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Government

TRAFFIC MANAGEMENT 01

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TECHNICAL SPECIFICATION
01 - Traffic Management

Transport Canberra and
City Services

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1 TRAFFIC MANAGEMENT

1.1 General

1.1.1 Responsibilities

1.1.1.1 Objectives

Traffic control: Provide temporary traffic control for works on or adjacent to the road reserve. Works to be undertaken with minimal disruption to all road users whilst ensuring the safety of public and site workers.

Performance: Provide the following, as documented:

- > Personnel plant and equipment.
- > Temporary roadways and detours.
- > Arrangement for traffic management.
- > Traffic control devices.
- > Access to adjoining properties located within the site.

Requirements: To ensure the safety of workers and the public, and to minimise delays and inconvenience to road users during the course of the work.

1.1.1.2 Design

Designer: Prepare a site specific Concept TMP to document temporary traffic management constraints and objectives during construction of the project.

Authority requirements: TCCS will comment on the Concept TMP and authorise the TMP in accordance with the requirements of this Specification. Worksafe ACT will enforce the implementation of the authorised TGSs. Refer to **Annexure A - Concept TMP checklist**, which shall be submitted along with the concept TMP.

1.1.2 Cross references

General: The following documents are related to this Specification.

1.1.2.1 ACT Legislation

Road Transport (General) Act

Road Transport (Safety and Traffic Management) Act

Road Transport (Safety and Traffic Management) Regulation

Public Roads Act

Work Health and Safety Act

1.1.2.2 Specifications

Requirement: Conform to the following:

MITS 00	Preliminaries
MITS 02	Earthworks
MITS 03	Underground services
MITS 04	Flexible pavement construction
MITS 14	Road signs
MITS 15	Road furniture

1.1.2.3 Design standards

Requirement: Conform to the following;

MIS 01	Street planning and design
MIS 02	Earthworks and site grading
MIS 03	Pavement design

1.1.2.4 Other publications

General: The following documents contain reference material that is related to this Specification.

RMS, Traffic Control at Work Sites

Safe Work Australia, Traffic management in workplaces, Draft, Code of Practice.

Hoardings, Gantries and Hoisting Zones: City of Melbourne Building and Construction Code of Practice

1.1.3 Referenced documents

General: The following documents are incorporated into this Specification by reference.

1.1.3.1 Standards

Australian standards

AS 1742	Manual of uniform traffic control devices
AS 1742.3	Traffic control for works on roads
AS 1742.14	Traffic signals
AS 1743	Road signs - Specifications
AS 1744	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	Retroreflective sheeting
AS/NZS 1906.4	High-visibility materials for safety garments
AS 4191	Portable traffic signal systems
AS/NZS 4192	Illuminated flashing arrow signs
AS 4582	Variable message signs
AS 4582.2	Portable signs
AS/NZS 4602	High visibility safety garments
AS/NZS 4602.1	Garments for high risk applications

1.1.3.2 Other publications

Austrroads

AGRD	Austrroads Guide to Road Design
AGRD03	Part 03: Geometric Design
AGRS 06	Part 6: Managing Road safety Audits
AGTM	Austrroads Guide to Traffic Management
AGTM06	Part 6: Intersection, interchanges and crossings
AP-R337	National approach to traffic control at work sites

1.1.4 Standards

1.1.4.1 General

Standard: To *AS 1742.3* and *AP-R337*.

Proprietary products: To *TCCS Products previously considered for use list*

1.1.5 Interpretation

1.1.5.1 Abbreviations

General: For the purposes of this Specification the following abbreviation applies:

RMS:	Roads and Maritime Services, NSW Government, and its successors.
TCCS:	Transport Canberra and City Services, ACT Government, and its successors.
TGS:	Traffic Guidance Scheme.
TMP:	Traffic Management Plan.
VMP:	Vehicle Movement Plan.

1.1.5.2 Definitions

General: For the purpose of this Specification, the definitions of terms used to define the components of the road reserve are in conformance with *AS 1348, Glossary of Austrroads Terms* and *AGRD03*, the definitions given below also 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.

