pedestrian and cycling access and connectivity, and completing a transportation impact study in support of the planning application.

Michael provided traffic engineering advice as a consultant for this project including concept design of a pickup/drop-off area and a transportation impact study.

03/2018 - 10/2019

Transport Review Reporting, Australia

Arup was commissioned to provide expert traffic and transport review of sensitive project proposals put forward to the Department of Planning. Michael was responsible for the review of a proposal for a >30,000m² increase in retail floor area of Westfield Parramatta, the largest shopping centre in Sydney. Michael reviewed the traffic reports prepared by the proponent and submissions to the Department from local councils, RMS and the general public. He coordinated expert modelling reviews within the Arup team and provided clear advice to the Department on the gravity of issues raised in submissions by the local councils and roads authority.

05/2013 – 08/2013

Newcastle Central GPT, Australia

Michael was responsible for the development of a vehicle trip generation model to simulate the vehicle kilometres travelled (VKT) by shoppers to shopping centres in and around Newcastle. The model was used to assess the total amount of VKT of any given number of shoppers and therefore assess the carbon footprint of the centre.

10/2007 – 12/2007

Science and Industry:

Sports:

Lusail Stadium, Qatar

Transport Planner for the iconic 2022 world cup stadium in Doha Qatar. Designed by Fosters and Partners, Arup was responsible for all engineering including traffic planning and design. Michael was responsible for the completion and approval of the Transportation Impact Study for this project. This included detailed strategic modelling of the area around the site, and creation of a Vissim model of the event, to model buses providing arrival and drop-off services for the 80,000 spectators.

12/2015 – 04/2016

New Doha Tennis Stadium at Khalifa Sports Park, Qatar

Transport consultant for master plan and concept design of the 52Ha sport park including a 13,000-seat stadium. Michael developed a spreadsheet model for trip generation for various events at the stadium and in the masterplan. He then provided design advice to the architects for the loading bay and car park. Finally, he was a key member of the Traffic Impact Study of the site. Due to the event-based land uses, the typical TIS process was not able to be followed. Michael modified the methodology and process in agreement with Ministry of Transport to define and complete the study.

08/2014 – 08/2016

Netball Central, Australia

Michael provided traffic engineering design advice for the new ramp and car park access from Olympic Boulevard in Sydney Olympic Park. Michael also prepared a Traffic Impact Assessment for submission to the Department of Planning and for review by Sydney Olympic Park Authority (SOPA), which was approved for development.

09/2011 – 06/2012

Tall Buildings:

UTS Gehry Building, Australia

Michael was the traffic engineer during the design development and tender documentation phase of the UTS Dr Chau Chak School of Business designed by American architect Frank Gehry. The building included a small basement which presented many challenges to Michael and the design team. Flooding issues on Ultimo affected the design of the ramp, which needed to be finessed with the standards to suit. Structure issues with the complex beams and columns needed for the interesting shape of the building also created issues within the car park which Michael was able to solve, working with both the architect and Arup structural engineers.

08/2011 – 08/2013

Transport and Mobility:

Newtown-Enmore Parking Study, Australia

Traffic consultant for a parking study for the Newtown-Enmore precinct. Scope of Arup services included transport and parking advice and analysis to Marrickville Council for their upcoming parking study. Michael provided traffic engineering advice and GIS maps of parking restrictions for this project.

11/2012 – 05/2013

RBA Car Park and Loading Area Safety Audits, Australia

Arup completed safety audits similar to Road Safety Audits for all Reserve Bank of Australia facilities across NSW, ACT and Victoria. Michael led the study, coordinating across offices to arrange for the completion of audits in Victoria and undertaking the NSW and ACT audits. Michael then completed audit reports for all 6 sites, making recommendations for improvements to the facilities.

05/2012 – 06/2012

Redfern Waterloo Authority Transport Study, Australia

Michael was involved in preparing GIS maps of the Redfern Waterloo Authority (RWA) summarising all reports completed within the RWA in recent times. This included mapping pedestrian walkability, journey to work, cycleways, buses and intersection levels of service.

