GUIDANCE FOR TEMPORARY TRAFFIC MANAGEMENT AT MICRO SURFACING SITES

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GUIDANCE FOR TEMPORARY TRAFFIC MANAGEMENT
AT MICRO SURFACING SITES

This document is published jointly by the Road Surface Treatments Association Ltd. and the Association of Directors of Environment, Economy, Planning and Transport. It supplements the Micro surfacing guidance that is embedded in the Traffic Signs Manual 2009 Chapter 8 Traffic Safety measures and Signs for Road Works and Temporary Situations, Sections D3.29.1 and O3.16.1. Highways England, the Department for Regional Development (Northern Ireland), Transport Scotland and the Welsh Assembly Government have been consulted in its preparation.

It has been designed in accordance with the principles set out in the Traffic Signs Manual Chapter 8 2009 including the 2016 Update and should be seen as a supplement to achieving the minimum requirements of that document.

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The primary aim of this guidance is to promote the implementation of effective temporary traffic management measures that protect the safety of the public, the workforce and preventing incidents occurring at sites where Micro surfacing is being undertaken.
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MS1  General

MS1.1  This guidance deals only with the signing, lighting and guarding of micro surfacing works and does not cover hazards such as the presence of overhead electricity lines, preparatory works, the control of material delivery vehicles, or matters relating to noise, dust or fumes, all of which should be considered as part of the site specific risk assessment for each location.

MS1.2  When undertaking a site specific risk assessment, the contractor should follow the guidance contained within the Traffic Signs Manual Chapter 8 as well as this document. The site specific control measures identified should be documented on a specific risk assessment for the site and the relevant highway/road authority consulted.

MS1.3  All parties including highway/road authorities, clients, designers and contractors have statutory responsibilities for implementing and maintaining safe systems of work. This includes providing adequate lateral and longitudinal safety clearances during highway construction operations, within safe, compliant, signing and lighting and guarding (Temporary Traffic Management) of surfacing activities and other hazards created as a consequence of this operation.

MS1.4  The contractor must undertake a risk assessment before any work is undertaken including producing a site specific risk assessment for each location of surfacing work. The risk assessment should include as a minimum, specific assessments for the treatment activity, delivery and vehicle marshalling, temporary traffic management implementation, operation and removal together with consideration of the risk to third parties or general public for all operations.

MS1.5  When assessing the risk to the general public, including the young or elderly, cyclists and equestrians, specific consideration must be given to those persons who may have a mobility or sensory impairment that may prevent them from seeing, hearing or passing a surfacing operation safely. Additional measures such as specifically trained pedestrian marshal(s) may be required.

MS1.6  All risks should be reduced as low as reasonably practical (ALARP) and the chosen method of work must not increase the risk to road users\(^1\) with all risks remaining Generally At Least Equivalent (GALE) to normal conditions.

MS1.7  All construction work known as micro surfacing shall be undertaken by a contractor registered to National Highways Sector Scheme 13, the Supply and Application of Surface Treatments to Road Surfaces. Where a package of work involves other contractors for which there is an appropriate Sector Scheme (NHSS), those contractors should comply with the relevant requirements of the applicable scheme for quality management in highway works.

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\(^1\) Traffic Signs Manual Chapter 8 2016 Volume 3 Section U2.2.2

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MS2 Introduction

MS2.1 The works operation that is commonly referred to as micro surfacing, is a moving construction operation comprising an extended convoy of vehicles and plant that travel in a prescribed sequence at speeds of up to 6 mph for extended distances. In this respect, it is dissimilar to almost all other moving works operations on highways/roads. Micro surfacing differs from traditional micro surfacing in that the material once laid cannot be immediately trafficked and therefore must remain segregated from traffic once laid for up to 30 minutes. It is this difference that has led to the RSTA issuing this guidance from 2018.

MS2.2 The purpose of this guidance document is to promote a uniform approach to standards of temporary signing for micro surfacing operations throughout the United Kingdom. The guidance is intended to ensure that signing is to a minimum standard consistent with highway/road authorities and contractor’s statutory responsibilities to protect both the public whilst travelling and their employees when working on the road network.

MS2.3 The traffic management system examples illustrated in Appendix 2 of this guidance will cover the majority of traffic control arrangements used in connection with micro surfacing operations however it must always be remembered that a risk assessment must be undertaken for each and every site. Generic risk assessments may be adequate on lower traffic category sites, provided that the organisations site management quality assurance procedure allows site variations to be made as a result of a pre start risk assessment, undertaken by the trained and competent person(s) responsible for safety on site.

MS2.4 Whatever method of traffic control or management is adopted, the effect which it will have in terms of creating additional hazards or inconvenience to all road users, operatives and adjacent properties, including those on diversionary routes, must be fully considered, documented and the traffic control method adopted based on the least risk for road workers and road users after balancing all the relevant factors.

MS2.5 The Traffic Signs Manual Chapter 8 volumes 1, 2 and 3, is the nationally recognised and accepted guidance document detailing the minimum standard for all aspects of the temporary traffic management and signing of temporary hazards at static and mobile roadwork sites. It is designed to give advice to all those involved in the road works so as to allow them to meet their minimum statutory obligations for safety at temporary situations.

MS2.6 Although the Traffic Signs Manual Chapter 8 volumes 1, 2 and 3 gives authoritative guidance in relation to temporary highway situations, it does not have any statutory status in England and Wales but all organisations who undertake or have involvement in work on the highway/road network, should comply with the principles outlined in the manual. The “Red Book” entitled Safety at Street Works and Road Works has statutory backing as an Approved Code of Practice (ACoP) for “Street Works” in England and Wales, and “Road Works” in Scotland. In Northern Ireland the manual does have statutory status under the Roads (NI) Order.
MS2.7 This document supplements the general requirements of the Traffic Signs Manual Chapter 8 volumes 1, 2 and 3.

MS3 Planning
MS3.1 The roles and responsibilities of the client, designer and principal contractor are defined in the Construction Design and Management Regulations 2015 and complying with CDM 2015 will help ensure that no-one will be harmed during the work. Clients have an influential role in ensuring that health and safety is adequately managed on highway maintenance projects.

