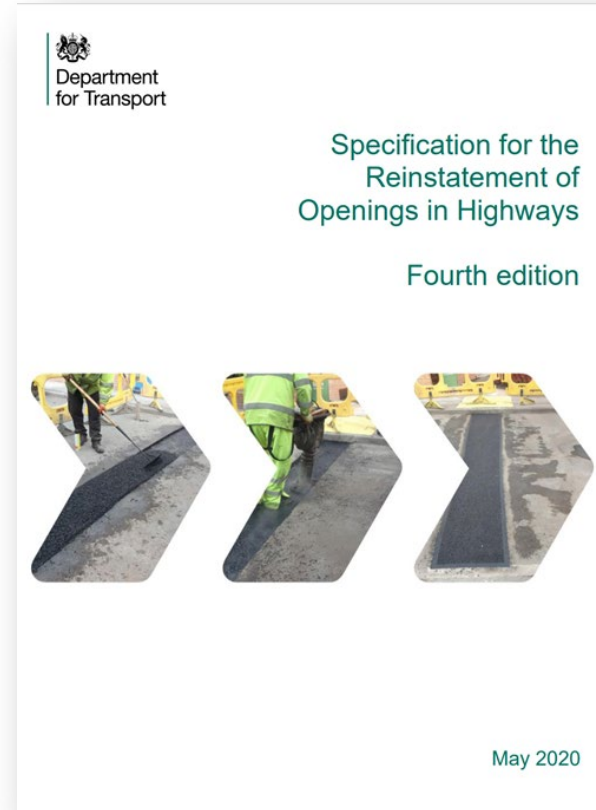


Appendix A5 – Rigid Roads



Researched, compiled and produced by



and



with support through TFL lane rental funding scheme

Introduction- SROH Appendix 5

This advisory document is designed to assist incoming and existing Inspectors as support and refresher material. It will be provided in simple language to aid in understanding and avoiding technical or descriptive explanation.

The current edition (Ed 4) of the Specification for Reinstatement of Openings in the Highway (SROH) has been updated to assist readers in understanding, and introduce new methods and developments within street-works.

Remember, the SROH applies to works undertaken on carriageway's, footway's and verge's maintained at public expense (not private roads or land).

You will now be taken through the key items within Appendix A5 which will enable you to have a better understanding of what to look for when monitoring reinstatement in rigid roads.

Please note:

This document is simply to aid in understanding of the Specification for the Reinstatement of Openings in the Highway (SROH) and should not be used for any other purpose. The simplicity of language is to assist in explanation, but may detract from certain technical or descriptive specification requirements and, therefore, the SROH should be consulted for clarity.

Appendix A5 – Rigid Roads

A reminder of reinstatement methods

Table A2.10 Key to reinstatement methods

Reinstatement method (at first visit)	Flexible & composite roads		Rigid & modular roads				Footways, footpaths & cycle tracks		
	S6		S7				S8		
	Flexible (A3.0 - A3.4 incl.)	Composite (A4.0 - A4.3 incl.)	Rigid (A5.0 - A5.2 incl.)	Modular			Flexible and composite (A7.1 and A7.2)	Rigid (A7.3)	Modular (A7.4)
			Bituminous base (roadbase) (A6.1)	Composite base (roadbase) (A6.2)	Granular base (roadbase) (A6.3)				
All permanent	Method A (Types 0-4 incl.)	Method A (Types 0-4 incl.)	Method A (Types 0-4 incl.)	Method A (Types 3, 4 only)	Method A (Types 3, 4 only)	Method A (Types 3, 4 only)	Method A	Method A	Method A
Interim with permanent binder course	Method B (Types 0-4 incl.)	Method B (Types 0-4 incl.)	N/A	N/A	N/A	N/A	Method B	N/A	N/A
Interim with permanent base	Method C (Types 3, 4 incl.)	Method C (Types 0-4 incl.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Interim with permanent sub-base	Method D (Types 0-4 incl.)	Method D (Types 0-4 incl.)	Method D (Types 0-4 incl.)	Method D (Types 3, 4 only)	Method D (Types 3, 4 only)	Method D (Types 3, 4 only)	Method D	Method D	Method D
Permanent incorporating interim surface overlay	N/A	N/A	Method E (Types 0-4 incl.)	N/A	N/A	N/A	N/A	N/A	N/A

The reinstatement methods you can employ for rigid roads is shown in Table A2.10 of the SROH. As you can see outlined in red, methods A, D and E apply to all types of rigid roads. This makes sense when you consider there is no binder or base layer.

