

Construction Traffic Management Plan

October 2018

Mt Messenger Alliance

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Glossary

Acronym /Term	Definition
CEMP	Construction Environmental Management Plan
CoPTTM	Code of Practice for Temporary Traffic Management
CTMP	Construction Traffic Management Plan
NOC	Network Outcomes Contract (SH3 Road Maintenance Contract)
NPDC	New Plymouth District Council
SAP	Site Access Point
SH3	State Highway 3
STMS	Site Traffic Management Supervisor (NZQA Qualification)
TMP	Traffic Management Plan
TTM	Temporary Traffic Management

1 Introduction

This Construction Traffic Management Plan (CTMP) has been prepared for the NZ Transport Agency's Mt Messenger Bypass project (the Project).

1.1 Purpose and objectives of the CTMP

The CTMP has been prepared to manage, mitigate and monitor the effects of construction activities and construction traffic on other road users and the State Highway Network. The objective of the CTMP is to detail the best practicable option to avoid adverse safety and efficiency effects caused by construction and to mitigate any such effects should they occur.

The CTMP identifies how construction traffic will be managed to:

- Protect public safety;
- Minimise delays to road users;
- Minimise disruption to property access; and
- Inform the public about any potential impacts on the road network.

The CTMP includes detail on the following:

- Construction activities that might create road safety and/or efficiency effects;
- Sensitive locations on the road network;
- Management procedures and mitigation methods;
- Roles and responsibilities;
- Training of staff in relation to traffic management;
- Monitoring methods;
- Methods for managing complaints and keeping compliance records; and
- The framework for reporting and review.

In preparing this CTMP, information has been drawn from practical experience with the management of traffic from and around large construction projects as well as the following documents:

- *The Code of Practice for Temporary Traffic Management* prepared by the New Zealand Transport Agency, 4th Edition February 2017 (CoPTTM); and
- *The Austroads Guide to Road Design*, prepared by Austroads, December 2009.

This CTMP complies with the CoPTTM. Any time where it is not possible to adhere to the CoPTTM, the CoPTTM's prescribed Engineering Exception Decision process shall be followed.

This CTMP is an appendix to the Construction Environmental Management Plan (CEMP) for the Project. The construction methodology for the Project is set out in the CEMP; as well as in the Assessment of Environmental Effects for the Project.

The CTMP shall remain in place until the completion of construction.

1.2 Review and updates to the CTMP

This CTMP is a live document that will be reviewed and updated during the course of the Project to reflect significant changes associated with construction techniques, communication, mitigation or the natural environment.

A review and amendment process is described in Section 8 of the CEMP. The review process for this CTMP shall include reviewing any comments or recommendations from New Plymouth District Council (NPDC) or the Network Outcomes Contract (SH3 Road Maintenance Contract). The outcomes of any review shall be provided to NPDC.

1.3 Relevant conditions

Table 1.1 identifies the designation conditions relevant to this CTMP and where they are addressed in the plan.

Table 1.1 – Designation Conditions relevant to this CTMP

Condition No.	Condition	Relevant CTMP section
22	<p>The Requiring Authority shall implement the Construction Traffic Management Plan (CTMP), which identifies how the Requiring Authority will manage construction traffic to:</p> <ul style="list-style-type: none"> (a) protect public safety; (b) minimise delays to road users; (c) minimise disruption to property access; and (d) inform the public about any potential impacts on the road network. <p>The CTMP shall remain in place until the Completion of Construction Works.</p>	This plan
23	<p>The CTMP includes:</p> <ul style="list-style-type: none"> (a) details of traffic management activities and sequencing proposed for the Project; (b) methods for managing construction related traffic movements; (c) provisions to ensure that, as far as practicable, road users will not be held up by construction activities for an unreasonable period of time (such time period to be specified); and 	<p>Sections 2 and 3</p> <p>Sections 6 and 7</p> <p>Section 7.6</p>

Condition No.	Condition	Relevant CTMP section
	(d) provisions for emergency services to have access along SH3 24 hours per day, unless construction requires the temporary closure of a road, in which case, prior to any temporary closure, an emergency action plan shall be developed and agreed with emergency services to provide for access for the duration of that closure.	Section 7.7
24	The CTMP shall comply with the version of the NZ Transport Agency Code of Practice for Temporary Traffic Management which applies at the date of the CTMP. Where it is not possible to adhere to the COPTTM, the COPTTM's prescribed Engineering Exception Decision process shall be followed.	Section 1.1

2 Construction methodology

A detailed description of the construction works is provided in the CEMP with key aspects relevant to this CTMP outlined below.

2.1 Construction zones

For the purposes of programme and physical works management, the Project area has been split into two main construction regions: north and south of the new Mt Messenger tunnel. The construction regions are further split into nine construction zones as outlined in Table 2.1.

Table 2.1 – Construction Regions and Zones

Construction Regions and Zones	Overview of Main Construction Features / Activities*
<p>NORTHERN CONSTRUCTION REGION – Chainage 0 – Chainage 3635</p> <p>Cuts and fills of structural fill are balanced in the northern region, with buttress fill to be imported from the southern region once the tunnel and bridge are complete.</p>	
<p>Zone 1 – Chainage 0 – 350</p>	<ul style="list-style-type: none"> • Northern tie-in to existing SH3 on alignment <p><i>Note: Zone includes additional approximately 400 m on the existing SH3 for construction works</i></p>
<p>Zone 2 – Chainage 350 – 2375</p>	<ul style="list-style-type: none"> • Cuts and fills, drainage works • Establishment and operation of main construction yard • Stream diversions • Access tracks / haul roads • Spoil disposal site
<p>Zone 3 – Chainage 2375 – 3400</p>	<ul style="list-style-type: none"> • Cuts and fills, including a large fill on the tunnel approach • Drainage works • Piling under fills • Temporary storage of fill material • Stream diversions • Access tracks / haul roads
<p>Zone 4 – Chainage 3400 – 3635 (the tunnel)</p>	<ul style="list-style-type: none"> • Tunnel portal construction • Tunnel construction yard establishment and operation • Tunnelling operations • Installation of tunnel lighting, ventilation etc. • Construction of tunnel control building and water tanks

Construction Regions and Zones	Overview of Main Construction Features / Activities*
<p>SOUTHERN CONSTRUCTION REGION – Chainage 3635 to Chainage 5955</p> <p>Excess fill from the southern zone will likely be moved from the south to the north or taken to nearby spoil disposal sites depending on programme.</p>	
<p>Zone 5 – Chainage 3635 – 4150 (the bridge)</p>	<ul style="list-style-type: none"> • Large cut and fill works between the tunnel and the bridge • Access tracks • Drainage works
<p>Zone 6 – Chainage 4150 – 4270</p>	<ul style="list-style-type: none"> • Access tracks to the bridge work site • Bridge construction yard establishment and operation • Bridge construction, which will comprise: <ul style="list-style-type: none"> – Piling works – In-situ pour concrete – Steel erection – Deck slab construction, pavement and surfacing
<p>Zone 7 – Chainage 4270 – 4825</p>	<ul style="list-style-type: none"> • Cuts and fills • Access tracks • Drainage works
<p>Zone 8 – Chainage 4825 – 5250</p>	<ul style="list-style-type: none"> • Cuts and fills • Drainage works • Access tracks • Southern tie-in to existing SH3
<p>Zone 9 – Chainage 5250 – 5955</p>	<ul style="list-style-type: none"> • Cuts and fills • Drainage works • Access tracks • Tie-in to existing SH3
<p>Zone 10 (no Chainage)</p>	<ul style="list-style-type: none"> • Spoil disposal site

* Pavement and surfacing works will occur across zones 1–9

* Refer to Table 7.1 for the Site Access Points

2.2 Construction staging and sequencing

Due to the nature and scale of the Project, construction of the Project will be undertaken on a number of fronts or work faces, such that different construction operations will, at times, be simultaneously progressed across all construction zones.