MS3.2 Clients should:
- Appoint competent people at the right time to plan, manage and coordinate the planning and design work.
- Ensure arrangements are in place for properly planning and managing the work and that the appointed principal contractor is managing all risks on site.
- Allow adequate time to undertake the work properly without rushing.
- Appoint and provide relevant information to the principal contractor.
- Ensure a construction phase plan is in place explaining how health and safety risks will be managed by the principal contractor during the surfacing operations.
- Ensure that members of the public and employees are protected from the risks of construction work.

MS3.3 When planning micro surfacing works activities, the requirements of the Traffic Signs Manual Chapter 8 Volume 3, Section U2.6 Risk Sharing shall be considered when developing a safe system of work for the works activity.

MS3.4 Highway / road authorities are normally also the ultimate client for micro surfacing operations. The effective management of the general traffic past the works operation during the various micro surfacing operations is one of the top risks that principal contractors have to reduce as low as reasonably practical when delivering the work on behalf of the client.

MS3.5 Clients have an influential role in supporting the principal contractor so as to enable statutory obligations to be met, by ensuring that appropriate statutory traffic orders and permissions are obtained from the highway / road authority in advance of the commencement of micro surfacing work, in a timely manner and made available so as to allow specific temporary traffic management techniques and the most appropriate traffic control measures to be legally implemented.

MS3.6 As soon as a section of highway has been identified as requiring a surface treatment operation, an initial site survey should be commissioned by the client or principal designer, to consider the requirements of Section MS5. This survey should be undertaken by a competent traffic management designer to allow identification of the traffic management measures that will be required, so as to obtain the necessary Temporary Traffic Regulation Orders (TTRO’s) to safely and legally implement the traffic control measures to undertake the
planned work. Consideration should be given to seeking the advice of and involving the principal contractor.

**MS3.7** Guidance on traffic management designer competence is detailed in *Traffic Signs Manual Chapter 8 Volume 3, Update, Section U2.7 Traffic Management Designer – Training and Competence*. It is recommended that these stated requirements should be met by micro surfacing organisations. Where the design of traffic management is provided by a third party organisation, it is recommended that clients, principal designers and principal contractors for micro surfacing, make compliance with this section a minimum contractual requirement for third party organisations and suppliers in addition to compliance with NHSS requirements for design.

**MS3.8** Specific training and certification for TTM professionals is provided by the Institute of Highway Engineers. It is strongly recommended that highway authorities and contractors meet the requirements of TSM Chp8 U2.7 by using professionals who are registered as a TTM engineer (*RegTTME(IHE)*)) with the IHE. Further details can be found at [www.theihe.org/professional-certificates/temporary-traffic-management/](http://www.theihe.org/professional-certificates/temporary-traffic-management/).

**MS3.9** Consideration should be given at the planning stage to implementing a temporary mandatory speed limit during the micro surfacing operation and aftercare period, when additional risk affects traffic safety instead of relying on a signed advisory max speed limit.

**MS3.10** Section MS5 of this document and the *Traffic Signs Manual Chapter 8* provide further guidance on traffic management planning, temporary reductions in mandatory speed and the requirements for TTRO’s so as to allow the correct and legal placement of signage to indicate the temporary changes to traffic.

**MS4 Minimising Inconvenience**

**MS4.1** During micro surfacing work operations, the free movement of vehicles is likely to be impaired. Although delays may be of short duration and may not impose the same restrictions as other types of roadwork, measures should be taken to ensure that the delay and inconvenience resulting are reduced to a minimum.

**MS4.2** The contractor should assist the client to publicise and coordinate the works with other adjacent road or street works to ensure the expeditious movement of traffic on the network as required by the *Traffic Management Act 2004*. Advance notice of the works and expected duration should always be given at the roadside using signs to diagram 7003.1\(^2\) or other similar signage agreed with the client or overseeing organisation.

**MS4.3** Signs to diagram 7002, 7002.1, 7005 and 7006.1 may also be used to support the 7003.1 sign to convey information about the works other than date and time. Samples are illustrated in Appendix 2 Sign Face Diagrams.

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\(^2\) *Traffic Signs Regulations and General Directions 2016*
MS4.4 Where a side road will need to be closed to facilitate the surfacing operation and the hardening of the material immediately after application, its closure should only be implemented immediately prior to the approach of the mobile convoy or start of the 300m section under traffic signals. The closure should be removed as soon as the material has met the required standard and the initial sweep has been made. This is usually around 30 minutes and it will need to be appropriately signed, lighted and guarded until the material has hardened.

MS4.5 A Temporary Traffic Regulation Order will be needed to formally close a road for the period. Where a full TTRO to close a side road has been obtained the sign ‘Road Closed’ must be used.

MS4.6 Where the works are likely to temporarily obstruct and prevent the use of a side road for around 15 minutes, the agreement of the highway authority should be sought to use the temporary obstruction layout. The side road should be very lightly trafficked with local traffic, with no expected HGV or PSV/PCV and have an obvious alternative route e.g. an access to and from a housing estate. This method should only be used when full closure is not reasonably practical.

MS5 Traffic Lane Width

MS5.1 Adequate lane width must be provided for all traffic to safely pass a micro surfacing operation, with sufficient additional lateral width available to segregate the workforce and highway/road user(s) using a lateral safety clearance, to minimise the probability of a collision, maintain traffic flow and maximise safety for all highway users.

MS5.2 Where insufficient width exists to maintain safety for the workforce and traffic, then the road should be closed during the initial surfacing operations and during any subsequent aftercare operation that requires plant, vehicles and staff to operate on the carriageway.

MS5.3 Micro surfacing is typically undertaken using a system of traffic control where alternate directions (Flows) of traffic pass the work area in sequence using stop/go boards (Signs) or temporary traffic signals to direct and control traffic prior to their entry.

MS5.4 Where alternate one-way traffic control is introduced, it should be remembered that the desirable minimum width for the traffic lane past the works area should not be less than 3.25 metres for all roads, with an absolute minimum of 3.00 metres being used where buses and larger vehicles are not expected or are very unlikely to use the road during the surfacing operation.

