

**Reinforcement to North Shropshire Electricity  
Distribution Network:  
132kV Wood Pole Overhead Line from  
Oswestry to Wem**

**Scoping Report**

**March 2017**

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## CHAPTER 1: INTRODUCTION

### 1.1 PURPOSE OF THE SCOPING REPORT

- 1.1.1 This Scoping Report (the 'Scoping Report'), provides the information required by the relevant Environmental Impact Assessment (EIA) regulations for a new 132,000 kilovolts (kV) overhead electricity line, which would run for approximately 20.5km between Oswestry and Wem in North Shropshire.
- 1.1.2 This is required to support and enable growth in North Shropshire. The line will provide capacity to support development on land allocated for new jobs and homes in Oswestry, Whitchurch and Wem. Shropshire Council believe it will help attract future business and housing investment across North Shropshire through to and beyond 2036. The new overhead line will reinforce the existing network by increasing the capacity available and is supported by Shropshire Council.
- 1.1.3 The focus of the Scoping Report is the Scoping Stage Project Boundary. This incorporates the Proposed Line Route (also referred to within this Scoping Report as the proposed development), which is a draft alignment of an overhead line within an approximate 100m wide corridor as shown in Figures 1.1 to 1.5. It also incorporates temporary construction access routes and five search areas from which sites for two construction compounds will be selected, as shown in Figure 1.6.

### 1.2 THE NEED FOR THE OVERHEAD LINE

- 1.2.1 The proposed 132kV overhead line is being promoted by SP Energy Networks, which manages and operates the electricity network at 132kV and below in Cheshire, Merseyside, North and Mid Wales, and North Shropshire on behalf of SP Manweb plc (SP Manweb). SP Manweb holds the Electricity Distribution License (issued under the Electricity Act 1989 (the 1989 Act)<sup>1</sup>. In the 1989 Act, Section 9 requires SP Energy Networks, on behalf of SP Manweb, to develop and maintain

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<sup>1</sup> HM Government (1989), Electricity Act. HMSO, London

an efficient, coordinated and economical system of electricity distribution. It also has an obligation under Schedule 9 of the same 1989 Act to have regard to preserving the natural and built heritage environment and to do what it can to mitigate any effects which proposals would have on these.

- 1.2.2 From its analysis of the electricity network in North Shropshire, SP Energy Networks has identified a need to develop a new 132kV circuit to reinforce the electricity network in this area. This is supported by Shropshire Council who in 2015 also acknowledged the need to upgrade the electricity network<sup>2</sup>. Following further discussions with the Council, SP Energy Networks secured investment approvals for an £18m scheme to reinforce the network by installing a new 132kV overhead line (referred to below as ‘the 132kV overhead line’) from Oswestry substation to Wem primary substation (referred to below as ‘Wem substation’). This was identified as the preferred scheme after consideration had been given in 2015 to a number of alternative design and route options as explained below in Chapter 2 ‘Alternatives and Design Development’. SP Energy Networks refers to this new line and the associated development as the ‘North Shropshire Reinforcement Project’.
- 1.2.3 The need for a new 132kV overhead line between Oswestry and Wem was the conclusion of the technical review of different options carried out by SP Energy Networks. This is set out in the Strategic Options Report<sup>3</sup> as summarised in Chapter Two: ‘Alternatives and Design Development’ of this Scoping Report.
- 1.2.4 The benefits detailed above are supported by local council representatives who have published their support for the project, in local newspapers. Please refer to the extract below.

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<sup>2</sup> <http://shropshire.gov.uk/media/2201631/Shropshire-s-Implementation-Plan-2016-17.pdf>

<sup>3</sup> SP Energy Networks (May 2016), Strategic Options Report



Extract from Shropshire Star, 30 July 2016

## 1.3 WORK UNDERTAKEN AS PART OF STAGE ONE CONSULTATION

1.3.1 In addition to the Strategic Options Report, SP Energy Networks has produced a series of other reports and consultation documents. These provide a detailed account of the initial route corridors and then the narrower line route options, technical assessments, consultation and design work, which has been undertaken since the start of the project in 2015 (see Table 1.1). The aim of this work was to help identify the best technical and environmental solution for the level of reinforcement required.

| <b>Table 1.1<br/>Published Documents Relating to the Routeing and Consultation<br/>Process for the North Shropshire Reinforcement Project</b> |   |
|---|---|
| Consultation Stage 1  | Strategic Options Report (May 2016)                     |
|   | Route Corridor Options Report (June 2016)               |
|   | Line Route Report (June 2016)                           |
|   | North Shropshire Reinforcement Newsletter (Summer 2016) |
|   | Updated Line Route Report (November 2016)               |
|   | Stage One Consultation Feedback Report (November 2016)  |

1.3.2 These reports are available for download at:

[http://www.spenergynetworks.co.uk/pages/nsr\\_useful\\_documents.asp](http://www.spenergynetworks.co.uk/pages/nsr_useful_documents.asp) and can be read in conjunction with this Scoping Report to provide further information on the design evolution.

1.3.3 The process of line route selection comprised a series of technical and environmental reviews and assessments, together with stakeholder consultation, as described below. SP Energy Networks consultation process is described in detail in the relevant published documents and summarised in Chapter 4 'Consultation' of this Scoping Report.

1.3.4 The extract below is from the SP Energy Networks website at:

[http://www.spenergynetworks.co.uk/pages/our\\_proposals.asp](http://www.spenergynetworks.co.uk/pages/our_proposals.asp) .

|  |   |
|--|---|
| <b>Step one:</b><br>Where to reinforce the network | During 2015, SP Energy Networks considered a number of alternative overhead line routes from other substations at Legacy and Marchwiell near Wrexham, Crewe and Shrewsbury. These alternatives, however, have been discounted due to technical suitability, costs and potential increased environmental impacts. The route from Oswestry to Wem was considered most suitable. |
|--|---|

|  |  |
|--|--|
| <p><b>Step two:</b><br/>Choosing route corridor</p>          | <p>In the latter part of 2015 and early 2016, we considered the location of villages and towns, the landscape, cultural heritage and other environmental sensitivities to develop broad route corridors (broad ribbons of land) which we could route the line within.</p> <p>From our initial routeing work, we then identified two route corridors from Oswestry to Wem, each up to 1km wide, and assessed them to see which had the least impact overall. We have based our consultation zone on an area around these two route corridors to give local people in the area the opportunity to be involved.</p> |
| <p><b>Step three:</b><br/>Identifying line routes</p>        | <p>More recently in 2016, we have carried out further work within the overall preferred corridor to identify and then consider alternative line route options. These alternative line routes are 100 meters wide at this stage, which enables flexibility for a more refined design at the next stage of our work. These line routes also include the land needed for constructing the overhead line (such as temporary construction roads and lay-down areas).</p>  |
| <p><b>Step four:</b><br/>Choosing a preferred line route</p> | <p>We're now consulting with local communities and specialist bodies (such as heritage and environmental groups) to seek their comments on our work and the options, including the preferred option we have identified and associated construction areas. This feedback will help us check the decisions we have made to provide information to develop a detailed design.</p>   |

1.3.5 Chapter 2 'Alternatives and Design Evolution' of this Scoping Report explains how the line routes evolved and Chapter 3 'Description of the Project' describes the latest line design on which the information in this Scoping Report is based.

## **1.4 REGULATORY REQUIREMENTS**

1.4.1 The installation of the new overhead electric line (and its associated works) is defined as a Nationally Significant Infrastructure Project (NSIP) under Sections 14

(1)(b) and 16 (1)(b) of the Planning Act 2008 (as amended by the Localism Act in 2011)<sup>4</sup> (the Planning Act 2008).

- 1.4.2 Under the Planning Act 2008, and following consultation, SP Energy Networks must submit an application for a development consent order (DCO) (which may include the compulsory acquisition of land rights) to the Secretary of State (SoS) through the Planning Inspectorate (PINS). Following acceptance of an application, PINS undertakes an examination of the submitted documents and may hold public hearings to consider the material and issues brought forward by interested parties. PINS appointed examining authority then reports its recommendations to the SoS. The SoS subsequently determines whether to grant a DCO for the NSIP.
- 1.4.3 The North Shropshire Reinforcement Project falls within Schedule 2 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) (the EIA Regulations), which require an Environmental Impact Assessment (EIA) to be carried out if a project is likely to have significant effects on the environment.
- 1.4.4 Whilst it is recognised that the EIA Regulations<sup>5</sup> will change in May 2017 as a result of the EIA Directive 2014/52/EU, this Scoping Report is being submitted under the current 2009 Regulations.
- 1.4.5 PINS Advice Note Seven<sup>6</sup> details the procedural requirements including those relevant to the scoping stages that apply to NSIPs, which are EIA development.

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<sup>4</sup> HM Government (2008), Planning Act. HMSO, London

<sup>5</sup>[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/577145/Infrastructure\\_regs\\_for\\_consultation.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/577145/Infrastructure_regs_for_consultation.pdf)

<sup>6</sup> The Planning Inspectorate (2015), Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping (Version 5)

Advice Note Three<sup>7</sup> provides guidance on the consultation process for a scoping report.

- 1.4.6 The Scoping Report represents notification to the SoS that an environmental statement (ES) reporting the findings of the EIA, will accompany the DCO application for the North Shropshire Reinforcement Project (Regulation 6 Notification). It also seeks formal written notification from the SoS on the information to be included in the ES pursuant to Regulation 8(1) of the EIA Regulations. This is known as a scoping opinion. PINS, on behalf of the SoS, is invited to consider the contents of the Scoping Report and provide a scoping opinion within the 42 day period prescribed by the EIA Regulations.

#### **Scoping Stage Project Boundary**

- 1.4.7 The focus of this Scoping Report is the Scoping Stage Project Boundary, which incorporates the Proposed Line Route within a 100m wide corridor, access tracks and five search areas for construction compounds.
- 1.4.8 The 100m wide corridor is the area within which the proposed overhead line could be located. The 100m wide corridor provides flexibility for the Proposed Line Route and access tracks to be refined if necessary, as further more detailed survey information becomes available.
- 1.4.9 The corridor is slightly less than 100m wide in some locations (see Figure 1.6) as some areas contain environmental features such as ponds or groups of trees, which need to be avoided by the overhead line and which therefore have been excluded.

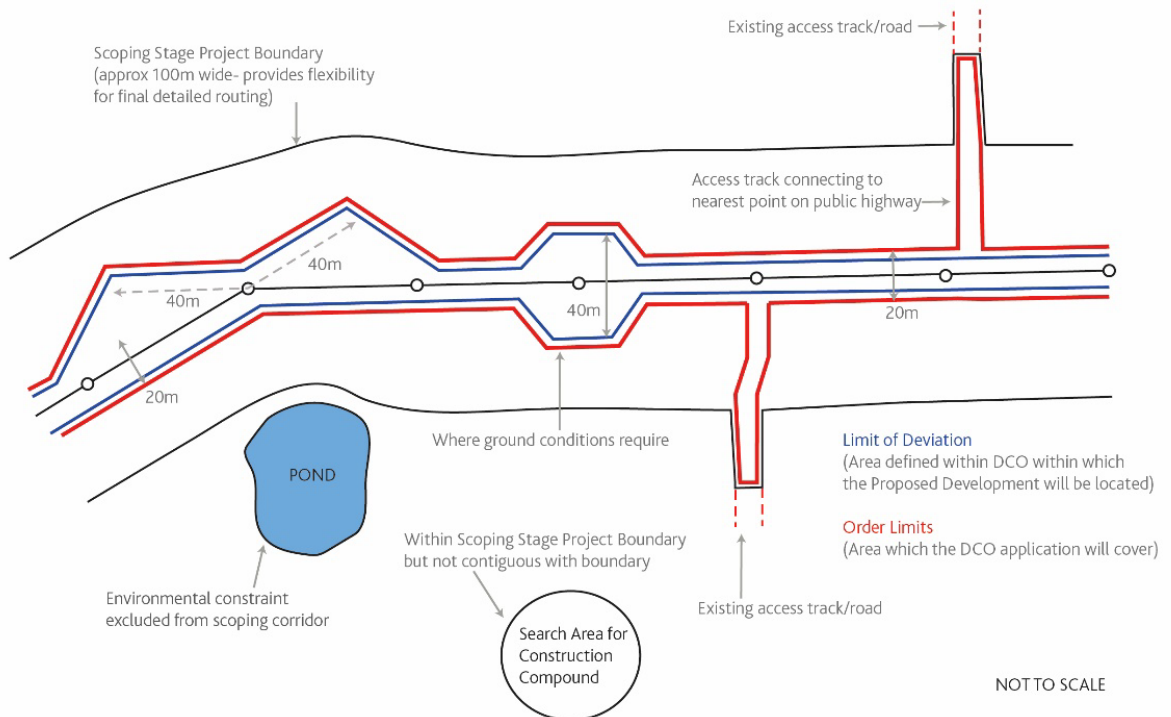
#### **DCO Application**

- 1.4.10 It is important to note that development consent will be sought to construct the 132kV line not within the 100m wide corridor but within a narrower limited corridor referred to as the 'Order Limits', which will typically be between 20 - 40m wide. This area allows for the permanent works (such as Trident wood poles and conductors)

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<sup>7</sup> The Planning Inspectorate (2015), Advice Note Three: EIA Consultation and Notification [https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/07/advice\\_note\\_3\\_v5.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/07/advice_note_3_v5.pdf)

and for construction activities. This approach, which is common within the industry for the consenting of linear projects, allows for ongoing landowner discussions as to the precise location of the overhead line and for micro-siting of the individual wood pole supports. See the diagram below for an explanation of the different terminology:



### Timescale and Purpose of the EIA Process

1.4.11 The scoping process is expected to have been completed by mid-April, with most of the surveys being carried out in spring/ summer 2017<sup>8</sup>. The results of these surveys will then be consulted on in the Preliminary Environmental Information

<sup>8</sup> Some surveys may be undertaken in autumn 2017 and early spring 2018.