As each construction zone, or sub-zone, is accessed the construction approach will involve:

- **Establishment works** – Progressively opening up and establishing the site, including:
 - construction and / or widening of roads / tracks to access construction areas and install sediment control measures (e.g. sediment control ponds);
 - vegetation clearance;
 - establishment of construction yards;
 - establishing full width access tracks / haul roads;
 - installing remaining erosion and sediment controls; and
 - stream diversions.
- **Main construction works** – Construction works, including:
 - ground improvement works;
 - temporary and permanent drainage installation;
 - bulk earthworks (including cut and fill activities);
 - bridge and tunnel construction;
 - pavements and surfacing;
 - site reinstatement;
 - mitigation and pest management measures;
 - landscaping; and
 - installation of permanent road furniture and ancillary works.

Figure 2.1 shows the indicative construction programme and sequencing for the Project.

		2018	2019	2020	2021	2022
Mobilisation and Site Establishment	Northern Region					
	Southern Region					
Northern Region	Access and Enabling Works					
	Cuts and Fills					
	Road Finishing					
Southern Region	Access and Enabling Works					
	Cuts and Fills					
	Road Finishing					
Bridge	Access and Enabling Works					

		2018			2019			2020			2021			2022		
	Structure															
	Finishing															
Tunnel	Access and Enabling Works															
	Boring															
	Finishing															

Figure 2.1 – Indicative Construction Programme and Sequencing

General working hours will be Monday to Sunday 6:30 am – 9:00 pm. These general hours take into account the remote Project location and small number of surrounding dwellings.

There will however be some construction activities undertaken outside the general working hours. These activities may include:

- Works on the existing SH3 corridor, including construction of site access points at the start of the Project and tie-ins of the new alignment to the existing State Highway at the end of the Project;
- After hours material and plant delivery, including bridge and tunnelling equipment and materials where the transport of oversize loads outside working hours will be less disruptive;
- Tunnelling works, which will be undertaken 24 hours a day, 7 days a week during the relevant phase of the Project;
- Early morning concrete pours; and
- On-site servicing of plant and equipment to minimise impacts on construction programme.

3 Construction activities that may generate traffic effects

The new road will be predominately constructed off-line from the existing SH3, with most of the earthworks cut material being used on site. As such, there will be relatively little interaction with general traffic using the existing State Highway, or interruption to private property access gained via this section of SH3. The scope for adverse traffic effects associated with construction of the Project will be limited.

The construction activities that have the potential to generate adverse traffic effects will generally be limited to:

- Operation of the site access points located along the State Highway (construction zones 2, 4, 5, 6, 7, 8 and 10 – refer to Section 7.2 of this CTMP for further detail), where there is a risk of a potential safety risks between a passing vehicle and a Project / construction vehicle entering or exiting the site;
- Construction of the tie-ins to the existing SH3 at the northern and southern Project extents (construction zones 1, 8 and 9), creating an interface between construction plant and road users, with potential for temporary delays and / or safety risks to road users and site staff;
- Travel along the existing section of SH3 by construction vehicles (trucks and light vehicles), particularly through the Mt Messenger Tunnel. The increase in number of vehicles using this section of SH3 has the potential to result in temporary delays to other road users; and
- Works across or close to the three private property accesses (construction zones 4, 8 and 9) and the Kiwi Road walking track in zone 7, where there is potential to affect temporarily access during construction works.

4 Construction Traffic Management Philosophy

The overarching philosophy for the management of construction traffic during the Project is to:

- Maximise safety of the travelling public and site staff;
- Enable construction efficiencies;
- Minimise delays to the public and road users;
- Minimise disruption to property access;
- Ensure appropriate access for emergency vehicles; and
- Inform the public about potential impacts of Project construction on the road network.

This will be achieved by a high standard of:

- Planning construction traffic movement;
- Design of site access points and temporary traffic management;
- Maintenance of roads, signs, and work sites; and
- Communication internally within the Project, and with road users.

5 Roles and responsibilities

General roles and responsibilities for the Project are outlined in the CEMP. Specific roles and responsibilities relating to the implementation of this CTMP are detailed in Table 5.1.

Table 5.1 – Roles and responsibilities

Role	Responsibility
NZ Transport Agency – Requiring Authority	<ul style="list-style-type: none"> Overall responsibility for Project compliance and performance in relation to environment, quality assurance and incident management Review of the CTMP
Alliance Manager	<ul style="list-style-type: none"> Overall responsibility for site management Reporting to the Transport Agency and New Plymouth District Council (NPDC) any incidents or issues as appropriate
Safety Manager	<ul style="list-style-type: none"> Oversight and advice on the safety of the interfaces with the travelling public
Construction Manager	<ul style="list-style-type: none"> Ensure the approved CTMP is implemented Ensure staff are trained to the required level Ensure Temporary Traffic Management (TTM) records / monitoring results are kept and TTM audits undertaken
Traffic Engineer	<ul style="list-style-type: none"> Prepare site access designs Prepare and submit Traffic Management Plans (TMPs) Audit TTM
Site Traffic Management Supervisor (STMS)	<ul style="list-style-type: none"> Implement TTM in accordance with approved Traffic Management Plans (refer to section 6.2.2) Maintain TTM records
Traffic Controller (TC)	<ul style="list-style-type: none"> Fulfil manual traffic control roles on-site as directed by the STMS
NOC (Road Maintenance) Contractor	<ul style="list-style-type: none"> Fulfil obligations as stipulated in road maintenance agreement, including approving TMPs for works within the State highway corridor
NPDC	<ul style="list-style-type: none"> Auditing to assess compliance with the CTMP

6 Management procedures

A number of procedures exist to identify and address risks associated with temporary traffic management during construction of the Project as outlined below.

6.1 Site Staff

All staff involved in the Project will attend a Project induction prior to the commencement of work to ensure a common basis for approaching their work. The induction will include environmental, health and safety and hazard management in relation to the Project area, along with temporary traffic control (refer to Section 10 of this CTMP).

Training will include the following:

- Specific training will be provided to those involved in temporary traffic management as appropriate to their role and responsibilities.
- Regular toolbox talks will provide a forum to reinforce and educate Project staff around specific temporary traffic control issues and actions during the Project.
- The STMS will also conduct briefings on-site prior to every TTM operation to identify hazards pertaining to the work site and controls to be implemented to protect the safety of Project staff and public.

Refer to Section 4 of the CEMP for further detail on the Project induction and training requirements.

6.1.1 Personal Protective Equipment

As a minimum, all personnel working on site must wear a day or night compliant high visibility garment. Construction workers will therefore be clearly visible, and will set a consistent high level of Personal Protective Equipment and appearance across the site.

6.2 Construction and Temporary Traffic Planning

6.2.1 Work Pack Planning

Construction of the Project will be divided into a number of work activities, with a Site Engineer responsible for managing a number of activities at any one time. As part of the construction planning process, the Site Engineers will develop a work pack for each activity comprising:

- 1 The design plans and specifications applicable to the activities covered by the work pack;
- 2 A Method Statement describing exactly how the work will be undertaken and the hold points for checks, approvals, and records;
- 3 A Job Safety and Environmental Analysis (JSEA) documenting the identification, assessment and mitigation of safety and environmental risks associated with the activity; and
- 4 Permits required for the respective works, such as an approved TMP.

The work pack will then be reviewed and signed off by the Construction Manager, Environmental Manager, Design Manager and Safety Manager (or their respective delegates), usually within 24 hours and with changes made as necessary for approval.

Temporary traffic management requirements associated with work activities will be included in the work packs.

6.2.2 Traffic Management Plan

Traffic Management Plans (TMPs) will be required for all work within the live road corridor.

The TMPs will be prepared for discrete stages of work within the road corridor and follow the format set in CoPTTM. They will describe the measures to be implemented to manage the temporary traffic effects associated with temporary road layouts or traffic controls required for specific corridor works.

TMPs will be submitted to, and approved by, the Traffic Management Coordinator responsible for the section of road involved, in this case the SH3 road maintenance contractor. The TMPs will be assessed by the Traffic Management Coordinator for compliance with CoPTTM and the ability to avoid adverse effects on the travelling public.

TMPs for the key works on the existing SH3 network (the northern and southern tie-ins of the new road) are provided at Appendix A. TMPs for minor works on the State Highway Network, such as shoulder closures to construct site access points, will be prepared in accordance with the time period outlined in CoPTTM.

