Memorial Park Alliance

26 June 2014

LOCAL ROADS TRAFFIC IMPROVEMENTS PLAN

Buckle Street Tunnel

UND-03-DES-RP Legislation – Local Roads Traffic Improvements Plan

Rev.	Status	Prepared by	Checked by	Date
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Contents

1 INTRODUCTION

This Local Roads Traffic Improvements Plan (LRTIP) has been prepared to outline the improvement works to be undertaken on sections of the local road network in association with construction of the National War Memorial Park and the State Highway 1 (SH1) tunnel beneath.

1.1 Document Purpose

This LRTIP aims to communicate information about changes to the local roads affected by the National War Memorial Park (Pukeahu) Empowering Act 2012 (the Act) works; namely the construction of the undergrounded section of SH1 and the National War Memorial Park (the Project), to ensure that road users and community stakeholders have been sufficiently considered and catered for.

As directed by the Act, this LRTIP addresses the following:

- Tory Street / Tasman Street / Buckle Street intersection;
- Tasman Street / Rugby Street intersection;
- Tory Street or Tasman Street works required to mitigate traffic effects of the Project on residents and businesses located on these roads and/or on pedestrians and cyclists who use these roads;
- Provision of appropriate signage and information to motorists and road users as a result of restrictions in access arising as a result of the Project;
- Signal control plans that ensure effective management of SH1 traffic and local road movement northbound and southbound on Taranaki Street; and
- Local road and pedestrian/cycle configuration across the Memorial Park and into existing pedestrian/cycle paths, access to Massey University and the site of the former Mt Cook Police Barracks.

Also detailed is the staging programme for delivery of the works, road design and safety standards, predicted levels of traffic flows across the road network and predicted performance once the above improvements are introduced.

1.2 Legislative Requirements for Local Roads Traffic Improvements Plan

Preparation of a LRTIP is required by the Act, within the following conditions of consent:

- Conditions NZTA 32-35 of Schedule 3, Part 2 Conditions applying to exercise of designation; Operational - Local Road Traffic Works, Pages 78-79.

The conditions include a list of specified items which are to be addressed in this LRTIP document. A copy of the conditions from the Act relevant to the LRTIP is included as Appendix A.

2 TRAFFIC MANAGEMENT STRATEGY

To enable the Park to extend northwards from the National War Memorial, through traffic using SH1 will make use of a new tunnel which will remove SH1 vehicles from the Tory St / Tasman St intersection.

While most people won't be required to change travel routes, those travelling between SH1, Massey University, the National War Memorial and Tory and Tasman Streets will be affected, resulting in a redirection of traffic along alternative routes.

Improvements to local roads and intersections are required as a result of this traffic redistribution, and are also in response to the desired outcomes that complement the Memorial Park environment. The area the local improvement works cover is guided by Condition 33 of the Act and identified in Section 1.1 of this report.

The development of the LRTIP has been guided by the hierarchy documented in the Wellington District Plan (copied below) and the transport network objectives described by Council Officers.

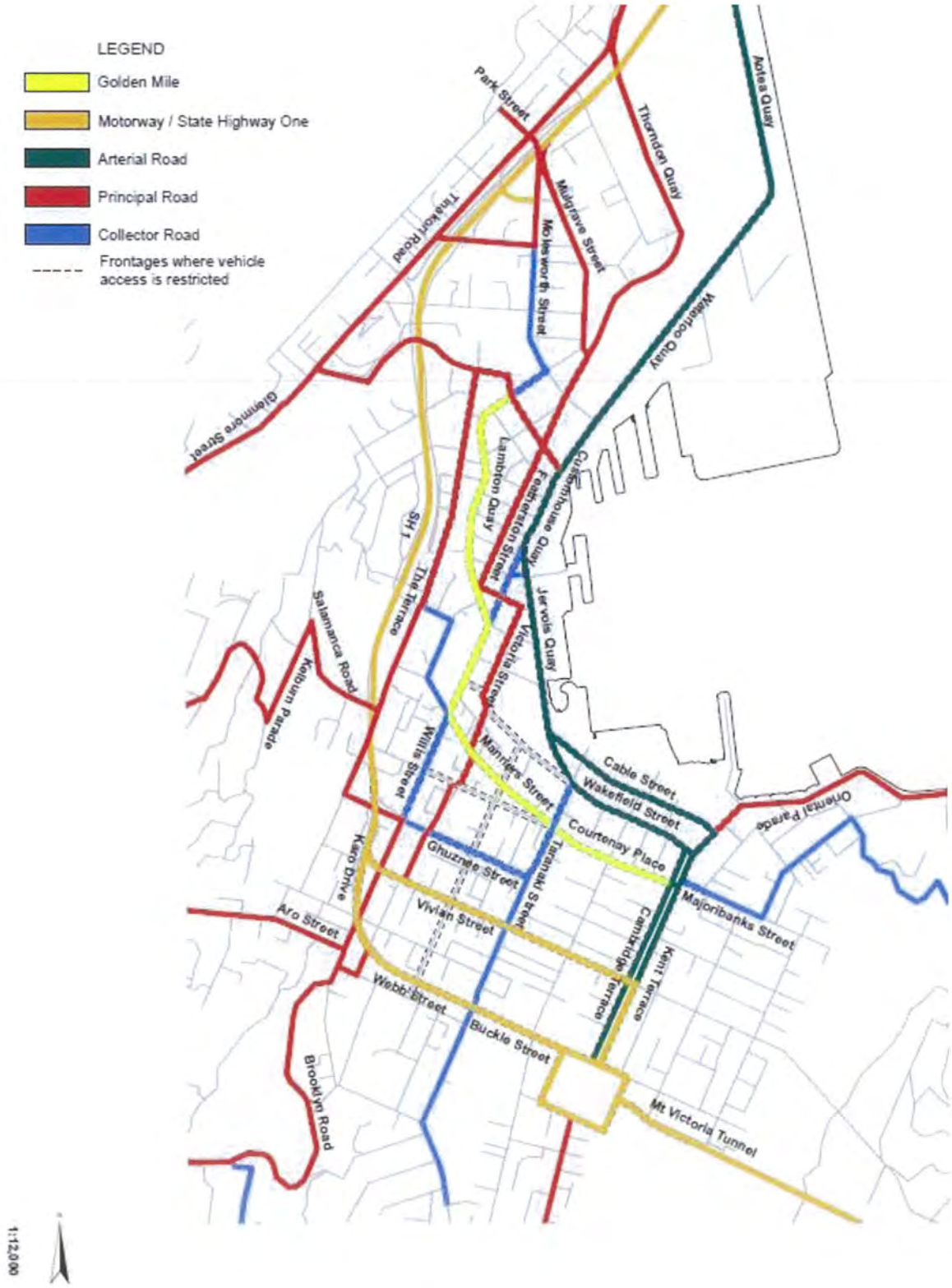


Figure 1: Wellington District Plan Road Hierarchy

The overall strategy can be summarised as follows:

- High priority for pedestrians through the Park area between Taranaki Street and Cambridge Terrace as well as off-road (but not high speed) cycle connections;
- High priority for motor vehicles on SH1 as the highest ranked road in the hierarchy. A focus on through movement and connection with arterial and principal roads;
- Taranaki St, while a collector road, is to have a high traffic function, including importance as a bus route. There is however an element of conflict with the desires to beautify the street as a processional route and in the desire to encourage Wallace Street traffic to shift to Adelaide Road. There is an expectation that traffic flows on Taranaki Street will however increase in time;
- Tory Street and Tasman Street are to provide their local road function to access local residences, businesses and institutions with an improved environment for pedestrians and cyclists. There is a desire to cap or reduce traffic flows from 2011 levels.

This plan has been prepared so as to support, where appropriate, this strategy.

3 TRAFFIC FLOWS

Various traffic flow information is available, including pedestrian and cycle counts undertaken by WCC. The morning peak hour flows (8am to 9am) along a cordon line in the vicinity of the project (Taranaki Street south of Buckle Street; Tasman Street south of Buckle Street; and Buckle Street west of Sussex Street) are shown below.

Figure 2: Morning Peak Hour Pedestrian Flows

Figure 3: Morning Peak Hour Cyclist Flows

A traffic simulation model[1] has been used to evaluate and design road network improvements. The model forecasts changes in traffic patterns resulting from road network changes and provides details such as delays and queue lengths. The map of daily traffic flows below has been extracted from the model, based on the package of road network changes contained in this document.

[1] The model is a PARAMICS microsimulation modeled from the Opus Basin Reserve PARAMICS model. The model has been modified to remove the SCATSLINK feature and was calibrated against the original model.

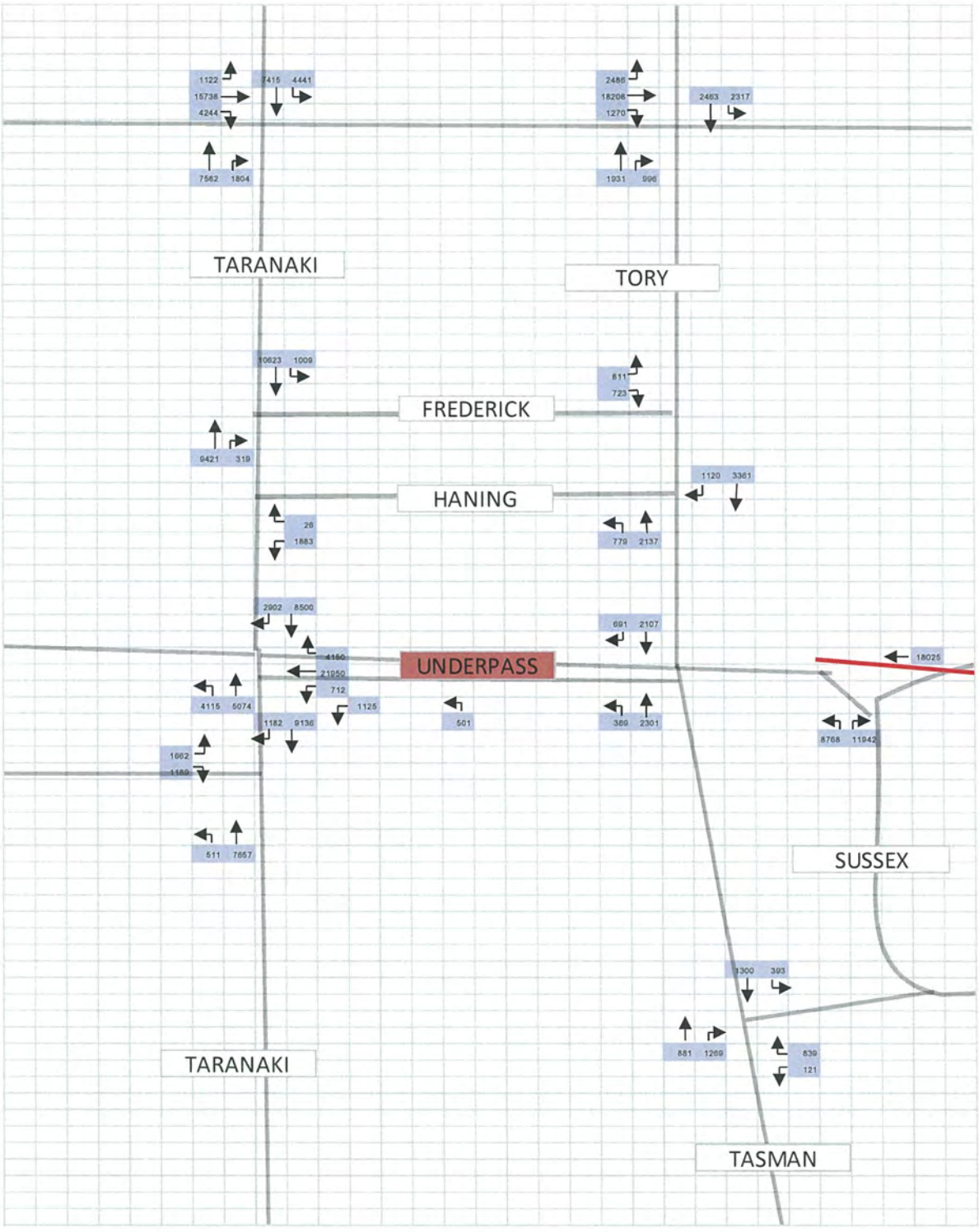


Figure 4: 2021 Forecast Daily Traffic Flows

These flows are the forecast daily traffic flows for 2021. As with all traffic models, care must be taken in using these flows as they are the result of a series of estimations, ultimately based on the 2006 census, and forward projections of land use and transport network changes. The process has however followed recognised best practice and the results provide an appropriate basis for preparing this plan.