Report (PEIR). This is expected to be published in autumn 2017. The final ES will be submitted as part of the application for a DCO in summer 2018.

1.4.12 Scoping allows stakeholders an early opportunity to comment on the proposed structure, methodology and content of an ES. It provides a framework for identifying the likely significant environmental effects of a project and assists the EIA process in highlighting priority issues to be addressed. By doing so it assists in focusing attention on key environmental topics for inclusion within the EIA process and subsequent ES.

1.4.13 In summary, the objectives of the EIA scoping process are to:

- Consider the nature of the proposed development, including (where known) its purpose, physical characteristics, land use requirements and any alternatives considered;
- Identify and describe the key environmental topics that the EIA must consider;
- Identify the environmental topics that are not relevant to the EIA and which may be 'scoped out';
- Define the extent to which environmental topics need to be investigated. This includes cumulative effects, applicable study areas and the methodology for assessment; and
- Facilitate consultation with statutory consultees.

1.4.14 The Scoping Report sets out the work to be undertaken as part of the EIA to identify the likely significant environmental effects of the proposed development. There is no statutory definition of what constitutes a likely significant environmental effect. For the purposes of this EIA, a significant effect has been defined as an effect which, either in isolation or in-combination with others, should (in the professional opinion of the environmental specialists) be taken into account in the decision making process.

1.4.15 This Scoping Report satisfies the requirements of Regulation 8(3) of the EIA Regulations by providing a plan of the area (see Figure 1.1), a description of the

nature and purpose of the proposed development (Chapter 3 ‘Description of the Project’), and a description of the likely significant effects on the environment (Chapters 7 – 17).

1.4.16 Table 1.2 lists the additional information suggested by PINS in Advice Note 7<sup>9</sup>.

| <b>Table 1.2<br/>Information Provided in this Scoping Report (based on PINS Advice Note 7)</b>  |   |
|---|---|
| <b>Description of Information</b>   | <b>Where the Information is Presented in the Scoping Report</b> |
| An outline of the main alternatives considered and the reasons for selecting the Proposed Line Route.   | Chapter 2   |
| Results of desktop and baseline studies where available.  | Chapters 7 – 17   |
| Referenced plans presented at an appropriate scale to convey clearly the information and all known aspects associated with the proposal.                                    | Appendix A  |
| Guidance and best practice to be relied upon, and whether this has been agreed with the relevant bodies together with copies of correspondence to support these agreements. | Chapters 7 – 17   |
| Methods used or proposed to be used to predict impacts and the significance criteria framework used.  | Chapters 7 – 17   |
| Approach to mitigation.   | Chapters 7 – 17   |
| Methods used to assess cumulative impacts.  | Chapter 18  |

<sup>9</sup> Planning Inspectorate (2015), ‘Advice Note Seven: Environmental Impact Assessment Screening Scoping and Preliminary Information’ (Version 5)

| <b>Table 1.2<br/>Information Provided in this Scoping Report (based on PINS Advice Note 7)</b>   |   |
|--|---|
| <b>Description of Information</b>  | <b>Where the Information is Presented in the Scoping Report</b> |
| An indication of any European designated nature conservation sites that are likely to be significantly affected by the North Shropshire Reinforcement Project and the nature of the likely significant impacts on these sites. | Chapter 7   |
| Key topics covered as part of the scoping exercise.  | Chapters 4 and 7 - 17   |
| An outline of the structure of the proposed ES.  | Chapter 1   |
| An identification of the elements of the proposed development likely to have a significant environmental effect.   | Chapters 7 – 17   |
| Where SP Energy Networks seeks to scope out matters, a justification for scoping out such matters.   | Chapters 7 – 17 and 19  |

## **1.5 CONTENT AND STRUCTURE OF THE SCOPING REPORT**

### **1.5.1 The structure of this Scoping Report is as follows:**

- Chapter 2 provides an outline description of the alternatives considered and the reasons for the selection of the Proposed Line Route;
- Chapter 3 provides an outline description of the North Shropshire Reinforcement Project and provides an interpretation of its location, site settings and surroundings. It also identifies those elements of the project which are likely to have a significant environmental effect.
- Chapter 4 summarises consultations held to date and those planned during

the EIA process;

- Chapter 5 outlines the general scope of the assessment and methodology to be adopted in the EIA, introduces the key topics covered as part of the scoping study, and provides an outline for the proposed structure for the ES;
- Chapter 6 presents a general overview of the national, regional and local planning policy framework in relation to the North Shropshire Reinforcement Project;
- Chapters 7 - 17 present the key topics proposed to be included within the EIA and covered as part of the scoping study. Where appropriate each of these chapters is set out using the following structure:
  - Introduction
  - Planning Policy Considerations
  - Work Undertaken to Date
  - Consultation Feedback
  - Baseline Environment
  - Issues Identified
  - Proposed Assessment Method
  - Summary
- Chapter 18 defines the scope of the Cumulative Assessment;
- Chapter 19 sets out the topics which are proposed to be scoped out of the EIA; and
- Chapter 20 summarises and concludes the Scoping Report (including key issues and any topics proposed to be scoped out).

### **Scoping out Topics from the EIA**

- 1.5.2 The information presented in this Scoping Report assists in defining the key topic areas and information to be included in the ES. It also identifies where matters

could be scoped out of further assessment, as there are unlikely to be any significant environmental effects.

1.5.3 The following is a list of those topics which SP Energy Networks considers could be scoped out of the EIA.

- Land Use (excluding agriculture);
- Socio-economic (construction and operation) (excluding tourism and recreation);
- Water resources (construction and operation);
- Mineral resources (construction and operation);
- Traffic and transport (construction and operation);
- Noise, vibration and air quality (construction and operation); and
- Electric and magnetic fields (construction and operation).

1.5.4 Justification as to why SP Energy Networks wishes to scope these matters out is provided in the relevant topic chapters of this Scoping Report and summarised in Chapter 19 'Topics to be Scoped Out'. Chapter 19 also includes other issues which it considers are unlikely to give rise to significant effects and therefore should be scoped out of the assessment process.

## 1.6 CONSULTATION REQUIREMENTS

1.6.1 Once the SoS receives notification that the applicant proposes to provide an ES (Regulation 6 notification), he is required to notify in writing the prescribed consultation bodies<sup>10</sup> (the Regulation 9 Notification) and to provide SP Energy Networks with a list of their names and addresses (the Regulation 9 List). In addition

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<sup>10</sup> These are organisations which have a duty imposed on them to enter into consultation with the applicant and make information in their possession relevant to the preparation of the ES available to the applicant. There are other non-prescribed consultation bodies, which will be notified by the SoS but do not have to make such information available.

the SoS may also invite comments from the relevant non-prescribed consultation bodies identified in PINS Advice Note 3. Both prescribed and non-prescribed consultation bodies have 28 days to respond to the SoS.

- 1.6.2 In recognition of this, SP Energy Networks has, from the early development of the project, engaged in environmental and technical consultations with a wide variety of stakeholders, such as Shropshire Council, Environment Agency, Natural England, Historic England and other organisations.
- 1.6.3 These stakeholders were initially consulted between June and September 2016 as part of the Stage One Consultation<sup>11</sup> which was held to present the Preferred Line Route and provide an overview of the likely environmental effects. This consultation included seeking feedback in respect of farming, communities, the landscape, wildlife, and ecology. All comments and information received have and will continue to inform the detailed design of the Proposed Line Route, the EIA process, content of the ES, and the scope, extent and methods used to carry out the various environmental assessments required.
- 1.6.4 In addition to providing advice on screening and scoping, PINS Advice Note 7 also sets out the pre-application consultation requirements for DCO applications and also the consultation requirements, both in respect of the developer and the SoS.
- 1.6.5 The SoS is also required to notify SP Energy Networks of any other person the SoS thinks is likely to be affected by the proposed development (Regulation 9(1)9c bodies).
- 1.6.6 Further information on the pre-application consultations undertaken by SP Energy Networks is presented in Chapter 4 'Consultation' of this Scoping Report.

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<sup>11</sup> The statutory Stage Two consultation is anticipated to be held in autumn 2017. The aim of this consultation will be to get comments on a detailed design which will include the locations of the poles. This will be a statutory stage of consultation before making the DCO application.

## CHAPTER 2: ALTERNATIVES AND DESIGN EVOLUTION

### 2.1 INTRODUCTION

2.1.1 This chapter sets out how SP Energy Networks has considered alternatives, to that now proposed, for reinforcing the electricity network in North Shropshire within its technical and economic parameters, whilst also avoiding or minimising likely environmental impacts.

#### **Strategic Options**

2.1.2 In terms of the initial work carried out to identify the preferred network design, reference is made below to the Strategic Options Report<sup>12</sup>. Although this document mainly considers the technical requirements of the network, it does take into account economic and high level environmental considerations. These included the location and extent of a number of nature conservation, landscape and heritage designations. These constraints are included as Appendix A – North Shropshire Environmental Constraints in the Strategic Options Report (May 2016) and are reproduced as Figure 2.1 in this Scoping Report. The need to avoid the constraints identified in Figure 2.1 were part of the reason for selecting the preferred design for a new 132kV circuit between Oswestry substation and Wem substation. Further information as to how the network design options were identified and appraised is provided in the Strategic Options Report.

2.1.3 SP Energy Networks explains in the Strategic Options Report that consideration was initially given to various technical alternatives, starting with whether the network could be upgraded by installing equipment designed to manage customer need requirements within existing substations. This option was discounted because, although it would have limited environmental impacts, SP Energy Networks did not consider it would meet the varying customer demands with any certainty. It would therefore be contrary to SP Energy Networks' statutory obligations. Another technical option was to increase the rating of existing lower voltage 33kV circuits to

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<sup>12</sup> SP Energy Networks (May 2016), Strategic Options Report

provide additional supply. Although likely to result in minimal environmental impacts, this was discounted as it was unlikely to be able to provide the required supply. A further alternative was to increase the number of 33kV circuits between the substations in Oswestry, Marchwiel, Whitchurch and Wem. This was discounted as it would require a number of new overhead lines/ underground cables, which would increase costs and likely environmental impacts.

- 2.1.4 The Strategic Options Report then explains that consideration was given to various options involving a new 132kV network. These included installing new overhead lines between substations at either Legacy near Wrexham, Marchwiel, Crewe or Shrewsbury, and Whitchurch. These alternatives were discounted due to the length of new circuit required and the consequent costs and likely environmental impacts. A new circuit between Marchwiel and Whitchurch would result in a shorter length of new overhead line, but would be likely to result in significant environmental impacts from crossing or passing close to important nature conservation sites.
- 2.1.5 Finally, the alternative of taking a supply from the nearby 400kV circuit operated by National Grid plc was considered, but discounted due to the significant cost increases and likely environmental impacts.
- 2.1.6 The conclusion of the options appraisal was that the preferred design solution for upgrading the electricity supply in North Shropshire was to install a new 132kV overhead line between Oswestry and Wem substations. This would require the installation of a new 132kV transformer at Wem substation and was considered the best technical, environmental and cost option.
- 2.1.7 Having identified the preferred connection solution, the Strategic Options Report also considered the alternative design solutions for supporting the 132kV overhead line:
- Steel lattice tower (L7 design) approximately 26m high;
  - Heavy duty wood pole (with underslung earth wire) approximately 15m high;



and

- Trident wood pole (no earth wire) approximately 12m high.

2.1.8 In this case, given the likely environmental, technical requirements and costs of these alternatives as well as the nature of the North Shropshire landscape, SP Energy Networks considered that the 132kV overhead line should be based on the Trident wood pole design. This is a different design to the heavy duty wood pole design, which is typically a double pole structure, used for recent SP Energy Network projects in North Wales. As explained below in Chapter 3 ‘Description of the Project’, the Trident wood pole design is considered to be the option which would be best accommodated within the rural agricultural landscape of North Shropshire.

2.1.9 The images below shows the three different types of overhead line structure considered (the images show indicative heights, actual heights can vary depending on design requirements).