Gantry: A structure which covers a public path and provides protection for path users from both the side and overhead.

Hoarding: A temporary fence or structure enclosing a construction site that restricts public access and provides side protection to the public.

Hoisting zone: A zone of the gantry dedicated for craning or hoisting of materials from the road to the construction site.

Perimeter scaffold: A temporary structure specifically erected to support access platforms or working platforms and to provide overhead and side protection around a building.

Traffic: Includes all road users that could reasonably be expected to use the road reserve (including paths) and may be specific to the site, such as aged care zones, school zones, etc.

Traffic Guidance Scheme: Formerly Temporary Traffic Management (TTM) Plan or Traffic Control Plan (TCP), a diagram showing traffic control devices to guide traffic around, past or through a work site or temporary hazard.

Traffic Management Plan: A plan of action typically derived from a risk assessment describing work to be undertaken in or adjacent to the road reserve and its impact on Traffic. It also describes how these impacts are being addressed and may contain detailed TGS's and VMP's.

Vehicle Movement Plan: A diagram showing the preferred route for vehicles associated with a work site: entering, leaving or crossing through the traffic stream. A VMP should also show travel paths for trucks at key points on the route remote from the work site, such as accessing a Major Collector or Arterial road and turn around sites.

1.1.6 Hold points and witness points

1.1.6.1 Notice

General: Give written notice to the Authorised person so that the documented inspection and submissions may be made in accordance with the **Hold point table** and the **Witness point table – on site activities**

Table 1-1 Hold point table

Item	Clause title	Requirement	Notice for inspection	Release by
Pre-construction planning				
1.1	Traffic Guidance Scheme	Approval of TMP	5 working days before proposed submission to TCCS	Authorised Person
1.2	Traffic Guidance Scheme	TCCS approvals and other Authorities for Temporary traffic arrangement	10 working days before proposed commencement on site	Authorised Person
Materials				
1.3	Gantries, Hoisting zones and Elevated Site Sheds - General	Gantries to be designed by an appropriately qualified Structural Engineer.	Prior to construction	Authorised Person
Execution				
1.4	Side Roads and Property Access - Access	Submit proposal for alternative property access prior to commencing work	10 working days	Authorised Person
1.5	Side Roads and Property Access – Notice to Property Owners	Notify affected residents	24 hours (minimum) prior to access restriction	Authorised person

Item	Clause title	Requirement	Notice for inspection	Release by
1.6	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	Authorised Person
1.7	Opening to Traffic – Opening Completed Work	Written notice and procedure for road opening	5 working days prior to carrying out works	Authorised Person

Table 1-2 Witness point table – On-site activities

Item	Clause title	Requirement	Notice for inspection by the Authorised Person
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Pre-construction planning

1.1	Safety audit	For complex traffic arrangements and staged works carry out safety audits	Progressive
1.2	Road safety audit	For complex traffic arrangements and staged works carry out road safety audits	Progressive

Execution

1.3	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	1 Working day prior to carrying out works
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1.2 Pre-construction planning

1.2.1 Traffic guidance scheme

1.2.1.1 General

Risk Assessment: Undertake a site specific risk assessment considering factors such as traffic volume and speed, road geometry and width and the general behaviour of road users.

Requirement: Submit a TMP for endorsement by the Authorised Person prior to submission to TCCS for endorsement. The TMP must be prepared by a competent person. Include information about the following (where applicable):

- > Hoarding, gantries, scaffolding or site office and amenities on public land.
- > Temporary crossings or changes to the path or on-road cycle network.
- > Impacts to bus stops or routes.
- > Any requirement for the operation of cranes, hoists or lifts above public land.
- > Risk Assessment.

This is a **HOLD POINT**.

Obtain: All necessary approvals from TCCS and other authorities for temporary traffic arrangements.

This is a **HOLD POINT**.

Site copy: Keep an approved copy of the endorsed TMP on site at all times. This must be used to check the arrangement and maintenance of traffic control devices.