6.2.3 Road Construction Zones

Where works require oversize construction plant to work within the live road corridor, such as at the tie-ins to the existing SH3 network, the Transport Agency (as Road Controlling Authority) will be asked to declare a Road Construction Zone under the Heavy Motor Vehicle Regulations 1974. This declaration will provide the authority to operate such plant without specific permits for each vehicle, and will include conditions as necessary to ensure the safety of the public.

6.2.4 Road Maintenance Agreement

Road maintenance standards will be maintained with the same triggers, remedies and response times as exist for the current road maintenance contract (Network Outcomes Contract (NOC)). Responsibilities will be divided between the road maintenance contractor and the Project as documented in the Transport Agency's Road Maintenance Agreement.

6.3 Implementation

Each day's work will begin with a Job Start Briefing for each crew, at which the specific work being undertaken that day will be discussed and documented, including the risks involved and the mitigation measures to be implemented to avoid or mitigate the risks i.e. temporary traffic control measures.

Any issues which cannot be solved by the crew will be escalated to the Construction Manager / Traffic Manager / Alliance Manager as appropriate. A process for further

escalation to the Alliance Management Team (AMT) and Project Alliance Board (PAB) will operate, as required.

7 Mitigation measures

7.1 Tie-ins to SH3

At the northern tie-in to the existing SH3, a length of the existing SH3 corridor will be required to be dug out and rebuilt as part of the works. This short section of the corridor will be controlled through the use of temporary signals or stop / go control.

At the southern tie-in, a longer length of the existing SH3 road will be upgraded as part of the overall improvement works. To minimise the impact on the operation of the existing road, it is intended that the eastern lane be constructed first, the live traffic will then be moved across to the new lane to enable the new western lane to be constructed.

The primary mitigation measure for construction of the tie-ins to the existing SH3, where public traffic will interact with the work zone, is the implementation of the TMPs described in Section 6.2.2.

The TMPs for the tie-in of the new road to the existing SH3 corridor are provided in Appendix A.

Temporary traffic layouts and control devices (cones, signs etc.) will be set up in standard layouts outlined in the TMP and as guided by CoPTTM. This will provide a road environment that is consistent with driver expectations, and ensure safe working room to protect workers and the travelling public alike.

7.2 Site Access Controls

The site access points (SAPs) for the construction area have been selected to enable construction to proceed efficiently, and with appropriate traffic management controls in place to provide for the safe operation of the SAPs. They are shown in drawing MMA-DES-CON-E1-DRG-1010, provided at Appendix B.

The controls will include the following and are outlined in relation to the respective SAPs in Table 7.1:

- Constructing a right turn bay for the major access point where the speed of passing traffic is high relative to the available sight distance. The right turn bay will be constructed in accordance with the Austroads Guide to Road Construction;
- Clearing vegetation on the inside of bends to improve visibility, with clearance undertaken in accordance with the provisions of the CEMP;
- Intelligent Transport System (ITS) solutions comprising flashing LED warning signs that indicate when a vehicle is waiting to enter or exit a site access;
- Turning restrictions whereby some or all vehicles are prevented from making right turns out of a site access for safety reasons; and
- Stabilising the first 10m of an access point and / or installing a wheel cleaning facility to prevent detritus being tracked onto the carriageway.

Table 7.1 – Site Access Points

Access Point and Zone	Purpose	Right turn Bay	Vegetation Clearance	ITS	Turning Restrictions	Compact Unconsolidated Surfaces – 10m
SAP 1 Zone 2	SAP 1 will provide access to zone 2 during the early phase of earthworks.					✓
SAP 2 Northern Construction Region	SAP 2 will be the primary access point for the northern construction region, including access to the main construction yard.	✓				✓
SAP 3 Zone 4	SAP 3 is located at the top of the hill adjacent to the tunnel control building.		✓			✓
SAP 4 Zone 5	SAP 4 will enable access to the northern bridge abutment and the cut and fill between the bridge and the tunnel.		✓	✓	✓	✓
SAP 5 Zone 6	SAP 5 will be the primary access to the northern end of the southern construction region.			✓		✓
SAP 6 Zone 7	SAP 6 will be a minor access point for preparatory works in zone 7.			✓		✓
SAP 7 Zone 7	As Fill Disposal Area 3 has been deleted,					

Access Point and Zone	Purpose	Right turn Bay	Vegetation Clearance	ITS	Turning Restrictions	Compact Unconsolidated Surfaces – 10m
	SAP 7 is no longer required.					
SAP 8 Zone 7	As Fill Disposal Area 3 has been deleted, SAP 8 is no longer required.					
SAP 9 Zones 7 & 8	SAP 9 is located at the southern end of the Project where the new alignment meets SH3.					✓
SAP 10 Zone 10	SAP 10 will provide access to the fill site just south of the Project.				✓	✓

All site access points will be clearly signed to guide incoming drivers. Access points will be positioned and constructed so as to ensure sufficient visibility and proper safety is assured for all entering and exiting traffic. They will be manned as required, and locked at night or when not in use, where practicable.

These access point controls will enable construction traffic to enter and exit the site safely.

7.3 Construction Traffic Movements

Construction vehicle movements will be required to and from particular locations throughout all of the course of the Project. Truck movements will be required for the transport of spoil, aggregate, concrete, plant and equipment for the Project. Trucks will enter and exit the site as outlined in Section 7.2 above.

Some oversize loads may be transported to site outside typical working hours as practicable, to minimise effects on the network. Refer to Section 6.2.3 for further information on the management of oversize loads.

Construction vehicles will use SH3 to access the Project area. At peak periods, a total of 200 to 250 staff are expected to be onsite at any one time. Staff will travel to site by a combination of single occupant vehicles, while others will carpool with three to four people per vehicle. On average, 2 movements / staff member would be expected corresponding to an additional 500 movements / day during peak times. Project construction yards will have

dedicated car parking available for staff. Flagman supervision will be provided where required

To protect the public safety during construction works, all construction vehicles in a mobile operation must be fitted with at least one amber flashing beacon in accordance with CoPTTM. Beacons must be fitted on the roof of the vehicle, or in some other suitable position, where all those involved in the activity and other road users will have a clear view of them at all times.

7.4 Property Access

Disruption to property access during construction will be minimised to the extent possible with reasonable vehicle access maintained for the three property accesses which cross the work area as practicable. The properties accessed via these driveways are:

- Ngāti Tama's Parininihi land block and the Beard land, both accessed at the top of the hill;
- 2528 Mokau Road; and
- 2454 Mokau Road.

Generally during construction, this will involve keeping a 3m wide metalled access track open to provide property access, albeit the access track alignment may be shifted from time to time to avoid active work areas.

On occasion, it will be necessary to close the access temporarily. This will occur when activities such as laying new services or surfacing the road immediately in front of the driveway are being undertaken. Such activities will typically take up to half a day to complete.

Discussion with the occupants of the affected properties will take place at least 48 hours in advance to identify:

- Any times of day that are better than others for the work;
- Any alternative routes that can be established; and
- Any need for shuttles etc. to or from transport on either side of the work area.

These processes will avoid any unreasonable inconvenience to landowners and minimise disruption to private property access.

7.5 Walking Track Access

The existing Mt Messenger to Kiwi Road walking track will be kept open during construction as far as reasonably practicable and as safety permits during working hours, during weekends, and after work hours.

7.6 Travel on Existing SH3

To reduce the extent of delay for road users and any safety risk from additional truck traffic on SH3 associated with construction of the Project, the following measures will be implemented:

- The construction programme and sequencing will be structured to enable most excavated fill material to be transported within the Project area on the new alignment. In general, the only fill that will be transported via the SH3 network is excess fill requiring disposal in one of the Project spoil disposal sites.
- A stopping / pullover bay, for trucks to wait if site access is not immediately available, will be located on the southern approach to the site. Truck drivers will have radio contact with site crews to check site access prior to entry. The stopping bay will comprise a 3m wide and 100m long sealed shoulder.

These two measures will reduce the risk of excessive truck traffic through the existing Mt Messenger Tunnel, and the frequency with which oncoming trucks will have to pass each other, which will minimise potential adverse effects on road users.

7.7 Emergency Services

SH3 provides a critical route for emergency services connecting Taranaki with Waikato Hospital.

As detailed in the TMPs, emergency services will always be given priority along the State Highway when temporary traffic controls are in place, to avoid or minimise any delays.

