

TRAFFIC & HAULAGE MANAGEMENT PLAN

EXTERNAL WORKS FOR NEW DEVELOPMENT

RICHARDSON CRESCENT, UPPER COOMERA

Requested by:



Prepared by:



SSS241210021 - REV 00

Author:
Adam Stahlhut OP 558
M: 0474 900 215
E: adam@siteservicesqld.com.au

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1 Document Issued Management

Version	Author/Approver	Signature	Description	Date
0	Adam Stahlhut - OP 558		Initial Release	12/12/2024

2 Project Details

Project Name	External Works
Construction Type	New Development
Principal	Gold Coast City Council
Principal Contractor	Winslow
Project Location	Richardson Crescent, Upper Coomera
Contract Start Date	13/01/2025
Project Duration	12 Weeks
Contract Number	TBD

3 Reference / Abbreviation / Terminologies

Abbreviation/ Terms	Description
QMUTCD	Queensland Manual of Uniform Traffic Control Devices and has precedence over the AS1742
GTMWR	Guideline Traffic Management at Works on Roads
MRTS02	Transport and Main Roads Specifications MRTS02 Provision for Traffic- July 2020
TRSBS	Road Safety Barrier Systems and End Treatments (Assessed as compliant with AS3845:1999) and Other Related Road Safety Devices
TCASAP	Traffic Controller Accreditation Scheme Approved Procedure (PDF, 0.95 MB)
TORUM	Transport Operations (Road Use Management) Act 1995
TORUM Reg	Transport Operations (Road Use Management—Road Rules) Regulation 2009
AGTTM	Australian Guide to Temporary Traffic Management Parts 1-10
QGTMM	QLD Guide to Temporary Traffic Management Parts 1-10 and has precedence over AGTTM
AS1742.3	Manual Of Traffic Control Devices Part 3 Works on Roads

Abbreviation/ Terms	Description
TRUM	Traffic and Road Use Management Manual
WHS Act	Work Health and Safety Act 2011
The Code	Traffic Management Construction COP-2008
RPEQ	Registered Professional Engineer of Queensland
Shall / Must	A mandatory condition, indicates that the guidance must be followed
Should	Indicates a recommendation, any recommendation that is not applied must be based on sound engineering judgement and documented
TC sign	Traffic Control sign
TGS	Traffic Guidance Scheme
TTM	Temporary Traffic Management
TMD / Designer	Traffic Management Designer
TMS	Traffic Management Software
DTMR/TMR	Department of Transport and Main Roads (Metropolitan)
MRTS	Main Roads Technical Specification
QPS	Queensland Police Service
TMD	Traffic Management Designer
TMI	Traffic Management Implementer
TGS	Traffic Guidance Scheme
TMP	Traffic Management Plan
TSB	Temporary Safety Barrier
VMS	Variable Message Sign
SWMS	Safe Work Method Statement

4 Introduction

This TMP aims to provide the following;

- safe work environment and manage the risks through current jurisdictional Work Health and Safety (WHS) requirements, regulation, training and roadwork planning. Safety is of the highest priority in preparing this TMP.
- to manage and minimize the impact of road works to all road users particularly vulnerable road users (e.g pedestrians, people with disabilities, cyclists and motorcyclists), traffic congestion and the general community.
- Vulnerable road users are efficiently and safely guided past, around or through the work site.

Site Services Traffic Management Professionals has been engaged by Winslow to organize a traffic management plan for the new development works at Richardson Crescent, Upper Coomera.

TMP and TGS contained in this document have been prepared by Site Services Traffic Management Professionals and authorized by Adam Stahlhut (TMD OP558).

All TGS are contained in Appendix C and have been designed by Adam Stahlhut (TMD OP558), Resume contained in Appendix B.

5 Objectives

The objectives of this Traffic Management Plan are to:

- Identify and manage risks.
- Provide protection to road users.
- Layout on how to implement the works onto the existing road conditions.
- Provide protection to workers on the worksite.
- Provide guidance to road users and to minimize potential adverse impacts on traffic flow.
- Provide communication and arrangement to affected communities.
- Provide a safe work environment to both workers and the general public.

6 Scope of Work

Winslow will undertake external works and temporary vehicle access point for the new development on Richardson Crescent, Upper Coomera. The project will start on 13th January 2025 for the duration of 12 weeks.

Traffic Guidance Scheme for the works is provided and detailed in this TMP.

7 Statement of Duty Care

Any Person Conducting a Business or Undertaking (PCBU) in connection with or pursuant to TTM and the QGTMM, has a 'duty of care', so far as is reasonably practicable, that the health and safety of workers who work for the PCBU or whose activities in carrying out work are influenced or directed by the PCBU, are not exposed to health and safety risks arising from that business or undertaking.

A PCBU shall ensure, so far as reasonably practicable, that other road users are not exposed to health and safety risks arising from any TTM business or undertaking.

A PCBU includes all types of working arrangements such as crown agencies, organizations, companies, principals, contractors and subcontractors.

8 Site Inspection

- A pre-installation risk assessment prior to the implementation of the TGS is performed by the TMI and recorded to the Traffic Management Register.
- Signs are inspected at least every 2 hours by the TMI and recorded by Traffic Management Software.
- After implementation of each TGS and after any significant changes made, it is inspected by a TMD/Contractor and Traffic Management Software and recorded in the Register maintained by Site Services Traffic Management Professionals.
- TMI/Contractor will inspect the site aftercare arrangement is implemented and will be recorded in the TMS Register which is maintained by Site Services Traffic Management Professionals.
- Periodic inspections of the worksite should be undertaken during after-care periods to ensure all traffic control devices are operating effectively. It is particularly important that the devices are visible at low light in the low headlight beam of passing vehicles at the end/commencement of night/day shift to ensure that warning, advisory and TTM.
- Measures are properly in place to manage traffic and site safety. Ensure that night-specific measures are covered or switched to appropriate day-time measures, where applicable.

9 Site Induction and Training Plan

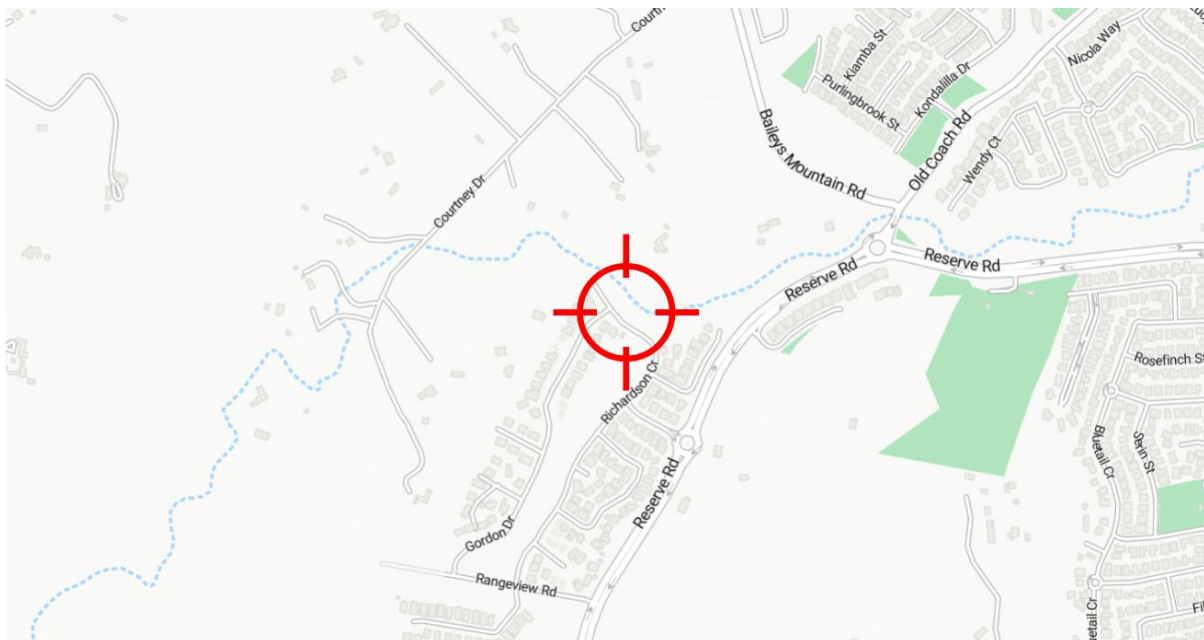
9.1 Site Induction

Site Inspection will be conducted prior to preparing the TMP and assess the following:

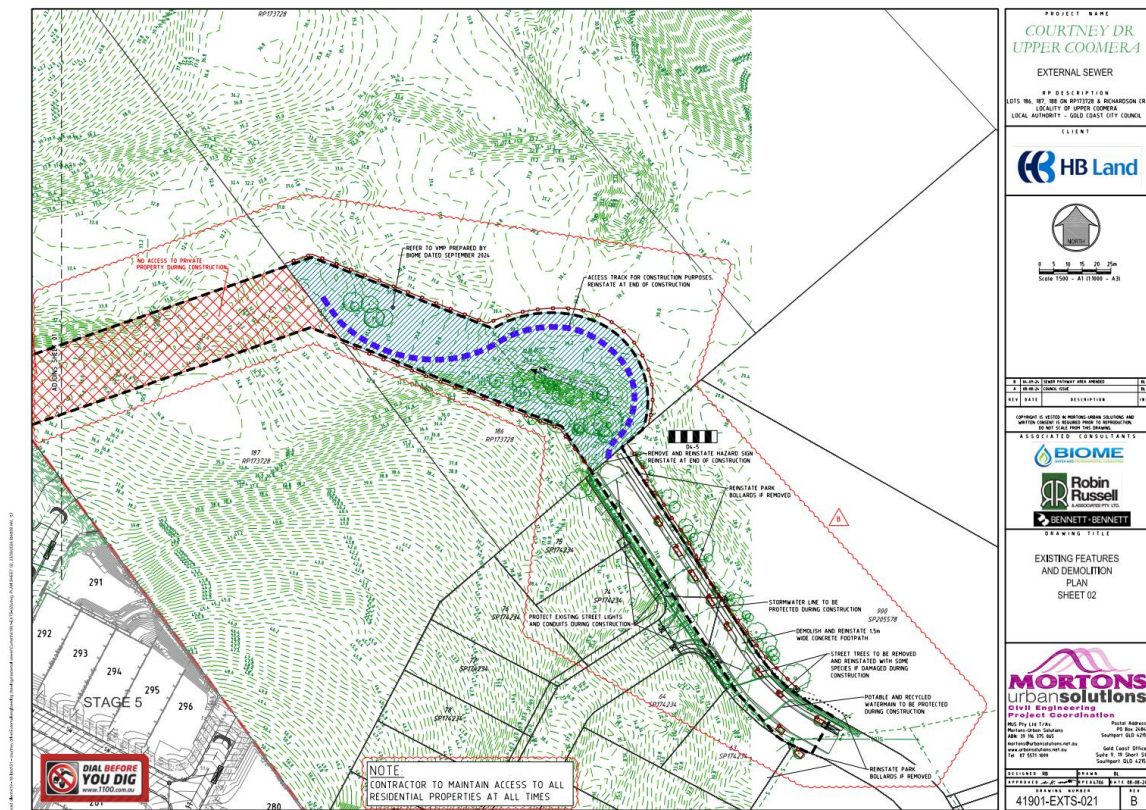
- Condition of the road
- Probable risk that may arise during the implementation of the work.
- Safe Temporary facilities for worker and visitors
- All site visitors will receive induction training to the site and must ensure that are
- Visitors are aware of the construction plan, TMP requirements, procedure and practices.