Steel pylons – approx. 26m

Heavy duty double wood poles – approx. 15m

Single wood pole Trident – approx. 12m

## **Undergrounding**

2.1.10 SP Energy Networks considered the technical option of placing the new line entirely underground. However, this was discounted due to cost and not being the

technically preferred option. Also, overhead lines (such as that covered by this project) are not generally considered incompatible in rural areas. Less than 10% of the total 132kV circuit length in rural areas are underground cables. As to whether there are any sections that should be placed underground this will be considered in the event of very significant landscape and visual effects being identified through the EIA process and further consideration of the costs and benefits and other environmental effects associated with an underground section.

### **Route Corridor Options**

- 2.2.1 The work carried out in relation to the alternative route corridor options considered, is set out in the Route Corridor Options Report<sup>13</sup>, which was prepared by environmental consultants MWH. It is from that report that the following references are drawn.
- 2.2.2 Chapter 3 of that report refers to how the routeing process applied the Holford Rules<sup>14</sup>. Rule 1 of the Holford Rules advises that the areas of highest amenity value should be avoided wherever possible, without specifying what it means by 'highest amenity value'. SP Energy Networks adopts the commonly accepted

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<sup>13</sup> SP Energy Networks (June 2016), Route Corridor Options Report

<sup>14</sup> In 1959, Lord Holford, then advisor to the Central Electricity Generating Board (CEGB), developed a series of planning guidelines in relation to amenity issues, which have subsequently become known as the 'Holford Rules'. The National Grid Company (NGC) subsequently revised these rules in the 1990s, and although never formally published as official guidance, they are often referred to in planning publications such as, 'Planning Overhead Routes' (RJB Carruthers, 1987) and 'Visual Amenity Aspects of High Voltage Transmission' (GA Goulty, 1989). The Holford Rules form the basis for the decision making process of siting overhead transmission lines, and minimising the potential landscape impact of such infrastructure. They are particularly helpful in identifying route options, as most landscape visual impact assessment guidelines relate to other forms of infrastructure. In contrast, the Holford Rules relate specifically to transmission lines, and although slightly amended in the 1990s, the core premise of each rule remains intact since originally proposed in 1959. Although they have been developed for transmission lines (steel towers), SP Energy Networks consider that the basic principles are applicable to the routeing of wood pole overhead lines.

approach that this includes the following national and internationally regarded protected sites:

- Special Area of Conservation, Special Protection Area and Ramsar Site;
- National Park, Area of Outstanding Natural Beauty, National Nature Reserve and Site of Special Scientific Interest;
- Scheduled Monument, Listed Building Grade 1 II and II\*, Conservation Area, World Heritage Site; and
- Registered Park and Garden and designed landscape.

2.2.3 The Route Corridor Options Report also explains, that alongside the environmental concerns, technical and economic considerations were also taken into account. Technical considerations included ease of construction or ‘buildability’, altitude, slope angle, flood risk, and crossing of particular features such as bridges, railway lines, roads and existing overhead lines. Airfields were also noted. Consideration was also given to land interests such as farming and mineral extraction rights. Economic considerations included the need to build the most direct line possible in order to minimise costs.

2.2.4 These environmental and technical constraints are shown in Figures 4.2 to 4.6 in the Route Corridor Options Report and are reproduced in as Figures 2.2 to 2.5 in this report. Before identifying possible route corridors, SP Energy Networks also identified some local features that it noted might be considered of locally high value. These are shown in Figure 6.1 of the Route Corridor Options Report and are reproduced as Figure 2.6 in this report.

2.2.5 Based on the above, the following four route corridors were identified:

- Option 1: the ‘Orange Route’ (approximately 23.1km);
- Option 2: the ‘Red Route’ (approximately 20.8km);
- Option 3: the ‘Blue Route’ (approximately 21.8km); and
- Option 4: the ‘Purple Route’ (approximately 22.3km).

2.2.6 These are shown in Figure 4.10 of the Route Corridor Options Report and are reproduced as Figure 2.7 in this report.

- 2.2.7 The four route corridor options were then assessed against the environmental constraints referred to above. Early in the assessment process it was noted that the orange and purple options, which were both longer and less direct than the other two options and were also likely to present fewer opportunities for identifying alternative line routes than the other two options. This is because they were closer to the areas of highest environmental value and to the local sites that SP Energy Networks was seeking to avoid. Furthermore, the presence of these constraints meant that the route corridor would be narrowed to such a degree that it would compromise the subsequent process of line routeing in terms of taking into account other environmental and technical considerations as well as landowner interests. For these reasons, SP Energy Networks concluded that there was no benefit in progressing these two options.
- 2.2.8 The next stage in the routeing process was to comparatively assess the Red and Blue Routes. For this assessment the two route corridors were both split into three sections and assessed against environmental and technical constraints section by section. The assessment is presented in paragraphs 5.21 to 5.81 of the Route Corridor Options Report and concluded in paragraphs 5.82 to 5.91. An extract from Section 7 of the Route Corridor Report is provided in the boxed text below:

## 7. CONCLUSION AND NEXT STEPS

- 7.1 This route corridor options report has been prepared following SP Energy Networks' review of alternative network and line design options to reinforce the electricity distribution network in North Shropshire, the outcome of which is a preference for installing a new 132kV overhead wood pole line using the Trident design between Oswestry and Wem.
- 7.2 The purpose of this stage of the routeing process is to identify and comparatively appraise a number of route corridor options for the proposed overhead line using an SP Energy Networks established approach.
- 7.3 MWH working with SP Energy Networks identified four route corridor options of up to approximately 1km wide. These options were then assessed against a number of environmental criteria with the aim of identifying a route corridor to help guide and inform the next stage of the project, which is identifying suitable 100m wide line route options. Having followed this approach, a route corridor comprising the R1, B2 and B3 route corridor sections was considered to give rise to the least potential environmental effects, whilst being technically and economically efficient. It is this route corridor which SP Energy Networks is proposing to take forward to the next stage of the project.
- 7.4 It is important to emphasise that the boundaries of R1, B2 and B3 are not absolutely fixed, but are insetad intended as a guide to the line routeing stage of the project. In order to avoid specific localised environmental and technical constraints and as more information is gathered during the routeing stages, there may be occasion to consider a line route corridor option which falls outside of R1, B2 and B3.
- 7.5 This report is being made available as part of the project consultation to explain how the project design has evolved. It will provide the basis for the next stage of routeing work which has the purpose of identifying more defined, narrower (approximately 100m wide) line route options within the R1, B2, B3 corridor, which will also be presented as part of the project consultation.
- 7.6 Whilst SP Energy Networks could have consulted on the wider route corridors identified in this report, it is the company's experience on similar linear projects that people tend to prefer to see the detail of how a new scheme might affect them. As the route corridors are quite broad, SP Energy Networks consider it more appropriate to consult on narrower 100m wide line route options. To ensure that stakeholders can appreciate and comment on the extensive background work which has been carried out to date, however, this report is being made available as part of the consultation process.
- 7.7 Identifying and assessing alternative line route corridor options is a separate work stage and is reported on in the Line Route Study Report, prepared by Gillespies LLP, an environmental consultancy based in Cheshire with significant experience in line routeing work in the region.

2.2.9 It is noted that in terms of minimising likely significant environmental effects, whilst Section 1 of the Red Route (R1) was preferred at the western end, the Blue Route was preferred overall.

### Line Route Options

- 2.2.10 Following the completion of the initial route corridor options, work commenced on more detailed line route alternatives. In spring 2016 SP Energy Networks engaged Gillespies LLP, an experienced environmental consultancy in overhead line routing and assessment, to lead in identifying and comparatively appraising the 100m wide line route options with a view to identifying a preferred line route. Gillespies was supported by an experienced project team of ecologists (Avian Ecology) and heritage experts (Network Archaeology).
- 2.2.11 Gillespies worked alongside Line Design Technology (LDT), a line design engineering firm based in Wrexham. LDT recently designed the similar Trident overhead line between Legacy to Wrexham, which was completed in 2015 and is now fully operational. This scheme was shortlisted in November 2016 for a national award in the utilities sector by Utilities Week for most efficient project delivery.
- 2.2.12 Gillespies work is set out in the Line Route Report<sup>15</sup>. Reference to that report shows that the team followed a similar approach to MWH for the identification of route corridor options by referring to similar environmental and technical constraints. The environmental criteria which were considered are listed in Table 2.1 of the Line Route Report and this table is reproduced below as Table 2.1. As well as the environmental constraints used in the previous route corridor options work, Gillespies also included in their assessment more detailed information such as woodlands, long distance footpaths and other rights of way, and updated the database for local wildlife sites.

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<sup>15</sup> SP Energy Networks (June 2016), Line Route Report

| <b>Table 2.1<br/>Environmental Information Collected and Mapped to Assist Identification of 100m Wide Line Route Options</b> |   |  |
|--|---|--|
| <b>Criterion</b>   | <b>Sub-criteria</b>   | <b>Mapped and Field Gathered Data</b>  |
| <b>Length of Line Route</b>  | Consider the length of each route options compared to other comparable options.   | Calculate length using Geographical Information Systems (GIS) based on an approximate centre line of the route option/ corridor/ section.  |
| <b>Ecology</b><br><br>(Holford Rules 1 & 2 & Supplementary Note b.)<br><br>NPS EN-1 and NPS EN-5                             | <ul style="list-style-type: none"> <li>• Ramsar Sites</li> <li>• Special Protection Area (SPA)</li> <li>• Special Area Conservation (SAC)</li> <li>• Site of Special Scientific Interest (SSSI)</li> <li>• National Nature Reserve (NNR)</li> <li>• Wildlife Trust Sites (WTS) (WTNR)</li> <li>• Local Wildlife Site (LWS), including Local Nature Reserves (LNR)</li> <li>• Protected Species and Ornithology</li> <li>• LWS across the study area (up to 5km distant)</li> <li>• Protected species across the study area</li> </ul> | <p>GIS based quantitative assessment and qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified to avoid direct and indirect impacts on these designated areas.</p> <p>Strategic scale appraisal of potential for protected species and ornithological activity within the study area and professional judgement applied in relation to potential routeing issues.</p> <p>Field work to identify 'hot-spots' in relation to potential for protected species and birds, including clusters of mature trees with bat roost potential, waterbodies within 50m and badgers.</p> |
| <b>Landscape Character and Visual Amenity</b><br><br>(Holford Rules 1, 2, 3, 4 & 5 & 7 and Supplementary                     | <b>Landscape Designations:</b> <ul style="list-style-type: none"> <li>• National Parks</li> <li>• Areas of Outstanding Natural Beauty (AONB)</li> </ul>   | GIS based, gather data and map locations, consider potential for routeing to directly affect designations.   |
|  | <b>Landscape Character Sensitivity</b>  | Desk based and field work. GIS mapping of landscape character areas and desk based review of published   |

| <b>Table 2.1</b><br><b>Environmental Information Collected and Mapped to Assist Identification of 100m Wide Line Route Options</b> |  |   |
|--|--|---|
| <b>Criterion</b>   | <b>Sub-criteria</b>  | <b>Mapped and Field Gathered Data</b>   |
| Note b.)<br><br>EN1 and EN5  |  | assessments to consider potentially sensitive areas. Consideration during field surveys of landscape sensitivity.<br><br>(National Character Areas and Shropshire Landscape Typology)   |
|  | <b>Visual Amenity</b> <ul style="list-style-type: none"> <li>• Settlements and individual residential properties.</li> <li>• Visitor attractions and setting of attractions e.g. historic sites such as Whittington Castle, tourist routes.</li> <li>• Recreational resource including National/ regional trail, cycle-ways and public rights of way.</li> <li>• Formal recreation.</li> <li>• Informal recreation.</li> <li>• Common Land and Open Access Areas.</li> <li>• Main roads and routes.</li> <li>• Existing and proposed electricity network infrastructure and wind turbines</li> </ul> | Mapping of landscape features which will influence visibility within the corridor and buffer zone, including ridgelines and other topographical features, woodland blocks and built form. Based on OS mapping and field review.<br><br>Use of aerial photography, OS mapping and site survey to identify potential visual receptor locations and make a preliminary note of baseline views and potential visibility using professional judgement.<br><br>OS based GIS buildings data is used to identify the location of settlements and individual residential properties, and then verified in the field.<br><br>Mapping of 100m between potential line route options and properties.<br><br>Field based identification of principal view and existing potential screening. |



| <b>Table 2.1</b><br><b>Environmental Information Collected and Mapped to Assist Identification of 100m Wide Line Route Options</b> |                     |   |
|--|---------------------|---|
| <b>Criterion</b>   | <b>Sub-criteria</b> | <b>Mapped and Field Gathered Data</b>   |
|  |                     | <p>GIS and web-based identification of routes, principally long-distance footpaths and national cycle network, as well as other footpaths, bridleways and cycleways shown on OS maps, field based identification of any important views.</p> <p>Identification of views from key recreational and visitor attractions, e.g. regional trails, etc.</p> <p>GIS, web-based and site verification of any formal recreation, e.g., golf courses, caravan/ camping sites etc. including potentially important key views.</p> <p>GIS identification of common land/ public forests/ access land/ open country. Field based identification of any important views.</p> <p>OS identification of A and B road and other routes. Field based identification of any important views.</p> <p>GIS identification of existing and proposed electricity network infrastructure. Field based identification of any important views and potential cumulative effects.</p> |

