



Muswellbrook Shire Council

CONSTRUCTION SPECIFICATION

AUS-SPEC (Cot 09)

1101 Control of traffic

Version 01

Amendment Record for this Specification Part

This Specification is Council's edition of the AUS-SPEC generic specification part and includes Council's primary amendments.

Details are provided below outlining the clauses amended from the Council edition of this AUS-SPEC Specification Part. The clause numbering and context of each clause are preserved. New clauses are added towards the rear of the specification part as special requirements clauses. Project specific additional script is shown in the specification as italic font.

The amendment code indicated below is 'A' for additional script 'M' for modification to script and 'O' for omission of script. An additional code 'P' is included when the amendment is project specific.

Amendment Sequence No.	Key Topic addressed in amendment	Clause No.	Amendment Code	Author Initials	Amendment Date
0	No amendment has been made	all	Nil		14 June 2012

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1101 CONTROL OF TRAFFIC

1 GENERAL

1.1 RESPONSIBILITIES

Objectives

Traffic control: Provide traffic control for works on roads. Construct the work with the least possible obstruction to traffic.

Performance

General: Provide the following:

- Personnel plant and equipment.
- Temporary roadways and detours.
- Arrangement for traffic.
- Traffic control devices.

Requirements: Ensure the safety of workers and safety and convenience of road users.

Selections: As documented.

Design

Designer: [complete/delete]

Authority requirements: [complete/delete]

1.2 CROSS REFERENCES

General

Requirement: Conform to the following:

- 0152 *Schedule of rates – supply projects.*
- 0161 *Quality (Construction) or 0167 Integrated management.*
- 0179 *General requirements (Construction).*
- 1102 *Control of erosion and sedimentation.*
- 1111 *Clearing and grubbing.*
- 1112 *Earthworks (Roadways).*
- 1121 *Open drains, including kerb and channel gutter.*
- 1141 *Flexible pavements.*
- 1192 *Signposting.*
- 1193 *Guide posts.*
- 1194 *Non-rigid road safety barrier system (Public domain).*
- 1351 *Stormwater drainage (Construction).*
- 1352 *Pipe drainage.*
- 1354 *Drainage structures.*
- 1143 *Sprayed bituminous surfacing.*
- 1144 *Asphaltic concrete (Roadways).*
- 1163 *Rigid concrete road safety barrier systems (Public domain).*

1.3 REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

Standards

AS 1742	Manual of uniform traffic control devices
AS 1742.3-2009	Traffic control for works on roads
AS 1742.14-1996	Traffic signals
AS 1743-2001	Road signs - Specifications

AS 1744-1975	Forms of letters and numerals for road signs (known as Standard alphabets for road signs)
AS/NZS 1906	Retroreflective materials and devices for road traffic control purposes
AS/NZS 1906.1: 2007	Retroreflective sheeting
AS 4191-1994	Portable traffic signal systems
AS/NZS 4192-2006	Illuminated flashing arrow signs
AS/NZS 4602: 1999	High visibility safety garments
SAA HB 81: Various	Field guides for traffic control at works on roads
SAA HB 43: 2004	Risk management guidelines companion to AS/NZS 4360:2004
Other publications	
AUSTROADS	
Austrorads 2008	Glossary of Austrorads terms
AP-G1-2003	Guide to the Geometric Design of Rural Roads
AP-R337/09-2009	National approach to traffic control at work sites
AGRS 06/09-2009	Guide to road safety Part 6: Road safety audit.
AGTM06-2007	Guide to Traffic management – Intersection, interchanges and crossings

1.4 STANDARDS

General

Standard: To AS 1742.3 and SAA HB 81 and AP-R337/09.

1.5 INTERPRETATIONS

Abbreviations

General: For the purposes of this worksection the abbreviations given below apply:

- TCP: Traffic Control Plan.
- TGS: Traffic Guidance Scheme.
- TMP: Traffic Management Plan.

Definitions

General: For the purposes of this worksection the definitions given below apply:

Competent person: A person who has, through a combination of training, qualification and experience, acquired knowledge and skills enabling that person to correctly perform a specified task.

1.6 SUBMISSIONS

Acceptance criteria

General: All submissions will be subject to the approval of the Superintendent.

Approvals

- Traffic guidance scheme.
- Statutory approvals from council or other relevant authority.

Drawings

- Temporary roadways and detours.
- Signpost layout plan.
- Pavement marking details.

Execution details

- Schedule of working times.