1.2.1.2 Traffic Management Plan

Designer's Concept TMP: Identify design assumptions relating to traffic management. Refer to **Annexure A - Concept TMP Checklist**.

Include: The Traffic Management Plan must include the following:

- > Design drawings for any temporary roadways and detours to conform to Design drawings showing pavement, wearing surface and drainage details.
- > Details of arrangements for construction under traffic.
- > Traffic Guidance Scheme(s).
- > Vehicle Movement Plan(s).
- > Haulage routes: Identify an appropriate route between the site and the arterial road network. Consult with TCCS to define acceptable routes for haulage with applicable load limits if required.
- > Application for temporary speed zoning changes.
- > Special consideration to the safety of the workers, pedestrians, cyclists.
- > Location of tower crane and hoisting zone, if required.
- > Location for loading, delivery and storage of site material.
- > Obstructions such as street furniture, trees, bus stops.
- > 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.

1.2.1.3 Traffic Guidance Scheme

Include: The Traffic Guidance Scheme must include the following (if identified in the TMP):

- > 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, guard fence and barrier boards.
- > Working times when traffic control measures are in place to minimise disruption to traffic during periods of peak flows.

Note: Particular care must be taken when requiring reversal of traffic flows or the separation of unidirectional flow by medians or other physical separation.

1.2.1.4 Safety audit

Audit: A safety audit shall be undertaken by a Competent Person for the construction phase as recommended in *AGRS 06* for complex traffic arrangements and staged works, where required in the Concept TMP. This includes risk assessments for the workers safety.

Competent person: To *AGROS 06 Section 2.5*.

This is a **WITNESS POINT**.

1.2.1.5 Road safety audit

Audit: A road safety audit shall be undertaken by a Competent Person for complex traffic arrangements and staged works, where required in the Concept TMP. Assess road safety deficiencies and areas of risk that could lead to road crashes.

Competent person: To *AGROS 06 Section 2.5*.

This is a **WITNESS POINT**.

1.2.2 Design of temporary roadways

1.2.2.1 Design standards

Standard alignment and grading: Adopt the specific provisions of this Specification, *AGRD03, MIS01 Street planning and design* and *MIS03 Pavement design*.

Intersections: Design intersections to *AGTM06*.

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

1.2.2.2 Design drawings

Requirement: Submit design drawings for approval that show any temporary roads with sufficient detail to document the proposed road alignments, sections, pavement design, surfacing, sight distances, roadside furniture and linemarking.

1.2.2.3 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.

1.2.2.4 Temporary carriageways

Temporary carriageways: Provide the following minimum requirements for minor roads:

- > Bituminous cold mix, of a maximum thickness 50mm, on a base of compacted crushed stone, gravel or other material approved by the Authorised Person.
- > Steel plating, over the trench, of sufficient thickness and bearing area outside trench crossings to support traffic loadings and suitably secured with pins or bituminous cold mix to the satisfaction of the Authorised Person.

1.2.2.5 Temporary footpaths and driveways

Temporary restoration: Provide the following minimum requirements:

- > Material: Bituminous cold mix, of maximum thickness 50mm, or other material approved by the Authorised Person.

1.3 Materials

1.3.1 Signs

1.3.1.1 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 A**.

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.

Variable Message Signs: To AS 4582.2.

1.3.1.2 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.

1.3.2 Road safety barriers

1.3.2.1 Approved products

General: TCCS require that all new safety barrier products must be accepted by Roads and Maritime Services (RMS) NSW for use on classified roads within NSW prior to use in the ACT.

1.3.3 Barriers and fencing

1.3.3.1 Barrier boards

Standard: To AS 1742.3.

Size: 150 to 200mm high, 4m 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 1m above the pavement.

Support Material: Timber, metal or other suitable material.

Support Colour: Yellow.

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

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

1.3.3.2 High visibility flexible mesh fencing

Standard: To AS 1742.3.

Height: Approximately 1m.

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.

1.3.3.3 Boom gates

Type and location: As requested by the Authorised Person or TCCS.

