

**National Asset Delivery  
Technical Surveys and Testing**

**Site Information for**

**570127**

**M5 J11-J10 Northbound MP81/7**

**CCTV Survey**

## 1 SITE INFORMATION

### 1.1 Site boundary, extents and access arrangements

The M5 MP81/7 scheme is located on the northbound embankment of the M5 to the west of Cheltenham at approximate National Grid co-ordinates 389647, 222079. Repairs to an embankment defect (soil slip, bulge and tension crack ) are required, extending from 389650, 222067 to 389651, 222090.

Access to the site is via the M5.

Photographs taken in 2019 are presented below.





## 1.2 Drainage

Drawings showing the recorded drainage network are in the Pre-Construction Information and in Figure 1 below. There is kerb drainage with gullies at the top of the slope and an unlined ditch at the bottom connected by buried pitch fibre pipes. This pipe material is known to contain asbestos (chrysotile).

In June 2009 maintenance and several repairs were undertaken on the drainage, which included diverting the outflow from the gully at MP 81/6+49 to a catch pit at MP 81/6+71. Headwalls were constructed for each outfall using concrete bags, with concrete splash slabs installed at the base and opposite side of the ditch to prevent erosion.

During these works, a backscarp close to the crest of the slope was re-graded and covered by material created during the drainage works.

Counterfort drains were proposed to be installed in 2009 but these are not recorded and there is no evidence on site.

## 1.3 Geotechnical

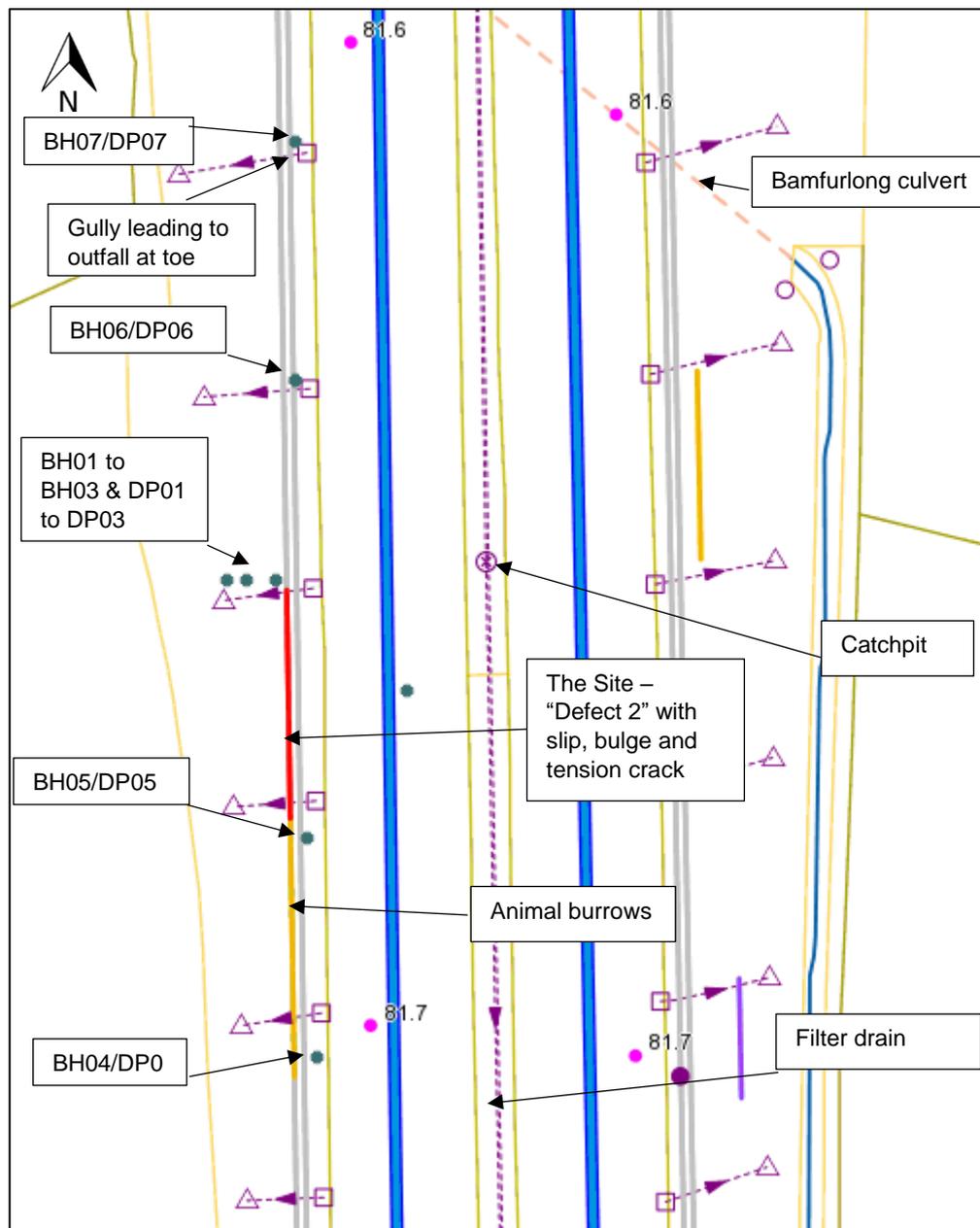
An extract from HAGDMS showing the location of the site identified as “Defect 2”, drainage and historic boreholes is given in Figure 1.

Online digital maps produced by the British Geological Survey (BGS) show the site to lie on bedrock of the Rugby Limestone Member with bedrock of the Charmouth Mudstone Formation to the east of the M5. A thin strip of alluvium is mapped along the course of Bamfurlong culvert at MP81/6, north of the site.

The thickness of the embankment fill is reported to decrease from 4.30m in the south (BH05) to 4.00m in the north (BH01) with ground elevation increasing from 28.80m OD to 29.00m OD respectively.

The results of groundwater monitoring are indicative of groundwater at an elevation of 24.50 to 25.00m OD within the fine grained embankment fill.

Figure 1: Site details



#### 1.4 Environmental

A pond to the east of the M5, within 250m of the site, is a habitat for newts.

The woodland verge near the site forms part of a management plan which seeks to provide a dense visual screen between the northbound carriageway, with public rights of way and commercial properties within close proximity. Significant trees may not therefore be removed at the survey stage.

#### 1.5 Soft Estate and Environment

The proposed works will be undertaken within the soft verge and hard shoulder. The site is covered by extensive grass, moderate amounts of brambles, moderate amounts of small shrubs and extensive medium sized trees.

## **1.6 Statutory Undertakers**

Drawings from the C2 stats returns are included in the Pre-Construction Information.

## **1.7 Traffic**

The site comprises an embankment carrying the hard shoulder and three lanes of the northbound embankment of the M5 .