4 TORY ST / TASMAN ST / BUCKLE ST INTERSECTION

The proposed improvements to the Tory St / Tasman St intersection are provided in Drawing No's UND-03-006 Rev A and UND-03-007 Rev B in Appendix B.

The key characteristics of the intersection changes are described below.

4.1 Overview

- SH1 through traffic is removed from the intersection via the new tunnel. This arrangement will have a significant effect on the intersection's operation;
- The Park will effectively extend across the roadway, continuing down towards Cambridge Terrace, with a reduced crossing distance and a flush crossing point;
- Reduced speed vehicular access is maintained from all approaches, by use of one-way Buckle Street which runs parallel with the new tunnel, as well as re-establishment of the two-way Tory St / Tasman St link;
- Through traffic is discouraged and slowed by narrowing the carriageway and introducing ramps (100mm ramps at each end rising up to the area through the park with 50mm kerbs, and rising a further 50mm for a wide central crossing point).

4.2 Residents and Businesses

- The portion of Buckle Street west of the intersection is two-lane width for 15m to accommodate two-way access to the former Mt Cook Police Barracks;
- Beyond the Barracks, a slow speed one-way lane continues west to access Massey University Gate D and, at night, across ANZAC Square (the central parade ground in the centre of the park) to access the Bomb Disposal Squad, Olphert Naval Base and provide general public access to Taranaki Street. The operation of this lane is described in more detail in Chapter 10.

4.3 Pedestrians

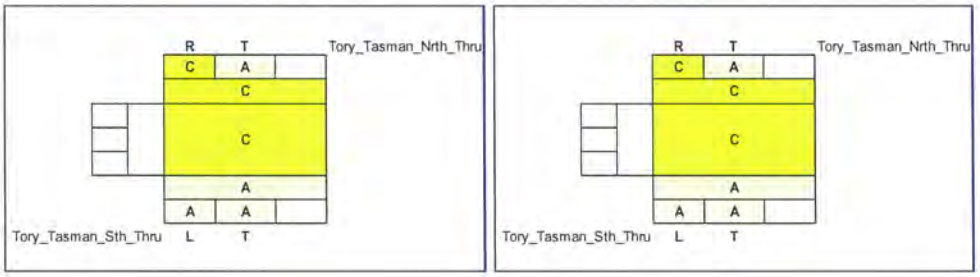
- Informal crossing facilities over Tory Street will be provided at three places (adjacent to Buckle Street, the midpoint adjacent to the northern carpark, and the crèche access lane);
- Based on NZTA guidelines, the level of service for pedestrians crossing Tory St is on the boundary between A and B (based on a walking speed of 1.18 m/s, a crossing time of 5.7s, and a two-way traffic flow of 500 to 600 vph) which is very good to excellent and appropriate for local streets and collector roads;
- Wide approach pathways and congregating areas are provided at the intersection along with a pavilion structure located at the northwest of the intersection.

4.4 Cyclists

- Cyclists travelling along Tory Street and Tasman Street will merge in with the through traffic to 'hold the lane' through the narrowed 5.5m carriageway. Vehicle speeds will be reduced by the ramps and tables so as to readily enable cyclists to ride through;
- Cyclists travelling through the park, including those riding to or from the proposed Basin Reserve Bridge, will be able to cross at the informal crossing points, including the raised central crossing.

4.5 Motor Vehicle Performance

- Through traffic performance has been consciously allowed to diminish as the local road function has been sought;
- Ramps will slow traffic to a target speed of 30 km/h, with a possibility that WCC will also reduce the speed limit to 30 or 40 km/h as part of the CBD speed limits review;
- No provision is made to accommodate traffic turning right from Tory St in a separate turning lane, with an acceptance that through vehicles will simply queue behind a vehicle waiting to turn right;
- Levels of service are forecast as below:



AM Peak PM Peak

- Overall, the right turns in to the park will have a reasonable level of service, with delays to waiting through traffic so small that the efficiency of movement for through vehicles will remain high.

4.6 Heavy vehicle access

- The geometry of the turns into Buckle Street are designed to accommodate all rigid vehicles and medium sized semi-trailers. Maximum sized semi-trailers, B-Trains and truck and trailers will mount the low kerb in turning from Tory or Tasman Street into Buckle Street.

4.7 Alternatives Considered

- Traffic signals could be configured at one or both 'ends' of the intersection, or spanning the whole width of the park. Signals in some form would be safer for vulnerable road users, although Mt Cook School has indicated that there is not a strong desire line for children to cross here. Signals in any location would give pedestrians a legal obligation to use them rather than crossing wherever they please, and the accompanying green light to through traffic would give a strong sense of

vehicle priority. A long crossing spanning the whole width would have a long clearance time with an associated long cycle time, giving rise to long pedestrian delays. Overall, signals would diminish the pedestrian experience to the detriment of the park environment;

- Zebra crossings could be used to give pedestrians priority over through traffic. The disadvantage is that pedestrians would be legally obliged to use the zebras rather than being able to cross wherever they please. This could be countered by putting in three or more zebra crossings, but this would be a very unusual and generally unacceptable arrangement. Overall zebra crossings would diminish rather than enhance the pedestrian environment;
- A central median, either flush or raised, would divide the crossing into two movements shortening the overall time pedestrians spend waiting for a gap in the two-way traffic flow. However, the levels of service for pedestrians crossing the road are forecast as very good to excellent, such that there is little need for this assistance. The park designers have a negative view of the carriageway width that would result at the intersections. A median is therefore not considered an appropriate solution;
- Raised intersections were considered to provide a flush crossing surface at the northern and southern ends, and more speed control. The park designers have a negative view of the discontinuity that this would involve with six ramps over a 60m length of road. In terms of speed control, most of the ramps would only be 50mm high meaning the control would be more visual than physical.

5 TASMAN ST / RUGBY ST INTERSECTION

After consideration of options, no changes are proposed at the intersection of Tasman Street and Rugby Street. The existing layout is provided in Drawing No UND-03-008 Rev A in Appendix B.

5.1 Overview

With the re-establishment of the two-way Tory St / Tasman St link after construction is complete, this intersection will largely function in a similar manner to the pre-construction arrangements. Given the satisfactory operating performance during this time, and with the proposed improvement works on Tory Street and Tasman Street potentially reducing traffic volumes, no improvement works are proposed at this intersection.

With alternative access to SH1 gained via this intersection (rather than at Tory Street / Tasman Street), the current intersection control arrangements are appropriate for the resulting redistribution of traffic movements from Tasman Street to Rugby Street.

Recent line marking renewal at the intersection has improved delineation of the intersection traffic controls and the pedestrian crossing.

It is noted that a supermarket development proposed for construction towards the south of the project area will affect traffic flows and potentially the configuration of the Tasman St / Rugby St intersection. Consultation with Foodstuffs about this potential development has concluded that their project is not committed at this stage.

5.2 Residents and Businesses

Neighbouring land uses are a mix of residential, light industrial and proposed retail. With traffic flows remaining modest at an intersection total of 4,800 vpd, being similar to current flows, the existing arrangement will continue to cater for neighbouring residents and businesses in much the same way.

5.3 Pedestrians

Pedestrian patterns are expected to change as a result of the park attracting more pedestrians to routes involving Tasman Street. Even so, the main north-south desire line is expected to remain on the western side, which catches the morning sun first. There is then no increased need for a pedestrian crossing facility over Rugby Street. The existing pedestrian crossing over Tasman Street will continue to safely and efficiently accommodate crossing pedestrians.

It is noted that improvements at the Rugby Street-Sussex Street intersection will assist pedestrians crossing Rugby Street at that point.

5.4 Cyclists

Some increase in cycling is expected, particularly northbound from Adelaide Road and into the Park. WCC contemplated a formalised route via Tasman Street, but it is understood that a study concluded the hill on Tasman Street would provide too much of an impediment. While the existing arrangement is considered appropriate to accommodate any increased demand, nothing precludes changes being made in future as part of any other initiatives.

5.5 Motor Vehicle Performance

The traffic flows shown at the intersection in Figure 5 sit comfortably within the range at which the Austroads Guide to Traffic Management Part 3 indicates a good level of performance can be expected. It is also noted that some delay, such as that achieved by the compulsory Stop on Rugby Street, is desirable to reflect the local road nature intended.

5.6 Heavy Vehicle Access

With no change to geometry, the full range of standard legal trucks will be able to manoeuvre through the intersection as they do at present.

5.7 Alternatives Considered

Traffic signals could be installed at the intersection. However they would not reduce pedestrian travel times, as the existing zebra crossing and informal crossing (with low traffic flows) provide shorter wait times that a signal phasing would. Neither would they bring any benefit for motor vehicles as the Austroads guide indicates that the existing intersection will perform well.

The priority at the intersection could also be reversed to match the heaviest movement, between Rugby Street and the northern leg of Tasman Street. However this would encourage traffic to use Tasman Street, which is against the strategy to limit traffic flows on Tasman Street.

6 TORY STREET AND TASMAN STREET

The lengths of Tory and Tasman Street, aside from the portion across the Park, are to remain much as they are currently, except for proposed introduction of four time restricted P120 parking spaces which will replace some of the existing coupon parking. The arrangement is provided in Drawing No UND-03-006 Rev A in Appendix B.

6.1 Overview

With the traffic flows remaining similar to current levels, no specific works are needed as a direct result of the tunnel's construction. WCC has indicated potential for future works to widen footpaths on Tory Street, and this can still be undertaken in future if desired. Time restricted parking is proposed to support the Park and the National War Memorial.

6.2 Residents and Businesses

Neighbouring businesses in the Mt Cook Police Barracks building will benefit from time restricted parking for customers and visitors. This will enable visitors to park on Tasman Street and readily exit in any direction.

