

Legend

Alignment Options

- 1km Buffer
- 100m Buffer

North & South Core Routes

- North Core Route 1
- North Core Route 2
- South Core Route 1
- South Core Route 2

Western Corridors

- Western Corridor 1
- Western Corridor 2

Eastern Corridors

- Eastern Corridor 1
- Eastern Corridor 2

Existing Network

- A4103 Roman Road
- Rotherwas Access Road

Proposed Roundabouts

- Proposed Roundabouts
- Proposed Signalled Junctions

Constraints

- SSSI
- Ancient Woodland
- SINC
- LNR
- SAC
- SWS
- Potential BAP Priority Habitat
- HNTR
- GCN
- Bat Roost
- Otter
- Dormouse
- Reptile
- Schedule 1 Bird
- Water vole
- White-clawed crayfish
- Hereford BAP Invertebrate

Rev	Revision details	Chkd	Appd	Date
Drawn: P,S / J,J	Preliminary			✓
Design: P,D	For comment			
Chkd:	For tender			
Appd:	For construction			
Date:	As constructed			



Client
 M. HAIG
 DIRECTOR OF ENVIRONMENT & CULTURE
 Herefordshire Council

Project Name
Hereford Relief Road

Drawing Title
 ECOLOGY
**ALIGNMENT
 CONSTRAINTS
 SHEET 6 OF 13**

Original Drawing Size : A3
 Scale : 1:10000 Dimensions : m

Drawing No
 551497-Stage2-ENV-6-07 Rev
 01

Figure B9.7

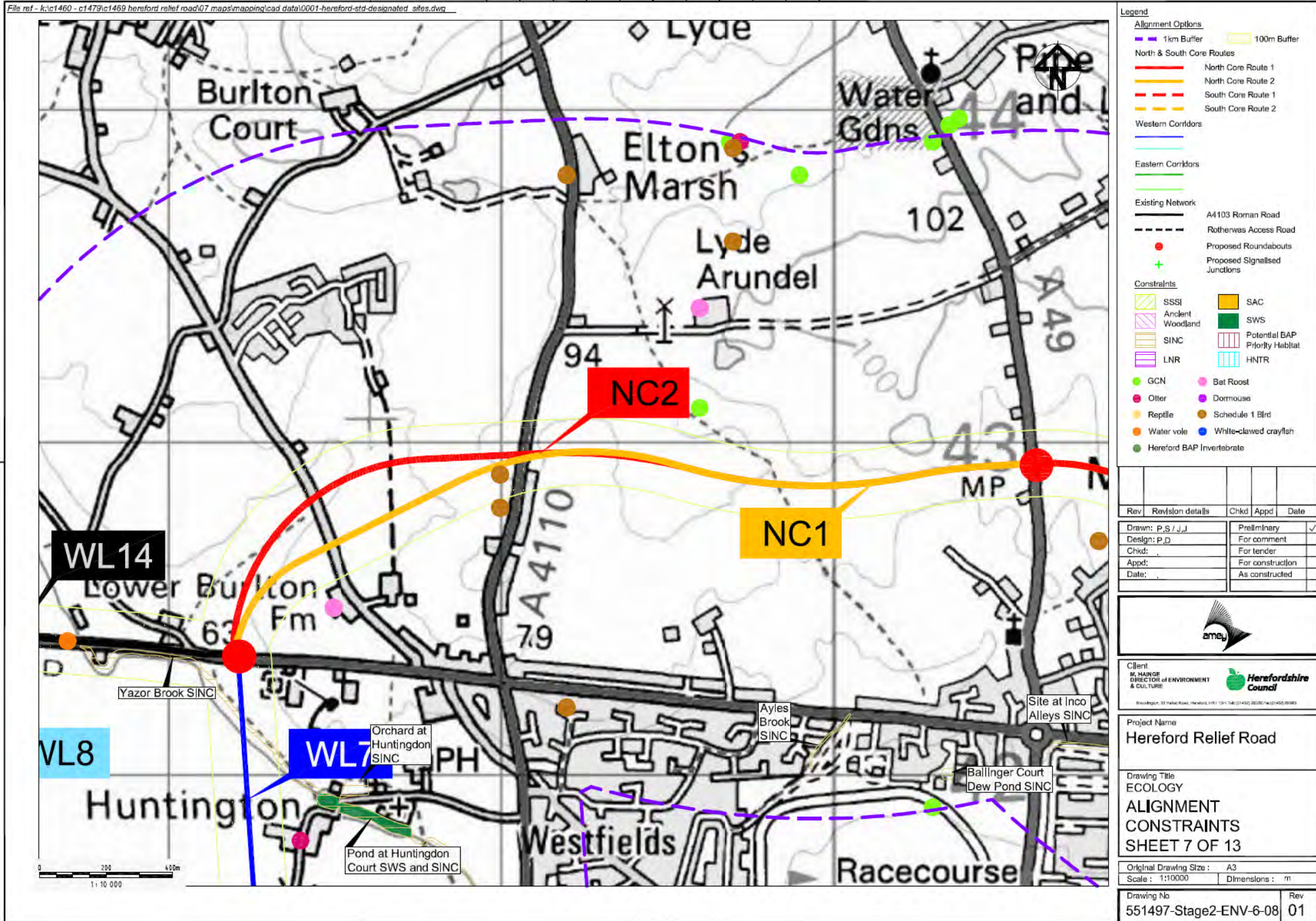
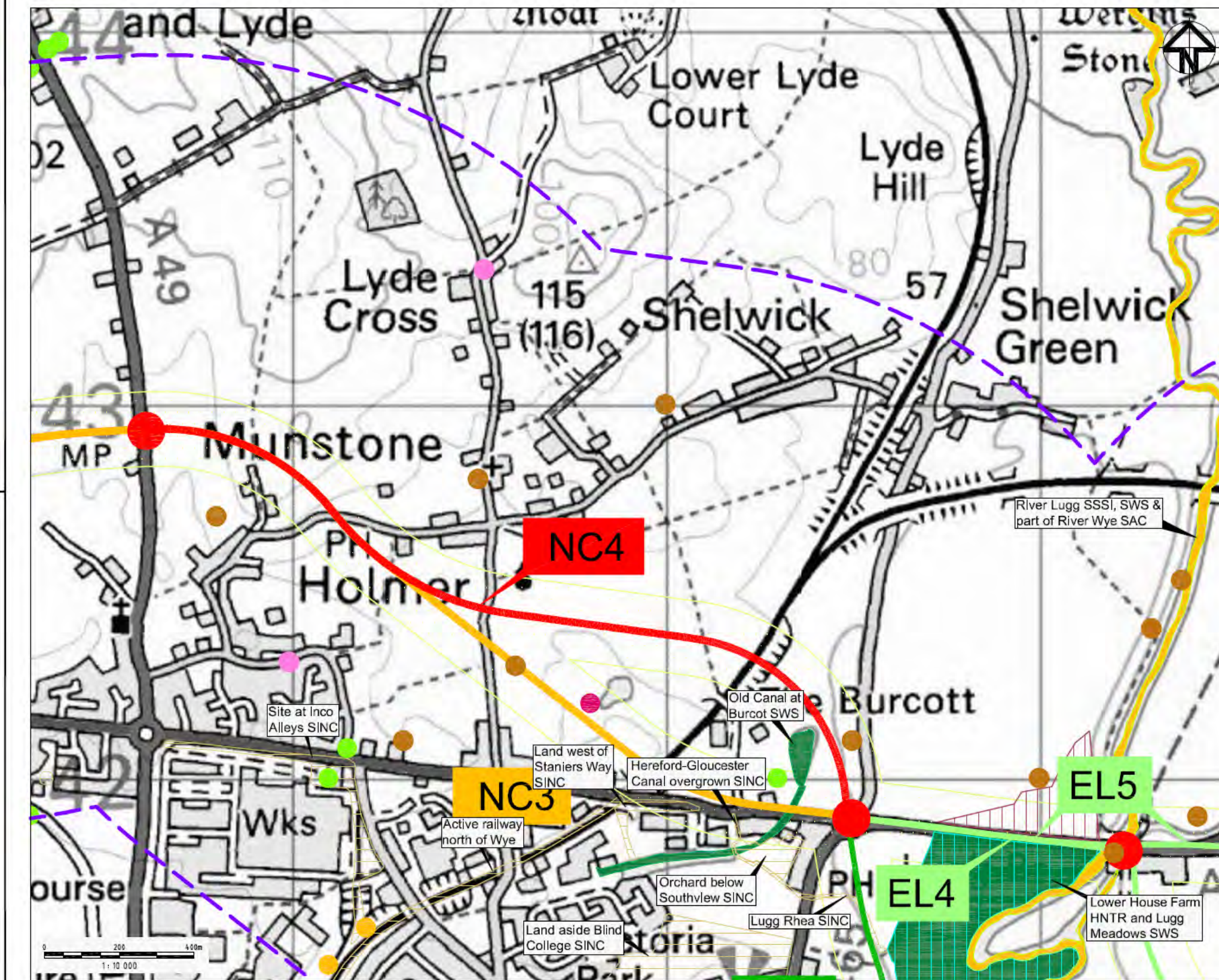


Figure B9.8



Legend

Alignment Options

- 1km Buffer
- 100m Buffer

North & South Core Routes

- North Core Route 1
- North Core Route 2
- South Core Route 1
- South Core Route 2

Western Corridors

- Western Corridor 1
- Western Corridor 2

Eastern Corridors

- Eastern Corridor 1
- Eastern Corridor 2

Existing Network

- A4103 Roman Road
- Rotherwas Access Road
- Proposed Roundabouts
- Proposed Signalled Junctions

Constraints

- SSSI
- Ancient Woodland
- SINC
- LNR
- GCN
- Otter
- Reptile
- Water vole
- Hereford BAP Invertebrate
- SAC
- SWS
- Potential BAP Priority Habitat
- HNTR
- Bat Roost
- Dormouse
- Schedule 1 Bird
- White-clawed crayfish

Rev	Revision details	Chkd	Appd	Date
Drawn: P.S./J.J.	Preliminary			✓
Design: P.D.	For comment			
Chkd:	For tender			
Appd:	For construction			
Date:	As constructed			