1.7 INSPECTION

Notice

General: Give notice so that the inspection may be made of the following:

Summary of HOLD POINTS

Clause title/Item	Requirement	Notice for inspection	Release by
Pre-Construction Planning			
Traffic guidance scheme	Approval of Traffic guidance scheme	4 weeks before proposed commencement on site	Superintendent.
Traffic guidance scheme	Approvals from Council and other Authorities for Temporary traffic	4 weeks before proposed commencement on site	Superintendent.

Clause title/Item	Requirement	Notice for inspection	Release by
	arrangement		
Levels of Traffic Guidance Schemes	Carry out a risk assessment for works not involving complex traffic arrangements or staged works or both	4 weeks before proposed commencement on site	Superintendent.
Safety Audit	For complex traffic arrangements and staged works carry out safety audits	Progressive	Superintendent.
MATERIALS			
Barriers and fencing – Boom gates	Provide if requested	Prior to commencing works	Superintendent.
EXECUTION			
Side roads and property accesses - Access	Proposal for access	5 working days prior to carrying out works	Superintendent.
Side roads and property accesses – Notice to property owners	Approval to deny vehicular access and provide notice to property owners	3 working days prior to carrying out works	Superintendent.
Plant and equipment – Inadequate traffic control devices	Rectify non conforming traffic control devices	1 working day of notice	Superintendent.
Temporary roadways and detours - Drainage	Pavement drainage construction	Progressive	Superintendent.
Temporary roadways and detours – Wearing surface	Width of wearing surface and position of finish tying into existing works	3 working days prior to carrying out works	Superintendent.
Temporary roadways and detours – Construction under traffic	Approval required to construct under traffic	3 working days prior to carrying out works	Superintendent.
Temporary roadways and detours – Construction under traffic	Prior notice of work commencing under traffic	5 working days prior to carrying out works	Superintendent.
Opening to traffic – Opening temporary road ways and detours to traffic	Redirection onto existing roadway in the event of failure	1 working day	Superintendent.
Opening to traffic – Opening temporary road ways and detours to traffic	Inspect and approve all roadways and detours prior to opening	2 working days prior to carrying out works	Superintendent.
Opening to traffic – Opening completed work	Written notice and procedure for road opening	5 working days prior to carrying out works	Superintendent.

Summary of WITNESS POINTS – On-site activities

Clause/Item	Requirement	Notice for inspection by the Superintendent
Pre-Construction Planning		

Clause/Item	Requirement	Notice for inspection by the Superintendent
Traffic Guidance Scheme	Site copy of TGS	Progressive
Materials		
Barriers and fencing – Cones and bollards	Restrictions for use of cones when attended by an employee.	Progressive
Temporary markings – Line marking	Ineffective line marking, remark within 48 hours.	Progressive
Temporary markings – Old markings	Obliterate or remove old markings.	Progressive
Temporary markings – Raised Pavement markers	Replace ineffective markers within 24 hours.	Progressive
EXECUTION		
Personnel - Traffic controllers	Submit names and declaration of proposed traffic controllers	Prior to commencing work
Personnel - Traffic controllers	Additional traffic controller required where sight distance is restricted	Progressive
Personnel - Night and poor light	Flood light as required.	Progressive
Plant and equipment – Temporary speed zoning	Diary and method of works	Progressive
Plant and equipment – Arrangement and placement of traffic control devices	To the approved TGS	Progressive
Opening to traffic – Opening temporary roadways and detours to traffic	Traffic switch requires workers on site for a minimum of 2 working days	2 working days
Opening to traffic – Maintain	Ensure safe surface for traffic	Progressive

2 PRE-CONSTRUCTION PLANNING

2.1 TRAFFIC GUIDANCE SCHEME

General

Requirement: Submit a traffic guidance scheme for approval at least 4 weeks prior to proposed commencement on site. The Traffic guidance scheme must include both the traffic management plan and the Traffic control plan. The Traffic Guidance scheme must be prepared by a competent person. Where the control of traffic does not require pavement or drainage works the period of notice will be 2 weeks. This is a **HOLD POINT**.

Obtain: All necessary approvals from Councils and other authorities for temporary traffic arrangements. This is a **HOLD POINT**.

Site copy: Keep an approved copy off the Traffic Guidance Scheme on site at all times. This must be used to check the arrangement and maintenance of traffic control devices. This is a **WITNESS POINT**.

Level of Traffic guidance schemes

Risk assessments: Carry out for (a) and (b) considering factors such as traffic volume and speed, road geometry and width and the general behaviour of road users. If the risk can not be tolerated a fully protected work site will be required. This is a **HOLD POINT**.

Levels: For traffic guidance schemes conform to the following:

- a) Short term and mobile works not involving full or part road closure.
- b) Works involving relatively simple part-roadway closures.
- c) Works involving complex traffic arrangements or staged works or both.