6.3 Pedestrians and Cyclists

As described above for the Tasman Street / Rugby Street intersection, increased flows of pedestrians and cyclists are expected. The existing cross section of the footpaths and carriageway are considered sufficient to accommodate these flows, albeit that WCC has noted potential for future enhancements to the environment to further improve amenity for pedestrians in particular.

6.4 Motor Vehicle Performance

The changes to parking will assist visitors to the National War Memorial and Park who approach from the south and east by car. The main carpark will be accessed from a one way lane from Martin Square to Tory Street. This will not be easily accessed from Tasman Street, due to the requirement to turn left at the western end of Buckle Street. As such visitors from this direction will be better served by parking on Tasman Street.

6.5 Heavy Vehicle Access

With no change to cross section, the full range of standard legal trucks will be able to travel along the road as they do at present.

6.6 Alternatives Considered

WCC's potential proposals for cycling improvements were considered, but ultimately determined to be outside the scope of this project, as they are not directly related to an effect of the tunnel's construction but rather are part of a wider cycling strategy. Furthermore, the studies into the route have not given a clear mandate to promote the route.

7 RUGBY STREET / SUSSEX STREET INTERSECTION

The proposed improvements to the Rugby Street / Sussex Street intersection are provided in Drawing No UND-03-021 and UND-03-023 in Appendix B.

7.1 Overview

The upgrade of the Rugby Street / Sussex Street intersection is proposed predominately to improve the safety of pedestrians who cross Rugby Street, and improve the approach angle and subsequently the sightline back to the Adelaide Road signals for those vehicles exiting Rugby Street.

7.2 Residents and Businesses

Vehicular access to residences and businesses will be maintained. The access to 48 Sussex Street will be maintained across the extended island, and the ability to access the driveway for the consented supermarket maintained.

7.3 Pedestrians

An improved, two-stage pedestrian crossing facility across Rugby Street will be provided along pedestrian desire lines, enabling the road crossings to be performed more quickly and safely, with new pedestrian ramps and tactile pavers,

Approach speeds should reduce with the narrower uphill lane. Additionally, the ability to determine whether a driver is going to drive up Rugby Street or around into Sussex Street should improve.

Visibility for waiting pedestrians to all traffic approaches will improve.

Pavement and footpath surfaces will be enhanced.

7.4 Cyclists

The physical uphill lane width on Rugby Street has been set at 4.2m so that cars can safely overtake cyclists travelling slowly up the hill. The lane has however been marked at 3.0m wide to assist in limiting vehicle speeds. The remaining hatched shoulder is available for cars to use when passing a cyclist.

7.5 Motor Vehicle Performance

The key improvement for drivers is the change to the location and angle of the exit onto Sussex Street. Drivers will not have to look back over their shoulder as they do at present, reducing the risk of pulling out in front of an approaching car. Drivers will also have a clear view back to the Adelaide Road signals, assisting their gap selection.

7.6 Heavy Vehicle Access

The intersection has been designed to accommodate all full size legal trucks.

7.7 Alternatives Considered

Several variations on this intersection arrangement were considered, including one with a build out on the southern side of Rugby Street, with an associated chicane for entering drivers. The alignment ultimately selected balanced traffic safety with urban design.

8 SH1 / BUCKLE STREET / TARANAKI STREET INTERSECTION

The proposed layout of the SH1 / Buckle Street / Taranaki Street signalised intersection are provided in Drawing No's UND-03-200 in Appendix B.

The key characteristics of the intersection changes are described below.

8.1 Overview

- SH1 emerges from the tunnel at the traffic signals with a shared left turn and straight ahead lane, two dedicated straight ahead lanes, and one dedicated right turn lane.
- Buckle Street traffic will be required to turn left into Taranaki Street at a stop sign controlled intersection, with raised pedestrian platforms across it.
- Northbound traffic on Taranaki Street will have a free left turn onto Arthur Street.

8.2 Residents and Businesses

- Traffic exiting from Massey University Gate D will be required to turn left at the intersection, using routes via Webb Street to then travel north.
- Traffic exiting the Bomb Squad will have to follow the same routes, unless exiting in an emergency in which case a separate phase can be called at the intersection stopping all other traffic, enabling the response vehicle to travel in any direction.

8.3 Pedestrians

- All four legs of the intersection will have a signalised pedestrian crossing, and the approach from Buckle Street will have a raised platform across it.
- The raised platform will be 6m long, enabling a pedestrian to walk around behind a waiting car if necessary.

8.4 Cyclists

- Cyclists will have an exclusive phase across the northern leg of the intersection, enabled by a red right turn arrow on SH1.
- Due to the lack of a left turn lane, cyclists will not have an exclusive phase across the southern leg of SH1, until such time as a change in the Traffic Control Devices Rule permits it.

8.5 Motor Vehicle Performance

- The provision of an additional lane on SH1 and a free left turn for Taranaki Street will lead to improved performance of the intersection for motorists, with reduced queuing for all movements, except the right turn from Taranaki Street to SH1. While an additional right turning lane is to be provided, the increase in demands from traffic which can no longer join SH1 at Tory Street is forecast to lead to increased delays at the Taranaki Street right turn.
- Details of the SCATS plan for the intersection will be provided to WCC prior to implementation of the new intersection layout.

8.6 Heavy vehicle access

- All turns can be made by legal maximum sized trucks, albeit that they may need to use two or more lanes to turn into, as is common in Wellington.

9 MOTORIST SIGNAGE

The grade separation of SH1 into the tunnel, removing SH1 traffic from the Tory Street / Tasman Street intersection gives rise to the use of alternative routes for various trips through the area.

Drawing UND-03-101 to 103 from Appendix B shows details of the appropriate directional signage to be implemented to assist road user's way-finding upon completion of the tunnel and park.

As can be seen, the proposed signage directs motorists:

1. to the National War Memorial from the north and west via Taranaki Street and Martin Square into the northern carpark;
2. to the National War Memorial from the south and east via Rugby Street and Tasman Street to the areas of on-street parking;
3. to Massey University Gate D via Rugby Street, Tasman Street and Buckle Street;
4. to the city centre from the south and east via Cambridge Terrace rather than the tunnel, partly due to the challenge involved in making a manoeuvre across the traffic lanes in the future scenario once the bridge is constructed;
5. to Brooklyn from SH1 via Arthur Street and Karo Drive, rather than the current common practice of turning left into Taranaki Street and then right into Webb Street. The provision of three lanes on Arthur Street and Karo Drive will also assist in encouraging this.

The signage proposed represents a balance between providing clear signage for drivers who need it, and avoiding excessive sign clutter. The destinations have also been chosen to align with WCC's Signage Policy.

10 MEMORIAL PARK

The plans relating to the Memorial Park improvements are shown in Drawings UND-03-010 to UND-03-014 in Appendix B. These drawings show the local road and pedestrian / cycle configuration across the Memorial Park and into the existing pedestrian / cycle paths, as well as access provision to Massey University, Mt Cook Police Barracks, and Mt Cook School car park.

Local road connections through Memorial Park are maintained via:

1. the Tory St / Tasman St north-south route, and
2. at night time only, a one-way westbound Buckle Street connection to Taranaki Street

Accesses to properties and parking areas will include:

1. a one way eastbound connection from Martin Square to the carpark, exiting onto Tory Street;

2. a one way route along Buckle Street into Massey University Gate D from Tasman Street, and exiting onto Taranaki Street;

3. a short two-way portion of Buckle Street to enable traffic from the Mt Cook Police Barracks to exit back towards Tasman Street rather than having to travel through Massey University.

Low kerbs will be used to guide vehicles along the intended vehicle lane and provide delineation from shared paths on Buckle St through the Park. In the vicinity of ANZAC Square, bollards surround the flush surface across both traffic lane and shared paths to guide pedestrians and vehicles.

A temporary signalised pedestrian crossing across Sussex Street will be provided until it is no longer required to address construction effects of Memorial Park. Once the Tory St and Tasman St connection is constructed here, signals will be removed.

Pedestrians and cyclists can travel along wide cycle and pedestrian routes through the Memorial Park, remaining on the north side, or transitioning to the southern side of SH1 over top of the tunnel. Shared paths are present either side of SH1 within the Park.

Given the high permeability of cycle and pedestrian routes through the Memorial Park increasing route choice, maintaining shared paths either side of Arthur St will enable users to reach their destinations without crossing SH1, reducing the risks and delays to these users. A proposed cycle route on the southern side of Arthur St is therefore to complement the existing northern side cycle path on Arthur St (which is to remain), linking to the new pedestrian and cycle paths within the Memorial Park and the proposed Basin Bridge shared path.

11 STAGING PROGRAMME

A high-level staging programme for the delivery of the works identified on the plans within this document is provided in Table 1 below. For a more detailed breakdown, please refer to the Alliance project-wide construction programme.

Project Activity	Expected Completion
Rugby St / Sussex St Improvements	October 2013
Underpass open (Tory St closed)	October 2014
Tasman St and Tory St open	January 2015
Memorial Park	April 2015

Table 1: Improvements Staging Programme

12 DESIGN AND SAFETY STANDARDS

12.1 Design and Safety Standards

The project elements contained within this LRTIP have been developed in accordance with the following design and safety standards:

NZ Transport Agency Standards

- Manual of Traffic Signs and Markings (MOTSAM) Parts 1-3
- Traffic Control Devices (TCD) Manual
- State Highway Geometric Design Manual (SHGDM)
- Road and Traffic Standards Series (RTS)
- Code of Practice for Temporary Traffic Management (CoPTTM) and Local Roads Supplement to CoPTTM
- Pedestrian Planning and Design Guide
- Cycle Network and Route Planning Guide
- RTS-14 Guidelines for facilities for blind and visually-impaired pedestrians.

Wellington City Council Standards

- Wellington City District Plan
- Code of Practice for Land Development

AS/NZS Standards

- NZS4404:2010 Land Development and Subdivision Infrastructure
- NZS4121:2001 Design for Access and Mobility
- AS/NZS1428.4.1:2009 Design for Access and Mobility
- AS/NZS2890.1:2004 Off-Street Parking Facilities

Austroads Series

- Guide to Road Design Parts 1-8
- Guide to Road Safety Parts 1-9
- Guide to Traffic Management Parts 1-13

12.2 Design Review and Audit Process

Road safety audits will be carried out for the proposed improvement works by independent auditors.

Consultation with WCC and progression through their approvals process will also be undertaken.

13 CONSULTATION

This LRTIP has been prepared following consultation with the following stakeholders through a series of individual meetings, community briefings, community forums (run by Ministry of Culture and Heritage) and bi-monthly Traffic Co-Ordination Group meetings:

- Local residents and businesses – and others who have indicated an interest in the project or expressed a view (Tasman Gardens, Tory Hall, Te Papa Archives, Mt Cook Mobilised;
- Wellington City Council;
- NZ Transport Agency and their network traffic co-ordinators;
- Emergency Services (Police, Fire, Ambulance);
- Massey University;
- NZ Defence Force;
- Owners of the former Mt Cook Police Barracks, 13 Buckle Street;
- Mt Cook School;
- Cycle Aware Wellington;
- Accessibility Advisory Groups;
- Tasman Gardens Body Corporate
- Architectural Centre;
- Civic Trust;
- National War Memorial Advisory Council;
- NZ Historic Places Trust;
- NZ Parliament;
- Returned and Services Association;
- Wellington Tenths Trust and the Port Nicholson Block Settlement Trust
- Automobile Association;
- Taxi and bus companies;
- Greater Wellington Regional Council;
- Road Transport Forum.