amey

Client
M. HAIGE
DIRECTOR OF ENVIRONMENT
& CULTURE

Herefordshire Council

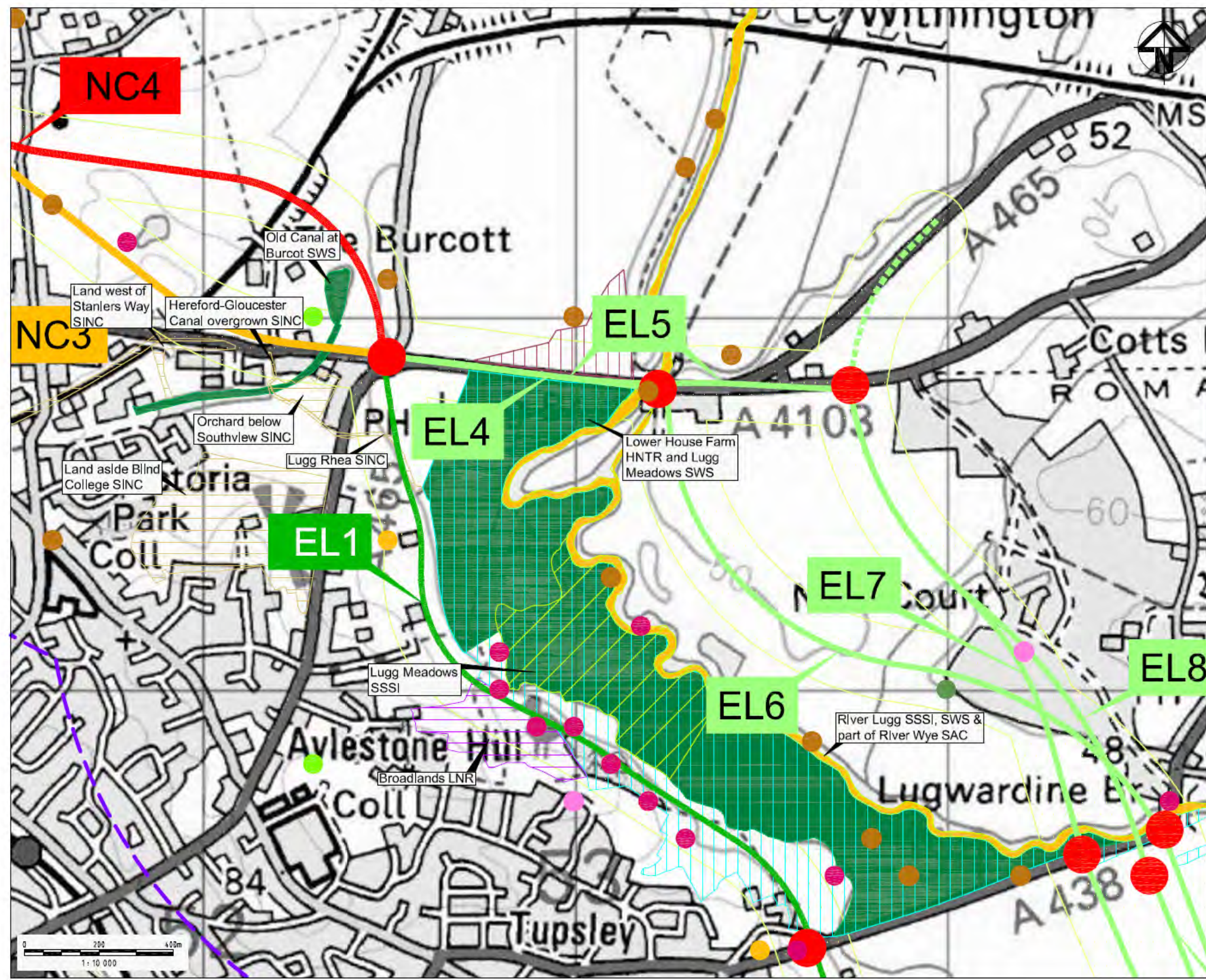
0100490001 31 Market Road, Hereford, Herefordshire HR1 1SP Tel: 01432 357676 Fax: 01432 357683

Project Name
Hereford Relief Road

Drawing Title
**ECOLOGY
ALIGNMENT
CONSTRAINTS
SHEET 8 OF 13**

Original Drawing Size:	A3
Scale:	1:10000
Dimensions:	m
Drawing No	Rev
551497-Stage2-ENV-6-09	01

Figure B9.9



Legend

Alignment Options

- 1km Buffer
- 100m Buffer

North & South Core Routes

- North Core Route 1
- North Core Route 2
- South Core Route 1
- South Core Route 2

Western Corridors

- Western Corridor 1
- Western Corridor 2

Eastern Corridors

- Eastern Corridor 1
- Eastern Corridor 2

Existing Network

- A4103 Roman Road
- Rotherwas Access Road
- Proposed Roundabouts
- Proposed Signalised Junctions

Constraints

- SSSI
- Ancient Woodland
- SINC
- LNR
- SAC
- SWS
- Potential BAP Priority Habitat
- HNTR
- GCN
- OTter
- Reptile
- Water vole
- Hereford BAP Invertebrate
- Bat Roost
- Dormouse
- Schedule 1 Bird
- White-clawed crayfish

Rev	Revision details	Chkd	Appd	Date
Drawn: P.S./J.J.	Preliminary			✓
Design: P.D.	For comment			
Chkd:	For tender			
Appd:	For construction			
Date:	As constructed			



Client
M. HAINGE
 DIRECTOR OF ENVIRONMENT & CULTURE
Herefordshire Council

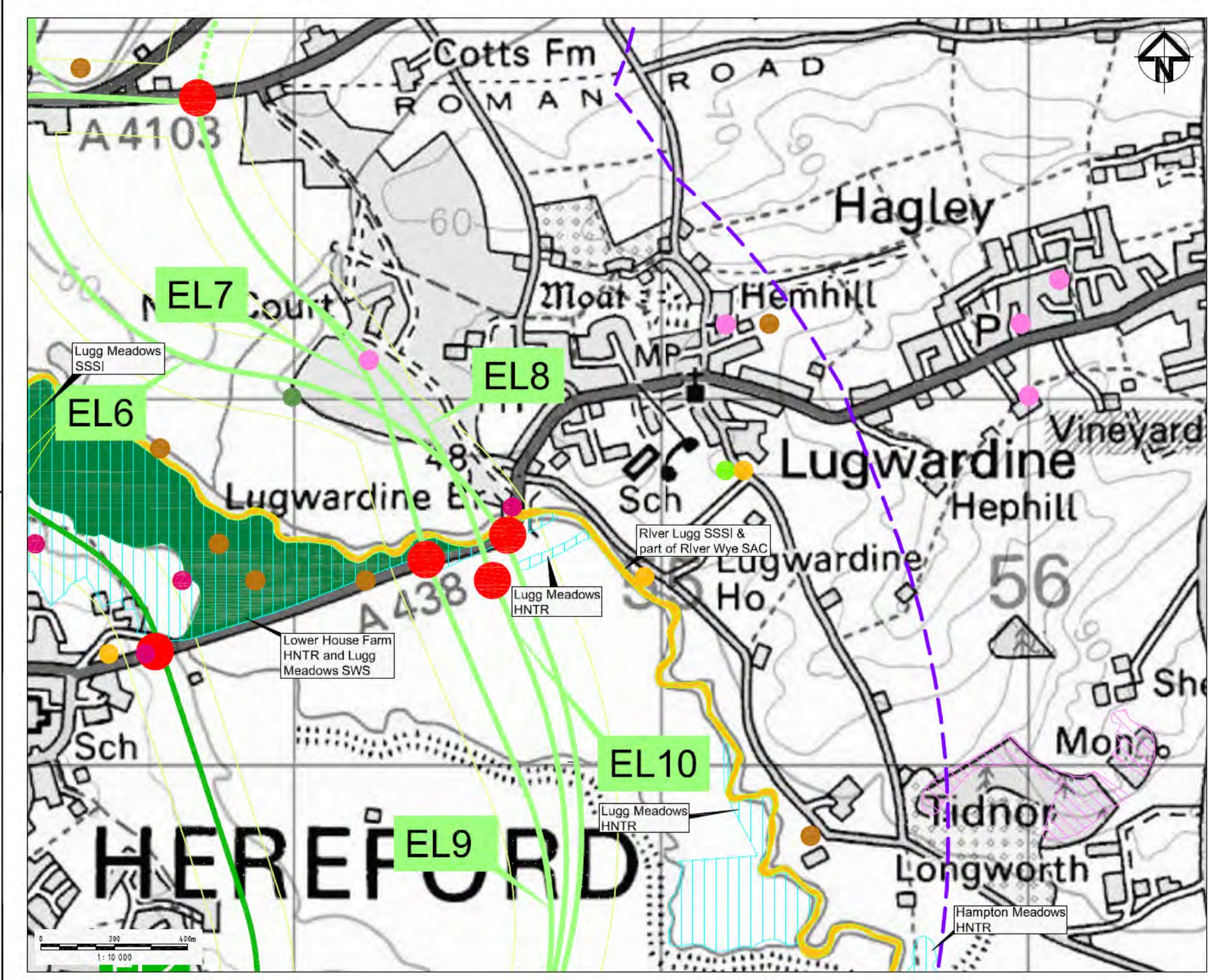
Project Name
Hereford Relief Road

Drawing Title
ECOLOGY
ALIGNMENT
CONSTRAINTS
SHEET 9 OF 13

Original Drawing Size : A3
 Scale : 1:10000 Dimensions : m

Drawing No
551497-Stage2-ENV-6-10 Rev
01

Figure B9.10



Legend

Alignment Options

- 1km Buffer
- 100m Buffer

North & South Core Routes

- North Core Route 1
- North Core Route 2
- South Core Route 1
- South Core Route 2

Western Corridors

- Western Corridor 1
- Western Corridor 2

Eastern Corridors

- Eastern Corridor 1
- Eastern Corridor 2

Existing Network

- A4103 Roman Road
- Rotherwas Access Road
- Proposed Roundabouts
- Proposed Signalised Junctions

Constraints

- SSSI
- Ancient Woodland
- SINC
- LNR
- SAC
- SWS
- Potential BAP Priority Habitat
- HNTR
- GCN
- Bat Roost
- Otter
- Dormouse
- Reptile
- Schedule 1 Bird
- Water vole
- White-clawed crayfish
- Hereford BAP Invertebrate

Rev	Revision details	Chkd	Appd	Date

Drawn: P.S / J.J Preliminary ✓
 Design: P.D For comment
 Chkd: For tender
 Appd: For construction
 Date: As constructed