Traffic Management Plan

Include: The Traffic Management Plan must include the following:

- Design drawings for any temporary roadways and detours to conform with **Design drawings** showing pavement, wearing surface and drainage details.
- Details of arrangements for construction under traffic to SAA HB81.

- Traffic Control Plan(s).
- Vehicle Movement Plan (s) – Planning for movement of work vehicles including deliveries, personnel and contractors and gang trucks.
- Application for temporary speed zoning changes.
- Special consideration to the safety of the workers, pedestrians, cyclists.
- Names, addresses and means of communicating with personnel nominated for contact outside normal working hours to arrange for adjustments or maintenance of traffic control devices and temporary roadways and confirmation that this list has been supplied to the local Police.

Traffic Control Plan

Include: The Traffic Control Plan must include the following:

- A proposal to erect a Regulatory Traffic Control Device showing locations and times of operation.
- Appropriate temporary speed zoning signs.
- Boom gates.
- Portable traffic signals.
- Temporary fixed traffic signals.
- A signpost layout plan showing:
 - . Location, size and legend of all temporary signs.
 - . Temporary regulatory signs and temporary speed zones.
 - . All traffic control devices such as temporary traffic signals, linemarking, pavement reflectors, guideposts, guardfence and barrier boards.
- Working times when traffic control measures are in place to minimise disruption to traffic during periods of peak flows.
- Take particular care when requiring reversal of traffic flows or the separation of unidirectional flow by medians or other physical separation.

Safety Audit

Audit: Conduct a safety audit for the construction phase as recommended in AGRS 06/09 for complex traffic arrangements and staged works. This includes risk assessments for the workers safety. This is a **HOLD POINT**.

2.2 DESIGN

Design standards

Standard alignment and grading: Adopt the specific provisions of this worksection, AUSTROADS AP-G1, Local Authority's design standards.

Intersections: Design intersections to AUSTROADS AGTM06.

Road safety: Conform with documentation on road safety to AGRS 06/09.

Design drawings

Requirement: Submit design drawings for approval that show:

- Alignment and grading at a horizontal scale of 1:2000 for rural roads and 1:500 for urban roads. Where the temporary road rejoins the existing road, extend levels showing the full cross section along the existing road for a minimum length of 200 m.
- A sight distance diagram if opposing traffic is to use a single carriageway.
- Intersections, and any other locations where traffic may be required to make turning, merging or diverging movements, at a scale of 1:500.
- Pavement marking details.
- Sufficient cross-sections to indicate the feasibility of making connections between various parts of the work.
- Sufficient dimensions, especially lane widths, to make clear the geometry and clearances of the proposed Works.
- A north point or some other location method to orientate the plan.
- Pavement type and surface type.
- Roadside furniture.
- Drainage culverts and pits.

Design standards

Design travel speed (km/hr): [complete/delete]

Minimum widths of traffic lanes (m): [complete/delete]

Minimum widths of shoulders (m): [complete/delete]

Minimum width of shoulder seal (m): [complete/delete]

Wearing surface:

- Minimum surface type: [complete/delete]
- Minimum thickness (mm): [complete/delete]

Base:

- Type: [complete/delete]
- Minimum thickness (mm): [complete/delete]

Sub-base:

- Type: [complete/delete]
- Minimum thickness (mm): [complete/delete]

Signage

Signing: Careful considerations must be given to the signing of the work site regardless of the occupation time of the site. This includes:

- Protection of workers.
- Provision of adequate warning of changes in surface condition and the presence of personnel or plant engaged in work on the road.
- Adequate instruction of road users and their guidance safely through, around or past the work site.

3 MATERIALS

3.1 SIGNS**Specifications**

Selection of signs: To AS 1742.3.

Design and manufacturing of signs : To AS 1743.

Details of each letter: To AS 1744.

Reflective material: Class 1 material complying with AS 1906.1.

Sign size: To AS 1742.3, AS 1743 and Annexure.

Signs for night work: Floodlit if outside of the car headlight beams to AS 1742.3.

Flashing arrow signs: To AS/NZS 4192 and installed to AS 1742.3 and SAA HB81.

Supplementary signs

Annexure: Signs supplementary to AS 1742.3 and AS 1743.

Use: In lieu of or in addition to those shown in AS 1743 as follows:

- Heavy machinery crossing temporary sign SW5-22 in lieu of trucks entering sign W5-22.
- Cycle hazard grooved road temporary sign ST1-10 in addition to T1-10 where the road is grooved and is a hazard to cyclists.
- Tar spraying possible short delay temporary sign ST3-1 in addition to T3-1 for bituminous surfacing works.
- Changed traffic conditions ahead temporary sign ST1-6 in addition to T1-1, T1-6, T2-6 and T2-21 on long term works, sidetracks and detours.