Role	Training required
TMD	CPCCOHS1001A Work Safely in Construction Industry and White Card Traffic Management Design and Design Card Site Induction SWMS Induction
TC	CPCCOHS1001A Work Safely in Construction Industry and White Card RIIWHS205D-Control Traffic with a Stop Slow Bat and TC License Site Induction SWMS Induction
TMI	CPCCOHS1001A Work Safely in Construction Industry and White Card RIIWHS302D Implement Traffic Management Plan and Implementation card Site Induction SWMS Induction
Site Staff	CPCCOHS1001A Work Safely in Construction Industry and White Card Site Induction
Visitors	Site Induction

10 Project Overview



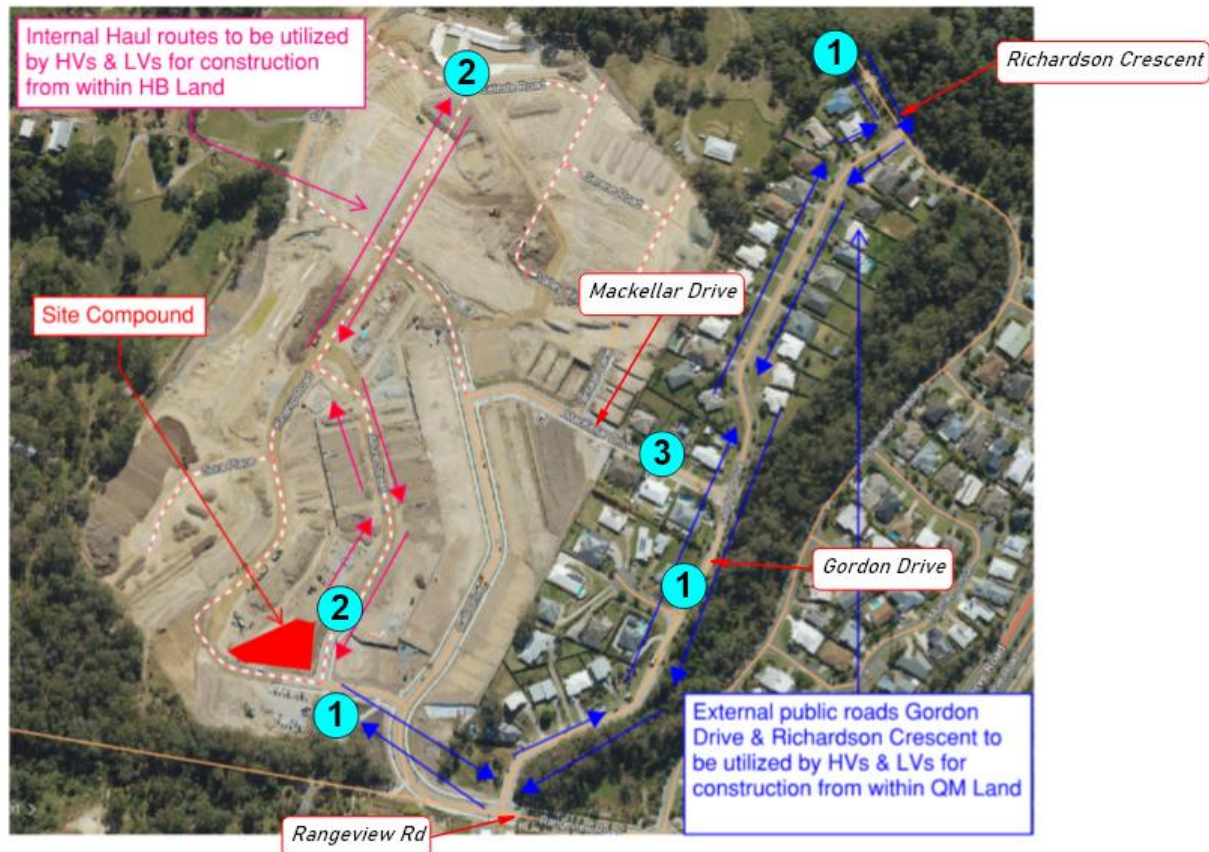
10.1 External - Sewer Works





10.2 Site Access/Haulage

It is required to arrange for a traffic management plan for the site access towards the development site. A sketch of the proposed temporary vehicle access point to the Site Compound and Material Laydown Areas is shown below, which is located at the entry to the Development Site at Courtney Drive, Upper Coomera. The frequency of use will be guided by the works onsite.



External Access, (1), Light Vehicles & Heavy Vehicles are to utilize Rangeview Rd, Gordon Drive & Richardson Crescent as the designated access to and from the QM Land to the site compound. Materials to be delivered can range from concrete, roadbase material, gravel, sewer materials etc. The materials and plant will change depending on the life cycle of the project.

Internal Access, (2), Light Vehicles & Heavy Vehicles are to utilize the main subdivision's internal haul routes as the designated access to and from the HB Land to the site compound.

Mackellar Dr, (3), is not to be used when construction of the civil component of works commences for construction of the External Sewer.

*Access for via Rangeview Rd and Internal will change depending on the where the project is in its lifecycle and the requirement for specific deliveries to mitigate impacts to the neighbouring community. Due to external works, detours and road closures (not associated

with this development) along Baileys Mountain Rd, Old Coach Rd & Reserve Rd the haulage plan to site will need to vary to cater to the changing conditions.

On average there will be 10-20 vehicles using the Rangeview/Gordon Drive as the access points for the duration of the 11 week (scheduled) project. During the road base import operation, its estimated that 6-8 truck & trailer loads per hour will be delivered to the work area through Rangeview and Courtney Dr. During

the concrete items i.e. sewer structures, footpaths, kerb and so on the requirements for concrete agi truck deliveries may range from 1 delivery per day (minor works) up to 3 loads per hour during footpaths construction.”

10.1 Proposed Schedule of Works

SCHEDULE OF CONSTRUCTION					
ACTIVITY	Dates	Duration	Week Days (Time)	Saturday (Time)	Sunday (Time)
TGS1	TBD	TBD	6:00pm -6:30am	TBD	TBD
TGS2	TBD	TBD	6:00pm -6:30am	TBD	TBD
TGS3	TBD	TBD	6:00pm -6:30am	TBD	TBD

11 Consultation, Communication and Project Administration

11.1 Consultation

The following section outlines the key parties and the process of consultation that needs to be adopted to ensure sound communication and smooth running of the project with regards to the planning and implementation of the TGS's.

Traffic Guidance Schemes and Traffic Management Plan shall be submitted to the Administrator at least 21 days prior to implementation and notification shall be provided to the following stakeholders:

- Gold Coast City Council shall be advised of all impending changes to traffic conditions by telephone and in writing.
- In the event where bus stop will be affected Translink shall be notified in advance if Bus Stop or Bus Route is affected by upcoming works.
- Emergency services shall be notified when required if changes to traffic conditions will affect their route through the site. Best alternate routes are to be provided where applicable.

Complaints received from the general public will always be stored on a register and made available to the Administrator. If any actions are required because of the complaint, the site shall be tool boxed by Winslow. Actions taken involve receiving clear concise details of the complaint, an analysis of site conditions by comparison to the relevant Traffic Guidance Scheme and rectification of any inadequacies. Actions also include reviewing the TGS for suitability given the context of the traffic complaint. Where possible, feedback will be given to the party making the complaint of the nature of rectification.

11.2 Coordination Meeting

- Weekly progress meetings
- Daily pre-start meeting and progress reports

11.3 Pre-Start Meeting

Prior to the commencement of the project, all site traffic management personnel must attend before commencing traffic management duties. The meeting is vital to ensure everyone on site understands activities that are occurring and the responsibilities and roles of people working on the site are made clear prior to work commencing. It is also important to review the prepared approved emergency plan, and a site specific Safe Work Method Statement.

11.4 Communication Processes

- All site emergencies, concerns and issues will be reported to the site supervisor as person in-charge.
- Site supervisor to report immediately to project manager any incidents on site.
- Designated personnel must register all site incidents.
- Site supervisor to assign personnel for the communication channel such as UHF Radios when there are emergency or changes on site.
- Site supervisor must implement clear signs and full communications on site.
- All vehicles must be equipped with UHF radios.
- Movements on site must be facilitated by traffic control and or designated site personnel with full communication.
- If changes of plans are needed, the site supervisor must report to WHS and Emergency Services.
- Plant movement on site must be restricted until instructed.
- Near misses are to be reported to aid in understanding site dynamics and to prepare appropriate mitigations.

11.5 Key Contact Details

Name	Organization	Position	Contact	Email
Michael Williams	Winslow	Project Manager	0472723733	michael.williams@winslow.com.au
Des Remak / Josh Barker	Winslow	Site Supervisor/ Project Engineer	0437 928 665 / 0400 613 295	joshb@winslow.com.au
Des Remak	Winslow	Afterhours Contact	0437 928 665	desr@winslow.com.au
Adam Stahlhut	Site Services Traffic Management Professionals	Nominated Traffic Officer	0474 900 215	adam@siteservicesqld.com.au

11.6 Registers

Register type	Entity	Description
Key personnel register		Identify all key personnel and provide contact details for the relevant road infrastructure manager, the affected local government, the client, the main contractor (if relevant), the project manager, the site supervisor and any key subcontractors.
Incident register		Record all incidents that occur on site, including date and time of the incident, date stamped photographs of signs and devices in the vicinity of the incident.
Variations register		Record any modifications to approved traffic management treatments, including reason for the modification and departure from this guide, date, time, modification made and residual risk.
Daily inspection register		Record the time and date at which traffic controls were erected at the start of the day, when changes to controls occurred and why the changes were made, and any observations associated with traffic controls and their impacts on road users or adjacent. Properties
Complaints register		Record any complaints received including party making the complaint, contact details, nature of the complaint, and any follow up actions that have been identified and subsequently taken.
Consultation register		Identify and provide contact details for the stakeholders who have been consulted during the preparation of the TMP. Also provide an overview of the main issues raised during consultation.
Traffic Management Audit		Inspect and record the results of a traffic management audit.