Details of the consultation with the above Stakeholders and confirmation or otherwise that their views have been satisfied is provided in the table below. Aspects of designs that have been amended in response to issues raised through this consultation process are noted:

Comment	Accepted (Y, N, N/A)	Reason for decision
Community Forum & Briefings - (Local Residents & Business)		
Provide access from Sussex St to Tasman St via Memorial Park	Y	Vehicle link forms part of Bridge design. Provision to be reviewed if Bridge does not gain approval.
Provide a Tory/Tasman St link	Y	Link to be re-established as soon as possible during Park construction, no SH1 connection.
Maintain access along War Memorial frontage road to Taranaki St	Y	Both during and after construction. Access will be restricted during specific hours of day, but the route around Massey will be available.
Rugby/Sussex intersection improvements desired	Y	Intersection improvements included. See Section 7 of this report and Drawing UND-03-021.
Wellington City Council		
Traffic team concerns with Sussex St to Tasman St link shared space	N	Shared space to remain as proposed. A Road Safety Audit has recommended subtle changes which will be considered. Changes recommended by WCC require substantial changes to Underpass entry trench which are not achievable. Vehicle link forms part of Bridge design. Provision to be reviewed if Bridge does not gain approval.
Left turn from Underpass desired	Y	A left turn from the Underpass is to be allowed.
Rugby/Sussex intersection improvements desired	Y	Intersection improvements included. See Section 7 of this report and Drawing UND-03-021.
Tory/Tasman St link re-establishment	Y	Link to be re-established.
Emergency Services		
Confirm 24/7 access to Massey	Y	Through route access to Taranaki St will be restricted during specific hours of day, but the route to and around Massey will be available 24/7.
Massey University		
Additional signage to Massey proposed	N	Existing levels of signage are to be maintained to Massey, locations and travel routes to be confirmed with WCC in consultation with Massey.
Large service vehicle access	Y	This will be provided for, see Section 10 of this report and Drawing UND-03-011.
Buckle St to Arthur St exits	N	Direct access to Arthur St from Buckle St will not be permitted due to vehicle and pedestrian conflict safety issues. Vehicles will be required to turn left and use Webb St for access to Arthur St.
NZ Defence		
Hurry Call facility requested for signals at Taranaki St	Y	Hurry call facility will be installed at Taranaki/Buckle signalised intersection.

Comment	Accepted (Y, N, N/A)	Reason for decision
Large vehicle access to and from Buckle St	N	Entry will be possible from Buckle St, exits will be required via the Taranaki St driveway as current Buckle St driveway and Park geometry don't allow space for large vehicle exits.
Special events planning on Buckle St requiring road opening	Y	This will follow the same process as a road closure request, a TMP and public notification required through normal WCC avenues.
Owners of the former Mt Cook Police Barracks		
Exit to Tory/Tasman St	Y	A 15m length of Buckle St at the Tasman St intersection will allow two way access to and from Tasman St/Tory St for the Mt Cook Barracks businesses. See Sections 4 and 10 of this report and Drawing UND-03-012.
Mt Cook School		
Drop off facilities	Y	Drop-off facilities will be provided on the north side of the park. See Section 10 of this report and Drawing UND-03-014.
Bus access	Y	Bus access will be maintained to Mt Cook School via Tory and Tasman St, alternative routes will be required with no direct connection to the SH1 Underpass from these roads.
Rugby/Sussex intersection improvements desired	Y	Agreed, intersection improvements included. See Section 7 of this report and Drawing UND-03-021.
Pedestrian routes within Memorial Park	Y	These are outlined in Section 10 of this report and Drawing UND-03-010.
Cycle Aware Wellington		
Sussex St sharrows/cycle lanes	N	Sharrow's are currently part of a national trial in partnership between WCC and NZTA and not an approved marking. North-south cycling is being addressed as part of the Basin Reserve scheme, and out of scope of the Underpass.
Taranaki/Buckle Intersection	Y	Cycle facility has been added to the signalised crossing on the north side of Taranaki St to accommodate cycle crossings and right turns from the Park onto Taranaki St.
Shared paths both sides of Arthur St	Y	Given high permeability of paths through Memorial Park and removal of diagonal crossing at Cuba, a south side shared path has been added to the ICB design on Arthur St.
Accessibility Advisory Groups		
Tactiles at intersections	Y	TGSI have been installed at all intersections. Blind Foundation are to conduct inspections of installations.
Barrier Free Trust Report	Y&N	A Barrier Free Trust report was prepared for MPA on accessibility for Memorial Park. All but two

Comment	Accepted (Y, N, N/A)	Reason for decision
		items of accessibility best practice have been addressed in the design. The outstanding items relate to provision of strong colour contrast surface treatments and handrails on stairs. These design features are provided on all main accessible routes within the Park, it is considered the small stair access points between and onto the eastern terraces in question are not main access routes, do not form the main accessible routes and do not require these treatments.
Traffic Co-Ordination Group		
Bus/Taxi access to Massey	Y	Through route access to Taranaki St will be restricted during specific hours of day, but the route to and around Massey will be available 24/7.
Diplomatic routes to War Memorial	Y	Routes have been discussed with NZ Police and NZ Defence. Vehicle link from Sussex to Tasman St forms part of Bridge design. Provision to be reviewed if Bridge does not gain approval.
Tory St bus access	Y	Bus access will be maintained to Tory and Tasman St, alternative routes will be required with no direct connection to the SH1 Underpass from these roads.

APPENDIX A — National War Memorial Park (Pukeahu) Empowering Act Conditions

National War Memorial Park (Pukeahu) Empowering Act 2012 Conditions NZTA 32-35 of Schedule 3, Part 2 Conditions applying to exercise of designation; Operational - Local Road Traffic Works, Pages 78-79.

APPENDIX B — Local Road Proposed Improvements Plans

The following plans have been referenced throughout the LRTIP document:

Drawing Number	Revision	Drawing Title
UND-03-006	A	Tory St / Tasman St / Buckle St Intersection
UND-03-007	B	Tory St / Buckle St Tour Coach Manoeuvre
UND-03-008	A	Rugby St / Tasman St Intersection
UND-03-010	A	Memorial Park Routes
UND-03-011	A	Massey University Servicing
UND-03-012	A	Mt Cook Barracks Servicing
UND-03-014	A	Mt Cook School / Memorial Park Carpark
UND-03-021	1	Rugby St / Sussex St Overview
UND-03-023	1	Rugby St / Sussex St Line Marking
UND-03-101	A	Direction Signs
UND-03-102	A	Regulatory Signs
UND-03-103	A	Parking and Warning Signs
UND-03-200	A	Taranaki St/Buckle St Intersection

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953

3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RG			

Tab: UND–03–006

Scales: 1:250 (A3) 1:125 (A1)

Original Size: A1

NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

DRAFT

Document Controller Check: Date:

This drawing is not to be used for construction purposes unless signed approved and issued For Construction

WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
TORY ST/TASMAN ST/BUCKLE ST INTERSECTION

Approved: NOT FOR CONSTRUCTION

Status: FOR INFORMATION

Drawing Number: UND-03-006

Revision: A

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND–03–005_015.dwg PRINTED BY: QUENTINOS 28–Aug–14 12:09 p.m.

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).
4. SERVICING BY 8m LONG MEDIUM RIGID TRUCK AS PER WELLINGTON DISTRICT PLAN.

BUCKLE ST

TORY ST

TASMAN ST

LEGEND

500mm CLEARANCE LINE

TYRE PATHS

A3 SCALE 1:250
A1 SCALE 1:125
0 5 10 15 (m)

ORIGINAL IN COLOUR

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
B	AMEND TOUR COACH PATHS	QDO'S		RG			
A	FOR INFORMATION	QDO'S		RG			

Tab UND-03-007

Scales 1:250 (A3) 1:125 (A1)

Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

DRAFT

Document Controller Check: Date:

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WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
TORY ST/BUCKLE ST TOUR COACH MANOEUVRE

Approved NOT FOR CONSTRUCTION

Status FOR INFORMATION

Drawing Number UND-03-007

Revision B

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND-03-005_015.dwg PRINTED BY: QUENTINOS 28-Aug-14 12:23 p.m.

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).
4. EXISTING INTERSECTION KEEPS PRIORITY FOR NORTH–SOUTH PEDESTRIAN AND CYCLIST MOVEMENT.
5. INTERSECTION NEEDS TO ACCOMMODATE SUPERMARKET SERVICING TRUCKS.
6. NO CHANGES PROPOSED.

A3 SCALE 1:250
A1 SCALE 1:125
0 5 10 15 (m)

ORIGINAL IN COLOUR

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RG			

Tab UND–03–008

Scales 1:250 (A3) 1:125 (A1)

Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

DRAFT

Document Controller Check: Date:

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WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
RUGBY ST / TASMAN ST INTERSECTION

