



Harbour Control Tower Demolition Works

Traffic Management Plan

Prepared by
Liberty Industrial Pty Ltd
for
Barangaroo Delivery Authority

Revision No.	Revision Date	Authority	Changes
00	15.02.2016	TS	First Issue
01	23.02.2016	TS	Inclusion of Traffic Through City
02	31.03.2016	TS	Section 6, Appendix A, Appendix B, Appendix C

Specialist Deconstruction Services

- Industrial demolition contractors ■ Mine closure consulting ■ 3D Modelling
 - Demolition consultants ■ Asbestos abatement
- Liberty Industrial Pty Ltd A.B.N. 99 147 758 487



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1 PURPOSE

This Traffic Management Plan establishes the controls required to ensure the safe movement of all vehicles to, from, and on the demolition site.

The purpose of this document is to ensure that all parties concerned with this project have a full understanding of all of the measures proposed for the safe and successful completion of the deconstruction and demolition works.

The method detailed in the Demolition Work Plan (DWP) provides a superior outcome in regards to traffic impact to the method described in the Evans & Peck report "Proposed Removal of Sydney Harbour Control Tower - Demolition Review".

The method in the DWP provides better outcomes with respect to:

- The amount of time required to shut down Merriman Street;
- The extent of the Merriman Street closure;
- The amount of truck movements; and
- The risk to damaging the kerbs on the eastern side of Merriman Street.

2 SITE

Harbour Control Tower (HCT) Demolition Works at Merriman Street, Millers Point NSW, 2000.

Although the site is relatively small, consideration must be made for the external traffic conditions when trucks entering and exiting the site.

3 SCOPE

The Scope of Work includes the following:

- Demolition of the Harbour Control Tower.
- Demolition of the footing of the HCT.
- Pouring of a new slab in The Cutaway and Landscaping works.

4 LIBERTY INDUSTRIAL RESPONSIBILITIES

Liberty Industrial will conduct activities to interfere as little as possible with public travel outside of the Access Areas, whether vehicular or pedestrian and whether adjacent to roadways. Liberty will be utilising a method which aims to minimise public disturbance as much as possible.

Whenever it is necessary to cross, obstruct, or close roads, whether public or private, Liberty Industrial will provide and maintain suitable detours or other temporary measures

to accommodate public and private travel, and shall provide reasonable notice to owners of private drives before interfering with them.

Any closure of roads must be approved by the Council of City of Sydney.

5 ROLES AND RESPONSIBILITIES

All workers on the project, including subcontractors, have a responsibility for ensuring the health and safety of themselves and of others. The specific responsibilities of key persons for ensuring effective WHS outcomes during a project are specified below.

5.1 PROJECT MANAGER

The Project Manager is the key person for the success of the company's traffic management policy, and has overall responsibility for the implementation and administration of the Management System. The Project Manager's responsibilities include, but not limited to:

- Being informed of all worker(s) accessing the Demolition Controlled Zone.
- Ensuring traffic movements on site is conducted in a safe and proper manner.
- Site Administration Staff;
- Supervisors;
- HSEQ Manager;
- Contractors, Subcontractors, Suppliers, and workers;
- Consultants;
- Visitors;
- Liberty Industrial will explicitly comply with the KPI's as agreed with the contract owner.

5.2 WHS RESPONSIBILITIES

- Develop, where necessary, detailed procedures for the safe performance of work and review these procedures for adequacy;
- Ensure all necessary plant and equipment is provided to enable work to be carried out safely, ensuring such plant is maintained to the manufacturer's specification by competent persons;
- Keep the workplace well organised and tidy by establishing at the early stages, correct laydown areas and rubbish removal;
- Set up facilities for First Aid, Fire Fighting and Emergency Procedures, and ensure compliance with State authorities;
- Establish with all subcontractors the traffic requirements prior to work commencing;

- Review traffic procedures and work methods submitted by subcontractors and ensure compliance with State legislation and company policy;
- Ensure due diligence in appropriating sufficient resources to eliminate or minimise risk to health and safety from work carried out;
- Ensure that no Prohibited Tools are brought on site and seek approval for tools prior to bring them on site;

5.3 EDUCATION AND TRAINING

- Identify training needs of workers, and release them to undertake the specific training;
- Ensure the subcontractor provides evidence of the experience, training, and proficiency of workers prior to starting work on site;

5.4 ACCIDENT/INCIDENT REPORTING

- Establish and maintain necessary procedures for the recording and reporting of traffic accidents and incidents at the workplace;
- Encourage worker participation in reporting hazards/incidents and near misses, and with suggestions to reduce accident potential;
- Ensure the relevant reports and statistical information is forwarded from Liberty Industrial Head Office to the client's representative;
- Ensure all accident/incidents are investigated and reported in accordance with Liberty Industrial procedures;
- Incidents are recorded in the incident register and are followed up through the internal audit process which measures the effectiveness of the changes;
- Not alter the site where an injury occurs without the permission of an inspector;

5.5 ESTABLISH AND MAINTAIN SAFETY AWARENESS

- Daily prestart meetings are a mandatory requirement. You will be advised of the traffic movements at the pre-start;
- Safety talks, demonstrations, posters, etc. will be undertaken during the course of the project to promote safety awareness;
- Encourage all workers to maintain acceptable standards of health and safety and foster an awareness of health and safety benefits;

5.6 DISCIPLINE

Disciplinary action will be taken in the event of a breach of WHS rules detailed in the Liberty Industrial site induction.

5.7 SUPERVISORS

Supervisors (Engineers, Project Managers, Site Supervisors, Leading Hands) have the greatest impact on project safety and are directly accountable for the WHS and traffic movements of workers under their control. They have an obligation to lead by example and set the benchmark for health and safety. Their responsibilities include, but are not limited to:

- Ensure that any non-inducted individual, or site visitor are accompanied on site with an approved and inducted site supervisor.
- Ensure that correct and safe work and environmental procedures are implemented and adhered to by all persons;
- Identify and take corrective action to eliminate or control hazardous work conditions, equipment and/or practices;
- Ensure housekeeping is maintained to a standard that prevents and/or eliminates the majority of risks which includes slips, trips, and falls;
- Ensure that workers are supplied with protective clothing and equipment along with training in the use PPE where necessary;
- Investigate and document all recordable incidents in line with company procedures, and ensure corrective action and notification is actioned;
- Participate in, and contribute to, the effectiveness of health and safety meetings;
- Facilitate and support daily toolbox talks, and communicate safety feedback and information;
- Ensure that subcontractors adhere to their submitted traffic plan;
- Undertake daily work area inspections.

Note: Should at any time, any of the above mentioned responsibilities not be able to be fulfilled, the Project Manager is to be informed immediately.