1.3.3.4 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 < 70km/hr. 450 to 500mm high.

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

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

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

Placement: Locate traffic cones and bollards to AS 1742.3.

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.

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

1.3.4 Temporary markings

1.3.4.1 Pavement reflectorised markings

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

Standard: To AS 1742.3.

Edgeline: Where the adjoining roadway is edgeline, provide edgeline to temporary roadways.

1.3.4.2 Linemarking

Type: Pavement marking tape.

Maintenance: If the pavement linemarking becomes ineffective, it must be remarked within 48 hours of direction by the Authorised Person.

1.3.4.3 Arrows

Location: If a one way 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 500m centres along the carriageway.

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

1.3.4.4 Redundant Pavement Markings

Removal: Physically remove all superseded pavement markings immediately before, or after placement of new markings. Redundant pavement markings must not be removed by painting over their surface.

1.3.4.5 Raised pavement markers

Ineffective markers: Replace raised pavement markers which have become ineffective, within 24 hours of direction by the Authorised Person.

1.3.5 Traffic signals

1.3.5.1 Portable traffic signals

Standard: To *AS 4191*.

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

1.3.5.2 Temporary fixed traffic signals

Standard: To *AS 1742.14*.

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

Use: Non-shuttle control of intersecting traffic flows.

1.3.6 Hoarding

1.3.6.1 General

General: Hoarding screens shall be constructed of boarded timber or plywood between 1.8m to 2.4m in height and painted in a uniform colour. Chain wire and corrugated iron fences will not be accepted.

Lighting: To *AS 1742*.

Wind loading: Design to *AS 1170.2*.

Open excavations: Design hoardings adjoining open excavations to withstand a lateral line load of 0.75kN/m applied at a height of 1m from the base. Provide appropriate barriers to prevent vehicular impact.

Access: Hydrants or other street furniture shall not be covered, or access impaired in any way without express approval from the relevant authority. A minimum access width of 1200mm is required for pedestrians.

Maintenance and graffiti: Maintain hoarding in good condition, free from graffiti and bill posters.

1.3.7 Gantries, hoisting zones and elevated site sheds

1.3.7.1 General

Structural design: All gantries shall be designed by an appropriately qualified structural engineer for dead loads, live loads and wind loads in accordance with the appropriate Australian Standards. Impact loads caused by vehicles or hoisting operations shall also be considered and minimized where possible. Refer to City of Melbourne Building and Construction Code of Practice for design considerations.

This is a **HOLD POINT**

Maintenance and graffiti: Maintain gantries in good condition, free from graffiti and bill posters. All graffiti to be removed within 3 working days of appearing. All structural elements to a height of 2100mm shall be painted white for visibility.

Lighting: Provide and maintain minimum 2 x 36W Fluorescent tubes at 5m centres, or equivalent.

Hoisting operations: All hoisting must be vertically from the hoisting zone and must not be swung over the road or adjoining property

1.4 Execution

1.4.1 Side roads and property access

1.4.1.1 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 10 working days prior to commencing the work affecting access.

This is a **HOLD POINT**.

1.4.1.2 Notice to property owners

Restricted or no vehicular access: In situations where access is restricted or not possible due to particular construction activities, the contractor must undertake the following:

- > Obtain approval of the Authorised Person.
- > 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**.

1.4.2 Personnel

1.4.2.1 Traffic controllers

Standard: To AS 1742.3.

Personnel: Submit names of proposed traffic controllers to the Authorised Person with a signed declaration that they are appropriately trained in the duties of traffic controllers to AS 1742.3.

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.

Two-way radio: Where both ends of the work are not indivisible, 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.

1.4.2.2 Approved clothing for work personnel

Standard: To AS 1742.3, AS/NZS 4602.1 and AS/NZS 1906.4.

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.

1.4.3 Plant and equipment

1.4.3.1 Night and poor light

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

Temporary 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.

Flood lighting: Must not create glare for approaching drivers.

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

1.4.3.2 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 6m where practicable, with a minimum clearance of 1.2m.