3.2 BARRIERS AND FENCING**Barrier boards**

Standard: To AS 1742.3.

Size: 150 to 200 mm high, 4 m maximum length.

Colour: Alternate diagonal stripes of black and retroreflective yellow terminating in yellow at each end.

Retroreflective sheeting: Minimum Class 1 to AS/NZS 1906.1.

Placement: Do not place parallel to the direction of traffic flow.

Support: Mount on trestles or fixed posts at about 1 m above the pavement.

Support Material: Timber, metal or other suitable material.

Support Colour: Yellow.

Stability: Provide concrete blocks, sandbags or other approved devices to ensure barriers are stable.

Bases: Keep the bases of the trestles within the ends of the boards.

High visibility flexible mesh fencing

Standard: To AS 1742.3.

Height: Approximately 1 m.

Colour: Orange.

Support: Top of the fence is at least 800mm above ground level at all times.

Posts: Use temporary post-mounted delineators.

Location: Erect parallel to and in close proximity to traffic.

Boom gates

Type and location: As requested by the Superintendent or Local Roads Authority. This is a **HOLD POINT**.

Cones and bollards

Standard: To AS 1742.3.

Cones: Fluorescent red or orange material resilient to impact.

Small cones: Used in most built up areas, footpaths, shared paths, and speeds < 70 km/hr. 450 to 500 mm high.

Large cones: Minimum 700 mm high all other locations or instead of the small cones.

Spacing: To AS 1742.3 and all purposes with speed limit less than 50 km/h maximum spacing 4 m.

Bollards: Vertical tube fluorescent red or orange material resilient to impact. At least 750 mm high and 100 mm diameter.

Placement: Locate traffic cones and bollards to arrangement diagrams in SAA HB81.

Restrictions: Unless cones are firmly fixed in position use only while work is in progress, or in locations where there is an employee in attendance to reinstate any of the cones which have been dislodged by traffic. Alternatively use bollards or barriers. This is a **WITNESS POINT**.

Cones and bollards used under night conditions: White horizontal retroreflective class 1 material band, size and location to AS 1742.3.

3.3 TEMPORARY MARKINGS

Pavement reflectorised markings

Pavement markings: Include painted lines, roadmarking tape and raised pavement markers.

Standard: To AS 1742.3.

Edgelining: Where the adjoining roadway is edgelined, provide edgelining to temporary roadways.

Linemarking

Type: Pavement marking tape.

Maintenance: If the pavement linemarking becomes ineffective remark within 48 hours of direction by the Superintendent. This is a **WITNESS POINT**.

Cost: Borne by the Contractor.

Arrows

Location: If single carriageway is opened adjacent to or in lieu of an existing dual carriageway length.

Place: Pavement arrows indicating the direction of flow of traffic at not more than 500 m.

Remove: Arrows if the section is then reincorporated as dual carriageway.

Old markings

Removal: Obliterate or remove all superseded pavement markings immediately before, or after placement of, new markings. Do not obliterate by painting on a final surface. This is a **WITNESS POINT**.

Raised pavement markers

Ineffective markers: Replace raised pavement markers which have become ineffective, 24 hours of direction by the Superintendent. This is a **WITNESS POINT**.

Cost: Borne by the Contractor.

3.4 TRAFFIC SIGNALS

Portable traffic signals

Standard: To AS 4191.

Use: Short term applications of shuttle control where a single lane has to be used alternately by traffic from opposite directions or at road crossings or intersections.

Temporary fixed traffic signals

Standard: To AS 1742.14.

Design and installation of temporary fixed traffic signals: To AS 1742.14.

Use: Longer term shuttle operations or for non-shuttle control of intersecting traffic flows.

Traffic warning lamps

Installation: To AS 1742.3.

Maintain: In good working order, correctly aligned and positioned with respect to the direction of traffic flow each night, before the site is left unattended.

4 EXECUTION

4.1 SIDE ROADS AND PROPERTY ACCESSES

Access

Passage: At all times provide safe and convenient passage for vehicles, pedestrians and stock to and from side roads and property accesses connecting to the roadway.

Alternative access: Submit proposal for approval prior to commencing the work affecting access.

This is a **HOLD POINT**.

Notice to property owners

Denial of vehicular access: Where access needs to be denied due to particular construction activities undertake the following:

- Obtain the approval the of the Superintendent.
- Advise the property owners of such occurrences by way of letter drop at least 24 hours prior to such an interruption.
- Repeat this advice verbally to the property owner in a courteous manner.
- Keep these interruptions to an absolute minimum. This is a **HOLD POINT**.