5.8 HSEQ MANAGER

Specific HSEQ Manager include, but are not limited to:

- Conduct a review of this traffic plan to assess its suitability for the scope of work on site, for a period deemed as appropriate or when required;
- Update the Project Manager and supervisory staff on overall health and safety at the site;
- Ensure workplace inspections are conducted by site management to ensure the observance of traffic standards, and take corrective measures as required;
- Ensure all incidents and near misses are recorded and investigated along with corrective action recommendations;
- Ensure protective equipment and clothing is supplied to site and is being used correctly by all workers in the site;

- Conduct safety induction training;
- Maintain up-to-date records for implementation verification of this plan;
- Review submitted subcontractor Safe Work Method Statements (SWMS) ensuring compliance with this plan, WHS Act and subordinate legislation;
- Carry out audits of this plan to ensure compliance;
- Liaise with the Project Manager and supervisory staff on all site traffic matters;

5.9 ALL SITE WORKERS

All workers are responsible for:

- Ensuring traffic procedures are being adhered to on site;
- The safety of themselves and others. If a hazard is identified, all workers have a duty to inform their supervisors;
- Carrying out their work in a manner, which does not put themselves or others at risk of harm;
- Promoting a traffic incident free culture;
- Ensuring they have the training and competence to carry out the task without risk;
- Clarifying with their supervisor any matter, which has the effect of putting themselves or others at risk;
- Reporting all incidents and near misses;
- Complying with the Fitness for Work policy;
- Complying with statutory requirements;
- Attending all site inductions, toolbox talks and pre-start meetings;
- Correct use, storage and care of PPE;
- Maintaining a high standard of housekeeping in their area over which they have control;

6 TRAFFIC MANAGEMENT

6.1 VEHICLE MOVEMENTS

The proposed demolition methodology has the following vehicle movements to and from the site:

- Trucks accessing Merriman Street during construction and alterations of the XL Platform
- Trucks accessing the Cutaway via the existing driveway off Towns Place via Hickson Road for loading out the demolition debris during the structural demolition of the Tower, and
- Construction workers personal vehicles throughout the project

6.2 HOURS OF WORK

The approved hours of work are 7am to 6pm Monday to Friday and 8am to 5pm on Saturdays (No work on Sunday or Public Holidays).

Traffic movements will strictly adhere to the above hours with no pooling in surrounding streets allowed.

6.3 TRAFFIC ROUTES

Trucks in general will travel from the west along the A4 then take the King St exit towards the city centre, turn left onto Sussex Street, and continue onto Hickson Road.

6.3.1 Cutaway

Trucks will access the Cutaway via Hickson Road onto Towns Place and then driving through the existing roundabout into the Cutaway Loading Dock and into the designated demolition site within the Cutaway (See Appendix A – Traffic Routes).

As the trucks enter the Cutaway driveway off Towns Place, they are to keep right to go to the loading dock and demolition site entrance (left is access to the car park beneath) and MUST adhere to the road signs and light signals within at all times which includes a red light / green light system employed to ensure the safety of pedestrians and other traffic within the BDA owned operation.

When exiting “The Cutaway”, trucks may require a build-up of speed to do so, which may impact the time it takes to stop at the red light. As such, all truck drivers MUST be made aware of the light system and, if required, will be escorted out of the Cutaway.

All drivers who have to alight from their vehicle to carry out work are required to be inducted. No induction is required for delivery of smaller items to the main office compound area.

On entry to the demolition site, the driver is directed to the designated area, and if the truck and load is “oversize or over width” the vehicle will be escorted.

6.3.2 Merriman St

Trucks will access Merriman St via Hickson Road onto Towns Place and then left at the existing roundabout onto Dalgetty Rd and then right into Bettington St and right into Merriman St (See Appendix A – Traffic Routes).

6.4 ROUTE INSPECTION

Prior to any traffic movements, an inspection of the proposed route will be undertaken by the Project Manager. The inspection will consider, but not be limited to, the following:

- Visibility at intersections;
- Width of load and the route to be taken;
- Condition of road shoulder and its weight bearing capacity;
- Areas of low clearance or height restrictions;
- Overhead services;
- Location of and availability of barricades for road closures;
- Location of Traffic Controllers;
- Potential for disruption to Operations;
- Permits required e.g. road closures;
- Authority to Work permit;
- Notifications required e.g. Operations, Security;
- Potential for collisions;

6.4.1 Cutaway

The Cutaway has a designated loading dock that has been designed to receive deliveries from Semi Trailers which is currently active and in service for BDA when functions are held within the Cutaway Cultural Space. As such, no sweep path analysis is required for vehicles entering this loading dock.

6.4.2 Merriman St

Before any truck movements to Merriman St, the Austroads Swept Path Assessment Diagrams for 19m Articulated Vehicles/12.5m Heavy Rigid Vehicles into and out of Merriman Street (see Appendix D – Sweep Path for Merriman St) MUST be consulted.

6.5 FREQUENCY OF MOVEMENTS

6.5.1 Cutaway

Trucks will be accessing the Cutaway throughout the project to primarily to load out demolition debris.

During the peak structural demolition period from July to September 2016 there will only be 1 to 2 truck movements per day accessing the Cutaway. Outside this peak period, only 3 truck movements per week will be accessing the Cutaway.

6.5.2 Merriman St

Trucks will be accessing Merriman St primarily for the erection and alteration of the XL Platform that will be used to facilitate the demolition works and will require either a partial or full road closure of Merriman Street will be required to accommodate trucks and crane usage.

The XL Platform works is scheduled to be undertaken as follows:

- Crossover construction for 16t City Crane access to BDA land – 2 days (scheduled for late April 2016)
- Erection part 1 – 7 days (scheduled for early May 2016)
- Erection part 2 – 18 days (scheduled for mid May to early June 2016)
- Alteration – 6 days (scheduled for late September 2016)
- Dismantle – 4 days (scheduled early October 2016)

Local residents will be notified of full or part closures of Merriman St by letter drops (and as required under the City of Sydney Council Permit requirements) and at the monthly community consultation meetings held by BDA. Alternative parking will be offered free of charge when car parking spaces are taken up as part of the closure.

Access and egress for residents from their houses will be managed by traffic controllers during these closure periods in accordance with the City of Sydney approved Traffic Control Plans that will form part of the permit for the relevant closure..

6.5.3 Construction Workers

Maximum number of workers throughout the works is 6 with a maximum of 6 vehicles having 1 movement per day for the duration of the project.

6.6 ROAD CLOSURES

Full or partial road closures required in Merriman St will be applied for with the City of Sydney Council on the prescribed form in the prescribed manner.

A specific Traffic Control Plan for each type of closure will form part of the approved permit (See Appendix B – Proposed TCP's for Merriman St Closures).