12 Roles and Responsibilities

Role	Qualifications Required	Activity	Training Required for the Activity
Traffic Controller	RIIWH205E – Control traffic with stop slow bat License RIIWH207 – Control traffic with portable traffic control devices and temporary traffic signs1 License	Stop traffic with a stop slow bat or PTSS1	Traffic Management Induction
Traffic Management Implementer	RIIWH202E – Implement TMP and TGS, Implementation Card	Traffic Management Plan Implementation	SWMS Induction
Traffic Management Designer	RIICWD503E – Prepare work zone TMP and TGS RIIRIS402D – Carry out the risk management process Traffic Management Design and Design Card	Designs and Approve TGS, TMP	Site Induction
SWMS Personnel	CPCCOHS1001A Work Safely in Construction Industry and White Card	To be on site	Manual Handling

12.1 The Project Manager

The project manager is the person responsible for the management of the TTM for the whole duration of the project.

The responsibilities of the Project Manager include:

- Fully aware of the information of the scope of works and the work staging to appropriately plan the traffic management arrangements and design the TGS.
- Always available for contact to all traffic related matters.
- Has the responsibility and authority to ensure the TMP is implemented for the prevention of property damage and injury to employees, contractors, subcontractors, road users and all members of the public.
- Management of the traffic incident and emergency response procedures.
- Management of the communication with operational and community stakeholders.
- Management of the traffic management activities with supervisors.
- Maintenance of the operational and community stakeholder contact details.
- Ensure all site personnel are fully aware of their responsibilities and traffic controllers are appropriately trained and accredited.
- He will ensure that sufficient controllers are available to ensure appropriate breaks are taken.
- Prepare a written Work Health and Safety Management Plan in accordance with the regulation before work on the project commences.
- Ensures appropriate personnel are all aware of the know their responsibilities for the Work Health and Safety Management Plan.
- Maintenance of the out of hours contact representative details.

- Attend regular project and traffic meetings for the purpose of updating the project team on programming and ensuring the requirements of TMP are met.
- Assign roles and responsibilities.

12.2 Site Personnel

All personnel engaged in the field activities will follow the correct work practices as required by the QGTTM/QMUTCD. The approving authority shall be notified should a situation arise that is not covered by this TMP or the QGTTM/QMUTCD.

12.3 Site/Traffic Supervisor

The Contractor will appoint a Site/Traffic Supervisor who shall undertake a review of the erected signage to ensure compliance with the approved TGS and shall maintain detailed daily records. This person shall hold a current QLD approved RIIWHS302D Implement Traffic Management Plans qualification. Traffic Guidance Scheme record keeping will be undertaken in accordance with the QGTTM.

12.4 Traffic Management Responsibilities

12.4.1 Principal Contractor

It is a primary responsibility of a Principal Contractor to oversee the overall site activities, safety and ensure that the TMP and TGS meet the requirements stated in the QGTTM. Moreover, it is the Principal Contractor's duty to submit plans for a safe work environment that reduces hazard and risk to both workers and road users.

The Principal Contractor ensures to:

- The Traffic Management Plan and Traffic Guidance Scheme follows standard, and principle stated in QGTTM.
- Conduct daily Pre-start meetings.
- Ensure clear understanding with the private property, business owners and emergency services for access during work.
- Provide Safety and a healthy work environment for all workers and personnel.
- Requires all worker's qualification/competency/license for the task they are performing.
- Contact with Emergency Services and provide procedures for the Emergency Plan
- Regularly assess work procedures and practices
- Create extensive awareness of the works and its associated impact.
- Provide an emergency evacuation site, evacuation training, equipment, plans, signage and support.
- Consult and notify QLD transport agencies and operators.
- All workers have access to information and understand clearly the requirements of the Traffic Management Plan
- New on-site workers undertake and complete a site-specific induction.

12.4.2 Traffic Management Company

Site Services Traffic Management Professionals will designate competent persons to install/uninstall and monitor traffic guidance scheme set-up on site.

Any changes required on site, Winslow to inform Site Services Traffic Management Professionals. Site Services Traffic Management Professionals will amend TMP and TGS and acquire necessary permits and approvals.

Winslow will ensure compliance with a Safe Work Method Statement (SWMS) for traffic management practices. Site Services Traffic Management Professionals then provide a qualified traffic management implementer to assess traffic arrangements prior to installation associated with the risk assessment conducted prior to the traffic management plan design. Any issues that arise on site must be recorded on SWMS and the principal contractor register. Changes of design are subject to risk assessment and approved by a qualified TMD.

12.4.3 Nominated Traffic Officer

Traffic officers will be supplied by the Site Services Traffic Management Professionals for the duration of the project, Site Services Traffic Management Professionals with TMR Registration: 0173 is a registered QLD traffic management. Project's Traffic officer must hold Traffic Management Design open qualification (see Appendix B) and is the approver for the project Traffic Management Plan and all Traffic Guidance Schemes. Other responsibilities of a Traffic Officer includes:

- Maintain currency of permits and provide copies to all relevant parties.
- Traffic controllers have been inducted to site.
- Traffic controllers have current and suitable qualifications. A copy of qualifications is to be held in a register.
- Signage and devices placed as per QMUTCD, on site Risk Assessment and RPEQ requirements.
- Obtaining Permits from the relevant authorities'/road asset owners including DTMR, Local Council and QPS.
- Obtain all information regarding project site either by a site visit or getting required information from Traffic Project Manager

12.5 Traffic Control

Winslow will engage Site Services Traffic Management Professionals, a registered traffic control company to undertake any traffic control and traffic management implementation duties. They will be registered with the QLD Traffic Management Registration Scheme.

Traffic Controllers must always comply with strict operational and safety requirements whilst controlling traffic. These requirements are set out in the *Traffic Controller Accreditation Scheme Approved Procedure* and this Part of the *Manual*.

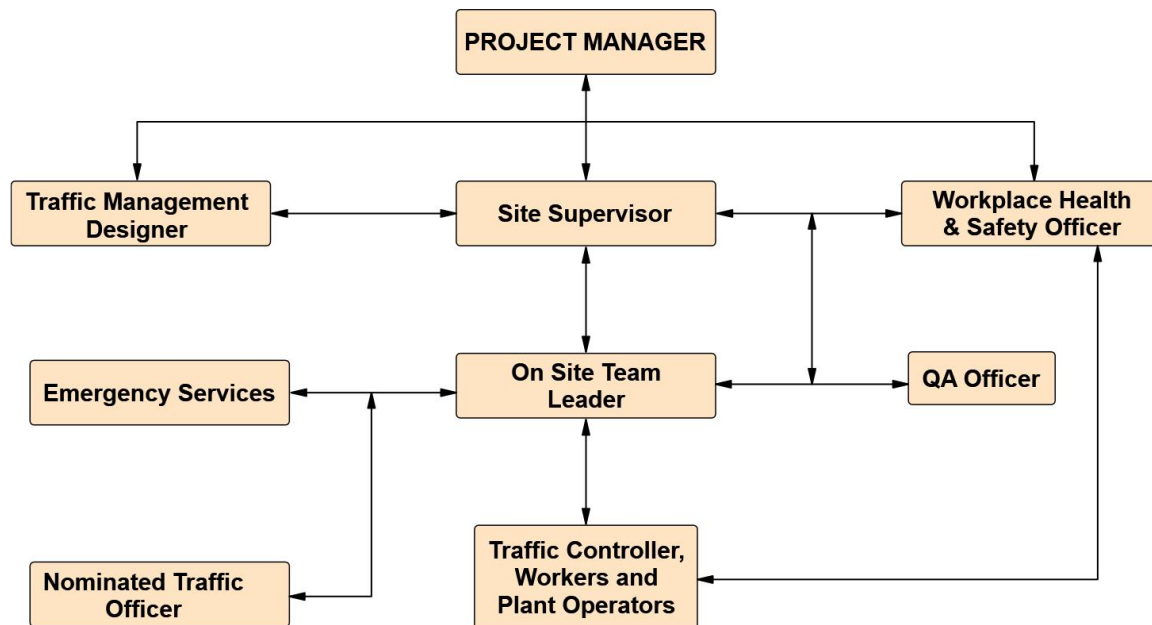
An accredited Traffic Controller is authorized to control traffic:

- (a) At road worksites where a road closure or part road closure is necessary.
- (b) At other events on the road where a road closure or part road closure is necessary.
- (c) In other circumstances where traffic control is required on a roadway.

Traffic Controllers are to;

- comply with the statutory conditions of their accreditation.
- Direct traffic as required under QGTTM and TCASAP

12.6 Traffic Project Team Chart



13 Work Health, Occupational and Safety Method Statement

Under Queensland Work Health and Safety Regulations 2011 working on or adjacent to a road is defined as a high-risk construction activity. High risk construction activities require a Safe Work Method Statement (SWMS) to be documented to identify the high-risk work, specify relevant hazards, appropriate control measures and their implementation and monitoring and review.

Prior to the commencement of this activity The Contractor will compile a Safe Work Method Statement (SWMS) for this project. The contractor traffic management practices require that the Traffic Controller's evaluate all traffic arrangements before they are open to traffic, immediately following the opening to traffic and periodically throughout the activity. Adjustments are recorded in the SWMS, including reasons for the changes and are lodged with Winslow. New hazards that arise throughout the work will be subject to risk assessment and incorporated into the SWMS. Traffic Controller must have a break every 2 hrs.

13.1 Personal Protective Equipment and Clothing

Because of the potential hazards associated with working on or adjacent to road and bridge work sites, all persons working on or authorized to enter such work sites shall be supplied by their employer with the relevant high-visibility protective equipment and clothing and shall be instructed to always wear the same when required.

This equipment and clothing shall comprise the following items:

- Safety glasses night/day
- Hard hat with brim
- Broad brimmed hat
- Bio-motion long sleeve shirt
- Bio-motion long sleeve pants
- Gloves
- Safety boots
- Approved skin protection (sunscreen)

13.2 Incident and Accident Management

In an event of incident and accident, the emergency response team has the ultimate control and management of the response of the area of incidents. The project management shall recognize the importance of cooperation to all agencies responsible to clear the incidents immediately.

Site supervisor has the responsibility to report to QLD Police, TMR and or local council. All works will be stopped, if possible, the Traffic guidance scheme will be removed and replaced by available traffic guidance scheme to assist the emergency response team for immediate clearance of the incident site. The site is to be cleared of any disruptions to traffic flow. This may involve techniques including use of tow trucks to move broken down or damaged vehicles and persons. Where traffic flows are disrupted, implementation of emergency traffic control plans may be required with priority given to specific traffic streams as necessary. A copy of the incident log shall be forwarded to the Road Authority within 24 hours of the incident, and at other times upon request by the Road Authority.

13.3 Damage to Properties

In the event of damage to properties, all works, vehicles and machines will stop immediately and clear the area as quickly as possible. Traffic controllers and other designated personnel shall be deployed immediately to ensure no road users are to enter the area. All affected properties will be treated equally. QLD Police Services and relevant authority shall be notified immediately. All site personnel shall be briefed on evacuation and control procedures.

13.4 Emergency Response

- All work must be stopped and given full access to the emergency response team.
- Emergency Response Team Plan must be implemented immediately.
- Provide full access to the emergency response team.
- The Site Supervisor must report the emergency to the project manager immediately.

