

## APPLICATION FOR DEPARTURE FROM STANDARDS

**Departure ID:** 74187 (Revision 0 of 0)  
**Road:** A12  
**Scheme:** ASC6 A12 - JUNCTION 11 TO JUNCTION 12 NORTHBOUND AND SOUTHBOUND  
**NARIS/PIN Ref:** 545669/AMEY/0000001  
**Road Section Ref:** //  
**DBFO Ref:** //

**Agent Ref:** AMEY  
**Agent Title:** Amey - A12 Junction 11 to 12 Northbound and Southbound Running of Planed Surface

**Location:** A12 (J11-J12) Northbound:  
Main Carriageway - 1500A12/126, 1500A12/125, 1500A12/123, 1500A12/121, 1500A12/117, 1500A12/113, 1500A12/110, 1500A12/20

Slip Roads - 1500A12/4, 1500A12/8, 1500A12/33, 1500A12/38

Lay-by's - 1500A12/3-04, 1585A12/26, 1500A12/32, 1500A12/112

**Departure Summary:** Amey - A12 Junction 11 to 12 Northbound and Southbound Running of Planed Surface  
Approval for the running of the planed surface of the carriageway, which will be swept, inspected and subject to a 40mph speed limit with 'no overtaking' & 'temporary road surface' signage with Grip Tester measurements taken to ensure skid resistance is maintained.

**Status:** Approved with comments

<b>Structure Name/File Reference:</b> <b>Designer/Assessor Proposing Departure:</b> AMEY
<b>Standards</b> <i>Volume:</i> DMRB Vol 07 Section 5 <i>Standard:</i> HD 36/06 - Surfacing Material for New and Maintenance Construction : Design, Road Pavement, DMRB Vol 07 Section 5 (2014) <i>Clause(s):</i>
<b>Supporting Documentation</b> <i>Drawings:</i>

## **Submission Details**

### **15.1 Submission**

The Surface course on A12 Jct 11-12 Northbound between MP10/70+80 to 10/85+70 (Lane 1 and 2) & Southbound between MP10/70+80 and MP10/84+87 (Lane 1 and 2) near Brentwood has reached the end of its effective life and requires replacement. The scheme proposed is to remove the top 50 mm of the existing surfacing and replace it using a 2 layer system comprising of a 0/6mm SMA BIN PMB completed with a new thin surface course system, the latter of which will comply to SHW Series 900 Clause 942. It is also proposed to treat certain areas to a depth of 100mm with the extra 50mm to be made up from SMA20 bin Agg. 20mm.

The works are carried out under night time contraflow operation with all lanes reopened during the day at a reduced mandatory speed limit of 40 mph. Crossovers are being installed or upgraded to allow contraflow working to be used.

As the treatment is to full width of the carriageway over a long length the two layer approach has been adopted to allow outputs to be maximised and the number of joints to be significantly reduced compared to the traditional 50 mm thin surface course inlay constructed in a series of patches.

The proposed treatment is to remove 50mm of existing material until a minimum of 3 km is completed. The planing will be carried out using a planing vehicle capable of producing a finely milled, good quality surface (see GD04 –Supporting information). As a result the planed surface will be used as temporary running surface for up to a 4 day period in any one location as the works progress along the carriageway. The surface will be subject to an inspection at the end of each night prior to opening to traffic. During the day the planed surface will be trafficked at a reduced speed of 40 mph with the appropriate temporary marking, temporary surface signage and no overtaking. During the daytime running the surface will be inspected by a mobile patrol travelling at traffic speed every 2 hrs. The additional measures that will be taken while the planed surface is being used as a temporary running surface will be to apply a 40mph speed limit with road signage stating “no-overtaking” & “temporary road surface” and Grip Tester measurements will be taken to the trafficked section to ensure skid resistance is maintained [minimum Grip Number of 0.39 based on a SCRIM IL of 0.35 and a correlation factor of 0.89]

### **15.2 Technical Information / Justification:**

#### **15.2.1 Supporting Documentation:**

- Location Plan Drawing No 6/545669/DR/0100/01
- HD 36/06 Para 2.3 & 2.4

- GD04 - Safety Risk Report - 545669

**15.2.2 Specialist Information:**

None

**15.3 Secondary Standard:**

N/A

**15.4 Associated Departures:**

Web Das Id 73829 & 73832 has a similar departure regarding this.