6.7 TRAFFIC CONTROLLER

6.7.1 Cutaway

The Cutaway is currently used and will continue to be used throughout the works as an exhibition and function area which has a loading dock accessed by semi trailers following the standard road rules to access the site via the driveway off the Towns Place roundabout. The traffic movements into the Cutaway will also follow the standard road rules to access the Cutaway area and as such, no traffic controller is required for Trucks entering or leaving the Cutaway loading dock.

6.7.2 Merriman St

When trucks are accessing Merriman St it will be under either a partial or full road closure permit provided by the City of Sydney Council with an approved Traffic Control Plan in place attached to the respective permit for the specific type of closure.

6.8 SIGNAGE

All existing road signs and light signals will be followed including those within the Cutaway loading dock area.

10km/hr speed limit signs will be posted at the access gates to the demolition site. Strict adherence to the speed limit is required whilst within the demolition site.

6.9 SPECIAL CONSIDERATION

Throughout the works the service access points to the Cutaway will be kept open at all times so as to maintain access and vehicle movements into the Cutaway.

6.10 LOADING / UNLOADING OF VEHICLES

6.10.1 Cutaway

All loads delivered to the demolition site via the Cutaway loading dock are unloaded and loaded in the designated area as defined by the Project Manager or delegate at time of entry.

6.10.2 Merriman St

All loads delivered to Merriman St are unloaded and loaded by crane from the areas in accordance with the TCP that is approved by the City of Sydney Council as part of the issue of the relevant permits (namely from the 4 most Northern car spaces).

6.11 DEMOLITION SITE SPECIFIC ROAD RULES

The following, but not limited to, will be followed:

- 10km/hr. speed limit – or sign posted speed limits.

- UHF radio communication shall be used for all communication between all vehicles and workers;
- Guidelines for abnormal road conditions prior to use (e.g. rain, high winds) giving “go/no go” criteria and stating the responsible person for this decision shall be provided at the pre-start meeting or via UHF radio;

6.12 PARKING

All vehicles must reverse park when parking in designated parking areas.

Parked up light vehicles must be reversed parked.

During refuelling or maintenance, positive and effective isolation must be adhered to.

6.13 PEDESTRIAN MOVEMENTS WITHIN DEMOLITION SITE

All pedestrian movements within the Demolition Controlled Zone will require approval from the project manager. Any non-inducted pedestrian or visitor who enters the Demolition Site must be accompanied with an inducted person at all times.

6.14 PUBLIC AND WORKER(S) PROTECTION

6.14.1 Cutaway

To separate the demolition site from the rest of the Cutaway Cultural space, a floor to ceiling scaffold dust screen / hoarding with a plywood face will be constructed (See Appendix C – Site Setup).

A vehicle access gate will be constructed within the dust screen / hoarding for vehicle and worker access to the site which will be locked at all times when not in use to prevent unauthorised access.

6.14.2 Merriman St

On Merriman St, a combination of temporary panel fencing, A-class hoarding, B-class hoarding, and existing perimeter fencing will create a secure demolition site area (See Appendix C – Site Setup).

A vehicle gate will be constructed within the A-Class Hoarding for crane access from Merriman St and personnel gates placed in the temporary panel fencing which will all remain locked at all times when not in use.

In addition, the XL Platform work deck will provide in excess of 7kPa overhead protection for the duration of the works.

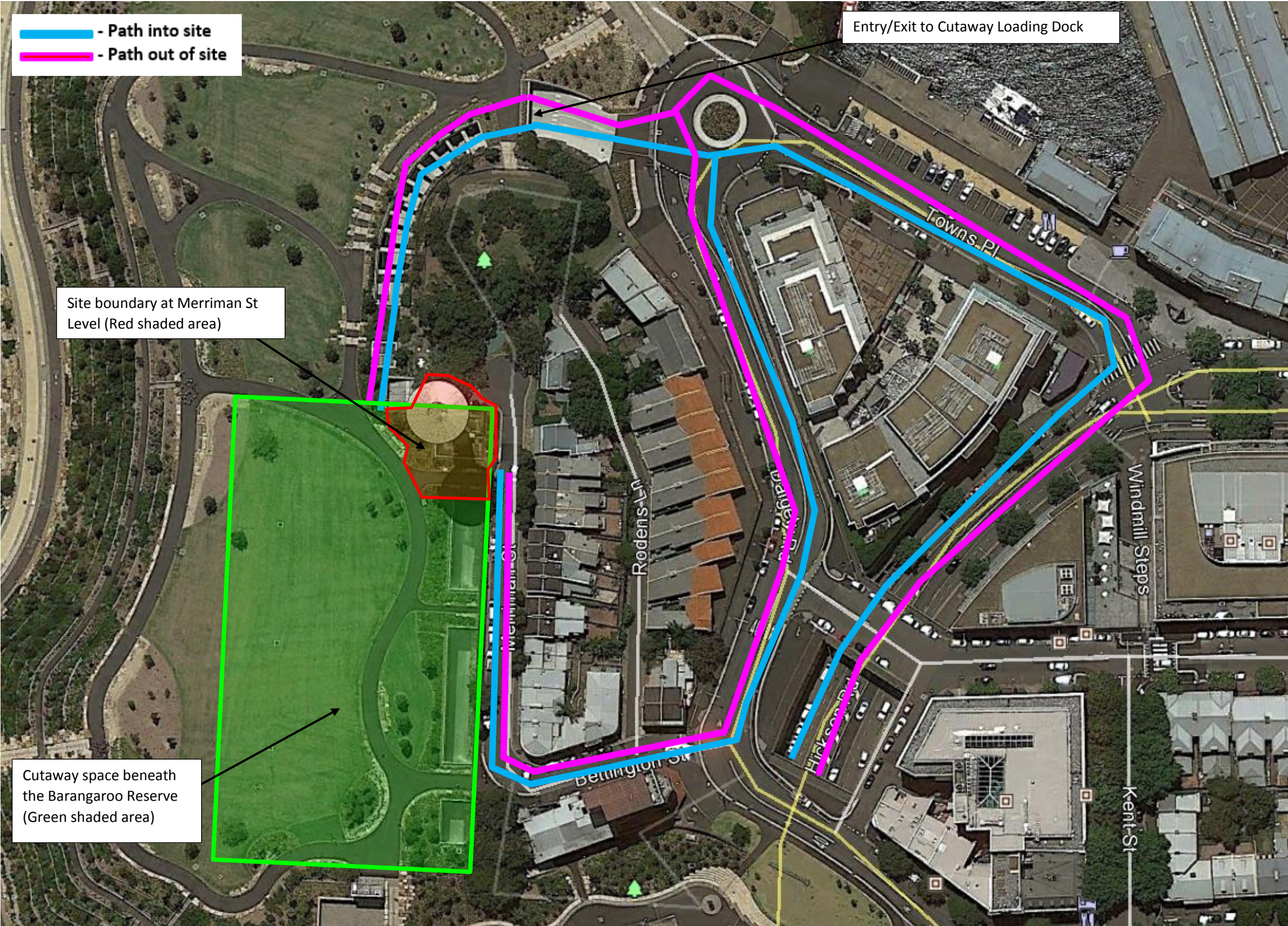
6.15 VISITORS AND NON-INDUCTED PERSONNEL

Any non-inducted pedestrian or visitor who enters the Demolition Site must be accompanied with an inducted worker at all times. Approval to enter the site must be sought from the project manager before entering the site.