- Provide emergency procedures and ensure all staff have read and understand the contents.
- All vehicles safely removed from the site.
- If required, Site Supervisor to implement evacuation as per direction in the pre-start meeting.
- Work will not resume unless clearance is given by the Emergency Response Team.

13.5 Emergency Response Contact Details

- Gold Coast Emergency Contact: 1300 465 326 or 07 5629 5629
- Request Urgent Assistance: Triple Zero (000) for all life-threatening emergencies.
- Gold Coast University Hospital General enquiries: 1300 744 284

13.6 Initial Response

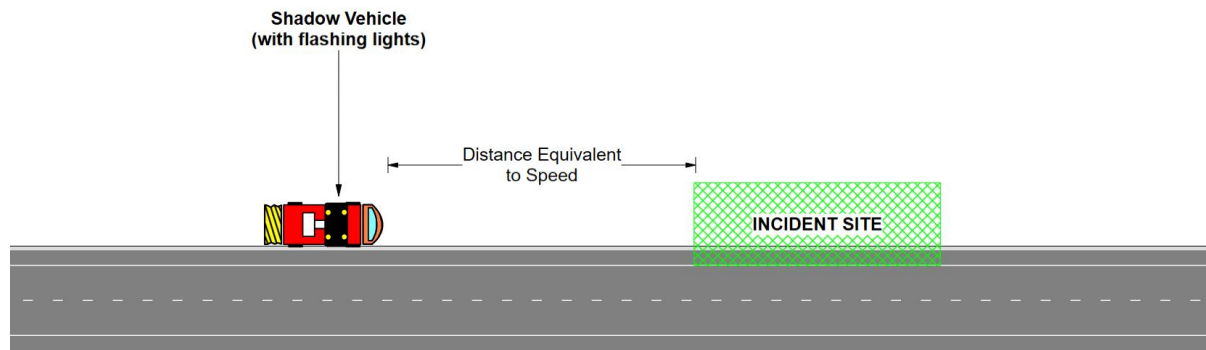
The initial response will generally be obtained by whatever means is available on the fire extinguisher, first aid kit, equipment and devices. QLD Police, emergency services trained personnel are expected to respond first on the site of the incident, they are to remain on site when required.

13.7 Interim Response

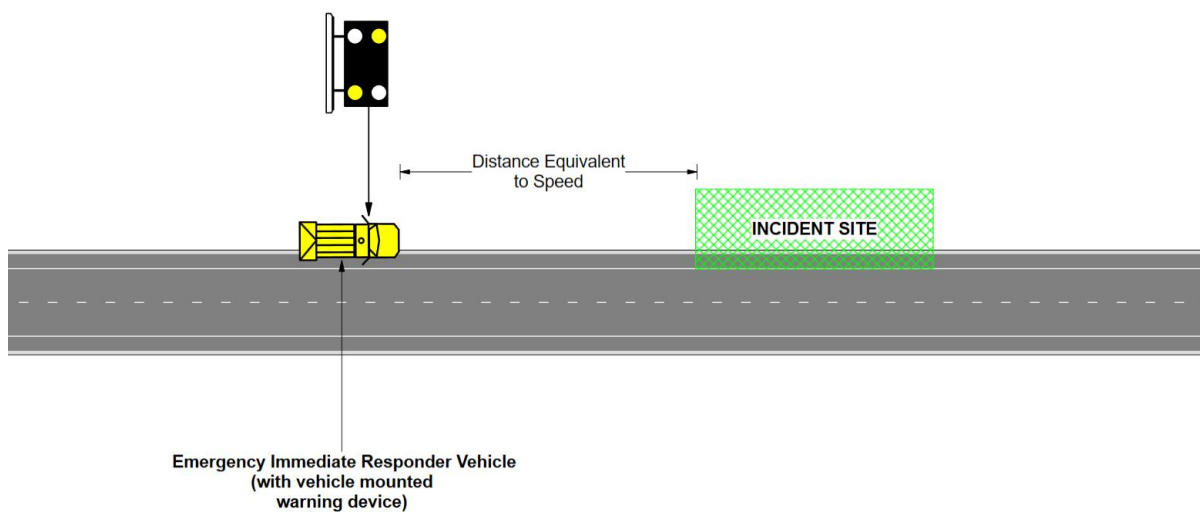
Where a road infrastructure manager or contractor work unit assists with traffic management, or takes over from police or other emergency service units, the following must apply to Category 1 and Category 2 roads:

a) Minor Partial Road Closure

I. Interim Response at Incident Site - Prior to Traffic Controller

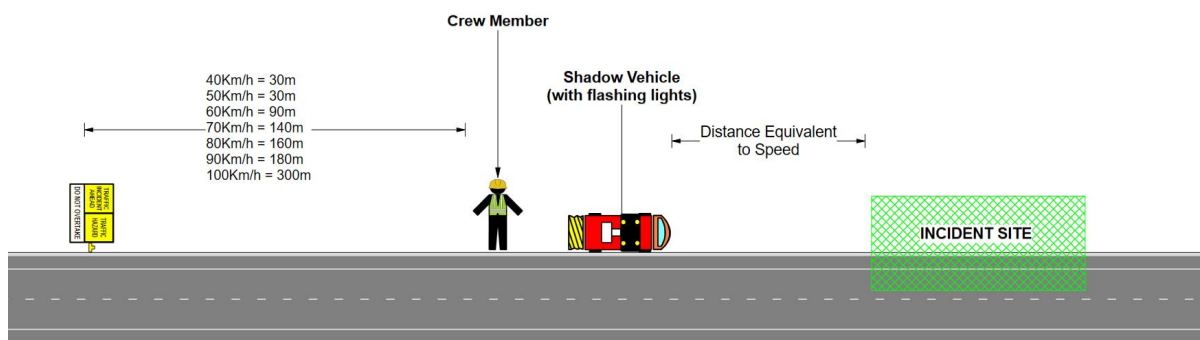


II. Interim Response at Incident Site - With Emergency Immediate Responder Vehicle

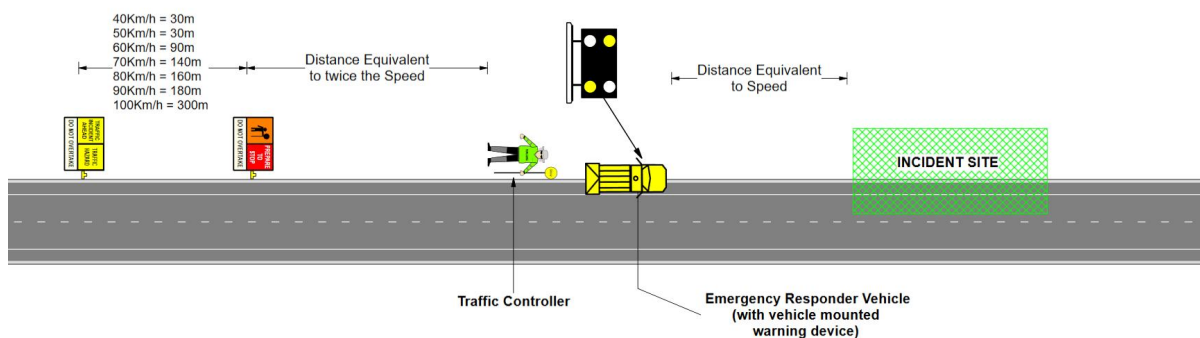


b) Major Partial Road Closure

I. Interim Response at Incident Site - Prior to Traffic Controller

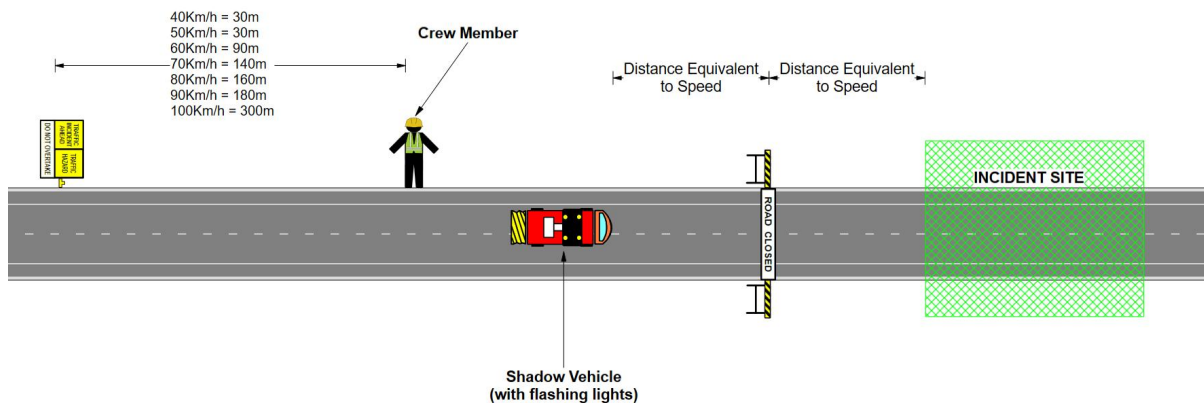


II. Interim Response at Incident Site - With Traffic Controller

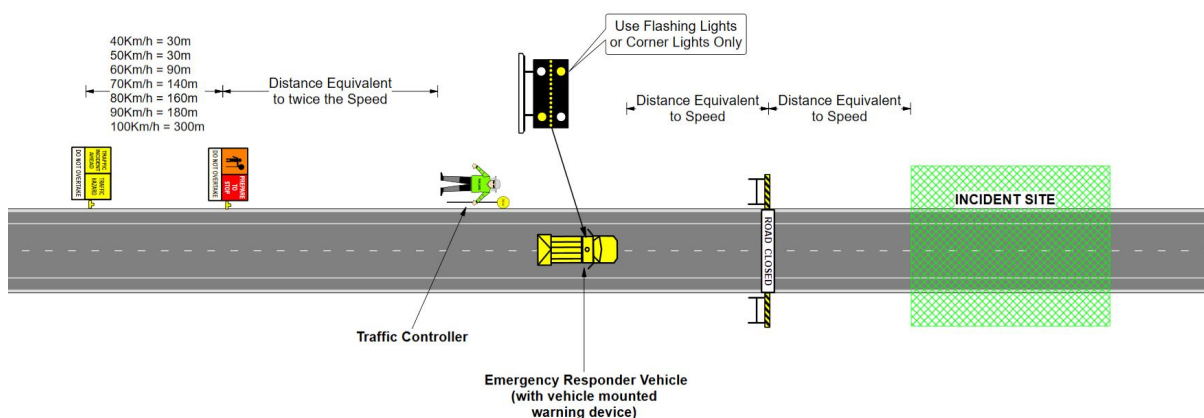


c) Complete Road Closure

I. Interim Response at Incident Site - Prior to Traffic Controller



II. Interim Response at Incident Site - With Traffic Controller



13.8 Follow Up Protection

Follow-up protection must comprise the setting up of a static work site in accordance with AGTTM Part 3. Examples of timetables for follow up protection are detailed in Table 5.1, however there are many variables during emergency works and the appropriate timeframes should be in accordance with jurisdictional and/or Road Infrastructure Manager requirements.

