



mainroads
WESTERN AUSTRALIA

Guideline Temporary Rumble Strips

Contents

1	PURPOSE	3
2	APPLICATION GUIDELINES	3
2.1	General	3
2.1.1	Installation	3
2.1.2	Spacing of Strips	4
2.1.3	Signage Requirements	4
2.1.4	Monitoring	4
2.1.5	Approval	4
3	REFERENCES AND RELATED DOCUMENTS	4
4	APPENDICES	5
	Appendix 1: Example Traffic Guidance Schemes	6

Document Control

Owner	Manager Road Safety
Custodian	Road Safety Policy Manager
Issue Date	July 2018

Amendments

Revision Number	Revision Date	Description of Key Changes	Section / Page No.
0	July 2018	Guideline Issued	All

1 PURPOSE

The purpose of this document is to detail Main Road requirements for the use of temporary rumble strips.

Main Roads primary objective of this guideline is to allow practitioners to determine how temporary rumble strips may be used to improve the safety of road workers, traffic controllers and/or road users. Rumble strips are a road safety feature used to alert inattentive drivers by causing a tactile vibration and audible rumbling transmitted through the wheels into the vehicles interior.

2 APPLICATION GUIDELINES

2.1 General

Temporary rumble strips may be installed to help make motorists aware of the following:

- On the approach to the reduced roadwork speed limit of 60 km/h or 40 km/h;
- On the approach to a traffic controller or temporary traffic control device (e.g. temporary traffic signal);
- On the approach to the end of the queue at traffic control locations;
- On the approach to a lane closure.

Rumble strips may also be used wherever a risk assessment by a qualified person determines installing temporary rumble strips will increase the safety of workers, traffic controllers and/or road users.

2.1.1 Installation

Rumble strips shall only be installed where the following conditions are met:

- Speed limit less than 80 km/h (may be temporary or permanent speed limit), and
- Minimum visibility distance of 80 m to the rumble strips.

Rumble strips shall not be installed on curves or at other locations where lateral surface friction is critical.

Safe work practices shall be followed when installing and removing the rumble strips taking into consideration manual handling and traffic risks. Where there are insufficient gaps in traffic to safely allow the installation or removal of the strips the following shall be undertaken:

- Two lane two way roads - provide a traffic controller to stop traffic while the rumble strips are installed/removed
- Multi-lane roads – close the traffic lane using a vehicle with mounted flashing arrow sign to shadow workers installing/removing the rumble strips
- High speed, high volume multi-lane roads – a TMA should be used to protect workers installing/removing the rumble strips

The installation and removal method shall be included on a Traffic Guidance Scheme.

2.1.2 Spacing of Strips

It is recommended that 3 strips are installed with each strip should be placed at decreasing spacing in the direction of travel, 6 m and 3 m apart (see appendix 1).

2.1.3 Signage Requirements

Where rumble strips are installed at roadwork sites, position the advance warning rumble strip signs (MMS-ADV-80 and MMS-ADV-81) a distance equal to that shown in table 1 in advance of the rumble strips to warn motorists of the rumble strip ahead.



Table 1: Advanced sign position

Speed of traffic (km/h)	Distance (m)
50 or less	15
60	45
70 or more	Equal to speed of traffic in km/h

2.1.4 Monitoring

It is recommended that road user behaviour at the rumble strips is monitored. In some cases on two lane two way roads, road users have tried to avoid the rumble strips by driving into oncoming traffic. A row of cones may be installed on the centreline in advance of the rumble strips with narrow hazard marker (MR-TAW-39) at the start of the row to direct road users to the correct travel path.



2.1.5 Approval

Only approved temporary rumble strips shall be used and installed in accordance with manufacturer's requirements. Road Authority approval is required whenever temporary rumble strips are used. This shall be shown in a Traffic Guidance Scheme that forms part of a Traffic Management Plan.

Rumble strips shall be yellow.

3 REFERENCES AND RELATED DOCUMENTS

AS1742.3: Manual of Uniform Traffic Control Devices Part 3: Traffic Control Works on Roads.






Traffic Management for Works on Roads Code of Practice

4 APPENDICES

Appendix	Title
Appendix 1	Example Traffic Guidance Schemes

NOTES
1. MINIMUM LENGTH OF 60 km/h TEMPORARY SPEED ZONE IS 150 m.