Client
 M. HAINGE
 DIRECTOR OF ENVIRONMENT
 & CULTURE
 Herefordshire Council

Project Name
 Hereford Relief Road

Drawing Title
 ECOLOGY
 ALIGNMENT
 CONSTRAINTS
 SHEET 10 OF 13

Original Drawing Size: A3
 Scale: 1:10000 Dimensions: m

Drawing No: 551497-Stage2-ENV-6-11 Rev: 01

Figure B9.11

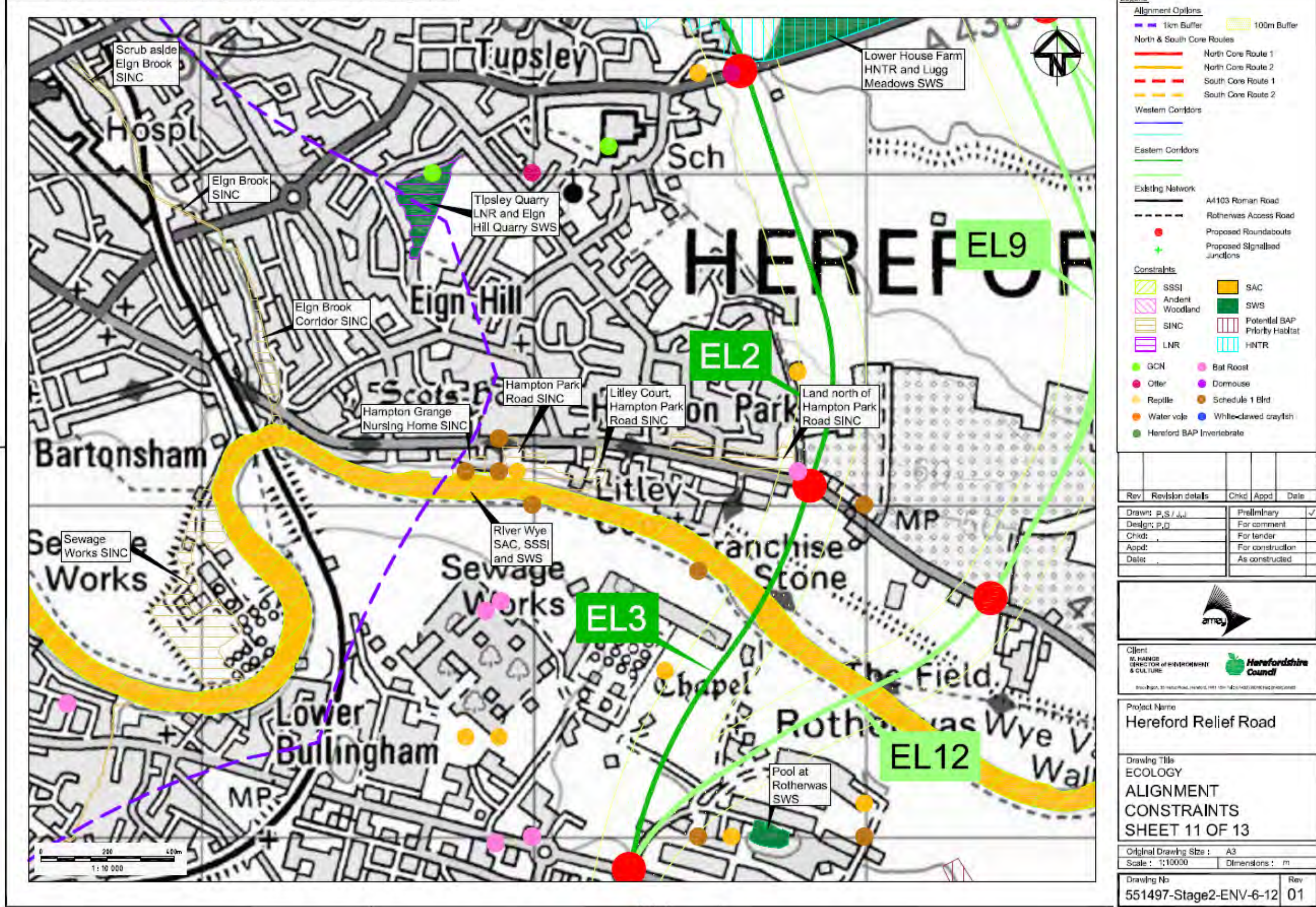
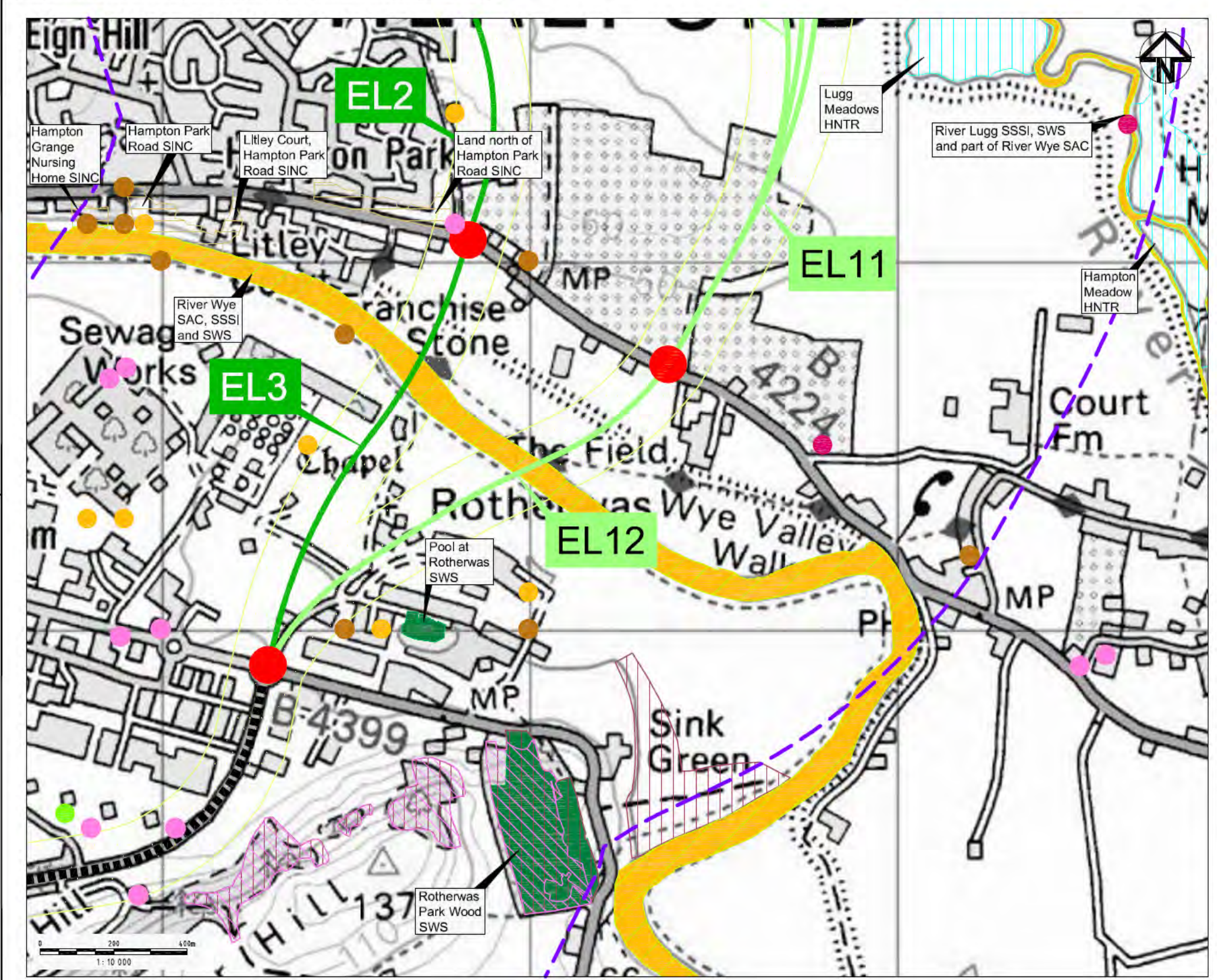


Figure B9.12



Legend

Alignment Options

- 1km Buffer
- 100m Buffer

North & South Core Routes

- North Core Route 1
- North Core Route 2
- South Core Route 1
- South Core Route 2

Western Corridors

- Western Corridor

Eastern Corridors

- Eastern Corridor

Existing Network

- A4103 Roman Road
- Rotherwas Access Road
- Proposed Roundabouts
- Proposed Signalised Junctions

Constraints

- SSSI
- Ancient Woodland
- SINC
- LNR
- GCN
- Otter
- Reptile
- Water vole
- Hereford BAP Invertebrate
- SAC
- SWS
- Potential BAP Priority Habitat
- HNTR
- Bat Roost
- Dormouse
- Schedule 1 Bird
- White-clawed crayfish

Rev	Revision details	Chkd	Appd	Date

Drawn: P.S / J.J	Preliminary
Design: P.D	For comment
Chkd: .	For tender
Appd: .	For construction
Date: .	As constructed



Client
M. HAINGE
DIRECTOR of ENVIRONMENT
& CULTURE

Herefordshire Council

Project Name
Hereford Relief Road

Drawing Title
ECOLOGY
**ALIGNMENT
CONSTRAINTS
SHEET 12 OF 13**

Original Drawing Size : A3
Scale : 1:10000 Dimensions : m

Drawing No 551497-Stage2-ENV-6-13	Rev 01
--------------------------------------	-----------

