

Technical Manual

Development and infrastructure

QPWS road works signage (for works on very low-volume roads in rural areas)

Technical manuals define complex decision-making processes or requirements of the Environmental Protection Agency, incorporating the Queensland Parks and Wildlife Service. Technical manuals provide guidance and information to assist staff in the completion of specific tasks or in making certain judgments.

Purpose

The carrying out of any work on or near roads requires the provision of adequate warning, instruction, and/or guidance to road users. The attached Queensland Parks and Wildlife Service (QPWS) road works signage manual (attachment 1) provides instruction on appropriate signage requirements when conducting road works on or near roads in QPWS managed lands.

Procedure

This technical manual provides Rangers with safe and lawful means of conducting their duties on or near roads in compliance with the *Transport Operations (Road Use Management) Act 1995* and the *Workplace Health and Safety Act 1995*. All activities conducted on or near roads must be undertaken in accordance with the requirements of the attached manual.

Refer to Attachment 1 for further detail on road works signage requirements in QPWS managed lands.

Approved By

Alan Feely	12 September 2007
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Signature

Date

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QPWS ROAD WORKS SIGNAGE MANUAL

FOR WORKS ON VERY LOW-VOLUME ROADS IN
RURAL AREAS

ROAD
WORK
AHEAD



END
ROAD
WORK

FOREWORD

This document has been developed in consultation with the Traffic Engineering and Road Safety Branch, Queensland Government Department of Main Roads for use by Rangers in Queensland Parks and Wildlife Service (QPWS) for very low volume roads in rural areas.

The standardised Traffic Guidance Schemes contained in this document specify the Traffic Control Devices to be used to warn, instruct, and guide road users in the safe negotiation of work sites on or near roads in order to ensure the safest possible work site for both employees and the public.

All personnel are directed that no work is to proceed until hazard identification and risk assessment specific to the job at hand has been completed for the specific location and traffic control devices have been deployed according to the relevant traffic guidance scheme.

The *Transport Operations (Road Use Management) Act 1995* gives this document legal status, therefore signing schemes outside these guidelines should proceed only after careful consideration of the factors involved in conjunction with appropriately trained and authorised persons.



Queensland Government
Department of Main Roads

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SECTION 1. SCOPE AND GENERAL

1.1 SCOPE

The carrying out of any work on or near roads, irrespective of the job duration, requires the provision of adequate warning, instruction and, or guidance to road users. Such measures will promote the safe negotiation of work sites on or near roads as required by the *Transport Operations (Road Use Management) Act 1995*. The *Workplace Health and Safety Act 1995* also stipulates that employers must take reasonable and practicable measures to mitigate the risk of harm to employees.

1.2 OBJECTIVE

This procedure provides Rangers with a safe and lawful means of conducting duties on or near roads in compliance with the Transport Operations (Road Use Management) Act and the Workplace Health and Safety Act. All activities conducted on or near roads must be undertaken in accordance with the requirements of this procedure and the Traffic Guidance Schemes contained herein only where it is safe to do so.

1.3 APPLICATION

This procedure:

- Applies to any duties proposed to be undertaken on or near a road that may cause, or are likely to cause, interference or obstruction to the normal use of a road and/or footpath;
- Is based on Part 3, Traffic Control Devices for Works on Roads, of the Manual of Uniform Traffic Control Devices (Queensland Department of Main Roads 2003) and has been approved by the Traffic and Road Use Management Division of the Queensland Government Department of Main Roads;
- Applies only to the standardised Traffic Guidance Schemes for works on or near roads contained in this document; and
- **Is only applicable for work within very low volume roads in rural areas and can be applied to restricted access roads at the discretion of the supervisor (i.e. ask yourself will all personnel with access be aware of the road works and conditions).**

1.4 TRAINING

The training program is designed to ensure that Rangers are familiar with the QPWS Roadworks Signage Manual and the deployment of traffic control devices in accordance with the approved Traffic Guidance Schemes.

To successfully complete the training program Rangers must pass a competency assessment. Rangers who have not completed this training are not permitted to deploy traffic control devices.

This training authorises a Ranger to conduct the activities outlined in this procedure and does not constitute authorisation as a Traffic Controller. No Ranger is to attempt to control or direct traffic, other than on a restricted access road, beyond the scope of this procedure, unless directed to do so by a Police Officer.

1.5 DEFINITIONS

1.5.1 Arterial road

A general term for a main road carrying mostly long distance traffic, as distinct from local traffic.

1.5.2 High-speed roads

Roads on which the posted or general speed limit is above 60km/h.

1.5.3 Low-speed roads

Roads on which the posted or general speed limit is 60km/h or less.

1.5.4 Very low-volume roads

Roads carrying less than 400 vehicles per day (approximately 1 vehicle every 3½ minutes).

1.5.5 Personal Protective Equipment Checklist

The approved personal protective and other safety equipment as specified in the QPWS Uniform Manual, Personal Protective Equipment (PPE) Guidelines.

1.5.6 Police Officer

An operational officer of the Queensland Police Service.

1.5.7 Road Safety Kit (traffic control devices for use with this procedure)

The approved traffic control devices specified for use in the traffic guidance schemes and, or the *Manual of Uniform Traffic Control Devices 2003*.

1.5.8 Sight distance

Sight distance is the length of roadway visible to a driver.

For < 60km/h speed zones, the sight distance for oncoming traffic shall be greater than 150 metres.

For > 60km/h speed zones, the sight distance for oncoming traffic shall be greater than 250 metres.

Where there this is not possible, the speed limit will be 40 km/h before entering the worksite.

1.5.9 Short term

This description applies when a traffic guidance scheme is required while work personnel are in attendance and is generally limited to the duration of a single work shift or lesser period where road conditions are returned to normal when the shift or lesser period ends.

1.5.10 Long term

This description applies when a traffic guidance scheme is required to operate both day and night and may be left unattended.

1.5.11 Traffic

All vehicles, persons or animals travelling on a road are collectively defined as traffic.

1.5.12 Traffic controller

This defines a person who is competent to control traffic at a work site.

1.5.13 Traffic control device

A sign, signal, marking or installation indicating an obligation to comply with a legally enforceable instruction is a Traffic Control Device.

1.5.14 Traffic guidance scheme

An arrangement of signs and devices, and as necessary, a traffic management plan to warn traffic and guide it through, past or around a work area or temporary hazard.

1.5.15 Two-way roadway

This defines a roadway having a single traffic lane allotted for use by traffic in opposing directions.

1.5.16 Travelled path

The part of the roadway which is made available to vehicles and contains one or more traffic lanes is the travelled path.

1.5.17 Vehicle mounted warning device

For this procedure a pair of yellow beacon lamps or a pair of yellow beacon lamps supplemented with a sign indicating the kind of work being carried out or the action required by traffic (e.g. PATROL, or a flashing yellow directional arrow).

1.5.18 Vehicle transition area (taper)

Where there is a requirement to delineate a vehicle transition area (taper) before a work area, the minimum required taper is 1 in 15. For example: the taper should grow 1m in width for every 15m of length with traffic cones placed approximately 1m apart.

1.5.19 Work Area

The specific area where work is being done.

1.5.20 Work Site

An area which includes the work area(s) and any additional length of road required for advance signing, tapers, side-tracks or other areas needed for associated purposes.

1.5.21 Restricted access road

A non-gazetted road on park, which can have access restricted by a physical structure such as a locked gate.

1.6 RESPONSIBILITY FOR SAFETY AT WORK SITES

Whilst undertaking works on roads, awareness of the responsibility QPWS has for any injury to road users or damage to property as a result of such operations is paramount. There is a further obligation to provide a safe workplace environment that minimises, as far as practicable, the likelihood of injury to workers by traffic within or adjacent to the work area. To meet these obligations, QPWS should ensure Rangers are appropriately trained.