4.2 PERSONNEL

Traffic controllers

Standard: To AS 1742.3 and SAA HB81.

Personnel: Submit names of proposed traffic controllers with a signed declaration that they are appropriately trained in the duties of traffic controllers to AS 1742.3 and SAA HB81. This is a **WITNESS POINT**.

Recognition marks: A distinguishing mark on the outer garment of authorised traffic controllers indicating their authority.

Location of traffic controllers: One traffic controller will remain at the head of each traffic queue while it is halted.

Restricted sight distance: An additional traffic controller must be placed at the tail end of the queue. This is a **WITNESS POINT**.

Two-way radio: Where both ends of the work are not intervisible, use two-way radio for the traffic controller at each end, or an intermediate traffic controller, from whom both other traffic controllers take their cue, is stationed where both can see extremities of the work.

Night and poor light

Wand: Use an illuminated red cone wand (torch) with a minimum capacity of 30,000 candela to control traffic.

Lighting: The traffic controller and the work area adjacent must be illuminated where possible by flood lighting. Position the flood lighting above the work area and direct downwards and incline slightly to illuminate the face of the STOP/SLOW bat. This is a **WITNESS POINT**.

Flood lighting: Must not create glare for approaching drivers.

Environmental effects: Consider the adverse effects of high lighting levels close to residential property.

Approved clothing for work personnel

Standard: To AS 1742.3, AS/NZS 4602 and SAA HB81.

Requirements: All personnel are required to wear a garment or garments of the classification appropriate for the time of work as follows:

- Class D—garments for daytime use only. Red-orange or yellow.
- Class N—garments for night-time use only. Retroreflective strips of White or yellow.
- Class D/N—garments for both day and night use. Red-orange or yellow.

Flammable: Potentially flammable clothing must not be worn close to work likely to generate flame or hot splatter / molten metal.

4.3 PLANT AND EQUIPMENT

Plant delineation

Plant and equipment: When working in a position adjacent to traffic with a projection beyond the normal width of the item, for example, a grader blade. Direct traffic around such plant and equipment as follows:

- Day light conditions: Attach a fluorescent red flag to the outer end of the projection.
- Night or poor light conditions: Provide an additional traffic controller with an illuminated red wand.

Night time Clearance

Remove plant: Where traffic is permitted to use the whole or portion of the existing road, remove all plant items and similar obstructions from the normal path of vehicles

Lateral clearance: At least 6 m where practicable, with a minimum clearance of 1.2 m.

Lamps: Flashing yellow lamps may be used to draw attention to advance signs. Do not use for delineation.

Signs and devices

Conform to the following:

- Must be installed by a competent person.
- Must be appropriate to the conditions at the work site and used to AS 1742.3 unless a competent person has carried out a risk assessment for an alternative arrangement.
- Must be erected before work commences at a work site.
- Regularly check and maintain in a satisfactory condition.
- Remove from the work site as soon as practicable after works complete including stone removal and line marking.
- Keep records of all signing and delineation at roadway or part roadway closures.
- Relocate or reposition traffic control items so they are visible and perform their regulatory function.
- Place 1m clear of the travelled path. For works taking longer than 2 weeks signs must be mounted on poles sunk into the ground and duplicated on the right side of the road if physically possible.

Temporary speed zoning

General: Conform to the following:

- Arrange for the supply of appropriate temporary speed zoning signs, including posts and fittings, for erection where a temporary speed limit has been approved by the Council Local Traffic Committee or Road Authority.
 - Erect these signs, cover the signs when the speed zone is not in use and remove the signs when the speed zone is no longer required as part of the provision for traffic as directed or approved.
 - Keep a diary recording operation times of the speed zone to be made available when requested.
- This is a **WITNESS POINT**.

Arrangement and placement of traffic control devices

Layout: To the approved **Traffic guidance scheme**, AS 1742.3 and SAA HB81. This is a **WITNESS POINT**.

Cover and/or remove: All temporary traffic control devices when no longer required without delay and maintain unambiguous safe guidance to traffic.

Maintain: All traffic control devices in accordance with AS 1742.3 so that they are in good order and in the correct positions day and night. At all times the signs should be neat, clean, clear and legible.

Unacceptable traffic control devices

Do not use: The following items for traffic control:

- Steel drums.
- Isolated or non-continuous barrier units.
- Barrier boards parallel to and within 4m of the direction of traffic flow.

Inadequate traffic control devices

Nonconforming traffic control devices: Where the Contractor fails to provide and maintain traffic control devices as specified in this worksection and to conform with the approved Traffic Guidance Scheme and Standards. This is a **HOLD POINT**.

