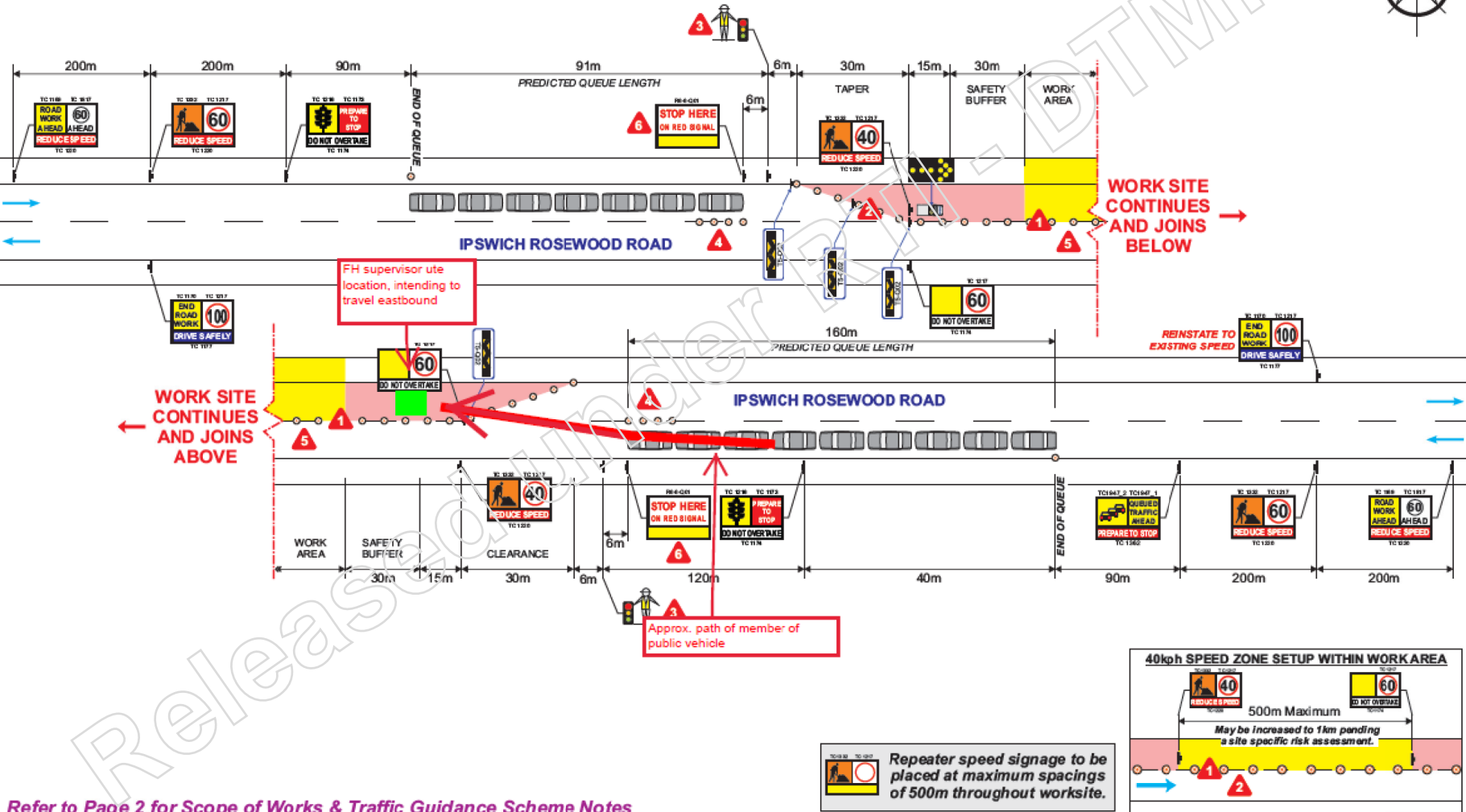


DETAILS OF CASE	<b>Title:</b> Member of Public head on colision with stationary Fulton Hogan Ute	<b>Occurrence Date:</b> 17/05/2022
		<b>Occurrence Time:</b> 4:30 p.m.
	<b>State &amp; Business Stream:</b> FHI Northern	
	<b>Project or Department:</b> 62128 - Narangba Surfacing	
	<b>Site or Office Location:</b> QLD Narangba - AUNA	
	<b>Source:</b> Management Review	
	<b>Subject Area(s):</b> Safety	
	<b>Category:</b> Brake failure / Runaway, Traffic Incident – Public Vehicle	
	<b>Details:</b>	
	<p>This incident has occurred in the dead lane of a site under stop go arrangement with PTSSs in place, the set up was in full compliance with TGS and the required safety measures were fully in place at the time. The facts of the incident are as follows:</p> <ul style="list-style-type: none"> <li>Fulton Hogan foreman was stationary safely within the dead lane at the end of the taper of the closure in preparation of departure from the eastern end of site at the end of the day.</li> <li>Traffic was released from hold and commenced travel through the closures from the eastern end of site.</li> <li>Ute in the middle of the line-up of traffic has merged out into the dead lane at approx. 20 – 30km/h and collided head on with stationary Fulton Hogan vehicle</li> <li>As the member of public vehicle approached FH employee was able to see that the drivers eyes were closed and they had fallen slouched forward leading up to the impact</li> </ul> <p>The site personnel have noted that this road had a full closure and detour due to flooding in the days prior to the incident and have suggested that given the road had already previously had a diversion in place, would it be possible to divert traffic for the duration of works to ensure the safety of personnel on site.</p>	
<b>Immediate action:</b>		
<p>Nearby crew members came over and checked on the FH foreman to ensure he was ok. FH foreman requested that one of the crew members check on the member of public. Member of public reported that [redacted] NR [redacted] crew member rang ambulance &amp; QPS. The member of public admitted that [redacted] NR [redacted]</p> <p>[redacted] NR [redacted]</p> <p>FH foreman reported the incident to Supervisor and [redacted] NR [redacted]</p> <p>Ambulance and police arrived on site to assess the member of public and took statements for their reports.</p>		
<b>Case Owner:</b> [redacted] NR		
<b>Case Status:</b> Open		



**TRAFFIC GUIDANCE SCHEME 01-01: LANE CLOSURE EB**



TGS

Released under the Official Information Act 1987

# DAILY TRAFFIC RECORD



Date:  Job No.:

Client:  Location:

## SITE SPECIFIC RISK ASSESSMENT

All works to comply with Schramm Group Safe Work Method Statement (SWMS), Safety Policy and Procedures, relevant state legislative requirements including Codes of Practice and roadwork manuals.

### Normal Road Configuration

**Type of Road**  
 One Lane each way  
 Multilane Divided  
 Multilane Undivided  
 No. of lanes (Multilane only)  
 2  3  4

**Road Configuration**  
 Straight  Curve  
 Intersection  Hill  
 Roundabout

**Road Surface**  
 Dry  Wet  
 Loose Stones  
 Slippery  Gravel

**Normal Road Speed Limit**  
 40  50  60  70  80  90  100  110  
LOW HIGH

**Signs / Signals**  
 Stop Sign  
 Give Way Sign  
 Traffic Lights

**Onsite Conditions**  
**Visibility**  
 Good  Poor  
 Fog  Night  
**Weather**  
 Fine  Rain  
 Overcast

### Traffic Control Req.

**Traffic Control**  
 Stop & Slow  
 Lane Closure  
 Shoulder Closure  
 Contraflow  
 Road Closed - Detour  
 Mobile  
 Pedestrian Control

**Lanes Closed**  
 Slow  Middle  
 Fast

**Workers Clearance**  
 If distance between workers & traffic is less than 1.2m, speed shall be reduced to 40kmh

**Speed reduced to**  
 40kmh  60kmh

### Control Measures as per SWMS 02

All control measures as per SWMS in place  Yes  No  
 Signage to be erected as per the Risk Assessment, SWMS, MUTCD and Traffic Guidance Scheme  Yes  No  
**TGS No.**   
 Conflicting signage been covered or removed  Yes  No  
 Signs to be securely mounted and visible to traffic  Yes  No  
 Traffic Controller Ahead / Prepare to stop sign erected  Yes  No  
 PPE is being worn as instructed and as per SWMS  Yes  No  
 Stop slow hat and hand signals to be used to control traffic  Yes  No  
 Each TC maintains an escape route at all times  Yes  No  
 TC to stand facing traffic and outside projected travel path  Yes  No  
 Provide access for cyclists, pedestrians, wheelchairs and driveways  Yes  No  
 Maintain safe distance from all plant and equipment  Yes  No  
 Is there sufficient room to queue stopped vehicles  Yes  No  
 Environment - Is there any environmental risks  Yes  No  
**If Yes, please list below**

Common Hazards	Initial Risk	Control measures to minimise risk	Residual Risk	Who is Responsible
Hit by vehicle while erecting signs & cones	H	PARK ON SHOULDER	L	TC
Hit by vehicle while controlling traffic	H	STAND OUTSIDE PROJECTED TRAVEL PATH	L	TC
Hit by mobile plant	H	20 METRE EXCLUSION ZONE	L	TC
Slips, trips & falls	H	WEAR SAFETY BOOTS	L	All Workers
Muscle strains & sprains	H	LIFT WITH LEGS NOT YOUR BACK	L	TC
Any additional hazards identified	Initial Risk	Control measures to minimise risk	Residual Risk	Who is Responsible

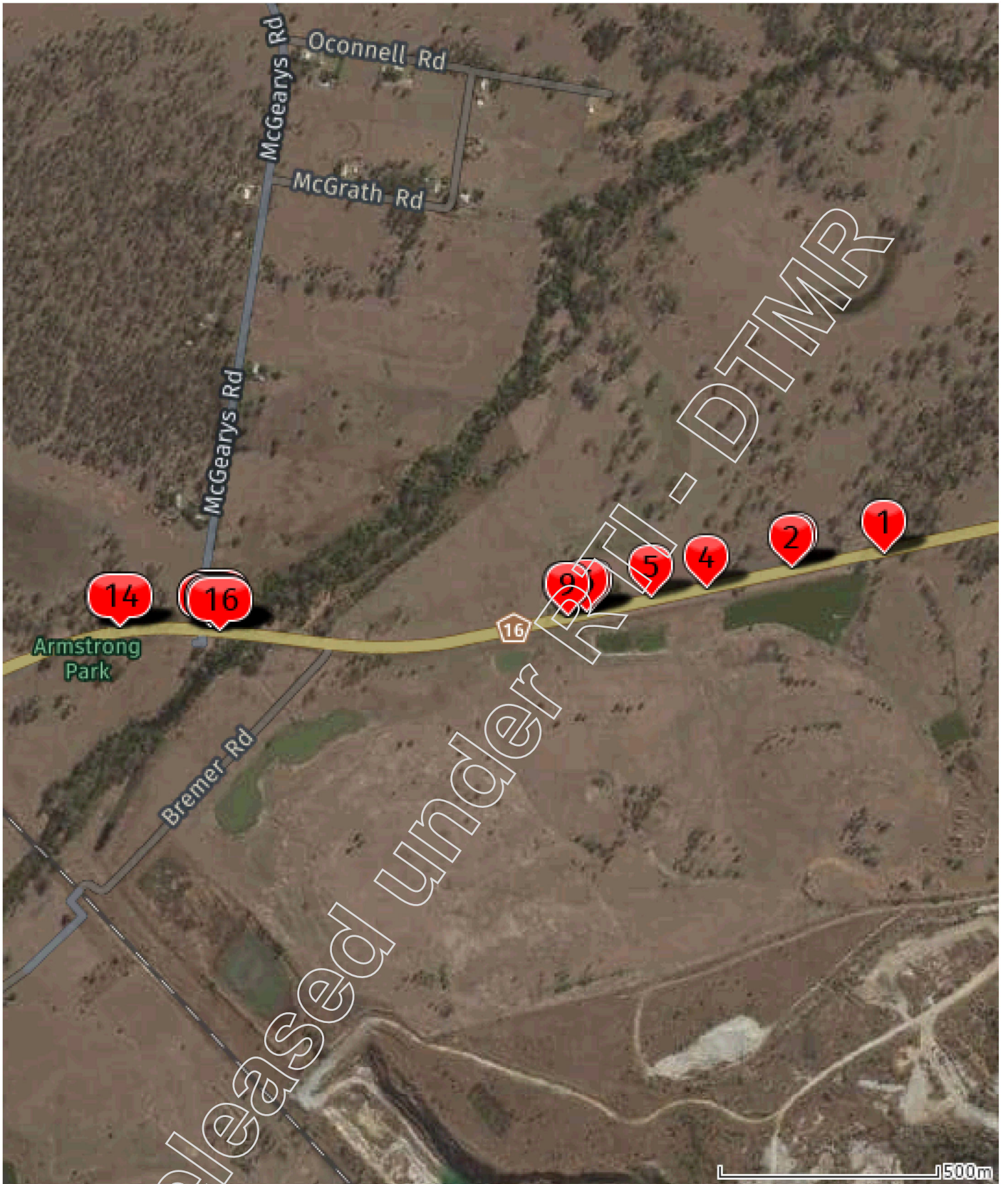
I have been provided with the opportunity to give comment on the formulation of work methods, identification of hazards associated with this work and implementation of control measures that will allow the work to be undertaken safely. I have been instructed and trained in safe work method statement (SWMS) 02 & 10 and understand and will comply with these instructions and safety procedures.

TC1 Signature:  TC2 Signature:  TC3 Signature:  TC4 Signature:

Did an incident occur?  Yes  No What happened:  Reported to:

**Additional information**  
 CONTACTED OPERATIONS TO ADVISE OF INCIDENT. ARE SECURED AND PHOTOS TAKEN. RECEIVED CALL FROM  CHECKING IN ON EVERYONE. INCIDENT REPORT DONE.

**CLIENT** Name:  Signature:   
**SCHRAMM GROUP Rep.**  Signature:



**Sign Locations**

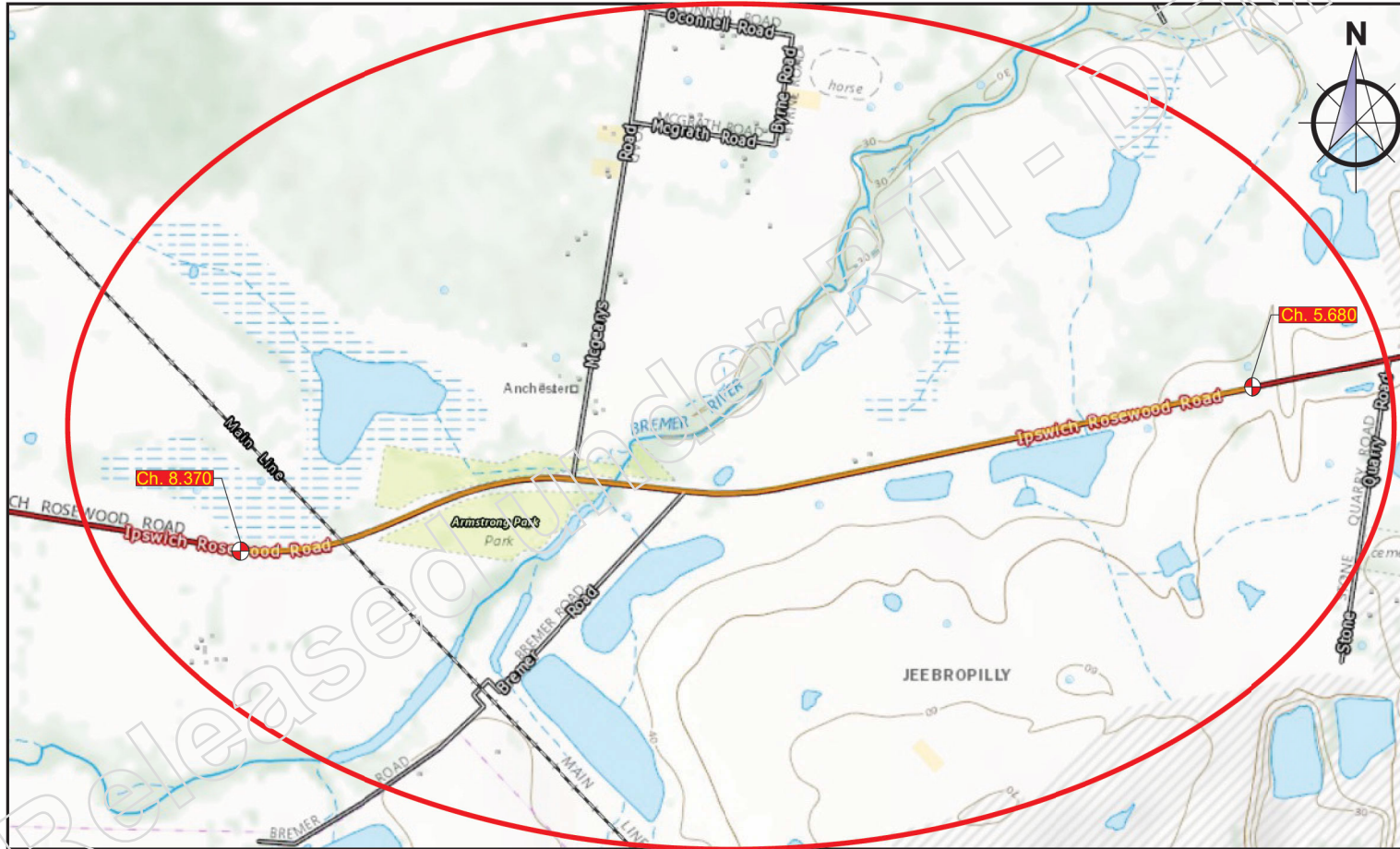
No.	Panels	Location	Dist.	Placed	Checked 1	Checked 2	Checked 3	Checked 4	Removed
1	Road Work Ahead, 60 kph Zone Ahead, Reduce Speed	-27.6469, 152.6507		5:14 AM					
2	Workmen Ahead, 60 kph, Reduce Speed	-27.6472, 152.6485	214 m	5:17 AM					
3	End Road Work, 100 kph, Drive Safely	-27.6472, 152.6486	6 m	5:20 AM					
4	Queued Traffic, Queued Traffic, Prepare to Stop	-27.6476, 152.6465	206 m	5:23 AM					
5	Traffic Light Sign , Prepare to Stop, Do Not Overtake	-27.6478, 152.6453	127 m	5:23 AM					
6	N/A, N/A, Portable Traffic Signal Unit	-27.6481, 152.6438	151 m	6:32 AM					
7	Stop Here on Red Signal , N/A, Other	-27.6481, 152.6438	4 m	6:33 AM					
8	Other, 60 kph, Do Not Overtake	-27.6482, 152.6433	52 m	6:34 AM					
9	Workmen Ahead, 40 kph, Reduce Speed	-27.6482, 152.6433	3 m	6:35 AM					
10	N/A, N/A, Delineator	-27.6484, 152.6350	820 m	6:46 AM					
11	N/A, N/A, Start Taper	-27.6484, 152.6350	2 m	6:46 AM					
12	N/A, N/A, End Taper	-27.6484, 152.6351	14 m	6:46 AM					
13	N/A, N/A, Start Closure	-27.6484, 152.6352	11 m	6:47 AM					
14	N/A, N/A, Portable Traffic Signal Unit	-27.6484, 152.6329	226 m	6:51 AM					
15	Stop Here on Red Signal , N/A, Other	-27.6484, 152.6328	5 m	6:52 AM					
16	Other, 60 kph, Do Not Overtake	-27.6485, 152.6352	234 m	7:08 AM					
17	40 kph, Workmen Ahead, Reduce Speed	-27.6484, 152.6351	6 m	7:08 AM					



**RPEQ REQUIRED**  
 YES     NO

# FULTON HOGAN RAMC PROJECT

## TRAFFIC GUIDANCE SCHEME TGS 01 - PAVEMENT RESURFACING (Full Lane Closure EB)



**SCHRAMM GROUP**  
 60 NORTHLINK PLACE, VIRGINIA, QLD 4014    PH: 07 3608 4201  
 TMR REGISTRATION NUMBER: C210    SHEET 01 OF 04  
 1    THIS PLAN IS NOT TO SCALE  
 TGS REF No: **TGS 01: COVER**

Road Name:	Map Reference:	Travelled Path:
Ipswich Rosewood Road	210 P:15	Pest
Location of Works:	Term:	Operation:
Ch. 5.680 - 6.030 km	Short Term	Shuttle Flow
Suburb:	Road Type:	Speed Limit:
Jeebropilly	Two Way Road	100 km/hr



TGS	NAME	DATE	SIGNATURE	CERTIFICATION	TYPE	CARD NO.
INITIALLY DRAWN BY	NR	21/04/2022	NR	DTMR TMD	OPEN	255

Rev #	Description	Requested By	Date	Issued By
1	Draft Produced for Client Review & Comment	NR	21/04/2022	NR
2				
3				
4				
5				

For better interpretation of this TGS, it is recommended that it is printed to size A3 and in colour.

**CLIENT DETAILS**

Client Name: **Fulton Hogan**  
 Client Contact: **Sitharthan Thavarajah**  
 Client Contact Number: **0499 309 603**

PO Number: **Oj1101554**

**SITE INFORMATION**

Location of Works: **Ipswich Rosewood Road**  
 Suburb: **Jeebropilly**

Hours of Operation: **Any**

Proposed Commencement of Works: **April 2022**  
 Estimated Completion of Works: **May 2022**

**SCOPE OF WORKS**

This Traffic Guidance Scheme (TGS) has been developed to allow Fulton Hogan to conduct pavement resurfacing works along the Ipswich Rosewood Road at Jeebropilly.

These works will involve but will not be limited to:  
 - Pavement Reconstruction works  
 - Line Marking works  
 - Any Project Associated work activity

A desktop risk assessment has been undertaken by Schramm Group Pty Ltd in developing this TGS. However, when implementing this TGS on site, the site supervisor &/or Nominated Traffic Officer (NTO) should undertake a site specific assessment at each location to ensure traffic control device placement is appropriate for site conditions, particularly with respect to sight distances to oncoming traffic.

**TRAFFIC MANAGEMENT METHOD**

Travelled Path: **Past**  
 No. of Traffic Controller: **MIN 4 x TC's**  
 No. of Traffic Control Vehicles: **MIN 1 x Cone Truck (PTSS)**  
 Type of Closure: **Lane**  
 Speed Restrictions: **Reduce to 40kph (as required)**

**SIGNAGE & DEVICES INSTALLATION NOTES:**

This TGS is only to be installed by competent personnel, who are adequately trained and experienced to install Traffic Management Devices in Queensland (Traffic Management Implementation (TMI)) and have read, understood and signed the Schramm Group Safe Work Method Statement to Conduct Traffic Control.

A TMI competent person can move signs within tolerances including away from driveways, intersections or median openings. Unless stated otherwise on the Traffic Guidance Schemes (TGS), the tolerances on the positioning of signs detailed in the plans is minimum 10% less than and maximum 25% more than the distances or lengths stated and a maximum 10% more than (No minimum) the spacing shown for delineating devices.

Condition of signs and devices should be examined before installation to ensure that they are in good condition and their performance is not impaired.

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 motorist 50m in advance of the sign.

Delineating devices (e.g. traffic cones, bollards, post mounted delineators) should generally be placed 1m clear of the travelled path where practicable; however, traffic cones and bollards may also be used to define the edge of the travelled path or to separate opposing traffic.

**NIGHT WORKS:**

Where work at a site extends for more than a single day or is to be performed at night temporary traffic route lighting may be required in open roads where there is insufficient lighting or in built up areas where permanent lighting is not adequate for an active work site.

Lighting at a work site shall, as a minimum requirement, illuminate the traffic control station and locations where workers or plant might encroach on traffic lanes and works are taking place. Wherever practicable, it is recommended that the entire work area and immediate approach be lit.

Floodlighting is recommended and steps should be taken to ensure the floodlighting does not produce glare sources for approaching drivers. Dimming controls on illuminated flashing arrow signs and matrix-type variable message signs should be checked for correct operation.

**PEDESTRIANS & CYCLISTS**

Pedestrians & Cyclists for the duration of the works will be monitored as required. Appropriate pedestrian warning and directional signage will be erected and monitored throughout the duration of the works as required.

Where possible Trip Hazards exist or are identified the 'PEDESTRIANS WATCH YOUR STEP' (T8-1) sign shall be installed where appropriate space allows for advance warning of hazard.

**RECORD KEEPING**

Supervisory personnel shall keep daily records at a regular time period throughout the shift of the signage placement and delineation arrangement or Traffic Guidance Scheme (TGS), and records of any incidents that might have ongoing consequences and should be kept in a diary or in a work sheet. Special attention to recording the installation, alteration and removal of all regulatory signs and devices and weather conditions.

**INCIDENT MANAGEMENT**

The contractor is to determine the appropriate procedure for incident management but should not be limited to:  
 - call for assistance if incident requires  
 - notify the work site supervisor immediately of any incident  
 - maintain effective traffic control (ie. possible relocation of TC station clear of any further danger)  
 - record sufficient notes of the incident, including observations, in order to complete an incident report.

**GENERAL NOTES**

- These drawings are to be read in conjunction with the associated Risk Assessment and used in conjunction with the Traffic Management Plan produced by the contractor where applicable.
- If these drawings have been drawn to scale the scale is as shown in the title block for each sheet. In all cases the dimensions detailed on the drawings only are to be used.
- These drawings have been prepared from information collected on site at the time and from information provided by the client. Some existing road features and/or conditions may have changed prior to or during the establishment of this TGS. If this occurs the Contractor is to notify the Traffic Management Company or Traffic Management Design person responsible for the TGS if any alterations are required.
- Any variations made to the treatments shown in this TGS shall only be made by a Traffic Management Design (TMD) competent person, with the exception of general note 5, and all variations are to be noted on the TGS.
- A TMI competent person can modify the TGS onsite in response to an emergency or unplanned event. The TMI may use traffic control devices to isolate the incident and provide initial response until emergency services personnel attend. Any further incident management shall be accordance with consultation from a TMD or authorised person.
- Public Utility Provider (PUP) services have not been located or identified by Schramm Group for this TGS. Any PUP services which may be shown on this TGS is not to be relied upon by the contractor and the contractor is solely responsible for any damage incurred to any existing services whether they appear on this TGS or not.
- Prior to the commencement of any excavation works that may be required for the implementation of this TGS, the contractor shall confirm the location of any possible PUP services conflicts and if necessary seek alternate signage locations from Schramm Group to avoid the conflicts.
- The extent of any work areas shown on this plan are diagrammatic only unless specific dimensions are shown and no workers, materials, plant, vehicles or machinery are to be within 1.2m of an open traffic lane unless a 40kph temporary speed limit is implemented or as shown on this TGS.
- The contractor is responsible for negotiating the use of existing driveways for construction access with the property owners.
- Where Traffic Controllers are required, ensure they have a clear escape path to a non-traffic (closed) section of the roadway, shoulder, footpath or median during works operation at all times.
- All signage shown on this TGS is not to conflict with any existing long term signage arrangements in the area. Conflicting existing long term signage shall be covered or removed. If this occurs then the contractor is to notify Schramm Group Pty Ltd if any alterations are required to this TGS.