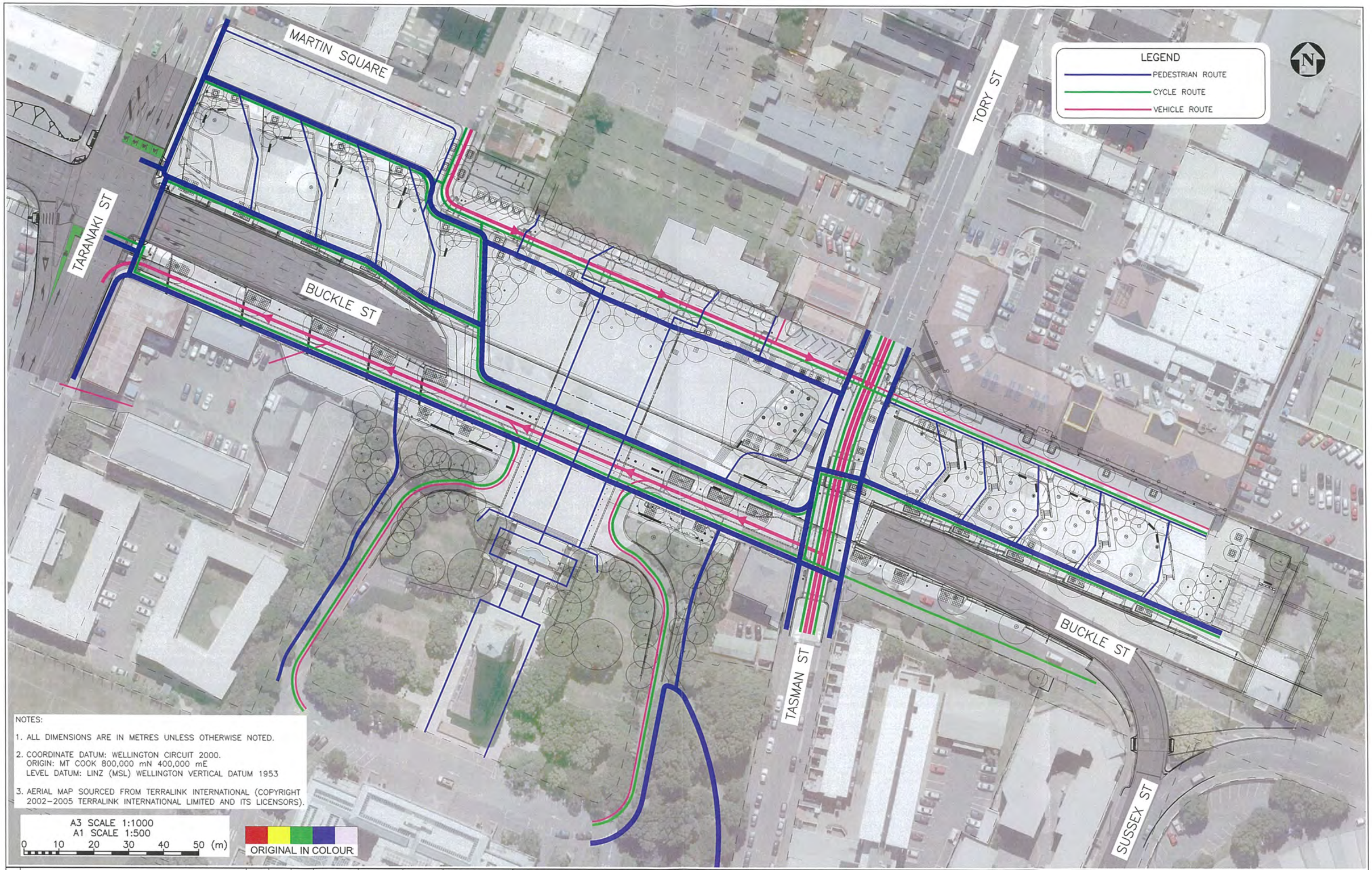
Approved NOT FOR CONSTRUCTION

Status FOR INFORMATION

Drawing Number UND-03-008

Revision A

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND–03–005_015.dwg PRINTED BY: QUENTINOS 28–Aug–14 12: 10 p.m.



NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).

A3 SCALE 1:1000
A1 SCALE 1:500
0 10 20 30 40 50 (m)

ORIGINAL IN COLOUR

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RG			

Tab UND-03-010
Scales 1:1000 (A3) 1:500 (A1)
Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance

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Document Controller Check: Date:
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WELLINGTON INNER CITY IMPROVEMENTS
UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
MEMORIAL PARK ROUTES

Approved NOT FOR CONSTRUCTION
Status FOR INFORMATION
Drawing Number UND-03-010
Revision A

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BUCKLE ST

TORY ST

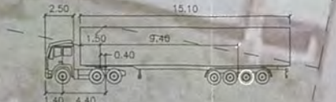
TASMAN ST

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).
4. SWEPT PATH REQUIREMENTS FOR ACCESS STANDARD MAXIMUM SEMI–TRAILER.

A3 SCALE 1:250
A1 SCALE 1:125
0 5 10 15 (m)

ORIGINAL IN COLOUR



LTNZ–19ST–125R meters

Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	24.1
Tractor Track	2.50	Articulating Angle	170.0
Trailer Track	2.50		

Dimensions Shown Not To Scale

LEGEND

- 500mm CLEARANCE LINE
- TYRE PATHS

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RG			

Tab: UND–03–011

Scales: 1:400 (A3) 1:200 (A1)

Original Size: A1

NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

DRAFT

Document Controller Check: Date:

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WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
MASSEY UNIVERSITY SERVICING

Approved: NOT FOR CONSTRUCTION

Status: FOR INFORMATION

Drawing Number: UND-03-011

Revision: A

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND–03–005_015.dwg PRINTED BY: QUENTINOS 28–Aug–14 12:20 p.m.

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).
4. SERVICING BY 8m LONG MEDIUM RIGID TRUCK AS PER WELLINGTON DISTRICT PLAN.

BUCKLE ST

TORY ST

TASMAN ST

A3 SCALE 1:250
A1 SCALE 1:125
0 5 10 15 (m)

ORIGINAL IN COLOUR

6.40
0.93 3.75
TransitJumbo460 Meters
Width : 2.08
Track : 2.08
Lock to Lock Time : 6.0
Steering Angle : 40.1
Dimensions Shown Not To Scale

LEGEND
300mm CLEARANCE LINE
TYRE PATHS

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RG			

Tab UND-03-012
Scales 1:250 (A3) 1:125 (A1)
Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance

DRAFT
Document Controller Check: Date:
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WELLINGTON INNER CITY IMPROVEMENTS
UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
MT COOK BARRACKS SERVICING

Approved NOT FOR CONSTRUCTION
Status FOR INFORMATION
Drawing Number UND-03-012
Revision A

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NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).

TORY ST

A3 SCALE 1:400
A1 SCALE 1:200
0 5 10 15 20 25 (m)

ORIGINAL IN COLOUR

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RG			

Tab UND-03-014
Scales 1:400 (A3) 1:200 (A1)
Original Size A1

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Memorial Park Alliance

DRAFT

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WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
LOCAL ROAD TRAFFIC IMPROVEMENT PLAN
MT COOK SCHOOL/MEMORIAL PARK CARPARK

Approved NOT FOR CONSTRUCTION
Status FOR INFORMATION
Drawing Number UND-03-014
Revision A

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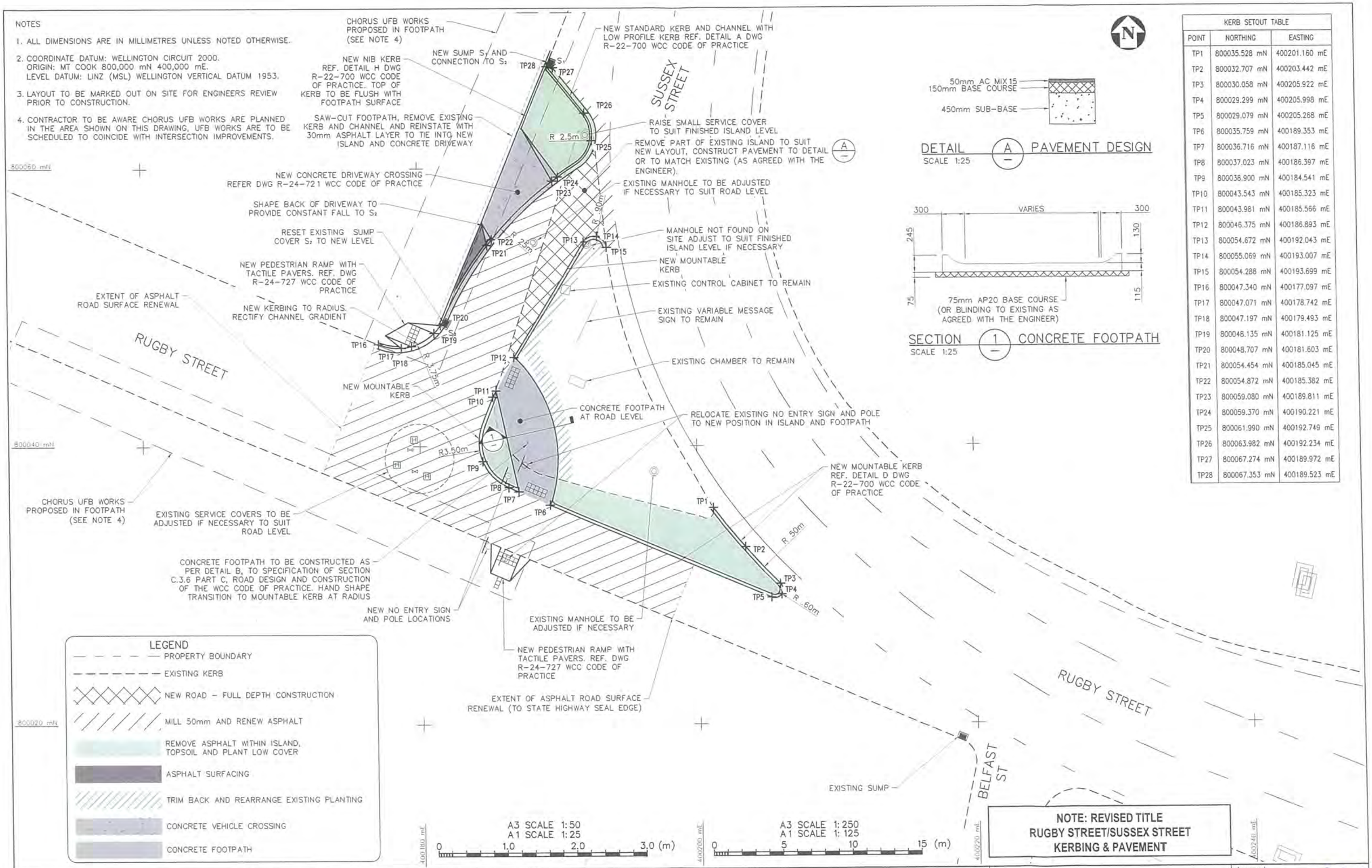
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE.
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953.
3. LAYOUT TO BE MARKED OUT ON SITE FOR ENGINEERS REVIEW PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO BE AWARE CHORUS UFB WORKS ARE PLANNED IN THE AREA SHOWN ON THIS DRAWING, UFB WORKS ARE TO BE SCHEDULED TO COINCIDE WITH INTERSECTION IMPROVEMENTS.