While not currently expected, if the need arises for works that have potential to impede movement of emergency services (such as a temporary road closure), the works will be discussed with emergency services at least 48 hours in advance to develop an emergency action plan to be agreed between the Transport Agency and emergency services.

Emergency services will also be provided with the site access map to enable rapid response to any emergencies on site.

7.8 Communications

Travel information will be provided in a number of different forms:

- A stakeholder engagement and communications team will be available for the duration of the Project to field queries and to speak to affected property owners / occupants about works that may impact them, such as temporary access constraints. The stakeholder engagement and communications team serve as a central point of contact for involving other Project members, such as traffic engineers, in discussions with property owners;
- A regular Project newsletter will be emailed to all members of the Project stakeholder database. The newsletter will include relevant construction information / updates, including travel information as appropriate, to keep road users and property owners informed as works progress;
- Any significant construction works / temporary traffic management that has the potential to create delays on the SH3 network of greater than five minutes will be notified with newspaper advertisements, social media, media releases and / or variable message boards on the roadside, along with direct notification to the Road Transport Forum; and

- Any works that may limit the size of vehicles that can proceed through the works will be notified to the Heavy Haulage Association.

Project communications will be implemented to maximise the extent to which the public, road users and property owners / occupants are aware of any construction activities along the SH3 corridor that have the potential to impact travel, enabling them to plan accordingly.

Refer to Section 6 of the CEMP for further detail on Project stakeholder engagement and communications.

8 Monitoring

Table 8.1 outlines the temporary traffic monitoring to be undertaken during construction of the Project.


Table 8.1 – Construction Traffic Management monitoring programme

Monitoring Activities	Frequency	Responsibility
Check method statement reflects requirements and requisite TMP has been approved	Prior to approving Work Packs	Construction Manager
Inspect temporary traffic management layout	2 hourly when site is live	STMS
Documented check of all temporary traffic management	Daily and as layouts change	STMS
TTM Audit in accordance with CoPTTM	Monthly	Traffic Engineer

9 Complaints and Incidents

The complaints response procedures for the Project is detailed in Section 6 of the CEMP. This includes the process for acknowledging and investigating any complaint, implementing any changes, and responding to the complainant.

Incidents or issues identified by the Project team will be recorded using an Event Pad form (refer Figure 9.1).



TRANSPORT AGENCY
MAKKA KOSIAHI

Mt Messenger Bypass

EVENT
01199

TYPE OF EVENT (Tick appropriate boxes)

PLANT / VEHICLE DAMAGE
 INJURY
 OBSERVATION CONVERSATION
 PLANT CONDITION
 ENVIRONMENT INCIDENT/SPILL
 NEAR MISS
 SUGGESTION
 HAZARD
 PROPERTY DAMAGE
 COMPLAINT
 SYSTEM IMPROVEMENT
 OTHER

CONTRACT PLANT NO / PERSONS INVOLVED

PERSON REPORTING EVENT: DATE: ___/___/___

DESCRIPTION OF EVENT AND INITIAL ACTION TAKEN: TIME: ___/___/___

IS FURTHER ACTION REQUIRED? YES NO

FURTHER ACTION TAKEN / LEARNING SHARED	COMPLETED?

SIGNED: _____ DATE: ___/___/___
Person Reporting Event

SIGNED: _____ DATE: ___/___/___
Site Supervisor / Engineer to sign off and file when completed or direct further investigation or action

MPA ST05A Version 09/13

Figure 9.1 – Event Pad

The triplicate forms enable a copy to be given to the manager responsible (Construction Manager for construction traffic issues) and a copy for the Safety Manager within 24 hours. The need or otherwise for further action or investigation will be determined by the

Construction and Safety Managers (refer to the CEMP for further detail on corrective action as a result of monitoring, an incident or a complaint).

The Construction Manager has the responsibility to respond to and follow up all complaints regarding construction traffic, and furthermore to ensure that suitably trained personnel are available.

10 Training

General training requirements in relation to the construction of the Project are outlined in the CEMP. Training in relation to temporary traffic management is outlined in Table 10.1.

Table 10.1 – Training Requirements

Qualification/Training	Description	Who
Project induction	Initial hour long induction (refer to Section 10.1 below for detail)	All Project staff, including site staff, office staff and anyone who is approved to enter the site without an escort
ConstructSafe	Construction Safety Council Tier 1.1 Test to demonstrate proficiency in safety on sites	All Project staff, including site staff, office staff and anyone who is approved to enter the site without an escort
Toolbox talks	Fortnightly meetings, to highlight key messages or issues, and receive feedback	All site staff working on the Project at the time
Site Traffic Management Supervisor (STMS) Level 1	NZQA Qualification to oversee site in live road environment	Person responsible for traffic management associated with the Project while the tie-ins to the existing SH3 are constructed at the northern and southern Project extents
Traffic Controller (TC)	NZQA Qualification to assist with traffic management	All staff undertaking traffic management associated with the Project while the tie-ins to the existing SH3 are constructed at the northern and southern Project extents

10.1 Project Induction

The Project induction will address (but not be limited to) the following matters relevant to this Plan:

- Information about the Mt Messenger environment, including those that relate to traffic management and safety of site staff and road users;
- Roles and responsibilities of Project staff, including individual responsibilities around traffic management and safety;
- Safety hazards, including weather, driving, water, and remote access with limited communication, amongst others;
- Rules and processes to mitigate safety hazards;

- The key aspects of this CTMP, in particular works on the SH3 network or that may impact private property access;
- The emergency plan; and
- Looking after project neighbours and the travelling public.

Only once staff have attended the induction, and passed the 'fitness to work' test¹, are they approved for general access to the site.

¹ To AS/NZS 4308:2008

11 Reporting

In addition to the documentation described in Section 8 (Monitoring) and the complaints reporting process described in the CEMP, any injury events or serious near misses will be reported immediately to the AMT. The Alliance Manager will then report promptly to NPDC.

Appendices

Appendix A: TMs for Northern and Southern Tie-ins 27

Appendix B: Site Access Point Layout 28







Appendix A: TMPs for Northern and Southern Tie-ins

RCA consent (eg CAR/WAP) and/or RCA contract reference	
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TRAFFIC MANAGEMENT PLAN (TMP) – SHORT FORM

Complete **short form** if simple activity and RCA permits. Refer to the NZ Transport Agency's Traffic control devices manual, part 8 Code of practice for temporary traffic management (CoPTTM), section E, appendix A for a guide on how to complete each field.

Organisation/ TMP reference	TMP reference: MTMA 001	Contractor (Working space): 	Principal (Client): 			
		Contractor (TTM): 	RCA: 			
Location details and road characteristics	Road names and suburb		House no. / RPs (From and to)	Road level	Permanent speed	AADT/Peak flows
	SH3, Ahititi		0176-B/1.00 to 0176-B/1.51	1	100 km/h	2522 vpd
Description of work activity	Tie-in to new bypass of SH3 including pavement reconstruction and shape correction					
Planned work programme						
Start date	TBC	Time		End date	TBC	Time
Consider significant stages, for example: • road closures • detours • no activity periods.	Single lane stop/go over half length of site (max 300m) at a time. Delay calculated at two minutes. To be monitored and changes made if long queues develop or delays exceed five minutes (see contingency plan below)					
Alternative dates if activity delayed	TBC					
Road aspects affected (delete either Yes or No to show which aspects are affected)						
Pedestrians affected?	Yes No	Property access affected?	Yes No	Traffic lanes affected?	Yes No	
Cyclists affected?	Yes No	Restricted parking affected?	Yes No	Delays or queuing likely?	Yes No	
TSL/ Diagram (see TSL decision matrix for guidance)	TSL details as required Approval of Temporary Speed Limits (TSL) are in terms of Section 5 of Land Transport Rule: Setting of Speed Limits 2003, Rule 54001 (List speed, length and location)		Times (From and to)	Dates (Start and finish)	Diagram ref. no.s (Layout drawings or TMDs)	
Attended day/ night	A temporary maximum speed limit of 30 km/h is hereby fixed for motor vehicles travelling over the length of 900m situated between 0176-B/0.8 (House no./RP) and 0176-B/1.7 (House no./RP) on SH3 (street or road name)		06:30 to 21:00	TBC	F2.14 or F2.17	