06/2010 – 10/2010

Sydney Olympic Park Accessibility Plan, Australia

Michael was the GIS analyst for the accessibility study conducted over the SOPA area. This involved analysing and presenting maps for pedestrian walkability, journey to work, cycleways, bus routes and bus frequencies.

Appendix D – Traffic control plan

LENDLEASE BUILDING PTY LTD | 97 000 098 162

FORT STREET PUBLIC SCHOOL
TRAFFIC AND PARKING MANAGEMENT SUB PLAN

19/03/2021 | Revision No: 3

Sub Plan Revision Status				
Date	Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/03/17	2	General update including LLB GMR and legislative amendments	Tracey Wallbridge	Brian Falls
08/12/2020	DRAFT	DA DRAFT	N/A	N/A
19/03/21	Rev 03	Update Figures	CE	AP

*Note that all printed paper/hard copies of this document remain uncontrolled. The controlled copy of this document is found either in the project collaboration tool, within the Project Management Plan section, or other project specific database/server approved by the Regional EHS Manager / Head of EHS Integrated Project.

1. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	This Traffic and Parking Management Sub Plan provides details of the measures that will be implemented for traffic control and construction related parking activities on and around the project site during site establishment and construction. Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how the EHS Sub Plans form part of the Lend lease Building (LLB) EHS management system. NOTE: The requirements of the local council and/or road authority must be met. Additional approvals for road occupancy, the establishment of construction zones etc may also be required. Details must be incorporated into this Sub Plan as relevant.
Objectives of the Sub Plan	• To avoid or minimise potential conflicts between construction traffic, motorists, project neighbours and pedestrians. • To protect the public from injury and incident associated with the operation of construction vehicles and plant. • To prevent moving plant injuries to workers on site. • To avoid creating traffic congestion and delays as far as practical.
Scope of Works	This Sub Plan has been prepared based on the following scope of works: **Site preparation, demolition and excavation** • Site remediation • Demolition of the southernmost school building, the garage and storage shed west and east of the Bureau of Meteorology Building (the Met/the Met Building), and the toilet block adjoining the main school building. • Selective removal of various elements of the main school building, as well as minor and insignificant elements of the Met Building and the Messenger's Cottage to facilitate refurbishment and future use of these buildings. • Bulk excavation works to facilitate the new southern buildings and onsite detention. • Tree removal. • Installation of hydraulic and electrical services. **Construction of New buildings** • Construction of one new building on the western part of the site for a staff room. • Construction of two new, interconnected school buildings on the southern third of the site. • Construction of a new communal hall and canteen building. **Landscaping** • Retention of the existing large fig tree.

	• Landscaping works throughout the site, including construction of a new amphitheatre, new central plaza, and a multi-purpose forecourt. • Landscaping of roof gardens on top of the new southern buildings and the existing Met Building. **Other works** • Works to the existing entrance road, including alterations to the Bradfield Tunnel Services Building • Modifications to existing pick-up / drop-off arrangements. • Provision of signage zones. • Installation of on-site detention.
Key Issues and Risks	Construction related traffic and parking issues are expected to be mainly associated with: ● Worker numbers adding to existing pressures on public parking; ● Construction vehicle movements adding to existing traffic congestion; ● Noise from heavy vehicles using local streets; ● The delivery of materials to site during approved work hours where this occurs from a road frontage; ● The entry and queing of heavy vehicles at the site for continuous deliveries eg concrete; ● The delivery of oversized plant outside of normal hours; ● Collection and replacemet of waste skips; ● Confusion and/or frustration over traffic direction, diversions, lane closures etc. Interaction with existing operational facilities at or adjacent to the site; ● The Cahill Expressway is a barrier to the pedestrian permeability of the school ● The school is relatively well connected to the City of Sydney bike network, with a number of cycle routes surrounding the Site. ● The nearest railway stations to the school are Wynyard Station and Circular Quay Station which are both approximately a 10 minute walk away. ● Circular Quay is the main Ferry terminus for a large number of services within Sydney Harbour as well as the Barangaroo Wharf. Vehicle movements and parking requirements for the various stages of construction have been estimated as follows: ● The construction vehicles accessing the site will mainly comprise of Medium and Heavy Rigid vehicles (MRVs and HRVs). During certain stages of construction, mobile cranes and concrete pumps will also be used onsite. A construction zone will be established onsite to enable deliveries to be safely received at the site with minimal impact on existing traffic conditions. ● The longest construction vehicle has been identified as the HRV with a length of 12.5m. The vehicle dimensions are shown in Figure 2. (LLB to confirm size of mobile crane to determine if HRV or crane is the longest vehicle for swept path analysis).