| <b>Table 2.1<br/>Environmental Information Collected and Mapped to Assist Identification of 100m Wide Line Route Options</b> |  |   |
|--|--|---|
| <b>Criterion</b>   | <b>Sub-criteria</b>  | <b>Mapped and Field Gathered Data</b>   |
| <b>Historic Environment</b><br>(Holford Rules 1 & 2 & Supplementary Note b.)<br>EN1  | <ul style="list-style-type: none"> <li>• Scheduled monuments (SAMs)</li> <li>• Listed buildings</li> <li>• Conservation area</li> <li>• Historic landscapes (informed by Shropshire historic landscape characterisation and Shropshire Historic Farmsteads Characterisation</li> <li>• Non-listed assets of potential regional importance</li> </ul> | <p>GIS based quantitative assessment and qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified avoiding these designated areas.</p> <p>Assessment of setting and identification of principal views of designations.</p> |
| <b>Water Environment</b>   | Flood Risk – Environment Agency Flood Zones 2 and 3  | GIS used to map EA Flood Zones 2 and 3 to identify these areas.   |
| <b>Forestry and Woodland</b>   | <ul style="list-style-type: none"> <li>• Ancient and semi-natural woodland</li> <li>• Other forestry and woodland</li> </ul>   | <p>GIS based identification of woodland areas in relation to ancient and semi-natural woodland data and National Forest Inventory (NFI) data.</p> <p>Reference to field study and aerial photography to identify areas of woodland and tree groups.</p>             |
| <b>Socio Economic</b>  | <ul style="list-style-type: none"> <li>• Agricultural land classification</li> <li>• Tourism</li> </ul>  | <p>GIS mapping of all grades of agricultural land.</p> <p>OS and site verification of any caravan/ camping sites, log cabins, lodges, visitor attractions etc.</p>  |
| <b>Technical considerations</b>  | <ul style="list-style-type: none"> <li>• Geology</li> <li>• Topography/ slopes</li> </ul>  | Identify locations using OS mapping. GIS based quantitative assessment and  |

| <b>Table 2.1</b><br><b>Environmental Information Collected and Mapped to Assist Identification of 100m Wide Line Route Options</b> |   |  |
|--|---|--|
| <b>Criterion</b>   | <b>Sub-criteria</b>   | <b>Mapped and Field Gathered Data</b>  |
|  | <ul style="list-style-type: none"> <li>• Crossings, including main roads, bridges, railways, canals</li> <li>• Existing infrastructure</li> <li>• Existing and proposed wind turbines</li> <li>• Angles of deviation</li> <li>• Access and construction traffic</li> <li>• Airfields</li> </ul> | qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified avoiding such constraints as far as practical.   |
| <b>Planning and land use considerations</b>  | <ul style="list-style-type: none"> <li>• Registered Common Land</li> <li>• Local Development Plan Land Allocations</li> <li>• Open Space/green infrastructure</li> <li>• Green belt</li> <li>• Minerals safeguarding areas</li> </ul>   | GIS layers from Local Authority Plans.<br><br>GIS based quantitative assessment and qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified avoiding these uses. |

2.2.13 One of the aims of the routing process was to identify routes which would provide the best ‘fit’ within the landscape by:

- Following the grain of the landscape, running with valleys and alongside woodland edges and field boundaries;
- Using woodland and trees as a backdrop or screening element;
- Minimising the number of crossings of linear features;
- Avoiding the creation of wirescapes;
- Avoiding residential areas wherever possible; and
- Following the most direct route to limit the potential for environmental impacts.

- 2.2.14 SP Energy Networks decided to include the first section of the Red Route (R1) and the first section of the Blue Route (B1) (as well as the remainder of the Blue Route) for the identification of more detailed line routes, as there was little to distinguish between R1 and B1 in the Route Corridor Options Report.
- 2.2.15 The 100m wide line route options identified by Gillespies are shown in Figure 3.1 of the Line Route Report and reproduced in this report as Figure 2.8. In parallel to this work, there was input from LDT and SP Energy Networks' land agents team who had begun some initial discussions with landowners. The work streams were then combined and led to what were then referred to as the refined line route options. These are shown in Figure 3.5 in the Line Route Report and are reproduced as Figure 2.9 in this report. It is noted that this review led to the first section of the Blue Route (B1) being discounted in favour of a refined section of the Red Route (R1) running slightly further south than R1 (referred to as Option 1A) and a new line route option slightly closer to the village of Cockshutt.
- 2.2.16 SP Energy Networks recognised that the introduction of the refined line routes and options, would also benefit from consultation with local communities. A consultation zone was therefore drawn up, based broadly on a 2km distance from the outer edge of the red and blue route corridors.
- 2.2.17 More information on the approach to identifying the consultation area is provided in Chapter 4 'Consultation' of this Scoping Report.
- 2.2.18 With reference to a description of the refined line route options, the Line Route Report then goes on to explain how the options were comparatively appraised in order to identify the line route with the least effect on the environment. The report explains that this process involved an element of weighting in terms of the criteria used in the assessment, with an emphasis on landscape, visual and heritage considerations.
- 2.2.19 The conclusion of this process of considering alternatives was the identification of a Preferred Line Route (with options). This is shown in Figure 6.1 of the Line Route Report and reproduced in this report as Figure 2.10. This Preferred Line Route was presented in the preliminary non-statutory Stage One Consultation which

commenced in June 2016 (see Chapter 4 'Consultation'). The Stage One Consultation also presented the line route options that had been considered and discounted. In addition the consultation asked for feedback on the likely environmental effects, as noted in the Feedback Questionnaire.

2.2.20 The Line Route Report concluded by identifying a Proposed Line Route. The conclusion of this report notes that because the design process is ongoing, consideration will continue to be given to new information. For example, the Proposed Line Route will continue to be reviewed in response to any survey results, such as the wintering bird survey, which commenced in October 2016. It will also continue to be reviewed in the light of landowners' discussions with SP Energy Networks' land agents.

2.2.21 The Proposed Line Route was published in the second newsletter that was sent to approximately 3,800 local homes and business addresses in the original consultation area during the summer of 2016.

### **2.3 LINE ROUTE CHANGES FOLLOWING STAGE ONE CONSULTATION**

2.3.1 Following the Stage One Consultation, SP Energy Networks considered all the feedback received by the consultation closing date in September 2016. Some additional late comments were also received via the ongoing landowner discussions. In the interests of allowing time for interested parties to have their say, and as it was a non-statutory consultation, these comments, although received after the deadline, were accepted and taken into account in the ongoing routeing and design process. The process for considering consultation comments is explained in the Stage One Consultation Feedback Report<sup>16</sup> (referred to below as the 'Feedback Report'). The Feedback Report sets out the responses received from the Stage One Consultation, including those received from the following organisations:

- Shropshire Council and nine out of the ten local parish councils potentially

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<sup>16</sup> SP Energy Networks (November 2016), Stage One Feedback Report

affected;

- Natural England, Environment Agency, Shropshire Wildlife Trust, the Woodland Trust, and the RSPB;
- Historic England; and
- Severn Trent Water and the Canal and River Trust.

2.3.2 Figures 3.1 to 3.4 of the Feedback Report set out the options considered with reference to additional constraints which had been identified. These are reproduced in Figures 2.11 to 2.14 of this Scoping Report. After considering the feedback in relation to each line route section, the Feedback Report identifies what is considered to be the Proposed Line Route for that section. In relation to Section 2, it was noted that further work was still being carried out to confirm a route preference. In Section 4 around Noneley, reference was made to the different options being considered in response to the concerns expressed.

2.3.3 The Feedback Report refers to an Updated Line Route Report<sup>17</sup>, which was published in November 2016. The Updated Line Route Report provides a review of additional alternatives which were considered following the Stage One Consultation. Reference is also provided in the Updated Line Route Report to the comments received on the likely environmental effects, which are referred to in paragraphs 2.58 to 2.63. These include for example, Shropshire Council's request for clarification about the relationship between the visual assessment and the residential visual amenity assessment, and the landscape sensitivity appraisal.

2.3.4 Since publication of the Updated Line Route Report, SP Energy Networks has made some minor changes to the Proposed Line Route mainly as a result of ongoing discussions with landowners. This has resulted in the 100m wide corridor being refined to reflect the new alignment. Also Figure 1.1 shows that in some locations the corridor is less than 100m wide. This is because some areas contain

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<sup>17</sup> SP Energy Networks (November 2015), Updated Line Route Report

environmental features such as ponds or groups of trees, which need to be avoided by the overhead line and have therefore been excluded.

- 2.3.5 In addition to these minor changes and as a result of the ongoing environmental survey work and feedback from stakeholders, two sections of the Proposed Line Route have been re-appraised. As a result, within each of those sections two further options were identified as follows.

#### Lower Hordley

- 2.3.6 Section 2 of the Proposed Line Route has been subject to further consideration in terms of the likely effect on agricultural operations. This has resulted in two alternative options being presented in the Scoping Report. These are identified as Lower Hordley South (the original Proposed Line Route) and Lower Hordley (a route further to the north, which is similar to a route that was identified in the Updated Line Route Report, November 2016, as Option 2B). Both are shown in Figure 1.1.

#### Noneley

- 2.3.7 Section 4 of the Proposed Line Route has also been subject to further detailed environmental assessment in terms of likely landscape, visual, historic environment and ecological effects. This is in response to SP Energy Networks reconsidering the Proposed Line Route in this area following feedback from Shropshire Council and the local community. Additional work in respect of these issues has been undertaken and detailed discussions held with Shropshire Council's heritage, ecology and landscape representatives. As a result two alternative options are presented in this Scoping Report. These are identified as Noneley South and Noneley North. Noneley South follows the original Preferred Line Route south of Noneley, whilst Noneley North broadly follows the route of an existing 33kV overhead line. Both are shown in Figure 1.1.

## **2.4 SUMMARY**

- 2.4.1 This chapter explains how SP Energy Networks has taken steps over a period of more than a year to consider alternatives, first at an initial corridor stage and then

in terms of narrower, 100m wide line routes. At both these stages a range of environmental criteria based on information from national data as well as locally valued sites, have been considered. SP Energy Networks sought information on the likely environmental effects from a range of statutory and local stakeholders to inform the line design and routeing process. It then ensured that each option was considered against the same environmental criteria. Following this approach, SP Energy Networks identified a Proposed Line Route of approximately 100m wide.

2.4.2 SP Energy Networks has continued to listen and take account of feedback and review alternatives, as the project has developed. Since publication of the Proposed Line Route as part of the Stage One Consultation, changes to the Proposed Line Route have been made in response to the following:

- Further environmental information resulting in some small areas being excluded from the 100m wide corridor;
- Landowner comments resulting in minor changes to the line alignment and the 100m wide corridor;
- Concerns about the likely impact on agricultural operations, resulting in the identification of a new option (Section 2.1) and its inclusion in this Scoping Report; and
- Shropshire Council and local concerns regarding possible impacts around Noneley, resulting in the identification of a new option (Section 4.1) and its inclusion in this Scoping Report.

2.4.3 The outcome of this work is a revised Proposed Line Route (February 2017), which is shown in Figure 1.1, and which includes the above options. Although it has been amended since the Stage One Consultation (and may be amended again as the detailed design progresses), it continues to be referred to as the Proposed Line Route for the purposes of scoping. A description of this line route and the related components which together comprise the North Shropshire Reinforcement project is presented in the following chapter.



## CHAPTER 3: DESCRIPTION OF THE NORTH SHROPSHIRE REINFORCEMENT PROJECT

### 3.1 INTRODUCTION

3.1.1 As noted in Chapter 1 'Introduction' of this Scoping Report, the EIA will assess the potential impacts of the North Shropshire Reinforcement Project, which is summarised as follows:

- Approximately 20.5km 132kV single circuit overhead Trident wood pole line;
- Integral construction works and accesses for the above works; and
- Integral mitigation works which will be identified as the assessment progresses (e.g. screen planting, habitat enhancement).

3.1.2 This chapter provides an overview of the wider setting of the North Shropshire Reinforcement Project, a description of the Scoping Stage Project Boundary and Proposed Line Route, and details of the individual engineering and construction elements.

### 3.2 WIDER SETTING OF THE NORTH SHROPSHIRE REINFORCEMENT PROJECT

3.2.1 The North Shropshire Reinforcement Project is situated within the administrative county area of Shropshire. It passes through a landscape with a variety of land types and uses, including farmland, residential properties and villages, woodland and low lying floodplains.

3.2.2 Shropshire's geology is diverse and includes a large amount of mineral wealth, with active quarrying of aggregates, sand and gravel. There are some large areas where mineral deposits are safeguarded from future development. The Proposed Line Route overlies part of the Shropshire Plain, which covers much of North Shropshire. The plain is a basin of Permian and Triassic New Red Sandstone, overlain by Jurassic deposits in a small area near Wem.

3.2.3 The landform of the area through which the North Shropshire Reinforcement Project passes is typical of the Shropshire Plain, being low lying and relatively flat or gently

undulating. There are some areas of higher ground (between 90 – 105m AOD) in the north-west and in the central areas of the study area, close to Oswestry, and near Stanwardine Hall.