MS5.5 In order to encourage the reduction in speed of passing traffic, the width of road that is available as an alternative one-way traffic lane past the surfacing operation should be kept to the minimum recommended and must not exceed 3.75 metres. Excessive width of carriageway encourages the speed of traffic past the works area to increase, increasing the risk
for both workers and road users during the surfacing operation and therefore this should be avoided.

**MS5.6** Where the remaining width of carriageway could exceed 3.75m, additional means of controlling traffic speed such as the use of convoy working technique should be considered at the planning stage but the width should remain 3.75m or less.

**MS5.7** When surfacing is being undertaken in areas with significant numbers of cycle traffic, the safety of cyclists must be considered. Means to prevent cycling within the coned off area should be used and the traffic lane width past the works maintained in the region of 3.25m – 2.5m unless a clear lane with of 1.5 – 1.2m past the works can be maintained in addition to that required for other traffic.

**MS5.8** Where traffic control is in use, board operators should avoid indicating long ‘green’ or ‘go’ periods to moving approaching traffic, so as to try and reduce the approach speed of that traffic entering the section of carriageway being used for alternate traffic flow and therefore their speed passing the works area. Short and frequent cycles of ‘Stop’ and ‘Go’ are recommended as this tends to create a lower passing speed past the works operation.

**MS5.9** The *Traffic Signs Manual Chapter 8* states³ that a separation distance (lateral safety clearance) of **1.2 metres** should be maintained between road works and moving traffic when speeds are **50 mph or more** as an essential pre-requisite for safety at road works.

**MS5.10** This lateral safety clearance **may** be reduced to **0.5 metres** where traffic speeds are **40 mph or less**⁴, though it is strongly recommended on these roads that as much lateral safety width as is available should be maintained⁴ where road width(s) permit greater than 0.5 metres.

**MS5.11** Where a lateral safety clearance and or a traffic lane of sufficient width cannot be provided past the surfacing operation, then the highway authority or overseeing organisation must be consulted and the implementation of a full closure of the road considered.

**MS5.12** Where the overall carriageway width does not permit a lateral safety clearance to be provided and diversion is impractical, but there is an adjacent lane of sufficient width for traffic past the works operation, an additional traffic control method of convoy working under which passing traffic speed is **REDUCED TO LESS THAN 10 MPH** may be used. The *Traffic Signs Manual Chapter 8 Volume 1 Section D7 Convoy Working* provides extensive guidance on the planning and implementation of a convoy system at road works. A TTRO will **always** be required in connection with the use of convoy working technique⁵.

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³ *Traffic Signs Manual* Chapter 8 Volume 1 Section D3.2
⁴ *Traffic Signs Manual* Chapter 8 Volume 1 Section D3.2.7
⁵ *Traffic Signs Manual* Chapter 8 Volume 1 Section D7.4.1 an D7.5.1
MS5.13 Where there is insufficient width to undertake the works and maintain traffic past the works operation or materials need time to harden before permitting traffic to recommence use and the road is unable to be closed using a temporary traffic regulation order, with the agreement of the highway authority, the contractor may consider using a system of work that involves implementing a temporary obstruction of the road following the requirements of that highway authority or local HAUC guidance note.

MS5.14 The temporary obstruction of a highway to create a work area is particularly useful on extremely narrow, typically single track highways with very low traffic flows and lengthy alternative routes. It should never be used as a standard method of working replacing the planning and obtaining of a Temporary Traffic Regulation Order to implement a formal road closure with a signed diversion route. It should be implemented such that no traffic waits for more than 15 minutes in any one hour.

MS6 Signing Principles

MS6.1 The purpose of signage is warn, direct, inform and guide highway/road users safely past an area of temporary hazards, the roadwork.

MS6.2 When planning roadworks the following key questions must be asked:

“Will someone using the road or footway from any direction understand exactly what is happening and what is expected of them?”

“Have I made the site safe to work in and for the general public?”

MS6.3 The warning sign to diagram 7001 “Roadworks Ahead” with the supplementary information sign to either diagram 7001.7 “Mobile road works” or diagram 572 “Distance to hazard” should be located in advance of the micro surfacing operation on each approach direction to the area to be treated. The distance at which the sign should be placed from this start/finish datum point in each direction is stated in the Table A1.1 in the appendices to the Traffic Signs Manual Chapter 8 Volumes 1, 2 and 3. An extract of table A1.1 is reproduced in Appendix 3 Sign Distances of this document.

MS6.4 Table A1.1 also lists the minimum clear visibility distance that should be provided to the roadworks ahead sign, so as to assist approaching traffic to observe, decide and react to the information displayed. The correct placement of signs where this distance can be achieved is strongly recommended so as to assist with maintaining safety for the workforce and the general public, including stationary traffic waiting at a traffic control location.

MS6.5 Where the minimum clear visibility distance to the first diagram 7001 sign cannot be achieved, additional signs to diagram 7001 “Roadworks Ahead” should be placed out in advance of this first sign of the works.

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7 Traffic Signs Regulations and Directions 2016
MS6.6 Once approaching traffic has passed the first advance warning sign, further advanced warning signs specific to the layout, type of traffic control and type of road works operation are placed in advance of the start finish datum in each direction. Further information on typical layouts, signs and sign placement are given in Appendix 1 Schematic Signing Diagrams.

MS6.7 At micro surfacing sites, warning signs to diagram 7009 “Loose chippings on road ahead” with the supplementary information sign to diagram 513.2 “Maximum advised speed at a hazard” of 20mph must also be placed in advance of the start finish point of any areas of highway /road where this hazard occurs, or may occur, during or after the micro surfacing operation.

MS6.8 A new supplementary plate, diagram 7009.1 “Skid risk” to the diagram 7009 loose chipping sign was approved by the Department for Transport in 2008. The recommended combined layout for signs using this supplementary plate is shown in Appendix 2 Sign Face Diagrams and its use at micro surfacing sites should be recognised as industry best practice. The sign may only show a max speed of 20mph.

MS6.9 Where a full TTRO to close a side road has been obtained to allow the works operation or materials to harden post treatment, the sign ‘Road Closed’ together with a formally signed diversion route must be provided. A sample layout is provided in Appendix 1 Schematic Signing Diagrams.