DETAIL A PAVEMENT DESIGN
SCALE 1:25

SECTION 1 CONCRETE FOOTPATH
SCALE 1:25

KERB SETOUT TABLE		
POINT	NORTHING	EASTING
TP1	800035.528 mN	400201.160 mE
TP2	800032.707 mN	400203.442 mE
TP3	800030.058 mN	400205.922 mE
TP4	800029.299 mN	400205.998 mE
TP5	800029.079 mN	400205.268 mE
TP6	800035.759 mN	400189.353 mE
TP7	800036.716 mN	400187.116 mE
TP8	800037.023 mN	400186.397 mE
TP9	800038.900 mN	400184.541 mE
TP10	800043.543 mN	400185.323 mE
TP11	800043.981 mN	400185.566 mE
TP12	800046.375 mN	400186.893 mE
TP13	800054.672 mN	400192.043 mE
TP14	800055.069 mN	400193.007 mE
TP15	800054.288 mN	400193.699 mE
TP16	800047.340 mN	400177.097 mE
TP17	800047.071 mN	400178.742 mE
TP18	800047.197 mN	400179.493 mE
TP19	800048.135 mN	400181.125 mE
TP20	800048.707 mN	400181.603 mE
TP21	800054.454 mN	400185.045 mE
TP22	800054.872 mN	400185.382 mE
TP23	800059.080 mN	400189.811 mE
TP24	800059.370 mN	400190.221 mE
TP25	800061.990 mN	400192.749 mE
TP26	800063.982 mN	400192.234 mE
TP27	800067.274 mN	400189.972 mE
TP28	800067.353 mN	400189.523 mE

LEGEND

- PROPERTY BOUNDARY
- EXISTING KERB
- NEW ROAD – FULL DEPTH CONSTRUCTION
- MILL 50mm AND RENEW ASPHALT
- REMOVE ASPHALT WITHIN ISLAND, TOPSOIL AND PLANT LOW COVER
- ASPHALT SURFACING
- TRIM BACK AND REARRANGE EXISTING PLANTING
- CONCRETE VEHICLE CROSSING
- CONCRETE FOOTPATH

A3 SCALE 1:50
A1 SCALE 1:25
0 1.0 2.0 3.0 (m)

A3 SCALE 1:250
A1 SCALE 1:125
0 5 10 15 (m)

NOTE: REVISED TITLE
RUGBY STREET/SUSSEX STREET
KERBING & PAVEMENT

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
1	CONSTRUCTION ISSUE	TMA	FN	RD	DG	SJ	01/08/13
B	95% DESIGN REVIEW	TMA		RD			
A	FOR PRICING PURPOSE ONLY	QDO'S		RG			

Tab: UND-03-021
Scales: AS SHOWN
Original Size: A1

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance

Document Controller Check: MWJ Date: 01/08/13
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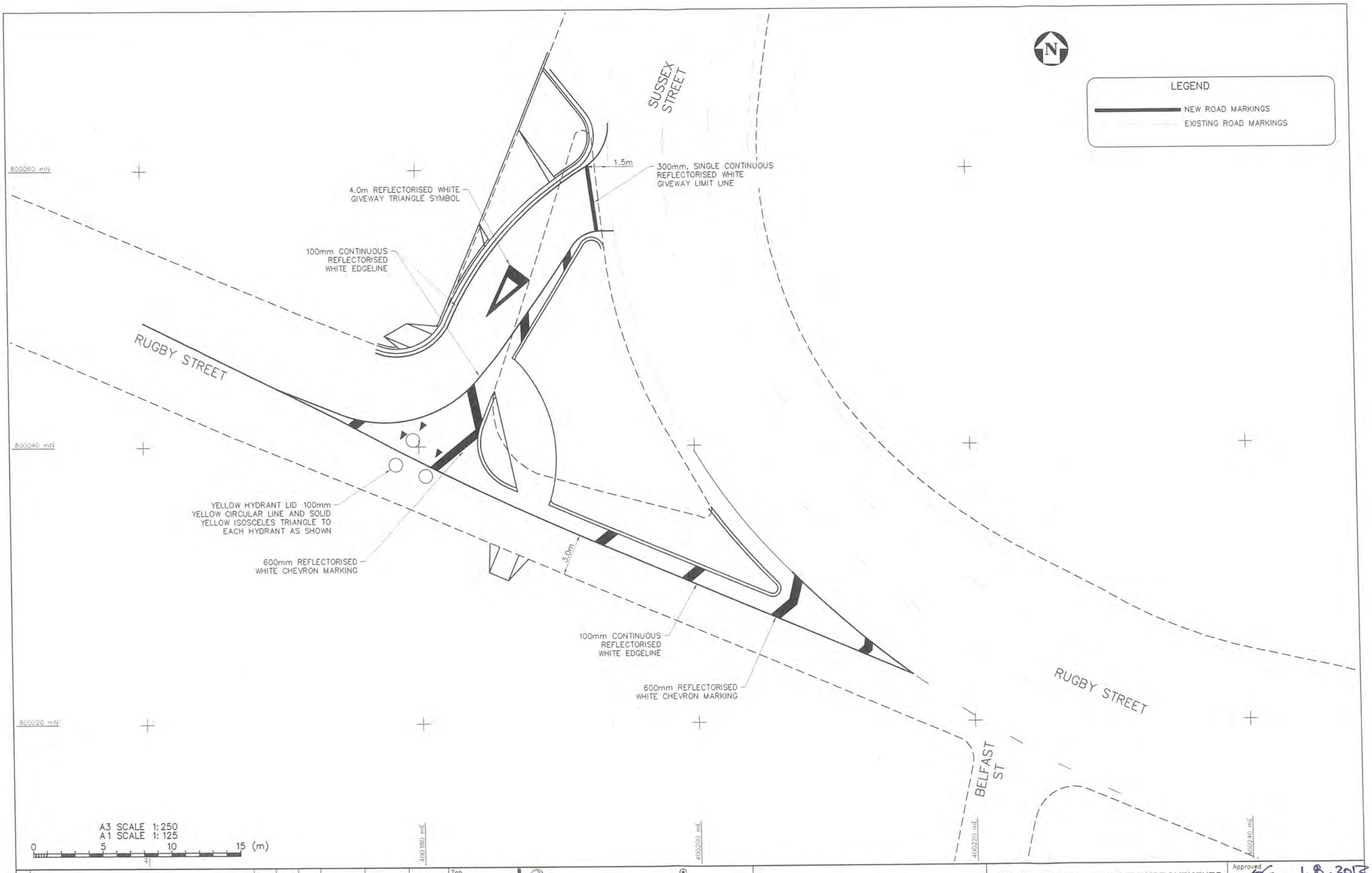
SH1 WELLINGTON INNER CITY IMPROVEMENTS

Approved: 1.8.2012

UNDERPASS - 03 TRAFFIC SERVICES
RUGBY STREET / SUSSEX STREET
KERBING & PAVEMENT POSSIBLE ALTERNATIVE

Status: FOR CONSTRUCTION
Drawing Number: UND-03-021
Revision: 1

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND-03-021_022.dwg PRINTED BY: ADMINISTRATOR 31-Jul-13 2:49 p.m.



Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
1	CONSTRUCTION ISSUE	TMA	FM	RD	DG	JS	01/08/13
A	95% DESIGN REVIEW	TMA		RD			

Tab: UND-03-023
Scales: 1:250 (A3) 1:125 (A1)
Original Size: A1

NZ TRANSPORT AGENCY
Memorial Park Alliance

Document Controller Check: DJKJ Date: 01/08/13
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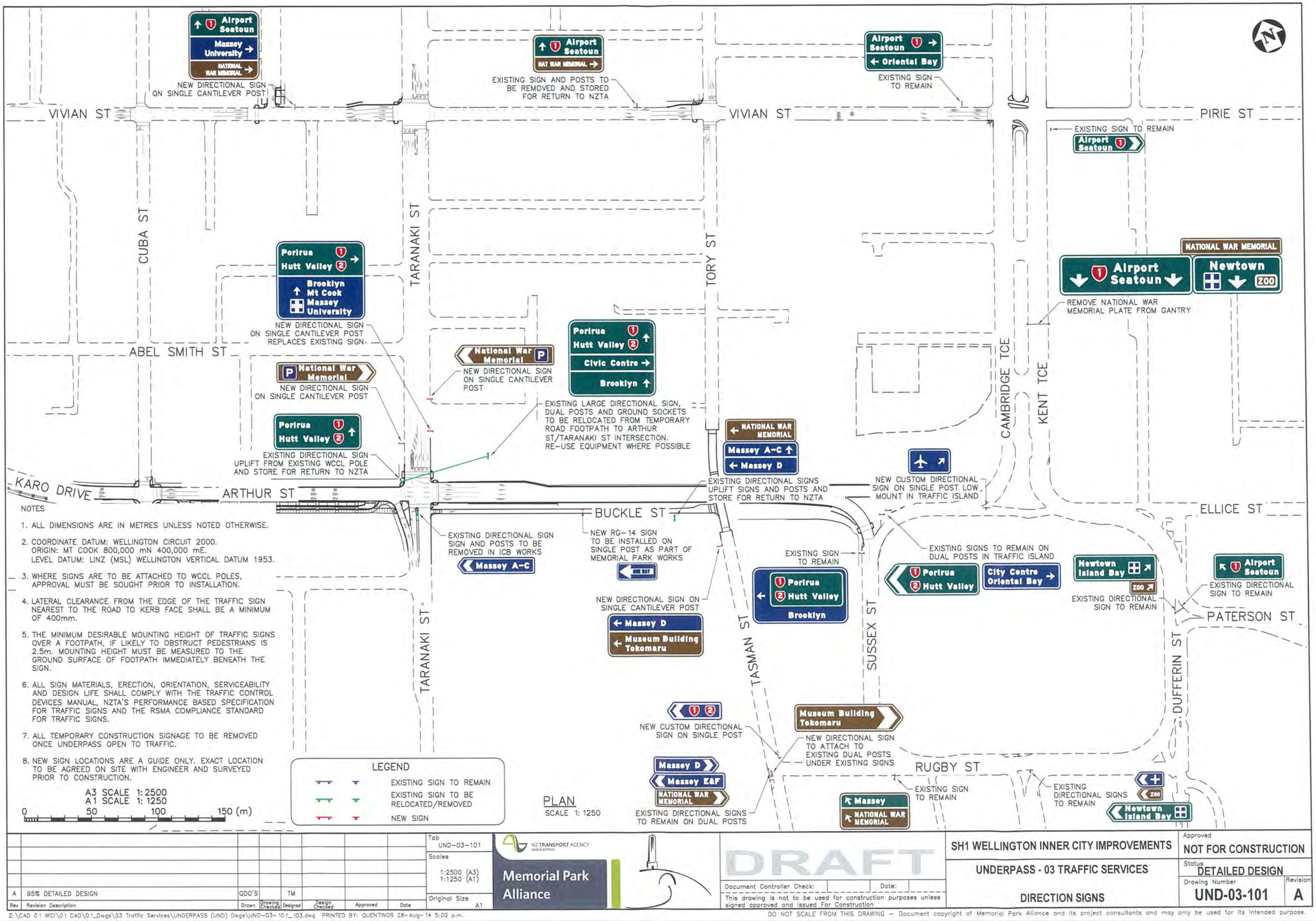
SH1 WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
RUGBY STREET / SUSSEX STREET
ROAD MARKING PLAN

Approved: 1.8.2013
Status: FOR CONSTRUCTION
Drawing Number: UND-03-023
Revision: 1

2:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND-03-021_022.dwg PRINTED BY: ADMINISTRATOR 31-Jul-13 2:52 p.m.



PLAN
SCALE 1: 1250

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE.
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953.
3. WHERE SIGNS ARE TO BE ATTACHED TO WCCL POLES, APPROVAL MUST BE SOUGHT PRIOR TO INSTALLATION.
4. LATERAL CLEARANCE FROM THE EDGE OF THE TRAFFIC SIGN NEAREST TO THE ROAD TO KERB FACE SHALL BE A MINIMUM OF 400mm.
5. THE MINIMUM DESIRABLE MOUNTING HEIGHT OF TRAFFIC SIGNS OVER A FOOTPATH, IF LIKELY TO OBSTRUCT PEDESTRIANS IS 2.5m. MOUNTING HEIGHT MUST BE MEASURED TO THE GROUND SURFACE OF FOOTPATH IMMEDIATELY BENEATH THE SIGN.
6. ALL SIGN MATERIALS, ERECTION, ORIENTATION, SERVICEABILITY AND DESIGN LIFE SHALL COMPLY WITH THE TRAFFIC CONTROL DEVICES MANUAL, NZTA'S PERFORMANCE BASED SPECIFICATION FOR TRAFFIC SIGNS AND THE RSMA COMPLIANCE STANDARD FOR TRAFFIC SIGNS.
7. ALL TEMPORARY CONSTRUCTION SIGNAGE TO BE REMOVED ONCE UNDERPASS OPEN TO TRAFFIC.
8. NEW SIGN LOCATIONS ARE A GUIDE ONLY. EXACT LOCATION TO BE AGREED ON SITE WITH ENGINEER AND SURVEYED PRIOR TO CONSTRUCTION.