Road Category	Example timeframes
Category 1	As soon as it is identified the closure or part-closure will be required for a period longer than four hours an immediate decision should be made to initiate follow up protection which must be commenced and implemented as quickly as practicable and not delayed longer than two hours with the following exception On roads in remote areas with traffic volumes less than 1500 vpd, follow-up measures may be delayed until support resources can reach the site but not for periods in excess of 12 hours

Road Category	Example timeframes
Category 2	As soon as it is identified the closure or part-closure will be required for a period longer than two hours an immediate decision should be made to initiate follow up protection which must be commenced and implemented as quickly as practicable and not delayed longer than one hour with the following exception • On roads in rural areas follow-up measures may be delayed an additional hour per 100km from the nearest town with suitable TTM crews available.
Category 3	In accordance with the operational requirements of the Road Infrastructure Manager. On these roads follow-up protection typically includes the use of TMA vehicles and other infrastructure.

14 Risk Management and Risk Management

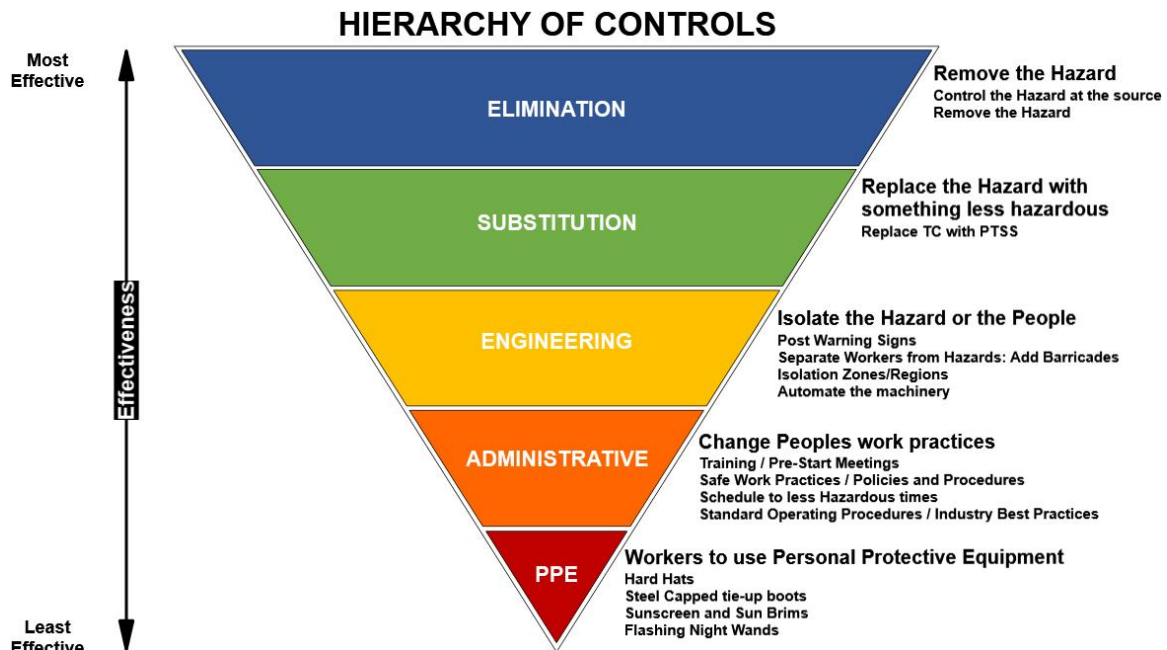
All work activities are subjected to a risk assessment process in accordance with QGTTM Part 10 2.4.4. And all risk assessments must be recorded by the designated project personnel. Risk assessment plays an important role to minimize the risk and impact to community and road users.

14.1 Risk Assessment Process

- **Identify Hazards:** Find out what could cause harm.
- **Assess Risks:** Understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening,
- **Control Risks:** Implement the most effective control measure that is reasonably practicable in the circumstances:
- **Review Control Measures:** Review control measures to ensure they are working as planned.

The control measures to be implemented have been ranked as per the Hierarchy of Control from most desirable to least desirable.

14.2 Hierarchy of Control



14.3 Risk Matrix

LIKELIHOOD (A)	CONSEQUENCES (B)				
	Cat Catastrophic Disaster	Maj Major Environment al Harm	Mod Moderate Environment al Nuisance	Min Minor Insignificant Effect	Ins Insignificant Day to Day Issue
1 -Almost Certain	VH	VH	H	H	M
2 - Likely	VH	VH	H	M	L
3 - Possible	H	H	M	L	L
4 - Unlikely	H	M	L	L	L
5 - Rare	M	L	L	L	N
VH - Very High H - High M - Medium L - Low I - Insignificant (C)					

**if any risks are determined to fall within the Very High, High or Medium categories then the site risk rating should be revised to High and the level of planning reviewed accordingly. This then requires the Traffic Management Designer (TMD) to revisit and assess the traffic management options from the planning stage rather than attempting to address and mitigate each risk individually.*

14.4 Treatment Options

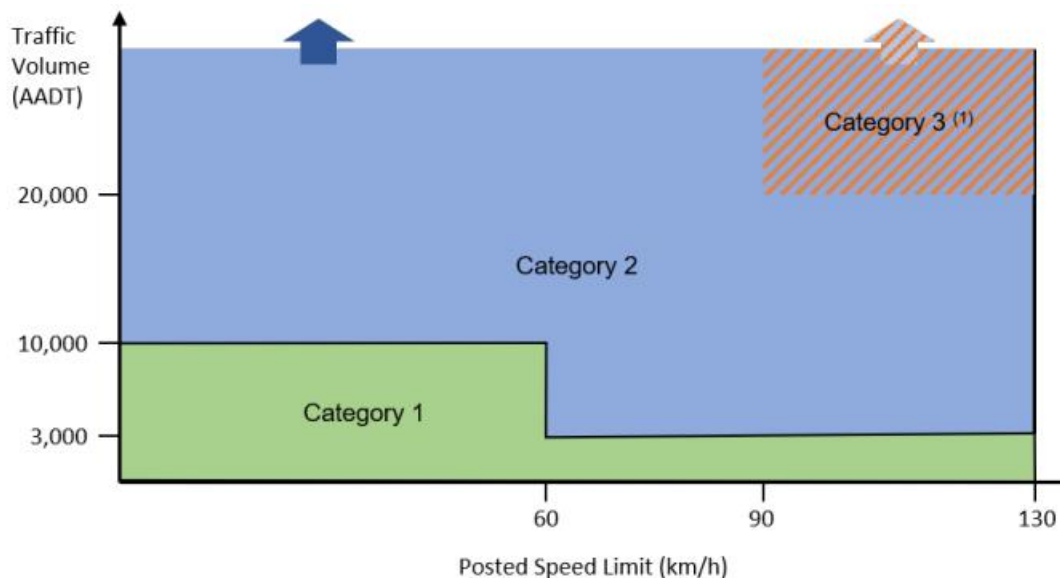
The selection of final options will depend on many site-specific conditions, and the road infrastructure manager must be assured all factors have been thoroughly considered and addressed through the TMP.

Treatment	Definition
Around the site	This is the first preference and eliminates the risk to workers in the first instance by removing traffic from the worksite entirely by diverting it around the work. There are two primary options in this category. Requirements and recommendations for the operation of side-tracks and detours are given in QGTTM Part 3. Detour – diverting traffic by other roads in the road network, ensuring there is no traffic in the vicinity of the worksite, also considering impacts on pedestrians and cyclists. A detour may include a contraflow and the diversion of traffic onto the opposing carriageway where the median contains a barrier or is wider than 6 meters. Sidetrack – a specially constructed section of road to divert traffic, eliminating the risk to workers.
Through the work area	Workers to work in a safe environment without exposure to traffic. Traffic is periodically stopped by traffic controllers to allow the work to progress without exposure to traffic, and traffic is then released through the worksite when workers have vacated the works. A pilot vehicle may be required to lead traffic along the desired path and control its speed. For short term and low impact works, the works methods are set out in AGTTM Part 5 and for static worksites see QGTTM Part 3.
Past the work area	This is the final level of control and the most common form of controls used at most worksites, where complete elimination of traffic is not practical. Although this form of control is the most common, it is important that the planning process justifies this treatment option due to the substantially higher risks that road workers are exposed to. In this form of traffic control, traffic is separated from workers either by a physical barrier or through the means of a separation space. This separation may be achieved by a combination of lateral separation, clear warning and delineation. Requirements and recommendations for this method of hazard control is given in QGTTM Part 3.
Short term / low impact	Controls applied in these situations recognize that the nature of the works is of such low impact that implementing a complex traffic management scheme is likely to increase the overall risk for all workers at the site. Traffic management under the ‘through’ and ‘past’ categories can apply in a short term / low impact situation. For short term and low impact works, the works methods are set out in QGTTM Part 5 and for static worksites see QGTTM Part 3

14.5 Suggested Treatment Approach

Risk	Suggested Treatment Approach	
Very High	Unacceptable. Must be corrected.	Significant and urgent action is required to eliminate the safety risk or reduce the consequence or likelihood of the risk and overall risk exposure.
High	Should be corrected or the risk significantly reduced, even if the treatment costs are high.	Immediate action is required, and effort must be made to ensure that the safety risk is eliminated so far as is practicable or minimized so far as is practicable if elimination is not reasonably practicable.
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high.	Action is required and effort must be made to ensure that the safety risk is eliminated so far as is practicable or minimized so far as is practicable if elimination is not reasonably practicable.
Low	Should be corrected or the risk reduced, if the treatment cost is low.	A level of safety risk that requires monitoring and review to ensure that the safety risk remains at this level.
Insignificant	No action required	Safety risk has been determined to be so low that no further action is required. In this case the consequence is considered to not result in any injury to any person.

14.6 Road Category and Risk Rating



- Category 1 (most urban streets and lower volume rural roads). The characteristics of category 1 roads are defined by the following parameters:
 - Posted speed and AADT of:
 - any speed limit with less than 3,000 vehicles per day AADT
 - a speed limit of less than 60 km/h and traffic volumes between 3,000 and 10,000 vehicles per day AADT
 - The characteristics of these roads are generally recognized as:
 - roads (with or without a centre line), sealed and unsealed

- two lanes two way, and sections including one-way single lane, and overtaking lanes.
- Category 2 (high-volume roads). The characteristics of category 2 roads are defined by the following parameters:
 - Posted speed and AADT of:
 - a speed limit greater than, or equal to 60 km/h and traffic volume greater than, or equal to 3,000 vehicles per day AADT
 - any speed limit with traffic volumes greater than, or equal to 10,000 vehicles per day AADT.
 - Signalized intersections
 - The characteristics of these roads are recognized as:
 - multi lane or divided roads
 - high speed highways.
 - This Category of road:
 - may include major urban streets in the central business district, some arterial roads.
 - generally, requires larger signs.
 - generally, requires signs on both sides of the road.
 - Stringent criteria for mobile operations apply to this Category of TTM.
- Category 3 (expressways = high-volume & high-speed roads). The characteristics of category 3 roads are defined by the following parameters:
 - These are high-volume expressways, or high volume/high-speed multi-lane expressways with a divided carriageway.
 - Any expressway and any associated on-ramp or off- ramps
 - Grade separated road with speed limit greater than, or equal to 90 km/h. Traffic volumes are generally greater than 20,000 VPD but can be lower
 - For this Category, TMA's shall be used when setting up or removing static worksites.