LEGEND

- EXISTING PAVEMENT/ MARKING 
- WORK SITE 
- SAFETY BUFFER 
- BOLLARDS/CONES 
- CONTAINMENT FENCE 

**TABLE 2 CODE OF PRACTICE
VALUE OF DIMENSION 'D'**

SPEED OF TRAFFIC km/h	DIMENSION 'D' m
55 OR LESS	15
56 TO 65	45
GREATER THAN 65	EQUAL TO SPEED OF TRAFFIC, IN km/h

SIGN LEGEND

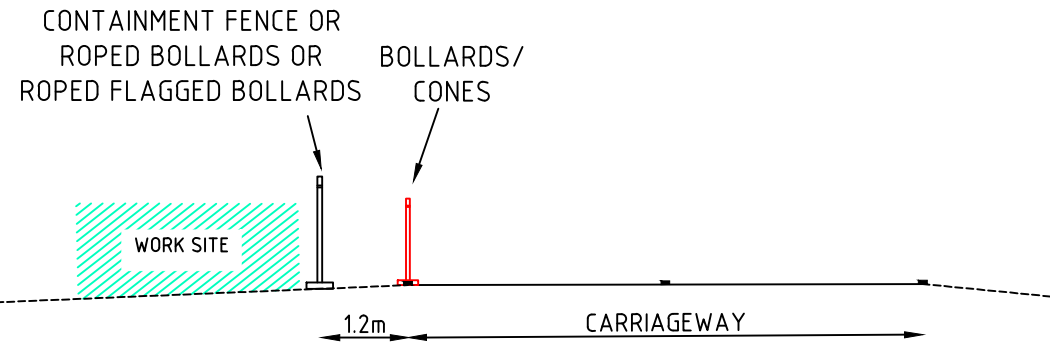
SIGN	NO
	5
	5
	4
	4
	4
	4
	5
	4
	8
	4
	4
	4
	2