MS6.10 Where a side road only is temporarily obstructed during the treatment, the sign ‘Temporary Obstruction 15 minute delay’ should be used as the road is not being formally closed. The future presence of the obstruction should be advised prior to the work commencing using information boards of which samples are shown in Appendix 2 Sign Face Diagrams.

MS6.11 When the surfacing of a footway or footpath is being undertaken the safe management of pedestrians, including those with a mobility or sensory impairment should be considered and alternative routing and management agreed with the highway authority.

MS6.12 The diagrams provided in Appendix 1 Schematic Signing Diagrams of this document show examples of minimum signing requirements relating to three periods of temporary situation commonly managed in connection with surfacing operations. Signage is shown for typical traffic management signing used
- During the surfacing of the road
- During the aftercare period
- During sweeping of the road in the aftercare period.
MS6.13 All signs must comply with the provisions of the Traffic Signs Regulations and General Directions for colour, size, shape, reflectivity, construction and mounting. If a sign is not prescribed within these Regulations, it must only be used at roadworks with the prior approval in writing of the highway authorities’ representative or in the case of Trunk Road works, the overseeing organisation. Traffic Signs must comply with the directions (TSRGD 2016) and those that do not, are not permitted to be placed or their placement approved by a highway authority, as this is contrary to the requirements of the Road Traffic Regulation Act Section 64 and 65. Highway authorities are responsible for ensuring that traffic signs used on the highway comply with the directions.

MS6.14 The use of countdown signs to diagram 823/824/825 or similar may only be used with prior permission of the appropriate highway authority. If a countdown arrangement is to be implemented, then it is strongly recommended that signing to diagram 572 “Distance to hazard” is sufficient to provide the additional advance warning of the hazard.

MS6.15 Where hazard of gullies, manholes or other ironwork that are lower than the surrounding pavement finished level and are yet to be raised, consideration may be given to providing a TSRGD Schedule 13 part 9 sign temporary hazard information sign, white text on red background ‘Low ironwork for xxx yards’ in advance of the area of hazard(s).

MS6.16 The sign face of all signs used must be made of retro reflective materials to comply with Traffic Signs Regulations & General Directions 2016. The use of signs with a retro reflective sign face material to at least RA2 is mandatory on all high speed roads but is also strongly recommended as best practice on all roads on which micro surfacing is undertaken.

MS6.17 The sign face material must be mounted on a sheet material that has sufficient structural integrity to remain a flat surface facing oncoming traffic. Where flexible sheet materials, such as ‘correx’, are used as a sub base to the retroreflective sign face material, it must be mounted on a supporting structure that will prevent it being deformed from a flat surface, i.e. being bent around a single post by weather or passing traffic. Wooden posts or steel road pins are not advised as suitable supporting structures due to the inherent risks involved from services in breaking ground to place them.

MS6.18 Where signs are combined at a single location onto one piece of sheet material, the surrounding material to the sign(s), the “backing board” may only be fluorescent yellow or non-reflective grey. White is not permitted as a surrounding background to a sign. Specific design rules apply when signs are combined and Appendix 2 Sign Face Diagrams provide details of suitable recommended designs for sign combinations commonly used in connection with micro surfacing operations and are based on the design requirements of the Traffic Signs Manual Chapter 7.

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8 Traffic Signs Manual Chapter 7 Section 14.19
MS6.19 Table A1.2 in the appendix to the *Traffic Signs Manual Chapter 8 volumes 1, 2 and 3*, reproduced in *Appendix 3 Sign Distances* of this document, also indicates the minimum size of sign prescribed by the *Traffic Signs Regulations and General Directions 2016* for use at roadworks. This minimum size of sign is related to the type of road and the normal mandatory speed of the road on which the signs are to be placed.

MS6.20 It is recommended that the minimum size of signs used at all micro surfacing sites should be a 750mm sized sign and that signs of 600mm sign size only be used on low speed roads where the restricted width of the highway will not allow the safe placement of a 750mm sign. On roads with a permanent speed limit of 50mph or greater and where widths allow the safe placement, signs of size 900mm must be used where sufficient lateral width exists to safely place the sign. 750mm is an acceptable alternative if lateral width is restricted by highway features.

MS6.21 All signs when placed on the highway must be adequately secured with low level ballast such as sandbags or attached with Highway Authority approval to street furniture. Lateral (450mm) and vertical (2.1-2.5m) clearances required by the *Traffic Signs Manual Chapter 8* must be provided.

MS6.22 Where the Highways / Roads Authority wish to implement reduced mandatory speed limits during micro surfacing operations, the requirements of the guidance given by the *Traffic Signs Manual Chapter 8 Volume 1 Section D3.7 Speed Control* should be followed and the signage shown in this document amended accordingly however the spacing of the signs must follow *Traffic Signs Manual Chapter 8 Volume 3 Section U2.9 Speed limits*.

MS6.23 Traffic signs, barriers and cones must be covered or removed as soon as they cease to be appropriate or relevant, as they constitute an obstruction and are contrary to the provisions of the *Highways Act 1980 Section 174* for which the owner of the sign can be fined.

MS6.24 When signs are laid down at the side of a road and not in use, it is essential that they do not constitute a hazard or cause confusion to any road user, including any user of the verge or footway and are left securely such that they are not displaced by wind or passing traffic or become a tripping hazard.

MS6.25 All signs must be labelled on the rear of each sign plate or sign board with the name and contact number of the contractor or owner of the sign.

MS6.26 A “client authority” and or “contractor information board” must be placed at all locations of street work and road work during the surfacing and aftercare period for the works. The sign should be to diagram 7008⁹ or a specific design as required under the contract.

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⁹ *Traffic Signs Regulations and Directions 2016*
**MS7  Dual Carriageways 50mph or more including all Motorways**

**MS7.1** Where micro surfacing is being undertaken on an *all-purpose dual carriageway road* with speed limit of 50 mph or more (*High Speed Roads*), or *any motorway*, traffic sign size must comply with the requirements of the *Traffic Signs Manual Chapter 8 Table A1.1* and therefore specific signs that are larger in size than *750mm* will be required.

**MS7.2** The undertaking of a micro surfacing operation on a High Speed Road or Motorways should be always subject to a site specific risk assessment by a competent person familiar with roads of these types. The process for this risk assessment is described by the *Traffic Signs Manual Chapter 8 Volume 1 Chapter D2.1 General Principles* which should always be used to guide the person undertaking the assessment.