Street	Road Type	Speed	Category
Richardson Crescent	Two-Way	50 kph	1
Rangeview Road	Two-Way	50 kph	1
MacKellar Drive	Two-Way	50 kph	1
Gordon Drive	Two-Way	50kph	1

14.7 Determining the Risk Rating for Planning

Site risk rating						
		Clearance between traffic lane and workers				
		< 1.2 m	1.2 – 3.0 m	3.0 – 6.0 m	6.0 – 9.0 m	> 9.0 m
Posted speed limit and road type	40 km/h					
	Category 1 road	Medium	Low	Low	Low	Low
	Category 2 road	Medium	Low	Low	Low	Low
	50 km/h					
	Category 1 road	Medium	Low	Low	Low	Low
	Category 2 road (urban)	High	Medium	Low	Low	Low
	60 km/h or 70 km/h					
	Category 1 road	High	Medium	Low	Low	Low
	Category 2 road	High	High	Medium	Low	Low
	80 km/h or 90 km/h					
	Category 1 road	High	High	Medium	Low	Low
	Category 2 road	High	High	High	Medium	Low
	Category 3 road	High	High	High	Medium	Low
	100 km/h or higher					
	Category 1 road	High	High	High	Medium	Low
	Category 2 road	High	High	High	Medium	Low
	Category 3 road	High	High	High	Medium	Low

14.8 Risk Assessment

SAFETY HAZARD	RISK	RISK RATING			CONTROL MEASURE	After Control Measure Rating		
		A	B	C		A	B	C
Non Compliant TGS Implementation	-Injury to workers and road users and passengers -Property damage and financial losses	1	Cat	VH	- TGS is developed by a certified TMD - TGS are approved by clients, traffic companies and relevant local authorities. - TMI must be the one to implement the TGS on site. - Any changes on the design TGS/TMP must be reviewed and approved by TMD and relevant road authorities before the implementation.	5	Ins	N
Incorrect TMP	Vehicle Collision Injury to road users, passengers and workers Damage to property Damage to work vehicle Violation to AGTTM Confusion Delays	1	Cat	VH	-Prior to developing TMP, site visits must be conducted by Winslow and or Site Services Traffic Management Professionals to identify potential risk associated with the works. - TMP is developed by a certified TMD - TMP must be checked and approved by client, traffic company and other relevant road authorities - Risk assessment must be conducted prior to development of the TMP	5	Ins	N
Environmental Factors	Move or remove traffic devices and signs Give confusion to road users Poor visibility Road Slippery Collision Injury	1	Cat	VH	- A site risk assessment must be conducted by designated person/party before implementing the TGS - Implementation of TMP must be undertaken by Level 2 qualified personnel - For poor visibility, Class 1 retro-reflective signage must be used. - Workers on site wear visibility clothing. - When required, site to be closed or workers to vacate the site until site can be maintained in an acceptable level of safety. - To minimize the dust, regular watering of the site is to be implemented by designated party.	4	Ins	N
Local Access		1	Cat	VH	- Contractor to appoint a person and communicate regularly with the local residents, property/business owners for the arrangement, changes and progress of the works. - Affected locals will be notified through door knock, sending letter through letterbox and community or community briefing. - Traffic control to manage local access, loading and unloading zones. - Work area to be secured and delineated with the 2m lockable temporary fence.	5	Ins	N
Significant Delay/Traffic congestion	Time Loss Accident Damage to properties	1	Cat	VH	- TMP must be design by a certified TMD - TGS Implementation must be in accordance to time approved and stated on the TMP - Site supervisor to monitor traffic volume and ensure to impose changes when to shorten traffic delay.	5	Ins	N
Emergencies	Injury to road users, passengers and or workers Damage to properties Time Loss Traffic Delays	1	Cat	VH	- Incident/accident to be reported to site supervisor and site supervisor to cease all works - All work communications to stop and emergency communications to be uninterrupted - Site Supervisor to report to emergency response team and to relevant road authority - Emergency Services must have full access to site be given full cooperation - Emergency Plan to be implemented as per pre-start meeting.	5	Ins	N
Pedestrian/cyclists Fail to follow signs	Injury to pedestrian or cyclist	1	Cat	VH	- Clear signage and direction of pedestrian (past, through, around) - Containment Fence and delineation to separate pedestrian from the work area - TMD to review and adjust the TGS if required - Enforcement to pedestrian to be considered - Clear path, safe surface to pass by the pedestrian and cyclist and ramps at changes from path to road are to be provided	5	Ins	N

Vehicles fail to follow signs	Injury to workers, road users and passengers Damage to properties Traffic Delays	1	Cat	VH	- TGS and TMP are developed by a certified TMD - TGS and TMP are approved by client, traffic company and relevant local authorities. - TMD to review and adjust TGS if required - TGS to be implemented on site by the TMI - Enforcement to be considered	5	Ins	N
Worker strays onto live roadway or clear zone	Injury to workers, road users and passengers Damage to properties	1	Cat	VH	- Clear signage and delineation - Adequate clearance from work area to travelled path - Adequate procedure and control	5	Ins	N
Site Entry and Exit and site deliveries	Injury to workers, road users and passengers Damage to properties Traffic Delay	1	Cat	VH	- TGS and TMP provides clear instruction on how site access and site deliveries are managed on site - Traffic controllers on site to assist traffic and work vehicles - Workers are fully given with clear instructions	5	Ins	N
Obstacle on worksite	Injury to workers, road users and passengers Damage to properties	1	Cat	VH	- Site supervisor to ensure site is clear and no obstruction on travel path - Materials are to be stored on approved area - Work vehicle to park clear from travelled path - Proper attention is given to traffic - Proper attention is given to pedestrian - Worksite must not be left unattended	5	Ins	N
Increased exposure of pedestrian to traffic and or plant	Injury to workers, road users and passengers Damage to properties	1	Cat	VH	- Clear signage and direction of pedestrian (past, through, around) - Containment Fence and delineation to separate pedestrian from the work area - TMD to review and adjust the TGS if required - Adequate clearance of pedestrian to traffic and plant - Traffic controller to assist pedestrian past or through the site - Consideration to Pedestrian crossing and diversion is to be given attention	5	Ins	N
Traffic exposure to excavation	Injury to workers, road users and passengers	1	Cat	VH	- TGS is to be reviewed and approved by qualified TMD - Increased separation of traffic from excavation - Aftercare arrangements - Increase Protection of road users against the excavation	5	Ins	N
Devices, delineation, signage damaged or moved/removed	Confusion and Delay Injury to workers, road users and passengers Damage to properties	1	Cat	VH	- Implementation of Daily Pre-start site inspection - Signs and devices to be checked every 2 hours - TMD to review and adjust the TGS if required	5	Ins	N
End of Queue Collision	Collision Reduced Visibility	1	Cat	VH	- TGS and TMP are developed by a certified TMD - Traffic holding time to be adjusted - TMD to review and adjust TGS if required - Managing speed on approach to the traffic queue - Use of enhanced queued traffic warning signs - Use of an additional Traffic Controller - Use of signs to encourage the use of hazard lights by last vehicle in queue	5	Ins	N

15 Traffic Assessments

15.1 Road Speed on the vicinity of the worksite

Street	Speed
Richardson Crescent	50 kph
Rangeview Road	50 kph
MacKellar Drive	50 kph
Gordon Drive	50 kph

15.2 Speed Management Plan

Due to the distance and nature of road and works, speed reductions is deemed unnecessary. Speed management plan will not be required.

15.3 Annual Average Daily Traffic (AADT)

Street	Speed
Richardson Crescent	TBD
Rangeview Road	TBD
MacKellar Drive	TBD
Gordon Drive	TBD

15.4 Heavy Vehicle Route

Work area is not located in a heavy route road.

16 Public Transport

When closure of public services is required, appropriate authority must be notified and coordinate with the arrangement of public transport during works.

16.1.1 Bus Stop

There are no bus stop located in the vicinity of the work area. Hence, no treatment is required.

16.1.2 Taxi Stands

There will be no taxi stands affected for this project.

16.1.3 Rail Services

This project will have no impact on rail services.

17 Community Considerations

All affected communities and relevant stakeholders will be notified for the upcoming works. Winslow will conduct a letterbox 7 days prior to starting works to any affected residents and businesses.

17.1 Local Access Treatment

Local access that falls within the work area/closure will be managed by traffic controller, whilst local access that falls outside work area will be maintained with no signage and devices blocks the property access.

17.2 Affected Schools

There will be no school affected by the works, no treatment will be required.

17.3 Parking Impact

No parking impacted by the works.

17.4 Business Impact

Works will not have impact on businesses.

17.5 Temporary Variable Message Sign

VMS signs will be not be required.

17.6 Dust and Noise Management

Dust and Noise management are detailed in contractors Environmental Plan.

18 Traffic Management Plan - Works Programming

18.1 Shoulder Closure

Operational: A shoulder closure will be required to enable workers space for work vehicles and small machines to demolish and reinstate footpath and complete live connections for sewer. The works will be conducted from behind kerb with additional vehicles parked within the project boundaries where possible. Pedestrians will be diverted on the other side of the road constructing temporary footpath and ramp. A shoulder closure will create the smallest impact to complete works and will allow traffic to move as normal with restricted parking on the side of the road.

Aftercare: work symbolic signage will be removed or covered when their requirement ceases to exist.