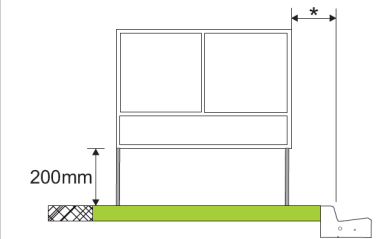
**▲ SITE SPECIFIC NOTES**

- Recommended maximum traffic cone spacing for delineation of the lane closure = 4m @ 40kph, 12m @ 60kph.
- Recommended maximum traffic cone spacing for lateral shift taper = 4m @ 40kph, 12m @ 60kph.
- Traffic Controller to be positioned a minimum of 3m from the Traffic Light, whilst maintaining a minimum of 160m of clear sight distance to oncoming traffic.
- 4 cones shall be placed on the centre line at 4m spacing, on approach to the "Stop Here On Red Signal" sign.
- The minimum remaining lane width shall be 3.0m plus there should be an additional 0.5m edge clearance to traffic cones.
- The "Stop Here On Red Signal" sign shall be placed 6m prior to the PTSS Traffic Light.

**LEGEND**

	Traffic Controller
	Traffic Control Vehicle (with Vehicle Mounted Arrow Board)
	Attenuator Vehicle (TMA)
	Police Officer
	Police Vehicle
	Temporary Hazard Marker (T5-Q02)
	Temporary Bollards (Min 750mm High & 100mm Dia.)
	Traffic Cones (450-500mm used in built-up areas not exceeding 70kph (>700mm used in 70kph zones and above)
	Work Area (Site Specific within these areas of works)
	Area of lane closure closed to general traffic (Site Specific within these areas of works)
	Refer to SITE SPECIFIC NOTE number
	Plant Lay Down Area (Site Specific within these areas of works)
	General Traffic Direction
	Bus Stop
	Site Vehicle Movements
	Safety Barrier System
	Safety Barrier End Treatment

**Short Term Sign Install (Typical) (Built Up Areas)**



\* To be installed behind the kerb and 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

Note: TC to ensure all Signs are weighted down sufficiently

 60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201 TMR REGISTRATION NUMBER: C210 SHEET 02 OF 04	Road Name:	Map Reference:	Travelled Path:							Rev #	Description	Requested By	Date	Issued By
	Ipswich Rosewood Road	210 P:15	Past							1	Draft Produced for Client Review & Comment	NR	21/04/2022	NR
Location of Works: Ch. 5.680 - 6.030 km Suburb: Jeebropilly	Term:	Operation:	TGS		NAME	DATE	SIGNATURE	CERTIFICATION	TYPE	CARD NO.	2			
	Short Term	Shuttle Flow	INITIALLY DRAWN BY	NR	21/04/2022	NR	DTMR TMD	OPEN	255	3				
THIS PLAN IS NOT TO SCALE TGS REF NO: TGS 01: NOTES	Road Type:	Speed Limit:	Two Way Road								4			
	Two Way Road	100 km/hr									5			

For better interpretation of this TGS, it is recommended that it is printed to size A3 and in colour.



# Queue Length Estimation Record

Table 1 - Queue Multipliers

Maximum Stopping Time (minutes)	MULTIPLIER	
	Ma (multiplier for average vehicles)	Mo (multiplier for oversized vehicles)
2	2.4	8
5	6	20
10	12	40
15	18	60
30	36	120

Table 2 - Queue Length Estimation

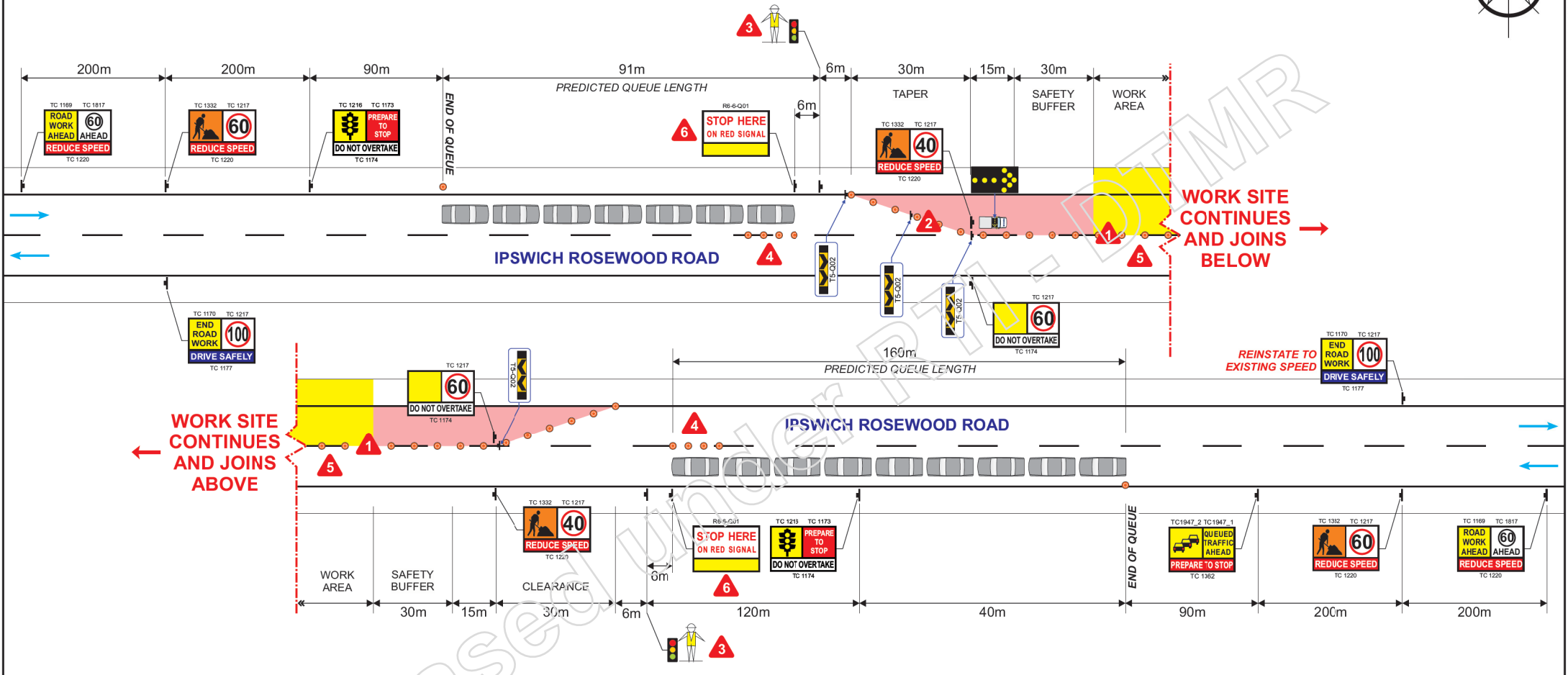
Road Name	Source of Traffic Volume Data	Proposed Stopping Time (minutes)	Number of Average Sized Vehicles during proposed Stopping Time	Number of Oversized Vehicles during proposed Stopping Time	Ma (from Table 1)	Mo (from Table 1)	Estimated Queue length (m) = (number of average vehicles x Ma) + (number of oversized vehicles x Mo) <i>**Single lane queue length**</i>
Ipswich Rosewood Road WB	DTMR Traffic Census 2020 (Site 135535)	5	11.5	1.08	6	20	$(11.5 \times 6) + (1.08 \times 20) = 91m$
Ipswich Rosewood Road EB	DTMR Traffic Census 2020 (Site 135535)	5	24.02	0.79	6	20	$(11.5 \times 6) + (1.08 \times 20) = 160m$

Released under RTI DTMR

<b>SCHRAMM GROUP</b>	Road Name:	Map Reference:	Travelled Path:	<b>Fulton Hogan</b>	Rev #	Description	Requested By	Date	Issued By
	60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201	Ipswich Rosewood Road	210 P:15		Pest	1	Draft Produced for Client Review & Comment	NR	21/04/2022
TMR REGISTRATION NUMBER: C210 SHEET 03 OF 04	Location of Works:	Term:	Operation:		2				
	Ch. 5.680 - 6.030 km	Short Term	Shuttle Flow	TGS	3				
<b>1</b>	Suburb:	Road Type:	Speed Limit:	INITIALLY DRAWN BY	4				
	Jeebropilly	Two Way Road	100 km/hr	NR	5				
	TGS REF No: <b>SCH 22:4166</b>								

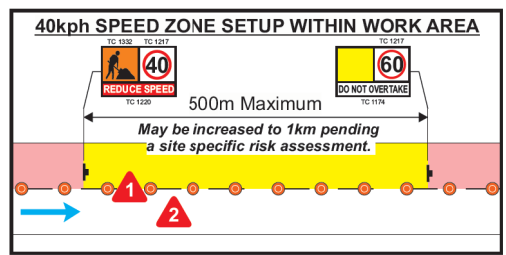
For better interpretation of this TCS, it is recommended that it is printed to size A3 and in colour.

# TRAFFIC GUIDANCE SCHEME 01-01: LANE CLOSURE EB



**WORK SITE CONTINUES AND JOINS BELOW** →

**WORK SITE CONTINUES AND JOINS ABOVE** ←



**Repeater speed signage to be placed at maximum spacings of 500m throughout worksite.**

Refer to Page 2 for Scope of Works & Traffic Guidance Scheme Notes

 60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201 TMR REGISTRATION NUMBER: C210	Road Name: Ipswich Rosewood Road Location of Works: Ch. 5.680 - 6.030 km Suburb: Jeebropilly	Map Reference: 210 P:15 Term: Short Term Road Type: Two Way Road	Travelled Path: Pest Operation: Shuttle Flow Speed Limit: 100 km/hr		TGS NAME: NR DATE: 21/04/2022 SIGNATURE: NR CERTIFICATION: DTMR TMD TYPE: OPEN CARD NO.: 255	Rev # 1 Description: Draft Produced for Client Review & Comment Requested By: NR Date: 21/04/2022 Issued By: NR
	SHEET 04 OF 04 THIS PLAN IS NOT TO SCALE TGS REF No: SCH 22:4167					

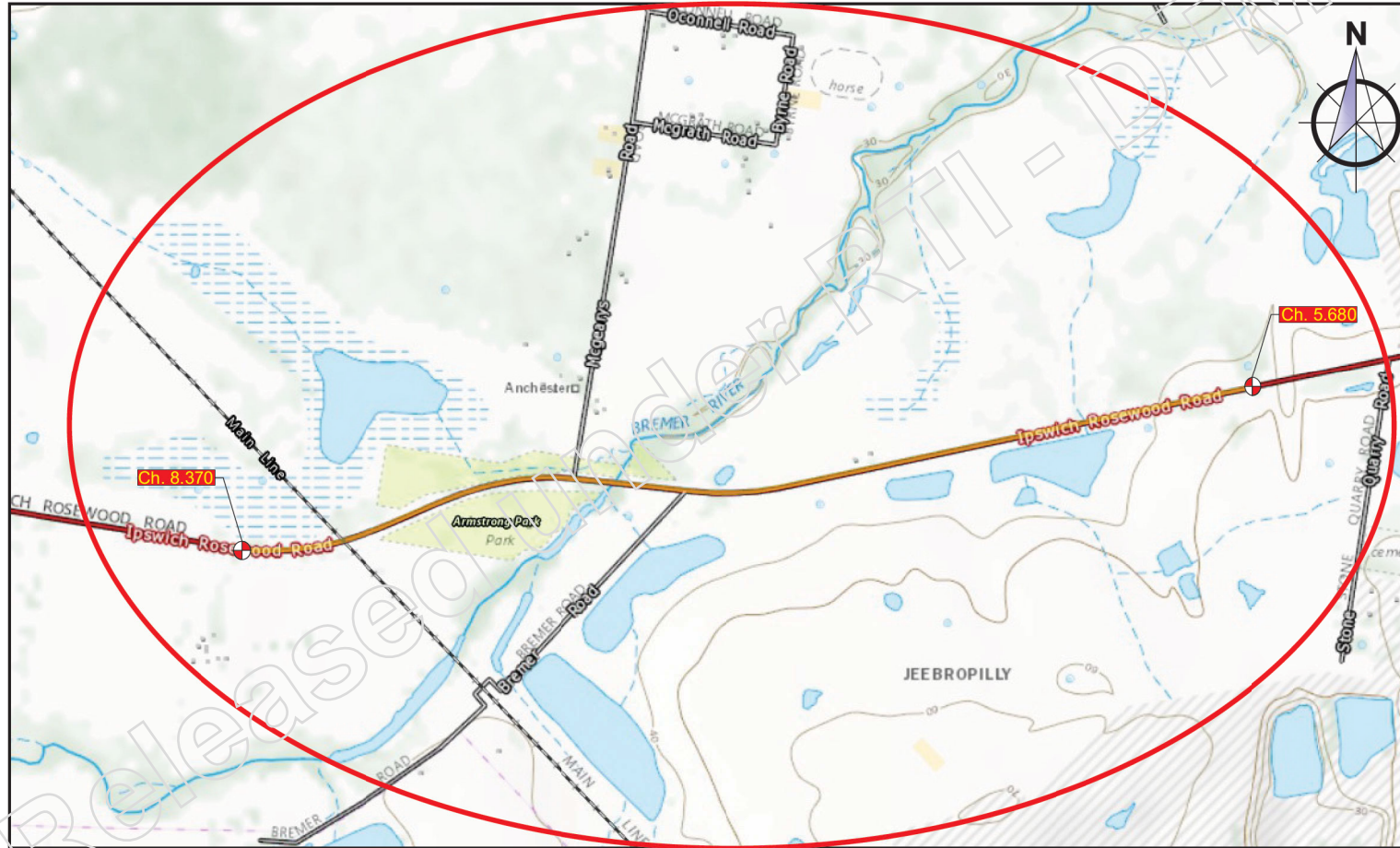
For better interpretation of this TGS, it is recommended that it is printed to size A3 and in colour.

**RPEQ REQUIRED**

YES  NO

# FULTON HOGAN RAMC PROJECT

## TRAFFIC GUIDANCE SCHEME TGS 02 - PAVEMENT RESURFACING (Full Lane Closure WB)



**SCHRAMM GROUP**  
60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201  
TMR REGISTRATION NUMBER: C210 SHEET 01 OF 04  
1 THIS PLAN IS NOT TO SCALE  
TGS REF No: TGS 02: COVER

Road Name:	Map Reference:	Travelled Path:
Ipswich Rosewood Road	210 P:15	Pest
Location of Works:	Term:	Operation:
Ch. 5.680 - 6.030 km	Short Term	Shuttle Flow
Suburb:	Road Type:	Speed Limit:
Jeebropilly	Two Way Road	100 km/hr



TGS	NAME	DATE	SIGNATURE	CERTIFICATION	TYPE	CARD NO.
INITIALLY DRAWN BY	NR	21/04/2022	NR	DTMR TMD	OPEN	255

Rev #	Description	Requested By	Date	Issued By
1	Draft Produced for Client Review & Comment	NR	21/04/2022	NR
2				
3				
4				
5				

For better interpretation of this TGS, it is recommended that it is printed to size A3 and in colour.

**CLIENT DETAILS**

Client Name: **Fulton Hogan**  
 Client Contact: **Sitharthan Thavarajah**  
 Client Contact Number: **0499 309 603**

PO Number: **OJ1101554**

**SITE INFORMATION**

Location of Works: **Ipswich Rosewood Road**  
 Suburb: **Jeebropilly**

Hours of Operation: **Any**

Proposed Commencement of Works: **April 2022**  
 Estimated Completion of Works: **May 2022**

**SCOPE OF WORKS**

This Traffic Guidance Scheme (TGS) has been developed to allow Fulton Hogan to conduct pavement resurfacing works along the Ipswich Rosewood Road at Jeebropilly.

These works will involve but will not be limited to:  
 - Pavement Reconstruction works  
 - Line Marking works  
 - Any Project Associated work activity

A desktop risk assessment has been undertaken by Schramm Group Pty Ltd in developing this TGS. However, when implementing this TGS on site, the site supervisor &/or Nominated Traffic Officer (NTO) should undertake a site specific assessment at each location to ensure traffic control device placement is appropriate for site conditions, particularly with respect to sight distances to oncoming traffic.

**TRAFFIC MANAGEMENT METHOD**

Travelled Path: **Past**  
 No. of Traffic Controller: **MIN 4 x TC's**  
 No. of Traffic Control Vehicles: **MIN 1 x Cone Truck (PTSS)**  
 Type of Closure: **Lane**  
 Speed Restrictions: **Reduce to 40kph (as required)**

**SIGNAGE & DEVICES INSTALLATION NOTES:**

This TGS is only to be installed by competent personnel, who are adequately trained and experienced to install Traffic Management Devices in Queensland (Traffic Management Implementation (TMI)) and have read, understood and signed the Schramm Group Safe Work Method Statement to Conduct Traffic Control.

A TMI competent person can move signs within tolerances including away from driveways, intersections or median openings. Unless stated otherwise on the Traffic Guidance Schemes (TGS), the tolerances on the positioning of signs detailed in the plans is minimum 10% less than and maximum 25% more than the distances or lengths stated and a maximum 10% more than (No minimum) the spacing shown for delineating devices.

Condition of signs and devices should be examined before installation to ensure that they are in good condition and their performance is not impaired.

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 motorist 50m in advance of the sign.

Delineating devices (e.g. traffic cones, bollards, post mounted delineators) should generally be placed 1m clear of the travelled path where practicable; however, traffic cones and bollards may also be used to define the edge of the travelled path or to separate opposing traffic.

**NIGHT WORKS:**

Where work at a site extends for more than a single day or is to be performed at night temporary traffic route lighting may be required in open roads where there is insufficient lighting or in built up areas where permanent lighting is not adequate for an active work site.

Lighting at a work site shall, as a minimum requirement, illuminate the traffic control station and locations where workers or plant might encroach on traffic lanes and works are taking place. Wherever practicable, it is recommended that the entire work area and immediate approach be lit.

Floodlighting is recommended and steps should be taken to ensure the floodlighting does not produce glare sources for approaching drivers. Dimming controls on illuminated flashing arrow signs and matrix-type variable message signs should be checked for correct operation.

**PEDESTRIANS & CYCLISTS**

Pedestrians & Cyclists for the duration of the works will be monitored as required. Appropriate pedestrian warning and directional signage will be erected and monitored throughout the duration of the works as required.

Where possible Trip Hazards exist or are identified the 'PEDESTRIANS WATCH YOUR STEP' (T8-1) sign shall be installed where appropriate space allows for advance warning of hazard.

**RECORD KEEPING**

Supervisory personnel shall keep daily records at a regular time period throughout the shift of the signage placement and delineation arrangement or Traffic Guidance Scheme (TGS), and records of any incidents that might have ongoing consequences and should be kept in a diary or in a work sheet. Special attention to recording the installation, alteration and removal of all regulatory signs and devices and weather conditions.

**INCIDENT MANAGEMENT**

The contractor is to determine the appropriate procedure for incident management but should not be limited to:  
 - call for assistance if incident requires  
 - notify the work site supervisor immediately of any incident  
 - maintain effective traffic control (ie. possible relocation of TC station clear of any further danger)  
 - record sufficient notes of the incident, including observations, in order to complete an incident report.

**GENERAL NOTES**

- These drawings are to be read in conjunction with the associated Risk Assessment and used in conjunction with the Traffic Management Plan produced by the contractor where applicable.
- If these drawings have been drawn to scale the scale is as shown in the title block for each sheet. In all cases the dimensions detailed on the drawings only are to be used.
- These drawings have been prepared from information collected on site at the time and from information provided by the client. Some existing road features and/or conditions may have changed prior to or during the establishment of this TGS. If this occurs the Contractor is to notify the Traffic Management Company or Traffic Management Design person responsible for the TGS if any alterations are required.
- Any variations made to the treatments shown in this TGS shall only be made by a Traffic Management Design (TMD) competent person, with the exception of general note 5, and all variations are to be noted on the TGS.
- A TMI competent person can modify the TGS onsite in response to an emergency or unplanned event. The TMI may use traffic control devices to isolate the incident and provide initial response until emergency services personnel attend. Any further incident management shall be accordance with consultation from a TMD or authorised person.
- Public Utility Provider (PUP) services have not been located or identified by Schramm Group for this TGS. Any PUP services which may be shown on this TGS is not to be relied upon by the contractor and the contractor is solely responsible for any damage incurred to any existing services whether they appear on this TGS or not.
- Prior to the commencement of any excavation works that may be required for the implementation of this TGS, the contractor shall confirm the location of any possible PUP services conflicts and if necessary seek alternate signage locations from Schramm Group to avoid the conflicts.
- The extent of any work areas shown on this plan are diagrammatic only unless specific dimensions are shown and no workers, materials, plant, vehicles or machinery are to be within 1.2m of an open traffic lane unless a 40kph temporary speed limit is implemented or as shown on this TGS.
- The contractor is responsible for negotiating the use of existing driveways for construction access with the property owners.
- Where Traffic Controllers are required, ensure they have a clear escape path to a non-traffic (closed) section of the roadway, shoulder, footpath or median during works operation at all times.
- All signage shown on this TGS is not to conflict with any existing long term signage arrangements in the area. Conflicting existing long term signage shall be covered or removed. If this occurs then the contractor is to notify Schramm Group Pty Ltd if any alterations are required to this TGS.

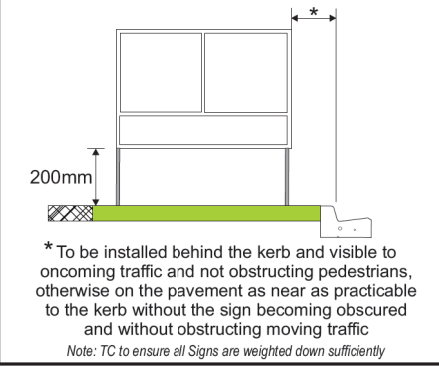
**▲ SITE SPECIFIC NOTES**

- Recommended maximum traffic cone spacing for delineation of the lane closure = 4m @ 40kph, 12m @ 60kph.
- Recommended maximum traffic cone spacing for lateral shift taper = 4m @ 40kph, 12m @ 60kph.
- Traffic Controller to be positioned a minimum of 3m from the Traffic Light, whilst maintaining a minimum of 160m of clear sight distance to oncoming traffic.
- 4 cones shall be placed on the centre line at 4m spacing, on approach to the "Stop Here On Red Signal" sign.
- The minimum remaining lane width shall be 3.0m plus there should be an additional 0.5m edge clearance to traffic cones.
- The "Stop Here On Red Signal" sign shall be placed 6m prior to the PTSS Traffic Light.

**LEGEND**

	Traffic Controller
	Traffic Control Vehicle (with Vehicle Mounted Arrow Board)
	Attenuator Vehicle (TMA)
	Police Officer
	Police Vehicle
	Temporary Hazard Marker (T5-Q02)
	Temporary Bollards (Min 750mm High & 100mm Dia.)
	Traffic Cones (450-500mm used in built-up areas not exceeding 70kph (>700mm used in 70kph zones and above)
	Work Area (Site Specific within these areas of works)
	Area of lane closure closed to general traffic (Site Specific within these areas of works)
	Refer to SITE SPECIFIC NOTE number
	Plant Lay Down Area (Site Specific within these areas of works)
	General Traffic Direction
	Bus Stop
	Site Vehicle Movements
	Safety Barrier System
	Safety Barrier End Treatment

**Short Term Sign Install (Typical) (Built Up Areas)**



 60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201 TMR REGISTRATION NUMBER: C210 SHEET 02 OF 04	Road Name:	Map Reference:	Travelled Path:						Rev #	Description	Requested By	Date	Issued By
	Ipswich Rosewood Road	210 P:15	Past						1	Draft Produced for Client Review & Comment	NR	21/04/2022	NR
THIS PLAN IS NOT TO SCALE TGS REF NO: TGS 02: NOTES	Location of Works:	Term:	Operation:	TGS	NAME	DATE	SIGNATURE	CERTIFICATION	TYPE	CARD NO.			
	Ch. 5.680 - 6.030 km	Short Term	Shuttle Flow	INITIALLY DRAWN BY	NR	21/04/2022	NR	DTMR TMD	OPEN	255			
	Suburb:	Road Type:	Speed Limit:										
	Jeebropilly	Two Way Road	100 km/hr										

For better interpretation of this TGS, it is recommended that it is printed to size A3 and in colour.

# Queue Length Estimation Record

Table 1 - Queue Multipliers

Maximum Stopping Time (minutes)	MULTIPLIER	
	Ma (multiplier for average vehicles)	Mo (multiplier for oversized vehicles)
2	2.4	8
5	6	20
10	12	40
15	18	60
30	36	120

Table 2 - Queue Length Estimation

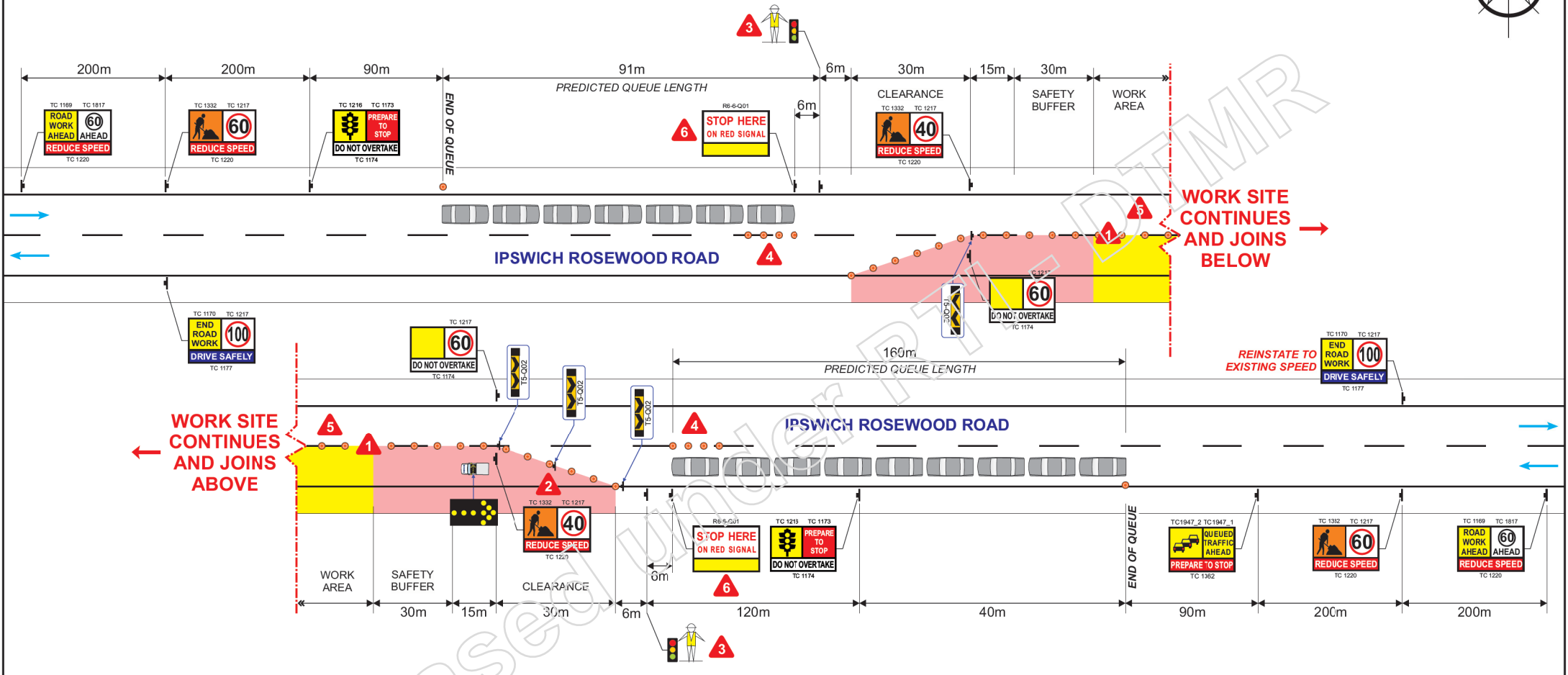
Road Name	Source of Traffic Volume Data	Proposed Stopping Time (minutes)	Number of Average Sized Vehicles during proposed Stopping Time	Number of Oversized Vehicles during proposed Stopping Time	Ma (from Table 1)	Mo (from Table 1)	Estimated Queue length (m) = (number of average vehicles x Ma) + (number of oversized vehicles x Mo) <i>**Single lane queue length**</i>
Ipswich Rosewood Road WB	DTMR Traffic Census 2020 (Site 135535)	5	11.5	1.08	6	20	$(11.5 \times 6) + (1.08 \times 20) = 91m$
Ipswich Rosewood Road EB	DTMR Traffic Census 2020 (Site 135535)	5	24.02	0.79	6	20	$(11.5 \times 6) + (1.08 \times 20) = 160m$

Released under RTI DTMR

<b>SCHRAMM GROUP</b>	Road Name:	Map Reference:	Travelled Path:	<b>Fulton Hogan</b>	Rev #	Description	Requested By	Date	Issued By	
	60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201	Ipswich Rosewood Road	210 P:15		Pest	1	Draft Produced for Client Review & Comment	NR	21/04/2022	NR
TMR REGISTRATION NUMBER: C210	Location of Works:	Term:	Operation:		2					
SHEET 03 OF 04	Ch. 5.680 - 6.030 km	Short Term	Shuttle Flow	TGS	3					
1	Suburb:	Road Type:	Speed Limit:	INITIALLY DRAWN BY	NAME	DATE	SIGNATURE	CERTIFICATION	TYPE	CARD NO.
	TGS REF No: <b>SCH 22:4168</b>	Jeebropilly	Two Way Road	100 km/hr	NR	21/04/2022	NR	DTMR TMD	OPEN	255
					4					
					5					

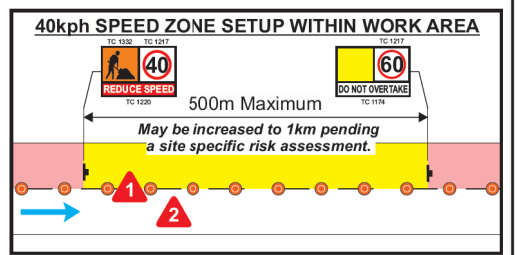
For better interpretation of this TCS, it is recommended that it is printed to size A3 and in colour.