RCA consent (eg CAR/WAP) and/or RCA contract reference						
Unattended day/ night	A temporary maximum speed limit of 30 km/h is hereby fixed for motor vehicles travelling over the length of 900m situated between 0176-B/0.8 (House no./RP) and 0176-B/1.7 (House no./RP) on SH3 (street or road name)	21:00 to 06:30	TBC	F2.17		
TSL duration	Will the TSL be required for longer than six months? <i>If yes, attach the completed checklist from section I-18: Guidance on TMP Monitoring Processes for TSLs to this TMP.</i>			Yes No		
Contingency plan						
If long queues form or delays exceed 5mins (or any other period required by RCA), site to be disestablished or additional lanes made available.		Adjust TMD to suit unforeseen circumstances (eg weather or site overlaps with another work site).		Emergency services will be accommodated and access provided through the site as required.		
Add additional contingencies:						
Contact details						
	Name	24/7 contact number	CoPTTM ID	Qualification	Expiry date	
Principal	Rob Napier					
TMC	TBC					
Engineers' representative	Richard Galloway					
Contractor	Hugh Milliken					
STMS	TBC					
TC	TBC					
Others as required						
TMP preparation (or approval if STMS delegated authority to approve TMPs) <i>Delete the option that does not apply (either prepared or approved)</i>						
Prepared / Approved	Nakita Thompson			44074	2/3 NPR	14/5/18
	<i>Name</i>	<i>Date</i>	<i>Signature</i>	<i>ID no.</i>	<i>Qualification</i>	<i>Expiry date</i>
This TMP meets CoPTTM requirements			Number of diagrams attached			
TMP returned for correction						
	<i>Name</i>	<i>Date</i>	<i>Signature</i>	<i>ID no.</i>	<i>Qualification</i>	<i>Expiry date</i>
Engineer/TMC to complete following section when approval or acceptance required						
Approved by TMC or engineer (delete one)						
	<i>Name</i>	<i>Date</i>	<i>Signature</i>	<i>ID no.</i>	<i>Qualification</i>	<i>Expiry date</i>
Acceptance by TMC (only required if TMP approved by engineer)						
	<i>Name</i>	<i>Date</i>	<i>Signature</i>	<i>ID no.</i>	<i>Qualification</i>	<i>Expiry date</i>
Qualifier for engineer or TMC approval						

RCA consent (eg CAR/WAP) and/or RCA contract reference	
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Approval of this TMP authorises the use of any regulatory signs included in the TMP or attached traffic management diagrams.

This TMP is approved on the following basis:

1. To the best of the approving engineer's/TMC's judgment this TMP conforms to the requirements of CoPTTM.
2. This plan is approved on the basis that the activity, the location and the road environment have been correctly represented by the applicant. Any inaccuracy in the portrayal of this information is the responsibility of the applicant.
3. The TMP provides so far as is reasonably practicable, a safe and fit for purpose TTM system.
4. The STMS for the activity is reminded that it is the STMS's duty to postpone, cancel or modify operations due to the adverse traffic, weather or other conditions that affect the safety of this site.

Worksite monitoring

TTM to be monitored and 2 hourly inspections documented below.

Items to be inspected	TTM set-up	2 hourly check	2 hourly check	2 hourly check	2 hourly check	2 hourly check	TTM removal
High-visibility garment worn by all?							
Signs positioned as per TMP?							
Conflicting signs covered?							
Correct delineation as per TMP?							
Lane widths appropriate?							
Appropriate positive TTM used?							
Footpath standards met?							
Cycle lane standards met?							
Traffic flows OK?							
Adequate property access?							
<i>Add others as required</i>							
Time inspection completed:							
Signature:							
Comments:							
Time	Adjustment made and reason for change						

TWO-WAY TWO-LANE ROAD

Single-lane alternating flow

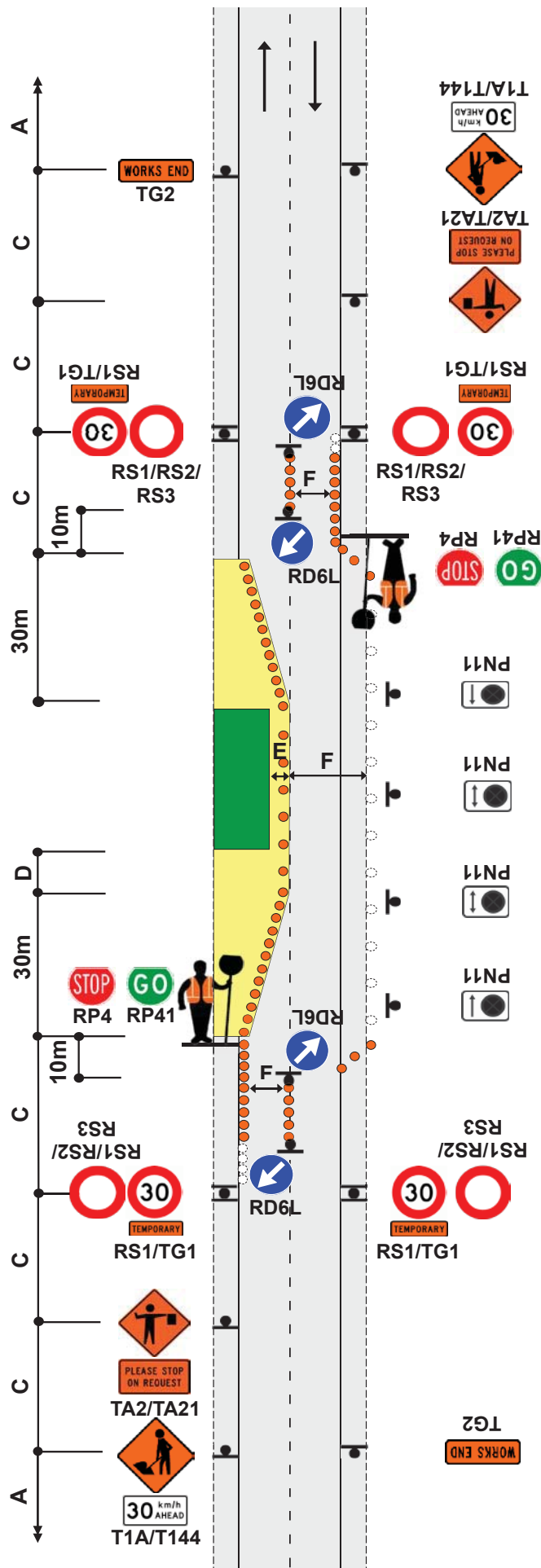
Manual traffic control (STOP/GO or STOP/SLOW)

F2.14

Level 1

Notes

1. Extend or place extra advance warning signs towards on-coming traffic beyond any expected traffic queues
2. A 30m return taper at the end of the closure is mandatory
3. Cones are required on edge of the temporary lane opposite closure if road is not well defined
4. To allow heavy vehicles to manoeuvre, cones in the channel must be offset by at least 10m where the direction changes. Refer C8.2.12
5. Use PN11 no stopping signs, if necessary
6. MTC with RP4/RP41 STOP/GO or RP4/RP42 STOP/SLOW paddle on road shoulder located between 1st and 2nd cone in the cone threshold closest to the working space
7. Minimum 5 cones in cone threshold at:
 - 2.5m centres - less than 65km/h
 - 5m centres - more than 65km/h
8. Refer to C10.2.3 MTC essentials for further information
9. Delays cannot exceed the time approved by the RCA (normally 5 to 10 minutes)
10. The T144 30km/h AHEAD sign is optional