**MS7.3** Where micro surfacing is being undertaken on motorways or trunk roads the traffic management must be designed in accordance with *Traffic Signs Manual Chapter 8 Volume 1 and Volume 3*.

**MS7.4** Section MS8 lists the additional *National Highway Sector Scheme (NHSS)* training requirements for traffic management operations on these roads.

**MS8  Personnel Training and Competence**

**MS8.1** All traffic management arrangements must be installed, maintained, operated and removed by suitable trained, competent and authorised persons and organisations registered to a nationally recognised training scheme.

**MS8.2** Where traffic management is undertaken by a specialist temporary traffic contractor the contractor must comply with the requirements of the appropriate National Highways Sector Scheme 12 for quality management of traffic management in connection with highway works.

**MS8.3** Where traffic management is being directly undertaken by members of the micro surfacing team, those members who have any involvement with the planning, installation, operation, maintenance or removal of the temporary traffic management arrangements, should hold the appropriate *National Highway Sector Scheme (NHSS)* qualification to the task they are undertaking. This training scheme is managed by LANTRA Awards on behalf of the National Highways Sector Scheme 12 committee.

**MS8.4** On single carriageway roads (*all speeds*) and dual carriageway roads of 40mph or less (*Low Speed Roads*) the appropriate training scheme is (*NHSS*) 12d Rural and Urban Roads.

**MS8.5** Where traffic management is being undertaken on an *all-purpose dual carriageway road* with speed limit of 50 mph or more (*High Speed Roads*) or *motorways*, organisations and personnel must also be registered to *National Highway Sector Scheme (NHSS) 12a and 12b*. Where the traffic management system on roads of this type also includes convoy

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working, traffic signal or stop / go traffic control, personnel must also hold the appropriate (NHSS) 12d qualification for these methods of traffic management.

**MS9  Post Treatment Operation Aftercare**

**MS9.1** Once a micro surfacing operation has been undertaken the area and its immediate surroundings will require aftercare until a “final” inspection has been carried out by the installer, client or by a nominated competent person who agrees that the work is complete. A satisfactory final inspection is the point at which the Highway/Road Authority will normally resume responsibility for the site.

**MS9.2** Roads which have been surfaced, should be swept prior to removing speed restriction signs. Unless otherwise specified, It is recommended that the following sweeping regime be adopted as a minimum level of service provision:

1\(^{st}\) Sweep within 48 hours of installation

Further sweeping may be required until the hazard has been satisfactorily removed.

**MS9.3** Road sweeping operations are considered moving works on a single carriageway and mobile works on a dual carriageway and will require suitable traffic management to protect the operation and road user. This may include the need to assess the requirement to provide impact protection vehicles and supporting signage to reduce risk as low as reasonably practical during the sweeping operations.

**MS9.4** Where insufficient width exists to maintain two way traffic and a lateral safety zone beside a sweeping operation on a single carriageway road and single alternate working is proposed, the use of stop / go must be carefully considered taking into account traffic volumes and visibility particularly where stopping distances may be increased by the presence of the material being swept. A risk assessment must be carried out and alternative ‘non boots on the road’ methods considered that reduces all risks as low as reasonably practical ALARP.

**MS9.5** Use of signs to diagram 7010.1 “Work in centre of road” should be considered during sweeping operations.

**MS9.6** Signage must only be removed once all surplus chippings have been removed from the surface to the satisfaction of the person conducting the “final” inspection. The period of time during which loose chipping signs will need to remain in position will depend largely on the type of surfacing and the volume of traffic.

**MS9.7** During the aftercare period the installer’s representative should carry out regular inspections and if deemed required, organise sweeping of the dressed area as necessary following the aftercare guidance in the *Manual Contract Documents for Highway Works Volume 1 clause 922*:
MS9.8 An example of the approved sign and combined layout that should be installed and maintained during the aftercare period is shown in Appendix 2 Sign Face Diagrams. These diagram 7009 “Loose chippings ahead” signs with 20 mph advisory supplementary plates, should remain in place and be maintained until such time as all surplus chippings have been removed from the surface.

MS9.9 Procedures should be adopted by the Client to replace road markings, particularly mandatory markings, at the earliest practical opportunity following the micro surfacing operation. Signs to diagram 701210 “NO ROAD MARKINGS” or other permitted variants such as “NO STOP MARKINGS” or “NO ROAD MARKINGS AT JUNCTION” must remain in place until the new replacement markings are fully installed.

MS9.10 Where continuous single or double white lines road markings to diagram 1013.1 that were installed to prevent traffic overtaking into oncoming traffic, will be obliterated by the surfacing operation, signing to diagram 632 “No overtaking” with supplementary plate to diagram 570 “For X miles” should be installed at the start and signing to diagram 6321 “No overtaking” with supplementary plate to diagram 645 “End” at the finish of each obliterated section, on both sides of road on which the lines have been removed11. A Temporary Traffic Regulation Order will be required to use this signage11.

MS9.11 On long sections of obliteration, greater than 400m, signs to diagram 6321 “No overtaking” with supplementary plate distance plates to diagram 570 must be repeated through the area where the lines have been removed at no more than 400m centres longitudinally. Repeater signs are the same size as terminal signs.

MS9.12 Where side roads join an area of obliteration part way along, signing to diagram 6321 should also be erected on both sides of the road approaching the area where the lines have been removed.11

MS10 Record keeping

MS10.1 Comprehensive written documentation detailing the installation, inspection and maintenance of all signs used on micro surfacing sites are essential. Photographic evidence of signs used on each micro surfacing site are also recommended to be kept.

MS10.2 Documented records of the time that TTM installation, removal and maintenance checks occurred together with information on work undertaken must be created and must include personnel and traffic counts.

MS10.3 Records of when side roads were closed and reopened during the progress of operations are recommended to be documented.

10 Traffic Signs Regulations and Directions 2016
11 Traffic Signs Manual Chapter 3 Section 4.52,4.53 and 4.54

October 2018 v1
Appendix 1 Schematic Signing Diagrams
Advance signage shown for 30mph Permanent speed limit of road. Distance in (m).