GENERAL NOTES

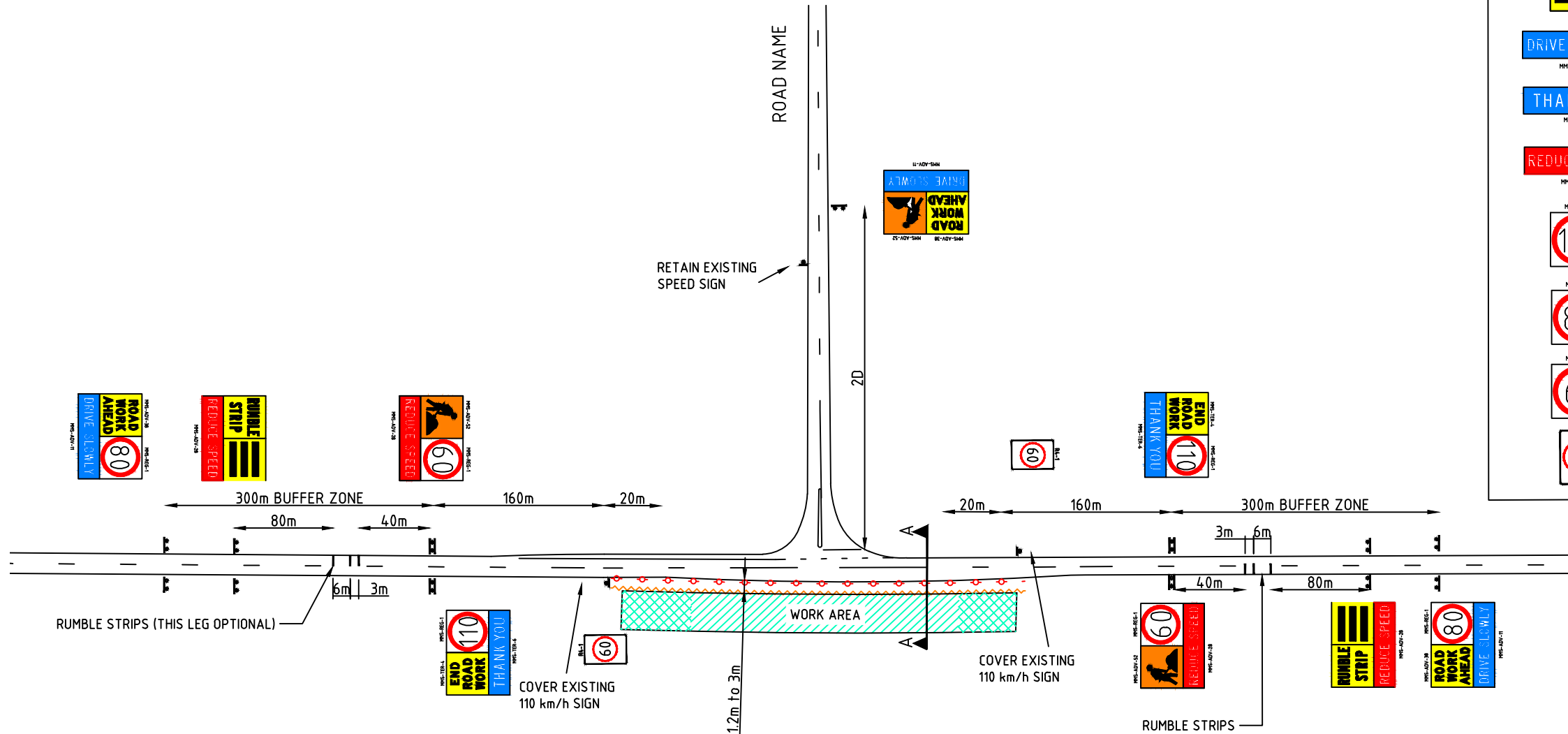
- THIS TCD IS TO BE USED AS PART OF A TRAFFIC MANAGEMENT PLAN AND SIGNED OFF BY AN ACCREDITED AWTM.
- ALL SIGN LOCATIONS ARE TO BE CHECKED PRIOR TO SETOUT AND POSITIONS ADJUSTED TO ALLOW FOR SPECIFIC SITE CONSTRAINTS SUCH AS VEGETATION, OTHER SIGNS, ROADSIDE FURNITURE AND SUFFICIENT SPACE ON SHOULDERS/EMERGENCY LANES.
- THE SYMBOLIC WORKER SIGNS SHALL BE INSTALLED ONLY DURING HOURS WHEN ON-FOOT PERSONNEL WILL BE VISIBLE TO PASSING TRAFFIC.
- ALL EXISTING SPEED ZONE SIGNAGE WITHIN THE TEMPORARY SPEED ZONE SHALL BE COVERED WITH SUITABLE OPAQUE MATERIAL FOR THE DURATION OF THE STAGE AND COVERS TO BE REMOVED ON COMPLETION OF WORKS EACH DAY. UNLESS OTHERWISE NOTED.
- THE POSITIONING OF SIGNS, LENGTHS OF TAPERS OR MARKINGS SHALL BE:
 - MINIMUM ,10% LESS THAN THE DISTANCES OR LENGTHS GIVEN.
 - MAXIMUM ,25% MORE THAN THE DISTANCES OR LENGTHS GIVEN.
- SPACING OF DELINEATION DEVICES:
 - NO MINIMUM ,
 - MAXIMUM ,10% MORE THAN SPACING SHOWN.
- ALL VEHICLES USED ON SITE MUST BE FITTED WITH AN AUDIBLE REVERSE AND DUAL FLASHING BEACONS.

DISCLAIMER

IT IS RESPONSIBILITY OF THE USER OF THIS TRAFFIC CONTROL DIAGRAM TO CONFIRM THE APPROPRIATENESS OR OTHERWISE FOR THE INTENDED WORK SITE BASED ON RIGOROUS RISK ASSESSMENT, REVIEW OF THE REQUIREMENTS OF AS1742.3 AND MAIN ROADS WA TRAFFIC MANAGEMENT FOR WORKS ON ROADS CODE OF PRACTICE.
ALL RESPONSIBILITY WILL REMAIN WITH THE USER TO ENSURE COMPLIANCE WITH RELEVANT STANDARDS AND THE PROVISION OF THE NECESSARY LEVEL OF PROTECTION FOR WORK PERSONNEL AND WORK SITE.