# TRAFFIC GUIDANCE SCHEME 02-01: LANE CLOSURE WB



**WORK SITE CONTINUES AND JOINS BELOW** →

← **WORK SITE CONTINUES AND JOINS ABOVE**



**Repeater speed signage to be placed at maximum spacings of 500m throughout worksite.**

Refer to Page 2 for Scope of Works & Traffic Guidance Scheme Notes

 60 NORTHLINK PLACE, VIRGINIA, QLD 4014 PH: 07 3608 4201 TMR REGISTRATION NUMBER: C210 <b>SHEET 04 OF 04</b>	Road Name:	Map Reference:	Travelled Path:		Rev #	Description	Requested By	Date	Issued By
	Location of Works:	Term:	Operation:		1	Draft Produced for Client Review & Comment	NR	21/04/2022	NR
Ch. 5,680 - 6,030 km	Short Term	Shuttle Flow	TGS	NAME	DATE	SIGNATURE	CERTIFICATION	TYPE	CARD NO.
Suburb:	Road Type:	Speed Limit:	INITIALLY DRAWN BY	NR	21/04/2022	NR	DTMR TMD	OPEN	255
Jeebropilly	Two Way Road	100 km/hr							

For better interpretation of this TGS, it is recommended that it is printed to size A3 and in colour.

# TRAFFIC MANAGEMENT PLAN

## RAMC – IPSWICH ROSEWOOD ROAD (304), AMBERLEY

**Contract Number: CN-10769**

Prepared by Schramm Group  
On behalf of Fulton Hogan



# Fulton Hogan

3<sup>rd</sup> March 2022



**Contractor Details:**

<b>Company Name</b>	Fulton Hogan	
<b>Street Address</b>	180 Burnside Road, Ormeau	
<b>Mailing Address</b>	PO Box 310, Beenleigh, QLD, 4207	
<b>Phone Number</b>	NR	NR
<b>Website</b>	<a href="http://www.fultonhogan.com.au">www.fultonhogan.com.au</a>	

**Traffic Management Sub-Contractor Details:**

<b>Company Name</b>	Schramm Group
<b>Street Address</b>	60 Northlink Place Virginia Qld 4014
<b>Mailing Address</b>	PO Box 1, Aspley Qld 4034
<b>Phone Number</b>	07 3265 9500
<b>Website</b>	<a href="http://www.schrammgroup.com.au">www.schrammgroup.com.au</a>
<b>TMR Registration</b>	210

**Traffic Management Plan prepared by:**

<b>Author</b>	<b>Position</b>	<b>Qualifications</b>
NR	Project Manager	TMD #OP255

**Version History:**

<b>Revision</b>	<b>Date</b>	<b>Status</b>	<b>Details</b>
01	03/05/2022	Issued	TMP issued

**Document sign off:**

<b>Status</b>	<b>Name</b>	<b>Position</b>	<b>Signature</b>	<b>Date</b>
Prepared by	NR	Project Manager	NR	03/05/2022
Reviewed by	personal information: inform	Managing Director	NR	03/05/2022
Approved by		Managing Director	NR	03/05/2022



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## Abbreviations / Definition of Terms

For the purpose of this document the following abbreviations and definitions shall apply:

BMTMC	Brisbane Metropolitan Traffic Management Centre
DTMR/TMR	Department of Transport and Main Roads
FH	Fulton Hogan
ICC	Ipswich City Council
MRTS 02	Main Roads Technical Specification 02 – Provision for Traffic (Nov 2021)
MUTCD	Manual of Uniform Traffic Control Devices
PCB	Pre-Cast Concrete Barrier
PTSS	Portable Traffic Signal Systems
QAS	Queensland Ambulance Service
QFES	Queensland Fire & Emergency Service
QGTTM	Queensland Guide to Temporary Traffic Management
QPS	Queensland Police Service
RPEQ	Registered Professional Engineer of Queensland
SG	Schramm Group
SWMS	Safe Work Method Statement
TC	Traffic Controller – Licenced under Traffic Controller Accreditation Scheme
TCASAP	Traffic Controller Accreditation Scheme Approved Procedures 2017
TGS	Traffic Guidance Scheme – A documented arrangement of traffic management devices implemented to management traffic movements through, around or past road works, usually in the form of a plan
TMD	Traffic Management Design Qualified Individual
TMI	Traffic Management Implementation Qualified Traffic Controller
TMP	Traffic Management Plan - A document that outlines how the works are integrated into the operation of the road network
TRUM	Traffic and Road Use Management Manual 2015
VMS	Variable Message Sign



# 1 Introduction

## 1.1 Project Background

DTMR have engaged Fulton Hogan to undertake pavement resurfacing and bridge expansion joint works on Ipswich Rosewood Road between chainages 5.680 km & 8.360 km in both directions as part of the RAMC contract.

This Traffic Management Plan (TMP) is being compiled for the safety of road users and workers during the road resurfacing activities.

An overview of the extent of the works is shown below in Figure 1.

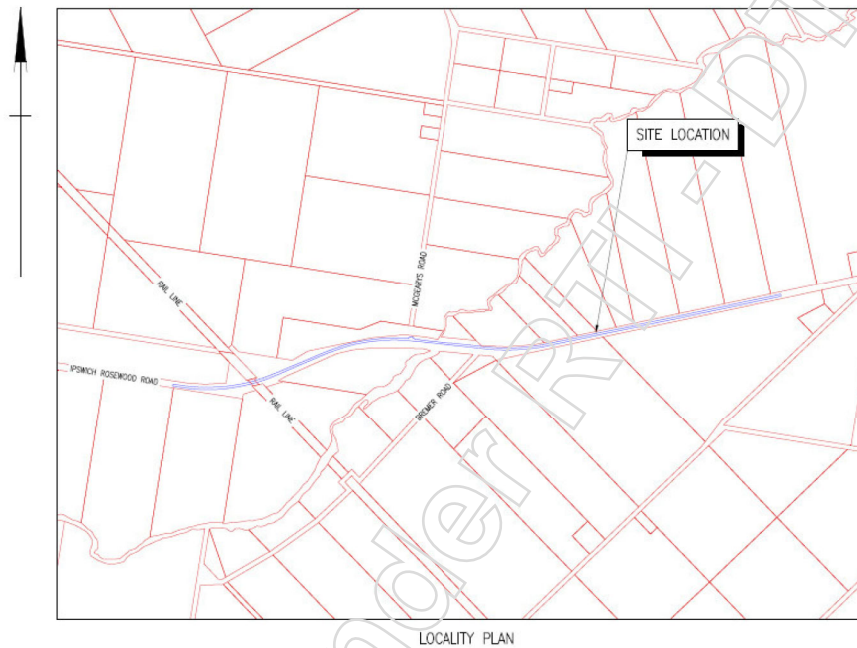


Figure 1 – Ipswich Rosewood Rd, Amberley

## 1.2 Objectives

This Traffic Management Plan (TMP) outlines how the road resurfacing and bridge expansion joint works are to be integrated into the operation of the DTMR & ICC road networks; identifies and considers all foreseeable traffic related risks to workers and road users; and provides treatments to minimise the impact of the works on all road users.

The objectives of this Traffic Management Plan are:

- To provide protection to workers;
- To provide protection to road users and members of the public;
- To provide instruction to road users for safe guidance through the construction zone;
- To minimise potential adverse impacts of traffic flow and ensure the road network performance is maintained at an acceptable level;
- To communicate temporary traffic arrangements and their impacts of construction activities to the community.

The preparation of this TMP has considered the following aspects:

Traffic Demand	The capacity required to accommodate traffic demand at an acceptable level of service and convenience to road users will be considered when developing traffic management strategies to mitigate traffic risks.
Traffic Routing	In developing this TMP the opportunities to re-route traffic (through, past or around) the construction activities to mitigate traffic related risks will be assessed as detailed in this TMP.
Traffic Control	The need for traffic control by means of traffic controller, traffic signals, police or other means if required, to mitigate traffic related risks will be considered in developing this TMP and documented in each TGS.
Other Road Users	Road users including local residents, commercial premises, cyclists and pedestrians other than vehicular traffic that have been considered when developing this TMP and associated TGS.
Special Vehicles	Provisions for special vehicles including buses and OD vehicles have been considered when developing this TMP and associated TGS.
Site Conditions	The site conditions expected for this project and the impact of these conditions and the roadway environment have been considered in developing this TMP and associated TGS

### 1.3 Roles & Responsibilities

In addition to obligations imposed by Workplace Health and Safety legislation, there are specific responsibilities to be imposed on certain people under the MUTCD, QGTTM and associated documents (as listed in Reference Documents).

#### 1.3.1 Principal Contractor – Fulton Hogan

Fulton Hogan have an obligation to ensure that all activities at the workplace are carried out safely and in a manner that:

- Ensures compliance with the contractual requirements;
- Provides a safe passage for all road users;
- Minimises delays and inconvenience to the community.
- Provides a safe work environment for all workers.

In order to fulfill the above obligations, this Traffic Management Plan outlines the strategies and requirements to be followed by personnel engaged on the project.

Fulton Hogan is committed to providing a safe work environment for personnel, road users and community by implementing the strategies of this Traffic Management Plan.

This will be achieved by:

- Providing clear direction and support in maintaining the objectives and strategies of this Traffic Management Plan;
- Utilising the Risk Management Process and implementing appropriate control measures;
- Reviewing procedures, work practices and site operations;
- The use of appropriately licensed Traffic Controllers;
- The use of approved traffic control devices;
- Ensuring all activities are subject of a risk assessment and are detailed in appropriate Safe Work Method Statements;
- Providing suitable communication between the supervisory staff, on-site personnel and the Traffic Controllers through pre-start meetings, traffic coordination meetings, incident management and continuous improvement
- Ensuring the Traffic Management Sub-Contractor is registered under the DTMR Traffic Management Registration Scheme

### 1.3.2 Fulton Hogan Project Manager

The Project Manager is responsible for the:

- Programming of the works;
- Monitoring, reviewing and amending the TMP in consultation with the TMD as required;
- Ensuring that all traffic management control measures are in place and maintained in accordance with this TMP and relevant standards;
- Managing incidents including non-conformances/corrective actions
- Consultation with stakeholders.

The Project Manager shall participate in Traffic Coordination Meetings where the strategies of the Traffic Management Plan will be reviewed in consultation with DTMR, and other stakeholders (at least once every 12 months).

### 1.3.3 Fulton Hogan Supervisory Personnel

Supervisory personnel are responsible for:

- Providing a safe workplace for personnel and plant under their control, and safe and convenient travelling conditions for road users;
- Ensuring that personnel under their control are at all times courteous to road users;
- Ensuring personnel implementing a Traffic Guidance Scheme are competent to perform that task;
- Ensuring all personnel under their control are aware of their individual responsibilities;
- Ensuring that traffic controllers are appropriately trained and informed of their duties and they receive breaks as per the Traffic Controller Accreditation Scheme Approved Procedures i.e. 15 minutes every 2 hours;
- Be familiar with and act in accordance with the MUTCD, QGTTM, & DTMR specifications;
- Maintaining daily records of traffic guidance schemes including installation, operation, inspection, alteration and removal of traffic control devices including regulatory signs;
- Maintain daily records of the hours of operations of traffic guidance schemes;
- Recording traffic control devices installed at the time of an incident including photographs, location and condition;
- Establishing a daily routine as per the MUTCD and the QGTTM;
- Conducting a daily inspection of all traffic control devices and conduct periodic inspections during the operation of the traffic guidance scheme – refer QGTTM Part 2 & 6.

### 1.3.4 Nominated Traffic Officer

The Nominated Traffic Officer (NTO) will be responsible for the preparation, implementation and monitoring of the TMP and the subsequent TGS.

The NTO for this Contract is NR. He is a qualified TMD and has over 10 years of experience in traffic management.

The NTO will be supported by other suitably qualified TMDs. Schramm Group has 15 TMD qualified personnel including 2 x RPEQ and 1 x Traffic Engineer.

### 1.3.5 Traffic Management Subcontractor – Schramm Group

The traffic control company (Schramm Group) is responsible for:

- Ensuring traffic controllers are appropriately skilled and experienced;
- Ensuring traffic controllers comply with the conditions of their accreditation;
- Ensuring the TGS are implemented, operated and dismantled in accordance with this TMP;

- Be familiar with *Work Health and Safety Act 2011* and the *Traffic Management for Construction or Maintenance Work Code of Practice 2008*;
- SG is registered under the DTMR Traffic Management Registration Scheme. Certificate 0210, Expiry 31 March 2023

### 1.3.6 Traffic Control Personnel

Traffic Controllers are required to comply with the *Traffic Controller Accreditation Scheme Approved Procedures* and safe work method statements.

Traffic control personnel will also be responsible for the recording of daily records of traffic guidance schemes including installation, operation, inspection, alteration and removal of traffic control devices including regulatory signs.

## 1.4 Safety

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 Activity' require a safe work method statement (SWMS) to be written to identify the high risk work, specify relevant hazards, appropriate control measures and their implementation and monitoring and review.

## 1.5 Reference Documents

This Traffic Management Plan relies on JASANZ certified management systems that cascade down from corporate policies and procedures to the project specific plans.

These management systems are designed to meet the requirements of:

- AS/NZS 4801 Occupational Health and Safety Management Systems
- OHSAS 18001 OHS Management Systems
- ISO 9001 Quality Management Systems
- ISO 14001 Environmental Management Systems.

These systems ensure the resurfacing activities and interaction with road users are conducted in accordance with the provisions of the following documents:

- *Work Health and Safety Act 2011*
- *Work Health and Safety Regulations 2011*
- *Manual of Uniform Traffic Control Devices*
- *Traffic Controller Accreditation Scheme Approved Procedures 2017*
- *Traffic Management for Construction or Maintenance Work Code of Practice 2008*
- *How to Manage Work Health and Safety Risks Code of Practice 2011*
- AS 1742.3
- AS ISO 31000:2018 Risk Management
- *DTMR Road Use Management Manual.*
- *DTMR MRTS02*
- *Queensland Guide to Temporary Traffic Management (QGTTM)*
- *Queensland Guideline – Traffic Management at Works on Roads*



## 2 Scope of Work

### 2.1 General

Fulton Hogan will be conducting pavement resurfacing works at Ipswich Rosewood Road, Amberley.

### 2.2 Existing Site Details

Works will be conducted between chainage 5.680 km & 8.360 km in both directions.

#### 2.2.1 Ipswich Rosewood Road, Amberley

Ipswich Rosewood Road is a two-way road and is of East / West orientation. Ipswich Rosewood Road has a permanent posted speed limit of 100 km/h.



Figure 2 – Ipswich Rosewood Road, Amberley

### 2.3 Site Specific Requirements

All personnel must have successfully completed the Fulton Hogan induction programme.

These specific site requirements will be assessed during planning of resurfacing activities and will be a requirement for the works. These requirements will be checked and validated at the Prestart Meeting.

## 2.4 Working Hours and Lane Restrictions

No lane closures shall be permitted on a day preceding, or the day of, a Public Holiday or long weekend (a weekend which includes or abuts a public holiday) except when approved in writing by the Administrator.

Works shall not be undertaken during an event (i.e. major commercial, sporting or cultural) where the Administrator considers that such closure would cause an unacceptable level of disruption to the traffic operations associated with such events. Such events are to be identified and presented to the Administrator in writing prior to construction if a working shift is proposed on that date.

The Contractor shall only work a maximum of five (5) nights in any week. To work more than five (5) nights in any week a Contractor shall require Administrator approval and submission to the Administrator of an acceptable environmental assessment and mitigation plan (including noise)

**Table 1: Traffic Lane Restrictions – Midblock**

Location	Days	Time Period	Number of Lanes in Each Direction	Minimum Lane Width (Metres)	Minimum Clearance of Objects (Metres)	Minimum Posted Speed When Site Active (km/h)	Minimum Posted Speed When Site Inactive (km/h)
304 Ipswich Rosewood Rd Ch 5.58 – 8.36	All days	0000-2359	1 (refer note 2)	Refer to Austroads Guide to Temporary Traffic Management Part 3, Cl 2.5.8	Refer to Austroads Guide to Temporary Traffic Management Part 3, Cl 4.4, 5.3 and 5.4	40	100

### Notes

- No closures should occur between the hours of 0630 to 0900 and 1430 and 1830 weekdays within 100m of a TMR signalised intersection without TMR approval
- Reduction of Ipswich Rosewood Road to one lane in alternating directions may be approved by The Administrator for irregular construction activities that have a demonstrated need for this requirement and are subject to acceptable levels of delays being determined in the Contractor's Traffic Management Plan.

**Table 2: Traffic Lane Restrictions – Single Lane Reversible Flow (Shuttle Flow)**

Location	Days	Time Period	Maximum delay time (minutes)
Ipswich Rosewood Rd	Any	Any	10

**Table 3: Traffic Lane Restrictions – Stopping Traffic Both Directions**

Location	Reason	Days	Time Period	Maximum Delay Time (minutes)
Ipswich Rosewood Rd	Short term works	Any	Any	10

## 3 Construction Program and Staging

### 3.1 Program

The proposed project program commencement date is 26<sup>th</sup> April 2022.  
Asphalt Works is due to commence 26<sup>th</sup> April 2022.

The program consists of 23 shifts of pavement repairs and resurfacing works and an unknown number of shifts for line marking.

The below table 4 outlines the project program for asphalt works.

Table 4: Project Program

Date	Shift #	Location	Works
Tuesday, 26 April 2022	1	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Wednesday, 27 April 2022	2	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Thursday, 28 April 2022	3	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Friday, 29 April 2022	4	Ipswich Rosewood Rd (304)	Pavement Resurfacing
<b>Saturday, 30 April 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
<b>Sunday, 1 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
<b>Monday, 2 May 2022</b>	<b>N/A</b>	<b>Labour Day</b>	<b>Not Permitted</b>
Tuesday, 3 May 2022	5	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Wednesday, 4 May 2022	6	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Thursday, 5 May 2022	7	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Friday, 6 May 2022	8	Ipswich Rosewood Rd (304)	Pavement Resurfacing
<b>Saturday, 7 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
<b>Sunday, 8 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
Monday, 9 May 2022	9	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Tuesday, 10 May 2022	10	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Wednesday, 11 May 2022	11	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Thursday, 12 May 2022	12	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Friday, 13 May 2022	13	Ipswich Rosewood Rd (304)	Pavement Resurfacing
<b>Saturday, 14 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
<b>Sunday, 15 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
Monday, 16 May 2022	14	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Tuesday, 17 May 2022	15	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Wednesday, 18 May 2022	16	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Thursday, 19 May 2022	17	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Friday, 20 May 2022	18	Ipswich Rosewood Rd (304)	Pavement Resurfacing
<b>Saturday, 21 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
<b>Sunday, 22 May 2022</b>	<b>N/A</b>	<b>Weekend</b>	<b>Weekend</b>
Monday, 23 May 2022	19	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Tuesday, 24 May 2022	20	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Wednesday, 25 May 2022	21	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Thursday, 26 May 2022	22	Ipswich Rosewood Rd (304)	Pavement Resurfacing
Friday, 27 May 2022	23	Ipswich Rosewood Rd (304)	Pavement Resurfacing

### 3.2 Staging

Staging diagrams have not been developed for this project.

Released under RTI - DTMR



## 4 Traffic Management

### 4.1 Risk Management

This TMP outlines how the road resurfacing works will be integrated into the operation of the road network, identifies and considers all foreseeable risks and assesses the impact on all road users.

All work activities will be subject of a risk management process to minimise the risks and impact on the community and road users as per the MUTCD and the QGTTM.

The risk management process will include:

- Identification of hazards
- Identification of the risks/impacts
- Analysis and evaluation of the risks using likelihood and consequence
- Identification and implementation of control measures using the hierarchy of control
- Monitoring and reviewing of the control measures
- Communication and consultation with personnel involved in the activities.

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

- I. Elimination
- II. Substitution
- III. Isolation
- IV. Engineering
- V. Administrative
- VI. PPE.



#### 4.1.1 Risk Assessments

Risk assessments, using the Schramm Group Risk Matrix, have been conducted and documented for safety and interaction with road users and the community for implementation, operation, changing and dismantling of traffic guidance schemes.

Risk assessments have been conducted during the development of each individual TGS.

Site specific risk assessments will be conducted on a daily basis by Schramm Group in regard to traffic management risks and recorded on the Daily Traffic Record.

#### 4.1.2 Safe Work Method Statements

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 Activity' requires 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.

The SWMS has been prepared in consultation with traffic controllers performing duty on-site. Schramm Group Safe Work Method Statement 'SWMS02 – Traffic Control' is attached in Appendix C.

#### 4.1.3 Pre-start Meetings

Daily pre-start meetings will be conducted as per clause 3.11.2

#### 4.1.4 Reference Documents

The following documents are referenced for the management of risk:

- *Work Health and Safety Act 2011*
- *Work Health and Safety Regulations 2011*
- *Manual of Uniform Traffic Control Devices Part 3*
- *Traffic Controller Accreditation Scheme Approved Procedures 2017*
- *Traffic Management for Construction or Maintenance Work Code of Practice 2011*
- *How to Manage Work Health and Safety Risks Code of Practice 2011*
- *AS/NZS 4801 OHS Systems*
- *OHSAS 18001 OHS Systems*
- *Queensland Guide to Temporary Traffic Management (QGTTM)*
- *Queensland Guideline – Traffic Management at Works on Roads*

## 4.2 Traffic Demand

This TMP has considered the capacity of the road network to accommodate traffic demand at a level of service that is safe and convenient to road users.

Each TGS will be developed to ensure impact on the road network is minimised in accordance with MUTCD and the QGTTM and the minimum requirements of with regard to the number of lanes available to traffic, the minimum posted speed limits and the stopping of traffic throughout the works.

The minimum requirements of the MUTCD and the QGTTM shall be complied with in each TGS. These minimum requirements will be calculated using the principles included in the MUTCD and the QGTTM.

## 4.3 Traffic Routing

Considerations for the possible routing of traffic through, past or around the work area have been examined using the risk management process and are summarised for each stage below Tables 5 & 6.

### 4.3.1 Ipswich Rosewood Road, Amberley

SHORT TERM (During working hours)			
Option		Comment	Adopt
Traffic <b>AROUND</b> the worksite	Side-track	Not permitted under the contract	No
	Detour	Not permitted under the contract	No
Traffic <b>THROUGH</b> the worksite		Not possible due to the nature of the works	No
Traffic <b>PAST</b> the worksite		<ul style="list-style-type: none"> <li>Lane Closures with shuttle flow operations have been selected to separate vehicular traffic from the work area, a temporary speed limit of 40km/h will be implemented where workers on foot or small items of plant are within 1.2m of the travel path</li> </ul>	Yes

Table 5: Traffic Routing – Work Hours

LONG TERM (After working hours)			
Option		Comment	Adopt
Traffic <b>AROUND</b> the worksite	Side-track	Not permitted under the contract	No
	Detour	Not required for after hours	No
Traffic <b>THROUGH</b> the worksite		Suitable traffic surface provided and warning signage in place with the speed limit be maintained at 100 km/h	Yes
Traffic <b>PAST</b> the worksite		Not required	No

Table 6: Traffic Routing – After Hours

#### ***4.4 Traffic Guidance Schemes***

Traffic Guidance Schemes (TGS) are developed in accordance with MUTCD and the QGTTM.

#### ***4.5 Speed Management Plan***

The objective of the Speed Management Plan (SMP) is to achieve compliance by road users with the roadwork speed limits. It documents all measures to be taken by the Contractor to achieve this outcome. The SMP for this project is provided in Appendix B.

#### ***4.6 Dust & Construction Noise Control***

Dust and construction noise control activities are to be managed by contractor.

#### ***4.7 Temporary Road Safety Barrier Systems***

Not proposed for use of this project.

#### ***4.8 Containment Fencing***

Containment fencing or temporary fencing may be utilised as:

- Separation of the work area by pedestrians
- Dust control
- Anti-gawk screens.

All containment fencing or temporary fencing will be physically secured i.e. weights to ensure it is not displaced or blown over in high winds.

#### ***4.9 Temporary Road Lighting***

Installation of temporary road lighting is not required under the provisions of MRTS 02.1 Annexure.

#### ***4.10 Hazardous Lifts***

There are no hazardous lifts associated with the project works.

#### ***4.11 Traffic Control***

##### ***4.11.1 Resourcing***

Schramm Group will ensure that adequate resources are available for the implementation of a TGS.





### 4.11.2 Prestart Meetings

Daily prestart meetings will be conducted by Site Supervisor with TC personnel on-site. The prestart meeting will include, but not limited to, the following:

- Safety Tool Box – escape routes, rest breaks
- Exclusion zones
- Review of SWMS
- On-site risk assessment for any new hazards identified
- Identify any changes to existing hazards
- Review the performance of control measures implemented to minimise risk
- Receive feedback from workers
- Reinforce importance of safety
- Check PPE is worn in accordance with instructions
- Daily activities to be conducted
- Check of TC Licences, OHS Induction Card, Fulton Hogan induction
- Ensure TCs have a clear understanding of their duties and are adequately trained
- Confirm radio communications protocols, channels etc.
- Management of rest breaks in accordance with the *DTMR Traffic Controller Accreditation Scheme Approved Procedures*.
- Direct briefing of traffic controllers role.
- Details of TGS
- Contact numbers and details of relevant people
- Traffic monitoring instructions
- Incident Management procedures

### 4.11.3 Traffic Controller Qualifications

Traffic Controllers are required to be licenced under the *DTMR Traffic Controller Accreditation Scheme*. All TC personnel will comply with the *Traffic Controller Accreditation Scheme Approved Procedures* and safe work method statements.