	Deliveries in cars or vans may be undertaken during Sydney CBD extended hours of work. These hours are applicable for activities defined as quiet works where ambient noise levels do not increase more than 5 decibels (dB). The extended hours of worked are outlined below. o Monday to Friday – 6:00pm to 7:00pm; and o Saturday – 1:00pm to 4:00pm. Applications for 'out of hours' works will be considered on a case by case basis. All out of hours applications will need to be approved by the relevant authority. Reasons for out of hours work may include but not limited to the following; o As a result of an emergency; o The works create a hazardous environment; o Plant break down have delayed works; or o Minimise impact to the surrounding community. ● The construction works will require 20m of existing kerbside space to establish a 24/7 works zone adjacent to the work site to allow for two (2) truck waiting bays. ● **Refer to Arup's Construction Traffic Pedestrian Management Sub Plan** Compliance with the Project EHS Plan and this Sub Plan is intended to mitigate the risks and potential impacts of construction traffic and parking on the community and adjacent facilities. If appropriate controls and monitoring are not implemented, the potential exists for: ● Traffic incidents; ● Worker or public injury; ● Motorist frustration; ● Operational impacts on local businesses and facilities; ● Complaints; ● Fines; and ● Non-compliance with permits and approvals.
Legislation, Project Approval and Guidelines	**Federal/National:** Australian Standard AS1742.3-2009 'Manual of Uniform Traffic Control Devices – Traffic control for work on roads'. **State:** Traffic Control at Work Sites manual, Roads and Maritime Services, July 2018

	Road Authority Traffic Management Requirements: Roads and Maritime State Road **Local:** City of Sydney Bicycle NSW, Roads and Maritime Services **Lendlease requirements:** • Global Minimum Requirements (GMRs) • Workplace Delivery Code (WDC)
Summary of Site Controls	Works must be undertaken in accordance with the Lendlease GMRs, the Project EHS Plan, this Sub Plan and the Lendlease Building WDC. These documents detail Lendlease's approach and commitment to pro-active and responsible project management. Site specific controls, monitoring, reporting and performance measures have been identified in this Sub Plan to minimise the potential conflicts and impacts of construction traffic on the community, neighbours, motorists and workers. These include but are not limited to: ● Ensuring that relevant information on changes to traffic arrangements including lane closures and details are clearly displayed or provided to relevant stakeholders in advance of the change; ● Installing clear and concise signage on local roads being used by construction traffic; ● Separating construction traffic and workers within the site using barriers and signage; ● Controlling construction vehicle access and egress to the site; ● Refer to Traffic Management plan prepared by Arup ● Evaluating the effectiveness of traffic measures. Traffic management requirements, access restrictions, road authority requirements and general site rules related to parking and start times, must be included in relevant specifications, contract agreements, quality assurance documents, and subcontractor work method statements. Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the EHS Plan and the following implementation table.

2. IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibilty	Monitoring and Reporting	Performance Measurement
Planning and Site Establishment					
Obtain details of existing traffic conditions/vehicle numbers etc, and copies of any existing local road and traffic management plans.	During design. Prior to works commencing	Review existing data and assess existing conditions to determine the potential impact of construction related activities. Identify the requirements of the relevant road authority and incorporate into the design of the site setup and project documents.	CM SM	IHRA includes an assessment of traffic and is updated monthly. Complaints are logged and a response provided.	Agreement on traffic arranagements achieved. Relevant permits and approvals obtained.
Include information in the Site Induction about traffic and parking locations, restrictions and site rules.	Prior to construction	Revise Lendlease induction package to include site specific information.	CM SM	Subcontractor WMSs address traffic and deliveries.	Site induction delivered to all workers on site.
Prepare a Construction Traffic Circulation Environmental Management Diagram (EMD) identifying each stage of the project and likely traffic conditions.	Prior to commencing works	Prepare EMD (Appendix 1) in accordance with road authority and project approval requirements and in a manner consistent with existing TMPs/assessments. Address traffic movements, routes, parking etc internally and external to the site. Where possible, design the site access, delivery and collection areas, and internal roads so that vehicles are moving in a forward direction at all times. Communicate the requirements to key personnel.	CM SM Engineers	Review of EMD prior to works commencing Revised monthly during construction	Diagram prepared and containing all relevant details.

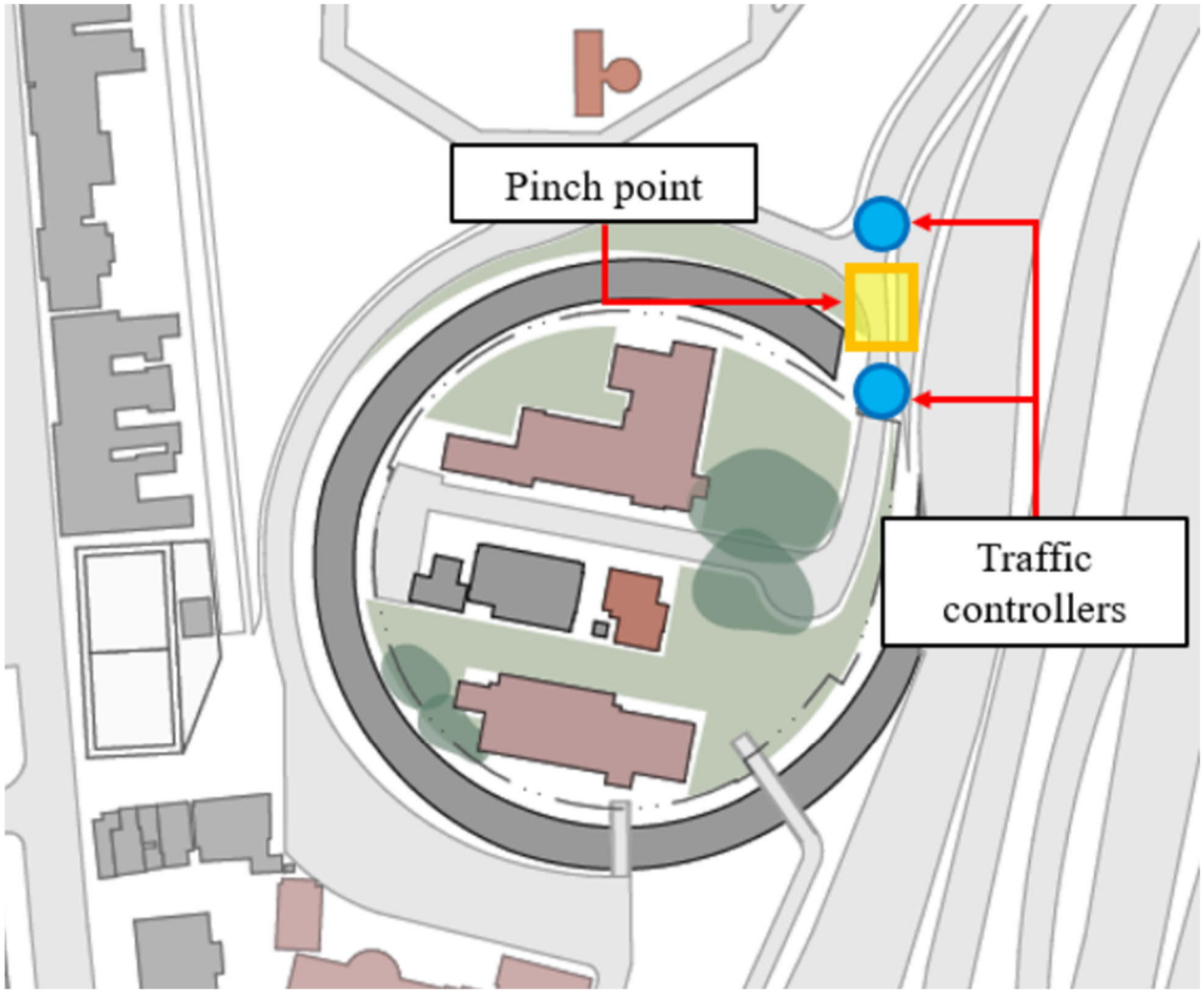
During Construction					
Control vehicle and human access into and within the site.	At all times	Install gates and signage to prevent unauthorised access to the site. Ensure that delivery drivers remain in their vehicle (unless they are inducted) and are instead instructed by the relevant supervisor. Provide visitor and worker parking (where possible) and clearly delineate these areas.	SM	Include in subcontractor WMS. Include on EMD (Appendix 1). Document approved routes. Monitor site entry and local road use. Check site signage.	No unauthorised access identified. Signage in place and maintained.
Control construction traffic and plant movements and deliveries within and external to the site.	At all times	Establish physical barriers and signage to control traffic direction, speed (20km/hr) and movements to/within the site. Ensure construction traffic uses approved/controlled site access points only. Identify locations and restrictions for vehicle parking and queuing. Mandate that construction traffic uses approved road routes only during approved times only. For concrete pours, provide a traffic controller to oversee trucks reversing to hoppers. Isolate the pump and surrounding area. Address the requirements of the relevant road authority and project approval in all WMS and TMPs.	SM Engineers Sub-contractors	Monitor vehicle movements. Monitor compliance with authority requirements.	No non-conformances against regulatory requirements. No complaints or fines. No plant-personnel impact incidents.