**15.5 Repeat / Similar Departures:**

Web Das ID 73829 & 73832 has a similar departure regarding this.

**15.6 Bulk Departure: (for Structural Departures only)**

None

**15.7 Proposer:**

Technical Director

AMEY

Manton Lane

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Mobile:

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## **Benefits & Justification of Departure to Highways Agency**

*Innovative?* Y

*Added Value:* Non Monetary

### **16.1 Benefits:**

#### **16.1.i Safety (road users)**

The running of the planed surface for a period of time will allow the installation of a consistent surface course as part of the 50mm 2 layer system for longer distances which will provide a better riding quality for road users.

The finished surfacing will have a longer life requiring less interventions in the future, this method also reduces the overall construction period compared with plane out and inly method reducing the risk associated with diverted traffic

#### **16.1.ii Safety (construction and maintenance)**

The granting of the departure allows the adoption of a more efficient and safer construction methods with the laying operations performed over large areas and isolated from other works such as cold milling and lining as opposed to the layback approach that concentrates activities in locations

#### **16.1.iii Technical**

Running of the planed surface as part of the installation of the 2 layer system will ultimately ensure a better riding quality for road users by allowing the consistent installation of the 2 layer system for a longer distance and complete works within the allowed working period. Resulting in less intervention in the future and better ride quality of the work. We will use skilled and trained operatives to inspect and install the materials during the traffic management, planing and construction of the contract. Furthermore, we will apply a testing regime that confirms that the expected Skid Resistance of the planed surface is achieved.

#### **16.1.iv Programme**

The running of the planed surface as part of the installation of the 2 layer system will help to finish the works more expediently than the initially allowed working period hence bringin additional benefits to the road users and the Agency in terms of network availability.

#### **16.1.v Budget**

The running of the planed surface as part of the installation of the 2 layer system will have a positive/favourable impact on the budget when compared with the convention method of constructing this type of work under night-time possession

#### **16.1.vi Environmental**

The benefits of running the planed surface are that it facilitates the installation of the 2 layer system which means that as the 20mm layer of 0/6mm SMA BIN PMB will be manufactured with a 53PSV Aggregate while the 30mm of long life thin surface course system will be manufactured with a 65PSV aggregates. This means that not all of the total thickness of the 2 layer system will be manufactured with the higher 65PSV aggregate and hence reduce the impact on the environment of an already increasingly scarce and expensive material, resulting in less carbon emissions.

#### **16.1.vii Innovation**

The use of a 50mm 2 Layer System has not been used extensively on the network until now, however this proposed solution will provide a better riding quality for road users as there will be less need to form construction joints between operational phases of the work as night-time inlay work would not normally facilitate the option to improve ride quality of the pavement and the system will enable a large area to be resurfaced in a single shift, reducing the number of construction joints and improving the longer term durability of the surfacing as a result.

#### **16.1.viii Durability / Maintenance**

The application of the 2 layer system will assist in the Agency goal of Safe Roads, Reliable Journeys and Informed Travellers in that the materials used in the system and the method used to construct it all ensure that the installed pavement using a long life thin surface course in conjunction with the 0/6mm SMA BIN PMB will be both a durable and maintenance reducing pavement all of which cannot be achieved without the ability to allow traffic to use the planed surface during the construction of the pavement.

#### **16.1.ix Network Availability**

The factors identified in Section 19.1 – Benefits and in particular sub-sections

19.1iii - Technical, 19.1iv – 19.1v – Program, 19.1vii – Innovations & 19.1viii - Budget and Durability/Maintenance with the installation of the 2 layer system facilitated by this departure application to allow traffic to run the planed surface as a temporary surface. During the works there will be no reduced capacity during the day, the overall works time is reduced.

## **16.2 Impacts:**

### **16.2.i Safety (road users)**

The risk of trafficking of planed surface for a short period with a temporary 40mph speed restriction may provide unacceptable surface.

### **16.2.ii Safety (construction and maintenance)**

None.

### **16.2.iii Technical**

None.

### **16.2.iv Programme**

None.

### **16.2.v Budget**

None.

### **16.2.vi Environmental**

None.

### **16.2.vii Innovation**

### **16.2.viii Durability / Maintenance**

None.

### **16.2.ix Network Availability**

None.

## **16.3 Risks:**

### **16.3.i Safety (road users)**

The risk of trafficking the planed surface for a short period with a 40mph speed restriction may provide unacceptable surface.