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	95% DETAILED DESIGN	QDO'S		TM			

Tab UND-03-101
Scales 1:2500 (A3) 1:1250 (A1)
Original Size A1

NZ TRANSPORT AGENCY
Memorial Park Alliance

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Document Controller Check: Date:
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SH1 WELLINGTON INNER CITY IMPROVEMENTS
UNDERPASS - 03 TRAFFIC SERVICES
DIRECTION SIGNS

Approved NOT FOR CONSTRUCTION
Status DETAILED DESIGN
Drawing Number UND-03-101
Revision A

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND-03-101_103.dwg PRINTED BY: QUENTINOS 28-Aug-14 5:02 p.m.

TARANAKI ST

MARTIN SQ

TORY ST

SH1 – DIVERSION

UNDERPASS

BUCKLE ST

TASMAN ST

SUSSEX ST

EXISTING RG–26C SIGN UPLIFT SIGN AND POST AND STORE FOR RE–USE IN MEMORIAL PARK

EXISTING RG–26C SIGN UPLIFT FROM LARGE DIRECTIONAL SIGN POST AND STORE SIGN FOR RE–USE IN MEMORIAL PARK

2x EXISTING RG–8 SIGNS UPLIFT SIGNS FROM EXISTING TRAFFIC SIGNAL POLES. ATTACH EXISTING SINGLE SIGN TO RELOCATED TRAFFIC SIGNAL POLE 11 (SEE UND–03–200) STORE EXISTING ILLUMINATED SIGN AND REPLACE WITH NEW RG–8 ON TRAFFIC SIGNAL MAST ARM POLE 7 (SEE UND–03–200)

STREET NAME BLADE TO REMAIN ON EXISTING TRAFFIC SIGNAL POLE 8 (SEE UND 03–200)

EXISTING RG–9 SIGNS UPLIFT FROM EXISTING TRAFFIC SIGNAL POLES AND ATTACH TO NEW TRAFFIC SIGNAL POLES 9 AND 10 (SEE UND–03–200)

EXISTING RG–26C SIGN UPLIFT FROM TEMPORARY STREET LIGHT POLE AND STORE SIGN FOR RE–USE IN MEMORIAL PARK

RG–27 SIGN UPLIFT AND ATTACH TO NEW TRAFFIC SIGNAL POLE 10 (SEE UND–03–200)

EXISTING RG–26C SIGN UPLIFT FROM STREET LIGHT POLE AND STORE FOR RE–USE IN MEMORIAL PARK

NEW RG–12 SIGN ON SINGLE POST

EXISTING RG–7 SIGN UPLIFT FROM EXISTING TRAFFIC SIGNAL POLE AND STORE

STREE NAME BLADE RETAIN ON DEFENCE BUILDING

RG–5 SIGN UPLIFT EXISTING SIGN FROM TRAFFIC SIGNAL POLE AND STORE FOR RE–UE IN MEMORIAL PARK

RG–5, RG–11 AND SUPPLEMENTARY SIGNS UPLIFT SIGNS AND POSTS AND STORE

EXISTING RG–26C SIGNS UPLIFT FROM EXISTING TRAFFIC SIGNAL POLE AND STORE FOR USE IN MEMORIAL PARK

EXISTING STREET NAME BLADE UPLIFT FROM EXISTING TRAFFIC SIGNAL POLE AND STORE SIGN FOR RE–USE ON NEW STREET LIGHT POLE IN MEMORIAL PARK

EXISTING STREET NAME BLADE AND RG–14 SIGNS UPLIFT SIGNS FROM EXISTING TRAFFIC SIGNAL POLE AND STORE

EXISTING ACTIVE SCHOOL WARNING SIGN TO REMAIN

EXISTING RG–8 SIGNS x3 UPLIFT FROM TRAFFIC SIGNAL POLES 3 AND 7 AND STORE

EXISTING RG–26C SIGN UPLIFT FROM EXISTING STREET LIGHT POLE AND STORE FOR RE–USE IN MEMORIAL PARK

EXISTING CIVIL DEFENCE SIGN UPLIFT FROM EXISTING STREET LIGHT POLE AND RE–LOCATE TO RUGBY STREET INTERSECTION WITH TASMAN STREET. SEE DETAIL A

EXISTING RG–9 SIGNS UPLIFT FROM EXISTING TRAFFIC SIGNAL POLES 1 AND 2 AND STORE

EXISTING RG–26C SIGN UPLIFT FROM STREET LIGHT POLE AND STORE FOR RE–USE IN MEMORIAL PARK

EXISTING RG–26C SIGN UPLIFT FROM STREET LIGHT POLE AND STORE SIGN FOR RE–USE IN MEMORIAL PARK

NEW RG–23 AND RG–24 SIGNS MH: 2.5m ON SHARED SINGLE POST

EXISTING STREET NAME BLADES UPLIFT FROM STREET LIGHT POLE AND STORE SIGNS FOR RE–USE ON NEW STREET LIGHT POLE IN SAME LOCATION IN MEMORIAL PARK

EXISTING LIQUOR–FREE ZONE SIGN UPLIFT FROM STREET LIGHT POLE AND STORE SIGN. LIASE WITH WCC ON SUITABLE NEW LOCATION

NEW RG–26B SIGN MH: 2.5m ON SINGLE POST

PLAN
SCALE 1:500

RUGBY ST

CIVIL DEFENCE SIGN RELOCATED TO POWER POLE

DETAIL A
SCALE 1:500

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE.
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953.
3. WHERE SIGNS ARE TO BE ATTACHED TO WCCL POLES, APPROVAL MUST BE SOUGHT PRIOR TO INSTALLATION.
4. LATERAL CLEARANCE FROM THE EDGE OF THE TRAFFIC SIGN NEAREST TO THE ROAD TO KERB FACE SHALL BE A MINIMUM OF 400mm.
5. THE MINIMUM DESIRABLE MOUNTING HEIGHT OF TRAFFIC SIGNS OVER A FOOTPATH, IF LIKELY TO OBSTRUCT PEDESTRIANS IS 2.5m. MOUNTING HEIGHT MUST BE MEASURED TO THE GROUND SURFACE OF FOOTPATH IMMEDIATELY BENEATH THE SIGN.
6. ALL SIGN MATERIALS, ERECTION, ORIENTATION, SERVICEABILITY AND DESIGN LIFE SHALL COMPLY WITH THE TRAFFIC CONTROL DEVICES MANUAL, NZTA'S PERFORMANCE BASED SPECIFICATION FOR TRAFFIC SIGNS AND THE RSMA COMPLIANCE STANDARD FOR TRAFFIC SIGNS.
7. ALL TEMPORARY CONSTRUCTION SIGNAGE TO BE REMOVED ONCE UNDERPASS OPEN TO TRAFFIC.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE RELOCATED/REMOVED
- NEW SIGN

A3 SCALE 1: 1000
A1 SCALE 1: 500
0 10 20 30 40 50 (m)

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	95% DETAILED DESIGN	QDO'S		TM			

Tab UND–03–102
Scales 1:1000 (A3) 1:500 (A1)
Original Size A1

NZ TRANSPORT AGENCY
Memorial Park Alliance

DRAFT
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SH1 WELLINGTON INNER CITY IMPROVEMENTS
UNDERPASS - 03 TRAFFIC SERVICES
REGULATORY SIGNS

Approved NOT FOR CONSTRUCTION
Status DETAILED DESIGN
Drawing Number UND-03-102
Revision A

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND–03–101_103.dwg PRINTED BY: QUENTINOS 28–Aug–14 5:02 p.m.

TARANAKI ST

MARTIN SQ

SH1 – DIVERSION

UNDERPASS

BUCKLE ST

TORY ST

TASMAN ST

SUSSEX ST

Pay and Display Parking 2 hours maximum Pay at Machine

PAY AND DISPLAY PARKING SIGN RETAIN ON EXISTING ACTIVE SCHOOL WARNING SIGN POST

Pay and Display Parking 2 hours maximum Pay at Machine

PAY AND DISPLAY PARKING SIGN UPLIFT OFF EXISTING STREET LIGHT POLE, PLACE ON NEW SINGLE POST ADJACENT TO EXISTING PARKING SPACE

HOLD
TO BE INSTALLED AS PART OF MEMORIAL PARK WORKS (SEE MP–03– 101)

P 120

NEW RP–4 SIGN ON NEW SINGLE POST

RP– 12 SIGN RETAIN ON SINGLE POST

P Coupon Parking Zone 8am–6pm Mon–Fri First 2 hours free Display Coupons Required Ph. 499 4444

RP– 12 SIGN UPLIFT OFF EXISTING POST AND STORE

NEW RP–4 AND RP– 12 SIGNS ON EXISTING POST

P Coupon Parking Zone 8am–6pm Mon–Fri First 2 hours free Display Coupons Required Ph. 499 4444

P 120

PW–5 SIGN MH: <150mm RETAIN

RP– 12 SIGN RETAIN ON EXISTING WCCL POLE

P Coupon Parking Zone 8am–6pm Mon–Fri First 2 hours free Display Coupons Required Ph. 499 4444

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE.
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953.
3. WHERE SIGNS ARE TO BE ATTACHED TO WCCL POLES, APPROVAL MUST BE SOUGHT PRIOR TO INSTALLATION.
4. LATERAL CLEARANCE FROM THE EDGE OF THE TRAFFIC SIGN NEAREST TO THE ROAD TO KERB FACE SHALL BE A MINIMUM OF 400mm.
5. THE MINIMUM DESIRABLE MOUNTING HEIGHT OF TRAFFIC SIGNS OVER A FOOTPATH, IF LIKELY TO OBSTRUCT PEDESTRIANS IS 2.5m. MOUNTING HEIGHT MUST BE MEASURED TO THE GROUND SURFACE OF FOOTPATH IMMEDIATELY BENEATH THE SIGN.
6. ALL SIGN MATERIALS, ERECTION, ORIENTATION, SERVICEABILITY AND DESIGN LIFE SHALL COMPLY WITH THE TRAFFIC CONTROL DEVICES MANUAL, NZTA'S PERFORMANCE BASED SPECIFICATION FOR TRAFFIC SIGNS AND THE RSMA COMPLIANCE STANDARD FOR TRAFFIC SIGNS.