Figure B9.13

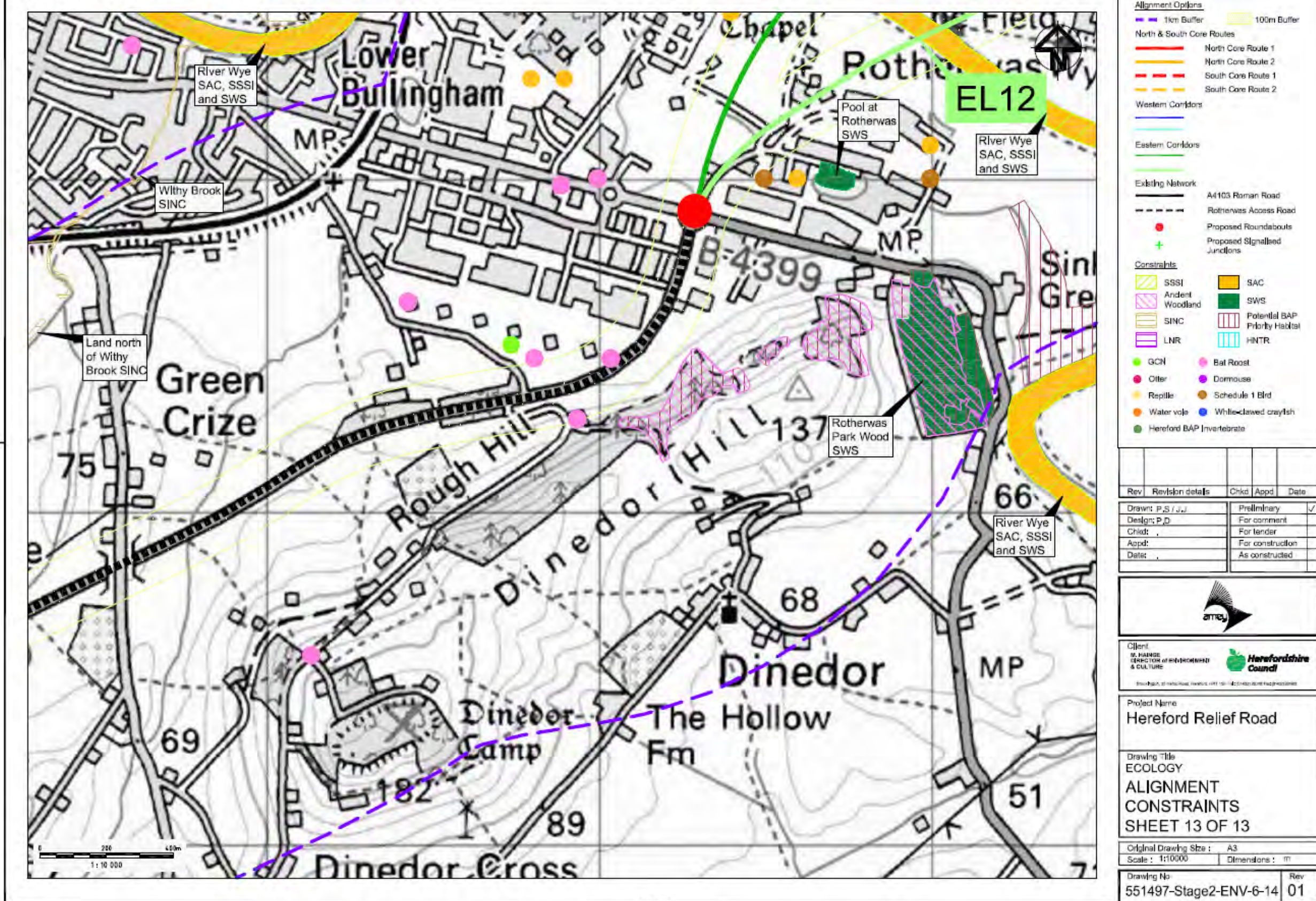


Figure B9.14

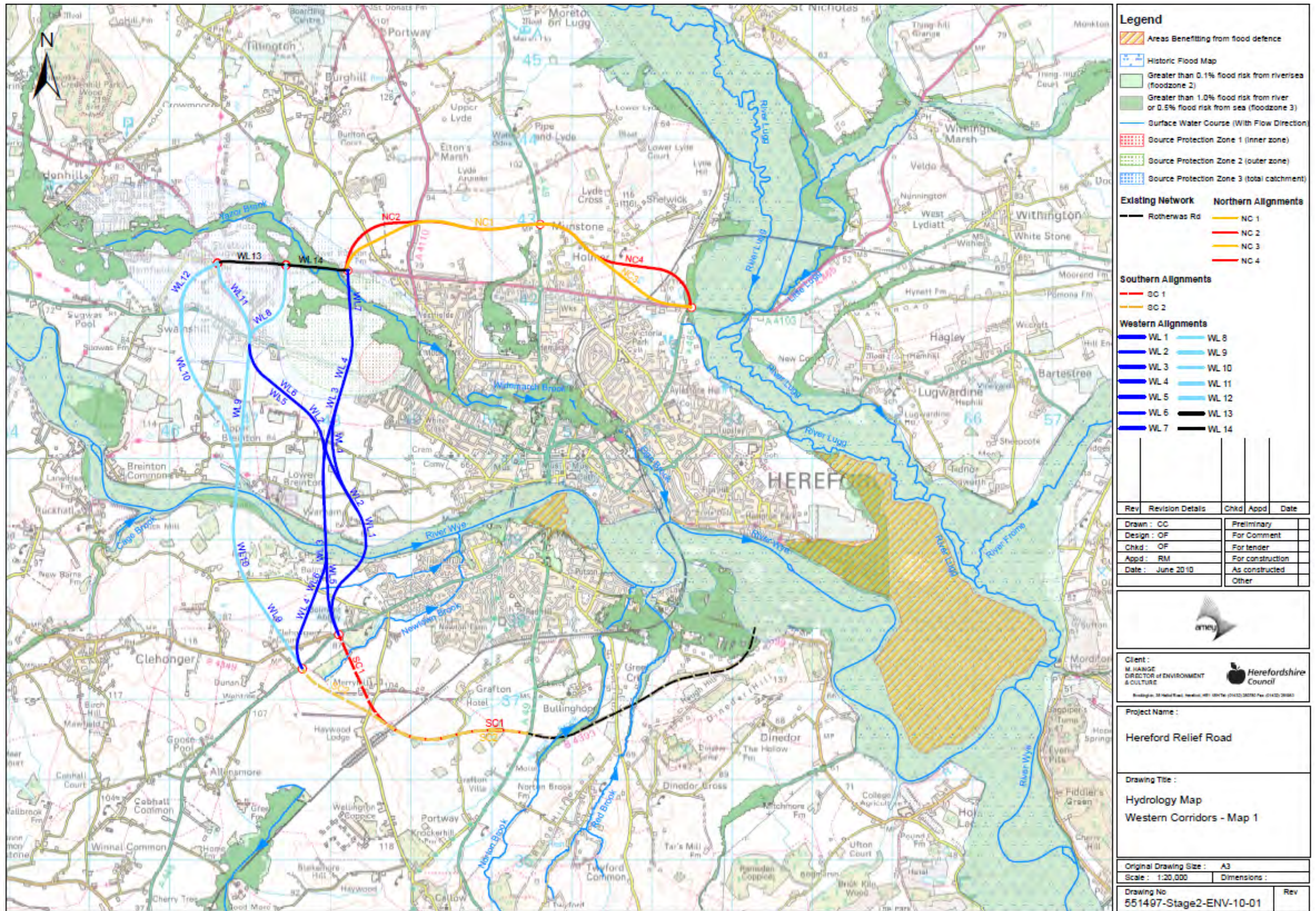


Figure B10.1

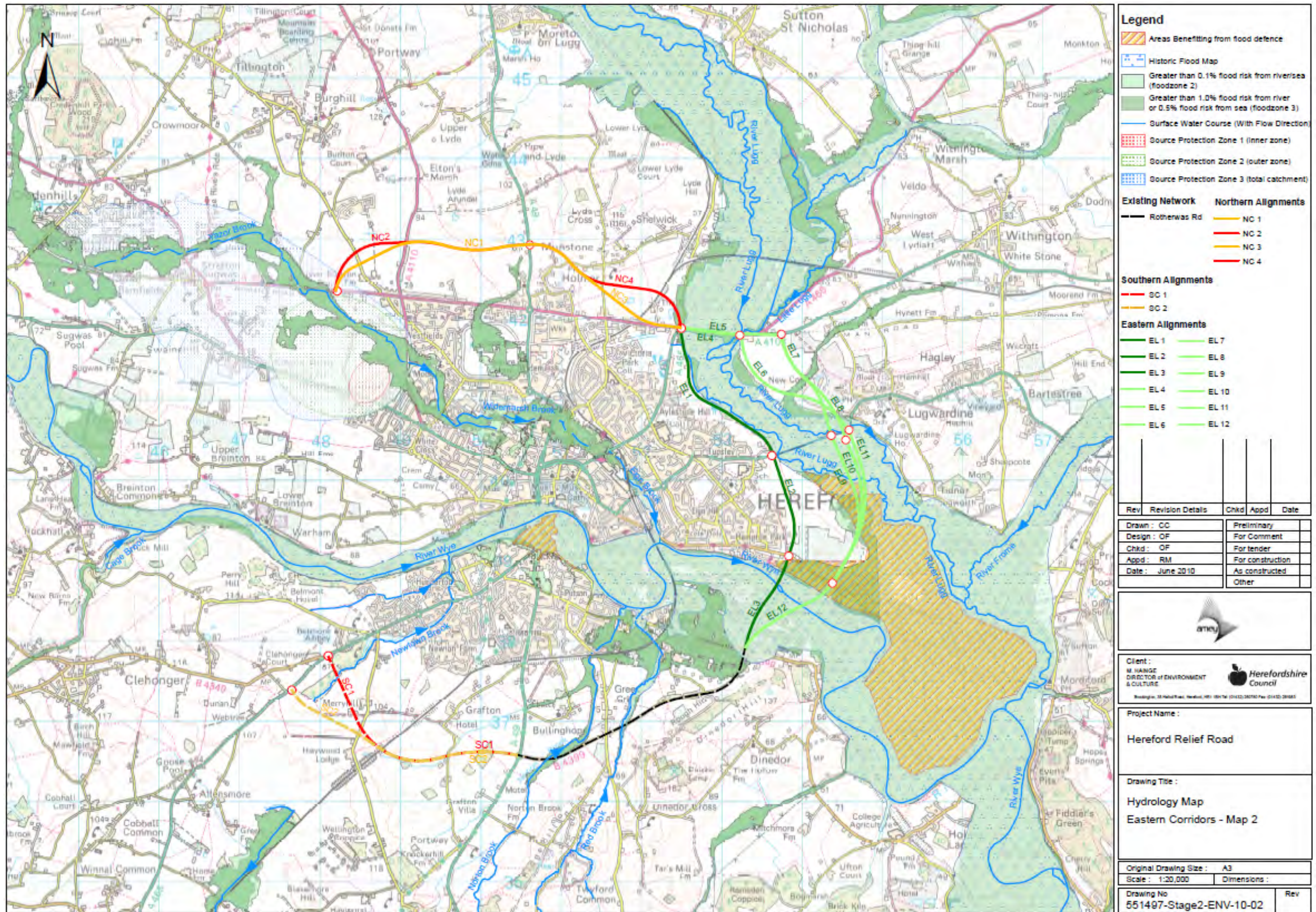


Figure B10.2

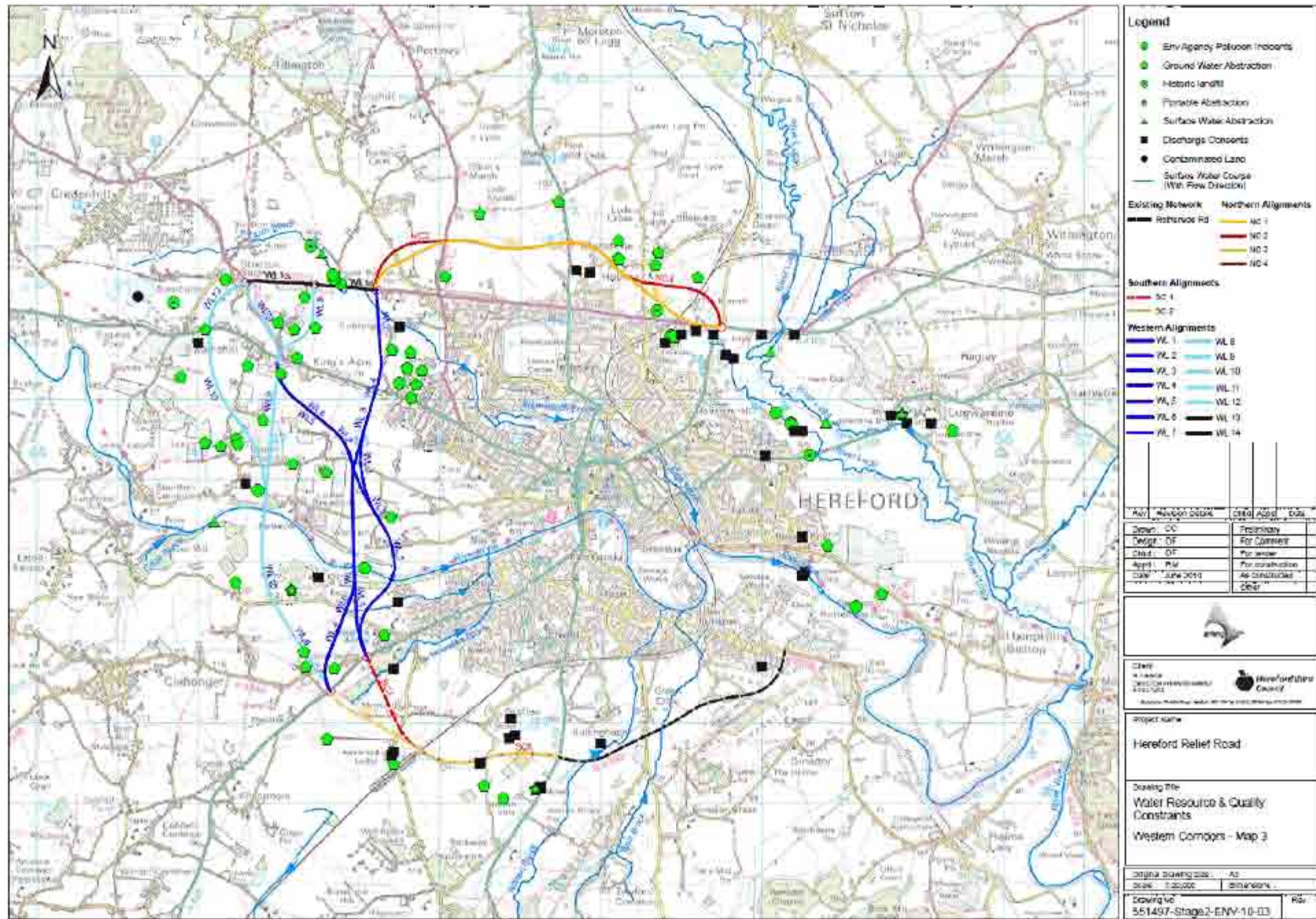


Figure B10.3

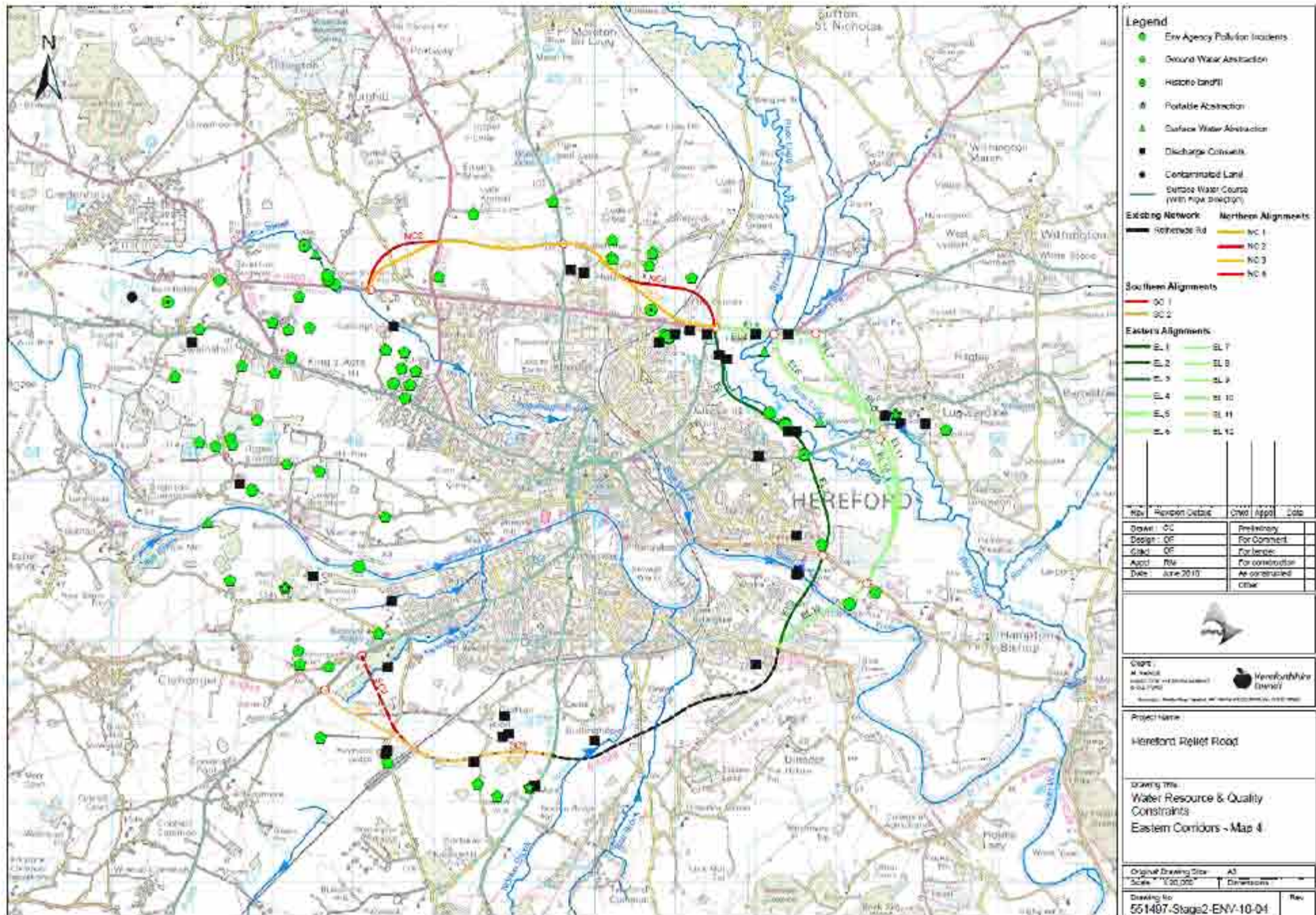


Figure B10.4

Appendix B-B Biodiversity Designations

SAC Citation

River Wye/ Afon Gwy

Site details

Location of River Wye/ Afon Gwy SAC/SCI/cSAC

Country England/Wales

Unitary Authority Fynwy/ Monmouthshire; Gloucestershire; Herefordshire; Powys

Grid Ref* SO109369

Latitude 52 01 24 N

Longitude 03 17 59 W

SAC EU code UK0012642

Status Designated Special Area of Conservation (SAC)

Area (ha) 2234.89

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.

General site character

Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (9.5%)

Salt marshes. Salt pastures. Salt steppes (1.5%)

Inland water bodies (standing water, running water) (52.5%)

Bogs. Marshes. Water fringed vegetation. Fens (3.1%)

Heath. Scrub. Maquis and garrigue. Phygrana (1%)

Dry grassland. Steppes (5.3%)

Humid grassland. Mesophile grassland (2.4%)

Improved grassland (10.4%)

Broad-leaved deciduous woodland (12.3%)

Inland rocks. Screes. Sands. Permanent snow and ice (0.2%)

Other land (including towns, villages, roads, waste places, mines, industrial sites) (1.8%)

Boundary map and associated biodiversity information on the NBN Gateway.

Natura 2000 data form for this site as submitted to Europe (PDF format, size 30kb).

Note:

When undertaking an appropriate assessment of impacts at a site, all features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation

The Wye, on the border of England and Wales, is a large river representative of sub-type 2. It has a geologically mixed catchment, including shales and sandstones, and there is a clear transition between the upland reaches, with characteristic bryophyte-dominated vegetation, and the lower reaches, with extensive *Ranunculus* beds. There is a varied water-crowfoot *Ranunculus* flora; stream water-crowfoot *R. penicillatus* ssp. *pseudofluitans* is abundant, with other *Ranunculus* species – including the uncommon river water-crowfoot *R. fluitans* – found locally. Other species characteristic of sub-type 2 include flowering-rush *Butomus umbellatus*, lesser waterparsnip *Berula erecta* and curled pondweed *Potamogeton crispus*. There is an exceptional range of aquatic flora in the catchment including river jelly-lichen *Collema dichotum*. The river channel is largely unmodified and includes some excellent gorges, as well as significant areas of associated woodland.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

7140 Transition mires and quaking bogs

Annex II species that are a primary reason for selection of this site

1092 White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*

The Welsh River Wye system is the best site known in Wales for white-clawed crayfish *Austropotamobius pallipes*. The tributaries are the main haven for the species, particularly at the confluences of the main river and the Edw, Dulas Brook, Sgithwen and Clettwr Brook.

1095 Sea lamprey *Petromyzon marinus*

The Wye is an extensive river system crossing the border between England and Wales and the sea lamprey *Petromyzon marinus* population is found in the main stem below Llyswen. The site provides exceptionally good quality habitat for sea lamprey and supports a healthy population.

1096 Brook lamprey *Lampetra planeri*

The Wye is an extensive river system spanning the border between England and Wales and the brook lamprey *Lampetra planeri* population is widely distributed in its catchment. The river provides exceptionally good quality habitat for brook lamprey and supports a healthy population.

1099 River lamprey *Lampetra fluviatilis*

The Wye is an extensive river system crossing the border between England and Wales, and the river lamprey *Lampetra fluviatilis* population is widely distributed in the catchment. The Wye provides exceptionally good quality habitat for river lamprey and supports a healthy population.

1103 Twaite shad *Alosa fallax*

Twaiite shad *Alosa fallax* have long been abundant in the Wye, an extensive river system spanning the border between England and Wales. Twaiite shad often spawn at or just above the tidal limit, but in the Wye they migrate over 100 km upstream, the highest spawning site being at Builth Wells. Data held by the Environment Agency indicate that, of the three selected rivers, the largest spawning areas for this species occur on the Wye. The river has relatively good water quality, adequate flows through an unobstructed main channel and a wide range of aquatic habitats conducive to supporting this fish species. In particular, there are a number of deep pools essential for congregation before spawning.

1106 Atlantic salmon *Salmo salar*