TC personnel assigned to implementing a TGS must be trained in *DTMR Traffic Management Implementation* ie TMI Officer.

TMI Officers can only make on-site modifications to a TGS as per the MUTCD and the QGTTM and these modifications must be documented.

These on-site modifications include:

- Moving signs within the tolerance of positioning
- In response to an incident or unplanned event
- In response to a long queue of traffic. Modifications to be as per the requirements of the TGS, prepared by a TMD for use with long traffic queues. If the TGS does not have provision for long queues and is not effective the TMD is to be contacted for modification instructions.

Any other modifications must be approved by a TMD competent person (on-site or by telephone) and such modifications will be documented as per clause 4.12.



#### 4.11.4 Traffic Control Devices/Delineation

All traffic control devices should be checked before installation, as per the MUTCD and the QGTTM to ensure they are:

- in good mechanical condition – not broken or bent
- clean,
- Sufficient colour and not faded
- Retroreflective.

Cones/bollards shall be fitted with retroreflective tape as per MUTCD and the QGTTM requirements. Temporary pavement markers will comply with current Standards and will be used to delineate traffic lanes if permanent line marking is not in place outside of working hours.

#### 4.11.5 Signage

All signage must conform to the requirements of *MUTCD, QGTTM, Traffic and Road Use Management Manual 2015 (TRUM)* and DTMR 'Officially Approved' TC Signs Register.

Short Term Signage for this project will be detailed in individual TGSs. They will be mounted on portable supports and weighed down with sandbags. The sign will be positioned a minimum of 0.2m above ground level.

Any requirement for long term signage will be detailed in a site specific TGS and will be mounted on posts with a minimum of 2.2m from the ground to bottom edge of the sign.

All signage will be erected on both sides of Multilane carriageways where practicable.

If required After Care Signage for this project will be detailed in TGS and, will be mounted on portable supports and weighed down with sandbags, adjacent to the footpath with a minimum of 0.2m from the ground to bottom edge of the sign.

All signage should be positioned and erected to:

- Properly displayed and securely mounted
- Within the line of sight of the intended road user
- Unobscured from view by vegetation or park cars
- Not obstruct other devices
- Not become a hazard to workers, pedestrians or road users
- Not deflect traffic into an undesirable path
- Not restrict sight distance of drivers entering from side roads or private driveways.

The positioning of signage will be detailed in the relevant TGS. The MUTCD and the QGTTM allows tolerance on longitudinal positioning of traffic control devices where a designated location is not suitable ie driveway or interferes with footpath.

The tolerances as per this Clause are:

Signs, Tapers or markings:	Minimum	10%
	Maximum	25%

All signs will be orientated at approximately perpendicular to the line of sight of road users.

Signs that are erected before they are required or existing signs that conflict with traffic control devices shall be covered with a suitable opaque material.

Signs that are no longer required should be removed or covered (opaque material). For example, Traffic Controller and Workmen signs should be covered or removed in personnel are not in attendance.

#### 4.11.6 Regulatory Signage

Times and dates for installation and removal of regulatory signage will be recorded on the Daily Traffic Record of the traffic control company.

#### 4.11.7 Installation of Traffic Guidance Scheme

The sequence of installation and dismantling a TGS and traffic control devices on this project is to be in accordance with the MUTCD and the QGTTM Part 6.

The removal of the signs and devices will be conducted in the reverse order.

The installation of signs and devices will be conducted in the same direction as traffic flow.

The operation shall be carried out using the available shoulders off the travel path where practical or protected by utilising a truck mounted attenuator on high-speed multi-lane roads.

If no space is available off the travel path, then the installation of traffic control devices will require:

- Illuminated flashing arrow on vehicle
- TMA Vehicle or Shadow vehicle with flashing arrow
- Maximum speed limit of 60 km/h
- Minimum of 150m sight distance.

#### 4.11.8 Operation of Traffic Guidance Scheme

The Site Supervisor has a role of coordination, inspection and correction. He is responsible for establishing a routine of (i) daily inspections and (ii) records.

(i) The daily inspections will include the following.

Before work starts:

- Inspection of all signs and devices before works starts ensuring no damage or displacement during outside work hours
- Inspection of barrier systems and containment fencing – if any installed.
- A drive through to check safety and effectiveness of TGS
- A record of the signs and devices and their locations and time of installation.

During work hours:

- Periodic drive throughs to check the signs and devices are been seen by road users and working effectively
- Attend to minor problems and displaced signs or devices
- Monitor queue lengths.
- During work breaks, ensure that personnel move clear of the work area and personnel signs are removed or covered i.e. workmen or TC sign

End of the day:

- Conduct pre-closedown inspection and perform any urgent maintenance to the travel path
- Remove workmen and/or TC signs and other appropriate signs
- Conduct a drive through to ensure signs and devices are in position and operating effectively
- Record any changes to signage or TGS

Outside work hours:

- Inspection and drive through on low beam to ensure signs and devices are visible
- Provide out of hours contact for the project

(ii) Daily Records of the TGS sign arrangement shall be documented and will include the following information:

- Date



- Location
- Job ID
- Time of installation, inspection and removal of signs and devices
- Details of changes made and by whom
- Who authorised the changes
- Relevant comments
- Relevant TGS numbers
- Weather conditions and road conditions.

TC will conduct signage checks at least every two (2) hours where practicable.

#### 4.12 Changes to TGS

If a TGS is required to be amended then any changes must be approved by a TMD-qualified individual. If a TMD is present on site, then the change can be made by them and documented.

If there is no TMD present on site, the TMI is to follow the following procedure -

- TMI is to contact the TMD and advise and outline the site specific issues that exist.
- The TMD is to assess this information and make a decision to amend the TGS. The TMD must then approve the changes or specify an alternative. Approval from the TMD can be confirmed via telephone, email or text message.
- The TMD is to then amend the TGS, document the change and send a copy of the amended TGS to Fulton Hogan and the Principal's Representative as soon as practicable (i.e. next business day)

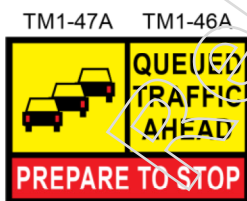
#### 4.13 Preventing End of Queue Crashes

A risk assessment (including but not limited to, the sight distances, topography, road geometry, speed environment, carriageway widths and so on) will be conducted during each stage as follows.

- Prior to development of a site specific traffic management plan or traffic guidance scheme for each site
- Prior to implementation of a site specific traffic management design or traffic guidance scheme for each site
- Monitoring of queue and reviewing control measures throughout each shift operation or as directed by the Principal's Representative.

All end of queue provisions will be in accordance with the MUTCD and the QGTTM. A TMI qualified individual may make modifications in response to a long queue of traffic provided that they are made as per the requirements of the TGS and the TGS has made provisions for long queues. If no end of queue provisions have been made on the TGS then the TMI is to contact a TMD for approval of any changes. See 4.3 for procedure.

In cases of queued traffic, advance warning signage will be installed in advance of the predicted end of queue location (see figure 3)



TM1-18B  
Figure 3

Works which cause excess queues will be subject to an immediate risk assessment. Controls may include

- Removal of lane closure
- Queued traffic signs
- Reduced speed.

Queue lengths will be monitored through visual and drive around checks.

#### ***4.14 Communication between Site Supervisory Personnel & Traffic Controllers***

Communication between Site Supervisory Personnel and Traffic Controllers will be via UHF Radio.

#### ***4.15 Site Access / Work Vehicles***

All vehicles

- shall access and egress the work zones in a forward direction and with the direction of traffic.
- or plant accessing and exiting the sites will be fitted with flashing amber rooftop warning lights which will be activated when approaching and leaving the site.

Traffic Controllers may be needed to allow site traffic to enter the roadway this will be detailed on the relevant TGS and risk assessment. Site vehicles entering the roadway shall notify the Traffic Controllers before entering.

Access to the work sites shall only be permitted to Fulton Hogan personnel, Construction's sub-contractors and the Principal's approved contractors who have undertaken a Fulton Hogan site induction and have a Queensland General Site Safety Induction card.

All site vehicles shall have UHF two way radios and be in communication with traffic controllers when entering and leaving the work zones.

#### ***4.16 Pedestrians***

Existing pedestrian treatments will be unaffected by these works.

#### ***4.17 Cyclists***

Ipswich Rosewood Road does not have any dedicated cycle facilities, cyclists will be expected to form part of the vehicular traffic and travel in the provided travel lane when traversing sections of closed lanes past the work area.

#### ***4.18 Heavy Vehicles***

Ipswich Rosewood Road at this location is a b-double (up to 23m), Higher Mass Limit and One Tonne Mass Transfer route these vehicles will be able to traverse past the work area in the provided travel path without being deviated from their route.

#### ***4.19 Dangerous Good Vehicles***

DG vehicles should not be adversely impacted by these works other than the impact on normal traffic.

DG vehicles operators should be aware of their responsibilities and road rules as to approved routes and the operation of their vehicles.



## ***4.20 Local Residential and Commercial Premises Access***

### ***4.20.1 Residential Access***

Residential properties that have accesses joining Ipswich Rosewood Road will be affected by these works. Fulton Hogan will, through its communications process advise residents of these restrictions. Access / egress to these properties will be maintained as much as practicable, however there will be times where access / egress will not be provided as it will be unsafe for vehicles to traverse the work area.

### ***4.20.2 Commercial Property Access***

There is no commercial property access that will be affected by these works.

## ***4.21 Emergency Services***

Fulton Hogan will consult with emergency services personnel (including QPS, QAS, SES and QFES) to establish appropriate levels of communications with regard to the traffic changes and any likely impact of the operation of emergency services.

## ***4.22 Site Maintenance***

The work area will be maintained in a clean and tidy manner after each shift.

## ***4.23 Use of Police Officers***

Police officers will not be used on this project, however if the need for police arises through onsite risk assessment, they will be engaged.

## ***4.24 Truck Mounted Attenuator***

Vehicles fitted with attenuators will not be used on this project.

## ***4.25 Contingency Planning***

Should traffic delays or safety issues be deemed to be excessive an immediate assessment of the situation will be conducted. The work area may be restored to the condition of the site prior to work site implementation or alternative arrangements can be developed and implemented accordingly.

## ***4.26 Pilot Vehicle***

Not proposed for use with these works.

## ***4.27 Portable Traffic Signal Systems (PTSS)***

Portable Traffic Signals will be used on this project. See site specific traffic guidance schemes for details of locations and use.

## ***4.28 Public Transport Facilities***

### ***4.28.1 Bus***

No bus routes will be affected by the proposed works.



#### **4.28.2 Rail**

Not affected by the works.

### **4.29 Public Utility Services**

#### **4.29.1 Refuse Collection**

Not affected by the works.

#### **4.29.2 Postal Services**

Not affected by the works.

#### **4.29.3 Meter Reading**

The project will have no impact on meter readers.

### **4.30 Parking**

Parking is not permitted along Ipswich Rosewood Road. If vehicles are parked where work is required to be conducted, police will be contacted to have them removed.

### **4.31 Street Lighting**

Existing street lighting should not be affected by these works.

### **4.32 Schools**

Not affected by the works

### **4.33 Special Events**

No special events have been identified

### **4.34 Traffic Signals**

There are no signalised intersections within the scope of these works.

### **4.35 Police Pursuit**

Communication will be maintained via UHF radio in the event of a Police Pursuit to warn workers of the potential hazard.



## 5 Community and Communication

### 5.1 Introduction

Fulton Hogan recognises the importance of consulting with all stakeholders in an effort to minimise the impact on traffic flow during work activities.

Fulton Hogan Comms Team will provide a notification via letterbox drops to local residents and businesses as necessary. The letter will contain

- Details of the project
- Expected timeframes
- Name and Phone number of Contractor's representative.

Should Fulton Hogan receive any complaints they are to notify the DTMR.

### 5.2 Local Residents

Fulton Hogan will provide notification to local residents of the proposed works if required.

Fulton Hogan will consult with local residents when works will directly affect their property access. All property accesses will be maintained or appropriate alternatives developed.

### 5.3 Commercial Premises

Fulton Hogan will provide notification to local businesses of the proposed works if required.

Fulton Hogan will consult with local businesses when works will directly affect their access. All access to commercial premises will be maintained during business hours or appropriate alternatives developed.

### 5.4 Temporary Variable Message Signs

Temporary VMS will be utilised to provide pre works (at least 3 Days) and advanced warning for these works. Their locations and messaging will be detailed in a site-specific VMS TGS.





## 6 Administration and Logistics

### 6.1 Traffic Approvals

Applications will be made to Ipswich City Council.

- Ipswich City Council Permit 220420-000182 (08/03/22 – 08/06/22)

### 6.2 Inspections and Audits

#### 6.2.1 Daily Inspections

Daily inspections will be conducted by Fulton Hogan site supervisor. The results of the inspections shall be documented. The inspections shall be conducted on long term and short term TGS.

The inspections shall be carried out in accordance with the MUTCD and the QGTTM.

TC shall conduct inspections of short term TGS signs and devices at least every two (2) hours and rectify any signs displaced or damaged- where practicable

Inspections shall also involve the monitoring of the traffic flow and any delays or incidents shall be recorded and reported. An assessment will be conducted to ascertain if a change to a TGS will alleviate the situation. Changes to TGS shall be recorded and approved by a qualified TMD.

#### 6.2.2 Audits

Road Safety Audits have not been requested by the Administrator at this stage.

#### 6.2.3 Traffic Management Inspections

Not requested by the administrator at this stage.

### 6.3 Records

Traffic management records will be maintained at the Contractors site office in accordance with the MUTCD and the QGTTM.

These records will include:

- Daily inspection checklists of all traffic control devices
- Approved TGS and TGS register
- Any TGS that have been amended or altered to suit road conditions etc
- Database of traffic control permits and approvals
- Road Safety Audits
- Incident Reports including near misses and observations
- Regulatory documents including M994s
- Maintenance Register.
- Complaints Register (Managed by Fulton Hogan)

Refer to Section 1.3 for responsibility for records and inspections.

### 6.4 Travel time surveys

Travel time surveys have not been requested by the administrator for this project.

## 6.5 Contact List

PERSONNEL CONTACT LIST				
Organisation	Name	Position	Telephone Number	Email
Fulton Hogan Out of Hours Rep	NR	Project Manager	NR	NR@fultonhogan.com.au
Fulton Hogan Out of Hours Rep #2	NR	Supervisor	NR	NR@fultonhogan.com.au
Traffic control company (Schramm Group)	personal information: personal infor	Managing Director	NR	NR@schrammgroup.com.au
Traffic control company (Schramm Group)	Operations Centre	24/7	07 3608 4201	ops@schrammgroup.com.au
Traffic control company (Schramm Group)	NR	TM Operations Manager	NR	NR@schrammgroup.com.au
Traffic control company (Schramm Group)	NR	Traffic Engineer	NR	NR@schrammgroup.com.au
Traffic control company (Schramm Group)	NR	Project Manager - NTO	NR	NR@schrammgroup.com.au
BMTMC			(07) 3292 6090	

## 6.6 Incident Management

The traffic incident management strategy during works is based on the following principles:

- incident detection
- incident verification
- incident response
- incident recovery
- incident review (post-recovery).

Traffic incident response has been developed to ensure the following outcomes:

- mitigate the effect of the incident
- clear the incident as soon as practicable and safe to do so
- return the site and adjacent roads to normal conditions as soon as possible
- investigate and report on the incident together with recommendations for avoidance of similar incidents
- review the effectiveness of the responses and recommend improvements if necessary to the Plan.

In the event of a traffic accident within or adjacent to the work site, the following will be adopted:

- Immediately advise details of the traffic incident to BMTMC, QPS, and Emergency Service Agencies as appropriate
- Record relevant details and support with photos of the incident site including the details, location and condition of all safety and traffic control devices
- Provide assistance to Emergency Services as required
- Ensure all appropriate procedures are implemented during an incident or traffic control activity to provide for the safety of the public and workforce

- Utilise Variable Message Signs (VMS) to advise road users of incidents or delays
- Undertake audit of the incident site and ensure compliance with the TGS
- Undertake clean up and repair of the incident site to make as safe as possible
- Advise BMTMC when site cleared
- All crashes/incidents are to be recorded in the incident log. A copy of the incident log is to be forwarded to the Administrator within 24hrs of the incident
- Provide report within two business days including all relevant details, photos and any procedures to be implemented to minimise recurrence to BMTMC
- Modify procedures as appropriate to minimise reoccurrence of traffic incident/s.

Table 6: Summary of incident management events

Event	Actions
Collision involving public vehicle/s, pedestrian or cyclist within live traffic lane.	<ul style="list-style-type: none"> <li>• Report to BMTMC and Fulton Hogan</li> <li>• Call Emergency Services (000) when required</li> <li>• Secure and stop work in area to reduce further hazard.</li> </ul>
Collision of construction vehicles, plant or object	<ul style="list-style-type: none"> <li>• Report to BMTMC and Fulton Hogan</li> <li>• Call Emergency Services (000) when required</li> <li>• Secure and stop work in area to reduce further hazard.</li> </ul>
Access and egress from works – incident involving member of public and site vehicle or plant.	<ul style="list-style-type: none"> <li>• Change VMS messages as appropriate – if used</li> <li>• Incident to be contained in work area or work area extended to isolate the incident</li> <li>• Provide assistance to emergency services as required.</li> </ul>
Vehicle strikes worker on road works.	<ul style="list-style-type: none"> <li>• Report to BMTMC and Fulton Hogan</li> <li>• Call Emergency Services (000) when required</li> <li>• Secure and stop work in area to reduce further hazard</li> <li>• Check that all relevant procedures and treatments were implemented as directed at time of accident/incident</li> </ul>
Breakdown of motorist or obstruction/ abandoned car on road causing disruption or danger to traffic.	<ul style="list-style-type: none"> <li>• Immediately report to BMTMC and QPS and advise vehicle type, registration, exact location and direction, ownership details (if possible) and site conditions</li> <li>• Coordinate with BMTMC to enable the removal of the abandoned or broken-down vehicle</li> <li>• Record details of incident</li> <li>• Provide report to Fulton Hogan</li> </ul>
Site vehicles and plant using roads in an unsafe manner.	<ul style="list-style-type: none"> <li>• Record details of incident</li> <li>• Check that all relevant procedures and treatments were implemented as directed at time of incident</li> <li>• Report details of incident, with photographs, as soon as possible after the event</li> <li>• Reinforce safe work practices, review treatments where appropriate and feasible to limit potential of reoccurrence.</li> </ul>
Works on the road cause congestions	<ul style="list-style-type: none"> <li>• Contact BMTMC and Fulton Hogan</li> <li>• Inspect immediately to determine extent of the congestion</li> <li>• Change VMS messages to provide advance warning of congestion – if used</li> <li>• Installation of additional Queued Traffic signage (see point 4.4 of this TMP)</li> <li>• Record details including cause, length of delay and queue length</li> <li>• Update BMTMC</li> <li>• Review TGS work method and need to occupy roadway and consider removal of lane closure</li> <li>• Monitor for reoccurrence</li> <li>• Provide report to Fulton Hogan</li> </ul>

## 6.7 Environmental Management

The Fulton Hogan Environmental Management Plan will be utilised for this project.

## Appendix A – TGS List

TGS#	Title	Type	Description of Works
01	Ipswich Rosewood Road	Lane Closure EB	Pavement Resurfacing Works Line Marking
02	Ipswich Rosewood Road	Lane Closure WB	Pavement Resurfacing Works Line Marking
03	Bremer Road	Advanced Signage Only Lane Closure	Pavement Resurfacing Works Line Marking
04	McGearys Rd	Advanced Signage Only Lane Closure	Pavement Resurfacing Works Line Marking
05	Ipswich Rosewood Road	Aftercare	Aftercare
06	Ipswich Rosewood Road	VMS Overview	VMS Placement & Messaging

## Appendix B – Speed Management Plan

### Speed Choices

Road	Ipswich Rosewood Road
Exist. Speed Limit	100 km/h
Considerations impacting roadworks speed limits	Introduced hazards to road user – entering/ exiting site vehicles, on-site machinery & construction materials within clear zones; merging traffic  Road worker safety
Adopted roadworks speed limits	40 km/h – During working hours  100 km/h – After working hours
Conditions required for Adopted roadworks speed limits	40km/h – Short term traffic management where workers are within 1.2m from passing traffic.  100 km/h – After working hours
Speed limit management measures	Implement all temporary speed zones accordance with MUTCD and QGTTM guidelines including signage and maximum and/or minimum lengths

### **Speed Monitoring**

Any speed surveys conducted on this project shall be done in accordance with the practices outlined in either the MUTCD or the QGTTM.

Compliance with roadwork speed limits will be informally monitored<sup>1</sup> during working hours on an ongoing basis throughout the project. If there is a perception that there may be a lack of compliance with roadworks speed limits then this will be reported to the NTO (or a TMD) for further action.

Formal monitoring<sup>2</sup> of vehicle speeds may be undertaken on this project for any of the following reasons

- There has been a traffic incident in which vehicle speed may have been a contributing factor;
- Informal monitoring has identified potential non-compliance issues;
- If “Optimum” traffic management treatments have been modified and a risk assessment has identified that speed monitoring should be carried out;
- After implementation of any engineering remedial actions and after enforcement remedial actions;
- As directed by the project Administrator.

The analysis of the data collected is to be provided to the NTO (or a TMD) to determine if what, if any, further action is required.

<sup>1</sup> Informal monitoring - perception of speed compliance by workers, traffic controllers or site supervisors.

<sup>2</sup> Formal monitoring – measurements of vehicle speeds collected by appropriately designed, calibrated and installed equipment providing statistical speed data

The NTO (or a TMD) shall determine if compliance with the particular posted speed limit is an issue and shall make a recommendation to the Project Manager on what action should be taken.

### **Risk Assessment**

Where speed monitoring demonstrates that speed compliance is not achieved (the 85<sup>th</sup> percentile speed is greater than 10km/h above the posted roadwork speed limit, a risk assessment shall be undertaken by the NTO (or a TMD) to determine what mitigation treatments are required to reduce the risk levels.

### **Engineering Remedial Actions**

Engineering remedial actions shall be considered as part of the risk assessment process. Engineering remedial actions should be considered before enforcement remedial action.

Engineering remedial actions may include

- Altering work practices and traffic management design to enable roadworks speed limits to be increased;
- Where speed limit reductions are only required for specific short term events, such as site vehicles entering and leaving the traffic lanes, the use of warning signs with advisory speed limits may be used in lieu of lower regulatory speed limit signs
- Increasing driver awareness of the particular hazard necessitating the reduced speed limit with the use of warning signs or VMS

### **Enforcement Remedial Action**

In the event that the engineering remedial actions implemented were determined to be ineffective police enforcement may be requested.



## Appendix C – SWMS

### Appendix C.1 – Conduct Traffic Control

### Appendix C.2 – PTSS Operation

Released under RTI - DTMR



**Schramm Group Pty Ltd**

60 Northlink Place Virginia Qld 4014

ABN 40 153 061 584

**SCHRAMM GROUP****Safe Work Method Statement 2 – Version 10****Issue Date: 1<sup>st</sup> March 2022****Task** Conduct Traffic Control - Working on or adjacent to a road (High Risk Construction Work)**Project/Location** All Locations**Consultation / Communication.**

This SWMS has been developed in consultation with employees of the Schramm Group. Employees have provided input into the control measures and the content of the SWMS. All employees have been trained in the contents and control measures within this SWMS. The listed control measures and methodology is to be used at all worksites to ensure that the risk assessment process is applied and that appropriate control measures are implemented. Any changes to work procedures or SWMS will be documented and communicated to all personnel to ensure their understanding and compliance requirements.

Where other parties are working adjacent to Schramm Group employees which may have a safety impact on the tasks being performed. Both parties are to consult and conduct a risk assessment of the work area prior to commencement of work.

SWMS prepared in consultation with NR – HSE Manager/TC/TMI/TMD	NR	SWMS prepared in consultation with NR – Ops Manager/TC/TMI/TMD	NR
SWMS prepared in consultation with NR – Project Manager TC/TMI/TMD/TMA	NR	SWMS prepared in consultation with NR – Project Manager TC/TMI/TMD	NR
SWMS prepared in consultation with NR – Traffic Controller/TMI	NR	SWMS prepared and approved by Personal info – Managing Director/TMD	NR

**Risk Assessment - Implementation, Monitoring and Reviewing of Control Measures.**

A site-specific risk assessment shall be conducted at all worksites prior to the commencement of works and recorded on the Daily Traffic Record. This SWMS is to be used at worksites to identify hazards, assess risks and develop appropriate control measures. During the course of works the implemented control measures will be monitored to ensure effectiveness and changes made if required and personnel are to stop work if the controls are ineffective or unsafe.

Identified hazards that are not controlled by this SWMS must be recorded and suitable control measures developed in accordance with the risk assessment process. Any new hazards identified and control measures developed must be recorded on the Daily Traffic Record and communicated to all persons at the worksite. The risk management process to be followed is outlined below on Page 2 of this document or Schramm Group Risk Management Process.



## SITE SPECIFIC RISK ASSESSMENT / JOB HAZARD ANALYSIS

This SWMS is to be used in conjunction with the site-specific risk assessment and job hazard analysis which must be completed to identify any hazards that are not listed in this SWMS. The new hazard must be recorded on the Daily Traffic Record and control measures must be implemented prior to commencement or during works. If an identified hazard cannot be controlled works must not proceed. The site-specific risk assessment and hazard analysis must be completed prior to the commencement of works.

### Risk Management Process for New Hazards:



Use Risk Matrix below to assess the likelihood and consequence from the hazard.

### Control Measures in order of preference:



### Risk Matrix - Risk level = Likelihood X Consequence

Likelihood: How likely is the event to occur at some time?	Consequence: What is the severity of the injuries/potential damages/financial impacts if the event actually happens?				
	Insignificant No injury or first aid, no enviro damage, <\$1,000 damage.	Minor First aid required, low enviro damage, <\$10,000 damage.	Moderate External med. Medium enviro damage, <\$100,000 damage.	Major Extensive injuries, high enviro damage, <\$1,000,000 damage	Catastrophic Death or major injuries, Toxic enviro damage, >\$1,000,000 damage
<b>Almost Certain</b> Expected in normal circumstances – more than once a year	Moderate Risk	High Risk	High Risk	Critical Risk	Critical Risk
<b>Likely</b> Probably occur in most circumstances – once every 1 year	Moderate Risk	Moderate Risk	High Risk	High Risk	Critical Risk
<b>Possible</b> Might occur at some time – once every 3-5 years	Low Risk	Moderate Risk	High Risk	High Risk	Critical Risk
<b>Unlikely</b> Could occur at some time – once every 10 years	Low Risk	Moderate Risk	Moderate Risk	High Risk	High Risk
<b>Rare</b> May occur, only in exceptional circumstance – once every 20 years	Low Risk	Low Risk	Moderate Risk	Moderate Risk	High Risk

<b>Critical Risk</b>	URGENT – Stop work and do something about this risk immediately – requires immediate attention.
<b>High Risk</b>	Continue with appropriate supervision and control measures as detailed by the risk assessment process i.e. SWMS or site risk assessment.
<b>Moderate Risk</b>	Utilise control measures to ensure the risk is as low as reasonably possible.
<b>Low Risk</b>	Minimal risk – continue managing with routine practices and safe procedures.