18.1.1 Traffic Management Considerations

Design Steps		Feature	Reasoning	Option
Traffic Around the Site	Detour	- Lowers the chance of collision - Enough room for plant/workers/deliveries to occupy traffic lane - Increase separation of work/workers/plants from road users	- Provides maximum separation of traffic from work area - Suitable detour route is available.	NOT PREFERRED
	Side Track	- Lowers the chance of collision - Enough room for plant/workers/deliveries to occupy traffic lane - Increase separation of work/workers/plants from road users	- There is sufficient lane width remaining, sidetrack is unnecessary.	NOT PREFERRED
Traffic Through the Worksite		- Holding traffic for not more than 15 minutes - minimal disruptions to road users - Traffic will not be required to be diverted	- Road will be opened for public	NOT PREFERRED
Traffic Past the Worksite	Shoulder Closure	- Works are separated from travelled path - Work vehicle/plant are separated from travelled path - There will be no unnecessary traffic delays	- There is a sufficient lane width remained to maintained traffic flow and safely pass by only closing the shoulder/verge	PREFERRED
	Lateral Shift	- Traffic can naturally flow past the work area - There will be no unnecessary traffic delays	- There is no sufficient lane width remaining to maintain two-way traffic.	NOT PREFERRED
	Lane Closure (Multilane)	- No diversion of traffic required - Work vehicle/plant are separated from remaining travelled path - Lowers the chance of collision	- It is not possible to close a single lane and allow traffic flow past the work worksite.	NOT PREFERRED
	Lane Closure (Shuttle Flow)	- No diversion of traffic required - Work vehicle/plant are separated from remaining travelled path - Lowers chance of	- There is sufficient traffic lane width to cater single shuttle lanes with reversible flow facilitated by traffic controller/portable traffic control devices.	NOT PREFERRED

Design Steps		Feature	Reasoning	Option
		collision		
Short Term Low Impact		- Works will not impact traffic flow/emergency vehicle - minimal impact on road users	- Short term low impact road on open roads will be in accordance to QGTTM Part 5	NOT PREFERRED
Mobile Works		- Works will not impact traffic flow/emergency vehicle - minimal impact on road users	- Mobile Works will be in accordance to QGTTM Part 4	NOT PREFERRED

18.1.2 Pedestrian Management Considerations

Design Steps		Feature	Reasoning	Option
Traffic Through the Worksite		- Holding traffic until safe to pass through the site - Traffic will not be required to be diverted	- Will be able to halt the works to let the pedestrian safely pass through the site - Traffic controller to guide pedestrian	NOT PREFERRED
Traffic Past the Worksite		- Works are separated from travelled path - Work vehicle/plant are separated from travelled path/pedestrian	- Pedestrian will be separated by temporary fence from the work area - There is enough lane width for the pedestrian to pass.	NOT PREFERRED
Pedestrian Around the Site	Detour	- Lowers the chance pedestrian entering the work area - Increase separation of work/workers/plants from pedestrian	- Affected footpath will be closed and pedestrian detour will be implemented. - Temporary kerb ramp will be installed - Temporary footpath will be installed	PREFERRED
	Side Track	- Lowers the chance pedestrian entering the work area - Increase separation of work/workers/plants from pedestrian	- A temporary footpath may be constructed in order to maintain pedestrian access around the site. This path should be constructed to the same scale and width as the as the existing facilities where practicable and no less than 1.2m in width	NOT PREFERRED

18.1.3 Cyclist on Road Considerations

There is no existing bicycle lane on road, cyclist on road will utilize the travelled path and will be guided by sign and devices.

18.1.4 Property/Business Access Considerations

Property/business access will be maintained throughout the project. Otherwise, traffic controller on site to assist local access. To letter box the property/business owner for the arrangement of the exit/entry during and after works.

18.1.5 Local Access Considerations

Local access will be maintained at all times. Traffic controller on site when required.

18.1.6 Excavation Treatment

Depth of Excavation	Distance from travelled path	Treatment	Road Work Speed
500mm	>2.5m	Standard Delineation	40kph when workers are on site

18.1.7 TGS

SS241210021-TGS1-Shoulder Closure-Richardson Crescent, Upper Coomera-v0
SS241210021-TGS2-Shoulder Closure-Richardson Crescent, Upper Coomera-v0

18.2 Road Closure

Operational: A road closure will be required to safely conduct works on road. Traffic will be detoured around site through Rangeview Road. Pedestrians will be diverted on the other side of the road constructing temporary footpath and ramp. .

Aftercare: Road will be reinstated after shift, no treatment will be required.

18.2.1 Traffic Management Considerations

Design Steps		Feature	Reasoning	Option
Traffic Around the Site	Detour	- Lowers the chance of collision - Enough room for plant/workers/deliveries to occupy traffic lane - Increase separation of work/workers/plants from road users	- Provides maximum separation of traffic from work area - Suitable detour route is available.	PREFERRED
	Side Track	- Lowers the chance of collision - Enough room for	- There is sufficient lane width remaining, sidetrack is unnecessary.	NOT PREFERRED

Design Steps		Feature	Reasoning	Option
		plant/workers/deliveries to occupy traffic lane - Increase separation of work/workers/plants from road users		
Traffic Through the Worksite		- Holding traffic for not more than 15 minutes - minimal disruptions to road users - Traffic will not be required to be diverted	- Road will be opened for public	NOT PREFERRED
Traffic Past the Worksite	Shoulder Closure	- Works are separated from travelled path - Work vehicle/plant are separated from travelled path - There will be no unnecessary traffic delays	- There is a sufficient lane width remained to maintained traffic flow and safely pass by only closing the shoulder/verge	NOT PREFERRED
	Lateral Shift	- Traffic can naturally flow past the work area - There will be no unnecessary traffic delays	- There is no sufficient lane width remaining to maintain two-way traffic.	NOT PREFERRED
	Lane Closure (Multilane)	- No diversion of traffic required - Work vehicle/plant are separated from remaining travelled path - Lowers the chance of collision	- It is not possible to close a single lane and allow traffic flow past the work worksite.	NOT PREFERRED
	Lane Closure (Shuttle Flow)	- No diversion of traffic required - Work vehicle/plant are separated from remaining travelled path - Lowers chance of collision	- There is sufficient traffic lane width to cater single shuttle lanes with reversible flow facilitated by traffic controller/portable traffic control devices.	NOT PREFERRED
Short Term Low Impact		- Works will not impact traffic flow/emergency vehicle - minimal impact on road users	- Short term low impact road on open roads will be in accordance to QGTTM Part 5	NOT PREFERRED
Mobile Works		- Works will not impact traffic flow/emergency vehicle - minimal impact on road users	- Mobile Works will be in accordance to QGTTM Part 4	NOT PREFERRED

18.2.2 Pedestrian Management Considerations

Design Steps		Feature	Reasoning	Option
Traffic Through the Worksite		- Holding traffic until safe to pass through the site - Traffic will not be required to be diverted	- Will be able to halt the works to let the pedestrian safely pass through the site - Traffic controller to guide pedestrian	PREFERRED
Traffic Past the Worksite		- Works are separated from travelled path - Work vehicle/plant are separated from travelled path/pedestrian	- Pedestrian will be separated by temporary fence from the work area - There is enough lane width for the pedestrian to pass.	NOT PREFERRED
Pedestrian Around the Site	Detour	- Lowers the chance pedestrian entering the work area - Increase separation of work/workers/plants from pedestrian	- Affected footpath will be closed and pedestrian detour will be implemented. - Temporary kerb ramp will be installed - Temporary footpath will be installed	NOT PREFERRED
	Side Track	- Lowers the chance pedestrian entering the work area - Increase separation of work/workers/plants from pedestrian	- A temporary footpath may be constructed in order to maintain pedestrian access around the site. This path should be constructed to the same scale and width as the existing facilities where practicable and no less than 1.2m in width	NOT PREFERRED

18.2.3 Cyclist on Road Considerations

There is no existing bicycle lane on road, cyclist on road will utilize the travelled path and will be guided by sign and devices.

18.2.4 Property/Business Access Considerations

Property/business access will be maintained throughout the project. Otherwise, traffic controller on site to assist local access. To letter box the property/business owner for the arrangement of the exit/entry during and after works.

18.2.5 Local Access Considerations

Local access will be managed by traffic controller on site.

18.2.6 Excavation Treatment

Depth of Excavation	Distance from travelled path	Treatment	Road Work Speed
500mm	>6m	Road Closure	Not required as road will be closed for traffic

18.2.7 TGS

SS241210021-TGS3-Road Closure-Richardson Crescent, Upper Coomera-v0

19 Traffic Management

19.1 Site Access (Work Vehicle)

Site vehicles will be entering through the work area side and exit on the termination area utilizing normal gaps in traffic flow.

19.2 Site Staff Access

Site Staff will access the site via temporary/existing footpath.

19.3 Staff Parking

Staff will only park in designated parking areas where vehicles will not obstruct travelled paths.

19.4 Long Term Signage

Long term signage should be mounted on post 2.2 m from the bottom of the sign to the ground and 1 meter away from the travelled path. Long term signage that is unable to be installed in accordance with the above clause, due to site constraints, will be mounted 200mm high from the shoulder surface to the bottom edge of the sign and installed per the signage described on TGS.

19.4.1 Condition of Long-Term Signage

Individual signs and devices should be examined before installation to ensure that they are in good condition and their performance is not impaired. The following checks are required:

- Mechanical condition
 - Items that are bent, broken or have surface damage, should not be used.
- Cleanliness
 - Items shall be free from accumulated dirt, road grime or other contamination.
- Color of fluorescent signs

- Fluorescent signs whose color has faded to a point where they have lost their daylight impact should be replaced.
- Night-time visibility
 - Signs required to be effective at night shall be checked for retro-reflectivity as soon as possible after installation. Those whose retro-reflectivity is degraded either from long use or surface damage shall be replaced. Night-time effectiveness can best be checked by viewing the signs by vehicle headlights in dark conditions.

19.5 Short Term Signage

Installation of short-term signs to be mounted clearly visible from traffic. The minimum height from the shoulder surface to the bottom edge of the sign is 200mm and mounted to a level ground free from any blockage.

Should generally be located and erected as follows:

- **In open road areas**
 - On the road shoulder, a minimum of 1 m clear of the travelled path.
- **In built-up areas**
 - Behind the kerb if visible to oncoming traffic and not obstructing pedestrians; otherwise, on the pavement as near as practicable to the kerb without the sign becoming obscured and without obstructing moving traffic.

19.6 Positioning of Devices

Signs and devices should be positioned and erected so that—

- they are properly displayed and securely mounted.
- they are within the line of sight of the intended road user.
- they cannot be obscured from view (for example, by vegetation or parked cars);
- they do not obscure other devices from the line of sight of the intended road user.
- they do not become a possible hazard to workers, pedestrians, or vehicles.
- they do not deflect traffic into an undesirable path.
- They do not restrict sight distance for drivers entering from side roads or streets, or private driveways; and
- they are not installed using supports that could be a hazard if struck by a vehicle.
- Where practicable, signs shall be erected on both sides of the roadway on multilane divided or one-way roads where the volume is 10 000 vpd or greater. This treatment should also be considered for all other roads, especially those with curved alignments.
- Signs should face towards approaching traffic approximately at right angles to the line of sight from the driver to the sign.
- At curved alignments, the sign should be placed approximately at right angles to the line of sight of a motorists 50m in advance of the sign.

19.7 Adjustment to Existing Devices

To avoid confusion, existing signs and traffic control devices which are inappropriate to, or conflict with, the temporary work site situation shall be fully covered or removed.

19.8 Night Conditions

- Signs shall be floodlit if outside the headlight beams. Delineating devices shall comprise or incorporate retro-reflectors. Flashing lamps may be used to draw attention to certain advance signs. Flashing lamps shall not be used for delineation.
- Pavement markings through the work site shall be retro-reflective. This may be achieved by means such as reflectorizing paint using drop-on beads, retro-reflective preformed materials or raised retro-reflective pavement markers.
- Hazards or barriers may require floodlighting to make them more conspicuous. Care should be taken that floodlighting, undimmed illuminated flashing arrow signs, matrix-type variable message signs and other similar devices do not cause disability glare for approaching drivers. Except in an emergency, floodlighting should not be provided by use of vehicle headlights.
- Signs required to be fluorescent by day and retro-reflective at night, for example, the Workers (symbolic) sign, shall have a sign face background comprising combination fluorescent retro-reflective material.