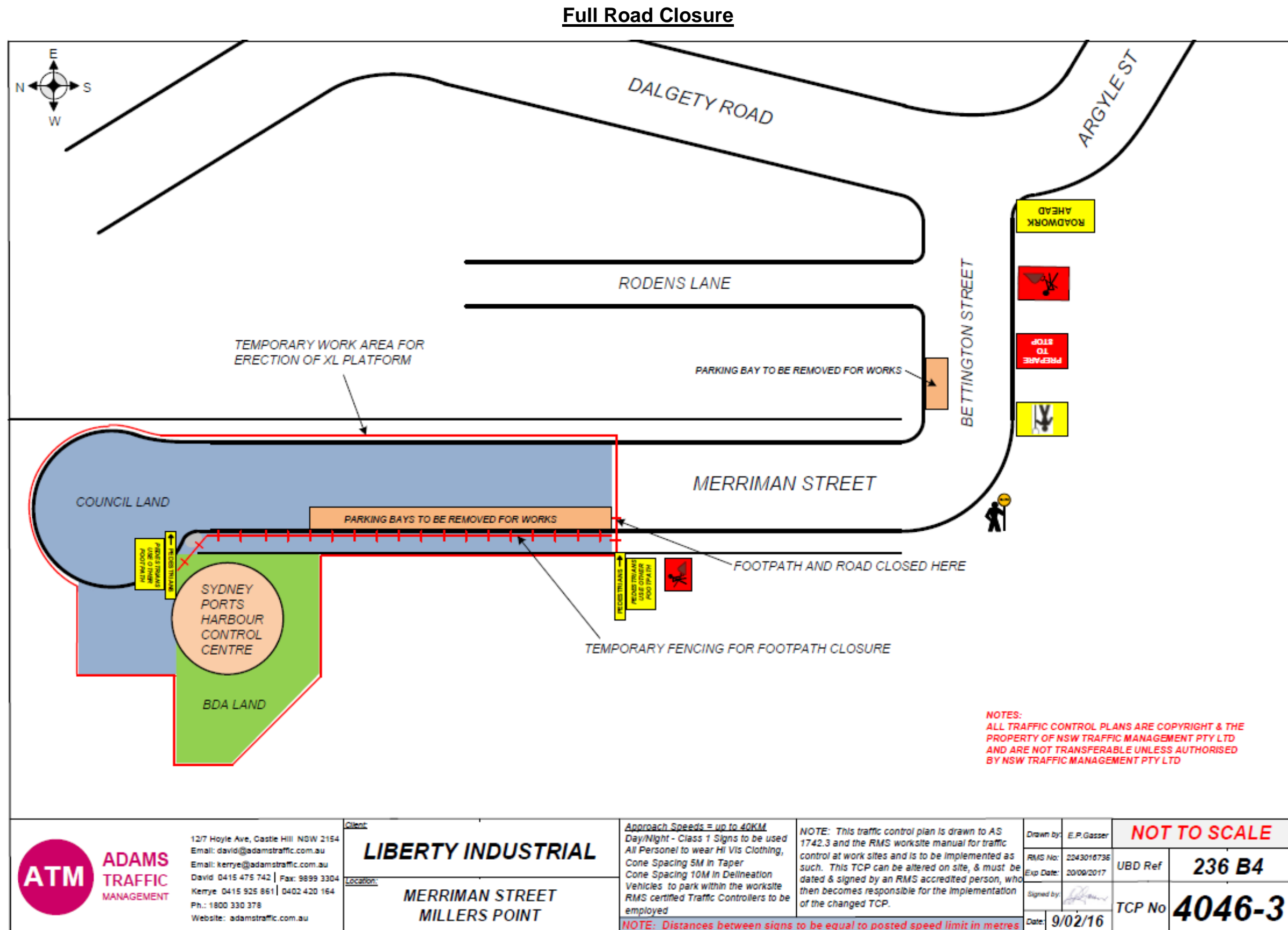
6.16 EMERGENCIES

Procedures for any emergency or evacuation shall be in accordance with the Emergency Management Plan. If an emergency is declared, the project manager must be informed immediately. Any vehicle movements associated with evacuation must adhere to the Emergency Management Plan.