The risk is a person on a worksite being struck by a vehicle or being exposed to another risk. The **likelihood** is almost certain that a person is struck by a vehicle and the **consequence** of that incident would be catastrophic. Using the risk matrix the combination of almost certain and catastrophic means that the rating of the risk is 'critical risk'. Therefore control measures must be implemented to lower the risk.

#### Site Risk assessment.

A site-specific risk assessment must be completed at all worksites and prior to the commencement of works and documented on the Daily Traffic Record. Each worker at the worksite shall be given the opportunity to take part in the site-specific risk assessment process.

The 'hierarchy of control' shall be used to develop appropriate control measures, as follows:

- **Elimination** – eliminating the hazard completely.
- **Substitution** – if not possible minimise the risk by substitution of a lesser risk.
- **Isolation** – isolating the hazard giving rise to the risk.
- **Engineering** – minimise the risk by engineering rules.
- **Administration** – applying administrative measures (includes training).
- **Personal protective equipment** – wear appropriate PPE at the worksite

Elimination is the most effective control, and PPE is the least effective control. Always apply the most effective control that is available so that works can safely proceed.

If the residual risk is a Critical Risk works must not commence until appropriate control measures have been devised and implemented.

## Worksite Assessment / Safety Compliance

Workers and worksites will be audited by Schramm Group managers and supervisors to ensure compliance for the safety of our employees, clients, and members of the public. Any non-compliance with this SWMS and the site-specific risk assessment will be corrected at the worksite or work will be stopped until appropriate control measures have been identified and implemented. These audits will be documented on the Traffic Controller Assessment Form.

## SWMS On-Site Requirements

Personal Protective Equipment Required:	Equipment – Mobile and Static Plant:	Training and Qualifications Required:
<ul style="list-style-type: none"> <li>High visibility long sleeve shirt (with reflective stripes)</li> <li>Long pants (with reflective stripes)</li> <li>Safety footwear</li> <li>Headwear – hardhat (with a brim for day work)</li> <li>Safety glasses – tinted (day) and clear (night)</li> <li>Hand protection – gloves for manual handling tasks</li> <li>Sunscreen – insect repellent (as required)</li> </ul>	<ul style="list-style-type: none"> <li>Work vehicle fitted with arrow board, rotating flashing Lights, GPS, Tablet, advance warning signage and traffic management equipment</li> <li>Fire extinguisher, first aid kit, spill kit</li> <li>Night wand for hours of darkness or low light</li> <li>UHF Radio</li> <li>Stop/slow bat</li> <li>Wheel Chocks (if required)</li> </ul>	<ul style="list-style-type: none"> <li>Construction Industry Safety Induction Card</li> <li>Qld Traffic Control License</li> <li>TMI and/or TMD card if applicable</li> <li>Drivers License (vehicle driver)</li> <li>Site specific client induction (if required)</li> <li>Schramm Group induction and safety training</li> </ul>

**Compliance** - All works shall be planned, implemented, and maintained in accordance with this SWMS and the following Regulations, Acts, Codes of Practice, Guidelines and Standards:

Queensland Work Health and Safety Act 2011	Queensland Work Health and Safety Regulations 2011	Queensland Guide to Temporary Traffic Management
Traffic Management for Construction or Maintenance Work Code of Practice 2008	Queensland Workplace Health and Safety Consultation, Cooperation and Coordination Code of Practice 2011	How to Manage Workplace Health and Safety Risks Code of Practice 2011
Traffic Controller Accreditation Scheme Approved Procedures (TCASAP) 2022	DTMR Guideline for Traffic Management at works on roads Nov 2020	Schramm Group Policies, Procedures, and other relevant SWMS
Australian Standard 1742.3 MUTCD 2019	DTMR Traffic Controller Clothing Standard	Austrroads Guide to Temporary Traffic Management

## Guides to Temporary Traffic Management

The DTMR Queensland Guide to Temporary Traffic Management Parts 1-10 and Austrroads Guide to Temporary Traffic Management Parts 1-10 have been considered in the formulation of the control measures outlined in this SWMS. Schramm Group will transition to these Guides as the primary compliance resource as at **1<sup>st</sup> December 2021** as specified by DTMR.

## Safe Work Method Statement Linkage

SWMS 02 Conduct Traffic Control forms the base component for day-to-day Traffic Control operations and taskings. A suite of additional SWMS provides further additional guidance and risk management requirements regarding specific traffic management functions. Linkage will be identified on each individual SWMS.

This SWMS is to be read and used in conjunction with Schramm Group Safe Work Method Statements 08,09,10,16 and 18.

1. TASK – VEHICLE AND EQUIPMENT SERVICEABILITY AND MAINTENANCE						
Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Company vehicle is in need of repair or maintenance and/or equipment is unserviceable. PPE is unserviceable or in need of repair.	Injury to worker or unsafe condition due to vehicle or equipment failure	Moderate Risk L - Likely C - Minor	Elimination	<ul style="list-style-type: none"> <li>Vehicles maintained as per manufacturers requirements.</li> </ul>	Low Risk L - Rare C - Minor	All workers
			Substitution	<ul style="list-style-type: none"> <li>Unserviceable vehicles or equipment will be replaced.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Faulty equipment will be removed from service for repairs.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Vehicle mileage and status will be monitored by vehicle on-board GPS system.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Company vehicle drivers are to complete a Vehicle Maintenance Checklist (Form 41) <u>prior</u> to leaving home or depot to ensure all fitted equipment is in working order.</li> <li>Vehicle is sufficiently fuelled prior to shift start.</li> <li>Tyre pressures to be checked weekly or when refuelling vehicles.</li> </ul>		
PPE	<ul style="list-style-type: none"> <li>All personnel to ensure that all issued PPE and equipment is taken to site and UHF radio is fully charged, red night wand, stop/slow baton are working and serviceable.</li> </ul>					
2. TASK – CONDUCT PRE START MEETING						
Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Workers not aware of any unidentified site specific hazards	Injury to worker	Moderate Risk L - Likely C - Minor	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	All workers and Supervisor
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		



			Administration	<ul style="list-style-type: none"> <li>Conduct pre start meeting and site inspection for all workers prior to the commencement of works.</li> <li>Site specific risk assessment conducted prior to commencing work including any new hazards that are identified and appropriate control measures. These hazards and control measures are to be recorded on the Daily Traffic Record.</li> <li>Ensure Traffic Guidance Scheme is available for all workers</li> <li>Ensure all work permits are in place and held on site.</li> <li>Workers must be site inducted where required.</li> <li>Work site safety rules communicated to all workers.</li> <li>UHF radio channel for site to be nominated and communicated to all personnel at the pre-start meeting.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		

**3. TASK – INSTALLATION OF ADVANCE WARNING SIGNAGE AND IMPLEMENTATION OF TGS**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Traffic – Working in close proximity to traffic, TC struck by passing vehicle during signage placement	Injury to worker	Critical Risk I - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	Traffic Controllers/ TMI & TMA operators
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Traffic Control Vehicle to be parked clear of live traffic lanes and outside the travel path i.e. off the road on the road shoulder unless protected by TMA (<b>TMA in 80 km/h and above</b>)</li> <li>If possible, conduct a preliminary drive through of the work site to ascertain appropriate areas with room on the shoulder to stop the TC vehicle to erect signage</li> </ul>		

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- High speed multilane roads (i.e. 80 km/h and above) shall require use of Truck Mounted Attenuator (TMA) to provide a temporary lane closure and isolate the lane where TCs are erecting signage or devices unless site specific risk assessment by TMD shows TMA is not required.
- Low speed roads (i.e. less than 80 km/h) if no space to park off the road (live traffic lanes), the Traffic Control Vehicle is parked to provide protection to workers from approaching traffic i.e. on approach side. In this instance, the arrowboard is to be activated directing traffic around the TC Vehicle. For example, flashing hazards on two-way road and directional arrow on multilane roads.
- Refer to Diagram 1 for reference to positioning of TC vehicles
- Traffic Controllers should isolate themselves from approaching traffic by not walking behind the TC Vehicle
- Erection of the signage shall be done in front of the TC Vehicle – never work behind the TC vehicle
- Traffic Controllers are to isolate themselves from the live traffic side of the vehicle. All equipment is to be accessed from the non-traffic side of the vehicle i.e. non traffic side.
- Traffic Controllers are to check (e.g. vehicle mirrors) for approaching traffic before opening vehicle doors and exiting vehicle to ensure there is sufficient time to exit vehicle safely.
- Likewise traffic lanes are to be checked for approaching traffic when re-entering vehicles to ensure sufficient time to re-enter the vehicle safely.



			Engineering	<ul style="list-style-type: none"> <li>• Signage racks have been designed to enable access to all equipment from the shoulder side of the vehicle – not live traffic side. TCs are to work from the non-traffic side of vehicle.</li> <li>• Cover existing signage that conflicts with the advance warning signage.</li> <li>• <b>Speed cover holder to be used to install speed covers. Do not use stop/slow bat to erect signage covers.</b></li> <li>• Activate roof mounted warning beacons and arrowboard where appropriate.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>• Signage and device erection is to be conducted in accordance with the MUTCD, TCASAP and either generic or site specific TGS's.</li> <li>• A spotter may be used to watch approaching traffic when two (2) TCs are present.</li> <li>• Signage is always to be erected in the same direction as the flow of traffic.</li> <li>• DO NOT CROSS motorways or roads on foot unless traffic control resources and /or control devices are in place and the speed is reduced to 60kmh or less.</li> <li>• Traffic Controller Ahead/ Prepare to Stop sign must be erected if TCs are to actively control or stop traffic. Erection must be in accordance with <b>QGTTM, AGTTM</b>, TCASAP and TGS.</li> <li>• All <u>signage to be positioned clear of travel path</u> and in accordance with MUTCD i.e. visible to approaching traffic, 200 mm off the ground, <u>1 metre clear of travel path</u> and do not restrict sight distance of drivers entering from side roads and driveways etc.</li> </ul>		

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				<ul style="list-style-type: none"> <li>• Signs not to be a hazard for pedestrians, cyclists (bike lanes) or road users, install traffic cones either side of signs to minimize the sign becoming a trip hazard or hazard to vehicles.</li> <li>• All signs to be secured using sandbags to ensure they remain properly installed – at least one (1) sandbag per sign. More sandbags may be required in windy conditions or on high speed roads.</li> <li>• <b>Low speed (i.e. under 80 km/h) multi lane roads:</b> Slow lane to be closed; erect fast lane signage first if there is room for signage and vehicle can be parked clear of live lanes, otherwise erect slow lane first.</li> <li>• <b>High speed (i.e. 80 km/h and above) multi lane roads:</b> <ul style="list-style-type: none"> <li>○ Slow lane to be closed; erect fast lane signage first and use TMA for protection.</li> <li>○ If fast lane to be closed, erect slow lane signage first and use TMA as protection</li> <li>○ This allows set up vehicle to drive directly into the area to implement the taper</li> </ul> </li> <li>• Signage required to be installed behind guardrail or barriers must be installed on extension legs so it is clearly visible to traffic.</li> <li>• Signage required to be erected on medians i.e., nature strip or traffic island must be secured by sandbags to ensure they do not blow over and become a hazard to motorists. The median must be a minimum of 3 metres wide on high speed roads and</li> </ul>	
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				<p>a minimum of 2 metres on low speed roads.</p> <ul style="list-style-type: none"> <li>The higher speed limit on the road requires more sandbags to weigh down the sign due to the wind created by passing traffic.</li> </ul>	
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP. Safety gloves must be worn when handling traffic management equipment.</li> </ul>	

Diagram 1 –  
Vehicle  
Positioning  
during Signage  
Installation and  
Removal

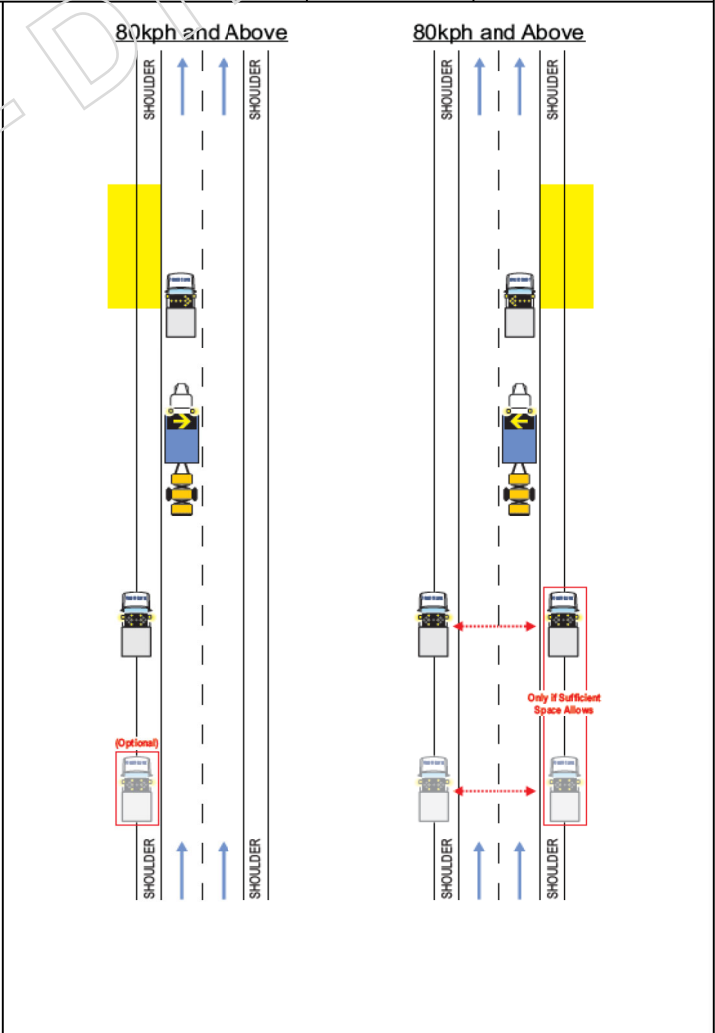
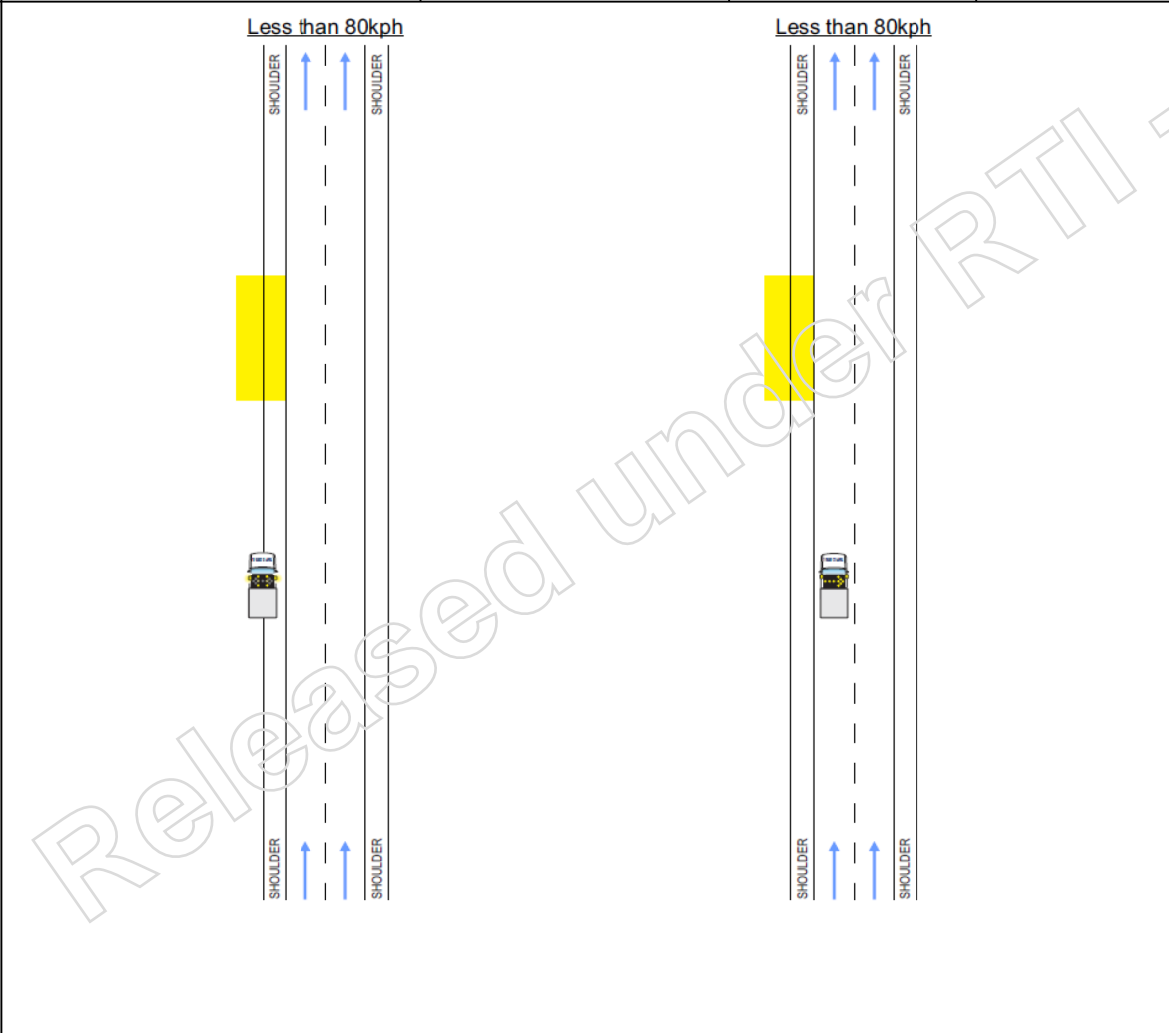




Diagram 2 –  
Typical  
Installation  
Sequence – Two  
Way Road Lane  
Closure

6.4.1 Two Way Road – Lane Closure

Task	Description	Installation Sequence
a.	The termination signs/speed reinstatement on the 'works side' of the road is placed as the first sign when initially leaving work area. Then use the existing road network to turn where safe to do so	1 2
b.	Non-works approach - place signs (advance warning to termination) including the four cones on centreline of the road on the approach to the TC position. Then use the existing road network to turn where safe to do so	3 to 7 8
c.	Works approach - place signs (advanced signs to taper) including the four cones on centreline of the road on the approach to the TC position.	9 to 12
d.	The TCs should briefly stop traffic in both directions (while the taper and delineation is deployed)	-
e.	Taper and 'work area' (lane closure) delineation to be placed in the direction of the traffic flow including any additional signs (e.g. repeater signs or 40km/h at end of taper) if required.	13 to 15
f.	Drive through the site to inspect installation is suitable for traffic.	-

Figure 6.1 – Traffic Control – Typical Installation Sequence



Diagram 3 –  
Typical  
Installation  
Sequence – Two  
Way Road  
(Lateral Shift)

6.4.2 Two Way Road (Lateral Shift)

Task	Description	Installation Sequence
a.	Non-works approach - place signs and centre line delineation (advance warning to termination). Then use the existing road network to turn where safe to do so	1 to 4 5
b.	Works approach - place signs and edge of works delineation (advanced signs to termination)	6 to 9
c.	Drive through the site to inspect installation is suitable for traffic.	-

Figure 6.2 – Traffic Control – Typical Installation Sequence

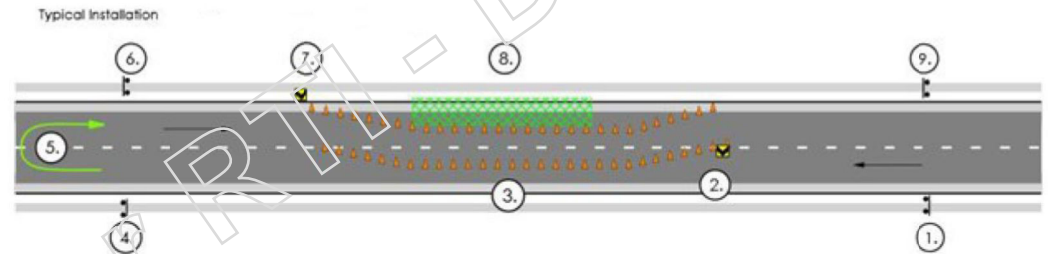


Diagram 4 –  
Typical  
Installation  
Sequence – Two  
Way Road – Lane  
Closure with Side  
Roads

6.4.3 Two Way Road – Lane Closure with Side Roads

Task	Description	Installation Sequence
a.	Side road signage installed on side road(s) on approach to the work area in the affected direction	1 to 4
b.	Other side road(s) in order along the road to the end of the TTM in affected direction	5 to 9
c.	The 'termination signs/speed reinstatement' on the 'works side' of the road is placed as the first sign when initially leaving work area. Then use the existing road network to turn where safe to do so	10 11
d.	Non-works approach - place signs (advance warning to termination) including the four cones on centreline of the road on the approach to the TC position. Then use the existing road network to turn where safe to do so	12 to 16 17
e.	Works approach - place signs (advanced signs to taper) and TC including the four cones on centreline of the road on the approach to the TC position.	18 to 21
f.	The TCs should briefly stop traffic in both directions (while the taper and delineation are deployed)	-
g.	Taper and lane closure delineation to be placed in the direction of the traffic flow including additional signs (repeater signs or 40km/h at end of taper) if required.	22 to 23
h.	Drive through the site to inspect installation is suitable for traffic.	-

Figure 6.3 – Traffic Control – Typical Installation Sequence

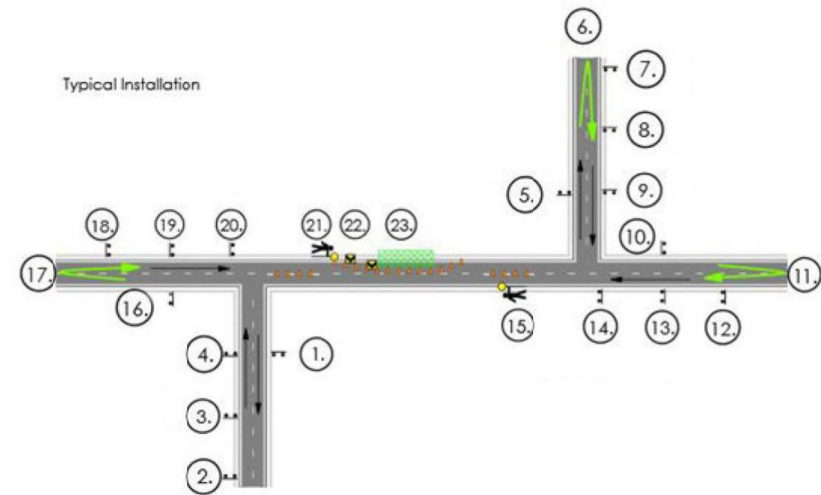


Diagram 5 – Typical Installation Sequence – Lane Closure – Multi-lane Undivided Road

Task	Description	Installation Sequence
a.	Consider the use of a shadow vehicle if risk is deemed unacceptable	
b.	After identifying points of reference, the TMI leaves proposed work area travelling with the traffic, places 'Termination/reinstate posted speed' sign on 'the first' side of roadway	1
	Use existing road network and turn where safe to do so	2
c.	Approach on the second side - places signs (Advance warning to Termination)	3 to 6
	Use existing road network and turn where safe to do so.	7
d.	First side approach - place signs (advanced signs to taper).	8 to 10
e.	Traffic management vehicle parked in the lane to be closed with arrow board indicating merge to 'non-affected' lane.	-
f.	Install taper with traffic management vehicle as cover.	11
g.	Traffic management vehicle then navigates around taper to position arrow board (if required).	12
h.	Lane closure delineation and additional signs placed with traffic management vehicle progressing down lane closure.	13
	Use existing road network and turn where safe to do so.	14
i.	Second side approach – repeat steps (d) through (h).	15 to 16
j.	Drive through the site to inspect installation is suitable for traffic. Traffic management vehicle then navigates around taper to park to protect workers, or park as approach arrow board if fitted.	17

Figure 6.4 – Traffic Control – Typical Installation Sequence

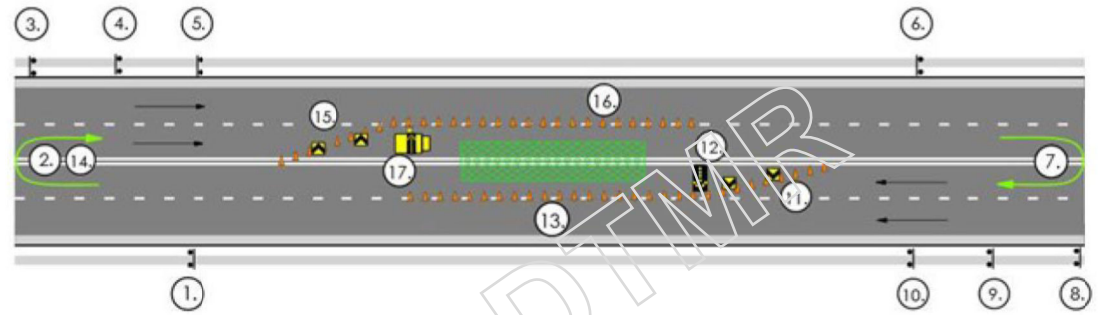
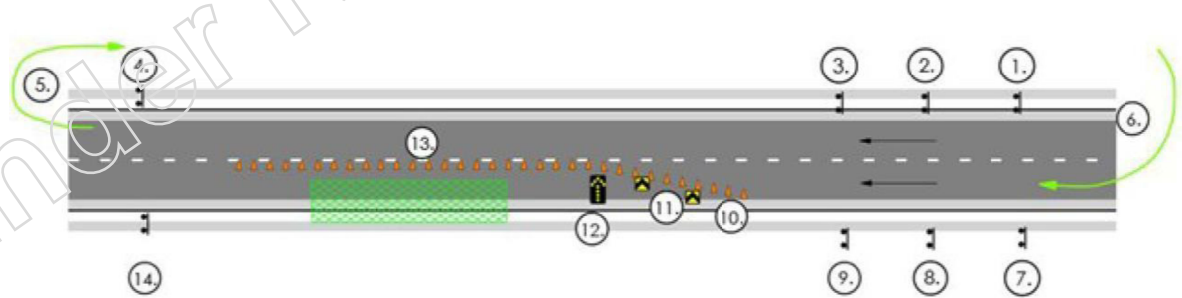


Diagram 6 – Typical Installation Sequence – Lane Closure – Multi-lane Divided Road

Task	Description	Installation Sequence
a.	Consider the use of a Truck Mounted Attenuator if risk is deemed unacceptable.	
b.	Non-affected lane - place signs (Advance warning to Termination). Use existing road network to turn where safe to do so.	1 to 4 5
c.	Return to the Works approach side of the carriageway.	6
d.	Affected lane - place signs (advanced signs to taper).	7 to 9
e.	Traffic management vehicle parked 'in lane' with arrow board indicating merge to 'non-affected' lane.	10
f.	Install taper, with traffic management vehicle ending up at beginning of lane closure	11
g.	Install arrow board, use TMA or shadow vehicle as cover	12
h.	Lane closure delineation and additional signs placed with traffic management vehicle progressing down lane closure.	13 to 14
j.	Drive through the site to inspect installation is suitable for traffic.	-

Figure 6.5 – Traffic Control – Typical Installation Sequence



4. TASK – INSTALLATION OF TAPER AND DELINEATION OF WORK AREA

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Traffic – Working in close proximity to traffic, TC struck	Injury to worker	Critical Risk L - Possible C - Catastrophic	Elimination	• No appropriate controls.	Moderate Risk L - Unlikely C - Moderate	Traffic Controllers/TMI and TMA operators
			Substitution	• No appropriate controls.		
			Isolation	• Advance warning signage must be erected before taper is installed.		