19.9 Cone and Bollards

- Traffic cones shall be 700mm in height and consist of fluorescent red or fluorescent orange material that is resilient to impact.
- Temporary bollards shall comprise a vertical parallel sided or tapered tube of fluorescent orange or red material that is resilient to impact. They shall be at least 750 mm in height and a minimum of 100 mm in diameter. Bollards shall be designed to be stable under reasonably expected wind conditions and air turbulence from passing traffic. They shall be securely fixed to the pavement or weighted to provide adequate stability from passing traffic when unattended.
- Cones and bollards used under night conditions shall be reflectorized in accordance with QMUTCD Book 3.
- Temporary Hazard markers (T5-5) used in conjunction with bollards
- Traffic cones and bollards shall comply with the requirements of QMUTCD Book 3 and be placed in accordance with the arrangement shown on the Traffic Guidance Scheme
- Unless cones are firmly fixed in position they shall be used only while work is in progress, or in locations where there is an employee in attendance who shall reinstate any of the cones which have been dislodged by traffic. Otherwise, they shall be removed, and bollards or barriers substituted.
- Cones and bollards used under night conditions shall be reflectorized in accordance with QMUTCD Book 3.

19.10 Containment Fence

Containment fences are used to keep road workers or pedestrians within a defined area, safely away from traffic.

Tapes:

- may be used to contain workers on foot and plant within the work area boundary
- shall not be used as delineation between traffic and containment fence
- shall not be used for pedestrian containment adjacent to traffic
- shall be a minimum 100 mm wide with stripes of alternate, contrasting colour
- shall be installed so that tape is supported 1 m above ground.

Plastic Mesh Fencing:

- may be used for pedestrian containment and/or containing workers on foot and plant within the work area boundary
- shall be installed so that the top of the fence is 1 m above ground.

Longitudinal Channelizing Barricades:

- may be used for pedestrian containment and/or containing workers on foot and plant within the work area boundary
- shall comprise interconnected modules only
- shall be marked with letters stating 'NOT A SAFETY BARRIER'

19.11 Site Fencing

Prior to implementation of the project, site boundaries are enclosed with construction fencing in accordance to safety requirements of Work Health and Safety Act 2011 and to comply with AS 4687- 2007.

19.12 Barriers

Not applicable.

19.13 Pedestrian Management

Where pedestrians, including school children and people with disabilities or visual impairment, have to move around, through or past a work site or to cross the road within a work site, they shall be provided with and directed to suitably constructed and protected temporary footpaths and crossing points, or formal pedestrian crossings, or refuges if warranted. Pedestrian and bicycle paths should, where practicable, be provided on the same scale and to the same width as any facilities for pedestrian or bicycle traffic that were existing prior to the works.

19.14 Portable Traffic Signal

Portable Traffic Signal Systems will not be required for this project.

19.15 Site Equipment

Site equipment used for this project will be stored within the site compound

19.16 Site Delivery

Site deliveries arrangement will be synchronized with the site access arrangement and to be managed by the site supervisor.

20 Notifications

All traffic management notifications must be submitted and authorized to relevant road authorities prior to project implementation. This includes but is not limited to TMR, Local Government, public transport providers and utility providers.

Depending upon the nature of the work and prevailing traffic conditions, affected community stakeholders, private and business access are notified prior to the commencement of the project. Affected body will be given a letter notification and or door knock.

Public Notification include matters of:

- Physical changes to the road
- Expected delays and traffic impacts
- Alternative route and transport mode options

The extent of notification required will be worksite-specific and depend on the scope, scale, impact and duration of the works. General public is to be made aware of the complaints process associated with the TMP.

Logan City Council Contact Details:

Gold Coast City Council

Phone: 1300 465 326 (8am to 5pm, Monday to Friday)

Email: mail@goldcoast.qld.gov.au

Post: Chief Executive Officer

City of Gold Coast

PO Box 5042

GOLD COAST MC 9726

20.1 Notification of emergency services

Emergency Services notification for road closures, contraflows, expected traffic delays, traffic control on major roads and works involving speed reduction or lane closures for periods of longer than five days.

Emergency is to be provided with the scope of works, site access arrangements in case of emergency and arrangements made by TMP that may impact on route and travel times of emergency services.

21 Emergency Arrangements and Contingency Planning

21.1 Emergency Services Access

Emergency vehicles are to be given priority through the works site. Site supervisor to ensure there is a clear path for emergency vehicles, if a situation arises on site project manager will inform emergency services. Detours are to be detailed in TGS prior to implementation. The following are to be considered:

- Nature or works.
- Location
- Dates and duration
- Site conditions
- Access details
- Contact details of designated person/organizations

21.2 Emergency Arrangements

Emergency on site to be recorded and identify the following:

- Any dangerous good sites
- Gas and electricity transmission features
- Any other potentially dangerous facilities/situations in the vicinity of the work area.

21.3 Contingency Planning

Contingency Plans		
	Description	Actions
Major Incident	• Fatality or notifiable injury real or potential • Significant property damage, or • Emergency services (police, fire, etc) require access or control of the site.	The TMI must immediately conduct the following: • Stop all activity and traffic movement • Secure the site to prevent (further) injury or damage • Contact the appropriate emergency authorities • Render first aid if competent and able to do so • so notify the RIM representative and / or the engineer • Under the guidance of the officer in charge of the site, reduce effects of TTM on the road or remove the activity if safe to do so • Re-establish TTM and traffic movements • when advised by emergency authorities that it is safe to do so • Comply with any obligation to notify WorkSafe.
Incident	• Excessive delays - real or potential • Minor or non-injury accident that has the potential to affect traffic flow structural failure of the road.	• Stop all activity and traffic movement if required • Secure the site to prevent the prospect of injury or further damage • Notify the RIM representative and / or the engineer • TMI to implement a plan to safely remove TTM and to establish normal traffic flow if safe to do so • Re-establish TTM and traffic movements when its

Contingency Plans		
		safe to do so and when traffic volumes have reduced.
Detour	If because of the on-site activity it will not be possible to remove or reduce the effects of TTM once it is established a detour route must be designed. This is likely for: • Excessive delays when using an alternating flow design for TTM • Redirecting one direction of flow and / or • Total road closure and redirection of traffic until such time that traffic volumes reduce, and tailbacks have been cleared. The risks in the type of work being undertaken, the risks inherent in the detour, the probable duration of closure and availability and suitability of detour routes need to be considered. The detour and route must be designed including: • Pre- approval from the RIM whose roads will be used or affected by the detour route. • Ensure that TTM equipment for the detour - signs etc are on site and pre-installed.	When it is necessary to implement the pre-planned detour the TMI must immediately undertake the following: • Notify the RIM and / or the engineer when the detour is to be established • Drive through the detour in both directions to check that it is stable and safe • Remove the detour as soon as it practicable and safe to do so and the traffic volumes have reduced, and tailbacks have cleared • Notify the RIM and / or the engineer when the detour has been disestablished and normal traffic flows have resumed.
Requirements for no interference at an accident scene: In the event of an accident involving serious harm the TMI must ensure that nothing, including TTM equipment, is removed or disturbed and any wreckage article or thing must not be disturbed or interfered with, except to: • Save a life of, prevent harm to or relieve the suffering of any person, or • Make the site safe or to minimize the risk of a further accident, or • Maintain the access of the general public to an essential service or utility, or • Prevent serious damage to or serious loss of property, or • Follow the direction of a constable acting in his or her duties or act with the permission of an inspector		

Authorisations						
		Yes	No		Yes	No
Parking restriction(s) alteration authority	Will controlled street parking be affected?			Has approval been granted?		
Parking restriction(s) alteration authority	Will portable traffic signals be used, or permanent traffic signals be changed?			Has approval been granted?		
Road closure authorisation(s)	Will full carriageway closure continue for more than 5			Has approval been granted?		

)	minutes (or other RIM stipulated time)?													
Bus stop relocation(s) – closure(s)	Will bus stop(s) be obstructed by the activity?			Has approval been granted?										
Authorisation to use portable traffic signals	Make, model and description/number			Has approval been granted?										
	Product compliant?													
Design Exception (DE)														
Is an DE applicable?	Yes No (delete either Yes or No)	DE attached?	Yes											
Delay calculations/trial plan to determine potential extent of delays														
Public notification plan														
Public notification plan attached?				Yes No (delete either Yes or No)										
On-site monitoring plan														
Attended (day and/or night)														
Unattended (day and/or night)														
Method for recording daily site TTM activity														
Site safety measures														
Other information														
Site specific layout diagrams														
Number			Title											

Contact details						
	Name	24/7 Contact Number	ID	Qualification	Expiry Date	
Principal						
TMD						
Engineers' Representative						
Contractor						
TMI						
TC						
Others as required						
TMP Preparation						
Preparation						
	Name (TMD qualified)	Date	Signature	ID no.	Qualification	Expiry Date
This TMP meets QGTTM requirements Number of diagrams attached						
TMP returned for correction (if required)						
	Name	Date	Signature	ID no.	Qualification	Expiry Date
TMD to complete following section when approval or acceptance required						
Approved by TMD (delete one)						
	Name	Date	Signature	ID no.	Qualification	Expiry Date
Acceptance by TMD						
	Name	Date	Signature	ID no.	Qualification	Expiry

						Date
Qualifier for engineer or TMI approval						
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 TMD's judgment this TMP conforms to the requirements of QGTTM. 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 TMI for the activity is reminded that it is the TMI's duty to postpone, cancel or modify operations due to the adverse traffic, weather or other conditions that affect the safety of this site.						
Notification to TMI prior to occupying worksite/Notification completed						
Type of notification to TMI required		Notification completed	Date			
			Time			

Appendix A: Traffic Guidance Scheme List

TGS	Times	Duration
SS241210021-TGS1-Shoulder Closure-Richardson Crescent, Upper Coomera-v0	6:30am to 6pm	TBD
SS241210021-TGS2-Shoulder Closure-Richardson Crescent, Upper Coomera-v0	6:30am to 6pm	TBD
SS241210021-TGS3-Road Closure-Richardson Crescent, Upper Coomera-v0	6:30am to 6pm	TBD

APPENDIX B: Traffic Officer Evidence

Department of Transport and Main Roads			
Traffic Management Design			Certification type: Open
RTO name	Evolution Training & Safety Pty Ltd		
Cardholder's name	Adam Stahlhut		
Date of birth	03.10.1985		
RTO no.	31733	Card no.	558
Issue date	17 April 2016		
Expiry date	Currency of certification to be maintained by card holder		


Queensland
 Government

Department of Transport and Main Roads
The cardholder has met the requirements of the Traffic Management Design Program. Cardholder's signature 

APPENDIX C: TRAFFIC GUIDANCE SCHEME