- 3.2.4 In terms of ground conditions, parts of the area fall within the floodplain of the Rivers Perry and Roden.
- 3.2.5 Further consideration of environmental designations in relation to the proposed scope of the EIA is provided within Chapters 7 – 17 of this Scoping Report. A set of environmental constraints plans relating to the topics discussed in Chapters 7 - 17 of this Scoping Report is also provided (see Appendix A).

#### **Definition of Scoping Stage Project Boundary and Proposed Line Route**

- 3.2.6 At this scoping stage, the North Shropshire Reinforcement Project comprises a Scoping Stage Project Boundary which incorporates the Proposed Line Route within a 100m corridor, temporary construction access tracks and search areas for two construction compounds. These elements may be refined slightly in response to landowner and stakeholder feedback as the detailed design of the North Shropshire Reinforcement Project evolves.
- 3.2.7 The development of the Proposed Line Route has had the benefit of input from the line design engineer from LDT who, working alongside the environmental team, has been able to balance the need to avoid environmental constraints, local community and landowner feedback with technical requirements using desk based design modelling for the required Trident design. This has resulted in the current design, which respects the competing concerns between landowners, technical requirements and environmental considerations and provides SP Energy Networks with some certainty that the design presented in this Scoping Report is unlikely to undergo significant change during the EIA process.

### **3.3 DESCRIPTION OF THE PROPOSED LINE ROUTE**

- 3.3.1 The Proposed Line Route exits the Oswestry substation, which is located on the north-eastern edge of Oswestry as an underground cable. This is to avoid physical constraints and visual clutter arising from a new overhead line close to two existing

132kV overhead lines. It also avoids a planned extension to an existing employment area to the north-east of the town. The route runs parallel to the western edge of the A5 for a distance of approximately 1km before turning east, passing under the A5 and to the south of Round Wood where it transfers to an overhead line.

- 3.3.2 The overhead line then runs east for between 20.5km - 21km (depending on the route options selected) before transferring to an underground cable to enter the Wem substation.
- 3.3.3 The proposed development requires modifications to Oswestry and Wem substations, including installing a 60 megavolt amperes (MVA) grid transformer in the Wem substation. This work is permitted development (under the Town and Country Planning (General Permitted Development) (England) Order 2015). Work at Oswestry substation would be inside the existing compound and is also permitted development. As permitted development, none of the undergrounding or the work to the substations will be included with the application for DCO consent and therefore will not be reported in the ES or discussed further in this Scoping Report.

#### **Proposed Line Route Section 1**

- 3.3.4 Section 1 originates in fields to the east of the A5 near Oswestry, to the south-west of Round Wood. It runs in an easterly direction, passing through hedged fields with occasional blocks of trees to the south (near Middleton Coppice). Section 1 continues in a broadly easterly direction across fields before crossing the B5009 next to the fuel oil distribution yard, which lies south of Babbinswood and the Shrewsbury to Crewe mainline railway. From here it passes to the north of the Oaks and Decoy Farm through some smaller, low-lying fields with a small woodland block and frequent mature hedgerow trees, before it turns to a more south-easterly direction and crosses an area of flood zone associated with the River Perry.
- 3.3.5 Continuing in an easterly direction Section 1 then crosses the Montgomery Canal and the regional trail along the Montgomery Canal. This is a long distance walking trail promoted by the Long Distance Walking Association which also forms part of the Shropshire Way Route 27, and part of the locally promoted 53km Oswestry

Round. East of the Canal, Section 1 passes through slightly elevated hedged fields, which lie to the north of the privately owned Woodhouse Estate, avoiding wherever possible, larger blocks of trees and the frequent mature hedgerow trees. It continues in an easterly direction, passing south of Rednal Mill and crosses a lower-lying rural road (Woodhouse Drive) north of the industrial estate at Rednal where it meets Section 2.

### **Proposed Line Route Section 2**

#### Proposed Line Route (via Lower Hordley South)

- 3.3.6 Section 2 originates east of Woodhouse Drive, north of the Rednal Industrial Estate and broadly equidistant between The Lees Farm (to the south) and Rednal Mill Cottage and Lower Lee (to the north). The Proposed Line Route (via Lower Hordley South) passes through open and low-lying larger scale arable fields in an easterly direction, crossing the River Perry and heading towards the village of Lower Hordley, south of the farmhouse at Sycamore Farm. From here it continues in an easterly direction, crossing the rural lane just north of the ABP packaging facility and south of Red House Farm. It then skirts around a large pond and block of trees to the north and passes to the north of Park House. From here Section 2 turns slightly to the south-east before crossing an area of slightly more elevated farmland south of Top House Farm and entering a landscape with a smaller and more irregular field pattern, and more mature trees. It meets Section 3 to the south-west of Kenwick Lodge.

#### Proposed Line Route (via Lower Hordley)

- 3.3.7 Section 2 originates east of Woodhouse Drive, north of the Rednal Industrial Estate and broadly equidistant between The Lees Farm (to the south) and Rednal Mill Cottage and Lower Lee (to the north). The Proposed Line Route (via Lower Hordley) turns to the north-east as it passes through open and low-lying larger scale arable fields to the east of Lower Lee. The route continues in a north-easterly direction, crossing the River Perry and heading towards the rural road north of the village of Lower Hordley, south of the residential property and farm at Dandyford. The route then turns and heads in a south-easterly direction, crossing arable fields

and the rural lane to the north east of Lower Hordley, and following the grain of the field pattern on the approach to Top House Farm. From here Section 2 continues south-east before crossing an area of slightly more elevated farmland south of Top House Farm and entering a landscape with a smaller and more irregular field pattern, and more mature trees. It meets Section 3 to the south-west of Kenwick Lodge.

### **Proposed Line Route Section 3**

- 3.3.8 Section 3 runs in an easterly direction as it approaches a localised ridgeline near Kenwick Lodge. This is an area of small to medium scale fields with scattered mature hedgerow trees, including a distinctive line of oaks. Mature hedgerow trees are avoided wherever possible. The line route changes direction twice to the south and then south-east of Kenwick Lodge in order to increase the distance from the Lodge and reduce the likelihood of visual impacts. It then passes over a shallow localised ridgeline and descends into the lower lying fields near Cockshutt and Stanwardine Grange, passing through small to medium scale fields with scattered mature hedgerow trees. The localised ridge continues east of Stanwardine in the Wood, which would limit views from the area east of Stanwardine. From here it crosses a rural lane and the A528 in relatively quick succession, before continuing east in the general direction of Wackley Lodge. The farmland comprises some large open fields with occasional mature hedgerows trees and an area of farmland prone to flooding from Wackley Brook. The line route skirts to the north of a large pond before crossing a lane and passing to the north of the residential properties at The Wood and Malt Kiln Farm through an area of slightly elevated land. Section 3 is broadly equidistant between The Runner's Rest and The Wood, and also to avoid the many ponds scattered throughout this area. Section 3 then turns and heads in a south-easterly direction, crossing fields with some individual mature trees, before oversailing the B4397 and crossing open fields (with no hedgerow boundaries) to the south-east of Coppice Farm where it meets Section 4.

## **Proposed Line Route Section 4**

### Proposed Line Route (via Noneley South)

- 3.3.9 Section 4 originates south-east of Coppice Farm, to the east of the B4397. It runs in a south-easterly direction and skirts around the southern edge of Moor Fields Local Wildlife Site. Moor Fields is an area of distinctive field patterns with mature hedgerows and trees and identified as important in terms of its grassland. The Proposed Line Route via Noneley South then passes through an area of arable farmland prone to flooding from Wackley Brook. From here it turns east, and runs across an area of low-lying larger-scale fields bounded by low hedgerows and with few trees, north of Sleaf Airfield. It also crosses two rural lanes. In adopting this alignment the route lies further away from the southern edge of the small hamlet of Noneley than the Preferred Line Route, which was presented at the Stage One Consultation.
- 3.3.10 South of Noneley, the route heads north-east, skirting to the south and east of the small hamlet near Commonwood, oversailing a rural lane to the east of Pearl Farm and avoiding the SSSI and the settlement at Ruewood. It then continues across low-lying fields with occasional mature hedgerow trees, before crossing a large area of farmland which is prone to flooding from the River Roden. The line route oversails the River Roden and turns slightly to the east, continuing to cross the low-lying and open fields of the floodplain.
- 3.3.11 East of the residential property at Pools Farm, Section 4 turns north-east and then north, and heads in the direction of the existing substation at Wem, crossing low-lying open fields with occasional hedgerow trees. It oversails the B5063 Ellesmere Road before terminating in the existing substation at Wem. This latter section lies close to the western edge of Wem, in particular the individual residential properties (Avondale, Harley House and Overfields) that lie close to the B5063.

### Proposed Line Route (via Noneley North)

- 3.3.12 Section 4 originates south-east of Coppice Farm, to the east of the B4397. It runs in a south-easterly direction and skirts around the southern edge of Moor Fields Local Wildlife Site. Moor Fields is an area of distinctive field patterns with mature

hedgerows and trees and identified as important in terms of its grassland. The Proposed Line Route via Noneley North then turns to the north-east, passing through an area of small-medium scale pasture and arable farmland to the east of Bentley Farm. Field boundaries contain mature hedgerows and trees, there are scattered individual mature trees within the fields, and a number of ponds. The route passes to the west of the residential property, farm and listed buildings at The Shayes, before turning sharply east just south of the residential property at Chapel House, and adjacent to a large pond bordered by trees.

- 3.3.13 The route crosses a rural lane and heads east. The landscape through which the route passes is low-lying and becomes more open, with larger scale arable fields present, and occasional strips of trees along hedgerows. The route crosses the River Roden, and enters an area of flood risk, passing just south of a residential property located at the end of the lane which leads north to The Ditches Hall and the B5063.
- 3.3.14 East of the residential property at Pools Farm, Section 4 turns north-east and then north, and heads in the direction of the existing substation at Wem, crossing low-lying open fields with occasional hedgerow trees. It oversails the B5063 Ellesmere Road before terminating in the existing substation at Wem. This latter section lies close to the western edge of Wem, in particular the individual residential properties (Avondale, Harley House and Overfields) that lie close to the B5063.

## 3.4 DESIGN

- 3.4.1 The area through which the proposed overhead line would run is mostly agricultural. The Trident wood pole design, which is lower in height and has a more slender and simple appearance than steel lattice towers or heavy duty wood poles and would be more sympathetic to the mainly rural and well-treed landscape through which the line would be routed. Wood poles are also a common feature in the area. In a landscape with a generous amount of mature tree cover, wood poles can be screened by trees and are less likely to be visible from the surrounding landscape than heavy duty wood poles and, particularly steel towers. Trident poles are also more flexible in terms of routeing around obstacles, thereby enabling a better

landscape 'fit'. Wood poles have a further advantage in that they do not generally have concrete foundations and so construction methods are typically less intrusive.

### **Line Height and Span Length**

- 3.4.2 The Trident line design comprises three conductors with a statutory minimum ground clearance for a 132kV overhead line is 6.7m. The line will be designed to afford this clearance in all circumstances. The overall height of the line is also dependent on a number of criteria, including geographical location, topography, height above sea level, wind and ice loading and span length and conductor type.
- 3.4.3 Pole heights are selected to maintain the 6.7m statutory clearance. The standard above ground pole height is approximately 12m, including the 2m high steel work and insulators to support the conductors (wires), which will be fitted above. Approximately 2.5m of pole is installed below the ground. Pole heights may be reduced where there are short spans or if they are located on a hillock, or they may be increased to provide adequate clearance for conductors over elevated or sloping land, structures or features.
- 3.4.4 The span length depends on similar criteria as line height. The span length between poles would be on average 130m, with a maximum of 200m.

### **Support Structures**

- 3.4.5 The line would comprise a combination of three types of support or pole types:
- Intermediate;
  - Section/ angle and
  - Terminal.
- 3.4.6 Intermediate structures would be used where the overhead line follows a straight line/ alignment. Options include single poles or 'H' structures, with the majority being single poles. Structures include a small amount of steelwork and insulators to carry the conductors.



- 3.4.7 Angle section structures are used to enable changes in direction in the overhead line. The structures can be single or 'H' pole structures. The maximum angle of deviation is 35 degrees.
- 3.4.8 Terminal structures are used at either end of the overhead line. The terminal structure allows the overhead line to be connected either to a cable (as in this case) or directly to a substation. The cable termination structure comprises a terminal pole with two smaller poles in front to support the cable termination.
- 3.4.9 All wood poles are fully seasoned and treated with appropriate preservative. The galvanised steelwork associated with this support (pole top steelwork) is assembled using galvanised high tensile steel bolts with nuts and locking devices.

#### **Access**

- 3.4.10 Access for construction would be required and maintained to all sites during the construction phase. Future access arrangements for periodic maintenance and fault repairs would be arranged with the relevant landowners. The types of vehicles required for construction are of a standard specification and can be used on the public highway with no escort vehicles or the need to deliver outside the working day. There would be no requirement for vehicles that would be described as an 'Abnormal Indivisible Load' (AIL).