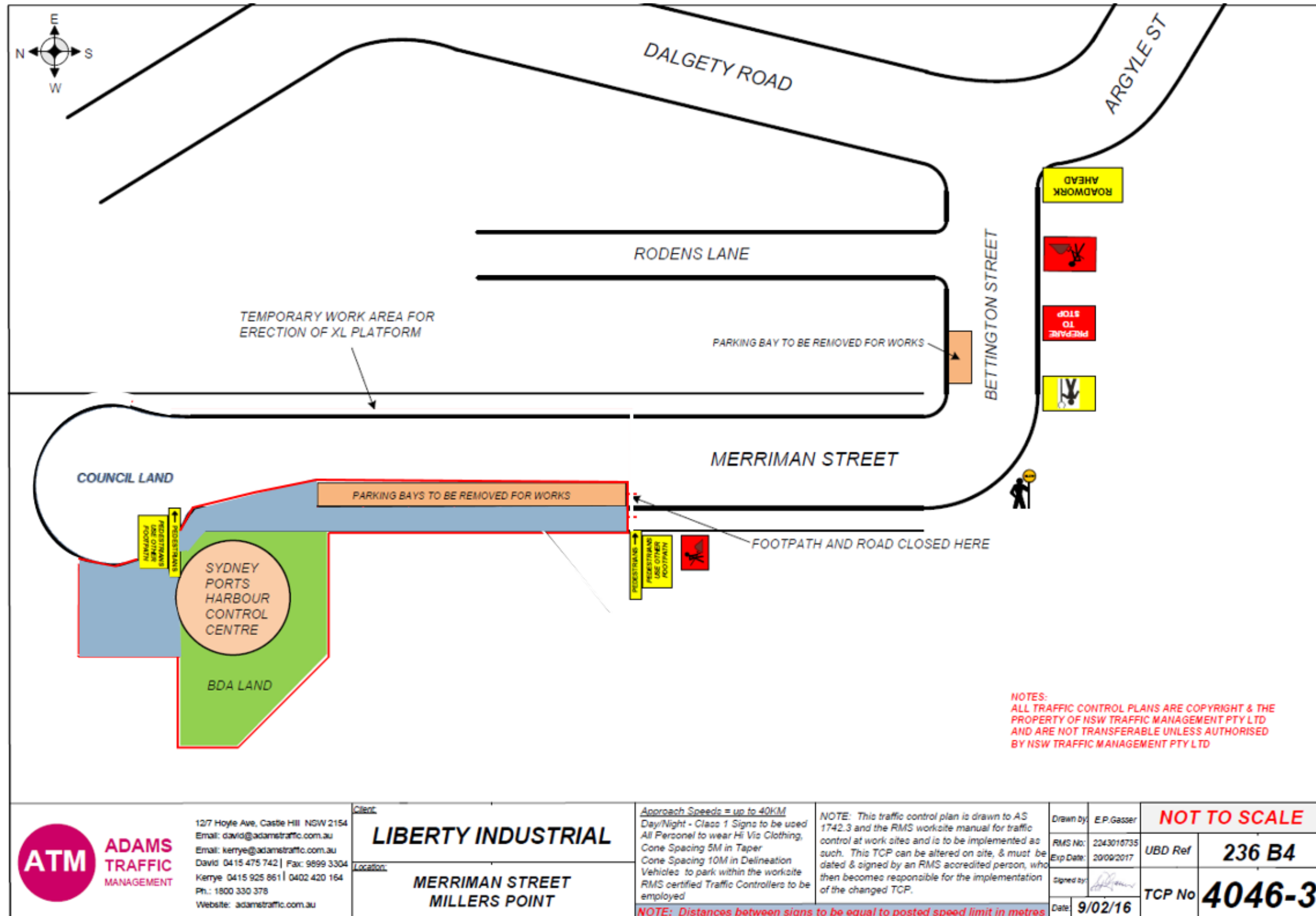
7 APPENDIX A – TRAFFIC ROUTES



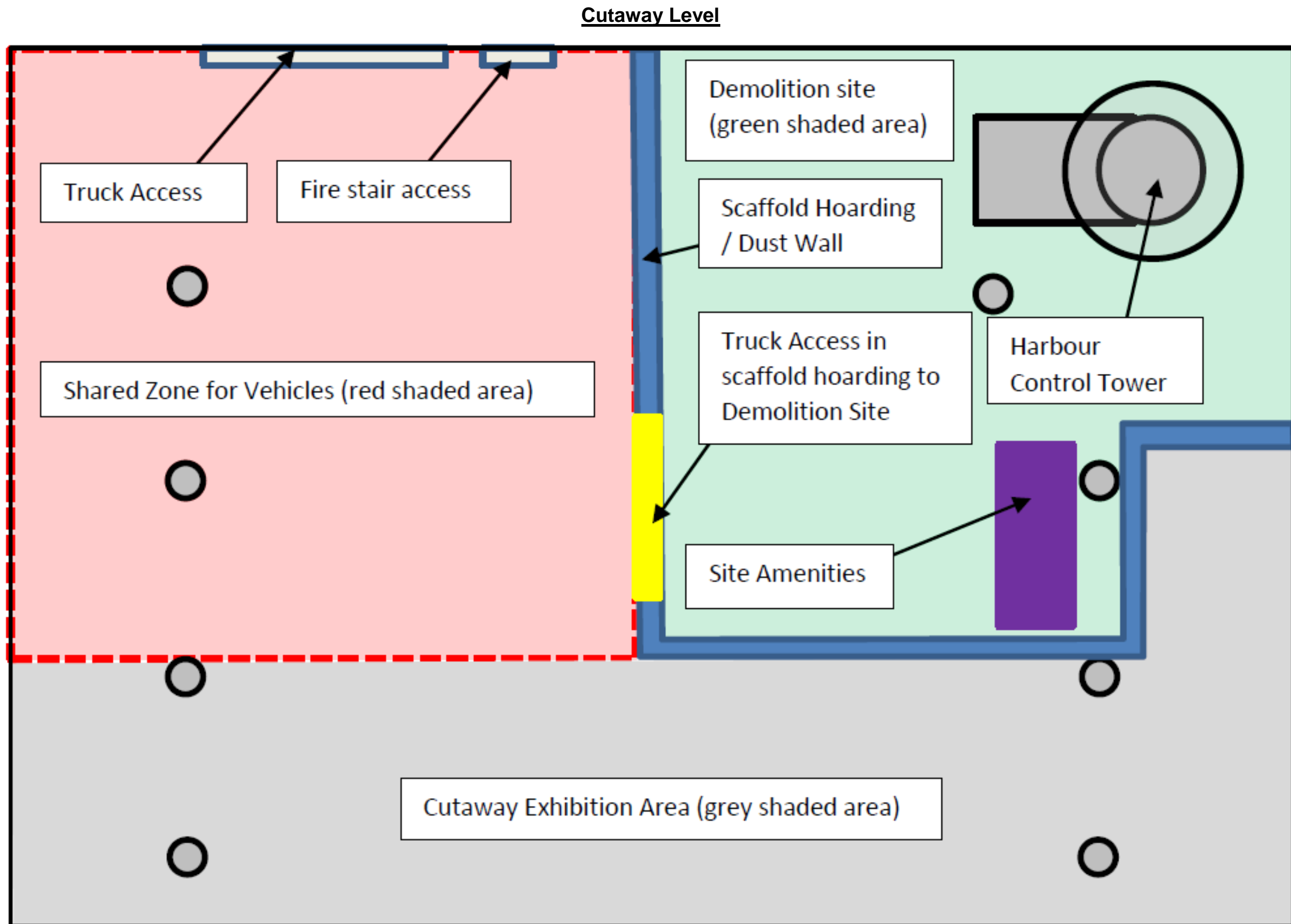
8 APPENDIX B – PROPOSED TCP'S FOR MERRIMAN ST CLOSURES



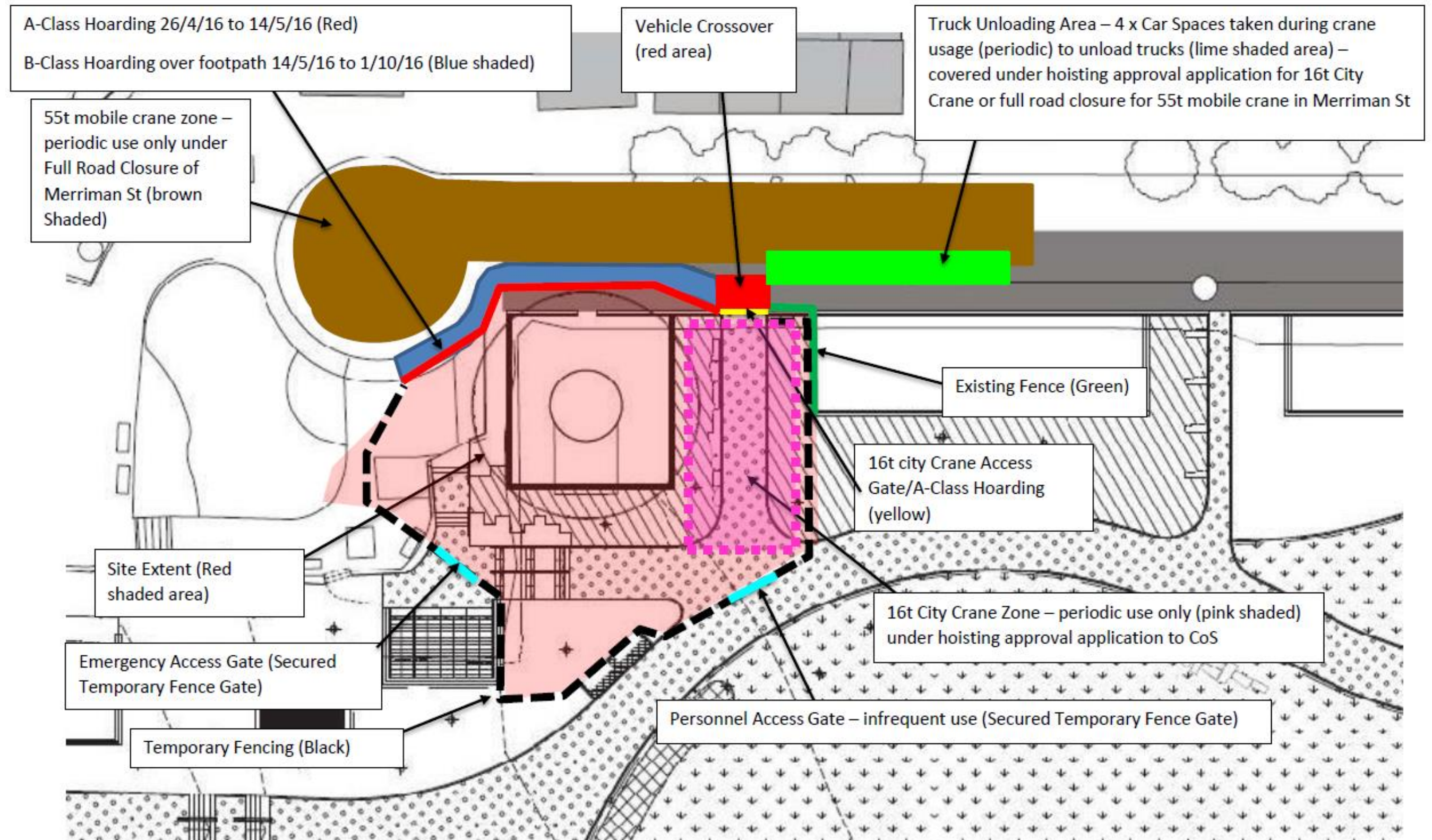
Partial Road Closure



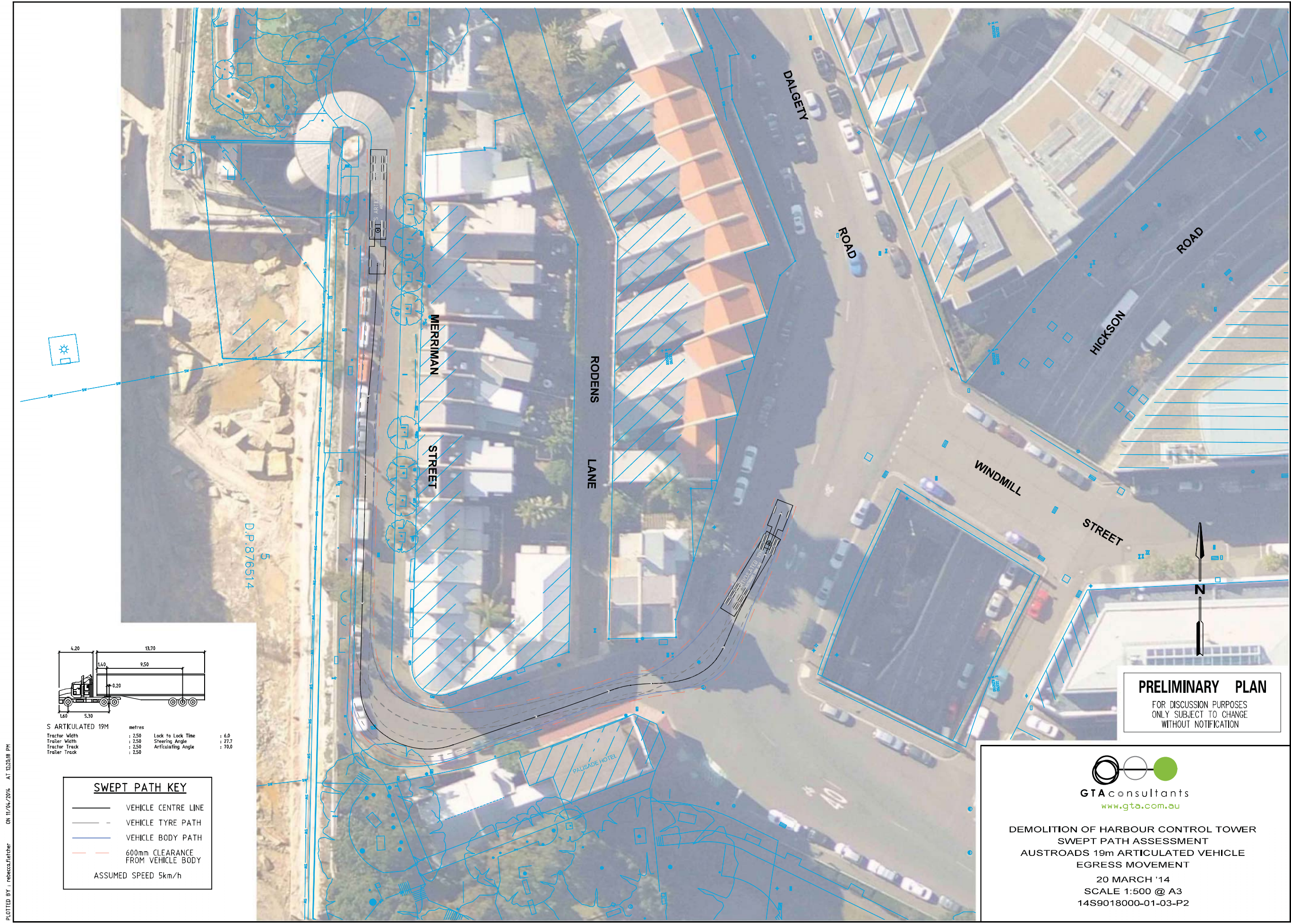
9 APPENDIX C – SITE SETUP