**16.3.ii Safety (construction and maintenance)**

None

**16.3.iii Technical**

None

**16.3.iv Programme**

None

**16.3.v Budget**

None

**16.3.vi Environmental**

None

**16.3.vii Innovation**

None

**16.3.viii Durability / Maintenance**

None

**16.3.ix Network Availability**

None

**16.4 Mitigation:**

The measures we have taken will ensure that in as far as is reasonably practicable the risks to the public have been mitigated as the planned surface will be subject to an overall daily inspection and once running of the surface during the daytime takes place, will be subject to a 2 hourly inspection. The planned surface will only be used as a temporary running surface for a maximum period of 4 days.

The additional measures that will be taken while the planed surface is being used as a temporary running surface will be to apply a 40mph speed limit with road signage stating “no-overtaking” & “temporary road surface” and Grip Tester measurements will be taken once a week to ensure skid resistance is maintained. If skid resistance falls below the required 0.39 the application of wearing course will be bought forward and the affected area surfaced the following night. The planing vehicle will also be specified as being able to provide a finely milled, better quality surface.

In conclusion, we are confident all of these measures serve as acceptable mitigation.

### **16.5 Overall Justification:**

#### **16.5.i Reasons why the Benefits (16.1) outweigh the Impacts (16.2)**

As a result of the measures we have taken our proposal offers a consistent surface course with a reduced amount of construction joints and the installation of a 20 year Long Life Surface. The application of a 40mph speed limit with road signage stating “no-overtaking” & “temporary road surface” and Grip Tester measurements will be taken once a week to ensure skid resistance is maintained means that all measures have been taken in as far as is reasonably practicable to reduce risk to the public.

#### **16.5.ii Reasons why the Risks (16.3) after Mitigation (16.4) are ALARP**

Given the mitigation described in 19.4 we are confident that the risks after mitigation are ALARP

#### **16.5.iii Compatibility with adjacent roads**

The 2 layer system proposed has 100% compatibility with adjacent roads and there are no perceived issues with the materials or their installation that would cause any compatibility issues with adjacent roads.



**Consultants Comments**

NA

**Project Sponsor - OD Comments**

*Project Sponsor:*

I recommend that these Departures are progressed for approval

**SSR Comments**

1. This Departure seeks to allow traffic to temporarily run on the binder course whilst pavement maintenance works are being carried out.
2. This will enable a large area to be resurfaced in a single shift, reducing the number of construction joints and improving the longer term durability of the surfacing.
3. The following information has been subsequently provided by Service provider:
  - A temporary speed limit **will** be maintained for the duration of this work
  - Police Enforcement speed cameras **will** be in place for the duration of this work
  - 'Temporary Road Surface' signs **will** be in place for the duration of this work
  - Grit **will** be placed on the sacrificial material by means of a grit box roller
  - Grip Tester measurements **will** be taken **once a week** to ensure skid resistance is maintained [**minimum Grip Number of 0.39** based on a SCRIM IL of 0.35 and a correlation factor of 0.89]
  - **Daily Visual Surveys** to observe any loss in grit. Should the loss of grit be observed at any stage during the works, resurfacing will be carried out earlier than currently planned and within the next available shift. During the daytime running the surface will be inspected by a mobile patrol travelling at traffic speed every 2 hrs.
5. It is understood that the temporary speed limit will be 40 mph.

6. Although Griptestter is not normally used for skid resistance measurements on the HA network, in this particular instance it is being used to monitor a relative change and the absolute value is of less importance. It is therefore considered appropriate for this particular work.

7. The procedure above describes a rational process to manage the risk of skidding accidents whilst the works are being undertaken.

8. I recommend that this Departure is approved.

Senior Pavement Advisor, 19.01.2014

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1. I agree with the recommendations of the Senior Pavement Advisor and this Departure is therefore approved subject to the above comments.

Pavement Materials Team Leader

19 January 2015

**Diary Snap-Shot:**

**Bulk Departure Details**

Departure	TA Number	Structure Key	Location
74187			A12 (J11-J12) Northbound: Main Carriageway - 1500A12/126, 1500A12/125, 1500A12/124
74188			A12 (J11-J12) Southbound: Main Carriageway - 1585A12/11, 1585A12/17, 1500A12/112, 1500A12/111