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

1.4.3.3 Signs and devices

General: 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 temporary line marking from the work site as soon as practicable after works complete, and sweep wearing course to remove all stones and debris.
- > 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.

1.4.3.4 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 Local Council 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.

1.4.3.5 Arrangement and placement of traffic control devices

Layout: To the approved TGS and AS 1742.3.

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.

1.4.3.6 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.

1.4.3.7 Inadequate traffic control devices

Nonconforming traffic control devices: Where the Contractor fails to provide and maintain traffic control devices as specified in this Specification or to conform to the approved Traffic Guidance Scheme and Standards, they must rectify the issue as soon as possible or within one day of being directed to by the Authorised Person.

1.4.4 Temporary roadways and detours

1.4.4.1 Drainage

General: Construct drainage structures and drains in accordance with *MITS 03 Underground Services*.

Design frequency: Provide for run-off due to one in five year ARI 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 to allow storm water to drain away.

1.4.4.2 Dust Control for Temporary Roadworks

It is the Contractor's responsibility to ensure that appropriate dust control measures are in place to ensure dust nuisance to surrounding residences and businesses is kept to a minimum.

1.4.4.3 Temporary roadways

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

- > *MITS 00C Control of erosion and sedimentation.*
- > *MITS 02A Clearing and grubbing.*
- > *MITS 02B Bulk earthworks*
- > *MITS 04 Flexible pavement construction.*

Temporary kerbing: To conform with:

- > Forming temporary medians, traffic islands or pavement edges.
- > Height < 150mm.
- > Securely fastened to the pavement.
- > To clearly delineate trafficable road width.
- > As seen by the approaching traffic the width must be in a continuous line of 150mm.
- > Conform to *MITS 06 Concrete kerbs, footpaths and minor works.*

1.4.4.4 Wearing surface

General: Construct surfacing to conform to *MITS 04 Flexible pavement construction*.

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.

Tie-in to existing work: Carry the wearing surface onto any existing connecting roadway so as to finish square to the existing roadway centreline, and shall match neatly into existing levels unless specified otherwise.

1.4.4.5 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 2m and as otherwise documented.

Type: Corrugated steel or precast concrete safety barriers.

Erection: To conform to the following:

- > *MITS 15 Road furniture*

1.4.4.6 Construction under Traffic

Situation: Where a temporary roadway or a detour is not provided or available then construction while the wearing course is trafficked by road users is permitted provided the minimum lane widths are achieved. Approval from the authorised person is required to construct under traffic.

Minimum widths: Conform to the following:

- > Through traffic on a two lane roadway a minimum of one 3.5m lane width.
- > Multilane roads minimum 3.5m 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 Authorised Person of the arrangements and methods for traffic control at least five working days before undertaking any work which would involve construction under traffic.

1.4.5 Opening to traffic

1.4.5.1 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: Must occur a minimum of two working days before weekends or public holidays.

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 direct the traffic back onto the existing roadway.

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.

1.4.5.2 Opening completed work

Prior notice: Provide the Authorised Person 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 Authorised Person 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 and line marking no longer required for the safety of traffic, when the Works or part thereof are opened to traffic.

Restore: The area to a condition equal to or exceeding the condition at commencement. Measurement and payment

2 MEASUREMENT AND PAYMENT

2.1 Measurement

2.1.1.1 General

Payments made to the Bill of Quantities: To *MIT5 00A General Requirements*, this Specification, the *Drawings* and **Pay items**.

2.1.1.2 Methodology

The following methodology will be applied for measurement and payment:

- > Allow for all work, materials, testing and quality assurance requirements in each Pay Item.
- > All activities for the design, approval, construction, maintenance and removal of temporary roadways, including side-tracks, divided road crossovers and detours detailed in this Specification, to the requirements of specific activity Specifications parts, are measured and paid in accordance with this Specification.
- > Any damage caused to the shoulder, verge, or any other area outside the scope of works, shall be repaired in accordance with the relevant section(s) of the Specification, at the Contractor's expense.
- > Progress payments shall be made on a pro-rata basis of work performed as part of these pay items, or as agreed with the Authorised Person.