TWO-WAY TWO-LANE ROAD
 Single-lane alternating flow
 Portable traffic signals

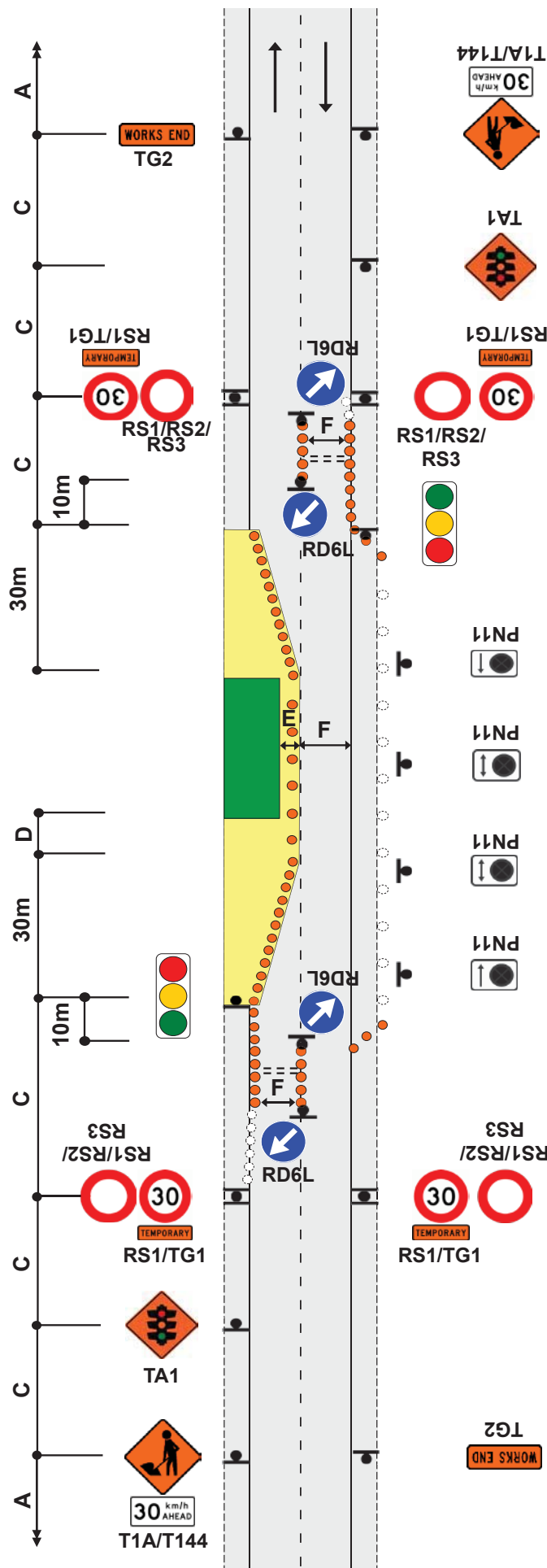
F2.17
 Level 1

Notes

1. Provide details of make and model of portable traffic signals in the TMP
2. Install temporary limit lines (must be able to be removed upon completion) or use RP61/RP62 signs







3. Approved temporary speed humps may also be used. Consider use of MTC while speed humps are installed
4. A 30m return taper at the end of the closure is mandatory
5. Cones are required on edge of the temporary lane opposite closure if road is not well defined
6. Extend or place extra advance warning signs towards on-coming traffic beyond any expected traffic queues
7. Use PN11 No Stopping signs, if necessary
8. Minimum 5 cones in cone threshold at:
 - 2.5m centres - less than 65km/h
 - 5m centres - more than 65km/h
9. The T144 30km/h AHEAD sign is optional



RCA consent (eg CAR/WAP) and/or
RCA contract reference

TRAFFIC MANAGEMENT PLAN (TMP) – SHORT FORM

Complete **short form** if simple activity and RCA permits. Refer to the NZ Transport Agency's Traffic control devices manual, part 8 Code of practice for temporary traffic management (CoPTTM), section E, appendix A for a guide on how to complete each field.

Organisation/ TMP reference	TMP reference: MTMA 001	Contractor (Working space): 	Principal (Client): 			
		Contractor (TTM): 	RCA: 			
Location details and road characteristics	Road names and suburb		House no. / RPs (From and to)	Road level	Permanent speed	AADT/Peak flows
	SH3, Uruti		0176-B/6.80 to 0176-B/7.95	1	100 km/h	2522 vpd
Description of work activity	Tie-in to new bypass of SH3 including pavement reconstruction and shape correction					
Planned work programme						
Start date	TBC	Time		End date	TBC	Time
Consider significant stages, for example: • road closures • detours • no activity periods.	Single lane stop/go over up to 300m at a time. Delay calculated at two minutes. To be monitored and changes made if long queues develop or delays exceed five minutes (see contingency plan below)					
Alternative dates if activity delayed	TBC					
Road aspects affected (delete either Yes or No to show which aspects are affected)						
Pedestrians affected?	Yes No	Property access affected?	Yes No	Traffic lanes affected?	Yes No	
Cyclists affected?	Yes No	Restricted parking affected?	Yes No	Delays or queuing likely?	Yes No	
TSL/ Diagram (see TSL decision matrix for guidance)	TSL details as required Approval of Temporary Speed Limits (TSL) are in terms of Section 5 of Land Transport Rule: Setting of Speed Limits 2003, Rule 54001 (List speed, length and location)		Times (From and to)	Dates (Start and finish)	Diagram ref. no.s (Layout drawings or TMDs)	
Attended day/ night	A temporary maximum speed limit of 30 km/h is hereby fixed for motor vehicles travelling over the length of 1600m situated between 0176-B/6.6 (House no./RP) and 0176-B/8.2 (House no./RP) on SH3 (street or road name)		06:30 to 21:00	TBC	F2.14 or F2.17	

RCA consent (eg CAR/WAP) and/or RCA contract reference						
Unattended day/ night	A temporary maximum speed limit of 30 km/h is hereby fixed for motor vehicles travelling over the length of 1600m situated between 0176-B/6.6 (House no./RP) and 0176-B/8.2 (House no./RP) on SH3 (street or road name)	21:00 to 06:30	TBC	F2.17		
TSL duration	Will the TSL be required for longer than six months? <i>If yes, attach the completed checklist from section I-18: Guidance on TMP Monitoring Processes for TSLs to this TMP.</i>				Yes No	
Contingency plan						
If long queues form or delays exceed 5mins (or any other period required by RCA), site to be disestablished or additional lanes made available.		Adjust TMD to suit unforeseen circumstances (eg weather or site overlaps with another work site).		Emergency services will be accommodated and access provided through the site as required.		
Add additional contingencies:						
Contact details						
	Name	24/7 contact number	CoPTTM ID	Qualification	Expiry date	
Principal	Rob Napier					
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STMS	TBC					
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Others as required						
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Prepared / Approved	Nakita Thompson			44074	2/3 NPR	14/5/18
	Name	Date	Signature	ID no.	Qualification	Expiry date
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	Name	Date	Signature	ID no.	Qualification	Expiry date
Engineer/TMC to complete following section when approval or acceptance required						
Approved by TMC or engineer (delete one)						
	Name	Date	Signature	ID no.	Qualification	Expiry date
Acceptance by TMC (only required if TMP approved by engineer)						
	Name	Date	Signature	ID no.	Qualification	Expiry date
Qualifier for engineer or TMC approval						

RCA consent (eg CAR/WAP) and/or RCA contract reference	
---	--

Approval of this TMP authorises the use of any regulatory signs included in the TMP or attached traffic management diagrams.

This TMP is approved on the following basis:

1. To the best of the approving engineer's/TMC's judgment this TMP conforms to the requirements of CoPTTM.
2. This plan is approved on the basis that the activity, the location and the road environment have been correctly represented by the applicant. Any inaccuracy in the portrayal of this information is the responsibility of the applicant.
3. The TMP provides so far as is reasonably practicable, a safe and fit for purpose TTM system.
4. The STMS for the activity is reminded that it is the STMS's duty to postpone, cancel or modify operations due to the adverse traffic, weather or other conditions that affect the safety of this site.