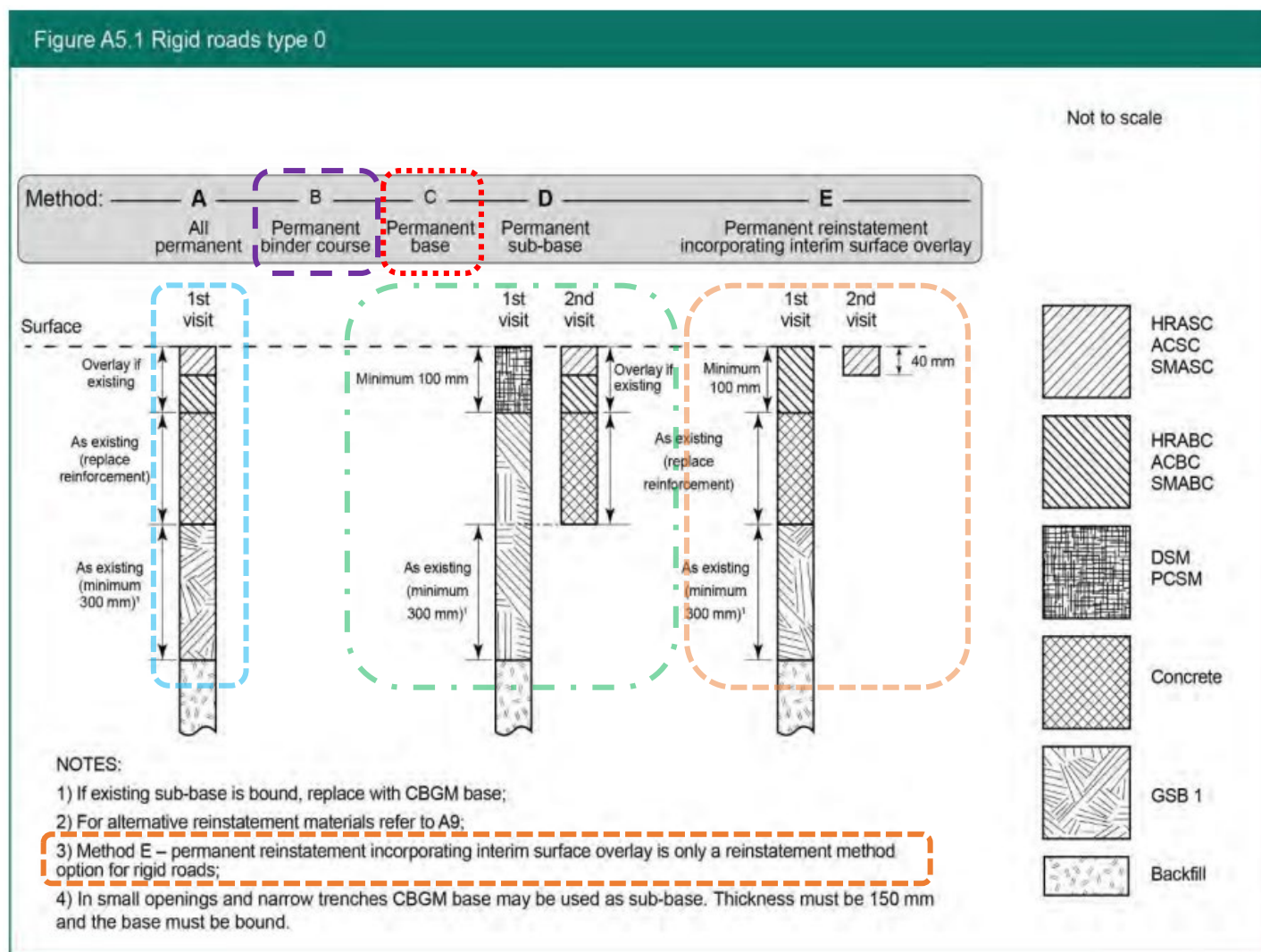
As there is no binder or base layer you can see that Method B and Method C are not allowed for. This is because you could not have an interim reinstatement that includes these layers within a rigid road construction. What would be the point of having a permanent binder course above a concrete slab where you have to option of using Method E which would allow for this scenario.