<p>by passing vehicle</p>				<ul style="list-style-type: none"> <li>• Use of Truck Mounted Attenuator (TMA) on high speed multilane roads to provide a temporary lane closure and isolate the lane where TCs are erecting signage or devices.</li> <li>• On multilane roads; TC Vehicle is positioned to close the lane and provide protection to TC from approaching traffic. In this instance, the arrowboard is to be activated directing traffic into the open lane and around the TC Vehicle. Police vehicle may also be used.</li> <li>• Erection and delineation of lane closures requires TC vehicle to follow closely (10-15 metres) behind TC erecting cones to provide continual protection.</li> <li>• In the instance of one (1) TC (who is the driver) only installing taper and delineation, only five (5) cones are to be installed before TC vehicle is moved up to provide protection.</li> <li>• TC erecting cones should isolate themselves from live traffic by <u>walking along edge line</u> away from traffic and check approaching traffic before placing cone on lane line.</li> <li>• <b>For stop/slow or contraflow operations:</b> <ul style="list-style-type: none"> <li>○ TC1 is to stop traffic on lane where taper is to be erect. TC2 is to erect taper and delineation while traffic is stopped. <u>i.e. one direction of traffic should be stopped.</u></li> <li>○ If 3 or more TCs in the crew, both directions may be stopped to isolate the traffic and</li> </ul> </li> </ul>		
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				minimize the risk of the TC installing the taper and delineation being struck by a vehicle.		
			Engineering	<ul style="list-style-type: none"> <li>TC vehicles are designed that cones can be accessed from either side. TC should work from the non-traffic side of the vehicle.</li> <li>Activate roof mounted warning beacons to warn approaching traffic</li> <li>Utilise arrowboard to direct traffic around vehicle and warn of personnel on the road.</li> </ul>		
			3Administration	<ul style="list-style-type: none"> <li>Signage and device erection is to be conducted in accordance with the QGTTM, AGTTM, TCASAP and either generic or site specific TGS's.</li> <li>Taper and delineation is to be installed in the direction of the flow of traffic.</li> <li>All signage and equipment ie PTSS, flood lights within a closed lane <u>are to be delineated by traffic cones to ensure they are clearly visible to site traffic and when packing up the lane closure.</u></li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP. Safety gloves must be worn when handling traffic management equipment.</li> </ul>		

**5. TASK – CONTROLLING TRAFFIC (WORKING ON OR ADJACENT TO THE ROAD)**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Traffic – Working on the road and controlling and stopping traffic, TC struck by passing vehicle	Injury to worker	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>TC position must have sight distance to approaching vehicles meeting the requirements of the TGS being utilised.</li> </ul>		

				<ul style="list-style-type: none"> <li>○ AGTTM Part 3 Clause 2.5.4 Table 2.3 provides guidance around minimum sight distances</li> <li>• Provide sufficient stopping distance for vehicles to stop safely. Average passenger vehicle at 60 kph: dry road – 45 metres; wet road – 54 metres.</li> <li>• Always stand outside the projected travel path and always face the approaching traffic when stopping first vehicle.</li> <li>• Once traffic is stopped, TC must change position to be visible to approaching traffic e.g. front driver's headlight of first vehicle so other approaching traffic can see the TC.</li> <li>• Consider use of portable traffic signals to isolate TC from live traffic. Separate risk assessment to be conducted.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>• Implement appropriate controls as per QGTTM/AGTTM i.e. advance warning signage to warn motorists approaching the site.</li> <li>• Work site speed limit must be 60 kph or less.</li> <li>• Speed reduced to 40 kph when workers within 1.2 metres of live traffic lane.</li> <li>• Traffic control position should be illuminated by street lights, portable flood lights or lighting tower.</li> <li>• TC vehicle headlights or side lights may be used if traffic is needed to be stopped during implementation of TGS e.g. installing dog leg.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>• Traffic control must be conducted in accordance with TCASAP, QGTTM/AGTTM and Traffic Management for Construction Code of Practice.</li> </ul>		



				<ul style="list-style-type: none"> <li>• TC must always maintain a <u>clear escape route</u> to the shoulder, footpath or closed section of the roadway.</li> <li>• <b>Guardrail or safety barrier can be considered as an appropriate escape route if accessing over the barrier is possible. However, the non-traffic side of the barrier must be inspected to ensure it provides a safe area ie no culverts, high drop offs etc.</b></li> <li>• Vehicles with flashing lights should not be parked within the vicinity of the TC position. Flashing lights, VMS boards, arrow boards may make the TC harder to see by motorists.</li> <li>• TC must always observe approaching traffic, <u>never turn your back</u> to traffic.</li> <li>• Crossing motorways or high speed multilane roads is prohibited unless TGS is implemented and traffic control resources and/or devices are in place, approach speed is reduced to 60kph and traffic is stopped.</li> <li>• Crossing low speed multilane roads or single lane roads can be undertaken using reasonable care and judgement including visibility to approaching traffic to ensure there is no danger of being struck by a vehicle.</li> <li>• TC must use clear and concise <u>hand signals</u> and always use <u>stop/slow baton</u> to provide clear direction/instruction and not lead to confusion of motorists and potential incidents.</li> <li>• Red wand to be used at night to provide hand signals. Red wand must not be held in front of the Stop sign. The Stop sign on the baton must be clearly visible.</li> <li>• TC to ensure the methods for stopping and directing traffic on two-way roads</li> </ul>		
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				<p>and multi-lane roads are as per TCASAP.</p> <ul style="list-style-type: none"> <li>• TC must comply with and not contravene the TCASAP.</li> <li>• TC shall only control one (1) lane of traffic at any time.</li> <li>• Work sites are to be regularly inspected by managers and supervisors to assess the abilities and behaviour of TCs and to identify any training needs or corrective actions.</li> <li>• Mobile telephones, tablets or electronic devices, ear pods and headphones are <u>not</u> to be used when controlling traffic.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>• Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		
Traffic – Working on the road and controlling and stopping traffic in the vicinity of operating traffic signals, TC struck by passing vehicle	Injury to worker, confusion by motorists with TC and signals in such close proximity	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>• Police to control traffic through intersection (no traffic controllers at intersection) and signals are turned to amber flashing or off.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	Traffic Controllers / Site Supervisors
			Substitution	<ul style="list-style-type: none"> <li>• Police to switch traffic signals off and multiple TC's used to control traffic through intersection and/or Police. Consider direction and the number of lanes on multilane road, maximum of 2 lanes in one direction for Police control.</li> <li>• Maximum lanes if TC used to control traffic is one lane in each direction generally. Two lanes may be maintained in one direction but one TC per lane must be used.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>• Relocate TC station to a location not within 50m of the intersection.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>• Consider the use of sign <b>TM2-48A Signals Under Repair</b> and/or sign <b>Police Control Ahead TM1-Q05</b>.</li> </ul>		



			Administration	<ul style="list-style-type: none"> <li>Where a traffic controller is to control traffic within 100 metres of a signalized intersection with traffic signals operating in normal mode (such as not flashing amber or switched off) the traffic controller station must be positioned a safe distance from the operating traffic signals. Generally, a safe distance would be within the range of 50 to 100 metres, but in exceptional circumstances it may be safe at less than 50 metres subject to a site specific risk assessment.</li> <li>TC should avoid, where possible, stopping traffic on a green signal.</li> <li>TC shall never direct traffic through a red signal.</li> <li>TGS can be implemented in the vicinity of traffic signals i.e. lane closure prior to and after signals, but TC position should be 50 metres from operating signals.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		
Traffic – End of queue collisions	Injury to motorist and/or damage to property	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All workers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>TC personnel to monitor the end of queue to minimise the risk of collisions.</li> <li><b>Queued Traffic Signage to be deployed to meet the requirements of the TGS being utilised for the works.</b></li> <li><b>Queued Traffic Signage will be used more under the QGTTM and AGTTM.</b></li> <li>If vehicles queue back past the primary PREPARE TO STOP sign, then</li> </ul>		





				<p>additional signage should be installed in consultation with TMD.</p> <ul style="list-style-type: none"> <li>This signage could include additional PREPARE TO STOP or QUEUED TRAFFIC signage.</li> <li>If available, position a VMS vehicle or Queued traffic sign on the approach to the end of queue, in consultation with a TMD.</li> </ul>	
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>	

**6. TASK – WORKING ON SITE & SITE SAFETY**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Working near vehicles, mobile plant and machinery	Injury to worker; damage to vehicles, plant and machinery	Critical Risk L - Likely C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All workers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Move the TC position away from the mobile plant area of operations if possible.</li> <li>Keep a clear zone at least <u>20 metres</u> from all vehicle, mobile plant and machinery in case it moves or reverses unexpectedly</li> <li>Keep out of the radius + 3 metres of swinging parts of all mobile plant and machinery e.g. excavator booms.</li> <li>Do not stand in middle of a closed lane in case a vehicle or plant drives or reverses in the lane.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Do not stand behind vehicle, plant or machinery.</li> <li>Do not go near plant unless operator has stopped operating the plant e.g. bucket on the ground etc.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Ensure verbal contact by radio and eye contact is made before passing or going near plant or machinery.</li> <li>Ensure plant has stopped operation before walking within clear zone.</li> </ul>		



				<ul style="list-style-type: none"> <li>Do not use mobile phones on site.</li> <li>Be aware that small plant i.e. bobcats can move quickly. Always observe the locations of vehicles, plant and machinery on site. Move further away if required.</li> <li>Mobile plant is to be regularly tool boxed and part of safety training.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		
Manual tasks and manual handling i.e. erection of signage and devices, loading and unloading of vehicles	Injury to worker/TC from muscle strains and sprains, cuts and abrasions	High Risk L - Likely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All workers       Trainers and Managers
			Substitution	<ul style="list-style-type: none"> <li>Corflute signage may be used to lessen the weight of signs.</li> <li>Traffic cones weighing 2.5 kg only to be used.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Signage racks designed for frames to be slid out rather than lifted out.</li> <li>Use vehicle side lights if fitted to illuminate vehicle, signage rack and surrounding area.</li> <li><b>When covering speed signs, the provided "Sign Cover Tool "must be used.</b></li> <li><b><u>NEVER USE A STOP SLOW BAT TO COVER A SPEED SIGN.</u></b></li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Use correct manual handling techniques: <ul style="list-style-type: none"> <li>Stop and Think</li> <li>Position your feet</li> <li>Keep your back straight</li> <li>Get a firm grip</li> <li>Lift with your legs</li> <li>DO NOT TWIST YOUR BODY WHILST CARRY ANYTHING</li> <li>Keep the load close</li> </ul> </li> <li>Loads of 15 kg or greater requires minimum of two (2) personnel to lift.</li> </ul>		



				<ul style="list-style-type: none"> <li>• Maximum of five (5) traffic cones to be carried at one time ie 12.5 kg.</li> <li>• <b>Cones can be unloaded from vehicles one at a time if to reduce the risk of injury.</b></li> <li>• All signage frames must only contain three (3) panels and only lift one (1) frame at a time.</li> <li>• All TCs are to use the correct techniques for loading and unloading of vehicles as per this SWMS and SG Procedures</li> <li>• If you feel a muscle strain or sprain stop work immediately so any possible injury is not aggravated.</li> <li>• <u>Any muscle strains or sprains must be reported to <b>Schramm Operations or the Duty Manager</b> immediately by telephoning (07) <input type="text" value="NR"/> and an Incident Report completed.</u></li> <li>• <u><b>Any injury or suspected injury must be reported immediately – NO EXCEPTIONS. Injuries must be reported to management.</b></u></li> <li>• Diagram 7 shows a sample of correct lifting technique.</li> </ul>	
			PPE	<ul style="list-style-type: none"> <li>• Ensure PPE is worn as per instructions and TCASAP.</li> <li>• <b>GLOVES MUST BE WORN FOR EVERY MANUAL HANDLING TASK</b> such as signage installation/removal, traffic cone deployment/removal and erecting PTSS or portable flood lights etc.</li> </ul>	

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Performing non-traffic management associated tasks. Manual Handling. Sweeping site, digging, shovelling, or moving equipment, Installing/moving water filled barriers.	Injury to worker	High Risk L - Likely C - Major	Elimination	<ul style="list-style-type: none"> <li>TC does not perform tasks not related to traffic control or traffic management.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All workers
			Substitution	<ul style="list-style-type: none"> <li>Non-traffic management associated task to be performed by client's workers.</li> <li>Some non-traffic management tasks may be performed, these non-traffic control tasks must be performed by a competent person not traffic control personnel.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Contact Operations Manager to confirm if suitable for TC to perform requested task.</li> <li>Complete and document a risk assessment, with the client identifying</li> </ul>		

				<p>the hazards and control measures for the task prior to commencement.</p> <ul style="list-style-type: none"> <li>Implement all identified control measures prior to and during task.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per risk assessment instructions and TCASAP.</li> </ul>		
<p>Low light, night works, inclement weather – TC and/or TC vehicle cannot be seen by approaching traffic or site traffic</p>	<p>Injury to worker; damage to vehicles, plant and machinery</p>	<p>Critical Risk L - Possible C - Catastrophic</p>	Elimination	<ul style="list-style-type: none"> <li>If possible, work is to cease in low light or bad weather</li> <li>Some works must be completed at night and cannot be eliminated.</li> </ul>	<p>Moderate Risk L - Unlikely C - Moderate</p>	<p>All workers</p>
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Activate vehicle headlights and rotating lights when required to increase visibility</li> <li>TC vehicles are to have parking lights illuminated in low light or night when parked in closed lanes or on shoulder if possible.</li> <li>Ensure reflectivity of signage and traffic cone collars is appropriate.</li> <li>If insufficient lighting for clear visibility of the TC by approaching motorists the use of portable lighting equipment is an option to illuminate the TC station.</li> <li>Portable lighting equipment includes Milwaukee lights, portable flood lights or lighting equipment provided by the clients.</li> <li>Street lighting may be used to illuminate the TC position.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>In wet weather conditions consider the increased braking distances of approaching vehicles.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>High visibility clothing with bio motion reflective tape to be worn</li> <li>Use red wand to control traffic.</li> </ul>		
	Injury to worker	Moderate Risk	Elimination	<ul style="list-style-type: none"> <li>Loose surfaces to be swept if practical.</li> </ul>	Low Risk	All workers



Slips, Trips and Falls	L - Unlikely C - Moderate	Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	L - Rare C - Minor
		Isolation	<ul style="list-style-type: none"> <li>Use containment fencing to isolate hazardous areas or mark them with delineation of traffic cones.</li> <li>Move the TC station to a more suitable area if possible.</li> </ul>	
		Engineering	<ul style="list-style-type: none"> <li>Use traffic cones to delineate walkways around hazards.</li> <li>If possible, illuminate areas where trip hazards exist.</li> <li>Use vehicle side lights when erecting signage at night or low light.</li> <li>Use the torch on the red wand to illuminate areas where you need to walk</li> <li>Identify any hidden objects along the road side i.e. possible culverts where a trip or fall hazard could exist</li> </ul>	
		Administration	<ul style="list-style-type: none"> <li>Site Inspection and Pre Start Meeting to be conducted to identify and hazards including slips trips and falls.</li> <li>Always use extra caution when erecting signage or walking on shoulders or footpaths and be mindful that holes or hazards may be hidden by long grass or shadows at night.</li> <li>Be EXTRA VIGILANT on profiling or asphalt works where road surface may be at different heights and create trip hazards.</li> <li>LOOK WHERE YOU ARE WALKING.</li> <li><u>Any slip, trip or fall must be reported to Schramm Operations or the Duty Manager immediately by telephoning (07) [ ] NR and an Incident Report completed.</u></li> <li><u>Any injury or suspected injury must be reported immediately – NO EXCEPTIONS. Injuries must be reported to management.</u></li> </ul>	



			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> <li>Steel cap safety boots must be worn AT ALL TIMES.</li> </ul>		
Sun, heat and dehydration	Injury or illness to worker	High Risk L - Possible C - Moderate	Elimination	<ul style="list-style-type: none"> <li>TCs to ensure they have sufficient water to keep themselves hydrated.</li> </ul>	Low Risk L - Rare C - Minor	All workers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Use of sunshade or take cover in vehicle if appropriate to works being conducted.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Drink water prior to and regularly during the work shift to maintain hydration.</li> <li>Take fluids (preferably water) to all worksites – minimum of three (3) litres.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Sunscreen to be worn and reapplied every 2 hours.</li> <li>Hardhat must be fitted with brim during day light.</li> <li>Long sleeve high visibility shirt and long leg trousers must be worn at all times.</li> <li>Shirt sleeves must not be rolled up.</li> <li>TC shirts to be a minimum of 50 SPF to be worn as provided.</li> </ul>		
Amenities	Illness or discomfort to worker	Moderate Risk L - Possible C - Minor	Elimination	<ul style="list-style-type: none"> <li>Toilet facilities to be made available as far as is reasonable practical whilst working on-site and location to be made known to all personnel.</li> <li>Portable facilities if provided by the client should be used.</li> </ul>	Low Risk L - Rare C - Minor	All workers & Site Supervisor
			Substitution	<ul style="list-style-type: none"> <li>In lieu of on-site amenities, local public facilities, shopping centres or petrol stations will be identified and transport will be provided.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		



			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>All personnel are to immediately report any incidence when access to amenities is not reasonably available.</li> <li>All personnel can use the Toilet Finder App provided on SG Tablets, to locate the nearest toilet amenities to their location.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
Use of Traffic Control vehicle on work sites and travel to and from work	Risk of traffic accident and injury to TC, damage to vehicles	Moderate Risk L - Possible C - Minor	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	All drivers of TC vehicles  Fleet Manager & Senior Management
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Vehicles are fitted with: <ul style="list-style-type: none"> <li>Reverse cameras.</li> <li>SG Tablets.</li> <li>Reverse beepers (self-adjusting).</li> <li>GPS units.</li> <li>Audible hand brake alarms – handbrake must always be applied when out of the vehicle.</li> <li>Spill kits, First Aid kits, Fire Extinguisher and wheel chocks.</li> </ul> </li> <li>Signage racks are to be used as designed and equipment removed or replaced from non-traffic side.</li> <li>All vehicles (except TMAs) are to be stationary and stable when unattended: <ul style="list-style-type: none"> <li>Handbrake engaged</li> <li>In gear (park for auto and first gear for manual)</li> <li>Engine turned off.</li> </ul> </li> <li>Sandbags or wheel chocks may be used to prevent vehicle roll away.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Before leaving residence or depot, driver of TC vehicle is to complete a Vehicle Maintenance Checklist to ensure the vehicle and equipment is</li> </ul>		





				<p>serviceable, maintained and in proper working order.</p> <ul style="list-style-type: none"> <li>All drivers are to obey road rules and traffic laws.</li> <li>Occupants must physically look for vehicles approaching when opening doors and alighting from vehicle – Do not open doors in front of approaching traffic, wait for sufficient gap in traffic.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		
Reversing of Traffic Control vehicles on work sites including remove delineation and taper	Risk of traffic accident and injury to TC or other worker, damage to vehicles and our property	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>If possible, conduct a drive around loop rather than reversing.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All drivers of TC vehicles
			Substitution	<ul style="list-style-type: none"> <li>Spotter to be utilised where required, if vision is obstructed or upon system failure (i.e. reversing camera not functioning)</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li><b>REVERSE CAMERA AND REAR VISION MIRRORS ARE TO BE USED WHEN REVERSING.</b></li> <li>Reverse beepers are fitted to TC vehicles to alert personnel in the vicinity that vehicle is reversing.</li> <li>Reverse sensors are fitted to certain vehicles.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>All drivers must use EXTREME CAUTION when reversing</li> <li>Reversing to be conducted under the supervision of a spotter when available.</li> <li>When reversing with second TC collecting cones, positive communication must be maintained either visually, by hand signals or UHF radio.</li> </ul>		



				<ul style="list-style-type: none"> <li>• If in any doubt that an obstruction exists, stop the vehicle, get out and inspect the area behind the vehicle.</li> <li>• Reversing to collect traffic cones: <ul style="list-style-type: none"> <li>○ Always ensure that TC collecting traffic cones is visible to driver of TC vehicle before starting to reverse</li> <li>○ TC collecting traffic cones is to work in front of the TC vehicle at all times when vehicle is reversing</li> <li>○ Driver must completely stop TC vehicle when cones are being loaded into the signage rack.</li> </ul> </li> <li>• Headlights from approaching vehicles can distort distances in the reverse camera. Stop vehicle and physically check area behind before starting to reverse.</li> <li>• Equipment and signs in lane closure must be delineated by traffic cones so they are visible when reversing and dismantling the lane closure.</li> <li>• NEVER STAND DIRECTLY BEHIND A REVERSING VEHICLE.</li> <li>• If required to collect cones, signs or equipment from behind the vehicle: <ul style="list-style-type: none"> <li>○ Handbrake must be applied</li> <li>○ Vehicle must be in park (auto) or first gear (manual)</li> <li>○ Engine switched off</li> </ul> </li> <li>• Do not reverse at speed, reversing speed should be at walking pace.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>• Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		
Insecure loads on traffic control vehicles	Injury to person being hit from equipment coming off vehicle; damage to motorists vehicles being	High Risk L - Likely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>• Unnecessary equipment should be removed from the vehicle and not carried.</li> </ul>	Low Risk L - Rare C - Minor	Vehicle Drivers



	hit by insecure equipment; damage to equipment		Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Signage racks have been designed to secure all loads.</li> <li>Cages to be used to secure all loose items.</li> <li>Signage legs secured using locking bar.</li> <li>All equipment must be secured with no risk of falling out of the utility.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Sides of utility always closed when driving or moving vehicle including moving between signage installations.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
Working near noisy machinery, concrete cutters, jack hammers etc.; not hearing traffic approaching	Damage to worker's hearing; injury to worker not being aware of traffic approaching	High Risk L - Likely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	All workers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Traffic controllers are to isolate themselves from noisy machinery by locating the TC position away from the machinery, tools.</li> <li>A minimum exclusion zone of 20 metres to be maintained, or as discussed at prestart or client induction.</li> <li>Provide rotation of traffic controllers away from source of the noise.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Minimise the exposure time to the noise.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Traffic Controllers should not wear hearing protection. Hearing protection will hinder workers hearing approaching traffic, radio transmissions and emergency calls.</li> </ul>		
Complacency, not watching or		High Risk L - Likely	Elimination	<ul style="list-style-type: none"> <li>TC MUST ALWAYS FACE APPROACHING TRAFFIC.</li> </ul>		



monitoring traffic and/or site traffic and mobile plant	Injury to TC as a result of being hit by vehicle or mobile plant	C - Moderate		<ul style="list-style-type: none"> <li>Traffic is the major hazard on any work site and watching traffic will alert TCs to any speeding or out of control vehicles etc.</li> <li>TC must not sit on chairs whilst operating PTSS – you must monitor the work area and end of queue and maintain an escape route which cannot be done while seated.</li> </ul>		All Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>TCs that are not monitoring traffic or paying attention at a work site will be relieved from duty and replaced by another TC.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>When not actively engaged in traffic control, TC should be isolated from live traffic in a safe area i.e. stand on footpath.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Do not stand in groups and chat with other TCs or workers – KEEP YOUR MIND ON THE JOB AND TRAFFIC</li> <li>NO MOBILE PHONES</li> <li>Use of mobiles or tablets must only be conducted in a safe area i.e., no chance of contact with site vehicles, mobile plant or public traffic. For example: behind a safety barrier, on the footpath or within TC vehicle.</li> <li>Regular assessments will be undertaken of TCs to monitor their behaviour and ability at work sites.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		
Stopping or parking vehicles on or near; <ul style="list-style-type: none"> <li>Sloping shoulders</li> </ul>	Damage to vehicle, injury to worker	Critical Risk L- Likely M - Major	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>	Moderate Risk R – Rare M - Moderate	All Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>Do not park or stop vehicles while erecting signage or at any time if ground surface or shoulder is not clearly visible. i.e. mowed.</li> </ul>		



<ul style="list-style-type: none"> <li>Narrow shoulders</li> <li>Long grass on shoulders</li> <li>Hidden culverts or drains</li> </ul>				<ul style="list-style-type: none"> <li>Do not stop or park vehicle where ground surface is unknown.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Traffic control vehicle not to be stopped or be parked in long grass to prevent hitting hidden objects i.e., posts, holes, culverts, sloping shoulders and prevent ignition of grass from hot exhaust.</li> <li>Traffic control vehicle to be parked on stable ground i.e., away from slippery slopes.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>If possible, conduct a preliminary drive through of the work site to ascertain appropriate areas with room on the shoulder to stop the TC vehicle.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>		
Crystalline silica dust	Exposure of worker to crystalline silica dust and long term illness.	<b>Critical Risk</b> L- Likely C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>	Moderate Risk R - Rare M - Major	Management Supervisors All Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Keep a clear zone at least 30 metres from all plant and equipment generating airborne silica dust. e.g. profiling equipment, concrete/asphalt saw cutter, etc.</li> <li>Isolation is the major control measure for the risk of silica dust.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Onsite plant and equipment supplied by others which generate silica dust may use water suppression systems to reduce airborne silica dust.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Contact Operations to confirm if suitable for TC to perform required task and organise with the client to provide workers with an appropriate respiratory mask.</li> <li>Worker to use the respiratory mask as instructed and trained.</li> </ul>		



			PPE	<ul style="list-style-type: none"> <li>• Use of respiratory mask.</li> <li>• Eye protection safety glasses.</li> </ul>		
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**7. TASK – USING CORRECT RADIO PROCEDURES**

Hazard	Risk	Initial Risk	Control Measures			Residual Risk	Responsibility		
Confusion of motorists and/or TCs leading to unsafe conditions or motor vehicle accident	Injury to TC, worker, motorist and/or damage to vehicles	Moderate Risk L - Unlikely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>• No appropriate controls.</li> </ul>			Low Risk L - Rare C - Minor	All Traffic Controllers	
			Substitution	<ul style="list-style-type: none"> <li>• No appropriate controls.</li> </ul>					
			Isolation	<ul style="list-style-type: none"> <li>• Use of correct radio procedures as below will isolate traffic from site vehicles and each other</li> <li>• Always check the work site is clear before sending traffic.</li> <li>• When entering site gates, use UHF radio to advise gate keepers.</li> </ul>					
			Engineering	<ul style="list-style-type: none"> <li>• Ensure all radios are fully charged before work.</li> <li>• All TC vehicles fitted with UHF radios.</li> </ul>					
			Administration	<ul style="list-style-type: none"> <li>• Use correct radio procedure as below:</li> </ul>					
				<b>TC</b>	<b>Radio transmission</b>	<b>Action</b>			
				1		TC1 stops traffic			
				1	My last vehicle is a blue Ute 123ABC.				
2	I have received your last vehicle, blue Ute 123ABC. TC checks that the work site is clear. 'Am I clear to send traffic?'	TC checks work site							