4.4 TEMPORARY ROADWAYS AND DETOURS**Drainage**

General: Construct drainage structures and drains in accordance with the following worksections:

- 1121 *Open drain, including kerbs and channel gutter.*
- 1351 *Stormwater drainage.*
- 1352 *Pipe drainage.*
- 1354 *Drainage structures.*

Design frequency: Provide for run-off due to one in five year intensity rainfall, without overflow affecting the road.

Pavement drainage: Design and construct pavements to prevent water ponding on the wearing surface or shoulders. Construct temporary formations not to dam water. This is a **WITNESS POINT**.

Temporary roadways

General: Construct Temporary roadways in accordance with the following worksections:

- 1102 *Control of erosion and sedimentation.*
- 1111 *Clearing and grubbing.*
- 1112 *Earthworks (Roadways).*
- 1141 *Flexible pavements.*

Temporary kerbing: To conform with:

- Forming temporary medians, traffic islands or pavement edges.
- Height < 150 mm.
- Securely fastened to the pavement.
- Clearly delineate.
- As seen by the approaching traffic the width must be in a continuous line of 150 mm.
- Conform to 1121 *Open drains, including kerb and channel.*

Wearing surface

General: Construct surfacing to conform with the worksections:

- 1143 *Sprayed bituminous surfacing, and/or*
- 1144 *Asphaltic concrete (Roadways).*

Quality: Firm, even and skid resistant under all weather conditions and designed to remain sound during use.

Width of the wearing surface: As shown on the drawings or width of the traffic lanes plus the width of each shoulder. This is a **WITNESS POINT**.

Tie-in to existing work: Carry the wearing surface onto any existing connecting roadway so as to finish square to the existing roadway centreline. This is a **WITNESS POINT**.

Road safety barrier

Location: On all temporary embankments where the vertical height between the edge of the shoulder and the intersection of the embankment slope and natural surface exceeds 2 m and as otherwise documented.

Type: Corrugated steel or precast concrete safety barriers.

Erection: To conform with the following:

- 1163 *Rigid concrete and road safety barrier systems (Public Domain).*
- 1194 *Non-rigid road safety barrier systems (Public Domain).*

Construction under traffic

Situation: Where a temporary roadway or a detour is not provided or available then construction under traffic is permitted provided the minimum widths are achieved. This is a **HOLD POINT**.

Minimum widths: Conform to the following:

- Through traffic on a two lane roadway a minimum of one 3.5 m lane width.
- Multilane roads minimum 3.5 m lane width in both directions.

Carriageway restoration: To a safe and trafficable state for through traffic prior to ceasing work each day.

Prior notice of work: Notify the Superintendent of the arrangements and methods for traffic control at least five working days before undertaking any work which would involve construction under traffic. This is a **WITNESS POINT**.

4.5 OPENING TO TRAFFIC**Opening temporary roadways and detours to traffic**

Program: Complete all signposting, pavement marking, guard fence and portable or temporary traffic signals before the opening of temporary roadways to traffic.

Traffic switch: To a temporary roadway or detour must only occur where the Contractor's usual workforce will be on site for a minimum of two days thereafter. This is a **WITNESS POINT**.

Arrange: The opening of temporary roadways so that sections of existing roadway being replaced are not disturbed for a minimum of forty-eight hours.

Roadway failure: In the event of temporary roadway failure the traffic will be redirected back onto the existing roadway. This is a **HOLD POINT**.

Cost: Borne by the Contractor.

Inspection: Do not open temporary roadways and detours (including portable or temporary traffic signals sites) to traffic until they have been inspected and approved in writing. This is a **HOLD POINT**.

Partial completion: The use of the completed Works or part of the Works in providing for traffic is not considered as full opening to traffic and not a reason for payment under the completion of the works.

Maintain: Temporary roadways and detours and ensure the road surface is kept safe for traffic. Repair any potholes or other failures without delay. This is a **WITNESS POINT**.

Opening completed work

Prior notice: Provide the Superintendent with at least five working days written notice confirming the date of opening completed work to traffic. Determine the procedure for opening through consultation with the Superintendent and local Police. This is a **HOLD POINT**.

Complete: All permanent signposting, pavement markings, guard fence and traffic signals relevant to the completed work under the Contract prior to opening completed work to traffic.

Remove: All temporary traffic control devices no longer required for the safety of traffic, when the Works or part thereof are opened to traffic.

Restore: The area to a condition at least equivalent to that at commencement.

5 MEASUREMENT AND PAYMENT**5.1 MEASUREMENT****General**

Payments made to the Schedule of Rates: To *0152 Schedule of rates – projects*, this worksection, the drawings and Pay items 1101.1.

Lump Sum prices: Not acceptable.