Schedule deliveries and waste collection at times that minimise the impact of the activity on local traffic conditions.	At all times	Identify appropriate delivery times and communicate these to supplies/service providers. Identify suitable locations for delivery trucks to park (away from moving vehicles) so that contact can be made with the relevant site representative for access.	SM Sub-contractors	Monitor deliveries and pick ups.	Impacts minimised. No complaints.
Vehicles moving direction	At all times	All vehicles moving on site will move in a forward direction If reversing is necessary the subcontractor will ensure suitably trained person will give direction and keep other persons from entering the area. Detailed and instructed in the Site induction and included in contractors SWMS	All	Monitor compliance.	No unguided reversing.
Prevent the tracking of soil/mud off-site by construction vehicles.	At all times	*Refer to the Stormwater, Erosion and Sediment Control Management Sub Plan.* Site may require a wheel wash or shaker facility to be installed. All loads covered by contractor.	SM Sub-contractors	Condition of site access monitored and maintained.	No tracking. No spillage of material. No complaints or fines.
Ensure all vehicles entering site are road registered and being maintained in good condition.	At all times	Subcontractors must undertake daily inspections. Gate keeper to monitor construction vehicle registration and condition. All operators must hold appropriate certification of competency and/or be trained and supervised (as relevant).	SM Foreman	Monitor compliance. Address in subcontractor WMS. Review and retain plant inspection records.	No non-complying plant used on site. No unqualified operators identified. No plant related incidents (spillage).

APPENDIX 1: TRAFFIC PLAN – TO BE DEVELOPED DURING CONSTRUCTION PHASE

The main vehicle access to the site will be on Upper Fort Street which provides a connection to the Argyle Street via Watson Road.

Propsed traffic control diagram – Figure 1



Proposed Vehicle movement – Figure 2