Method E will allow for an interim binder course material to be laid over the concrete slab to minimum 100 mm thick. The top 40 mm can be taken off to lay permanent surface course at the second visit.

NOTE: This is only a reinstatement method option for rigid roads.

Appendix A5 – Rigid Roads

Figure A5.1 – Rigid Roads Type 0



You can see why **Method A** is the preferred option as the reinstatement works are completed in one visit.

Method B Does not apply in rigid road construction

This is a Type 0 rigid road and, therefore, **Method C** will not apply.

Method D is where you have laid a permanent sub-base layer and will return to extract the interim materials above it. The second visit will incorporate concrete to match existing (or 100mm whichever is greater) and to place reinforcement where required. Bituminous overlay will be placed to match existing whilst ensuring layers comply with minimum requirements of SROH A2.7

Method E relates to a permanent reinstatement incorporating interim surface overlay which is only applicable to rigid roads reinstatements. The second visit is to place permanent surface course. It should be noted, this is the only occasion where 100mm of bituminous will be placed above concrete and remain a rigid road construction.

Appendix A5 – Rigid Roads

Figure A5.2 – Rigid Roads Type 1

Again, you can see **Method A** is the preferred option as the reinstatement works are completed in one visit.

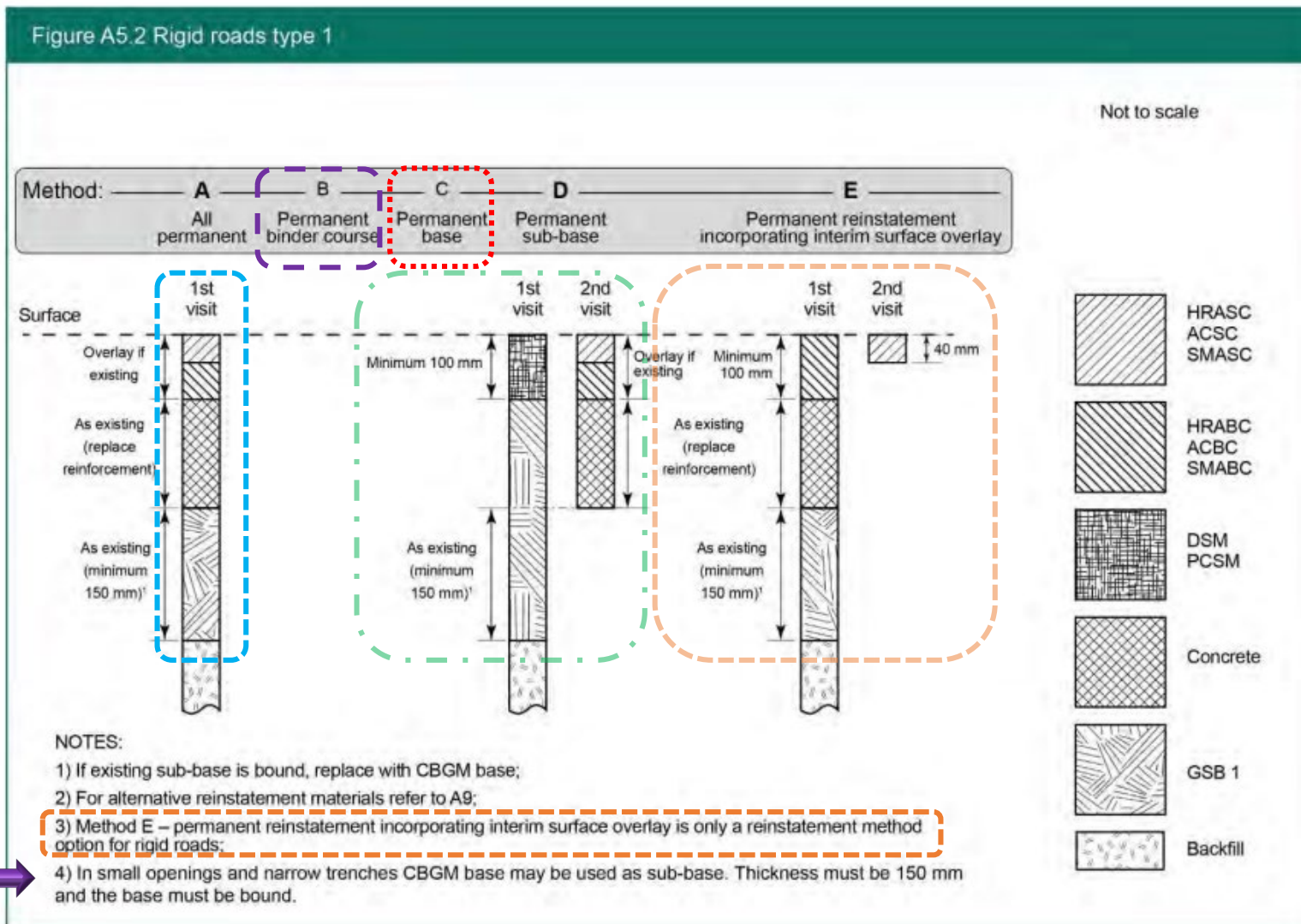
As described on previous page **Method B** Does not apply in rigid road construction.