**TYPICAL CROSS SECTION A-A
SCALE: NTS**



No.	DATE	DESCRIPTION	APPR.
A	04.08.14	MRWA	RG
AMENDMENTS			



MAIN ROADS WA

Scale
NTS

Date
4/08/2014

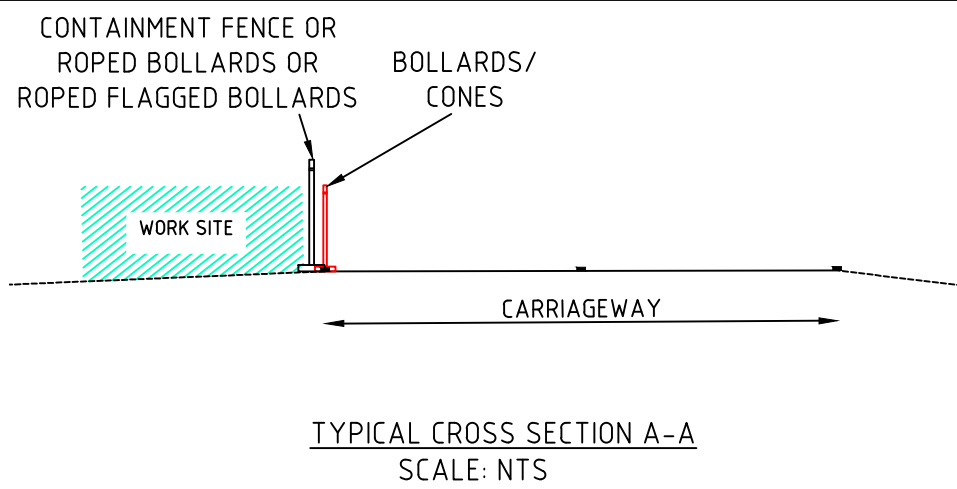
Title

**STATIC WORKSITE
GENERIC VERGE WORKS
BETWEEN 1.2m TO 3m OF NEAREST TRAFFIC LANE
110km/h TO 60km/h**

Dwg No.

Rev.

A



NOTES
1. MAXIMUM LENGTH OF 40 km/h IS 500 m LENGTH

LEGEND

- EXISTING PAVEMENT/ MARKING
- WORK SITE
- SAFETY BUFFER
- BOLLARDS/CONES
- CONTAINMENT FENCE

SIGN LEGEND

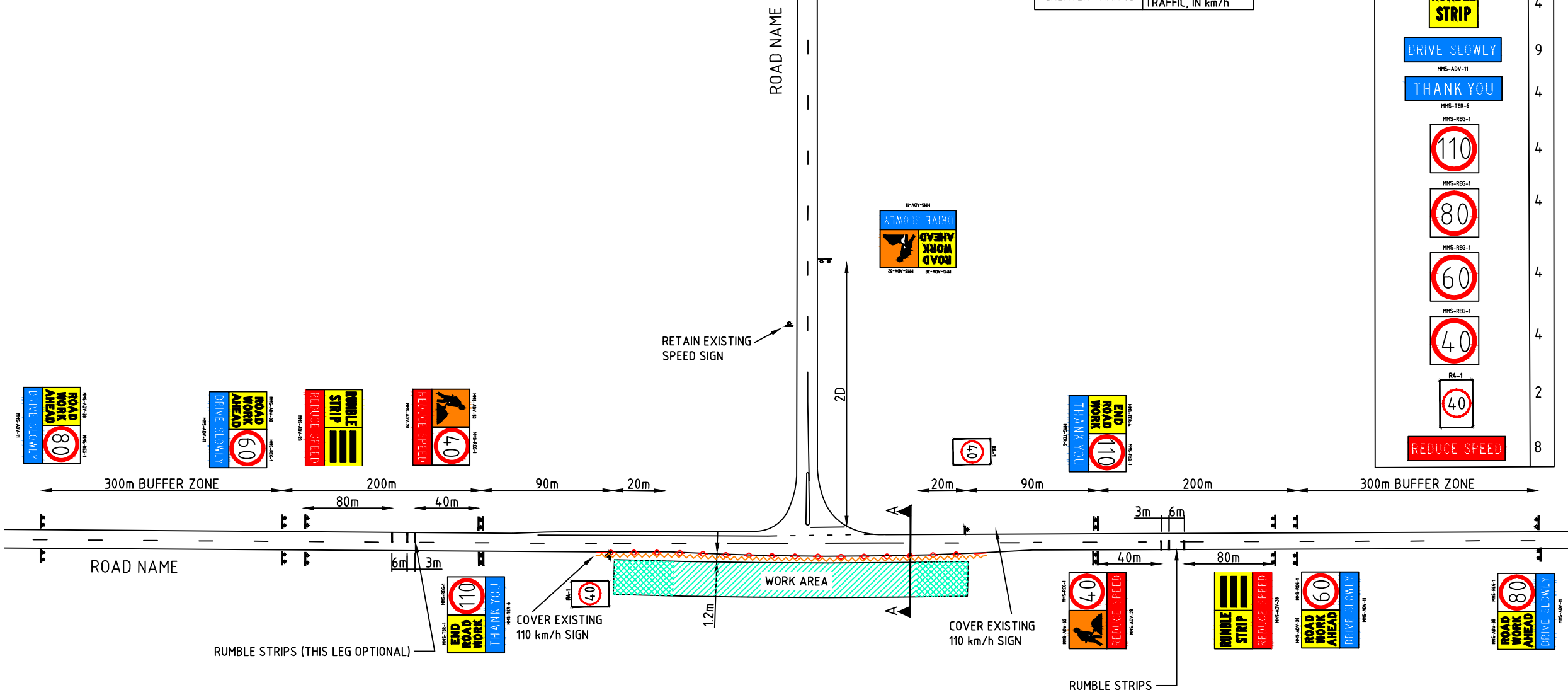
SIGN	NO
	5
	9
	4
	4
	9
	4
	4
	4
	4
	4
	2
	8