Repeater sign average 250m from Datum

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic. Site staff 'on-foot' shall be minimised and travel on vehicles.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.

Traffic Management for Micro Surfacing Operations
For carriageways of 7.3 metres width or less, where a lane of at least 3.0m width can be maintained past the operation
Notes:

1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) ‘For xx yards’ may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
Site staff 'on-foot' shall be minimised and travel on vehicles.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.

Traffic Management for Micro Surfacing Operations
For single carriageways of 7.3 metres or greater width, where a lane of up to 3.75m width can be maintained past the operation

Permanent Speed Limit of Road

30

START FINISH DATUM

Advance signage shown for 40mph Permanent speed limit of road.
Distance in (m).

Repeater sign average 250m from Datum

Repeater sign average 250m from Datum

STRICTLY OBSERVE LIMITS 30MPH

Footway

Footway

Traffic Management for Micro Surfacing Operations
For single carriageways of 7.3 metres or greater width, where a lane of up to 3.75m width can be maintained past the operation
Advance signage shown for 30mph
Permanent speed limit of road.
Distance (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
Site staff ‘on-foot’ shall be minimised and travel on vehicles.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Advance signage shown for 30mph
Permanent speed limit of road.
Distance (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
Site staff 'on-foot' shall be minimised and travel on vehicles.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
8) A defined Traffic Management system to be used when required, on completion of a CURRENT documented Site Specific Risk Assessment.
Traffic Management for Micro Surfacing Operations

For side roads of 7.3 metres width or less, where a lane of at least 3.0m width can be maintained past the operation - Typical side road layout

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'. Arrow to denote location after junction.
2) Sign must be changed to reflect side on which works are being undertaken. Arrow to denote location after junction.
3) 'For xx yards' may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic. Site staff 'on-foot' shall be minimised and travel on vehicles.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.

Permanent Speed Limit of Road
30
Permanent Speed Limit of Road

Notes:
1) This plan indicates the use of 'Temporary obstruction' working for side roads which requires highway authority permission. This is the minimum requirement and should be replaced with a formal 'Road Closed' method where practical.
2) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
3) Sign must be changed to reflect side on which works are being undertaken.
4) 'For xx yards' may be omitted on side road approaches.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic. Site staff 'on-foot' shall be minimised and travel on vehicles.
8) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
9) A NHSS qualified TM operative shall place and move all delineators around the operation whilst materials are hardening.

Traffic Management for Micro Surfacing Operations
For carriageways of 7.3 metres width or less, where a lane of at least 3.0m width can be maintained past the operation
Advance signage shown for 40mph Permanent speed limit of road. Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
7) Site staff 'on-foot' shall be minimised and travel on vehicles.
8) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
9) A NHSS qualified TM operative shall place and move all delineators around the operation whilst materials are hardening.

Traffic Management for Micro Surfacing Operations
For single carriageways of 7.3 metres or greater width, where a lane of up to 3.75m width can be maintained past the operation

Drawings MSA1.2.40 Date of Issue Aug 2018 Revision 2
Advance signage shown for 40mph Permanent speed limit of road.
Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing ‘xxx yards’ or ‘x miles’
2) Sign must be changed to reflect side on which works are being undertaken.
3) ‘For xx yards’ may be omitted on side road approaches
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Advance signage shown for 40mph Permanent speed limit of road.
Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing ‘xxx yards’ or ‘x miles’
2) Sign must be changed to reflect side on which works are being undertaken.
3) ‘For xx yards’ may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
7) Site staff ‘on-foot’ shall be minimised and travel on vehicles
8) A defined Traffic Management system to be used when required, on completion of a CURRENT documented Site Specific Risk Assessment.
Advance signage shown for 50mph
Permanent speed limit of road.
Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) ‘For xx yards’ may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads its is recommended that consideration be given to ‘double banking’ all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
Site staff ‘on-foot’ shall be minimised and travel on vehicles
8) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Advance signage shown for 50mph Permanent speed limit of road. Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads it is recommended that consideration be given to 'double banking' all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
8) Site staff 'on-foot' shall be minimised and travel on vehicles.
9) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.

Traffic Management for Micro Surfacing Operations
For single carriageways of 7.3 metres or greater width, where a lane of up to 3.75m width can be maintained past the operation.
Advance signage shown for 50mph
Permanent speed limit of road.
Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads its is recommended that consideration be given to 'double banking' all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
Site staff 'on-foot' shall be minimised and travel on vehicles
8) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Advance signage shown for 50mph
Permanent speed limit of road.
Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads it is recommended that consideration be given to 'double banking' all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
   Site staff 'on-foot' shall be minimised and travel on vehicles
8) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
9) A defined Traffic Management system to be used when required, on completion of a CURRENT documented Site Specific Assessment.
Notes:
1) Distance may be varied to reflect length of surface dressing ‘xxx yards’ or ‘x miles’
2) Sign must be changed to reflect side on which works are being undertaken.
3) ‘For xx yards’ may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads its is recommended that consideration be given to ‘double banking’ all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
Site staff ‘on-foot’ shall be minimised and travel on vehicles
8) A pedestrian marshall(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Advance signage shown for NSL Permanent speed limit of road. Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads its is recommended that consideration be given to 'double banking' all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
   Site staff 'on-foot' shall be minimised and travel on vehicles
8) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Advance signage shown for NSL
Permanent speed limit of road.
Distance in (m).

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads its is recommended that consideration be given to 'double banking' all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
8) Site staff ‘on-foot’ shall be minimised and travel on vehicles.
9) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
The use and sighting of stop / go operators is covered in TSM Chp 8 Vol 1 D5.8 and Vol 2 D3.23. A documented site specific risk assessment must be undertaken before the use or elimination of stop / go traffic control.

Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'
2) Sign must be changed to reflect side on which works are being undertaken.
3) 'For xx yards' may be omitted on side road approaches.
4) On 50mph and national speed limit (NSL) roads its is recommended that consideration be given to 'double banking' all advance signage.
5) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
6) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
7) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
8) Site staff 'on-foot' shall be minimised and travel on vehicles.
9) A defined Traffic Management system to be used when require, on completion of a CURRENT documented Site Specific Risk Assessment.