This is again, also the case for **Method C**

Method D is where you have laid a permanent sub-base layer and will return to extract the interim materials above it. The second visit will incorporate concrete to match existing (or 100mm whichever is greater) and to place reinforcement where required. Bituminous overlay will be placed to match existing whilst ensuring layers comply with minimum requirements of SROH A2.7

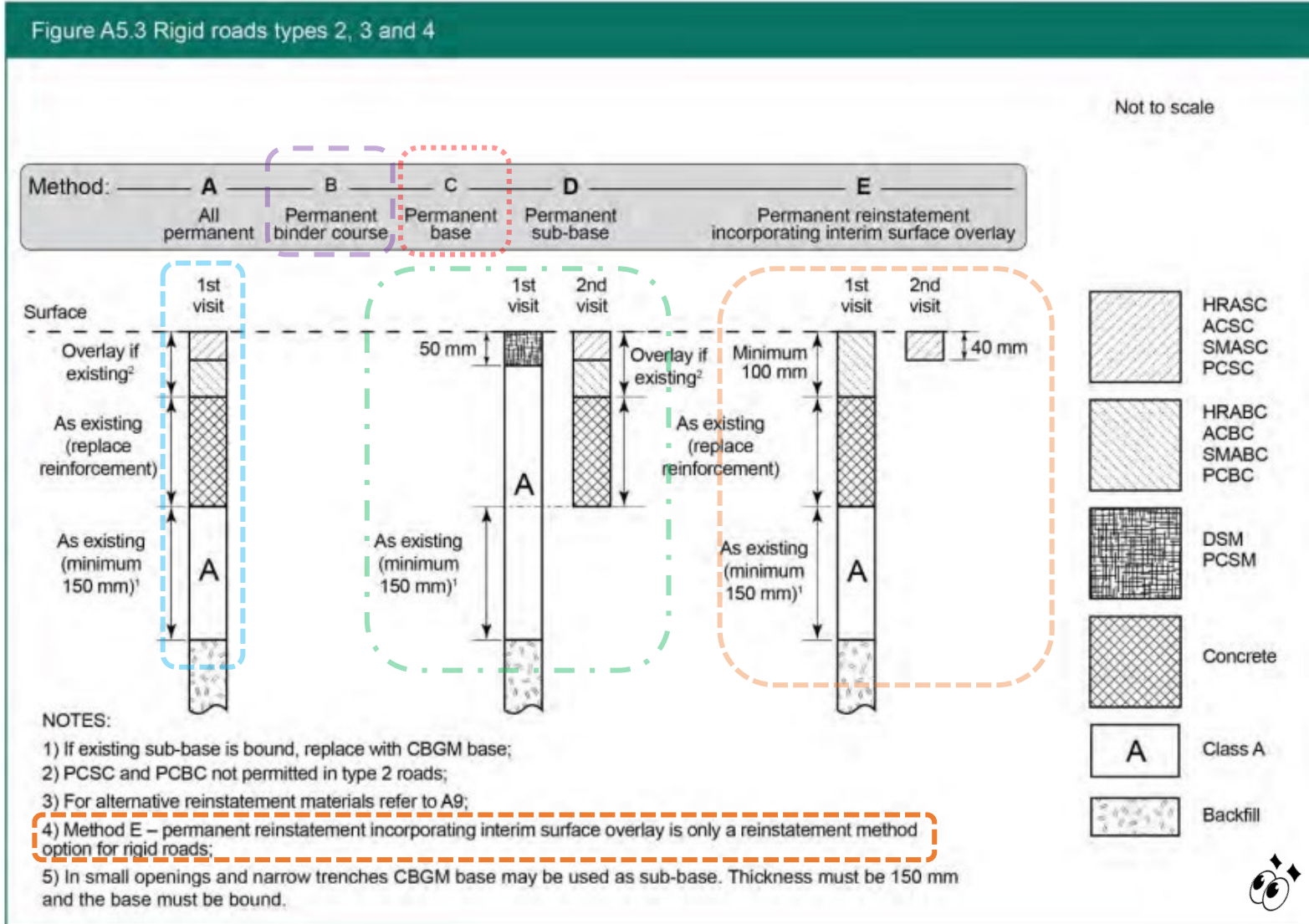
Method E relates to a permanent reinstatement incorporating interim surface overlay which is only applicable to rigid roads reinstatements. The second visit is to place permanent surface course. It should be noted, this is the only occasion where 100mm of bituminous will be placed above concrete and remain a rigid road construction.