Historically, the Wye is the most famous and productive river in Wales for Atlantic salmon *Salmo salar*, with high-quality spawning grounds and juvenile habitat in both the main channel and tributaries; water quality in the system is generally favourable. It is also one of the most diverse river systems in the UK, with a transition from hard geology, high gradients, rapid flow fluctuations and low nutrient-content in its upper reaches, to a more nutrient-rich river with lower gradient, more stable flow and softer geology in the lowlands. The effect of river engineering work on migration and spawning has been limited, although there is a localised influence from the Elan Valley reservoirs, through inundation of spawning and nursery habitat and fluctuations in flow and water levels in the upper Wye. The most important tributaries for spawning are included in the SAC. Although in the past non-native salmon may have been released to the system, the impact of this is likely to have been minimal. The Wye salmon population is particularly notable for the very high proportion (around 75%) of multi sea winter (MSW) fish, a stock component which has declined sharply in recent years throughout the UK. This pattern has also occurred in the Wye, with a consequent marked decline in the population since the 1980s. However, the Wye salmon population is still of considerable importance in UK terms.

1163 Bullhead *Cottus gobio*

The Wye represents bullhead *Cottus gobio* in an extensive river system crossing the border between England and Wales. The Wye is one of the most diverse river systems in the UK, with a range of nutrient conditions and aquatic habitats and generally good water quality for fish species. The diversity of habitat types in the Wye means that it is likely to represent most of the habitat conditions in which bullhead occurs in Britain, highlighting the conservation importance of this river.

1355 Otter *Lutra lutra*

The Wye holds the densest and most well-established otter *Lutra lutra* population in Wales, representative of otters occurring in lowland freshwater habitats in the borders of Wales. The river has bank-side vegetation cover, abundant food supply, clean water and undisturbed areas of dense scrub suitable for breeding, making it particularly favourable as otter habitat. The population remained even during the lowest point of the UK decline, confirming that the site is particularly favourable for this species and the population likely to be highly stable.

Annex II species present as a qualifying feature, but not a primary reason for site selection

1102 Allis shad *Alosa alosa*

SITE NAME: RIVER LUGG/AFON LLUGWY

SITE REF: 15 PGL

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authorities: HEREFORD AND WORCESTER COUNTY COUNCIL, Leominster District Council, Hereford City Council, South Herefordshire District Council, Powys County Council, Radnorshire District Council

National Grid References: SO 173751–SO 565372

Length (approximate) Area (approximate) English Length: 74.17 (km.) English Area: 210.05 (ha.) Welsh Length: 26.90 (km.) Welsh Area: 26.90 (ha.) Total Length: 101.07 (km.) Total Area: 236.95 (ha.)

Ordnance Survey Sheets:

1:50,000: 148, 149

1:10,000: SO 17 NE, SE, SO 26 NE, NW, SO 27 SW, SO 36 NW, NE, SE, SW, SO 46 NW, SW, SE, SO 45 NE, SO 53 NE, SO 54 NW, SE, SW, SO 55 NW, SW

Date Notified (Under 1981 Act): 2 February 1995

Other Information: This is a new site. The site interest includes the following species covered by Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna:

Atlantic Stream Crayfish *Austropotamobius pallipes* – Annex II

Common Otter *Lutra lutra* – Annex II and IV

Atlantic Salmon *Salmo salar* – Annex IV

Bullhead *Cottus gobio* – Annex IV

Twaite Shad *Alosa fallax* – Annex II

Atlantic Stream Crayfish and Common Otter are also listed in Schedule 5 of the Wildlife and Countryside Act 1981 as amended.

The site overlaps with the River Lugg Meanders SSSI selected under the Geological Conservation Review.

Flora

The headwaters on Pool Hill are characterised by a range of aquatic and semi-aquatic bryophytes including the golden-brown moss *Cratoneuron commutatum* in stony flushes and *Cinclidotus fontinaloides* on streamside rocks. There are a few higher plants present, especially in the peaty pools near to the river's source where intermediate water-starwort *Callitriche hamulata*, water-purslane *Lythrum portula* and round-leaved crowfoot *Ranunculus omiophyllus* can be found. The large pool at the source supports the nationally scarce pillwort *Pilularia globulifera*. The river banks and surrounds in the headwaters support a range of semi-natural vegetation

including heather moorland, dry calcareous grassland, base-rich flushes typically with small sedges and brown mosses and damp pasture. The latter is characterised by purple moor-grass *Molinia caerulea*, quaking grass *Briza media*, sharp-flowered rush *Juncus acutiflorus*, devil's-bit scabious *Succisa pratensis*, Marsh valerian *Valeriana dioica* and rusty willow *Salix cinerea* subsp *oleifolia* scrub with a rich ground flora that includes water avens *Geum rivale*.

In the upper Lugg there is little vegetation where the flow is greatest and the bed is unstable. Characteristic plants include encrusting and filamentous algae, the liverworts *Pellia epiphylla* and *Solenostoma triste* and the moss *Rhynchostegium riparioides*. The species diversity for such small, shaded, sandstone streams is typically poor with lower plants constituting over one-third of plant species present. The only truly aquatic higher plants of this community are branched bur-reed *Sparganium erectum*, which grows in silt at the channel edge, and brook water-crowfoot *Ranunculus penicillatus* subsp *pseudofluitans* on riffles.

