ANNEX G – Repairs in bituminous carriageways and footways

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Lancashire County Council

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Introduction

This section sets out the main methods for undertaking repairs to defects in bituminous carriageways, footways and cycle tracks. The method used will depend on a range of factors relating to the type and nature of the defect; condition of the surrounding area; traffic management requirements; weather and road conditions; and response time.

Repairs will be done to as high a standard as possible given the circumstances of each particular repair reducing the need for repeat visits due to failures. An excavation and reinstate repair method is the preferred option but infill or other repairs may be necessary due to the general condition of the surface in which the defect exists.

Changes to this annex will be approved by Head of Service- Highways

Repair Methods

- **Excavate and Reinstate Method**

  This will be used to repair a defect where the surrounding road surface is such that a neat, sound edge is available or can be saw cut.

  Technique and materials:

  1. Saw cut the area around the defect to be repaired where necessary to provide neat, sound and vertical edges;
  2. Sweep the defect so that it is clear of water and any loose debris;
  3. Apply bondcoat to the bottom and sides of the area to be repaired, ensuring that all surfaces are covered in bondcoat
  4. Apply hot material appropriate for the surface. If hot material is not available then a permanent cold lay material may be used.
  5. Compact the material using a vibrating plate compactor.

- **Infill Repair Method**

  This will be used to repair a defect where the surrounding road surface deterioration is such that no neat, sound edge is available or can be saw cut.

  Technique and materials:

  1. Sweep the defect so that it is clear of water and any loose debris;
  2. Apply bondcoat to the bottom and sides of the area to be repaired, ensuring that all surfaces are covered in bondcoat.
  3. Apply hot material appropriate for the surface. If hot material is not available then a permanent cold lay material may be used.
  4. Compact the material using a vibrating plate compactor.

Typically the actions resulting from highway safety inspection would be to adopt the methods above. Below are other repair techniques which may be used depending upon the prevailing circumstances.

- **Spray Injection repair method**

  A rapid patching technique suitable for use on all road types using cold emulsion asphalt which is placed into the void depression in the road surface under high pressure. The void is first blasted with compressed air to clean the surface and remove any debris, then the surface of the void is sprayed and coated with bitumen emulsion. Finally the asphalt is blasted into the void, and another coat of bitumen applied to seal the surface.

- **Mechanical Repair method**

  For larger areas, a planing machine is used to remove the surface and for significant areas of patching, a road paving machine is deployed to lay the bituminous material

- **Insitu Road Heating Repair method**

  These methods heat up the existing surfacing material and mix it with new material. The process provides a good bond between existing and new material but the process is relatively slower, costly and unsuitable in wet conditions.

- **Other Repair methods**

  Other repair techniques will be trialled and if successful will be adopted to meet highway maintenance needs.

Temporary Actions

In some instances a temporary action will be taken. This may take the form of placing signs, cones or barriers around a defect or filling a defect with bituminous or unbound material. Temporary actions are sometimes required due to road layout and traffic conditions, the need to respond urgently to dangerous defects, weather conditions, or availability of materials or equipment.

When a temporary action is taken follow up permanent works will be undertaken within 20 working days.