A3 SCALE 1: 1000
A1 SCALE 1: 500

0 10 20 30 40 50 (m)

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE RELOCATED/REMOVED
- NEW SIGN

PLAN
SCALE 1:500

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	95% DETAILED DESIGN	QDO'S		TM			

Tab UND–03–103
Scales 1:1000 (A3) 1:500 (A1)
Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

DRAFT

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SH1 WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES

PARKING AND WARNING SIGNS

Approved NOT FOR CONSTRUCTION

Status DETAILED DESIGN

Drawing Number UND-03-103

Revision A

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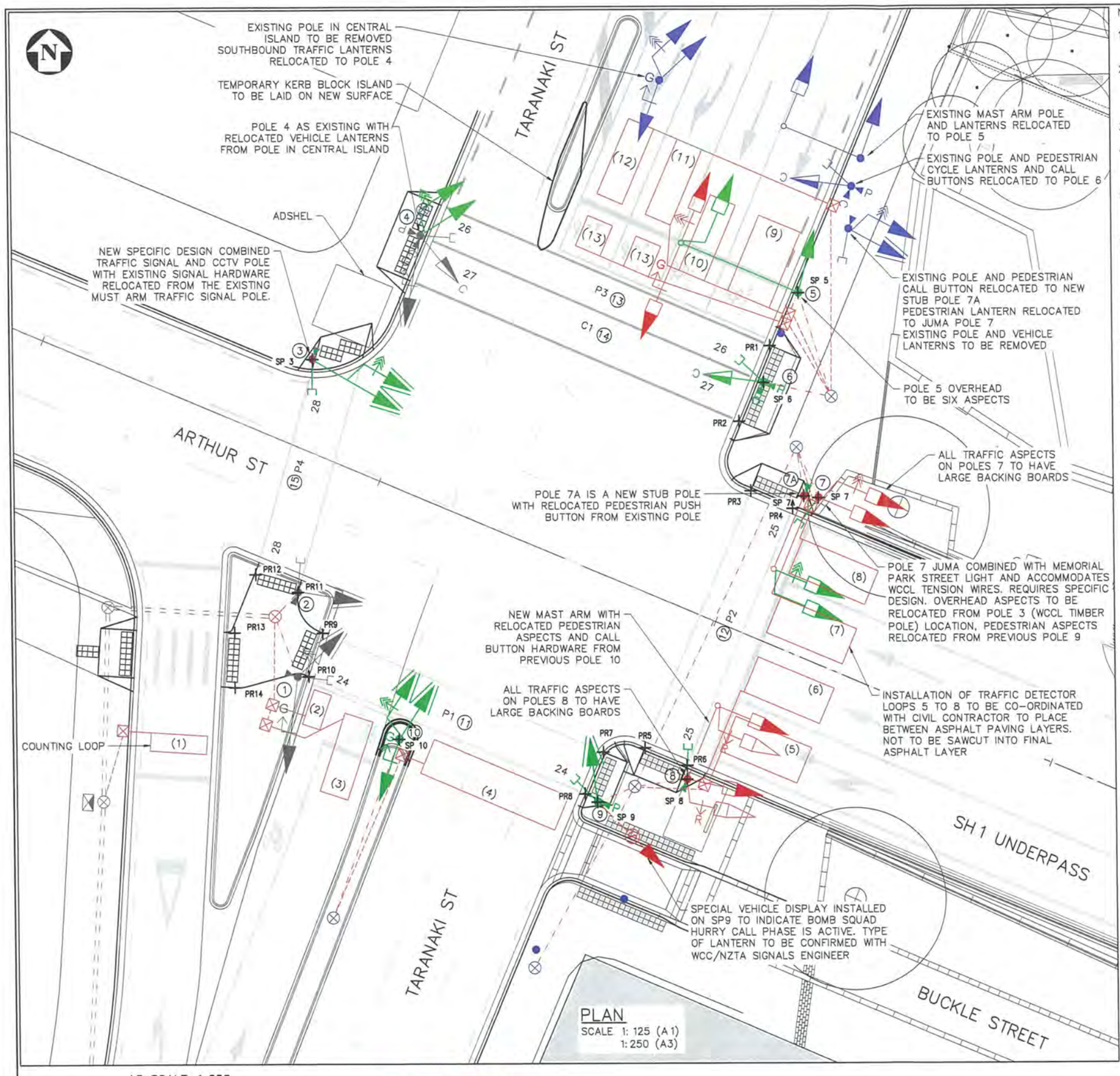

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000. ORIGIN: MT COOK 800,000 MN 400,000 ME. LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953.
3. RE-CUT ALL DETECTORS AT MODIFIED STOP LINES.
4. REUSE OF EXISTING HARDWARE TO BE UNDERTAKEN WHEREVER POSSIBLE. WITH AGREEMENT OF NZTA AND WCC TRAFFIC SIGNAL ENGINEER.
5. POLE LOCATION TO BE CONFIRMED ON SITE BY THE ENGINEER AND CONTRACTOR WITH WCC AND NZTA INPUT.
6. INSTALLATION TO BE IN COMPLIANCE WITH THE NATIONAL TRAFFIC SIGNAL SPECIFICATION AND PROJECT SPECIFICATION. CONTROLLER TO BE TSC/4 COMPLIANT.
7. WHERE NEW DUCTING IS REQUIRED, PROVIDE 2 X 100MM AND 2 X 50MM DUCT FOR LOOP FEEDER CABLE WHERE APPLICABLE.
8. POLE 7 TO BE NEW STREET LIGHT JUMA WITH SPECIFIC DESIGN PARK LIGHTING COLUMN AND WCCL TROLLEY BUS TENSION WIRE CONNECTION FOR OVERHEAD NETWORK. DESIGN BY OTHERS.
9. REFER TO DRAWING UND-03-201 FOR SIGNAL GROUPS, DETECTOR NUMBERING, PHASING, DUCTING AND CABLING DIAGRAMS.
10. CONTROLLER IS TO BE PHYSICALLY WIRED TO THE SUSSEX STREET BARRIER ARM CONTROLLER. SEE OPERATIONAL NOTES ON DRAWING UND-03-201.
11. POLE 3 TO BE NEW JOINT USE TRAFFIC SIGNAL AND CCTV POLE, SPECIFIC DESIGN BY OTHERS.
12. TRAFFIC SIGNAL CONTRACTOR TO DETERMINE REQUIREMENTS AND SUPPLY WIRELESS LINK INTELLIGENT DETECTION SYSTEM FOR BOMB SQUAD HURRY CALL.
13. INSTALL CHAMBERS AT END OF ALL ROAD CROSSING AND ADJACENT TO CONTROLLER CABINET. CHAMBERS TO BE CLEAR OF KERB RAMPS AND OTHER UTILITIES. EXTEND ANY EXISTING DUCTS USING SHALLOW BENDS ONLY.
14. TRENCH AND RE-DUCT AS NECESSARY TO CONNECT TO NEW POLE LOCATIONS.
15. TRAFFIC SIGNAL CONTRACTOR TO ENSURE CO-ORDINATION WITH CIVILS CONTRACTOR TO RETAIN LOOP DETECTION ON ALL APPROACHES DURING CONSTRUCTION. CONTRACTOR TO TAKE DUE CARE TO MINIMISE EXTENT AND DURATION OF DAMAGE TO DETECTOR LOOPS.
16. TRAFFIC SIGNAL CONTRACTOR TO DETERMINE REQUIREMENTS FOR NEW CONTROLLER PERSONALITY BASED ON THE INPUTS AND OPERATIONAL DESIGN OF INTERSECTION. THE CONTRACTOR TO ENSURE A NEW PERSONALITY IS INSTALLED AND TESTED PRIOR TO PRACTICAL COMPLETION OF THE INTERSECTION WORKS, INCLUDING ALLOWANCE FOR CREATION OF A CONTROLLER INFORMATION SHEET (C.I.S.) AND LIAISON WITH THE RCA ON APPROVAL OF THE C.I.S. AND SCATS SETUP.
17. POLES 5, 6, 7, 7A, 8 AND 9 TO HAVE RESENE BLAST GREY 2 OR SIMILAR COLOUR.
18. WHERE ADJACENT LOOPS HAVE SAME NUMBER THEY ARE TO BE WIRED TOGETHER IN SERIES.

DEFINITION OF SETOUT

SIGNAL POLE (CENTRE OF POLE) — PRAM CROSSING (INVERT OF CHANNEL) — PEDESTRIAN ISLAND MOUNTABLE KERB CUTDOWN (BOTTOM OF KERB)

SP SP SP

SIGNAL POLE SETOUT POINTS

POINT	NORTHING	EASTING
SP 3	800372.304 mN	399941.966 mE
SP 5	800375.887 mN	399968.736 mE
SP 6	800370.960 mN	399966.781 mE
SP 7	800364.625 mN	399969.739 mE
SP 7A	800364.717 mN	399968.934 mE
SP 8	800349.180 mN	399962.362 mE
SP 9	800347.944 mN	399957.427 mE
SP 10	800351.424 mN	399946.530 mE

PEDESTRIAN RAMP SETOUT POINTS

POINT	NORTHING	EASTING
PR1	800372.980 mN	399967.141 mE
PR2	800368.829 mN	399965.401 mE
PR3	800365.012 mN	399966.018 mE
PR4	800364.039 mN	399968.321 mE
PR5	800350.918 mN	399960.063 mE
PR6	800349.945 mN	399962.366 mE
PR7	800350.678 mN	399957.766 mE
PR8	800348.397 mN	399956.743 mE
PR9	800357.266 mN	399942.386 mE
PR10	800354.884 mN	399941.598 mE
PR11	800359.512 mN	399941.051 mE
PR12	800360.494 mN	399938.731 mE
PR13	800357.300 mN	399937.548 mE
PR14	800354.295 mN	399937.540 mE

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE RELOCATED/REMOVED
- RELOCATED
- NEW
- CONTROLLER
- SIGNAL DUCT ACCESS CHAMBER
- KERBSIDE JUNCTION BOX (TOBY)
- POLE AND POLE NUMBER
- POLE WITH OVERHEAD MAST ARM
- 200MM ASPECTS – OPEN VISOR
- 300MM ASPECTS – OPEN VISOR
- ASPECTS WITH CLOSED VISOR
- 3 ASPECT DISPLAY
- 3 ASPECT THREE ARROW DISPLAY
- 3 ASPECT SINGLE ARROW DISPLAY (GREEN)
- SPECIAL VEHICLE DISPLAY
- TWO ASPECT CYCLE DISPLAY
- 3 ASPECT DISPLAY WITH SUPPLEMENTARY SINGLE ARROW DISPLAY (RED)
- 3 ASPECT DISPLAY WITH SUPPLEMENTARY THREE ARROW DISPLAY
- PEDESTRIAN ASPECTS
- PEDESTRIAN CALL BOX & INPUT NUMBER
- DETECTOR LOOP – STOPLINE LOOP & LOOP NUMBER
- 50mmø DUCTING
- 100mmø DUCTING

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	95% DETAILED DESIGN	KAH		DW			

Tab UND-03-200
Scales 1:250 (A3) 1:125 (A1)
Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance

DRAFT

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SH1 WELLINGTON INNER CITY IMPROVEMENTS

UNDERPASS - 03 TRAFFIC SERVICES
SIGNAL LAYOUT AND PHASING
TARANAKI STREET / BUCKLE STREET

Approved NOT FOR CONSTRUCTION
Status DETAILED DESIGN
Drawing Number UND-03-200
Revision A

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