				1	TC checks work site. 'You are clear to send traffic'.	TC checks work site
				1	'No, hold your traffic'.	If the work site is not clear
				2	'Sending traffic'.	TC 2 sends traffic
				2		TC 2 stops traffic
				2	'My last vehicle is a red sedan 456DEF'	
				1	'I have received your last vehicle red sedan 456DEF. Am I clear to send traffic?'	TC checks work site
				2	'You are clear to send traffic'.	TC checks work site
				1	'Sending traffic'.	TC checks work site
				<p><b>Site Vehicle Entering or Leaving Site:</b></p> <ul style="list-style-type: none"> <li>When performing a hold and release on a multi-lane road where one lane is closed the TC must maintain positive communication with construction equipment and personnel.</li> <li>Communication maybe with another TC, truck driver or worker.</li> </ul> <p>Example of communication required.</p>		
				<b>TC</b>	<b>Radio transmission</b>	<b>Action</b>
				LV	LV entering closed lane	

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					TC1 please hold traffic.	
				TC1	Confirmed LV. Traffic on hold.	TC1, stops traffic
				TC1	LV am I clear to send my vehicles.	TC visually checks worksite.
				LV	Confirmed TC1, you are clear to send traffic.	TC1 visually checks worksite and if clear releases traffic.
				TC1	Confirmed LV, I have released my vehicles.	Vehicle released
				LV	TC1 Please hold traffic, LV requiring to enter open/live lane.	TC1 stops traffic while LV waits in closed lane for confirmation.
				TC1	LV, traffic is on hold you are clear to enter open/live lane.	LV enters open/live lane.
				LV	TC1, LV is in open/live lane you are clear to send traffic.	TC visually checks worksite.
				TC1	Confirmed LV, I am releasing my traffic.	TC visually checks worksite and releases traffic.
					<ul style="list-style-type: none"> <li>Should more than one site be using the same UHF channel in the same vicinity, then a process to ensure positive communication is maintained shall be discussed at the pre-start meeting.</li> </ul>	





				<ul style="list-style-type: none"> <li>TC'S MUST ENSURE THEY IDENTIFY THAT THEY ARE COMMUNICATING WITH PERSONNEL ON THE SAME WORKSITE BEFORE RELEASING ANY TRAFFIC. E.G Traffic Control northbound worksite.</li> </ul>	
			PPE	<ul style="list-style-type: none"> <li>TC must have possession of issued UHF radio and be fully charged for each shift.</li> </ul>	

**8. TASK – REMOVAL OF TAPER AND ADVANCE WARNING SIGNAGE/DEVICES**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Traffic – Working in close proximity to traffic, TC struck by passing vehicle	Injury to worker	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	Traffic Controllers/TMA operators
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Traffic Control Vehicle to be parked clear of live traffic lanes and outside the travel path i.e. off the road on the road shoulder.</li> <li>Never reverse in open lanes of traffic i.e. against the flow of traffic.</li> <li>High speed multilane roads (i.e. 80 km/h and above) will require use of Truck Mounted Attenuator (TMA) to provide a temporary lane closure and isolate the lane where TCs are removing signage or devices unless site specific risk assessment by TMD shows TMA is not required.</li> <li>Low speed roads (i.e. less than 80 km/h) if no space to park off the road (live traffic lanes), the Traffic Control Vehicle is parked to provide protection to workers from approaching traffic i.e. on approach side. In this instance, the arrowboard is to be activated directing traffic around the TC Vehicle. For example, flashing hazards on two way road and directional arrow on multilane roads.</li> </ul>		



				<ul style="list-style-type: none"> <li>• Traffic Controllers should isolate themselves from approaching traffic by not walking behind the TC Vehicle</li> <li>• Traffic Controllers are to isolate themselves from the live traffic side of the vehicle. All equipment is to be loaded from the shoulder side of the vehicle i.e. non traffic side.</li> <li>• Removal of the signage shall be done in front of the TC Vehicle – <u>never work behind the TC vehicle</u> if possible</li> <li>• When collecting cones from the start of a taper on low speed roads, a loop drive around should be conducted and TC vehicle used as protection from approaching traffic.</li> <li>• If required to collect cones, signs or equipment from behind the vehicle, this may occur when dismantling the start of the taper: <ul style="list-style-type: none"> <li>○ Handbrake must be applied</li> <li>○ Vehicle must be in park (auto) or first gear (manual)</li> <li>○ Engine switched off</li> <li>○ Protection must be provided by another vehicle.</li> </ul> </li> <li>• At all times on high speed multilane roads, protection when collecting signage and cones will be provided by a TMA unless site specific risk assessment by TMD shows TMA is not required.</li> <li>• Refer to Diagram 1 for reference to positioning of TC vehicles</li> <li>• Traffic Controllers are to check (e.g. vehicle mirrors) for approaching traffic before opening vehicle doors and exiting vehicle to ensure there is sufficient time to exit vehicle safely.</li> </ul>		
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				<ul style="list-style-type: none"> <li>Likewise traffic lanes are to be checked for approaching traffic when re-entering vehicles to ensure sufficient time to re-enter the vehicle safely.</li> <li>STOP/SLOW: Traffic will be stopped to allow for tapers and delineation to be removed.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Signage rack designed so TC can load vehicle from shoulder side of the vehicle – away from live traffic.</li> <li>When uncovering speed signs, the provided Sign Cover Tool must be used.</li> <li><u>NEVER USE A STOP SLOW BAT TO COVER A SPEED SIGN.</u></li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>All traffic control devices are to be removed in the <u>reverse</u> order of installation.</li> <li>Order of removal of devices is: <ul style="list-style-type: none"> <li>Delineation</li> <li>Taper</li> <li>Advance Warning Signage</li> </ul> </li> <li>Ensure all existing signage is uncovered and visible to traffic</li> <li>TC vehicles &amp; TMAs to drive around and are NOT permitted to reverse through the taper.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		

**9. TASK – TRAFFIC ACCIDENT OR INCIDENT AT WORK SITE**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Accident or incident at work site	Further injury or risk to personnel or further damage to property	Moderate Risk L - Unlikely C - Moderate	Elimination	• No appropriate controls.	Low Risk L - Rare C - Minor	All workers and Supervisor
			Substitution	• No appropriate controls.		
			Isolation	• TCs to <u>maintain position</u> and not to approach the incident.		



				<ul style="list-style-type: none"> <li>Maintain position and control of traffic to allow access for any emergency services.</li> <li>If scene is safe, incident may be incorporated into the work area to isolate from passing traffic.</li> </ul>	
			Engineering	<ul style="list-style-type: none"> <li>TC vehicles are fitted with first aid kits, fire extinguishers and spill kits.</li> </ul>	
			Administration	<ul style="list-style-type: none"> <li>If possible, TC to advise site supervisor and emergency services.</li> <li>TC to assist if traffic is controlled/stopped and scene is safe.</li> <li>After the incident is contained or controlled, TC is REQUIRED to advise the client's supervisor of the incident (if not already done) and complete a Schramm Group Incident Report on the tablet.</li> </ul>	
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>	

**10. TASK – FATIGUE MANAGEMENT**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
TC is fatigued due to shift length or generally fatigued	Injury to TC or risk of accident or incident on work site	Moderate Risk L - Unlikely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>Fatigued personnel will be replaced and the risk eliminated.</li> <li>TC personnel are to advise SG Operations if they are not fit for work to allow for a replacement TC to be allocated.</li> </ul>	Low Risk L - Rare C - Minor	All TCs
			Substitution	<ul style="list-style-type: none"> <li>Fatigued personnel will be replaced.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Meal and Rest breaks are to be taken away from live traffic and in a safe area.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Shifts should not exceed twelve (12) hours.</li> </ul>		
						Operations & Site Supervisors,



				<ul style="list-style-type: none"> <li>TCs must contact the Operations when their shift reaches <u>10 hours</u> for an assessment of fatigue management.</li> <li>TCs must be fit for duty before commencing shift.</li> <li>TCs are to be provided with sufficient breaks during shifts i.e. as per TCASAP. TCs shall be relieved from their duty after not more than <u>2 hours</u> for a period of rest or 'other duties' of at least <u>15 minutes</u>.</li> <li>TC personnel are to be given ten (10) hours break between shifts.</li> <li>Personnel are not to drive when feeling fatigued. Contact Operations for alternative arrangements to be made.</li> </ul>	Managers and Senior Management
			PPE	<ul style="list-style-type: none"> <li>No appropriate controls</li> </ul>	

**11. TASK - ENVIRONMENTAL INCIDENTS AND ASPECTS**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility	
Fuel spill or oil spill from vehicle; refuse and working in environment	Pollution or contamination of the environment	Moderate Risk L - Unlikely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	All workers and Supervisor	
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>			
			Isolation	<ul style="list-style-type: none"> <li>Work vehicles must not be driven onto flora at the work site. Always remain on the road surface or shoulder.</li> <li>Vehicles will <u>contain spill</u> kits to isolate any spill.</li> </ul>			Fleet Manager
			Engineering	<ul style="list-style-type: none"> <li>All company vehicles to be maintained and serviced.</li> </ul>			
			Administration	<ul style="list-style-type: none"> <li>Vehicle pre starts to be conducted.</li> <li>Any leaks or smoking exhausts to be reported for repair.</li> <li>All refuse (e.g. litter and broken equipment) must be removed from the work site at the conclusion of the shift and returned to the depot for disposal or recycling.</li> <li>Workers are not to interfere with any flora at the work site.</li> </ul>			



12. COVID-19 SAFETY PRECAUTIONS						
Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Current pandemic of COVID-19 virus	Worker is exposed to or contracts COVID-19 or acts as a transmission source whilst at work	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All SG personnel
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Maintain social distance of 1.5 metres at all times</li> <li>Do not come to work if you are suffering from the symptoms of COVID-19:               <ul style="list-style-type: none"> <li>Fever</li> <li>Coughing</li> <li>Sore Throat</li> <li>Fatigue</li> <li>Shortness of Breath.</li> </ul> </li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>All company vehicles to be cleaned regularly.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Practice good hygiene.</li> <li>Personnel are to only use their own issued equipment including face mask, safety glasses, gloves, hard hats, stop/slow bats, radios and wand.</li> <li>Drivers only to complete Traffic Records and Dockets on the tablets. Drivers can write the names of other personnel onto signature blocks at pre-start meeting.</li> <li><b>Personnel must use good hygiene when handling the tablets for signing onto prestarts and risk assessments or getting clients to sign tablets. Use of hand sanitiser after handling tablets is recommended.</b></li> <li><b>When 2 or more personnel are required in a vehicle, face masks will be worn in</b></li> </ul>		



				<p>accordance with current government health advice or requirements.</p> <ul style="list-style-type: none"> <li>Refer to Procedure OHS13 COVID-19.</li> <li>Refer to Procedure OHS14 Vaccination Procedure</li> </ul>	
			PPE	<ul style="list-style-type: none"> <li>Regularly use hand sanitizer</li> <li>Face masks may be required to be worn depending on the current government medical advice</li> </ul>	

**13. INJURY MANAGEMENT INCIDENT REPORTING**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Injury to worker where Medical Assessment may be required	Worker is exposed to an unmanaged and untreated injury	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk L - Unlikely C - Moderate	All SG personnel
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Lead TC to ensure Injured Worker is removed from further potential injury</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Lead TC and other TCs are to implement immediate actions to support the Injured Worker.</li> <li>The injury must be reported IMMEDIATELY to Schramm Group Operations or Duty Manager <span style="border: 1px solid black; padding: 2px;">NR</span></li> <li>24hrs 7days.</li> <li>If you cannot contact the Duty Manager then contact the Safety or Operations Manager or General Manager.</li> <li>The client's representative must also be notified and advised of the injury.</li> <li>Injured Worker is to complete a Form 02 Incident Report or Form 54 Injury Illness Report form as soon as practical.</li> <li>Operations Supervisor or relevant Manager will take over the management of the injury including escorting the Injured Worker to an medical facility for assessment.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		

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**SITE SPECIFIC RISKS OR NEW HAZARDS ARE TO BE DOCUMENTED ELECTRONICALLY ON THE SCHRAMM GROUP TABLET**

By signing this SWMS, I acknowledge that I have been provided with training in this SWMS and the opportunity to provide comment on the formulation of work methods, the identification of hazards associated with this work and the development of control measures that will allow the work to be undertaken safely. I acknowledge that I have been instructed in the work methods and understand and will comply with these instructions. **Do not sign this record if you do not understand or do not agree to comply with the work methods prescribed.**

Name	Signature	Date	Name	Signature	Date

Schramm Group Pty Ltd – 60 Northlink Place Virginia Qld 4014 - Emergency Contact personal in NR . Office Phone 24/7 - 3608 4201

Released Under





**Schramm Group Pty Ltd**

60 Northlink Place Virginia Qld 4014

ABN 40 153 061 584

**SCHRAMM GROUP****Safe Work Method Statement 10 – Version 7****Issue Date: 1<sup>st</sup> March 2022****Task**      **Portable Traffic Signal System Operation (High Risk Construction Work – On or Adjacent to a Road)****Project/Location**      **All Locations**

This SWMS outlines hazards and control measures specific to the operation of a Portable Traffic Signal Systems (PTSS) e.g. eStop or TriLight traffic lights. This SWMS is to be read in conjunction with SWMS02 Conduct Traffic Control. PTSS operators must ensure all control measures and per SWMS02 are implemented before commencing work. Use of PTSS is to reduce the risk of injury to traffic control personnel by isolating them away from live traffic.

**Consultation / Communication.**

This SWMS has been developed in consultation with employees of the Schramm Group. Employees have provided input into the control measures and the content of the SWMS. All employees have been trained in the contents and control measures within this SWMS. The listed control measures and methodology is to be used at all worksites to ensure that the risk assessment process is applied and that appropriate control measures are implemented. Any changes to work procedures or SWMS will be documented and communicated to all personnel to ensure their understanding and compliance requirements.

Where other parties are working adjacent to Schramm Group employees which may have a safety impact on the tasks being performed. Both parties are to consult and conduct a risk assessment of the work area prior to commencement of work.

SWMS prepared in consultation with  
NR – HSE Manager/TC/TMI/TMD/PTSS

NR

SWMS prepared in consultation with  
NR – Operations Manager  
TC/TMI/TMD/PTSS

NR

SWMS prepared in consultation with  
NR – TC/TMI/TMD/PTSS

NR

SWMS prepared in consultation with  
NR – TC/TMI/PTSS

NR

SWMS prepared in consultation with  
NR – Traffic Controller/TMI/TMA/PTSS

NR

SWMS prepared and approved by  
personal info Managing Director/TMD

NR

**Risk Assessment - Implementation, Monitoring and Reviewing of Control Measures.**

A site-specific risk assessment shall be conducted at all worksites prior to the commencement of works and recorded on the Daily Traffic Record. This SWMS is to be used at worksites to identify hazards, assess risks and develop appropriate control measures. During the course of works the implemented control measures will be monitored to ensure effectiveness and changes made if required and personnel are to stop work if the controls are ineffective or unsafe.

Identified hazards that are not controlled by this SWMS must be recorded and suitable control measures developed in accordance with the risk assessment process. Any new hazards identified and control measures developed must be recorded on the Daily Traffic Record and communicated to all persons at the worksite. The risk management process to be followed is outlined below on Page 2 of this document or Schramm Group Risk Management Process.

## SITE SPECIFIC RISK ASSESSMENT / JOB HAZARD ANALYSIS

This SWMS is to be used in conjunction with the site-specific risk assessment and job hazard analysis which must be completed to identify any hazards that are not listed in this SWMS. The new hazard must be recorded on the Daily Traffic Record and control measures must be implemented prior to commencement or during works. If an identified hazard cannot be controlled works must not proceed. The site-specific risk assessment and hazard analysis must be completed prior to the commencement of works.

### Risk Management Process for New Hazards:



Use Risk Matrix below to assess the likelihood and consequence from the hazard.

### Control Measures in order of preference:



### Risk Matrix - Risk level = Likelihood X Consequence

Likelihood: How likely is the event to occur at some time?	Consequence: What is the severity of the injuries/potential damages/financial impacts if the event actually happens?				
	Insignificant No injury or first aid, no enviro damage, <\$1,000 damage.	Minor First aid required, low enviro damage, <\$10,000 damage.	Moderate External med. Medium enviro damage, <\$100,000 damage.	Major Extensive injuries, high enviro damage, <\$1,000,000 damage	Catastrophic Death or major injuries, Toxic enviro damage, >\$1,000,000 damage
<b>Almost Certain</b> Expected in normal circumstances – more than once a year	Moderate Risk	High Risk	High Risk	Critical Risk	Critical Risk
<b>Likely</b> Probably occur in most circumstances – once every 1 year	Moderate Risk	Moderate Risk	High Risk	High Risk	Critical Risk
<b>Possible</b> Might occur at some time – once every 3-5 years	Low Risk	Moderate Risk	High Risk	High Risk	Critical Risk
<b>Unlikely</b> Could occur at some time – once every 10 years	Low Risk	Moderate Risk	Moderate Risk	High Risk	High Risk
<b>Rare</b> May occur, only in exceptional circumstance – once every 20 years	Low Risk	Low Risk	Moderate Risk	Moderate Risk	High Risk

<b>Critical Risk</b>	URGENT – Stop work and do something about this risk immediately – requires immediate attention.
<b>High Risk</b>	Continue with appropriate supervision and control measures as detailed by the risk assessment process i.e. SWMS or site risk assessment.
<b>Moderate Risk</b>	Utilise control measures to ensure the risk is as low as reasonably possible.
<b>Low Risk</b>	Minimal risk – continue managing with routine practices and safe procedures.

The risk is a person on a worksite being struck by a vehicle or being exposed to another risk. The **likelihood** is almost certain that a person is struck by a vehicle and the **consequence** of that incident would be catastrophic. Using the risk matrix the combination of almost certain and catastrophic means that the rating of the risk is 'critical risk'. Therefore control measures must be implemented to lower the risk.

#### Site Risk assessment.

A site-specific risk assessment must be completed at all worksites and prior to the commencement of works and documented on the Daily Traffic Record. Each worker at the worksite shall be given the opportunity to take part in the site-specific risk assessment process.

The 'hierarchy of control' shall be used to develop appropriate control measures, as follows:

- **Elimination** – eliminating the hazard completely.
- **Substitution** – if not possible minimise the risk by substitution of a lesser risk.
- **Isolation** – isolating the hazard giving rise to the risk.
- **Engineering** – minimise the risk by engineering rules.
- **Administration** – applying administrative measures (includes training).
- **Personal protective equipment** – wear appropriate PPE at the worksite

Elimination is the most effective control, and PPE is the least effective control. Always apply the most effective control that is available so that works can safely proceed.

If the residual risk is a Critical Risk works must not commence until appropriate control measures have been devised and implemented.

## Worksite Assessment / Safety Compliance

Workers and worksites will be audited by Schramm Group managers and supervisors to ensure compliance for the safety of our employees, clients and members of the public. Any non-compliance with this SWMS and the site-specific risk assessment will be corrected at the worksite or work will be stopped until appropriate control measures have been identified and implemented. These audits will be documented on the Traffic Controller Assessment Form.

## SWMS On-Site Requirements

### Personal Protective Equipment Required:

- High visibility long sleeve shirt and/or vest (with reflective stripes for night work)
- Long pants (with reflective stripes for night work)
- Safety footwear
- Headwear – hardhat (with a brim for day work)
- Safety glasses – tinted (day) and clear (night)
- Hand protection – gloves for manual handling tasks
- Sunscreen – insect repellent (as required)

### Equipment – Mobile and Static Plant:

- Work vehicle fitted with arrowboard, rotating flashing lights, GPS, Tablet, advance warning signage (portable traffic signal system specific), traffic management equipment and vehicle suitable to transport portable traffic signals (including 6 sand bags specifically allocated to the signals)
- UHF 2 way Radios
- Stop/slow bats (in case of PTSS failure)
- **portable traffic signals (eSTOP or TRILight)**
- Handheld eSTOP remote controllers
- Operation and service manual
- Portable flood lights to illuminate PTSS position if required

### Training and Qualifications Required:

- Construction Industry Safety Induction Card
- Qld Traffic Control Licence
- TMI and/or TMD card if applicable
- Drivers Licence (vehicle driver)
- Site specific client induction (if required)
- Schramm Group induction and safety training
- PTSS/PTCD Training qualification

**Compliance** - All works shall be planned, implemented and maintained in accordance with this SWMS and the following Regulations, Acts, Codes of Practice, Guidelines and Standards:

Queensland Work Health and Safety Act 2011	Queensland Work Health and Safety Regulations 2011	<b>Queensland Guide to Temporary Traffic Management</b>
Traffic Management for Construction or Maintenance Work Code of Practice 2008	Queensland Workplace Health and Safety Consultation, Cooperation and Coordination Code of Practice 2011	How to Manage Workplace Health and Safety Risks Code of Practice 2011
<b>Traffic Controller Accreditation Scheme Approved Procedures (TCASAP) 2022</b>	<b>DTMR Guideline for Traffic Management at works on Roads Nov 2020</b>	Schramm Group Policies, Procedures, and other relevant SWMS
Australian Standard 1742.3 MUTCD 2019	DTMR Traffic Controller Clothing Standard	<b>Austrroads Guide to Temporary Traffic Management</b>

## Guides to Temporary Traffic Management

The DTMR Queensland Guide to Temporary Traffic Management Parts 1-10 and Austrroads Guide to Temporary Traffic Management Parts 1-10 have been considered in the formulation of the control measures outlined in this SWMS. Schramm Group will transition to these Guides as the primary compliance resource from **1st December 2021** as specified by DTMR.

1. TASK – EQUIPMENT PREPARATION								
Hazard	Risk	Initial Risk	Control Measures			Residual Risk	Responsibility	
Signals do not operate correctly due to incorrect preparation	Injury to worker	High Risk L - Possible C - Moderate	Elimination	• No appropriate controls.			Moderate Risk L - Unlikely C - Minor	Traffic Controllers Supervisors
			Substitution	• No appropriate controls.				
			Isolation	• No appropriate controls.				
			Engineering	<ul style="list-style-type: none"> <li>• Portable traffic signal system and remote controls must be fully charged prior to attending at the worksite.</li> <li>• Portable traffic signals units must be paired and tested before work commences. PTSS units are to be facing away from traffic during start up process.</li> <li>• Portable traffic signal system must be safely secured and transported in the appropriate signage vehicle.</li> <li>• Signage specific to the installation and operation of portable traffic signal system must be transported to the worksite (e.g. 'Stop here on red signal' sign).</li> <li>• Mast must be vertical, footing stable and weighted <b>by minimum 3 sandbags</b>.</li> <li>• Put into operate mode.</li> </ul>				
			Administration	<ul style="list-style-type: none"> <li>• TC must be trained in the correct use of the portable traffic signal system.</li> <li>• The manual handling of portable traffic signals units is to be conducted by two persons whenever practicable.</li> <li>• The units must be kept clean and handled with care.</li> <li>• Be in possession of TGS specific to the installation of a portable traffic signal system.</li> <li>• <b>Ensure PTSS batteries and handheld remote controllers are fully charged prior to attending shift.</b></li> <li>• <b>Manufacturer User/Operations Manuals for eStop and Trilight brand PTSS are available on the Content App in the Operations Manual folder.</b></li> </ul>				
PPE	• Ensure PPE is worn as per instructions and TCASAP.							
2. TASK – CONDUCT PRE START MEETING								
Hazard	Risk	Initial Risk	Control Measures			Residual Risk	Responsibility	
Workers not aware of worksite hazards	Injury to worker	Moderate Risk L - Likely C - Minor	Elimination	• No appropriate controls.			Low Risk L - Rare C - Minor	Traffic Controllers
			Substitution	• No appropriate controls.				
			Isolation	• No appropriate controls.				
			Engineering	• No appropriate controls.				



			Administration	<ul style="list-style-type: none"> <li>Conduct pre start meeting and site inspection for all workers prior to the commencement of works. Ensure that the worksite is suitable for the operation of portable traffic signals system.</li> <li>Site specific risk assessment conducted, hazards are identified and documented on Daily Traffic Record and control measures implemented.</li> <li>Ensure Traffic Guidance Scheme is available for all workers specific to portable traffic signal system implementation.</li> <li>Ensure all work permits are in place and held on site.</li> <li>Workers must be site inducted where required.</li> <li>Work site safety rules communicated to all workers.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		

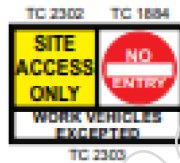
### 3. TASK – INSTALL, OPERATE AND REMOVE PORTABLE TRAFFIC SIGNALS

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Operation of Portable traffic signals adjacent to a road and near live traffic	Injury to worker / injury to road user / damage to property	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	High Risk L - Possible C -Major	Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Traffic Controller should be a minimum of three (3) metres from the travel path when using portable traffic signals if 150 metres of sight distance or <b>2x sign spacings</b> whichever is the greater can be maintained.</li> <li><u>TC to be able to identify the last vehicle released.</u></li> <li>Maintain an escape path while operating PTSS.</li> <li><b>TC is not to provide direction to vehicles other by use of PTSS particularly at night the use of the red wand may distract the driver from the PTSS</b></li> <li><b>TC is not to be seated at any time whilst operating PTSS as you must continually monitor the work site and queue length.</b></li> <li>Ensure operating position allows drivers to focus on the PTSS, and does not take cues from TC.</li> <li>PTSS can be positioned on the shoulder/median or within a closed lane.</li> <li>If safe to do so, Traffic Controller should stand behind safety barriers or guardrail where available with required sight distance</li> <li>PTSS should be located no further than 1 metre from the travelled path.</li> <li>PTSS should be delineated by traffic cones</li> <li><b>PTSS shall be weighted by a minimum of 3 Sandbags prior to operation</b></li> <li>Consider the potential for driver distraction from other sources: <ul style="list-style-type: none"> <li>Isolate the PTSS from items that may distract the driver or reduce visibility of the PTSS to driver.</li> <li>Park TC vehicle away from the PTSS.</li> <li>Be mindful of site vehicle flashing amber lights.</li> </ul> </li> </ul>		



			<ul style="list-style-type: none"> <li>○ Traffic vehicles with flashing lights, arrowboard or VMS boards operating should not be parked within <u>50 metres</u> of PTSS control position.</li> <li>○ <u>Red night wands should not be used in vicinity of PTSS to avoid driver confusion.</u></li> </ul> <ul style="list-style-type: none"> <li>● Consider position of work site vehicles with vehicle mounted warning devices which can significantly diminish the visibility of the Portable Traffic Signal System.</li> </ul>		
		Engineering	<ul style="list-style-type: none"> <li>● Portable traffic signal system operation Traffic Guidance Scheme (TGS) and signage must be implemented at the worksite.</li> <li>● Site to be signed to 60Km/hr. maximum on approach to Portable Traffic Signal System.</li> <li>● PTSS may be designed with target boards for increased visibility to motorists.</li> </ul>		
		Administration	<ol style="list-style-type: none"> <li>1. Where the portable traffic signal system consists of one hand-held remote control paired with a <u>single</u> portable traffic signal unit, the operating procedure is as per standard stop / slow arrangements.</li> <li>2. Where the portable traffic signal system consists of one hand-held remote control paired with <u>two</u> Portable traffic signal units: <ul style="list-style-type: none"> <li>● TC should be located at the end which is on <u>approach to the closed section of road.</u></li> <li>● <b>A minimum sight distance of 150 metres is required.</b> Visibility to the portable traffic signal units and approaching traffic shall be assessed before confirming the number of controllers required, noting that visibility can vary with weather condition, day light, local lighting, road geometry and the presence of roadside objects.</li> <li>● Where <u>clear visibility is available</u> to both portable traffic signal units and end of queue for approaching traffic from both directions, traffic may be controlled using a single traffic controller.</li> <li>● Ensure the operating range of the hand held remote controller is not exceeded i.e. 300 metres maximum.</li> <li>● Where <u>clear visibility is restricted</u> to both portable traffic signal units and end of queue for approaching traffic from both directions by one traffic controller is restricted: <ul style="list-style-type: none"> <li>○ Two traffic controllers (one per portable traffic signal unit) is required.</li> <li>○ Each traffic controller will operate one (1) portable traffic signal unit paired with a hand-held remote control.</li> <li>○ The operating procedure is as per standard stop / slow arrangements.</li> <li>○ Each traffic controller shall be equipped with radio communication.</li> </ul> </li> <li>● Driver behaviour should be taken into consideration when implementing PTSS. <ul style="list-style-type: none"> <li>○ Driver not expecting signals</li> <li>○ Can be distracted by flashing lights and construction works</li> <li>○ PTSS may be difficult to see at night.</li> </ul> </li> <li>● <b>Portable traffic signal system must be erected in accordance with the manufacturer instructions (eSTOP and Trilight Operation Manuals are available on the SG Tablet Content App in the Operations Manual folder).</b></li> <li>● Traffic Controllers will monitor the portable traffic signal unit to ensure the correct light is showing.</li> </ul> </li> </ol>		

- If visibility available to the other end of the work area then Traffic Controller should check that other portable traffic signal unit is on red before sending traffic i.e. check yellow flashing indicator light.
- Conduct shut down procedure and prepare traffic signals for transport.
- PTSS operating at night the following need to be considered:
  - Potential for driver distraction from TC uniform reflective stripes, lights from the TC wand and indicator lights on the hand held remote controller.
  - Do not use your red wand in conjunction with the PTSS. It will distract drivers away from the PTSS.
  - Vehicle mounted warning lights can significantly reduce the visibility of the PTSS, especially when the vehicle is parked behind the traffic signal.
  - PTSS location should be illuminated (as nominated in MUTCD Part 3). Portable flood lights should be used in dark areas where no street lighting is available.
- PTSS **CANNOT** be used to stop traffic travelling closely behind site vehicles. Motorists following site vehicles closely will not be able to see the PTSS clearly and timing of the red signal to capture that vehicle is not possible.
- The following sign will be used to minimise the risk of vehicles following site vehicles into the closed lane



- Further, site vehicles must be directed to stop once they have entered the closed lane to capture any vehicles that follow them into the closed lane. TC may then redirect that wayward vehicle back into the open traffic lane.
- SITE VEHICLES CANNOT BE SENT THROUGH A RED SIGNAL.
- Removal of traffic cone/s after the Site Access Sign should be undertaken to allow site vehicle access. Number of cones to be removed will depend on the size of site vehicles expected to enter the closed lane. See diagram below.