#### **Line Clearance**

- 3.4.11 New lines are positioned to maintain statutory clearances from buildings, structures, trees, vegetation etc. Safety clearances for overhead lines are specified in ENA-TS 43-08 Issue 3 2004<sup>18</sup>, and as required under the Electrical Safety, Quality and Continuity Regulations 2002 as amended (ESQCR)<sup>19</sup>.

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<sup>18</sup> Energy Networks Association (2004), Technical Specification 43 8, Issue 3 Overhead Line Clearances, with amendment 1 2004

<sup>19</sup> Electrical Safety, Quality and Continuity Regulations 2002 as amended (ESQCR)

### **Overhead Line Components**

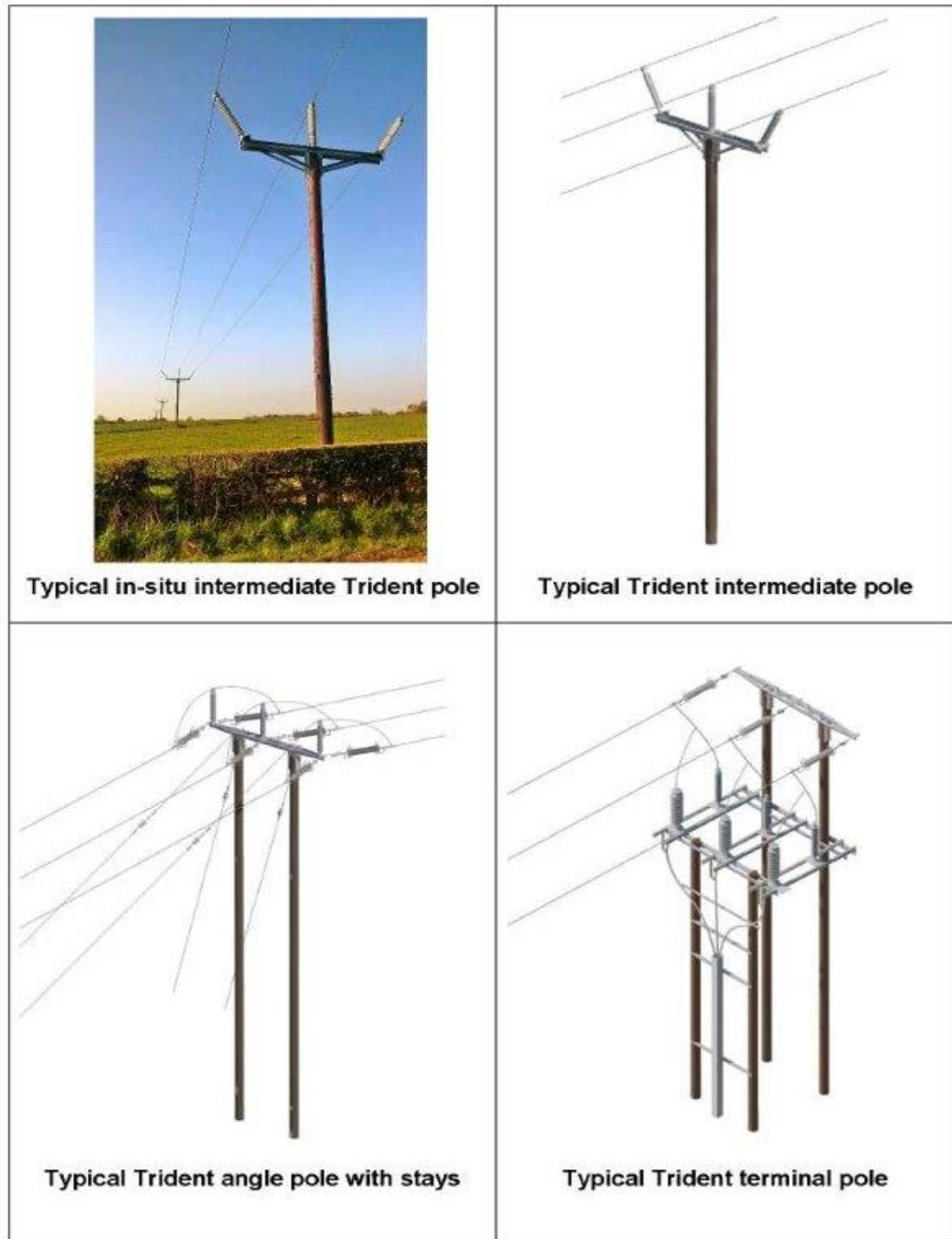
- 3.4.12 A single circuit 132kV overhead line comprises three separate phase conductors which are attached to the pole-top structure on insulators, made from a composite material. Insulators are fastened to the pole-top steel crossarm. One of the phase conductors will have an integrated fibre optic core, which provides a means of transmitting SP Energy Networks protection and communication information.
- 3.4.13 Angle poles will typically have 1 to 4 stay wires attached to the top of the poles at angles of up to 45 degrees from vertical. These are spread out from the pole top in such a way as to counterbalance any forces and make the structure stable.

### **Land Take**

- 3.4.14 Being mostly single wood poles, the design has a very limited land take. Where double Trident poles are required this extends to approximately 3m between the two poles with a further area required for stays.
- 3.4.15 The construction phase requires working areas at each end of the line and also every few kilometres. These working areas are also used as 'pulling points' where the conductors (overhead wires) needs to be fixed to the wood poles. The construction corridor is typically 5m to 10m wide and in this landscape, access would be via existing roads, farm tracks and field gates. The working area to be applied for in the application for DCO consent would extend to between approximately 20m to 40m.

### **Trident Wood Pole Design**

3.4.16 Types of typical intermediate trident poles are illustrated below:



## 3.5 CONSTRUCTION

### Construction Working Areas and Access Routes

3.5.1 Within and extending out from the Proposed Line Route will be the integral overhead line construction working areas and access routes from existing access tracks and roads.

3.5.2 Construction would involve:

- Pre-construction activities;
- Vegetation clearance and ground preparation works;
- Delivery of construction materials;
- Erection of wood pole supports;
- Delivery of conductor drums and stringing equipment;
- Insulator and conductor erection and sagging; and
- Ground reinstatement.

### Pre-construction Activities

3.5.3 Prior to construction of the overhead line a precise ground survey would be carried out to determine the exact location of the overhead line and poles. This process is called 'setting out' and involves an engineer with a GPS locator placing 50cm wooden pegs in the ground to mark the exact location of each pole. Once the line is set out, accurate tree surveys would take place. This is to ensure that the location selected for poles and stays and their relationship with each other complies with the technical limits laid down for maximum span lengths, maximum sums of adjacent spans and safe clearance to live conductors.

3.5.4 Where the route of the line passes over or close to trees that could infringe safety clearances to 'live' conductors, the trees would be felled or pruned prior to construction of the line. In order to reduce the likelihood of trees falling and causing damage to the power line during abnormal weather conditions, the Energy Networks Association has recommended that cutting back of vegetation

incorporates an allowance for growth (ENA Engineering Technical Report 136, 2007<sup>20</sup>).

- 3.5.5 A programme of vegetation clearance and ground preparation works will be undertaken prior to the start of construction works at any given location. This programme of works would likely be phased over the construction programme to avoid key breeding seasons of fauna and to minimise the time that areas of bare ground were exposed.

#### **Temporary Construction, Accesses for Delivery of Construction Materials and Installation of Wood Poles**

- 3.5.6 Construction access, from existing access tracks and minor roads, with a maximum width of 5m would be secured to every pole site on the route. In places (typically in periods of more adverse weather conditions) trackways comprising metal plates or hardcore, of approximately 5m in width, may be required. These would be temporary and would be removed as soon as practicable.
- 3.5.7 Access routes and detailed arrangements would be agreed with each landowner or occupier.
- 3.5.8 Provisional access routes and search areas for up to two construction compounds/ temporary storage areas for dispersal of plant and equipment are shown in Figure 1.6. They all lie within the Scoping Stage Project Boundary. Pre-construction survey would ensure that any new access or working areas were located within areas of least environmental sensitivity.
- 3.5.9 Typically access would be required for an excavator (JCB and/ or tracked 360 degree excavator), agricultural loader, 4 X 4 lorry (often with Hiab) and 4 X 4 pickups. During the stringing phase of the works, there would also be the need for access for 1 tractor, 1 tensioner and 1 MEWP (mobile elevated working platform) and cable trailers to several locations along the route. The works would be

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<sup>20</sup> Energy Networks Association (2007), Engineering Technical Report 136, Issue 1 June 2007 Vegetation Management near Electricity Equipment – Good Practice

undertaken sequentially and the plant would move from one location to the next until the stringing were complete.

- 3.5.10 Access for single circuit wood pole construction requires an area of 225m<sup>2</sup> at pole sites. A working area of an additional 250m<sup>2</sup> (25m x 10m) is required to accommodate the winches for stringing the conductors.

#### **Transport of Materials**

- 3.5.11 During construction the wood poles would be transported on general purpose 4 wheel drive cross-country vehicles which have incorporated lifting devices. Drums of conductors would be delivered as close as possible to the angle or tension pole sites from which the conductors are pulled. If necessary tractors adapted to carry such loads would be used to transport drums to the poles sites.
- 3.5.12 Special plant is available if there are any requirements for special precautions to be taken during construction of the line due to local environmental conditions or hazards.

#### **Staff and Vehicle Numbers**

- 3.5.13 It is envisaged that the overhead line works would be undertaken by a team of approximately 10 to 20 staff using the vehicles identified in paragraph 3.5.9 above and transit vans, or similar, to transport the staff to site.
- 3.5.14 The overall number of vehicles movements on the public highway during the construction period would be limited as explained in Chapter 15 'Traffic and Transport'.

#### **Wood Pole Installation**

- 3.5.15 The installation of wood poles requires excavation to install the pole brace blocks and/ or steel foundation braces. Following pole installation the excavation would then be backfilled and consolidated in layers, normally with the original materials. Topsoil would be reserved for the top layer and any surplus subsoil or rock removed from the site.

### **Wood Pole Conductor Stringing**

- 3.5.16 Once all the poles within the section of line under construction have been installed, all poles would be fitted with insulator supports. Running blocks would be fitted to the top of the insulator support and the conductors fitted using the following techniques.
- 3.5.17 Drums of conductor and a tensioner with a hydraulic brake are located at one end of the line section, with the pulling winch at the other. The conductor is joined to a single, heavy duty pilot wire and drawn through the section, one conductor at a time, under constant tension. During stringing, radio communication is maintained between the operators of the pulling winch, the tensioner, hydraulic brake and intermediate observation points so that pulling can be stopped if problems arise. By using the 'continuous tension stringing' method, the conductors would be held aloft at all times and would not touch the ground or other structures.
- 3.5.18 Overhead line conductors are usually installed from one end of the line, in short sections (dependent on the terrain and complexity of the design). Temporary stays would be required along the line to balance the conductors as the build progresses to the other end. These stays would be installed and removed along the length of the line as the individual sections were completed.

### **Reinstatement**

- 3.5.19 Following completion of the works, areas of ground disturbed by the construction works will be reinstated. Subject to programme requirements, some sections of the construction may be reinstated earlier than the final construction completion.

### **Crossing Existing Lines**

- 3.5.20 It may be necessary to cross existing overhead lines where existing lines obstruct the new line. The crossing of lines may cause temporary interruptions to supply while the works are being carried out. Crossing of lines would therefore be programmed at times when existing lines could temporarily be taken out of service to minimise the disruption to existing customers.

- 3.5.21 Statutory clearances must be maintained between live conductors of the existing line and the conductors of the new line and pole stay wires used in new pole construction. These are generally maintained by keeping separation distances between lines, including where lines run in parallel.

### **Crossing/ Paralleling Roads, Railways, Waterways and other Services**

- 3.5.22 Where the line crosses road, railways, and other electricity lines or telephone wires, certain precautionary works have to be completed prior to the commencement of conductor stringing. Scaffolding and nets would normally be erected over major roads and railways to enable the conductors to be pulled out unhindered.
- 3.5.23 Where the proposed distribution crosses navigable rivers and underground pipelines, all requirements of the appropriate authority would be adhered to, both at the design stage when locating individual poles and ensuring minimum clearances are provided, and at the construction stage by complying with relevant codes of practice, specification and procedures.

## **3.6 OPERATION AND MAINTENANCE**

- 3.6.1 132kV wood pole overhead lines generally require very little maintenance. They are regularly inspected to identify any unacceptable deterioration of components so that they can be replaced.
- 3.6.2 The operational requirements of the local electrical network and associated demand would be kept under continuous review throughout the life of the North Shropshire Reinforcement Project, in order to determine the long term use and retention of the connection. For the purposes of the EIA, however, the connection is assumed to be permanent, although experience indicates that it is likely to require refurbishment after approximately 40 years, depending upon local environmental factors (e.g. local weather conditions). Unless otherwise stated, all effects of the operational phase of the proposed overhead line will be assessed as adverse, permanent, but reversible. Additional effects during construction include tree removal/ reduction, access tracks, storage compounds, vehicle and personnel movements. Tree removal/ reduction will be assessed as an adverse, permanent



and irreversible effect. All other construction effects are considered adverse, but temporary.