TABLE 2 CODE OF PRACTICE
VALUE OF DIMENSION D

SPEED OF TRAFFIC km/h	DIMENSION D m
55 OR LESS	15
56 TO 65	45
GREATER THAN 65	EQUAL TO SPEED OF TRAFFIC, IN km/h

GENERAL NOTES

1. THIS TCD ONLY TO BE USED AS PART OF A TRAFFIC MANAGEMENT PLAN AND SIGNED OFF BY AN ACCREDITED AWTM.
2. ALL SIGN LOCATIONS ARE TO BE CHECKED PRIOR TO SETOUT AND POSITIONS ADJUSTED TO ALLOW FOR SPECIFIC SITE CONSTRAINTS SUCH AS VEGETATION, OTHER SIGNS, ROADSIDE FURNITURE AND SUFFICIENT SPACE ON SHOULDERS/EMERGENCY LANES.
3. THE SYMBOLIC WORKER SIGNS SHALL BE INSTALLED ONLY DURING HOURS WHEN ON-FOOT PERSONNEL WILL BE VISIBLE TO PASSING TRAFFIC.
4. ALL EXISTING SPEED ZONE SIGNAGE WITHIN THE TEMPORARY SPEED ZONE SHALL BE COVERED WITH SUITABLE OPAQUE MATERIAL FOR THE DURATION OF THE STAGE AND COVERS TO BE REMOVED ON COMPLETION OF WORKS EACH DAY. UNLESS OTHERWISE NOTED.
5. THE POSITIONING OF SIGNS, LENGTHS OF TAPERS OR MARKINGS SHALL BE:
 - A) MINIMUM ,10% LESS THAN THE DISTANCES OR LENGTHS GIVEN.
 - B) MAXIMUM ,25% MORE THAN THE DISTANCES OR LENGTHS GIVEN.
6. SPACING OF DELINEATION DEVICES:
 - A) NO MINIMUM ,
 - B) MAXIMUM ,10% MORE THAN SPACING SHOWN.
7. ALL VEHICLES USED ON SITE MUST BE FITTED WITH AN AUDIBLE REVERSE AND DUAL FLASHING BEACONS.



DISCLAIMER
IT IS RESPONSIBILITY OF THE USER OF THIS TRAFFIC CONTROL DIAGRAM TO CONFIRM THE APPROPRIATENESS OR OTHERWISE FOR THE INTENDED WORK SITE BASED ON RIGOROUS RISK ASSESSMENT, REVIEW OF THE REQUIREMENTS OF AS1742.3 AND MAIN ROADS WA TRAFFIC MANAGEMENT FOR WORKS ON ROADS CODE OF PRACTICE.
ALL RESPONSIBILITY WILL REMAIN WITH THE USER TO ENSURE COMPLIANCE WITH RELEVANT STANDARDS AND THE PROVISION OF THE NECESSARY LEVEL OF PROTECTION FOR WORK PERSONNEL AND WORK SITE.

				Scale NTS	Title STATIC WORKSITE GENERIC VERGE WORKS WITHIN 1.2m OF NEAREST TRAFFIC LANE 110km/h TO 40km/h SPEED RESTRICTION	Dwg No.
				Date 4/08/2014		Rev. A
No.	DATE	DESCRIPTION	APPR.	MAIN ROADS WA		
AMENDMENTS						