2.2 Pay items

Table 1-3 Pay Items table

Item No	Pay items	Unit of measurement	Schedule of rates scope
1.1	Control of traffic	Lump Sum item	<p>The design, approval, construction, maintenance and removal of traffic control devices, opening to traffic, traffic switching operations, the provision of traffic controllers, signposting, road pavement markings, raised pavement markers, barriers and fencing, and any other items required for the safe movement of traffic and the protection of persons and property in accordance with the approved TMP, AS 1742.3 and other requirements of the appropriate legislation.</p> <p>This pay item is to also include resolving traffic problems, complying with the legal requirements of all authorities concerned, including Transport Canberra and ACT Work Cover, for providing temporary access to private property and adjacent construction sites, for undertaking Safety Audits and Road Safety Audits and for provision and maintenance of associated temporary drainage.</p>
1.2	Temporary roadways	Lump Sum item	All works associated with the design, approval, construction, maintenance and removal of temporary roadways including drainage, supply of materials, placement and compaction in accordance with the Specification.
1.3	Portable Traffic signals	Weeks per pedestal	All works associated with the supply, approval, installation, operation, maintenance and removal of temporary signals in accordance with the Specification.
1.4	Temporary lighting	Weeks per light	All works associated with the supply, approval, installation, operation, maintenance and removal of temporary lighting in accordance with the Specification.
1.5	Variable message signs	Weeks per sign	All works associated with the supply, approval, installation, operation, maintenance and removal of variable message signs in accordance with the Specification.
1.6	Safety Audit	Number	All works associated with undertaking a Safety Audit where directed by the Authorised Person.
1.7	Road Safety Audit	Number	All works associated with undertaking a Road Safety Audit where directed by the Authorised Person.

ANNEXURE A – CONCEPT TMP CHECKLIST

Project/Reference _____
 Certifier _____
 Consultant & Date _____

REQUIRED
 NOT REQUIRED/ NOT
 APPLICABLE

Elements considered within Concept TMP

Active Travel

<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian and cyclist detours.
<input type="checkbox"/>	<input type="checkbox"/>	Pedestrian and cyclist temporary lanes/paths.
<input type="checkbox"/>	<input type="checkbox"/>	Gantries or hoardings.
<input type="checkbox"/>	<input type="checkbox"/>	Temporary changes to public transport stops or routes.

Site Access

<input type="checkbox"/>	<input type="checkbox"/>	Non-standard hours of site operations, material delivery restriction times.
<input type="checkbox"/>	<input type="checkbox"/>	Signage, displays of businesses or adjoining properties required to be unobstructed.
<input type="checkbox"/>	<input type="checkbox"/>	Public parking required to be unobstructed or relocated.
<input type="checkbox"/>	<input type="checkbox"/>	Location for workers parking nominated.
<input type="checkbox"/>	<input type="checkbox"/>	Other constraints to site access (refer below).

Vehicles

<input type="checkbox"/>	<input type="checkbox"/>	Road or lane closures.
<input type="checkbox"/>	<input type="checkbox"/>	Rigid barriers.
<input type="checkbox"/>	<input type="checkbox"/>	Temporary lighting.
<input type="checkbox"/>	<input type="checkbox"/>	Temporary signals.
<input type="checkbox"/>	<input type="checkbox"/>	Variable Message Signs.
<input type="checkbox"/>	<input type="checkbox"/>	Heavy vehicle staging area
<input type="checkbox"/>	<input type="checkbox"/>	Haulage routes identified

Site Audits

<input type="checkbox"/>	<input type="checkbox"/>	Safety audit required (TCCS to advise)
<input type="checkbox"/>	<input type="checkbox"/>	Road safety audit required (TCCS to advise)
<input type="checkbox"/>	<input type="checkbox"/>	Other site specific conditions (refer below).