### 3.7 MITIGATION

- 3.7.1 SP Energy Networks has consulted extensively with environmental agencies concerning the matter of construction and/ or dismantling in or near sensitive habitats and conservation areas. The company has in the past prepared method statements which were issued to contractors for use in environmentally sensitive sites to address issues of habitat, archaeology, designed landscapes and historic structures. This practice would continue for this project and the method statement would be rigorously applied.
- 3.7.2 Where hedgerows need to be removed, hedgerow replacement/ replanting is classed as a standard construction practice. If hedgerows have to be removed to allow a pole to be positioned, these would be lifted and replaced within 48 hours using specialist lifting equipment. Where it would not be possible to replant within 48 hours (e.g. where hedges have to be removed for access), replanting with locally sourced species would take place as soon as possible. Where trees have to be removed they would be replaced by new tree planting on a two for one basis. This would be undertaken as part of the specific mitigation planting as agreed with landowners.
- 3.7.3 Additional mitigation of potential environmental impacts will be considered throughout the detailed design and assessment phases of the North Shropshire Reinforcement Project and will be informed by the EIA process and consultation feedback. If required, mitigation is likely to include measures such as screen planting and habitat enhancement. At this stage it has been assumed that the land required for any necessary mitigation will be located within the Scoping Stage Project Boundary.

#### **Control of environmental effects during construction**

- 3.7.4 A Construction Environmental Management Plan (CEMP) will be produced to outline the means by which the effects on the environment are to be minimised. The document will be read in conjunction with SP Energy Network's Construction,

Health, Safety and Welfare requirements. The CEMP will help control and guide the working practices used during the construction of the development, and will be reviewed and amended as necessary throughout construction. The document will also incorporate Natural England, Historic England and Environment Agency guidelines by reflecting current best practice in protecting the environment during the works.

- 3.7.5 A mitigation schedule for this project would be included within the CEMP, together with other guidance and requirements to provide best practice environmental management.
- 3.7.6 One of the key measures for control of environmental effects during construction is environmental awareness training of the contractor's workforce prior to works commencing on site. Information regarding presence of sensitive sites and species, and the importance of implementing mitigation measures, would be given via a series of 'toolbox talks' by specialists in ecology and archaeology.

### **Noise**

- 3.7.7 During construction contractors would be required to maintain low noise levels close to dwellings or other noise sensitive receptors by employing sufficiently silenced machinery and by distancing, or where practicable, screening noisy activities or items of plant, as outlined in BS5228: 2009. Noise levels generated during construction of the wood poles line are likely to be low as explained in Chapter 14: 'Statutory Nuisance'.

## **3.8 DECOMMISSIONING**

- 3.8.1 The proposed overhead line is intended to be a permanent installation as its purpose is to reinforce the North Shropshire electricity network. For this reason, SP Energy Networks do not anticipate decommissioning or removing it.
- 3.8.2 In the eventuality that the overhead line should have to be decommissioned, the process of removal would be similar to construction but in reverse and the ground would be reinstated to a pre-construction condition. The potential environmental effects of this process would be assessed nearer the time.

3.8.3 For these reasons, it is proposed to exclude decommissioning from the EIA in respect of all environmental topics.

### **3.9 INDICATIVE PROGRAMME FOR THE NORTH SHROPSHIRE REINFORCEMENT PROJECT**

3.9.1 It is currently anticipated that (subject to consent being granted) work on site will commence in 2020. Construction is anticipated to take approximately 12 months. The construction phase is therefore anticipated to be completed and the North Shropshire Reinforcement Project operational in 2021. Work at individual pole locations is anticipated to last 1-2 days.

3.9.2 This programme may, however, be influenced by the progress of the DCO application and construction methodologies/ availability of project resources.

## CHAPTER 4: CONSULTATION

### 4.1 INTRODUCTION

4.1.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. The feedback from this pre-application consultation has informed the project design, as well as scope and methodologies proposed for assessing the North Shropshire Reinforcement Project against a range of likely environmental impacts.

4.1.2 The following figure supports the information provided in this chapter:

- Figure 4.1: Changes to Proposed Line Route since publication of Updated Line Route Report.

4.1.3 The Stage One Consultation, which was not a statutory requirement, was carried out to help shape the proposals before they are formally presented to statutory consultees, local communities and landowners in the required statutory consultation (which will be referred to as the Stage Two Consultation). This is expected to be in autumn 2017 prior to the DCO application being submitted in summer 2018.

4.1.4 Reference is made in this Scoping Report to the Stage One Consultation Feedback Report<sup>21</sup> (the Feedback Report), which describes the consultation process undertaken by SP Energy Networks. That report explains that the consultation sought peoples' views on the following:

- The Preferred Line Route as represented by a 100m wide corridor and which included a number of alternative line route options;
- The likely environmental impacts of the Preferred Line Route;

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<sup>21</sup> SP Energy Networks (November 2016), Stage One Consultation Feedback Report

- Other aspects of the project such as the earlier work carried out in terms of the need for the reinforcement or how the initial route corridor options had been identified; and
- The way that the consultation was managed.

### **Line Routeing**

4.1.5 Section 2.3 in Chapter 2 'Alternatives and Design Evolution' refers to the way in which consultation has informed the selection of the Proposed Line Route and this is not covered further in this section. Figure 4.1 'Changes to Proposed Line Route since publication of Updated Line Route Report', shows how the Proposed Line Route has changed since November 2016 in response to consultation feedback.

### **Likely Environmental Impacts**

4.1.6 Question 2 of the Stage One Consultation invited comments on the likely environmental impacts of the proposed overhead line. The comments received are referred to in paragraphs 2.58 to 2.63 of the Updated Line Route Report and are summarised as follows:

- Shropshire Council requested clarification regarding the relationship between the visual assessment and the residential visual amenity assessment, to the sensitivity appraisal and historic landscapes;
- Shropshire Council requested that visual constraints be included in a visual appraisal plan and that the choice of choice of viewpoints should be clarified;
- The Shropshire Wildlife Trust and the Meres and Mosses Landscape Partnership Scheme asked that knowledge on habitats and species gained through the consultation process should be used to ensure these constraints are taken into account and Baggy Moor and River Parry should be avoided. The RSPB noted that Baggy Moor was a particular concern as it is an area where local farmers are working with the RSPB to protect the wet grassland habitat for breeding waders so should be avoided:

- The Shropshire Wildlife Trust requested that the Shropshire Ornithological Society needs to be consulted;
- The Shropshire Wildlife Trust Care stated that care should be taken during the construction phases;
- The National Farmers Union requested that impacts on farming practices should be minimised and information sought from local farmers;
- Local people requested information on electro-magnetic fields and on the construction and storage areas and also requested that construction traffic should be restricted at school times (local people);
- Canal and River Trust expressed concerns about the overhead line crossing the Shropshire Union Canal;
- The Environment Agency Reference made reference to a Shropshire Groundwater Scheme planned for 2017 comprising the creation of a number of new boreholes;
- Natural England noted that, whilst effects on the Midlands Meres and Mosses was unlikely, the assessment should reference these sites and set out measures for safeguarding protected species;
- Historic England had no objections and later advised that where the proposed development might affect the setting of a heritage asset, it should be considered in terms of its potential to enhance or harm the significance of the asset;
- Severn Trent Water requested consideration for the investment programme in works proposed by them;
- No immediate concerns for air safety (Ministry of Defence and National Air Traffic Systems). The Civil Aviation Authority advised of need to check local aerodrome safeguarding areas with local authority; and
- More information is needed for Long Wood before a view on impact assessment can be made (Woodland Trust).

4.1.7 The above comments provided guidance on environmental concerns which are wither addressed in this Scoping Report or will be addressed within the environmental assessment.

#### **Other Aspects of the Project**

4.1.8 The consultation provided an opportunity for comment on other aspects of the project. The feedback received is set out in the Stage One Consultation Feedback Report (Tables 4 and 5, Chapter 4). In summary, those comments of relevance to this scoping stage are as follows:

- Shropshire Council acknowledged the need for the project and the proposed Trident wood pole design, although asked for a more detailed explanation of why the earlier two outlying route corridors were discounted;
- The Canal and River Trust requested that the overhead line should be placed under the Shropshire Union Canal.
- Other feedback also suggested undergrounding should be considered to overcome local concerns and devaluation of property values;
- Some respondents were of the view that the project is another component of the recent Mid Wales Wind Farms Connections projects developed by both SP Energy Networks and National Grid; and
- Some feedback noted that there was a need to avoid having any impacts on farm viability.

4.1.9 Tables 4 and 5 in the Feedback Report refer to SP Energy Networks' response to the above comments provided.

#### **Statutory Bodies.**

4.1.10 From the above comments, it can be noted that SP Energy Networks has already engaged with a number of statutory bodies, including: Shropshire Council, Natural England, the Environment Agency and Historic England, such that they are already familiar with the project proposals.

4.1.11 A list of the bodies consulted to date is provided at Appendix 2 of the Stage One Consultation Feedback Report and for ease of reference is reproduced in Appendix B of this Scoping Report.

## 4.2 SUMMARY

4.2.1 SP Energy Networks' consultation process provided feedback which has informed the ongoing line routing design process and enabled potentially significant environmental effects to be avoided.

4.2.2 This feedback has also highlighted where there may still be some concerns and issues that need to be included in the EIA process. By identifying these concerns at an early stage this Scoping Report has been able to address these matters. SP Energy Networks continues to engage with local communities, statutory stakeholders and local interest groups. Relevant information will continue to inform the detailed design and EIA process.

4.2.3 There will be a key statutory consultation stage (The Stage Two Consultation) taking place in autumn 2017 when further comments may also be submitted.

## 4.3 PRELIMINARY ENVIRONMENTAL INFORMATION REPORT (PEIR)

4.3.1 During the formal statutory consultation stage, preliminary environmental information pertinent to the NSR Project will be presented in a Preliminary Environmental Impact Report (otherwise known as PEIR). As set out in the Planning Inspectorate's 'Advice Note 7: EIA Screening, Scoping and Preliminary Environmental Information'<sup>22</sup>, the purpose of the PEIR is

*'to enable the local community to understand the environmental effects of the proposed development so as to inform their responses regarding the proposed development'.*

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<sup>22</sup> Planning Inspectorate (2015), 'Advice Note Seven: Environmental Impact Assessment: Preliminary Information, Screening and Scoping and' (Version 5)



- 4.3.2 A summary of all EIA related consultation undertaken up to the point of submission will be provided in the PEIR and in the Environmental Statement (ES) that will be submitted as part of the suite of documents accompanying the application for a DCO for the North Shropshire Reinforcement Project.

## CHAPTER 5: ENVIRONMENTAL IMPACT ASSESSMENT: APPROACH AND METHODOLOGY

### 5.1 INTRODUCTION

- 5.1.1 The purpose of the EIA is to assess the likely significant environmental effects of the North Shropshire Reinforcement Project. These predicted effects will be taken into account by the Secretary of State (SoS) when reaching a decision on the DCO application, after consultation with statutory consultees and other stakeholders.
- 5.1.2 The EIA will be carried out in accordance with applicable legal requirements, with best practice and with the requirements of the Environmental Impact Assessment (EIA) Directive (2014/52/EU) 'Directive 2011/92/EU of the European Parliament and the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment'.
- 5.1.3 It is noted that an amendment to the proposed EIA regulations directive will come into effect on 16 May 2017 (Directive 2014/52/EU). Currently projects (including the North Shropshire Reinforcement Project) submitted for scoping prior to this date will be assessed under the existing regulations and it is not anticipated that the Government consultation, which closed on 14 February 2017, will change this.
- 5.1.4 The outcomes of the EIA process will be reported in the ES which will accompany the application for a DCO. The ES will be produced in accordance with the requirements for the contents of an ES as set out in Schedule 4 of the EIA Regulations<sup>23</sup>.
- 5.1.5 Schedule 4 of the Infrastructure EIA Regulations state that the following information should be included in the ES for a DCO application:
- A description of the project comprising information on the site, design, size

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<sup>23</sup> HM Government (2009), 'Infrastructure Planning (Environmental Impact Assessment) Regulations (as amended)'. HMSO, London

and other relevant features of the project;

- A description of the likely significant effects of the project on the environment;
- A description of the features of the project and/ or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;
- A non-technical summary of the information referred to in points (a) to (d); and
- Any additional information specified in Annex IV of the Regulations relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

- 5.1.6 The ES will consider the likely significant environmental effects on a topic by topic basis. It is likely to comprise the same topics included in Chapters 7 – 17 of this Scoping Report (or fewer depending on whether some topics are scoped out).
- 5.1.7 The ES will be submitted to the SoS as part of the application for a DCO. It will allow the SoS to make an informed decision on whether the North Shropshire Reinforcement Project should proceed.
- 5.1.8 The ES will set out the environmental effects of the North Shropshire Reinforcement Project in the short, medium and long term. It will consider both reversible and non-reversible likely significant effects (caused directly and indirectly by the proposed development).
- 5.1.9 The ES will include a description of any mitigation measures in order to prevent, reduce and where possible offset any significant adverse effects, where appropriate and practicable.