Most of the middle and lower reaches have species-rich, calcareous, lowland river communities due to the downstream influence of the drainage from the Silurian mudstones, siltstones and limestones. In the middle reaches from Leominster to the Vern Railway bridge the transitional nature of the river is shown by the lowland species, typical of a clay bedded channel, growing alongside water crowfoots and a variety of bryophytes requiring coarser substrates. Below the confluence with the Arrow, the dominant higher plant of the upper river – brook water-crowfoot – gradually gives way to extensive beds of river watercrowfoot *Ranunculus fluitans*, a species largely confined to rivers with a large flow volume. There is an increasingly eutrophic influence downstream with spiked water-milfoil *Myriophyllum spicatum*, horned pondweed *Zannichellia palustris* and the green algae *Cladophora glomerata* and *Enteromorpha* frequent. Marginal vegetation is sparse with only branched bur-reed and reed canary-grass *Phalaris arundinacea* commonly present. In the lower reaches of the Lugg the vegetation assemblages are increasingly characteristic of southern clay rivers but retain the influence of coarse substrates. Upstream of weirs and where the flow is sluggish, several species occur which are typical of slow moving, soft bottomed rivers, for example yellow water-lily *Nuphar lutea*, unbranched bur-reed *Sparganium emersum* and common club-rush *Scirpus lacustris*. The nutrient-rich nature of the lowermost reaches is shown by the appearance of fennel pondweed *Potamogeton pectinatus*, perfoliate pondweed *P. perfoliatus* and arrowhead *Sagittaria sagittifolia*. Along the river's edge, great yellow-cress *Rorippa amphibia* and flowering rush *Butomus*

umbellatus occur, at or near to their western limit of distribution. Parts of the site within Wales at Pool Hill and within England at Presteigne are managed by the Radnorshire Wildlife Trust as the Beacon Hill and Withybeds nature reserves, respectively.

The Welsh section of the river lies within the Radnor Environmentally Sensitive Area (ESA).

Description and Reasons for Notification:

From its upland source in Powys in mid-Wales to its confluence with the Wye below Hereford in England, the River Lugg is considered to be one of the best British mainland examples of both a clay river and a river displaying a transition from nutrient-poor to naturally nutrient-rich water chemistry. Despite being canalised in some small sections of its 101 km length and running through an intensively farmed catchment in its middle and lower reaches, it is a largely unpolluted natural river and supports river plant communities and otter populations of special interest.

The Lugg rises at 500 m on Pool Hill in Powys and descends rapidly to flow through a more gentle landscape and eventually onto a broad alluvial floodplain joining the River Wye. It runs for most of its length through pasture with some areas of arable. Only around its source and at the Lugg Meadow SSSI does adjoining semi-natural vegetation constitute significant land cover. The river is tree lined for most of its length, alder *Alnus glutinosa* and willows *Salix* spp. being the main species. The SSSI boundary incorporates short stretches of adjacent wet woodland and includes all fringing tree lines. The channel itself is quite active, especially in the

upper and middle reaches, with migrating meanders which deposit shingle banks and cut vertical bank faces up to 3 m high. Through its long history of use the river also has several mill leats and flood flow channels, the most notable of the latter being the Kenwater through Leominster. These stretches complement the biological interest found in the main channel and have been included in the site, even though they have extensive bank protection or canalised sections.

Geology and Topography

Near to its source the infant river drains an upland area based on Silurian mudstones and siltstones, where the bedrock geology is the dominant influence on channel form. Numerous peaty flushes and small springs on the valley sides feed the headwaters and combine to cut a steep-sided and rock-bottomed section, descending over 200 m in the first 3 km. The Lugg's upper catchment is underlain by these same Silurian rocks and the river

adopts a typically high-energy erosive character. From the border with England, the underlying rocks are predominantly non-calcareous and are principally Old Red Sandstone of Devonian age on the valley sides, with some

limestone outcropping at the Aymestry Gorge. Changes in bedrock and river gradient are reflected in the channel substrate. Along the stretch from the border to Leominster the average flow is quite fast, with a well developed pool and riffle system and a river bed predominantly of cobbles, pebbles and gravels. From Kingsland and particularly below the confluence with the River Arrow, the river meanders across an alluvial plain. These lower reaches are characterised by deeper water and slower flows and the river is clay bedded with silt deposits. Such variations in geology, flow and substrate have given rise to an interesting downstream variation in river plant communities, ranging from naturally species-poor communities of upland channels prone to spate, to those representative of mature lowland rivers. These types combine in the Lugg's lower reaches to produce a plant assemblage of unusual occurrence in England. The high naturalness and diversity of the aquatic communities is demonstrated by the occurrence of the pollution intolerant red algae, *Lemanea fluviatilis* and *Hildenbrandia rivularis* along the entire course of the Lugg and the presence of a total of 121 river plant species.

Mammals

Field signs of common otter *Lutra lutra* are numerous and widespread along the length of the river and indicate a healthy population. It is one of the few rivers in central England that retained a strong population during the widespread decline of the 1980s. The Lugg, therefore, is considered a core refuge area for otters and has played a key role in the species recolonisation of the River Wye catchment.

Invertebrates

Extensive populations of the native atlantic stream crayfish *Austropotomobius pallipes* are present, a species which is in decline across Europe. Limited sampling to date has identified a variety of rare and scarce invertebrates from the lower Lugg, including the nationally rare pea mussel *Pisidium tenuilineatum*, a species requiring unpolluted conditions. The nationally scarce species present include two aquatic beetles *Riolus cupreus* and *R. subviolaceus* which live on stones in flowing water, and the alderfly *Sialis nigripes*, a species with an aquatic larva living in silts in large river systems. A range of mayflies *Ephemeroptera* including species with localised distributions are also recorded. The common hawkler *Aeshna juncea* is common along the headwaters of the river. The change in river bed substrate and flow rate can be mapped by the distribution of two damselflies, the banded demoiselle *Calopteryx splendens* and the beautiful demoiselle *C. virgo*. The latter is present above and around Leominster but is replaced by the banded demoiselle down to the confluence with the Wye.

Fisheries

Though not of special interest, the fish community has many natural characteristics and contributes to the nature conservation value of the river. The Lugg upstream of Leominster is predominantly a brown trout *Salmo trutta* fishery with some grayling *Thymallus thymallus* present. Few coarse fish are found above Aymestry which marks the upper limit of atlantic salmon *Salmo salar* migration. Coarse fish including chub *Leuciscus cephalus*, roach *Rutilus rutilus*, pike *Esox lucius*, twaite shad *Alosa fallax*, eels *Anguilla anguilla* and barbel *Barbus barbus* become more plentiful downstream of Leominster. Stoneloach *Noemacheilus barbatulus*, minnows *Phoxinus phoxinus* and bullheads *Cottus gobio* are present throughout the river.

Breeding Birds

The River Lugg provides good habitat for a range of typical river birds. Dipper *Cinclus cinclus* is found on the upper reaches, with kingfisher *Alcedo atthis* occurring more on the middle and lower stretches. Grey wagtail *Motacilla cinerea* occur throughout. Several pairs of mute swan *Cygnus olor* and common sandpiper *Actitis hypoleucos* also breed on the river, as do mallards *Anas platyrhynchos* which are plentiful. Some active cutting faces of the meanders hold colonies of sand martins *Riparia riparia*.

Appendix B-C

B4.1.1 APPENDIX C ~ LANDSCAPE AND VISUAL ASSESSMENT METHODOLOGY

1. General

- 1.1 In landscape and visual assessments, a distinction is normally drawn between landscape effects (i.e. effects on the character or quality of the landscape, irrespective of whether there are any views of the landscape, or viewers to see them) and visual effects (i.e. effects on people's views of the landscape, principally from residential properties, but also from public rights of way and other areas with public access). Thus, a development may have extensive landscape effects but few visual effects (if, for example, there are no properties or public viewpoints), or few landscape effects but significant visual effects (if, for example, the landscape is already degraded or the development is not out of character with it, but can clearly be seen from many residential properties).
- 1.2 The core methodology followed for this assessment was that set out in the 'Guidelines for Landscape and Visual Impact Assessment', produced jointly by the Institute of Environmental Management and Assessment and the Landscape Institute ('the GLVIA', 1995, revised 2002). The document 'Landscape Character Assessment, Guidance for England and Scotland, 2002' (The Countryside Agency and Scottish Natural Heritage) also stresses the need for a holistic assessment of landscape character, including physical, biological and social factors.

2. Methodology for this Assessment

2.1 The guidance set out above was generally adhered to, with the following specific refinements:

1. Landscape and visual effects were assessed in terms of the magnitude of the change brought about by the development and also the sensitivity of the resource affected. The magnitude of change will generally decrease with distance from its source, until a point is reached where there is no discernible change. Residential properties were taken to be of high sensitivity in general, although this can vary with the degree of openness of their view (see Table 1 below). Landscapes which carry a landscape quality designation and which are otherwise attractive or unspoilt will in general be more sensitive, while those which are less attractive or already affected by significant visual detractors and disturbance will be generally less sensitive (see Table 3 below).

2. For the purpose of the assessment visual change was categorised as follows, where each level (other than neutral) can be either beneficial or adverse:

- Neutral no discernible change
- Negligible the scheme would be discernible but of no real significance
- Low the scheme would cause a perceptible deterioration (or improvement) in existing views
- Medium the scheme would cause an obvious deterioration (or improvement) in existing views

-
- High the scheme would cause a dominant deterioration (or improvement) in existing views.

3. Sensitivity was also taken into account in the assessment, such that a lesser magnitude of change would be needed to create a large visual effect on a sensitive receptor than on one of lesser sensitivity (see Table 1 below).

DRAFT

Appendix

Table 1 ~ Criteria for Determining Visual Sensitivity	
Sensitivity	Typical Criteria
High	<p>Residential properties with predominantly open views from windows, garden or curtilage. Views will normally be from ground and first floors and from two or more windows of rooms in use during the day.</p> <p>Users of Public Rights of Way with predominantly open views in sensitive or unspoilt areas.</p> <p>Non-motorised users of minor or unclassified roads in the countryside.</p> <p>Visitors to recognised viewpoints or beauty spots.</p> <p>Users of outdoor recreational facilities with predominantly open views where the purpose of that recreation is enjoyment of the countryside - e.g. Country Parks, National Trust or other access land etc.</p>
Medium	<p>Residential properties with views from windows, garden or curtilage. Views will normally be from first floor windows only, or an oblique view from one ground floor window, or may be partially obscured by garden or other intervening vegetation.</p> <p>Users of Public Rights of Way with restricted views, in less sensitive areas or where there are significant existing intrusive features.</p> <p>Users of outdoor recreational facilities with restricted views or where the purpose of that recreation is incidental to the view.</p> <p>Schools and other institutional buildings, and their outdoor areas.</p> <p>Users of minor or unclassified roads in the countryside, whether motorised or not.</p>
Low	<p>People in their place of work.</p> <p>Users of main roads or passengers in public transport on main routes.</p> <p>Users of outdoor recreational facilities with restricted views and where the purpose of that recreation is incidental to the view.</p>

Table 2 ~ Significance Criteria for Visual Effects	
Significance	Typical Criteria
Neutral	No change in the view.
Insignificant	The proposals would not significantly change the view but would still be discernible.
Slight	The proposals would cause limited damage (or improvement) to a view from a receptor of medium sensitivity, but would still be a noticeable element within the view, or greater damage (or improvement) to a view from a receptor of low sensitivity.
Moderate	The proposals would cause some damage (or improvement) to a view from a sensitive receptor, or less damage (or improvement) to a view from a more sensitive receptor, and would be a readily discernible element in the view.
High	The proposals would cause significant damage (or improvement) to a view from a sensitive receptor, or less damage (or improvement) to a view from a more sensitive receptor, and would be an obvious element in the view.
Major	The proposals would cause a high degree of change in a view from a highly sensitive receptor, and would constitute a dominant element in the view.