Steps should be taken to warn the public of prevailing conditions and to guard, delineate and, where necessary, illuminate work that may pose a hazard to road users. Care should be taken to avoid, wherever possible, long delays or detours that may cause unnecessary inconvenience to road users.

1.7 RESPONSIBILITIES OF THE PERSON IN CONTROL

The person in control of works on roads which require the use of a traffic guidance scheme should give attention to the following:

- a) Be mindful of their responsibility to provide, as far as practicable, safe and convenient travelling conditions for road users and a safe workplace for personnel and plant under their control;
- b) Ensure the workplace is safe and without risk of injury or illness to anyone coming to the workplace to work;
- c) Ensure the workplace is safe and without risk of illness or injury from any plant or substance used properly in the course of work;
- d) Remember that they, and personnel under their control, should at all times be courteous to road users. Personnel should not allow themselves to be provoked by members of the public. By exercising restraint they will strengthen their position both then and in the event of any subsequent inquiry into an incident or during any subsequent proceedings;

- e) Ensure that personnel assigned to signing the works are adequately trained to perform the task and that traffic controllers are appropriately trained and informed of their duties; and
- f) Be familiar with, and act as far as is practicable, in accordance with the provisions of this procedure and Part 3 of the Manual of Uniform Traffic Control Devices (Queensland Department of Main Roads 2003).

1.8 RESPONSIBILITIES OF WORKERS

Workers (Rangers) engaged in works on roads requiring the use of a traffic guidance scheme are required to comply with the following:

- a) Any lawful instructions given by persons in control of the workplace;
- b) Use personal protective equipment (PPE) as required by law, including PPE provided by QPWS when properly instructed in its use;
- c) Not to wilfully or recklessly interfere with or misuse any equipment or device; and
- d) Not to wilfully put at risk the health and safety of any person at the workplace.

1.9 LEGAL AUTHORITY

The Transport Operations (Road Use Management) Act provides that Official Traffic Signs shall be installed only by the authority of the Director-General of Main Roads or a local government. The Act also provides that any such sign shall be installed in accordance with the methods, standards and procedures prescribed in Part 3 of the Manual of Uniform Traffic Control Devices, or other duly approved documents.

1.10 REPORTING

Employees should report any hazardous items encountered or abnormal occurrences to their Supervisor/Team Leader or Workplace Health and Safety Representative (WHSR).

Any near miss, incident, injury or illness must be reported (refer to http://www.host.env.qld.gov.au/HomePage/TowardsNone/incident_reporting/T):

- **Option 1 - Online form:** Once submitted, the information will be forwarded automatically to the appropriate personnel based on the level of the incident. This is the preferred notification process.
- **Option 2 - Fax:** A paper form can be completed and faxed to 3227 6505 (i.e. Workforce Management Branch - Central Office). You should also fax or deliver the completed form to your Supervisor, Manager, Director, Executive Director, and Senior Training and Safety Coordinator (STSC) as per the incident reporting and investigation procedure (please read).
- **Option 3 - Telephone:** Details of the incident can be telephoned to Workforce Management Branch on (07) 3222 2562. This information will then be forwarded to your management and Senior Training and Safety Coordinator to follow up with completion of appropriate notifications.

1.11 GENERAL RESPONSIBILITIES

1.11.1 Ranger

All rangers will comply with the requirements of this procedure and the traffic guidance schemes.

1.11.2 WHSR

The WHSR will assist with Risk Assessments and Job Safety Analysis.

1.11.3 Workplace Health and Safety Officer (WHSO)

The WHSO will coordinate Risk Assessments and Job Safety Analysis.

1.11.4 Team Leader / Supervisor

Team Leaders and supervisors will ensure all employees are adequately trained and equipped; and follow this procedure and the Safety Plans.

1.11.5 Manager

The manager will ensure the risk of road and traffic incidents is appropriately managed.

1.12 PROCEDURE OWNER

Queensland Parks and Wildlife Service

1.13 RELATED INFORMATION

- a) Main Roads, 2003. *Manual of Uniform Traffic Control Devices, Part 3, Work On Roads*. Queensland Government: Brisbane.

SECTION 2. PRINCIPLES AND REQUIREMENTS FOR SAFE WORK ON OR NEAR ROADS

2.1 GENERAL

No matter how brief the occupation of a work site may be, a risk assessment must be completed before signing of the site:

- a) To protect workers;
- b) To adequately instruct and guide road users and others safely through, around or past the work site; and
- c) To provide adequate warnings of changes in the road or footpath surface or in driving conditions and of personnel and or plant engaged in the work on the road.

There are 4 important basic principles to be observed as follows:

- a) Signs and devices should be used in a standard manner and match the conditions of the work site;
- b) Signs and devices shall be erected and displayed before work commences at a work site;
- c) Signs and devices shall be regularly checked for relevance and effectiveness and shall be maintained in a satisfactory condition. Irrelevant and/or misleading signs are to be removed or covered as soon as practicable; and
- d) Signs and devices shall be removed from a work site as soon as practicable after the job is completed.

Signs and devices should provide sufficient advance warning and allow adequate time for correct response under the anticipated worst conditions. All approaches to the work area, including side roads, must be considered.

If a Traffic Guidance Scheme not included in this procedure is required at a work site an appropriately qualified person such as a Traffic Controller or Police Officer shall be engaged to provide traffic control.

2.2 TRAFFIC MANAGEMENT

This procedure applies only to the standardised Traffic Guidance Schemes included in this procedure where traffic is directed past the work area. Figure 2.1 outlines the typical components of a work site.

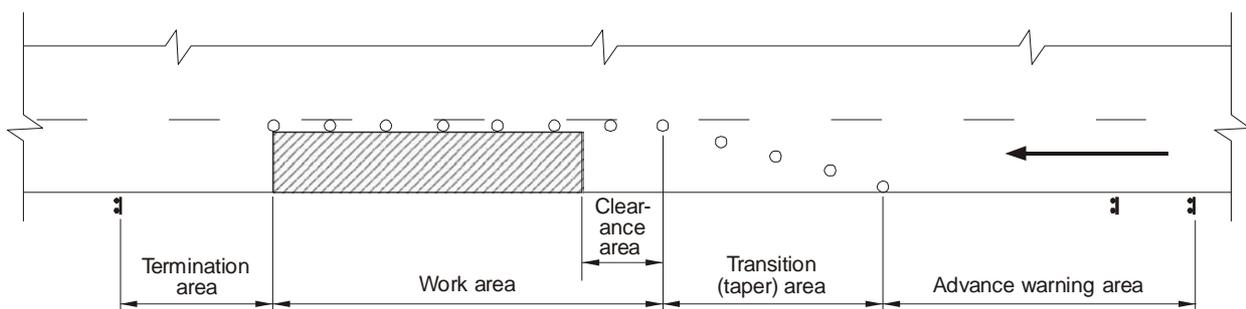


Figure 2.1 Components of a typical work site

Directing traffic past the work area rather than through it or via a detour is the normal method of traffic management at sites where complete elimination of traffic from the site is not required. Traffic paths past the work area shall be clearly delineated and in accordance with the relevant Traffic Guidance Scheme.

2.2.1 Safety and convenience

In order to achieve minimum disruption and inconvenience to road users only the minimum practicable length and width of a road should be closed off at any time. Work should be arranged to minimise:

- a) disruption of established traffic movements and patterns;
- b) interference with traffic at peak movement periods and at night, weekends, holiday periods or other special events; and
- c) interference with public transport services.

Signs and devices should not direct a motorist to disobey a law unless traffic control is present to direct traffic. If traffic control is required an authorised Traffic Controller or Police Officer is required. Requirements of approved traffic guidance schemes for use with this procedure are provided herein.