Advance signage shown for NSL Permanent speed limit of road. Distance in (m).
Notes:
1) Distance may be varied to reflect length of surface dressing 'xxx yards' or 'x miles'. Arrow to denote location after junction.
2) Sign must be changed to reflect side on which works are being undertaken. Arrow to denote location after junction.
3) 'For xx yards' may be omitted on side road approaches.
4) Signs are spaced as shown and may be relocated appropriately to avoid obstructions and maintain visibility for approaching traffic.
5) The traffic management design must assess the speed, volume and type (classification) of traffic when planning the works.
6) A look out must be provided to ensure that all site personnel together with associated plant and vehicles are kept clear of traffic.
7) A pedestrian marshal(s) may need to be provided in each approach direction to the dressing convoy to manage the passage of pedestrians and other non vehicular traffic including those with limited mobility where there is a footway.
Appendix 2 Sign Face Diagrams
600mm Size Works Dressing Advance Sign P7009 and P570, P513.2

For 800 yards Max speed 20

Standard Arrangement
600mm Triangle 85% speed less than 20mph
TSM Chapter 4 Appendix B 50mm x-ht supplementary plate

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All sizes in mm. Overall plate dimension may vary depending on sign manufacturing software used to create combination.

For actual manufacturing details refer to Department for Transport Traffic Signs Working Drawings:
P 500 BASIC Triangle
P 570 Distance over which hazard extends
P 513 Maximum speed advised
All drawings are available electronically search 'Traffic Signs Working Drawings'

Red and white to be EN 12899 RA2 or DG3
Micro-prismatic retro reflective material, Engineering grade should not be used. Grey and black to be non-reflective.

Surface Dressing Operation For DISTANCE
Max speed 20 advised 30mph roads. 600mm Warning Triangle

Drawing SDA2.1  Date of Issue Jan 2016  Revision 1
750mm Size Works Dressing Advance Sign P7009 and P570, P513.2

Standard Arrangement
750mm Triangle
TSM Chapter 4 Appendix B 75mm/
62.5mm x–ht supplementary plate

All sizes in mm. Overall plate dimension may vary depending on sign manufacturing software used to create combination.

For actual manufacturing details refer to Department for Transport Traffic Signs Working Drawings:
P 500 BASIC Triangle
P 20 Loose chippings symbol
P 570 Distance over which hazard extends
P 513 Maximum speed advised
All drawings are available electronically search "Traffic Signs Working Drawings".

Red and white to be EN 12899 RA2 or DG3
Micro-prismatic retro reflective material.
Engineering grade should not be used.

Grey and black to be non-reflective.

Surface Dressing Operation For DISTANCE
Max speed 20 advised
750mm Warning Triangle
Surface Dressing Operation For DISTANCE
Max speed 20 advised
900mm Warning Triangle

Drawing SDA2.3  Date of Issue Jan 2016  Revision 1
600mm Works Dressing Sign P7009 and P513.2

Standard Arrangement
600mm Triangle 85% speed less than 20mph
TSM Chapter 4 Appendix B 50mm x—ht supplenary plate

Max speed 20

Surface Dressing Operation
Max speed 20 advised
600mm Warning Triangle
30mph local roads only.

All sizes in mm.
Overall plate dimension may vary depending on sign manufacturing software used to create combination

For actual manufacturing details refer to
Department for Transport Traffic Signs Working
Drawings:
P 500 BASIC Triangle
S 20 Loose chippings symbol
P 513.2 Maximum speed advised
All drawings are available electronically search
‘Traffic Signs Working Drawings’

Red and white to be EN 12899 RA2 or DG3
Micro—prismatic retro reflective material.
Engineering grade should not be used.
Grey and black to be non—reflective
750mm Works Dressing Sign P7009 and P513.2

Surface Dressing Operation
Max speed 20 advised
750mm Warning Triangle

Non-Prescribed Arrangement
750mm Triangle
TSM Chapter 4 Appendix B 62.5mm x-ht supplementary plate

All sizes in mm.
Overall plate dimension may vary depending on sign manufacturing software used to create combination

For actual manufacturing details refer to
Department for Transport Traffic Signs Working
Drawings:
P 500 BASIC Triangle
S 20 Loose chippings symbol
P 513.2 Maximum speed advised
All drawings are available electronically search ‘Traffic Signs Working Drawings’

Red and white to be EN 12899 RA2 or DG3
Micro-prismatic retro reflective material.
Engineering grade should not be used.
Grey and black to be non-reflective

| SIGN FACE: P7009 | Font: Heavy | X Ht: 850 mm |
| Border: Red | Width: 850 mm |
| B/G: White | Height: 750 mm |
| Material: RA2 | Area: 0.84 m²/sq |

| SIGN FACE: P513_2 | Font: Heavy | X Ht: 62.5mm |
| Border: Black | Width: 985 mm |
| B/G: White | Height: 375 mm |
| Material: RA2 | Area: 0.37 m²/sq |

| SIGN FACE: S1 | Font: N/A | X Ht: 100 mm |
| Border: N/A | Width: 1085 mm |
| B/G: Grey | Height: 1260 mm |
| Material: N/A | Area: 1.37 m²/sq |
600mm Size Post Dressing Sign P7009 and P7009.1

Surface Dressing Operation
Aftercare Period
Skid Risk with Max speed advised 20
600mm Warning Triangle.
30mph local roads only

Drawing SDA2.6    Date of Issue jan 2016    Revision 1
## 750mm Size Post Dressing Sign P7009 and P7009.1

### Standard Arrangement
- **750mm Triangle**
- TSM Chapter 4 Appendix B 75mm / 62.5mm x - h/s supplementary plate

### SIGN FACE: P7009
<table>
<thead>
<tr>
<th>Face</th>
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<th>Size</th>
<th>Weight</th>
<th>Max Overall</th>
<th>kg/m²</th>
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</thead>
<tbody>
<tr>
<td>Border</td>
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<td>750</td>
<td>800 mm</td>
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### SIGN FACE: P7009.1 Skid Risk
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<th>kg/m²</th>
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<tr>
<td>Border</td>
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<td>800 mm</td>
<td>0.58</td>
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### SIGN FACE: P7009.1
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</thead>
<tbody>
<tr>
<td>Border</td>
<td>Grey</td>
<td>1005 mm</td>
<td>1000</td>
<td>1200 mm</td>
<td>0.78</td>
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<th>kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border</td>
<td>Grey</td>
<td>1005 mm</td>
<td>1000</td>
<td>1200 mm</td>
<td>0.78</td>
</tr>
</tbody>
</table>