5. Landscape change was categorised as follows, where each level (other than neutral) can be either beneficial or adverse:

- Neutral no loss or alteration of key landscape characteristics, features or elements
- Negligible very minor loss or alteration to one or more key landscape characteristics, features or elements
- Low minor loss of or alteration to one or more key landscape characteristics, features or elements

-
- Medium partial loss of or damage to key characteristics, features or elements
 - High total loss of or severe damage to key characteristics, features or elements
6. Landscape quality was judged using the following definitions:

- Very high quality National Park or Area of Outstanding Natural Beauty standard
- High quality attractive landscape, usually with varied topography or historic features, and few visual detractors
- Medium quality pleasant landscape with few detractors but with no distinctive qualities
- Low quality unattractive or degraded landscape, affected by visual detractors.

7. The concept of landscape value was also considered. The GLVIA considers landscape value as a measure to be assessed in association with landscape character, in order to avoid consideration only of how scenically attractive an area may be, and thus to avoid undervaluing areas of strong character but little scenic beauty. It is defined in the glossary of the GLVIA as:

'The relative value or importance attached to a landscape (often as a basis for designation or recognition), which expresses national or local consensus, because of its quality, special qualities including perceptual aspects such as scenic beauty, tranquillity or wildness, cultural associations or other conservation issues.'

8. Landscape sensitivity relates to the ability of the landscape to accommodate change of the type and scale proposed without adverse effects on its character. This is defined in the glossary of the GLVIA as:

'The extent to which a landscape can accept change of a particular type and scale without unacceptable adverse effects on its character.'

9. It is noted in the GLVIA that this varies with:

(i) *existing land use;*

(ii) *the pattern and scale of the landscape;*

(iii) *visual enclosure/openness of views, and distribution of visual receptors;*

(iv) *the scope for mitigation, which would be in character with the existing landscape; and*

(v) *the value placed on the landscape.*

10. A landscape of high sensitivity will be one with a low ability to accommodate change, and vice versa. Landscape sensitivity was judged according to the criteria set out in Table 3 below, taking into account factors such as the presence or absence of designations for quality and the nature of the proposed change.

Table 3 ~ Criteria for Determining Landscape Sensitivity	
Sensitivity	Typical Criteria
Very High	<p>A landscape with a very low ability to accommodate change because such change would lead to a significant loss of valuable features or elements, resulting in a significant loss of character and quality.</p> <p>Development of the type proposed would be discordant and prominent.</p> <p>Will normally occur in a landscape of very high or high quality or value.</p>
High	<p>A landscape with limited ability to accommodate change because such change would lead to some loss of valuable features or elements, resulting in a significant loss of character and quality.</p> <p>Development of the type proposed would be discordant and visible.</p> <p>Will normally occur in a landscape of high quality or value.</p>
Medium	<p>A landscape with reasonable ability to accommodate change. Change would lead to a limited loss of some features or elements, resulting in some loss of character and quality.</p> <p>Development of the type proposed would be visible but would not be especially discordant.</p> <p>Will normally occur in a landscape of medium quality or value, a low quality/value landscape which is particularly sensitive to the type of change</p>

	proposed, or a high quality/value landscape which is well suited to accommodate change of the type proposed.
Low	<p>A landscape with good ability to accommodate change. Change would not lead to a significant loss of features or elements, and there would be no significant loss of character or quality.</p> <p>Development of the type proposed would not be readily be visible or would not be discordant.</p> <p>Will normally occur in a landscape of low quality or value.</p>

11. Landscape effects were then determined according to the interaction between change and sensitivity, as summarised in Table 4 below, where effects can be either beneficial or adverse, though the examples given are for adverse effects.

Table 4 ~ Significance Criteria for Landscape Effects	
Significance	Typical Criteria
Neutral	<p>The proposals:</p> <ul style="list-style-type: none"> • complement the scale, landform and pattern of the landscape. • incorporate measures for mitigation to ensure that the scheme will blend in well with the surrounding landscape • avoid being visually intrusive and adverse effects on the current level of tranquillity of the landscape • maintain existing landscape character in an area which is not a designated landscape nor vulnerable to change • avoid conflict with government policy towards protection of the countryside.
Insignificant	<p>The proposals:</p> <ul style="list-style-type: none"> • generally fit the landform and scale of the landscape • have limited effects on views • can be mitigated to a reasonable extent • avoid effects on designated landscapes • generally avoid conflict with government policy towards protection of the countryside.
Slight	<p>The proposals:</p> <ul style="list-style-type: none"> • do not quite fit the landform and scale of the landscape • will impact on certain views into and across the area • cannot be completely mitigated for because of the nature of the proposal or the character of the landscape • affect an area of recognised landscape quality • conflict with local authority policies for protecting the local character of the countryside.
Moderate	<p>The proposals are:</p> <ul style="list-style-type: none"> • out of scale or at odds with the landscape • are visually intrusive and will adversely impact on the landscape

	<ul style="list-style-type: none"> • not possible to fully mitigate • will have an adverse impact on a landscape of recognised quality or on vulnerable and important characteristic features or elements • in conflict with local and national policies to protect open land and nationally recognised countryside as set out in PPS7 and PPG2.
High	<p>The proposals are damaging to the landscape in that they:</p> <ul style="list-style-type: none"> • are at variance with the landform, scale and pattern of the landscape • are visually intrusive and would disrupt important views • are likely to degrade or diminish the integrity of a range of characteristic features and elements and their setting • will be damaging to a high quality or highly vulnerable landscape • cannot be adequately mitigated • are in conflict with government policy for the protection of nationally recognised countryside as set out in PPS7.
Major	<p>The proposals are very damaging to the landscape in that they:</p> <ul style="list-style-type: none"> • are at considerable variance with the landform, scale and pattern of the landscape • are visually intrusive and would disrupt fine and valued views • are likely to degrade, diminish or even destroy the integrity of a range of characteristic features and elements and their setting • will be substantially damaging to a high quality or highly vulnerable landscape • cannot be adequately mitigated • are in serious conflict with government policy for the protection of nationally recognised countryside as set out in PPS7.

12. Photographs were taken with a digital camera with a lens that approximates to 50mm. This is similar to a normal human field of view, though this field of view is extended where a number of separate images are joined together as a panorama.

13. A useful concept in considering the potential visual effects of a development is that of the visual envelope (or zone of visual influence, ZVI). This is the area from within which the development would be visible. Any visual effects must therefore be contained within this area, and land falling outside it need not be considered in terms of visual effects. The area from within which the various elements of the proposed development would be visible has, therefore, been estimated but it is possible that in practice some limited views of those elements may be obtained from more distant properties or from elevated, distant vantage points, above or through intervening vegetation.

Appendix B-D Sites and Monuments Gazetteer.

DRAFT

HSMR NUMBER	DESCRIPTION	PARISH	NGR	PERIOD
SOUTHERN CORRIDOR				
MHE2348	Flint knife found E of Haywood Lodge in 1941	HAYWOOD	SO 48 36	Prehistoric
MHE3716	Flints, W of Grafton Wood - found during fieldwalking on proposed route for previous road scheme	GRAFTON	SO 49 36	Prehistoric
MHE3722	Roman Finds, NW of Merryhill Farm, found during fieldwalking on proposed route for previous road scheme	HAYWOOD	SO 48 37	Roman
MHE4088	Flint NW of Merryhill Farm - found during fieldwalking on proposed route for previous road scheme	HAYWOOD	SO 48 37	Prehistoric
MHE4089	Medieval finds, NW of Merryhill Farm - found during fieldwalking on proposed route for previous road scheme	HAYWOOD	SO 48 37	Medieval
MHE4104	Roman Finds, W of Grafton Wood - found during fieldwalking on proposed route for previous road scheme	GRAFTON	SO 49 36	Roman
MHE4105	Medieval finds, W of Grafton Wood - found during fieldwalking on proposed route for previous road scheme	GRAFTON	SO 49 36	Medieval
MHE7756	Quarry recorded on 1 st edition OS 6'' map 1887	HAYWOOD	SO 4815 3720	Post-medieval
MHE7905	Route of early 19 th century Hereford to Abergavenny tramway, later replaced by railway	GRAFTON	SO 4899 3682	19 th century

MHE8397	Proposed development area adjacent to area of flint finds, also area of possible medieval and post-medieval activity	GRAFTON	SO 5035 3675	Prehistoric Medieval Post- medieval
MHE8611	Documentary reference to park at Merry Hill, Haywood	HAYWOOD	SO 485 370	Post- medieval
MHE12657	Quarry recorded on 1st edition OS 6'' map 1885	HAYWOOD	SO 4805 3720	Post- medieval
MHE13890	Location of former brickworks recorded on 1840 Tithe Map	HAYWOOD	SO 4890 3660	Post- medieval

DRAFT

HSMR NUMBER	DESCRIPTION	PARISH	NGR	PERIOD
WESTERN INNER CORRIDOR				
MHE988	Ponds S of Warham on stream leading to River Wye – recorded on 1839 Tithe Map	BREINTON	SO 482 391	Post-medieval
MHE1707	Warham House, Warham	BREINTON	SO 4810 3919	Post-medieval
MHE2370	Huntington medieval village - documentary evidence and earthworks	HEREFORD	SO 487 418	Medieval
MHE2371	Possible mill site identified on plan of shrunken settlement	HEREFORD	SO 486 418	Medieval
MHE6784	Cottage (site), NW of Bovingdon, recorded on 1845 Tithe Map	HEREFORD	SO 4815 4235	Post-medieval
MHE6785	Cottage (site), N of Bovingdon, recorded on 1845 Tithe Map	HEREFORD	SO 484 423	Post-medieval
MHE6786	Pond S of Huntington Court, recorded on 1 st edition Os 6” map of 1887	HEREFORD	SO 4850 4185	Post-medieval
MHE6788	Cottage (site), NW of Bovingdon, recorded on 1845 Tithe Map	HEREFORD	SO 4830 4235	Post-medieval
MHE6789	House (site), NW of Huntington, recorded on 1845 Tithe Map	HEREFORD	SO 4825 4200	Post-medieval
MHE6790	House (site), King’s Acre, , recorded on 1845 Tithe Map	HEREFORD	SO 4790 4125	Post-medieval
MHE7726	Earthwork - possibly associated with golf course	CLEHONGER	SO 4800 3855	Undated

MHE7728	Possible trackway or boundary showing on aerial photograph	BREINTON	SO 4805 4080	Undated
MHE7729	Possible cropmarks showing on aerial photograph – 1840 Tithe Map has field name as ‘Pound Furlong’	BREINTON	SO 4800 4225	Undated
MHE7736	‘Boundary stones’ recorded in SW corner of field on 1 st edition OS 6” map of 1887	BREINTON	SO 4815 4050	Undated
MHE7751	Ridge and furrow earthworks visible on aerial photograph, also canalised stream record on 1 st edition OS 6” map of 1887	BREINTON	SO 481 419	Undated
MHE8327	Warham medieval settlement – recorded in Domesday Book	BREINTON	SO 48 39	Medieval
MHE16249	Clehonger Court - original focus was opposite the church. It was replaced in the early 19 th century by the present house adjacent to the road	CLEHONGER	SO 47320 37681	Post-medieval
MHE22440	Metal detectorist finds – a lead alloy stylus	BREINTON	SO 48 40	1 st – 15 th century
MHE22441	Metal detectorist finds – a lead stylus, medieval firearm, two post-medieval mounts, post-medieval token	BREINTON	SO 48 40	1 st – 17 th century
MHE22450	Metal detectorist finds – a 13 th century coin	BREINTON	SO 48 40	Medieval
MHE22459	Metal detectorist finds – a 4th century coin	BREINTON	SO 48 39	Roman