Unpriced items: If any item, for which a quantity of work is listed in the Schedule of Rates, has not been priced by the Contractor, due allowance is made in the prices of other items for the cost of the activity which has not been priced.

Methodology

The following methodology will be applied for measurement and payment:

- Drainage is measured and paid in accordance with:
 - . 1121 Open drain, including kerbs and channel gutter.
 - . 1351 Stormwater drainage.

- . 1352 Pipe drainage.
- . 1354 Drainage structures.
- Temporary roadways and detours is measured and paid in accordance with:
 - . 1102 Control of erosion and sedimentation.
 - . 1111 Clearing and grubbing.
 - . 1112 Earthworks (Roadways).
 - . 1121 Open drain, including kerbs and channel gutter.
 - . 1141 Flexible pavements.
- Wearing surface is measured and paid in accordance with:
 - . 1143 Sprayed bituminous surfacing, and/or
 - . 1144 Asphaltic concrete (Roadways).
- Road safety barriers is measured and paid in accordance with:
 - . 1163 Rigid concrete and road safety barrier systems (Public Domain).
 - . 1194 Non-rigid road safety barrier systems (Public Domain).

All activities for the construction, maintenance and removal of temporary roadways, including side-tracks and divided road crossovers, and detours detailed in this worksection, to the requirements of specific activity worksections parts, are measured and paid in accordance with those worksections parts.

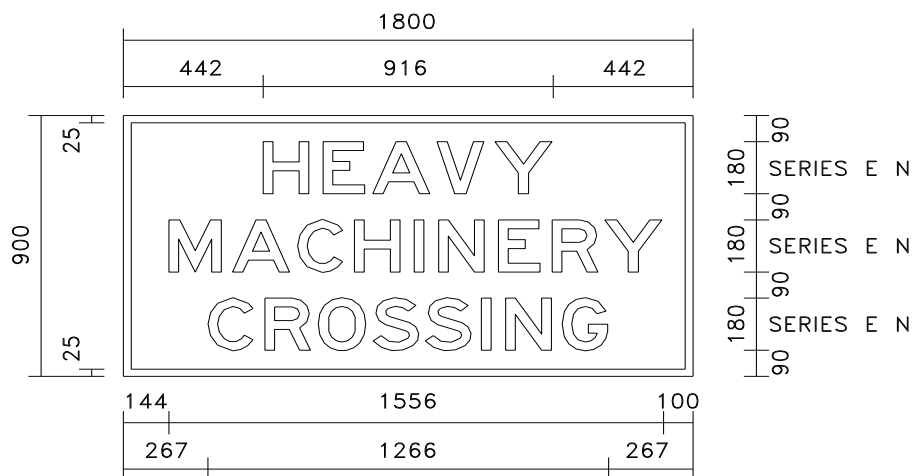
5.2 PAY ITEMS

Pay items	Unit of measurement	Schedule Rate scope
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Pay items	Unit of measurement	Schedule Rate scope
1101.1 Control of traffic	Lump Sum item	<p>Includes:</p> <ul style="list-style-type: none"> - The design of temporary roadways and detours, traffic switching operations, the provision of traffic controllers (as specified), signposting, roadmarkings, raised pavement markers, lights, barriers. and - Any other traffic control devices required for the safe movement of traffic and the protection of persons and property in accordance with this worksection. - Progress payments to be made on a pro-rata basis of work done under this item, having due regard to the duration of the Contract.

6 ANNEXURES

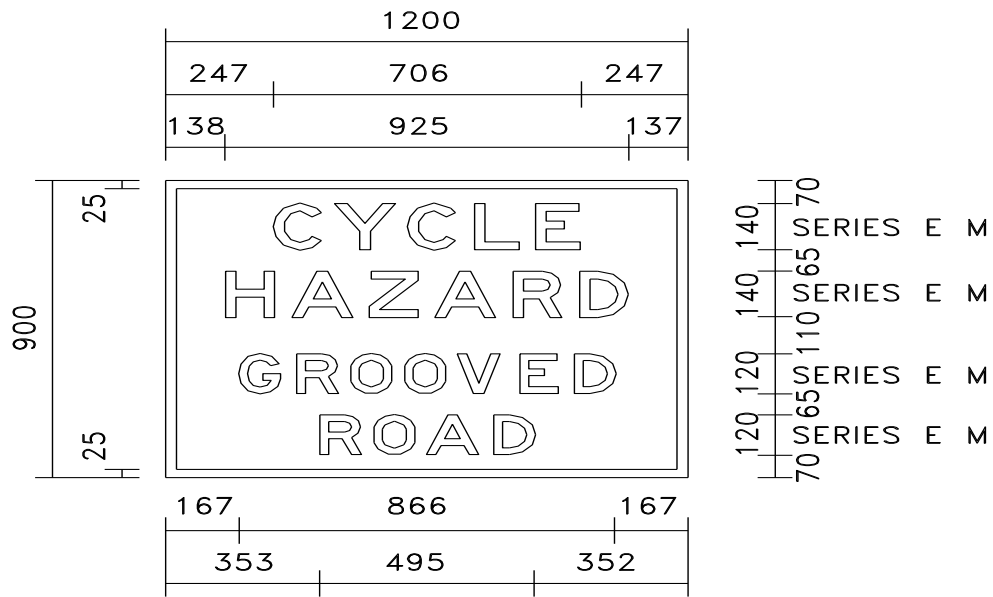
6.1 SUPPLEMENTARY TEMPORARY WARNING SIGNS IN ADDITION TO AS 1743 AND AS 1742.3.