---

**Surface Dressing Operation**

**Aftercare Period**

**Skid risk with Maximum Advised Speed 20.**

**750mm Warning Triangle**

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**ADEPT**

**RSTA**

**Drawing SDA2.7**

**Date of Issue Jan 2016**

**Revision 1**
900mm Size Post Dressing Sign P7009 and P7009.1

Surface Dressing Operation
Aftercare Period
Skid risk with Maximum Advised Speed 20.
900mm Warning Triangle

Drawing SDA2.8  Date of Issue Jan 2016  Revision 1

For actual manufacturing details refer to Department for Transport Traffic Signs Working Drawings:
P 500 BASIC Triangle
S 20 Loose chippings symbol
P7009 Loose Chippings
P7009.1 Risk of skidding and maximum speed advised
All drawings are available electronically search Traffic Signs Working Drawings

Red and white to be EN 12899 RA2 or DG3 Micro-prismatic retro reflective material.
Engineering grade should not be used.
Grey and black to be non-reflective

Standard Arrangement
900mm Triangle
TSM Chapter4 Appendix B 100mm/
75mm x–ht suplementary plate

<table>
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<th>N/A</th>
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<th>RA2</th>
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<tbody>
<tr>
<td></td>
<td>k Ht:</td>
<td>1000 mm</td>
<td>Width:</td>
<td>900 mm</td>
<td>Area:</td>
<td>0.82 m²</td>
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<th>B/C:</th>
<th>White</th>
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<th>RA2</th>
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<td></td>
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<th>White</th>
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<th>RA2</th>
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<tbody>
<tr>
<td></td>
<td>k Ht:</td>
<td>75 mm</td>
<td>Width:</td>
<td>1185 mm</td>
<td>Height:</td>
<td>450 mm</td>
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</tbody>
</table>

<table>
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<th>B/C:</th>
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<th>RA2</th>
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<td>Height:</td>
<td>1970 mm</td>
<td>Area:</td>
<td>2.23 m²</td>
</tr>
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</table>
Surface Dressing Operation
Works on Side road
Maximum Advised Speed 20.
750mm Warning Triangle
Typical Arrangement for Signs

Drawing SDA2.9  Date of Issue Jan 2016  Revision 1
Micro Surfacing Operation
Sample signs associated
with date and works information - 30mph Road
Signs to Diagram 7003 - 7006

Drawing SDA2.10  Date of Issue Aug 2018  Revision 1
Micro Surfacing Operation
Sample signs associated with temporary highway obstruction
Appendix 3 Sign Distances

<table>
<thead>
<tr>
<th>Type of road (Permanent Speed Limit)</th>
<th>Minimum and normal Maximum siting Distance (D) of first sign in advance of start finish datum (metres)</th>
<th>Minimum Clear Visibility To first Sign (metres),</th>
<th>Minimum Size of Signs (mm)</th>
<th>Minimum Height of Cones (mm)</th>
<th>Maximum average spacing of Diag 7001 ‘skid risk 20mph advised speed repeaters’ (m) See note 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-purpose single Carriageway road, urban Restricted to 30 mph or less</td>
<td>20 to 45</td>
<td>60</td>
<td>600</td>
<td>450</td>
<td>250m for 20mph signs</td>
</tr>
<tr>
<td>All-purpose single Carriageway road restricted to 40 mph or less</td>
<td>45 to 110</td>
<td>60</td>
<td>750</td>
<td>450</td>
<td>250m for 20mph signs</td>
</tr>
<tr>
<td>All-purpose single carriageway road restricted to 50 mph or more</td>
<td>275 to 450</td>
<td>75 at 50mph 90 at 60mph</td>
<td>900 (750mm may be used where width restricted)</td>
<td>450 (1000mm recommended)</td>
<td>250m for 20mph signs</td>
</tr>
<tr>
<td>All-purpose dual carriageway road restricted to 40 mph or less</td>
<td>300</td>
<td>60</td>
<td>750</td>
<td>450 (1000mm recommended)</td>
<td>250m for 20mph signs</td>
</tr>
<tr>
<td>All-purpose dual carriageway road restricted to 50 mph</td>
<td>800</td>
<td>75</td>
<td>1200</td>
<td>750 (1000mm recommended)</td>
<td>250m for 20mph signs</td>
</tr>
<tr>
<td>All-purpose dual carriageway road restricted to 60 mph or more</td>
<td>1600</td>
<td>90 at 60 mph 120 at 70 mph</td>
<td>1500</td>
<td>750 (1000mm recommended)</td>
<td>250m for 20mph signs</td>
</tr>
</tbody>
</table>

NOTES:
1. On roads with speed limits of 50 mph or more, all advance signs should have plates giving the distance to the work in yards or miles.
2. Lead-in tapers used with traffic control and all exit tapers shall be about 45° to the kerb line with cones spaced 1.2 metres apart.
3. The maximum spacing distance of cones in longitudinal lengths of coning shall be 9 metres but no less than 2 cones shall be used in any length between tapers.
4. The range of siting distance (D) is given to allow the sign to be placed in the most convenient position bearing in mind available space and visibility for drivers.
5. The spacing of these signs shall comply with the requirements of TSM Chapter 8 Volume 3 Table 2.1 Signs for temporary speed limits.
Appendix 4 Feedback on this Document

Any observations, feedback or comment relating to the content of this document or the process described herein should be addressed (using the form below) to:

Chief Executive
The Road Surface Treatments Association Ltd
PA158, Technology Centre, Science Park
Glaisher Drive, Wolverhampton WV10 9RU

Email: enquiries@rsta-uk.org
Tel: 01902 824325

Issue Identified:

Suggested Action:

Name:

Organization:

Address:

Contact details:

Date:

October 2018 v1 51