Merriman St Level



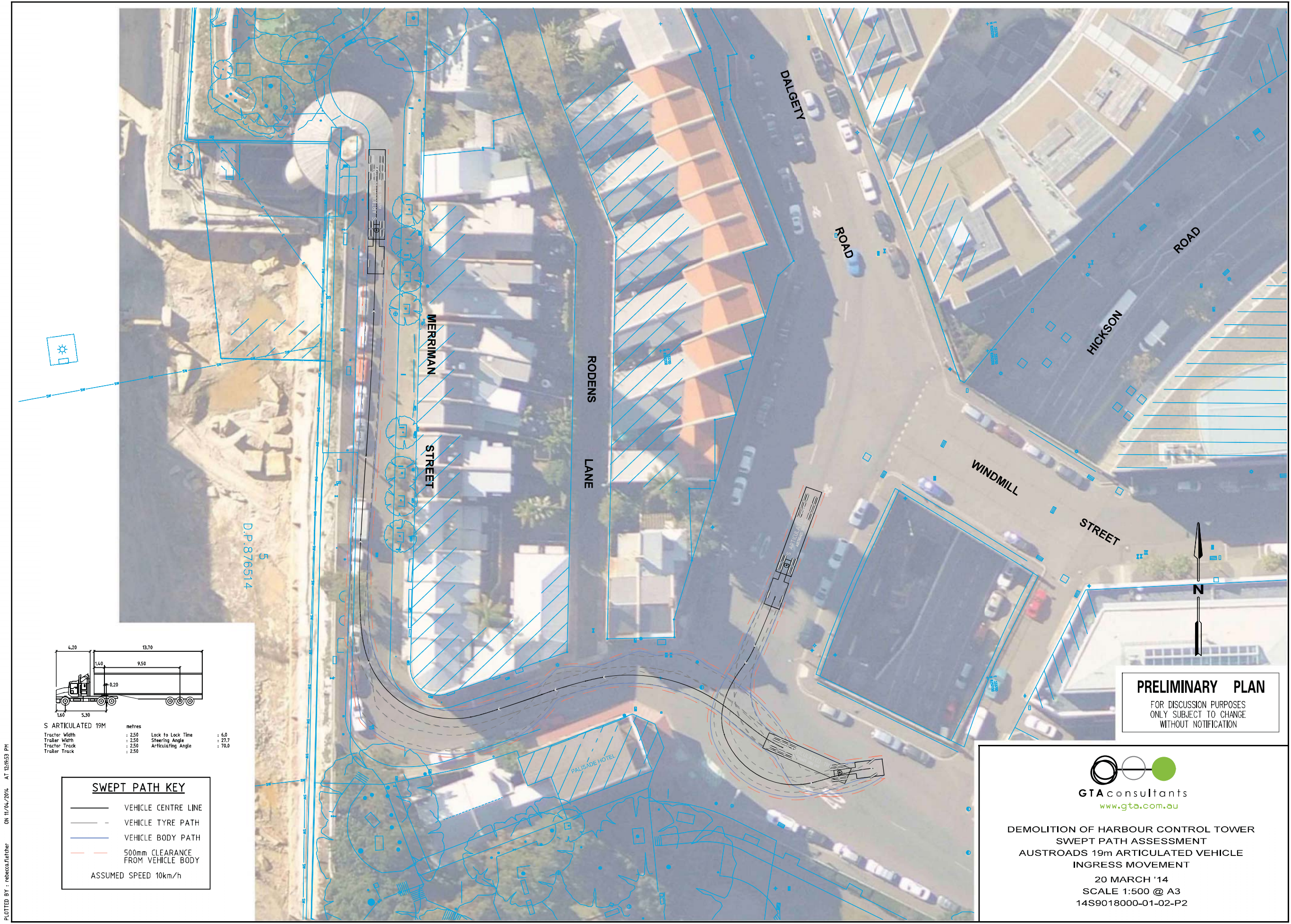
10 APPENDIX D – SWEEP PATH FOR MERRIMAN ST



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION



DEMOLITION OF HARBOUR CONTROL TOWER
SWEEP PATH ASSESSMENT
AUSTROADS 19m ARTICULATED VEHICLE
EGRESS MOVEMENT
20 MARCH '14