TMP or generic plan reference	
-------------------------------	--

ON-SITE RECORD On-site record must be retained with TMP for 12 months.			Today's date	
Location details	Road names(s):	House number/RPs:	Suburb:	

Working space	
Person responsible for working space	
	<i>Name</i> <i>Signature</i>
<i>Where the STMS/TC is responsible for both the working space and TTM they sign above and in the appropriate TTM box below</i>	

TTM					
STMS in charge of TTM					
	<i>Name</i>	<i>TTM ID Number</i>	<i>Warrant expiry date</i>	<i>Signature</i>	<i>Time</i>
Worksite handover accepted by replacement STMS					
	<i>Name</i>	<i>ID Number</i>	<i>Warrant expiry date</i>	<i>Signature</i>	<i>Time</i>
	Tick to confirm handover briefing completed				

Delegation					
Worksite control accepted by TC/STMS-NP					
	<i>Name</i>	<i>ID Number</i>	<i>Warrant expiry date</i>	<i>Signature</i>	<i>Time</i>
	Tick to confirm briefing completed				

Temporary speed limit						
Street/road name (RPs or street numbers):		TSL action	Date:	Time:	TSL speed:	Length of TSL (m):
From:	To:	TSL installed				
		TSL remains in place				
		TSL removed				
Street/road name (RPs or street numbers):		TSL action	Date:	Time:	TSL speed:	Length of TSL (m):
From:	To:	TSL installed				
		TSL remains in place				
		TSL removed				
Street/road name (RPs or street numbers):		TSL action	Date:	Time:	TSL speed:	Length of TSL (m):
From:	To:	TSL installed				
		TSL remains in place				
		TSL removed				
Street/road name (RPs or street numbers):		TSL action	Date:	Time:	TSL speed:	Length of TSL (m):
From:	To:	TSL installed				
		TSL remains in place				
		TSL removed				

Worksite monitoring

TTM to be monitored and 2 hourly inspections documented below.

Items to be inspected	TTM set-up	2 hourly check	2 hourly check	2 hourly check	2 hourly check	2 hourly check	TTM removal
High-visibility garment worn by all?							
Signs positioned as per TMP?							
Conflicting signs covered?							
Correct delineation as per TMP?							
Lane widths appropriate?							
Appropriate positive TTM used?							
Footpath standards met?							
Cycle lane standards met?							
Traffic flows OK?							
Adequate property access?							
<i>Add others as required</i>							
Time inspection completed:							
Signature:							
Comments:							
Time	Adjustment made and reason for change						

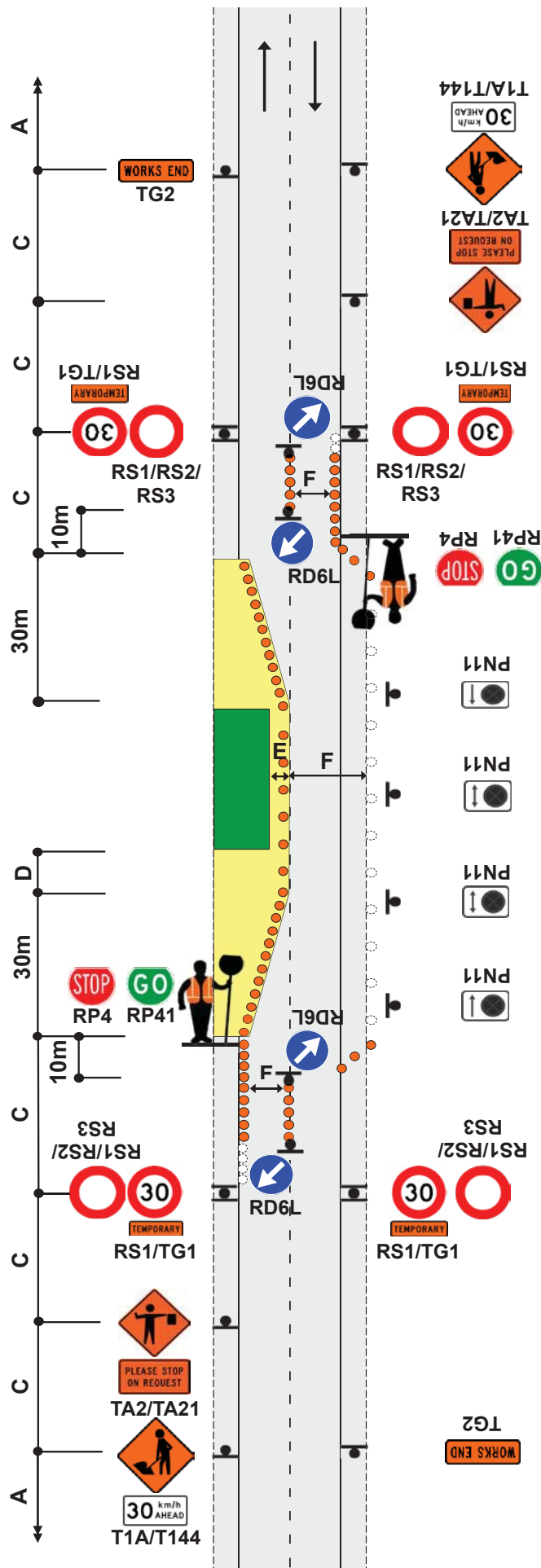
TWO-WAY TWO-LANE ROAD

Single-lane alternating flow

Manual traffic control (STOP/GO or STOP/SLOW)

Notes

1. Extend or place extra advance warning signs towards on-coming traffic beyond any expected traffic queues
2. A 30m return taper at the end of the closure is mandatory
3. Cones are required on edge of the temporary lane opposite closure if road is not well defined
4. To allow heavy vehicles to manoeuvre, cones in the channel must be offset by at least 10m where the direction changes. Refer C8.2.12
5. Use PN11 no stopping signs, if necessary
6. MTC with RP4/RP41 STOP/GO or RP4/RP42 STOP/SLOW paddle on road shoulder located between 1st and 2nd cone in the cone threshold closest to the working space
7. Minimum 5 cones in cone threshold at:
 - 2.5m centres - less than 65km/h
 - 5m centres - more than 65km/h
8. Refer to C10.2.3 MTC essentials for further information
9. Delays cannot exceed the time approved by the RCA (normally 5 to 10 minutes)
10. The T144 30km/h AHEAD sign is optional