2.2.2 Provision for pedestrians and bicycles

Where pedestrians, including people with disabilities, have to move through, past or around a work site they shall be provided with a safe means to do so. If there is a high volume of pedestrian or bicycle traffic and there is no existing safe alternative past the work area an appropriately qualified person may be required to establish a safe route for pedestrian and bicycle traffic.

2.3 TRAFFIC CONTROL DEVICES

This procedure specifies the minimum number of signs and devices required to:

- a) Provide advance warning;
- b) Guide traffic through, around or past the work area; and
- c) Minimise the possibility of confusion and misinterpretation of the intended instructions.

Rangers are only authorised to use the standardised Traffic Guidance Schemes included in this document and installation may only occur according to the requirements and conditions of these Schemes.

2.3.1 Additional equipment

A High Visibility Retroreflective Safety Vest and High Visibility Work Shirt as specified in the QPWS Uniform Manual, Personal Protective Equipment (PPE) Guidelines must be worn during all roadwork activities.

Battery operated flashing yellow lamps may be used at work sites to draw attention to advance signs in areas where road lighting is poor or absent. Flashing lamps shall not be used for delineation purposes.

2.3.2 Condition of traffic control devices

Individual signs and devices should be examined before installation to ensure that they are in good condition and are effective. The following checks are required:

- a) Mechanical condition
Items that are bent, broken or have surface damage, should not be used;
- b) Cleanliness
Items should be free from accumulated dirt, road grime, or other contamination;
- c) Colour of fluorescent signs
Fluorescent signs that have lost their daylight impact due to colour fading should be replaced.

Signs required to be effective at night should be checked for reflectivity as soon as possible after installation. When reflectivity is degraded either from long use or surface damage the sign should be replaced. Night-time effectiveness can best be checked by viewing the signs by vehicle headlights or torch in dark conditions.

2.4 VEHICLE MOUNTED WARNING DEVICES

A vehicle-mounted warning device shall consist of one or other of the following:

- a) A single yellow beacon lamp for emergency or other infrequent use on a vehicle not normally used for road works purposes, or for use on a plant item or supervisory vehicle;
- b) A pair of yellow beacon lamps for use on vehicles and positioned so that at least one and preferably both lamps are visible from any direction.

The vehicle-mounted warning device shall be mounted as high as practicable on the vehicle for best visibility to other traffic. It may need to be placed near the rear of the vehicle if it could be obscured by a load.

Supplementary signs used in conjunction with the vehicle mounted warning device may be mounted either with the device or elsewhere in a prominent position on the vehicle.

SECTION 3. PROCEDURE FOR INSTALLING AND OPERATING TRAFFIC CONTROL DEVICES

The procedures for installing and operating traffic control devices ensures that they are used consistently to provide maximum protection to road users and personnel working on or near roads. The procedures are developed around the typical components of a work site, however, all traffic control devices must (other than restricted access roads) be used in accordance with the approved Traffic Guidance Schemes provided in this document or as directed by a Police Officer or other authorised person.

3.1 ARRIVING AT THE WORK SITE

3.1.1 Pre-work preparation and work site assessment

On arrival at the work site a series of actions is required before any work can commence including undertaking a risk assessment of the proposed work site to identify all potential hazards to workers required to work on the work site.

Upon arrival at the work site the Ranger shall:

- a) Park the vehicle safely and in accordance with Queensland traffic laws;
- b) Switch on the vehicle mounted warning device (yellow beacon lamps) and hazard lights;
- c) Put on the High Visibility Retroreflective Safety Vest and High Visibility Work Shirt (once on the Vest and Shirt may not be removed until the officer has left the work site);
- d) Undertake and record a risk assessment in the Site Safety Plan for the work site which shall include, but may not be limited to, the following:
 - Time, date and place;
 - Speed limit of the road;
 - Estimated traffic volume on the road;
 - Worker's visibility of oncoming traffic;
 - Traffic's ability to see personnel and traffic control devices;
 - Situation encountered (reason for work);
 - Expected completion time of required work; and
 - Weather conditions.

The Road Safety Kit should be regularly checked to ensure all equipment is available and in good working order.

3.1.2 Select the most appropriate traffic guidance scheme

The most appropriate standardised Traffic Guidance Scheme shall be selected according to road and traffic conditions at the site and the work requirements of the officer.

Should the situation be on a road with more than 400 vehicles per day (i.e. not a very low volume road) and/or beyond the scope of any of the standardised Traffic Guidance Schemes then no work shall be undertaken until an appropriately qualified Traffic Controller or Police Officer has made the work site safe.

3.2 INSTALLATION OF TRAFFIC CONTROL DEVICES

Traffic control devices approved for use by this procedure should only be installed according to the approved standardised Traffic Guidance Schemes provided in this document. Any work site requiring a traffic guidance scheme beyond the scope of this document shall require the engagement of an appropriately qualified Traffic Controller or Police Officer.

3.2.1 Positioning of traffic control devices

Signs and devices should be positioned and erected in compliance with the relevant standardised Traffic Guidance Scheme and so that the traffic control signs and devices:

- a) Are properly displayed and securely mounted;
- b) Are within the line of sight of the intended road user;
- c) Cannot be obscured from view, either by vegetation or parked cars;
- d) Do not obscure other devices from the line of sight of the intended road user;
- e) Do not become a possible hazard to workers, pedestrians or vehicles; and
- f) Do not deflect traffic into an undesirable path.

Signs and devices are generally placed 1m clear of the travelled path and either on the road shoulder, on the roadway adjacent to the kerb if visible to oncoming traffic and not obstructing traffic, or on the pavement as near as practicable to the kerb where the sign is not obscured.

Signs mounted for long-term works should be erected 1.5m minimum above the level of the nearest edge of the travelled path to the underside of the sign.

The visibility of a sign can be affected by deep shade, the direction of the sunlight, background conditions (including lighting) and oncoming headlights. These factors should be considered when signs and devices are erected to ensure that they can be clearly seen at all times.

3.2.2 Sequence of installation of traffic control devices

Before work commences, signs and devices at the approaches to the work area should be erected in accordance with the standardised Traffic Guidance Scheme in the following sequence:

- a) Advance warning signs;
- b) All intermediate advance and positional signs and devices required in advance of the taper or start of the work area;
- c) All delineating devices required to form the taper including the temporary hazard marker or illuminated flashing arrow sign at the end of the taper where required;
- d) Delineation past the work area; and
- e) All other required warning and regulatory signs.

A vehicle displaying a vehicle mounted warning device shall be used in advance of the taper position to protect workers setting out or retrieving the taper, or reinstating it if displaced or knocked out. Once the signs and devices are installed the vehicle with the vehicle mounted warning devices should be parked, where it is safe to do so, within the work site between the end of the taper and the work area as specified on the standardised Traffic Guidance Schemes.

3.2.3 Orientation of signs

Signs should face towards approaching traffic approximately at right angles to the line of sight from the intended road user and the sign. At curved alignments, the sign should be placed approximately at right angles to the line of sight of a road user 50 m in advance of the road works. Where sight distance is less than 150m, 40km/h signs should be placed in advance of the road works signs as well as through the work site.

3.2.4 Inspection of traffic guidance scheme

When the installation of the signs and devices is completed and the condition of devices has been checked the person in control of the work site should carry out a functional inspection before work commences. If the arrangement is considered confusing or unsatisfactory, it should be adjusted and reinspected. If the installed standardised Traffic Guidance Scheme appears ineffective an appropriately qualified person should be engaged to make the work site safe. It is strongly recommended that a photograph be taken of the work site.

3.3 OPERATION OF THE WORK SITE

3.3.1 Compulsory tasks and records during operation

The person in control of the work site on or near roads shall:

- a) Ensure traffic control devices remain in good condition while deployed;
- b) Ensure traffic control devices remain in place according to the Traffic Guidance Scheme in use;
- c) Make a record of the time of any inspection or reinspection of the traffic control devices and the Traffic Guidance Scheme being used. It is strongly recommended that a photograph be taken of any changes to the work site; and
- d) Make a record of any incidents that occur on or in relation to the work site that might have ongoing consequences.