Always pay attention to NOTES section. For example; You can see from Note 4, that you can use a cement bound granular material (CBGM) as a sub-base in small openings and narrow trenches. This has to be 150 mm thick and the base has to be a bound material for this to apply.



Appendix A5 – Rigid Roads

Figure A5.3 – Rigid Roads Type 2, 3 and 4



Again, **Method A** is the preferred option.

For reasons provided on previous pages, **Method B** will not apply in rigid roads.

This is also the case for **Method C**

Method D is where you have laid a permanent sub-base layer and will return to extract the interim materials above it. The second visit will incorporate concrete to match existing (or 100mm whichever is greater) and to place reinforcement where required. Bituminous overlay will be placed to match existing whilst ensuring layers comply with minimum requirements of SROH A2.7

Method E relates to a permanent reinstatement incorporating interim surface overlay which is only applicable to rigid roads reinstatements. The second visit is to place permanent surface course. It should be noted, this is the only occasion where 100mm of bituminous will be placed above concrete and remain a rigid road construction.

Permanent cold lay materials are not permitted for use in overlays of Type 2 roads (See note 2)



A5 - Summary



Why is Method A the preferred option for reinstatement?

Simply because, it is completing the reinstatement at the first visit where possible.

What is the purpose of different methods of reinstatement?

This will depend on the actual job and the availability of required materials. It is not usual for undertakers to apply methods other than Method A all permanent first time.

What do you mean by actual job?

Well, it could be something like the concrete slab requires sufficient time to cure before adding overlay materials if it didn't have hardening agent added to the mix.

Why would you apply method E to a reinstatement?

As an example; it may be that you are on a larger project and have to maintain traffic flow around the works. You would normally lay your concrete in sections which you can overlay with interim materials to maintain traffic flow. Once complete and at a later stage you can remove 40 mm and complete the surface course layer.

Why are PCSM materials not allowed in Types 0,1 and 2 roads as overlays?

Essentially, it is because these are heavily trafficked, and permanent cold lay materials are generally based on solvents or oils to maintain pliability or workability. This could prove to be a disadvantage where heavy traffic could continue to influence the material after compaction and therefore cause defects or ruts.