TWO-WAY TWO-LANE ROAD
Single-lane alternating flow
Portable traffic signals

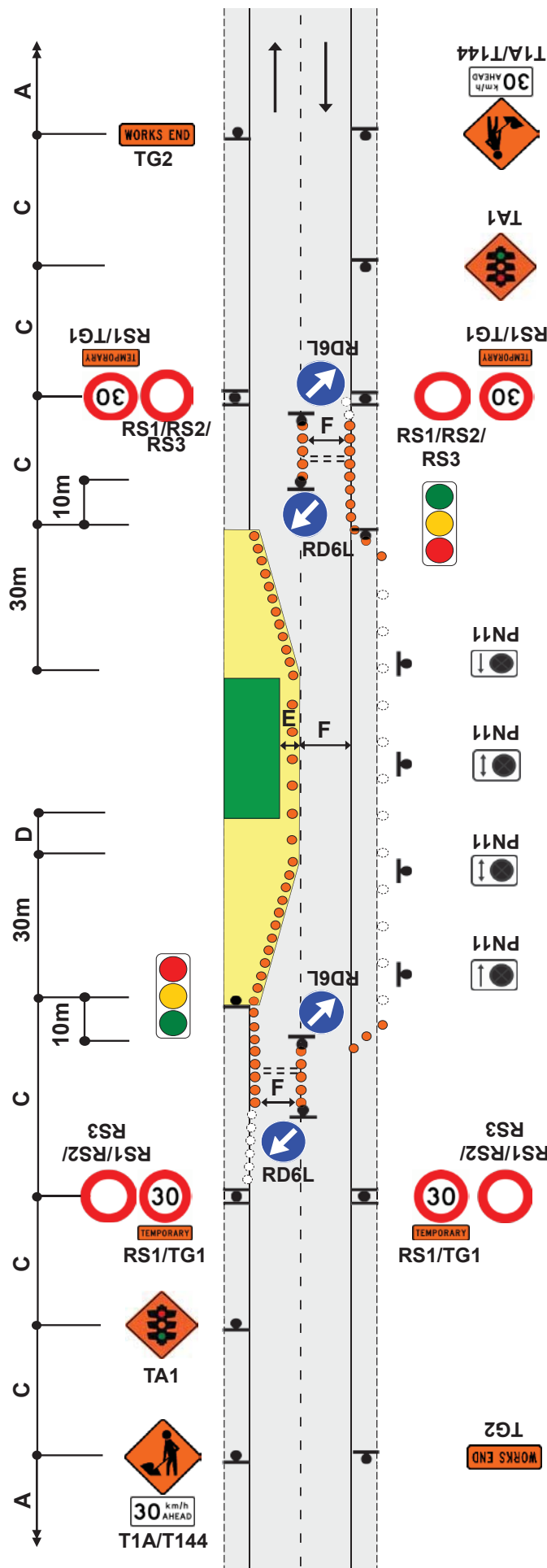
F2.17
Level 1

Notes

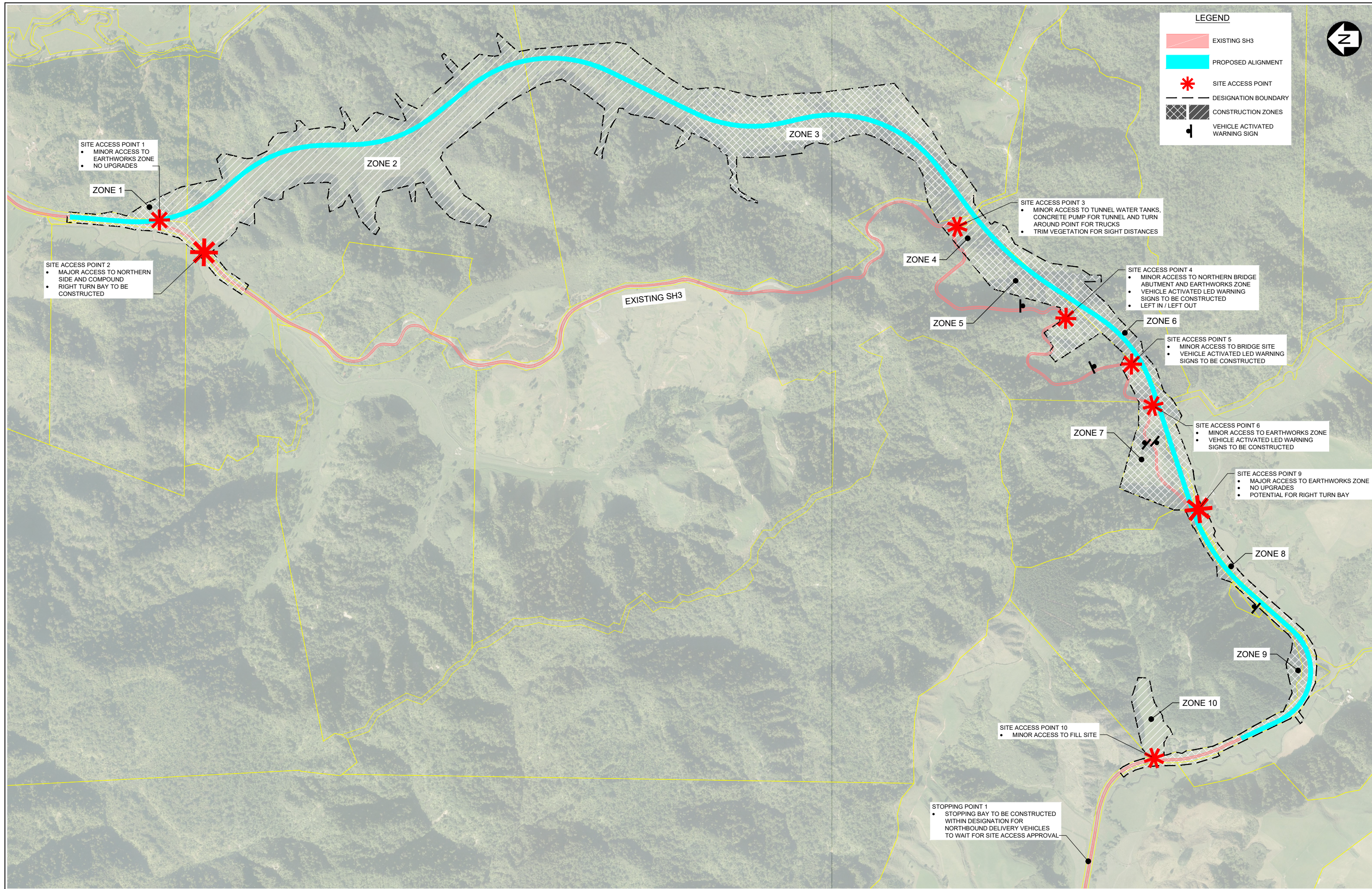
1. Provide details of make and model of portable traffic signals in the TMP
2. Install temporary limit lines (must be able to be removed upon completion) or use RP61/RP62 signs



3. Approved temporary speed humps may also be used. Consider use of MTC while speed humps are installed
4. A 30m return taper at the end of the closure is mandatory
5. Cones are required on edge of the temporary lane opposite closure if road is not well defined
6. Extend or place extra advance warning signs towards on-coming traffic beyond any expected traffic queues
7. Use PN11 No Stopping signs, if necessary
8. Minimum 5 cones in cone threshold at:
 - 2.5m centres - less than 65km/h
 - 5m centres - more than 65km/h
9. The T144 30km/h AHEAD sign is optional



Appendix B: Site Access Point Layout



LEGEND

- EXISTING SH3
- PROPOSED ALIGNMENT
- * SITE ACCESS POINT
- DESIGNATION BOUNDARY
- CONSTRUCTION ZONES
- ⚡ VEHICLE ACTIVATED WARNING SIGN

SITE ACCESS POINT 1

- MINOR ACCESS TO EARTHWORKS ZONE
- NO UPGRADES

SITE ACCESS POINT 2

- MAJOR ACCESS TO NORTHERN SIDE AND COMPOUND
- RIGHT TURN BAY TO BE CONSTRUCTED

SITE ACCESS POINT 3

- MINOR ACCESS TO TUNNEL WATER TANKS, CONCRETE PUMP FOR TUNNEL AND TURN AROUND POINT FOR TRUCKS
- TRIM VEGETATION FOR SIGHT DISTANCES

SITE ACCESS POINT 4

- MINOR ACCESS TO NORTHERN BRIDGE ABUTMENT AND EARTHWORKS ZONE
- VEHICLE ACTIVATED LED WARNING SIGNS TO BE CONSTRUCTED
- LEFT IN / LEFT OUT

SITE ACCESS POINT 5

- MINOR ACCESS TO BRIDGE SITE
- VEHICLE ACTIVATED LED WARNING SIGNS TO BE CONSTRUCTED

SITE ACCESS POINT 6

- MINOR ACCESS TO EARTHWORKS ZONE
- VEHICLE ACTIVATED LED WARNING SIGNS TO BE CONSTRUCTED

SITE ACCESS POINT 9

- MAJOR ACCESS TO EARTHWORKS ZONE
- NO UPGRADES
- POTENTIAL FOR RIGHT TURN BAY

SITE ACCESS POINT 10

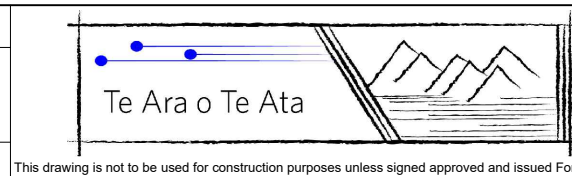
- MINOR ACCESS TO FILL SITE

STOPPING POINT 1

- STOPPING BAY TO BE CONSTRUCTED WITHIN DESIGNATION FOR NORTHBOUND DELIVERY VEHICLES TO WAIT FOR SITE ACCESS APPROVAL

Rev	Revision Description	Drawn	Checked	Designed	Design Checked	Approved	Date
C	SITE ACCESS POINTS 7 AND 8 REMOVED	QDO'S	WHE	RSG	HM	LJG	16/07/2018
B	MINOR AMENDMENTS TO LABELS	QDO'S	WHE	RSG	HM	LG	24/05/2018
A	FOR CONSENT	QDO'S	WHE	RSG	HM	LG	14/11/2017

Tab	MMA-DES-CON-C0-DRG-1010
Scales	NOT TO SCALE
Original Size	A1



MT MESSENGER BYPASS

CONSTRUCTION SITE ACCESS POINTS

Approved	D. KENDERDINE
Status	FOR CONSENT
Drawing Number	MMA-DES-CON-C0-DRG-1010
Revision	C