Comments

Include any pre-approvals, agency contacts and additional descriptions for the requirements identified above

Note: The purpose of this checklist is to summarise elements of the Concept TMP that have been assumed within the design. It does not represent an exhaustive list of requirements for the Contractor's TMP. There may also be alternative methodologies for the Contractor's TMP.

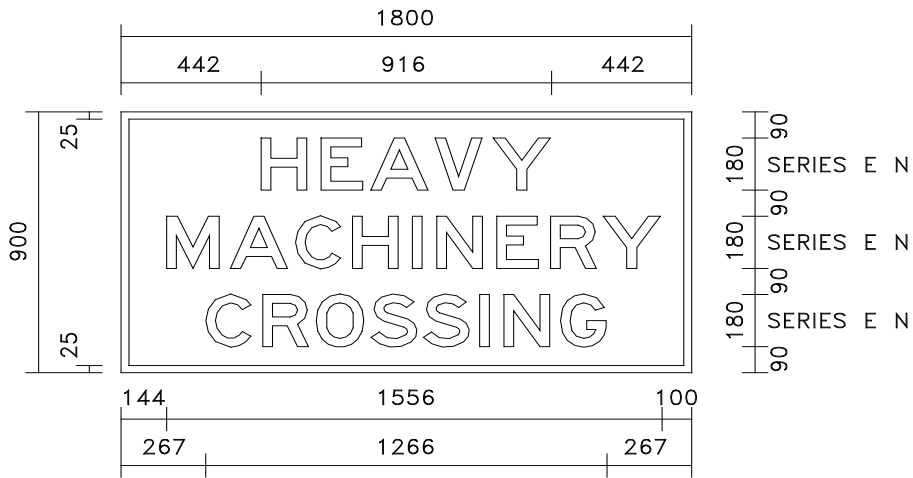
TCCS Reviewer & Date _____

Note: The purpose of the TCCS review is to highlight any additional elements of the Concept TMP that may critical to the design. It does not represent endorsement of the Contractor's TMP.

TCCS comments

ANNEXURE B – SUPPLEMENTARY SIGNS

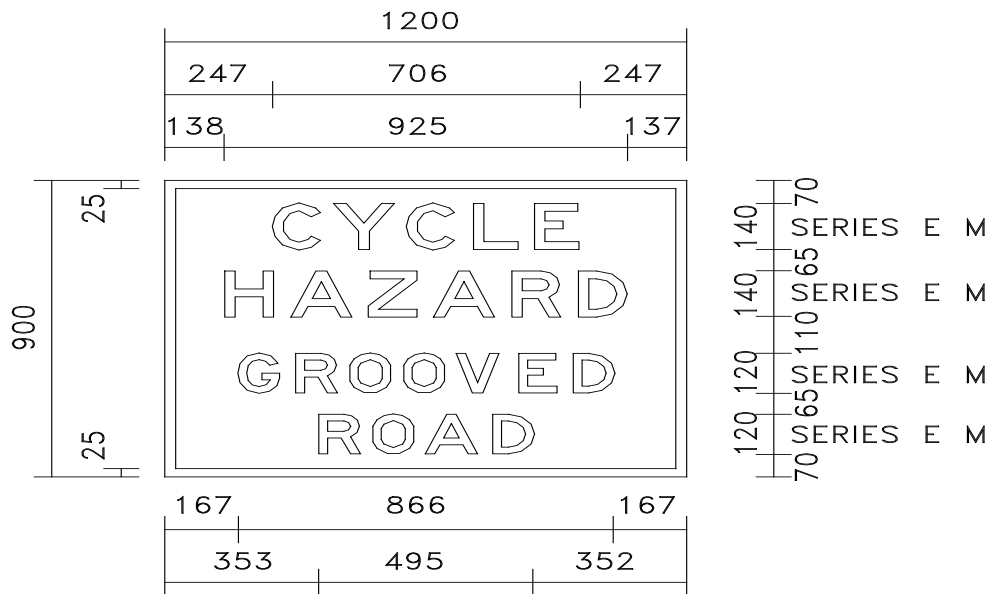
2.2.1.1 Supplementary temporary warning signs in addition to AS 1743 and AS 1742.3.