3.3.2 Maintenance of traffic guidance scheme

Officers should ensure that the traffic control devices remain in place according to the standardised Traffic Guidance Scheme being used. If an alternative Traffic Guidance Scheme not covered by this procedure is required due to work site or condition changes an appropriately qualified person should be engaged to make the work site safe or work shall be abandoned.

3.3.3 Maintenance of devices

Ineffective signs and devices shall be replaced by similar items in good condition, if they cannot be made effective by cleaning or repair. Signs and devices that are no longer in good condition should be returned and replaced. Non-repairable signs should be destroyed so that they are not inadvertently reused.

3.3.4 Use of high visibility clothing

All Rangers shall wear high visibility clothing while on or near roads or in other potentially hazardous areas. The minimum high visibility clothing approved for use with this procedure is the High Visibility Retroreflective Safety Vest and High Visibility Shirt as per the QPWS Uniform Manual, Personal Protective Equipment (PPE) Guidelines.

3.3.5 Operations at night

Operations at night should be conducted using retroreflective equipment, this includes the High Visibility Retroreflective Safety Vest as the shirt is not retroreflective. Night operations where lighting is required beyond vehicle headlights or torch light must consider glare and nuisance impacts of lighting and be mindful of the location and use of generators and other equipment.

3.4 REMOVAL OF TRAFFIC CONTROL DEVICES

The signs and devices should be removed or concealed from view as soon as any activity is completed or a hazard ceases to exist. The removal of signs and devices should be undertaken in reverse order to the sequence of installation.

The vehicle mounted warning device shall remain switched on until the vehicle is prepared to exit the work site. The Ranger shall not remove the High Visibility Retroreflective Safety Vest or High Visibility Shirt until they have left the work site.

The person in control shall make a record of the time and date for removal of the traffic control devices.

3.5 OTHER CONSIDERATIONS

The person in control of the work site should have consideration to the following:

- a) Flora and fauna hazards;

- b) Fire hazards from vehicles parked over, or work being undertaken near to, flammable or combustible materials;
- c) Methods of communication between workers and between the person in control and other persons to ensure everyone at the work site is kept informed of the work situation. Rangers are advised to have a current list of phone numbers for support personnel and agencies.

SECTION 4. DAILY ROUTINE TASKS AND RECORD KEEPING

4.1 RECORD KEEPING

- a) Daily records of the traffic guidance scheme should be kept in a diary or on a copy of the relevant traffic guidance scheme. Records should include:
- Installation, alteration and removal of regulatory signs and devices.
 - Hours of operation.
 - Surface condition of the road.
 - Any significant departures from the traffic guidance schemes and why.
- b) In case of accidents, either witnessed or reported involving the public or from which legal proceedings might arise the following should be recorded (at the time of accident):
- The actual type, size and location of signs.
 - Signage layout photographed.
 - Details of the actual width and condition of the travelled path.
 - Weather conditions.

4.2 DAILY ROUTINE TASKS

4.2.1 General

Supervisory personnel should establish a daily routine which allots specific tasks to personnel including supervisors, so that:

- Loss of production time is minimised.
- Plant operations are not disturbed.
- Signing at all times is adequate for the safety of personnel and traffic.
- The surface of the travelled path is maintained in satisfactory condition.

The supervisor's role in this routine procedure is coordination, inspection and correction.

4.2.2 Before work starts

The following routine should be undertaken before work starts each day:

- An inspection of all traffic signs and devices should be made and a note of signs out of place or damaged during the night for subsequent rectification.
- All lamps should be switched off and checked and cleaned, if necessary.
- After adjustments have been made to the traffic management provisions for the day they should be checked for safety and effectiveness by an inspection drive through the job, and a record made of the signs and their locations (see section 4.1).

4.2.3 During hours of work

The following routine should be followed while work is in progress:

- Periodically drive through the work site to check that all signs and devices as seen by other road users are satisfactory and in their correct position.
- Attend to minor problems as they occur.
- During work breaks, e.g. tea breaks, move personnel clear of the work site, park plant clear of traffic lanes and remove from view or cover inappropriate signs such as Traffic Controller Ahead/PREPARE TO STOP or workers (symbolic) if works cannot be seen.
- Where there are traffic hazards or where only one lane (unless the road is a one lane road) is open to traffic, instruct traffic controllers to remain on the job and relieve them as necessary.
- Coordinate maintenance of the travelled path with other job operations.

4.2.4 Closing at the end of the day

In general the following actions are required at the end of a day's work:

- Carry out a pre-closedown inspection allowing time for urgent maintenance to the travelled path.
- Remove the Traffic Controller Ahead/PREPARE TO STOP, workers (symbolic) and other inappropriate signs.
- Affix and light lamps on advance signs, if appropriate.
- Drive through the work site to confirm that signs and devices are in position and operating before leaving the site.
- Finally, record any changes that have been made to the previously recorded traffic guidance scheme.

4.2.5 After hours

During the hours when work is suspended:

- Make arrangements for personnel to check lamps after dark and to maintain the lamp system during weekends and holidays.
- Provide after hours contact so that arrangements can be made to replace damaged signs or devices.
- Ensure a record is kept of signs/devices found missing or out of place (and their location) at night, weekend or holiday inspections (see section 4.1).

SECTION 5. STANDARDISED TRAFFIC GUIDANCE SCHEMES

Grading on unsealed 2 way, 2 lane rural roads

TGS1

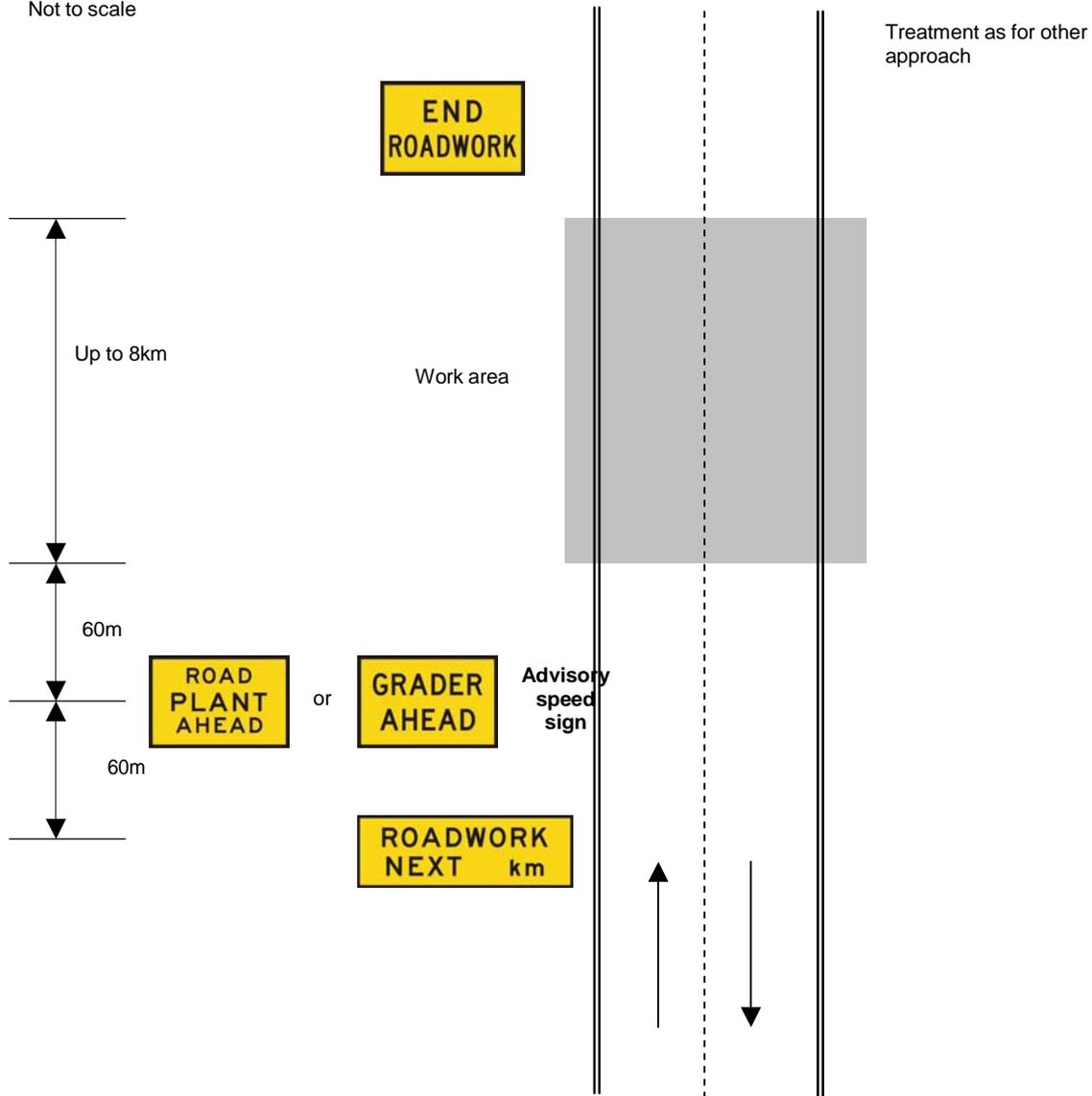
Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