SCALE 1:500 @ A3
14S9018000-01-03-P2



4.20 13.70 1.40 9.50 0.20 1.60 5.30

S ARTICULATED 19M

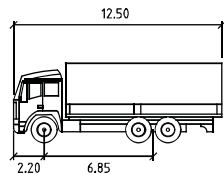
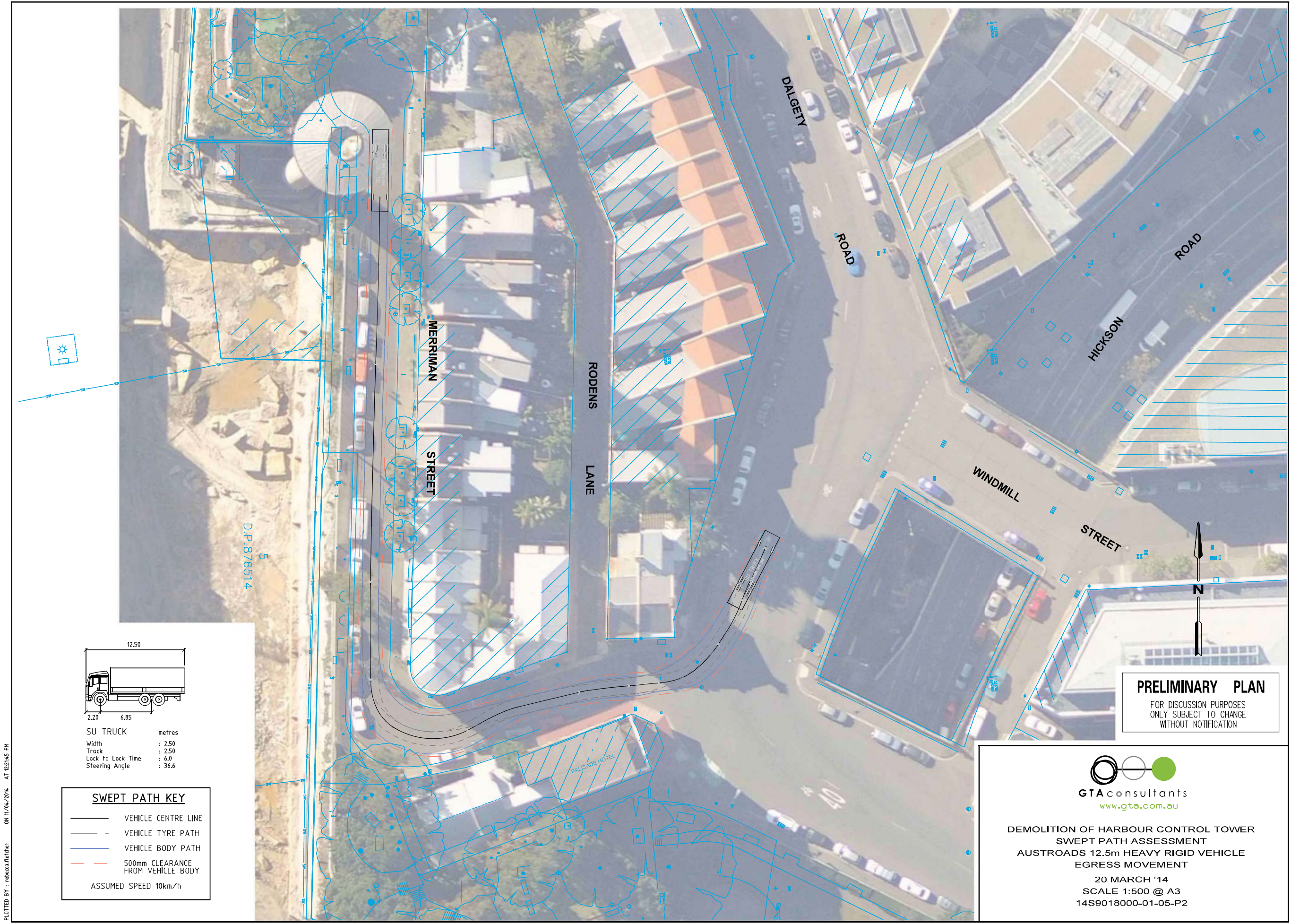
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.7
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