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

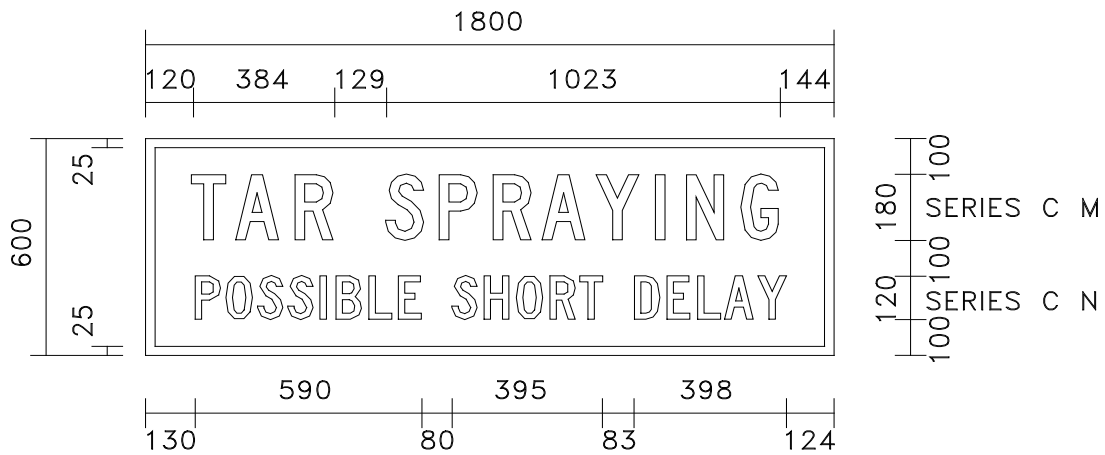
Figure 1-1 Sign SW5-22



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

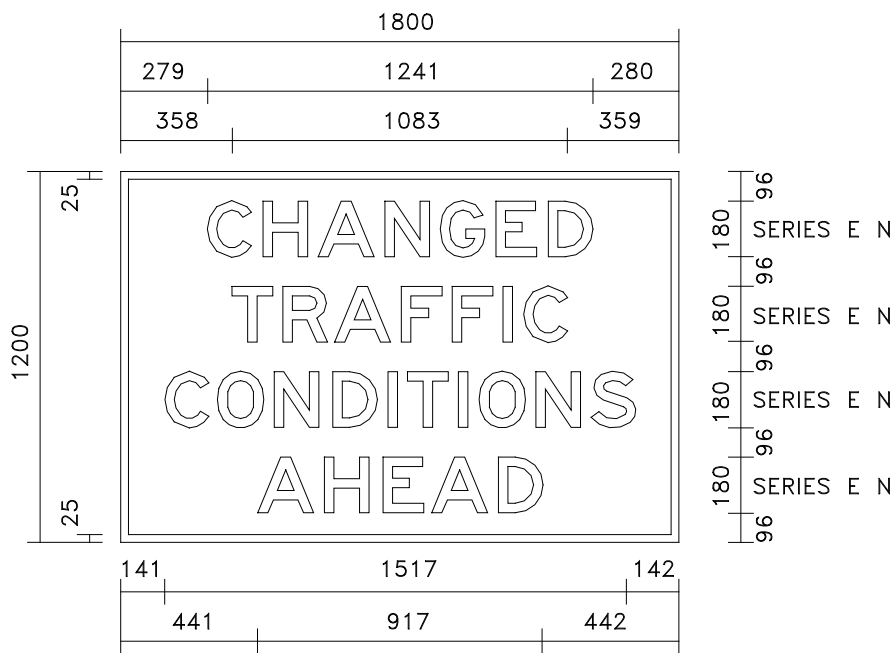
Figure 1-2 Sign ST1-10



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

Figure 1-3 Sign ST3-1



Dimensions are in mm

Colours: Black letters and border on yellow reflectorised ground.

Figure 1-4 Sign ST1-6



Transport Canberra and
City Services

July 2019