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Not to scale



Conditions of use

- Very-low volume roads
- Maximum length for work area **8km**
- Signs mounted for long term works should be erected 1.5m minimum above the level of the nearest edge of the travelled path to the underside of the sign.
- Road work sign next X km to be adjusted for job.
- Grader ahead sign to be removed when grader not in use

Daily notes

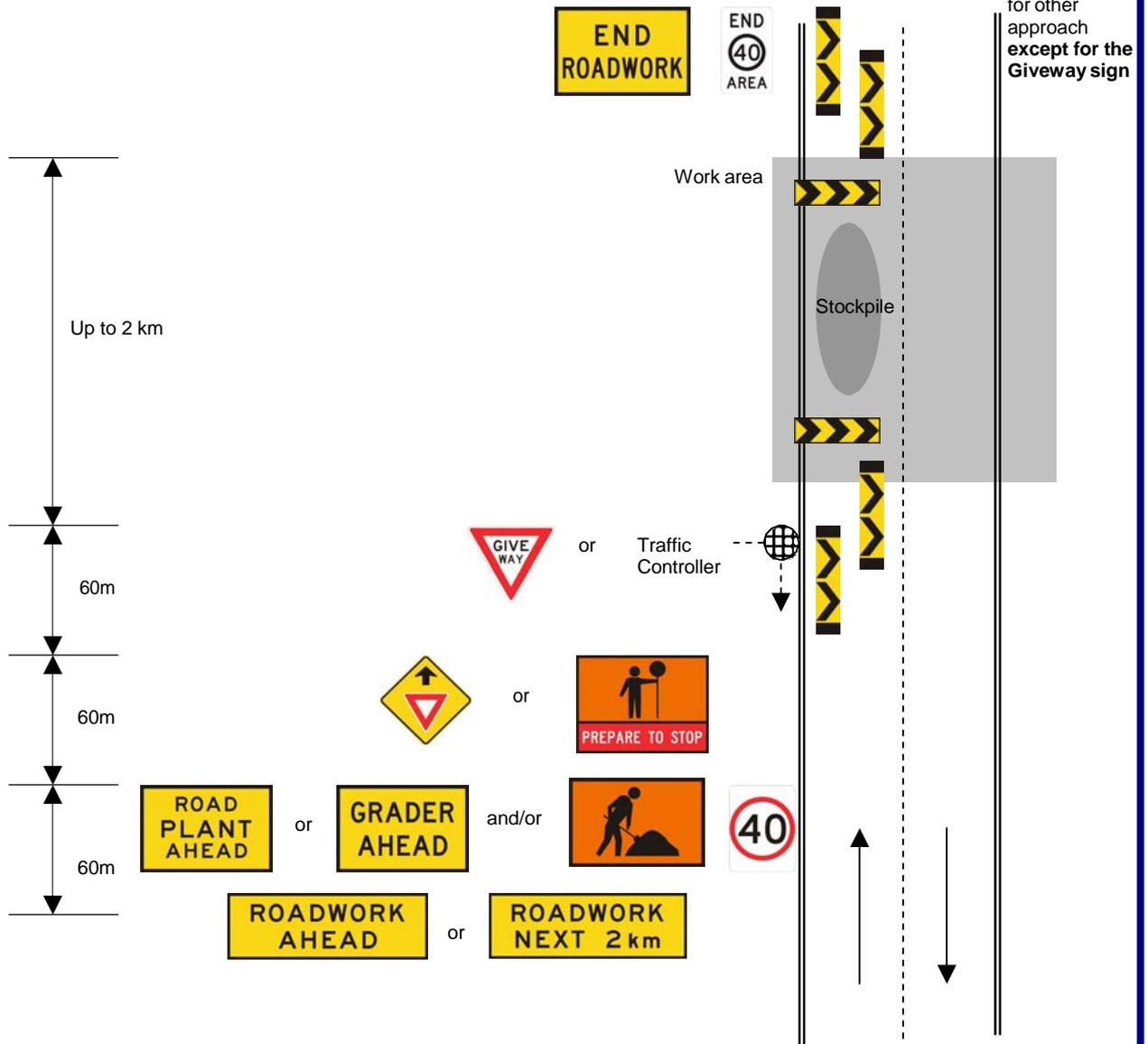
Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



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Conditions of use

- Very-low volume roads
- Maximum length for work area 2km
- Signs mounted for long term works should be erected 1.5m minium above the level of the nearest edge of the travelled path to the underside of the sign.
- Grader ahead/Road Plant sign to be removed when grader not in use
- Worker ahead sign to be removed when no workers onsite