			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>	

**4. TASK – PORTABLE TRAFFIC SIGNALS FAIL**

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Portable traffic signals fail at worksite during operation	Injury to worker / injury to road user / damage to property	Critical Risk L - Possible C - Catastrophic	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	High Risk L - Possible C - Major	Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Portable traffic signal units are designed to switch off or to red in event of a failure of the unit or remote control.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>TC should be located on the <u>approach to the closed section</u> of road so they can take control in case of failure.</li> <li><b>In the event of PTSS failure</b>, TC to use stop/slow bat to control traffic, this would entail the TC using a Stop bat without the use of the Traffic Controller Symbolic/ Prepare to Stop sign for a short period of time.</li> <li>As soon as possible change advanced signage from traffic signals to traffic controller symbolic sign.</li> <li>If PTSS show green on both signal heads TC to turn off traffic lights or rotate traffic signal head away from traffic and commence stop/slow activities with bats.</li> </ul>		



			<ul style="list-style-type: none"> <li>Traffic from the opposite end may be controlled in the same way as above but is not as critical in terms of response time, as traffic from this direction may continue to flow along the open lane while the opposite direction is stopped.</li> <li>Traffic controllers must constantly monitor the safe use of a portable traffic signal system and at all times be able to intervene and conduct stop/slow operation in accordance with the TCASAP.</li> <li>Immediately report the fault/failure to the site supervisor and your Operations Manager.</li> <li>Remove or turn conflicting signage e.g. 'Stop here on red signal' sign.</li> <li>Portable traffic signals that are reported with a fault must not be returned to a worksite unless a trained technician has rectified the fault and provided a report stating so.</li> </ul>		
		PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		

### 5. TASK – MANUAL HANDLING OF PORTABLE TRAFFIC SIGNAL SYSTEMS

Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Worker injured during manual handling of portable traffic signals / installation and removal of portable traffic signals	Injury to worker	Moderate Risk L - Possible C - Minor	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	Traffic Controllers Supervisors
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>Vehicle racks designed for portable traffic signal lantern units to slide out of storage compartment and not lifted.</li> <li>PTSS will be stored in carry bags with wheels to allow the bag to be rolled not lifted.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Particular care must be taken during the set-up of signal system legs, adjustable locking column, and the insertion of the lantern unit into the centre column.</li> <li><b>PTSS shall be adequately weighted by minimum 3 Sandbags</b></li> <li>Pinch points on the fold out sections of the legs must be avoided. Do not place your hand inside the area that folds flat.</li> <li><b>When two workers are present, inserting the lantern unit into the centre column must be conducted with one person holding the centre column and another person inserting the lantern assembly.</b></li> <li>The lantern assembly must be handled using the handle fitted to the unit and the lower section of the column.</li> <li>Insert lantern battery into battery box after lantern is fully assembled.</li> <li>Take extreme care when applying locking pins, locking screws and locking columns.</li> <li><b>Ensure you are using correct manual handling techniques to erect PTSS. If in doubt get assistance from others.</b></li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> <li>Safety gloves, hard hat and safety glasses must be worn during the manual handling, set up and removal of the portable traffic signals.</li> </ul>		

6. TASK – OTHER ROAD USERS						
Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Road user collides with portable traffic control systems / road user collides with traffic controller	Injury to road user or worker	Moderate Risk L - Unlikely C - Moderate	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Low Risk L - Rare C - Minor	Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Install traffic cones to provide delineation of the PTSS unit.</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>Prior to the implementation of TGS ensure that provision has been made for the safe passage of pedestrians, motor cyclist, cyclists and other vulnerable road users.</li> <li>Portable traffic signals must not be placed on dedicated bikeways or bike lanes.</li> <li>Located no further than 1 metre from the travelled path.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		

7. TASK – DRIVER NON-COMPLIANCE						
Hazard	Risk	Initial Risk	Control Measures		Residual Risk	Responsibility
Driver fails to stop at Red Signal	Injury to Public or Workers	Moderate Risk P - Possible M - Major	Elimination	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>	Moderate Risk P - Possible C - Minor	Traffic Controllers
			Substitution	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Isolation	<ul style="list-style-type: none"> <li>Traffic Controller to remain in designated area and not enter travelled path.</li> <li>All traffic to be held immediately to address situation</li> </ul>		
			Engineering	<ul style="list-style-type: none"> <li>No appropriate controls.</li> </ul>		
			Administration	<ul style="list-style-type: none"> <li>TC to announce over UHF radio emergency call, advising workers of vehicle that has failed to stop.</li> <li>Incident Report to be created with details including Vehicle Registration, Type, Colour and description of driver.</li> </ul>		
			PPE	<ul style="list-style-type: none"> <li>Ensure PPE is worn as per instructions and TCASAP.</li> </ul>		

**SITE SPECIFIC RISKS OR NEW HAZARDS ARE TO BE DOCUMENTED ELECTRONICALLY ON THE SCHRAMM GROUP TABLET**

By signing this SWMS, I acknowledge that I have been provided with training in this SWMS and the opportunity to provide comment on the formulation of work methods, the identification of hazards associated with this work and the development of control measures that will allow the work to be undertaken safely. I acknowledge that I have been instructed in the work methods and understand and will comply with these instructions. **Do not sign this record if you do not understand or do not agree to comply with the work methods prescribed.**

Name		Signature		Date		Name		Signature		Date	
Name		Signature		Date		Name		Signature		Date	
Name		Signature		Date		Name		Signature		Date	
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Schramm Group Pty Ltd – 60 Northlink Place Virginia Qld 4014 - Emergency Contact personal info NR . Office Phone 24/7 - 3608 4201

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## Appendix D – MRTS 02.1 Annexure

Released under RTI - DTMR



# Annexure MRTS02.1 (November 2021) Provision for Traffic



## Specific Contract Requirements

### Contract Number

CN-10769

**Note:** Clause references within brackets in this Annexure refer to Clauses in the parent Technical Specification MRTS02 unless otherwise noted.

### Part A: Traffic Management Solution

#### 1 Nominated Traffic Control Officer or Officers (Clause 5.2)

If required, a Nominated Traffic Officer responsible for complex traffic management schemes which have significant impacts on delays or traffic rerouting, shall have the following additional qualifications and/or experience.

The service provider for traffic control shall be registered under the DTMR Traffic Management Registration Scheme. Only registered traffic management companies will be allowed to work on State Controlled Roads.

- Be provided on a full-time basis by the Contractor with 24 hour availability
- Must directly deliver the specified duties of the nominated traffic officer i.e. functions shall not be delegated to a sub-contractor.

Have authority and responsibility for issues relating to traffic including liaison with DTMR, Translink, local Authorities, the relevant Traffic Management Centre, emergency services and other affected stakeholders.

#### 2 Traffic Management Plan (Clause 5.3)

The following specific requirements shall apply to the Traffic Management Plan:

In addition to the requirements of Clause 5.3, the Traffic Management Plan shall include:

- Traffic Management Plan shall be site specific and be developed specifically to respond to the traffic management requirements of the project.
- Maintain access for emergency services at all times
- Coordination with TMR traffic management centre and local councils.
- The method by which delays and queue lengths will be monitored and means of communication between Traffic Controller and Site Supervisory Personnel;
- The means of communication between Traffic Controllers and Site Supervisory Personnel;
- Provision to advise Transport and Main Roads of all impending changes to traffic conditions by telephone and in writing.



- Details of any temporary line marking or delineation.
- Location of VMS and details of VMS message to be displayed.
- Completion of Form M994 for Temporary Regulatory Signs.

All accesses shall be maintained, unless alternative arrangements are agreed to with users of the access(es). Extensions of travel time for the public shall be kept to no more than 15 minutes.

The TMP shall be submitted by the Contractor and deemed suitable by the Administrator prior to work commencing on site.

Generic TMPs will not be acceptable under any circumstances.

TMP review period (Hold Point 1) – 21 days, unless an alternative requirement is specified here.

days

### 3 Traffic Management Provisions (Clause 5.7)

#### 3.1 Specific Restrictions on work (Clause 5.7.2)

Days on which work may not occur - major commercial, sporting, or cultural event where the Administrator considers that such closure would cause an unacceptable level of disruption to the traffic operations associated with such events:

No lane closures shall be permitted on a day preceding, or the day of, a Public Holiday or long weekend (a weekend which includes or abuts a public holiday) except when approved in writing by the Administrator.

In addition to the restrictions listed in Clause 5.7.2, Works shall not be undertaken during an event (i.e. major commercial, sporting or cultural) where the Administrator considers that such closure would cause an unacceptable level of disruption to the traffic operations associated with such events. Such events are to be identified and presented to the Administrator in writing prior to construction if a working shift is proposed on that date.

The Contractor shall only work a maximum of five (5) nights in any week. To work more than five (5) nights in any week a Contractor shall require Administrator approval and submission to the Administrator of an acceptable environmental assessment and mitigation plan (including noise).

#### 3.2 Traffic lane restrictions – midblock (Clause 5.7.3)

The minimum number of lanes to be maintained on midblock sections of road will be determined as per the method (a), (b) or (c):

a) In accordance with the following minimum requirements.

Yes

No



Location	Days	Time period	Number of lanes in each direction	Minimum lane width (metres)	Minimum clearance of objects (metres)	Minimum posted speed when site active (kilometres per hour)	Minimum posted speed when site inactive (kilometres per hour)
304 Ipswich – Rosewood Ch 5.68 – 8.36	All days	0000 – 2359	1 (refer note 2)	Refer to Austroads Guide to Temporary Traffic Management Part 3, Cl 2.5.8	Refer to Austroads Guide to Temporary Traffic Management Part 3, Cl 4.4, 5.3 and 5.4	40	100

**Notes**

- No closures should occur between the hours of 0630 to 0900 and 1430 and 1830 weekdays within 100m of a TMR signalised intersection without TMR approval
- Reduction of Ipswich Rosewood Road to one lane in alternating directions may be approved by The Administrator for irregular construction activities that have a demonstrated need for this requirement and are subject to acceptable levels of delays being determined in the Contractor’s Traffic Management Plan.

- b) In accordance with the requirements of *Queensland Guide to Temporary Traffic Management (QGTMM) Part 3 Table 2.4.*      Yes       No
- c) Through an operational assessment as per *Guidelines – Traffic Management at Works on Roads (TMWOR) Chapter 2 Section 3.*      Yes       No

**3.3 Traffic lane restrictions – intersections (Clause 5.7.3)**

The minimum number of lanes to be maintained at intersections will be determined as per the method (a), (b) or (c):

- a) Maintaining the same number of lanes as the pre-works situation.      Yes       No
- b) In accordance with following minimum requirements.      Yes       No



Intersection	Days	Time Period	Number of lanes on each approach	Traffic control method on each approach	Minimum posted speed when site active (kilometres per hour)	Minimum posted speed when site inactive (kilometres per hour)

c) Through an operational assessment as per TMWOR Chapter 2 Section 3.

Yes

No

**3.4 Single lane reversible flow (Shuttle Flow) (Clause 5.7.3)**

The maximum delay to traffic under single lane, one way traffic arrangement shall be as follows:

Location	Days	Time period	Maximum delay time (minutes)
Ipswich Rosewood Road	Any	Any	10





**3.5 Stopping traffic in both directions (Clause 5.7.3)**

Traffic may be stopped in both directions simultaneously only in the situation(s) described below:

Location	Reason	Days	Time period	Maximum delay time (minutes)
Ipswich Rosewood Road Ch 5.68 to 8.36	Short term (10 min) works	Any	Any	10

**3.6 Period of no lane closures (Clause 5.7.3)**

Days during which lanes shall not be closed and work involving stop / slow arrangements shall not be carried out:

In addition to the days and conditions stated in MRTS02, no traffic closures will be undertaken on a day preceding, or the day of, or the day after a Public Holiday, long weekend (a weekend which includes or abuts a public holiday), except when approved in writing by the Administrator. Where the holiday period commences immediately after or finishes immediately before a weekend, then the weekend shall be deemed to fall within the holiday period. To remove any doubt, if a Public Holiday falls on a Friday, then no lanes may be closed from the preceding Thursday to the following Monday inclusive, unless otherwise approved in writing by the Administrator.

**3.7 Travel time surveys (Clause 5.7.3)**

The following minimum requirements shall apply to the provision of traffic control devices and installation of ITS components:

The Contractor shall undertake travel time surveys.

Yes  No

Method and frequency at which travel time surveys will be carried out:



**3.8 Route alterations (Clause 5.7.4)**

Traffic may be altered from its existing route via the following means:

Through the road under construction.

Yes

No

The following sections of the work under the Contract may be constructed under traffic:

Ipswich Rosewood Road

Side-track

Yes

No

Traffic may be redirected around the construction onto a side-track on the following sections of work under the Contract:

Detours on existing roads.

Yes

No

Traffic may be redirected around the construction, via existing roads or streets, on the following sections of work under the Contract:



#### 4 Traffic Guidance Scheme (Clause 6.2)

The following specific approval requirements shall apply to the Traffic Guidance Scheme:

Further to Clause 6.2 of MRTS02, Traffic Guidance Schemes including Long Term and Type c) works shall address:

- Road User Safety;
- Lane or road closure;
- Timing of any such closure;
- All traffic control devices;
- Traffic signal modifications, phasing and operation;
- Traffic barrier types, locations, details, extents and terminal treatments;
- Pedestrian and cyclist provisions;
- Public transport provisions;
- Parking provisions;
- Construction site access and egress;
- Access provisions for residential, business and customers;
- PUP Access;
- Worker and road user safety provisions;
- Independent desktop road safety audit agreement to the current proposal;
- Temporary visual screening and associated anti-graffiti treatment as necessary;
- Temporary works design;
- Vertical and horizontal geometry of affected roads, pathways and the like;
- Drainage provisions, including aquaplaning prevention measures and pavement drainage;
- Lighting provisions including road lighting, temporary road lighting and any worksite lighting;
- Additional traffic modelling / analysis provided to demonstrate the suitability of any change to the existing lane configuration including turn lane lengths or as requested by the relevant authority;
- Details of information (i.e. electrical diagrams) required by others to undertake repairs for high priority works to damaged traffic signal and lighting installations.
- Vehicle site access arrangements in accordance with TMR's Road Planning and Design Manual, Austroads, including deceleration and accelerations lanes and tapers in accordance with the traffic volume, traffic speed and sight distances warrants specified in the manuals.
- The Traffic Guidance Scheme must include detailed drawings identifying the nature and location of all temporary measures including linemarking, delineation, lighting, drainage, pavement, traffic barriers, surface finishes and signs. The contractor shall notify the Administrator of any instance where extended design domain or a design exception is present in a traffic guidance scheme. This includes details of any proposed design exceptions (areas of design that do not comply with the requirements of Transport and Main Roads Road Planning and Design Manual) including that the design is appropriate.



TGS(s) shall be approved by the Administrator.

Yes

No

TGS review period (Hold Point 2) – 14 days unless an alternative requirement is specified here.

7

days

## 5 Traffic Guidance Provisions (Clause 6.5)

### 5.1 Portable Traffic Control Devices (PTCD) (Clause 6.5.1.1)

PTCDs shall be used in the following situations:

From 1 July 2018, PTSS should be used in lieu of traffic controllers using STOP / SLOW bats on roads with approach speed limit (prior to the works occurring) of 80 km/h or faster. Any decisions not to use PTSS or other equivalent systems (Refer Clause 3 of MUTCD Pt 3 Supplement which is available online) in these situations will need to be supported by a risk assessment. The risk assessment must address why use of a traffic controller is acceptable at that site and the measures that shall be implemented to reduce the potential risk to the traffic controller. The use of traffic controllers instead of PTSS shall require Administrator's approval.

The Contractor shall include the associated costs in Item 20019.01 "Implementation, maintenance and removal of temporary traffic management".

### 5.2 Variable Message Signs (VMS) (Clause 6.5.2.1)

VMS shall be used in the following situations:

For all roadworks within Metropolitan Region, the Contractor shall include the use of Variable Message Signs (VMS) in its Traffic Management Plan. VMSs shall be used for each direction of traffic and shall be in place at least 3 days prior to the commencement of work on site. The locations for the signs and wording shall be approved by the Administrator at least 7 days prior to placement. All VMSs used shall be clearly legible at all times of the day and night and shall be placed off carriageway to not create any safety hazards for vehicles or people. This activity shall be included with the contractor's risk assessment which shall be approved by the administrator. The Contractor shall include the costs associated with the use of VMSs in its lump sum for Item 20019.01 "Implementation, maintenance and removal of temporary traffic management".

VMS board non-conformance penalty - \$1000/day

### 5.3 Use of Police Officers (Clause 6.5.2.2)

Police Officers shall be employed to assist in the control of traffic in the following situations:

The Contractor shall contact QPS regarding the need for Police Enforcement of speed limits at the works site.

The Contractor shall include the associated costs in Item 20019.01 "Implementation, maintenance and removal of temporary traffic management".



**5.4 Traffic mounted attenuators (TMA) (Clause 6.5.2.4)**

TMAs shall be used to assist in the control of traffic in the following situations:

As required by the Contractor's Traffic Management Plan to provide adequate safety.

**5.5 Specific requirements for construction under traffic**

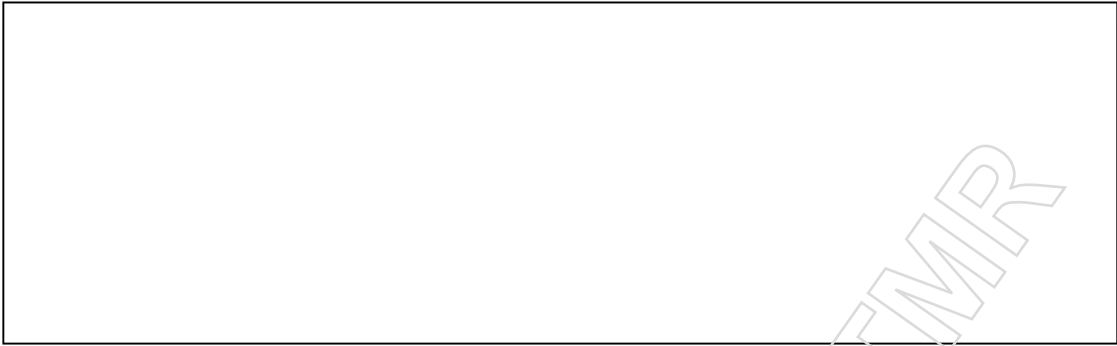
The following specific requirements shall apply to construction under traffic:

**5.6 Specific requirements for side-track (Clause 6.5.3.3)**

The following requirements for side-tracks shall apply:



The paving and sealing requirements for side-tracks shall be as follows:



The minimum geometry and width requirements for side-tracks shall be as follows:



Lighting requirements for side-tracks shall be as follows:



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**5.7 Preventing end of queue crashes (Clause 6.5.7)**

The following additional control measures are required to mitigate end of queue crashes:

Supplementary devices for end of queue protection as per TMWOR Chapter 1 Section 2.

Vehicle activated speed indicator devices in accordance with TMWOR Chapter 1 Section 1.3.

Other, as nominated.

As detailed in the TMP and TGS based on risk assessment conducted by the Contractor. The contractor shall undertake a site specific risk assessment (including but not limited to, the sight distances, topography, road geometry, speed environment, carriageway widths and so on) and implement control measures during each stages as follows:

1. Prior to development of a site specific traffic management plan or traffic guidance scheme (TMD) for each site.
2. Prior to implementation of a site specific traffic management design or traffic guidance scheme for each site
3. Monitoring of queue and reviewing control measures throughout each shift operation or as directed by the administrator.

All control measures shall be implemented in accordance with the Clause 6.5.7 of MRTS02 MUTCD Part 3

Implementation or changes of control measures shall be managed by a competent person on site, shall be a nominated representative of the subcontractor and shall be subject to the administrator's approval.

**5.8 Delineation of trafficked corridors (Clause 6.5.8)**

Additional delineation requirements:

**Temporary Pavement Markings**

Temporary pavement markings are those which do not form part of the final finished surfaces of the work under the contract. Such markings form an integral part of the implementation of the Contractor's Traffic Management Plan.

Temporary pavement markings and signs, as shown on the drawings or required elsewhere by the Contract Documents or as directed by the Administrator, shall be supplied, and installed by the Contractor. Temporary pavement markings shall be in accordance with the Manual of Uniform Traffic Control Devices and consist of marking paint, tape or temporary raised pavement markers, as approved by the Administrator.

Details of proposed temporary pavement markings and signs shall be submitted to the Administrator at least 14 calendar days prior to the proposed installation. Installation, maintenance, and removal of these markings shall be the responsibility of the Contractor. Where temporary markings are to be installed on final (permanent) surfaces, they shall be made using temporary linemarking tape and temporary raised pavement markers which can be removed without damage to or marking of the final surface. The contractor shall include the costs of temporary pavement markings and signs in its lump sum for Item 20019.01 "Implementation, maintenance and removal of temporary traffic management".



**5.9 Temporary road safety barriers (Clause 6.5.11)**

Additional temporary road safety barriers shall be installed in the following situations:

Where the Contractor proposes the use of temporary barriers to meet the requirements of this Annexure, such barriers shall be compliant products as specified in the department's Compliant Products list – "Road Safety Barrier Systems and End Treatments". Barriers shall be installed in accordance with the relevant Standard Drawing, Manufacturer's Specifications and the MUTCD.

Any other barriers installed to meet the requirements of Clause 5.9 of this Annexure shall be paid for under Scheduled Item No: 20019.01 "Implementation, maintenance and removal of temporary traffic management".

**5.10 Anti-gawking screens (Clause 6.5.12)**

Anti-gawking screens shall be installed in the following situations:

[Empty box for situations of anti-gawking screens]

**5.11 Temporary road lighting (Clause 6.5.13)**

Temporary road lighting shall be installed in the following locations:

[Empty box for locations of temporary road lighting]

**6 Traffic Management Inspection (Clause 7)**

**6.1 Traffic management inspection requirements (Clause 7.1)**

In addition to the requirements of Clause 7.1, there is a need for an independent review to establish conformance with the approved TMP and TGS and with the performance requirements of MRTS02 – Provision for traffic:

Yes  No





**6.2 Requirements for officer undertaking Traffic Management Inspection (Clause 7.2)**

If required, the officer undertaking the Traffic Management Inspection of complex traffic management schemes, which have significant impacts on delays or traffic rerouting, shall have the following additional qualifications and/or experience in addition to the requirements outlined in Table 7.1:

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**6.3 Traffic Management Inspection schedule (Clause 7.4)**

In addition to the requirements of Clause 7.4, inspections of the traffic management for the Works (TMP and TGS), shall be undertaken at the following times / milestones:

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**7 Cost for re-inspection (Clause 8.3)**

Speed limit signage non-conformance.

<b>\$/per re-inspection</b>	\$1000.00
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Other Traffic Guidance Scheme non-conformance.

<b>\$/per re-inspection</b>	\$500.00
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## 8 Supplementary requirements (Clause 9)

The following supplementary requirements shall apply:

### **Additional penalties**

Time: Other than specified in the contract, the charges for lane closures shall be as per the charges in the RAMC General Conditions of Contract.

#### **First hour:**

Travel lanes - \$10,000 for every 15 minutes or part thereof

Shoulders - \$5,000 for every 15 minutes or part thereof

#### **Second and subsequent hours:**

Travel lanes - \$50,000 for every 15 minutes or part thereof

Shoulders - \$20,000 for every hour or part thereof

### **Site Access**

Site access arrangements shall form part of the contractors Traffic Management Plan.

### **Notification of Approved Works / Event within the Boundaries of State Controlled Road**

In addition to the requirements of MRTS02, the Contractor shall submit a "Traffic Control Application Form (TM04F01)". Form TM04F01 is accessible via the following website:

<https://www.tmr.qld.gov.au/business-industry/technical-standards-publications/traffic-control-permit.aspx>

Upon receiving the Traffic Control Permit, the Contractor shall provide a copy to the Administrator at least 14 days prior to the start of construction.

This permit will be used for registration in the Region's Traffic Operations Database which is used for advice to the public and the Brisbane Metropolitan Traffic Management Centre (BMTMC).

Each night/day shift advice relating to the commencement and completion of works must be notified to the BMTMC on telephone (07) 3292 6095.

### **Payment**

Unless stated otherwise, all costs associated with complying with the requirements of this Annexure, shall be deemed to be included in schedule item 20019 "Implementation, maintenance and removal of temporary traffic management"

## 9 Road categorisation

Road categories, as per the QGTTM Part 8 Clause 2, are as follows:



Road name	Start chainage	End chainage	Permanent Posted Speed	AADT	Road Category
Ipswich – Rosewood Road	5.68	8.36	100	Not available	Road Category 2

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