SWEEP PATH KEY	
—	VEHICLE CENTRE LINE
- -	VEHICLE TYRE PATH
—	VEHICLE BODY PATH
- -	500mm CLEARANCE FROM VEHICLE BODY
ASSUMED SPEED 10km/h	

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION



DEMOLITION OF HARBOUR CONTROL TOWER
SWEEP PATH ASSESSMENT
AUSTROADS 19m ARTICULATED VEHICLE
INGRESS MOVEMENT
20 MARCH '14
SCALE 1:500 @ A3
14S9018000-01-02-P2



SU TRUCK	metres
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

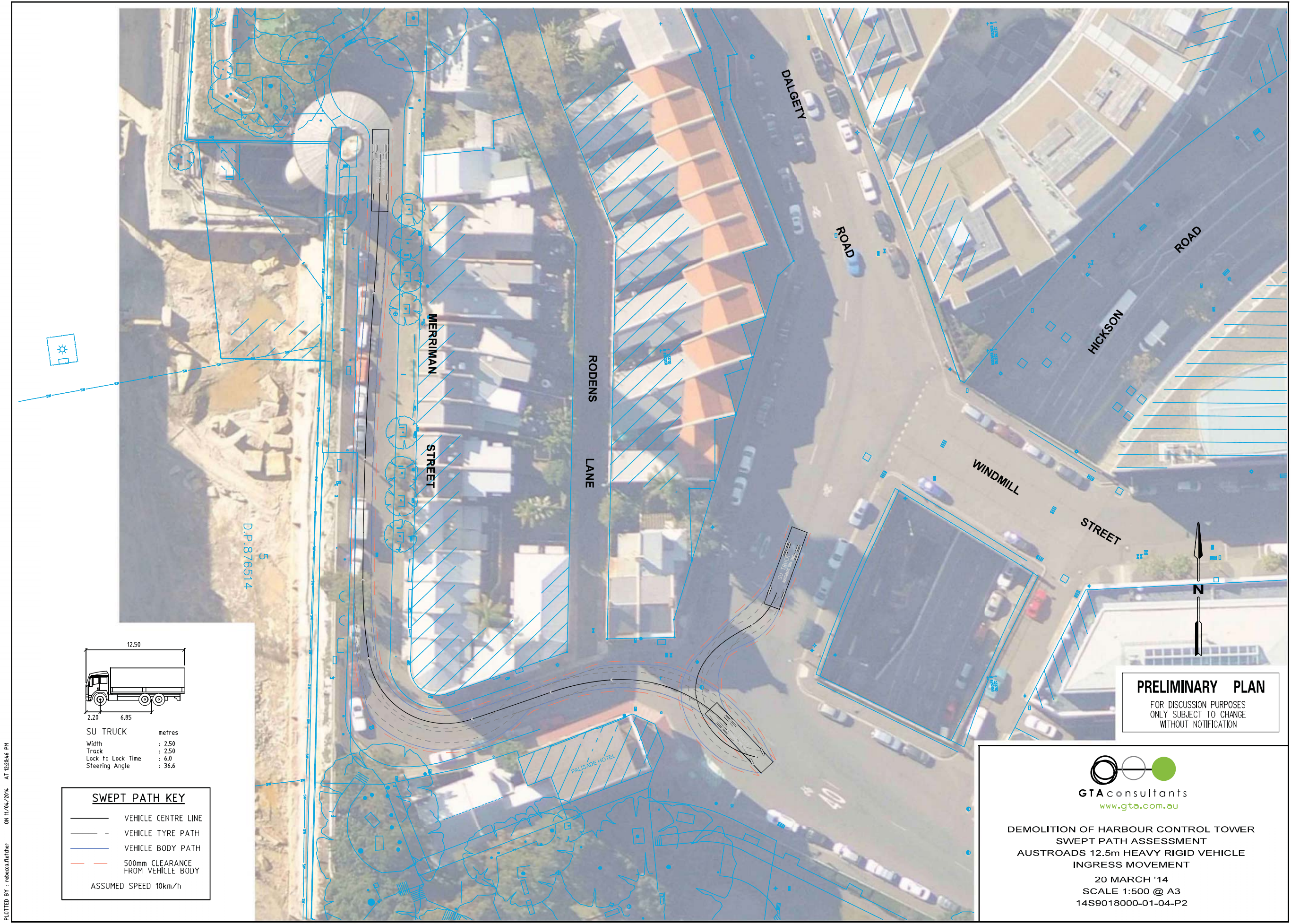
SWEPT PATH KEY

- VEHICLE CENTRE LINE
 - - VEHICLE TYRE PATH
 - VEHICLE BODY PATH
 - 500mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 10km/h

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION



DEMOLITION OF HARBOUR CONTROL TOWER
SWEPT PATH ASSESSMENT
AUSTRROADS 12.5m HEAVY RIGID VEHICLE
EGRESS MOVEMENT
20 MARCH '14
SCALE 1:500 @ A3
14S9018000-01-05-P2



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION



DEMOLITION OF HARBOUR CONTROL TOWER
SWEEP PATH ASSESSMENT
AUSTRoads 12.5m HEAVY RIGID VEHICLE
INGRESS MOVEMENT
20 MARCH '14
SCALE 1:500 @ A3
14S9018000-01-04-P2