Daily notes

Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



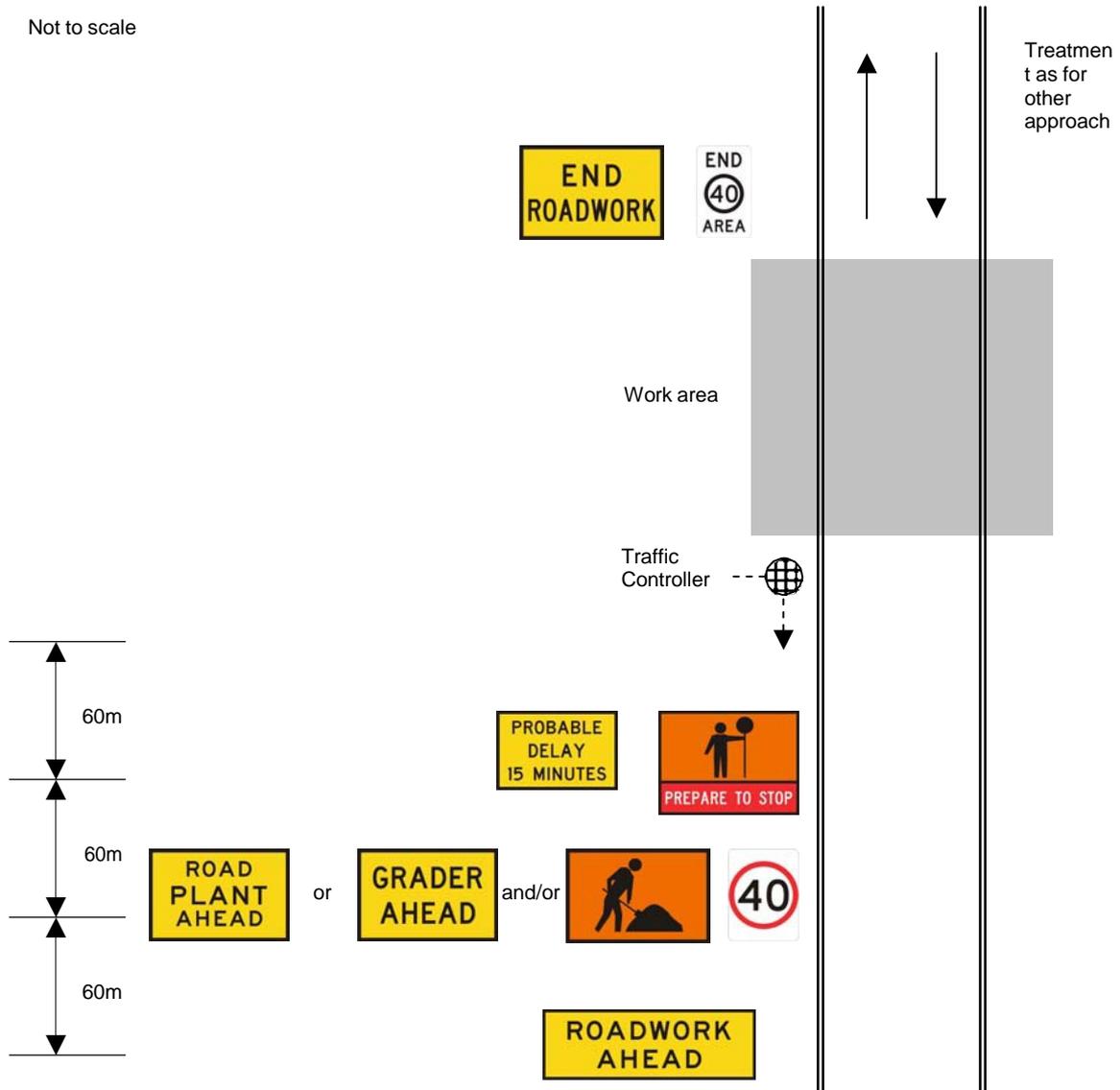
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Conditions of use

- Very-low volume roads.
- Where line of sight of entire work area is not possible.
- Signs mounted for long term works should be erected 1.5m minimum above the level of the nearest edge of the travelled path to the underside of the sign.
- Grader ahead sign to be removed when grader not in use.
- Road Plant ahead sign to be removed when plant not in use .
- Worker sign to be removed when workers not within road area
- Traffic controller sign to be removed when traffic controller not within road area. .

Daily notes

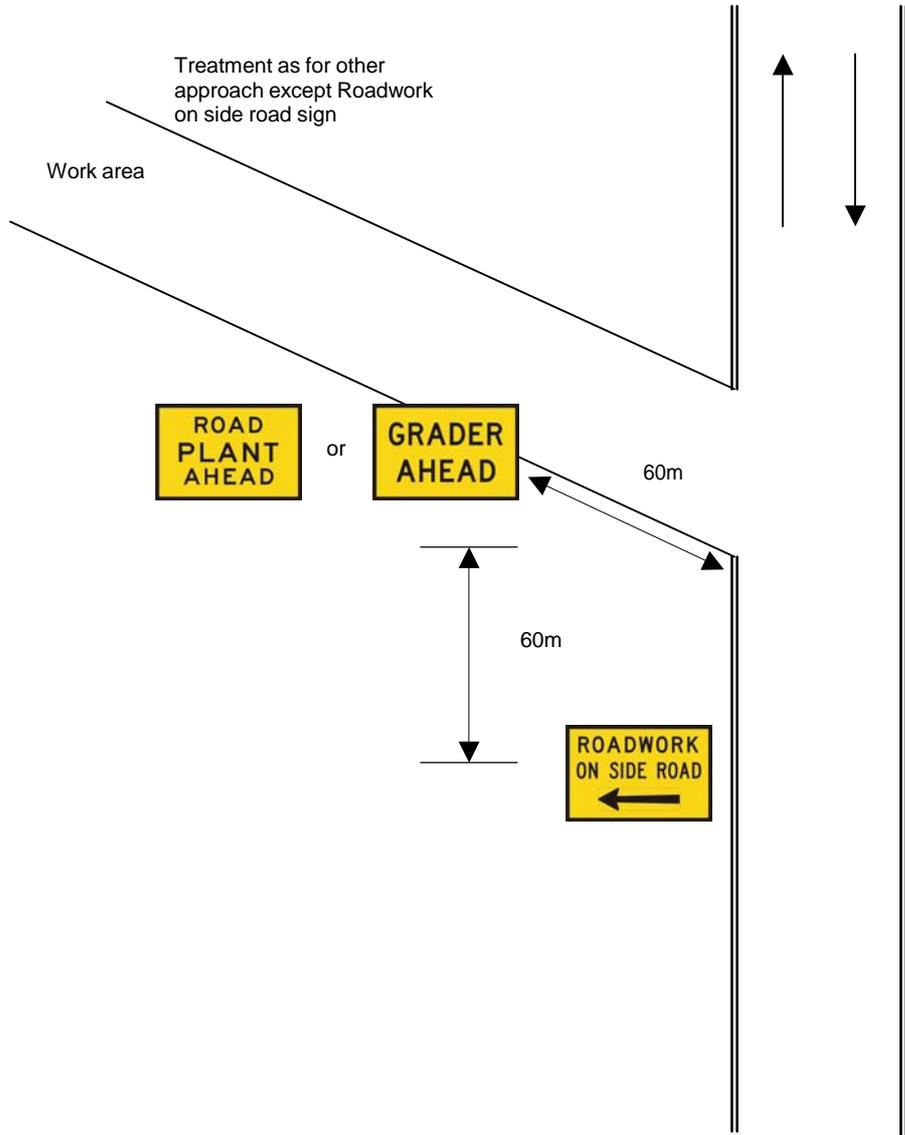
Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



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Conditions of use

- Very-low volume roads.
- Only where line of sight of work area is **complete**.
- Signs mounted for long term works should be erected 1.5m minimum above the level of the nearest edge of the travelled path to the underside of the sign.
- Grader ahead sign to be removed when grader not in use.
- Road Plant ahead sign to be removed when plant not in use