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

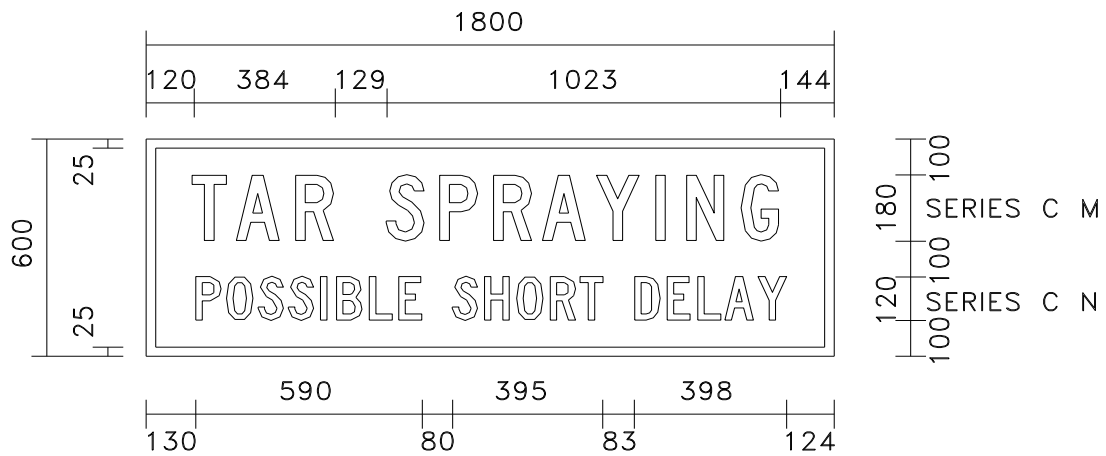
Sign SW5-22



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

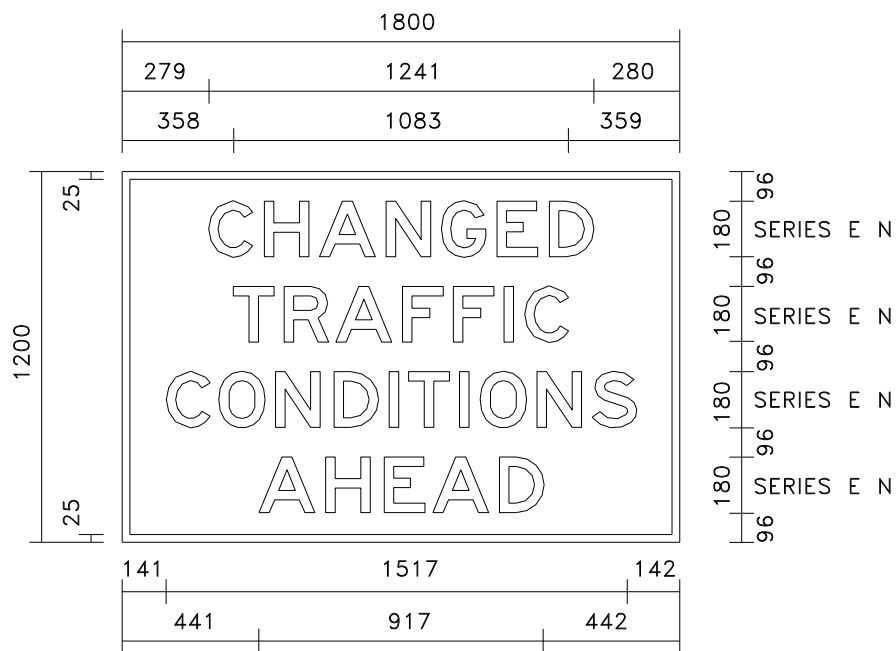
Sign ST1-10



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

Sign ST3-1



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

Sign ST1-6