HSMR NUMBER	DESCRIPTION	PARISH	NGR	PERIOD
WESTERN OUTER CORRIDOR				
MHE2366	Denarius of Hadrian found at King's Acre	HEREFORD	SO 47 41	Roman
MHE2840	Earthwork – remains of 17th century gun emplacement	CLEHONGER	SO 4665 3955	Post-medieval
MHE2953	Rectangular enclosures visible on aerial photograph	CREDENHILL	SO 46 41	Undated
MHE3481	Flint blade and scraper found in Beck Marsh Field	BREINTON	SO 47 39	Prehistoric
MHE3482	Flint barbed & tanged arrowhead found in Wall Meadow	BREINTON	SO 47 39	Prehistoric
MHE17221	Pit or linear feature on north side of Roman road, sealed by buried soil	BURGHILL	SO 4803 4238	Prehistoric Roman
MHE22373	Metal detectorist finds – a Roman finger ring and a medieval scabbard	STRETTON SUGWAS	SO 46 41	Roman Medieval
MHE22479	Metal detectorist finds – 3 Roman coins, a post-medieval bracelet and a post-medieval bell	STRETTON SUGWAS	SO 46 42	Roman Post-medieval
MHE22911	Two linear features identified during evaluation of new livestock market site – one was Bronze Age, the other one Late Roman/Early Medieval	HEREFORD	SO 47576 42125	Prehistoric Roman Early Medieval
MHE13123	Sluice gate on Yazor Brook with leat to Huntington Farm	HUNTINGTON	SO 4780 4238	Post-medieval

MHE13310	Boundary stone at entrance to Green Lane Wood Nature Reserve	BREINTON	SO 4722 4068	Post- medieval
-----------------	---	-----------------	---------------------	---------------------------

DRAFT

HSMR NUMBER	DESCRIPTION	PARISH	NGR	PERIOD
NORTHERN CORRIDOR				
MHE2185	Slight cropmarks visible on aerial photograph - possible enclosures	HOLMER AND SHELWICK	SO 52 42	Undated
MHE2186	Slight cropmarks visible on aerial photograph - probably field boundary ditches or enclosures	HOLMER AND SHELWICK	SO 51 42	Undated
MHE2372	Deserted medieval settlement - earthworks include ridge and furrow as well as house platforms	PIPE AND LYDE	SO 49 43	Medieval
MHE2944	Slight cropmarks visible on aerial photograph - large sub-square enclosure and possible ring ditch	HOLMER AND SHELWICK	SO 51 42	Undated
MHE3321	Cropmarks visible on aerial photograph	HOLMER AND SHELWICK	SO 51 42	Undated
MHE4114	Medieval finds, , NW of roundabout - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Medieval
MHE4115	Flints, Holmer - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Prehistoric
MHE4116	Roman finds, Holmer - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Roman
MHE4117	Medieval finds, Holmer - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Medieval

MHE4118	Flints, Burcott Farm - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Prehistoric
MHE4119	Roman finds, Burcott Farm - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Roman
MHE4120	Medieval finds, Burcott Farm - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 42	Medieval
MHE4471	Possible ring ditch recorded as cropmark on aerial photograph	HEREFORD	SO 51 41	Undated
MHE6767	House (site), SW of Burcott Farm - recorded on 1844 Tithe Map	HOLMER AND SHELWICK	SO 518 420	Post-medieval
MHE6768	House (site), SW of Burcott Farm - recorded on 1844 Tithe Map	HOLMER AND SHELWICK	SO 5195 4195	Post-medieval
MHE7731	Possible lynchet	BURGHILL	SO 4825 4245	Undated
MHE10766	Bridge carrying road over Hereford-Gloucester Canal	HOLMER AND SHELWICK	SO 523 419	19th century
MHE13944	Documentary record of brickworks, Holmer	HOLMER AND SHELWICK	SO 52 42	19th century
MHE13947	Documentary record Worm-Hill brickworks – detailed location not known	HOLMER AND SHELWICK	SO 52 42	19th century
MHE22390	Metal detectorist finds – 1 Roman coin, 1 Roman brooch, 1 12th century coin, 2 medieval harness pendants, 2 spindle whorls of 1st-15th century date	PIPE AND PIPE AND LYDE	SO 51 43	Roman Medieval

MHE22519	Metal detectorist finds – 2 coins of Late Iron Age or Roman date	CANON PYON	SO 49 43	Prehistoric Roman
-----------------	---	-----------------------	-----------------	------------------------------

DRAFT

HSMR NUMBER	DESCRIPTION	PARISH	NGR	PERIOD
EASTERN INNER CORRIDOR				
MHE103	Cropmark complex visible on aerial photographs – series of agglomerated ditched enclosures (Iron Age settlement?) which either overlies or underlies at least five ring ditches	HAMPTON BISHOP	SO 54 39	Prehistoric
MHE1631	Fishpool recorded on 1840 tithe Map	DINEDOR	SO 533 382	Post-medieval
MHE2558	Fragment of polished stone axe reused as scraper, also oval flint scraper	HAMPTON BISHOP	SO53 39	Prehistoric
MHE2559	Fragment of polished stone axe, also flint scrapers, burnt flints and flint chips	HAMPTON BISHOP	SO 53 39	Prehistoric
MHE4009	Cropmarks possibly associated with WW1 military works	LOWER BULLINGHAM	SO 53 38	20th century
MHE4156	Surviving common meadows of Lugwardine, Hampton Bishop and Homer	LUGWARDINE	SO 533 409	Medieval
MHE4336	Slight earthworks possibly associated with former medieval settlement at Rotherwas	DINEDOR	SO 5354 3835	Medieval
MHE4337	Long narrow pond to SW of chapel at Rotherwas, possibly associated with former medieval settlement	DINEDOR	SO 5340 3821	Medieval
MHE4344	Flints, Hampton Bishop - found during fieldwalking on proposed route for previous road scheme	HAMPTON BISHOP	SO 54 39	Prehistoric
MHE4455	Ridge and furrow visible on aerial photograph, also possible field boundary	HAMPTON BISHOP	SO 534 406	Undated
MHE4461	Small area of ridge and furrow in NE corner of field	HEREFORD	SO 525 417	Undated

MHE7752	Ridge and furrow at S end of field	HEREFORD	SO 532 406	Undated
MHE7753	Ridge and furrow	HEREFORD	SO 5280 4085	Undated
MHE8778	Walney medieval settlement – known from documentary sources	HEREFORD	SO 527 413	Medieval
MHE11956	Quarry recorded on 1st edition OS 6'' map of 1885	HEREFORD	SO 5310 4075	Post-medieval
MHE11976	Quarry recorded on 1st edition OS 6'' map of 1885	HEREFORD	SO 5310 4075	Post-medieval
MHE11999	Quarry recorded on 1st edition OS 6'' map of 1885	HEREFORD	SO 5310 4075	Post-medieval
MHE12906	Gravel pit recorded on 1st edition OS 6'' map of 1885	DINEDOR	SO 5365 3826	Post-medieval
MHE15356	Turnpike Road, Hereford to Moor of Bodenham	HEREFORD	SO 5250 4180	18th century
MHE16922	Bridge of 1807 over feeder stream of River Lugg	HAMPTON BISHOP	SO 5372 4033	19th century
MHE19022	Aerial photograph shows three north-facing parallel lynchets – remains of medieval field system	HEREFORD	SO 5257 4102	Undated

HSMR NUMBER	DESCRIPTION	PARISH	NGR	PERIOD
EASTERN OUTER CORRIDOR				
MHE2184	Cropmarks visible on aerial photographs – agglomerated ditched enclosures (Iron Age Settlement?) and a possible ring ditch. Some ridge and furrow	LUGWARDINE	SO 53 41	Prehistoric Medieval
MHE2939	Eroded ridge and furrow, N of Court Farm	HAMPTON BISHOP	SO 55201 39191	Medieval
MHE3317	Medieval finds, N of roundabout - found during fieldwalking on proposed route for previous road scheme	HOLMER AND SHELWICK	SO 52 41	Medieval
MHE3682	Ridge & furrow in field S of roundabout	HEREFORD	SO 535 418	Medieval
MHE3807	Ring ditch visible on aerial photograph, SW of Lugg Bridge	HEREFORD	SO 53 41	Undated
MHE5263	Lugg Mill – on river to S of Lugg Bridge	LUGWARDINE	SO 532 418	Medieval Post-medieval
MHE6440	Buildings (site) recorded on 1839 Tithe Map	LUGWARDINE	SO 5412 4138	Post-medieval
MHE7738	Boundary stone recorded on 1 st edition OS 6” map, also possible relic stream channels	HAMPTON BISHOP	SO 5450 4035	Undated
MHE7740	Possible area of ridge and furrow	LUGWARDINE	SO 5430 4065	Medieval
MHE7741	Ridge and furrow visible on aerial photograph	LUGWARDINE	SO 542 408	Medieval
MHE7742	Ridge and furrow	LUGWARDINE	SO 539 408	Medieval
MHE7744	Cropmarks visible on aerial photographs – rectangular enclosure also other features	LUGWARDINE	SO 53 41	Undated

MHE7792	Archaeological works associated with modern gravel extraction - important palaeo-environmental material, also probable medieval mill and post-medieval water management features	HOLMER AND SHELWICK	SO 53 42	Prehistoric Medieval Post-medieval
MHE9104	Flood defences, River Lugg, Hampton Bishop to Leominster	HAMPTON BISHOP	SO 5405 3855	20th century
MHE12907	Clay pit recorded on 1st edition OS 6'' map of 1885	HAMPTON BISHOP	SO 5446 3895	Post-medieval
MHE13174	Pound at New Court recorded on 1st edition OS 6'' map of 1885	LUGWARDINE	SO 546 407	Post-medieval
MHE14860	Saxon spearhead, Lugg Bridge	LUGWARDINE	SO 5319 4182	Saxon
MHE16000	Toll house recorded on map of 1835	LUGWARDINE	SO 5350 4180	Post-medieval
MHE18935	Water meadows, possibly adapted from earlier ridge and furrow	HOLMER AND SHELWICK	SO 52987 42779	Post-medieval
MHE21877	Cropmarks visible on aerial photographs - rectilinear single ditched enclosure with possible entrance and adjacent pits	LUGWARDINE	SO 53303 41665	Undated
MHE21885	Water management systems – herringbone drainage patters and water meadows	HAMPTON BISHOP	SO 54612 40176	19th century 20th century

Amey is one of the UK's leading support service partners. As part of Ferrovial, one of Europe's largest infrastructure and services groups, Amey specialises in the outsourcing of sustainable business solutions for clients across the local government, transport, education, health and defence sectors.

Amey. A passion for the very best service, delivered through the very best people.

You can find more information on what we do, the way we do business and who we work with at www.amey.co.uk.



INVESTOR IN PEOPLE



Certificate No. FS 69152



OHSAS 180 01
Certificate No. OHS 86203



Certificate No. EMS 69153

Amey UK plc. Registered office address:
The Sherard Building, Edmund Halley Road, Oxford OX4 4DQ

Head office and principal place of business:
Serrano Galvache, 56 Edificio Madroño, 28033 Madrid, Spain

Company No. 4736639, registered in England and Wales.

Part of Ferrovial

ferrovial

© 2008 Amey plc
All Rights Reserved. Not for Resale
All information correct at time of going to production