Daily notes

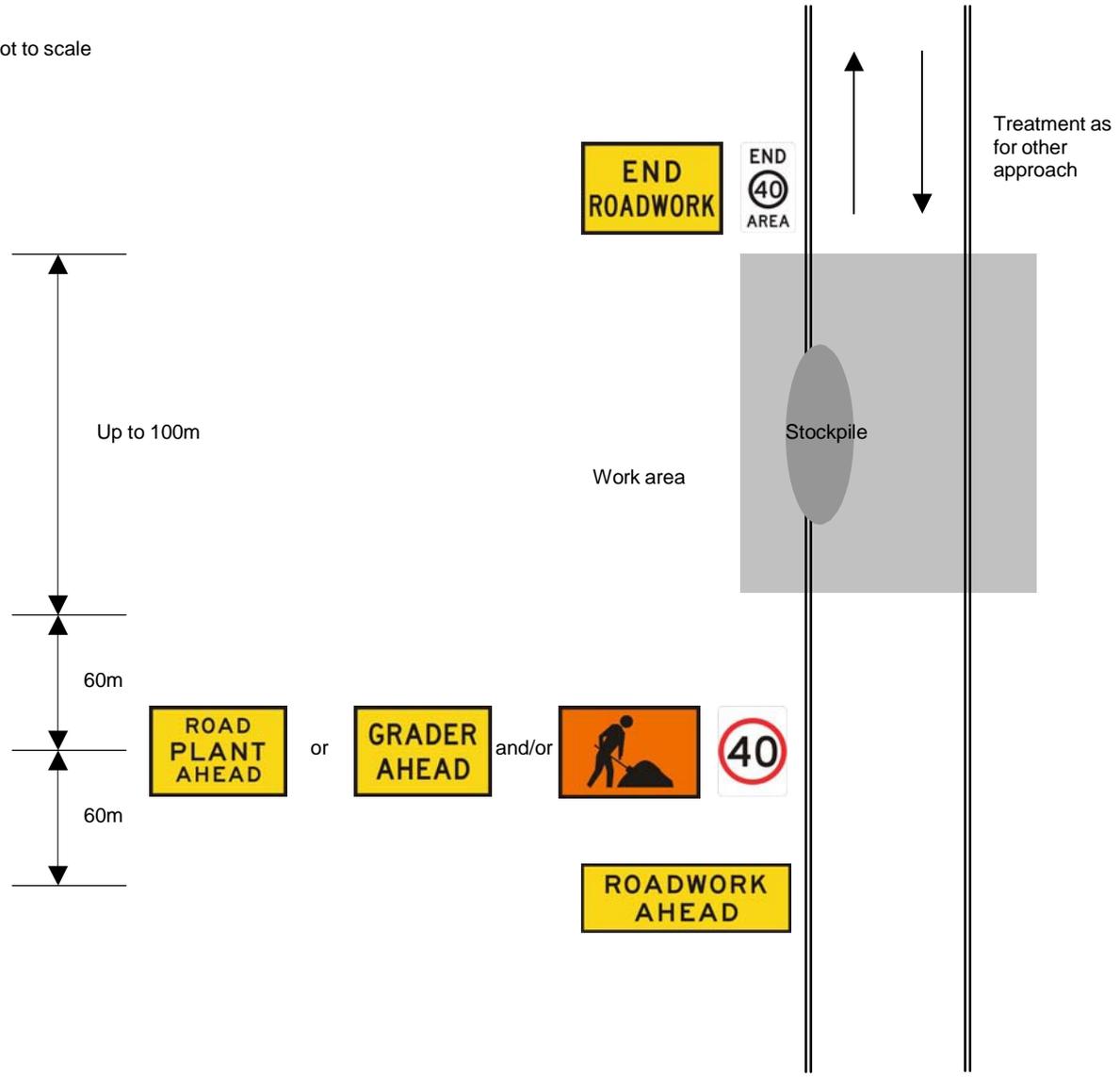
Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



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Conditions of use

- For use on very-low volume roads.
- Use of natural give and take as described in clause 4.11.4 in the MUTCD Part 3 where there is clear visibility past the work area and beyond for at least **100 m** and the shuttle lane is not longer than **100m**.
- Signs mounted for long term works should be erected 1.5m minimum above the level of the nearest edge of the travelled path to the underside of the sign.
- Grader ahead sign to be removed when grader not in use.
- Road Plant ahead sign to be removed when plant not in use.
- Worker sign to be removed when workers not within road area

Daily notes

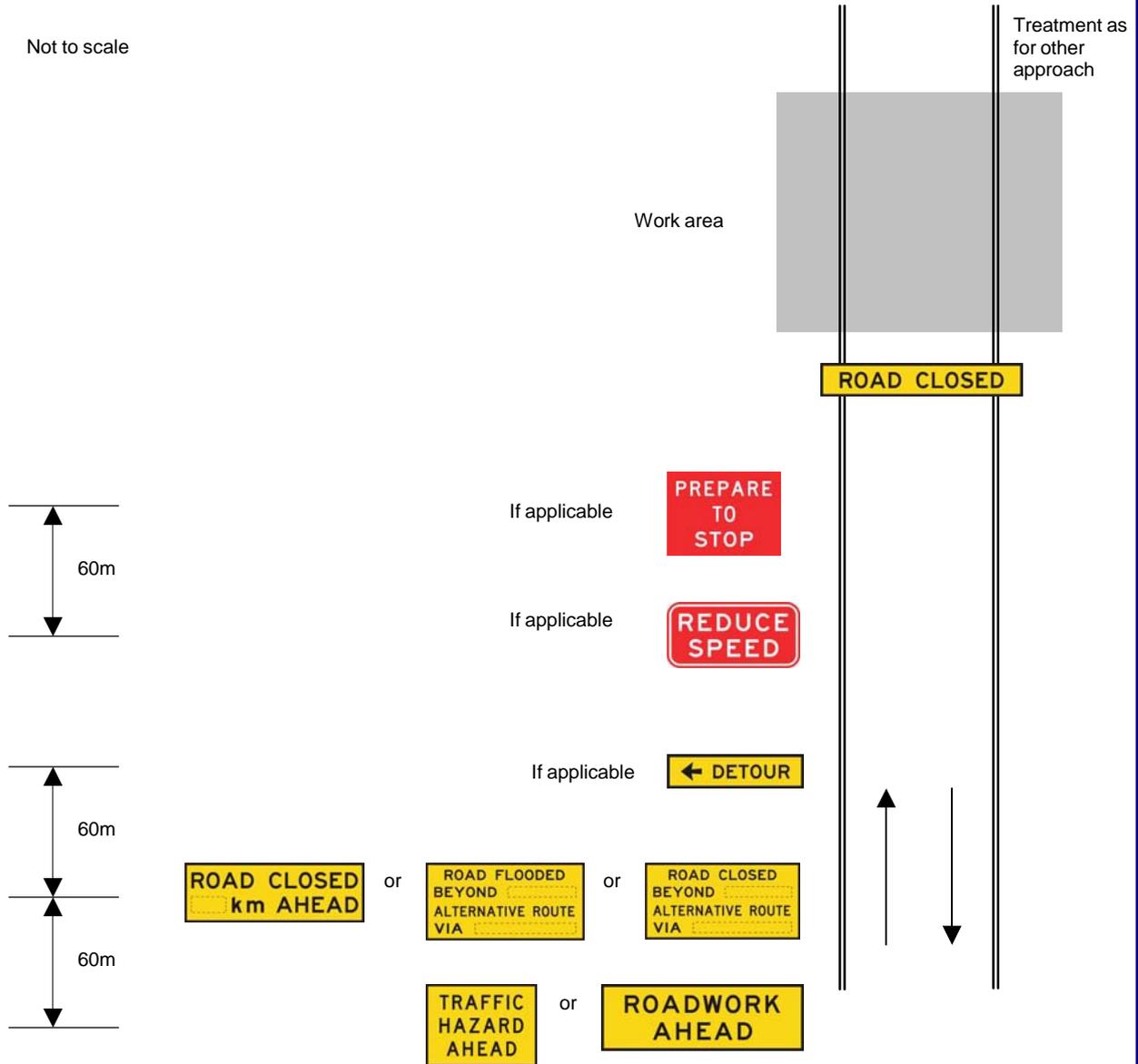
Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



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Conditions of use

- For long term works/hazards on very low volume roads.
- Signs mounted for long term works should be erected 1.5m minimum above the level of the nearest edge of the travelled path to the underside of the sign.
- Establish detour if possible.

Daily notes

Short term road closure for very low volume rural roads

TGS7

Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



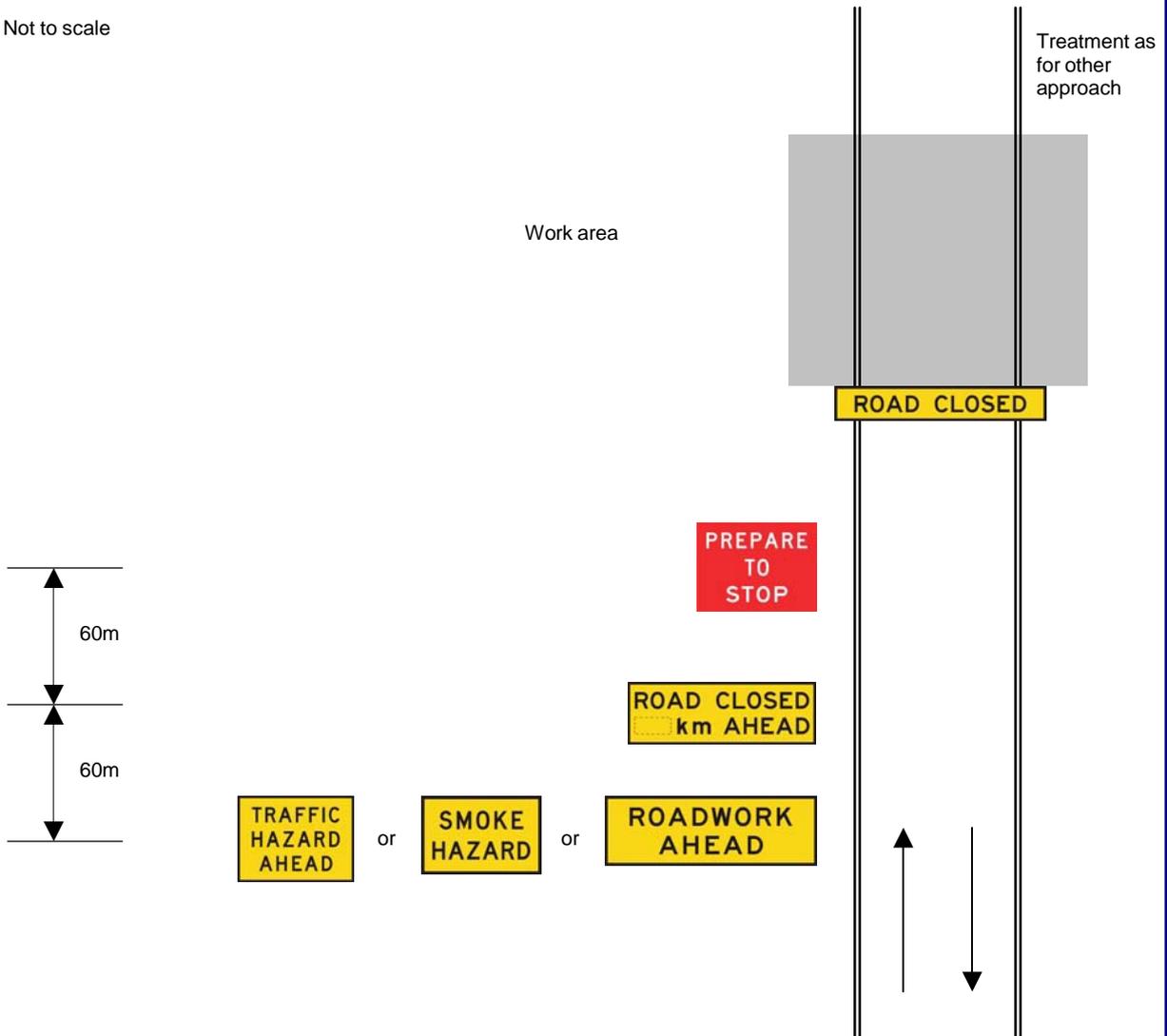
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Not to scale



Conditions of use

Daily notes

- For day time use and over 1 shift only (i.e. short term) on very low volume roads.

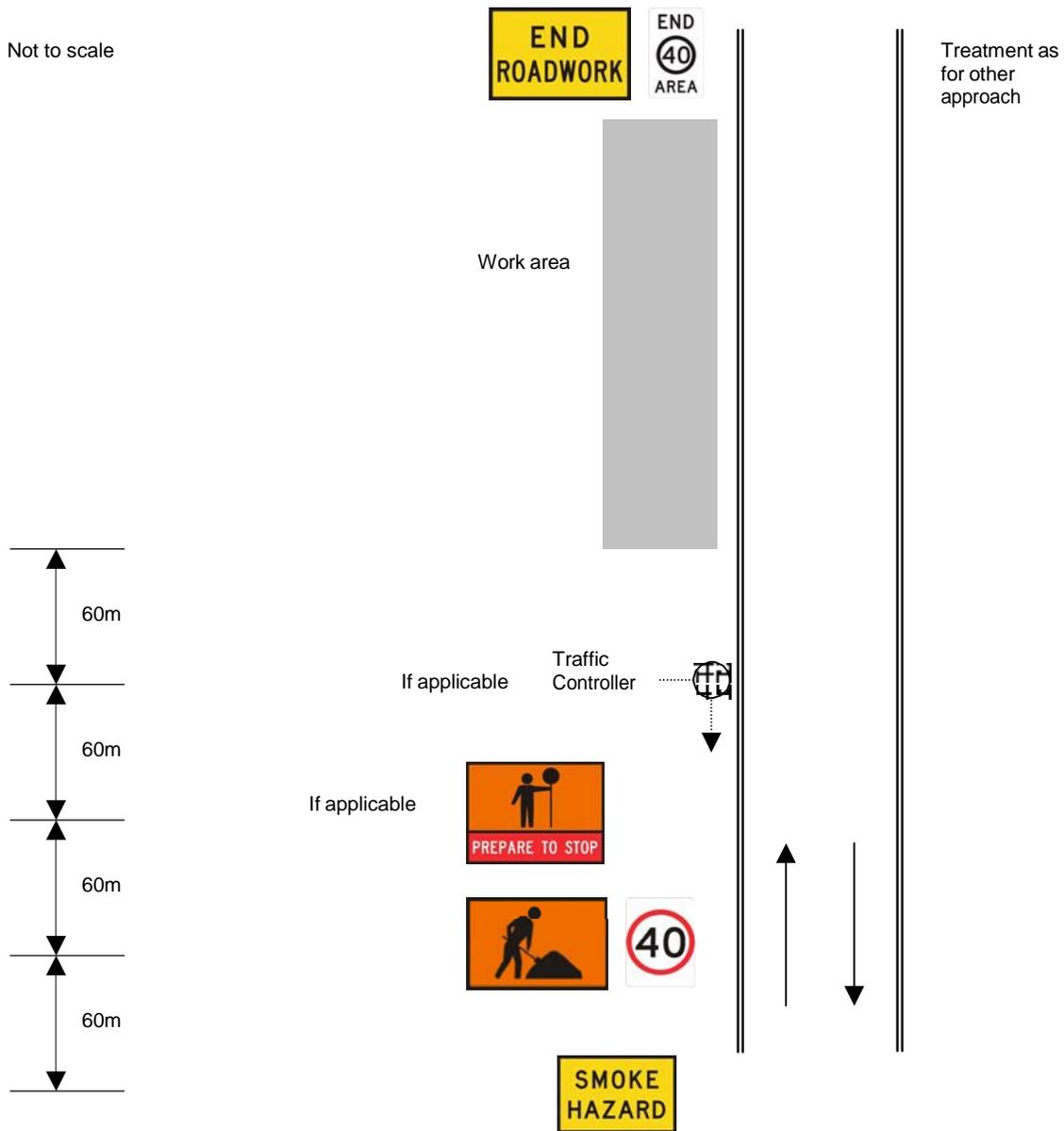
Project Title & location:.....
 Date:.....
 Weather: Dry Wet Rain Fog Dust (circle)
 Condition of travelled path.....



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Conditions of use

- For day time use and over 1 shift only (i.e. short term).
- For 2 way one or two lane very low volume roads. All other road types to be coordinated with an appropriately qualified person such as a Traffic Controller or Police Officer.
- Where possible traffic is to be excluded from the sector. Refer to TGS7 for road closure.
- A recognised traffic control company be employed where required.
- An escort vehicle is to be used to guide along a safe pathway and to regulate traffic speed where required.

Daily notes