5.1.10 The methodologies for the assessments provided in this Scoping Report vary from topic to topic. All of the assessments, however, will typically involve a process of interaction between engineering design, planning and environmental considerations, with a view to avoiding or reducing significant adverse effects on the environment. This will include refinements to the Proposed Line Route if considered appropriate.

## 5.2 SCOPE OF THE ASSESSMENT

5.2.1 This section defines the temporal, geographic and technical scope of the assessment of the North Shropshire Reinforcement Project.

### **Temporal Scope**

5.2.2 Construction of the North Shropshire Reinforcement Project is anticipated to take place between 2020 and 2021, and the intensity and scale of construction will vary along the route during this period. The ES will set out the anticipated construction programme and the assessment of construction effects will be related to the programme described.

5.2.3 The connection is anticipated to be operational from 2021. The assessment will consider all likely significant operational effects.

5.2.4 The EIA will establish the baseline environment as it exists at present and then take account of any likely changes to the baseline which may arise independently of the North Shropshire Reinforcement Project. The duration of impacts will be categorised as short (0 to 3 years), medium (3 - 15 years) or long term (>15 years).

5.2.5 For assessment purposes, with the exception of tree removal, the effects will generally be considered permanent but reversible.

### **Spatial Scope**

5.2.6 The spatial (or geographic) scope is the area over which the EIA will consider potential effects. The extent of the study area for the EIA is not a fixed width, but is tailored at the outset to cover the area over which there may be significant environmental effects depending on the environmental topic being considered. A study area will typically take account of the distance over which changes to the

environment are likely to occur as a result of the construction and operation of the proposed development. In addition to the permanent land take requirements, it will also address land which is temporarily needed for construction and then returned in an agreed condition afterwards.

5.2.7 In addition to the physical extent of the works, the extent of the individual study areas will be influenced by two principal factors:

- The nature of the baseline environment; and
- The manner in which the effects are likely to be propagated.

5.2.8 Details of the study areas for each environmental topic are provided within Chapters 7 – 17 of this Scoping Report.

### **Technical Scope**

5.2.9 The environmental topics to be considered and the spatial extent of the assessment proposed for each is referred to as the technical scope.

5.2.10 The main effect of a Trident wood pole overhead line is widely acknowledged to be visual, which can have consequences for the landscape, for peoples' views and visual amenity and for the setting of cultural heritage assets. For this reason, information relating to topography, landscape character, designated or valued landscapes and cultural heritage sites, residential properties and public viewpoints are given high consideration in the review and assessment process. Factors such as tree and woodland removal required for constructing a new overhead line can have visual as well as ecological considerations and also need to be carefully considered.

5.2.11 Environmental effects are also associated with the ground which the overhead line crosses including the support siting and installation, oversailing of other lower voltage overhead lines and required clearances, and the effects associated with the construction phase and future maintenance of the line.

5.2.12 Further detail is provide within the Chapters 7 – 17 of this Scoping Report.

### 5.3 BASELINE CONDITIONS

5.3.1 In order to assess the likely significant effects, it is first necessary to determine the environmental conditions that currently exist within the study areas for each environmental topic. These are known as 'baseline conditions'.

5.3.2 Baseline conditions will be determined using the results of desk based data searches and onsite surveys and investigations, as appropriate, as set out within Chapters 6 – 17 of this Scoping Report.

### 5.4 APPROACH TO MITIGATION

5.4.1 The EIA Regulations state that the ES should include 'a description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.'

5.4.2 In practice, such mitigation measures typically fall into one of three categories:

- Primary or 'embedded' mitigation measures - developed through the iterative design process and integrated into the proposals, for example sensitive routing of an overhead line in accordance with the Holford Rules;
- Standard construction practices for avoiding and minimising environmental effects, for example measures contained in the Construction Environmental Management Plan (CEMP), will be submitted as part of the DCO application; and
- Secondary mitigation measures which are designed to address any significant adverse effects remaining after primary measures and standard construction practices have been incorporated into the scheme. These are typically identified in tandem with the assessment process.

5.4.3 SP Energy Networks considers mitigation to be an integral part of the overall design strategy of the project, not just as an 'add-on' measure to ameliorate significant environmental effects. The company adopts a positive and pro-active approach whereby mitigation is assessed and considered at all stages of the routing and design process from the initial identification of high level environmental constraints.

- 5.4.4 The hierarchical approach towards mitigation (prevent, reduce, offset) is first to avoid significant effects through the overall design of the overhead line and disposition of its elements, and subsequently to mitigate (through on-site negotiation with landowners) by careful micro routing of the overhead line and its associated infrastructure (both temporary and permanent).
- 5.4.5 In addition SP Energy Networks seeks wherever possible to reduce or offset any identified effects. This is achieved by measures to minimise effects at source (i.e., altering and refining the proposed route to avoid effects), reduction (i.e. by removing the site infrastructure away from sensitive species and habitats during detailed design of the line) and through use of appropriate construction methods.
- 5.4.6 The Proposed Line Route will continue to be refined as part of the iterative ongoing detailed design and assessment process. This may lead to further refinement of the route in order to avoid or reduce potentially significant adverse environmental effects. Mitigation measures will also be informed by ongoing discussions and engagement with stakeholders. In this way the EIA, consultation, and design processes are all interlinked.
- 5.4.7 The ES will describe the likely content of the Construction Environmental Management Plan (CEMP). This document, which will form an Appendix to the ES, will detail the control measures that will be implemented to (for example) avoid impacts on watercourses, avoid significant impacts from construction traffic, noise and vibration, dust, and waste.
- 5.4.8 The proposed mitigation measures will be described in the ES, together with the significant effects remaining after mitigation (the 'residual effects').

## **5.5 DEFINING SIGNIFICANT EFFECTS**

- 5.5.1 The EIA Regulations require that the ES reports only on significant effects, but the EIA process typically focusses on assessing the level of impacts that give rise to predicted effects and determining how to avoid or reduce them.
- 5.5.2 To provide a consistent approach to expressing the outcomes of the various studies undertaken as part of the EIA, and thereby enable comparison between impacts on

different environmental components, the predicted effects will be classified according to whether they are considered to be **major, moderate, minor or negligible and beneficial or adverse**. These terms are defined as follows, in Table 5.1:

| <b>Table 5.1<br/>EIA Predicted Effects Definitions</b> |  |
|--|--|
| <b>Adverse</b>   | Detrimental or negative effects on an environmental resource or receptor.  |
| <b>Beneficial</b>                                      | Advantageous or positive effects on an environmental resource or receptor.   |
| <b>Negligible</b>                                      | Imperceptible effects on an environmental resource or receptor.  |
| <b>Minor</b>   | Slight, very short term or highly localised effect of no significant consequence.  |
| <b>Moderate</b>  | More than a slight, very short or localised effect (by extent, duration or magnitude) which may be considered significant.   |
| <b>Major</b>   | Considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards. |

5.5.3 For the purpose of the EIA, moderate and major effects will generally be deemed to be 'significant'.

5.5.4 In determining whether or not an effect is likely to be significant, consideration will be given to:

- Nature of the construction and operational activities;
- Feedback from scoping and consultation, including views from the local community;
- Spatial extent (e.g. local, district, regional, national or international);
- Magnitude of effect;



- Duration of effect (short, medium or long term);
- Nature of the effect (direct, indirect, reversible or irreversible);
- Frequency of occurrence;
- Whether the effect occurs in isolation or is cumulative;
- The sensitivity and numbers of receptors affected;
- Value of the affected resource;
- Performance against environmental quality standards; and
- Compatibility with environmental policies and standards which offer protection to the environment and community.

5.5.5 Where an effect is considered to be significant, the ES will state the spatial level at which it is considered significant (e.g. at a local, regional, national or international level).

5.5.6 Some effects will arise directly from construction or operation of the North Shropshire Reinforcement Project and others will arise more indirectly as a consequence of activities associated with it. Whether an effect arises directly or indirectly does not affect whether the resulting effects are considered to be significant or not.

5.5.7 The significance of effect will be evaluated with reference to recognised standards and accepted criteria for each assessment topic, where these are available. These are outlined within Chapters 7 – 17 of this Scoping Report, with references to published standards and relevant significance criteria. Where no recognised standards or criteria exist, professional judgement and experience will be used to develop an appropriate approach to undertake a robust and transparent assessment.

5.5.8 Where it is not possible to quantify impacts or their consequential effects, qualitative assessments will be carried out based on knowledge and experience of significance based on previous projects. Where any uncertainty exists this, together with any

assumptions relied on, will be noted in the relevant assessment and any limitations to the EIA work will be reported in the ES.

- 5.5.9 The EIA will be undertaken by an experienced team of assessors who are able to apply expert professional judgement on a consistent basis.
- 5.5.10 Not all environmental effects will be significant. Moreover a significant effect does not necessarily mean that such an effect will be unacceptable to the SoS when considering the application for consent. This is a matter that the SoS will weigh in the planning balance alongside other factors. What is important is that the likely significant effects of the North Shropshire Reinforcement Project are transparently assessed and described in order that the SoS can bring a balanced and well-informed judgement to bear as part of the decision-making process.

## **5.6 ASSUMPTIONS AND LIMITATIONS**

- 5.6.1 Each environmental topic chapter in the ES will include a section to explain the key assumptions made in undertaking the assessments.
- 5.6.2 During preparation of the EIA, there could be some circumstances that may limit the information available to inform the assessment process. Any limitations, and consequences on the potential completeness or accuracy of the conclusions, will be described in the ES within the relevant topic chapter.

## **5.7 REPORTING OF ALTERNATIVES**

- 5.7.1 Environmental impact assessment should be an iterative process that feeds back into the design of a development to enable the developer to avoid the potential for adverse environmental impacts to occur and/ or design inbuilt mitigation and environmental enhancement. The ES will summarise the alternative network, routing and design options, which have been considered to date and which led to the selection of the Proposed Line Route, which is the focus of this Scoping Report.
- 5.7.2 Refinements to the design will continue to be made in response to information gathered as part of the EIA and feedback from ongoing stakeholder and landowner engagement. These are likely to include for example, the identification of temporary access routes and construction/ storage compounds, and the siting of individual

wood poles. The ES will summarise relevant comments received through consultation and explain any design refinements to the Proposed Line Route that have arisen during the EIA process.

5.7.3 In the event that any particular design consideration has not been finalised by the time of the DCO submission, this will be explained and justified in the ES and the boundaries of the design parameter will be provided and assessed accordingly.

## **5.8 PROPOSED STRUCTURE OF THE ENVIRONMENTAL STATEMENT**

5.8.1 Subject to confirmation of the EIA scope, it is proposed that the ES will comprise the following set of documents:

- EIA Non-Technical Summary (NTS) - This document will provide a summary of the key issues and findings of the EIA. The NTS will be presented in non-technical language to assist the reader to understand the site context, the North Shropshire Reinforcement Project, the design alternatives, the environmental issues arising, and proposed mitigation measures and any potential likely residual significant effects.
- Volume I: Environmental Statement (Main Report) - This will contain the full text of the EIA under the following proposed chapter headings, as detailed in Table 5.2:

| <b>Table 5.2<br/>Proposed Chapter Headings</b> |   |
|--|---|
| 1.   | Introduction – including general background information, the legislative requirements of the EIA, description of the site and surroundings, details of SP Energy Networks making the planning submission and the environmental assessment team. |
| 2.   | Alternatives and Design Evolution   |
| 3.   | Project Description   |
| 4.   | Consultation  |
| 5.   | Approach to EIA – detailing the methodologies employed as part of the EIA and any issues agreed to be scoped out.   |
| 6.   | Planning Policy Considerations  |

| <b>Table 5.2<br/>Proposed Chapter Headings</b> |   |
|--|---|
| 7.   | Landscape   |
| 8.   | Visual  |
| 9.   | Ecology (including Ornithology and Arboriculture)       |
| 10.  | Historic Environment and Cultural Heritage              |
| 11.  | Flood Risk and Water Resources (if not scoped out)      |
| 12.  | Socio-Economics   |
| 13.  | Land Use  |
| 14.  | Statutory Nuisance (if not scoped out)                  |
| 15.  | Traffic and Transport (if not scoped out)               |
| 16.  | Minerals (if not scoped out)                            |
| 17.  | Electro-Magnetic Fields (if not scoped out)             |
| 18.  | Cumulative Effects                                      |
| 19.  | Summary of Significant Residual Effects and Conclusions |

- **Volume II: Figures and Plans** - This volume of the ES will provide the figures, drawings and photographs referred to in ES Volume I.
- **Volume III: Technical Appendices** - This volume of the ES will contain details of supplementary environmental reports (e.g. Protected Species Reports, Tree Survey Report, and Archaeological Desk Based Assessment).
- **Volume IV: Confidential Technical Annexes** (confidential ecological reports) - This volume of the ES will provide details of the ecological surveys undertaken which are required to remain confidential. Confidential appendices will be made available to the relevant parties only.

## CHAPTER 6: PLANNING POLICY CONSIDERATIONS

### 6.1 INTRODUCTION

- 6.1.1 A chapter on planning policy will be included within the ES to provide a general overview of the national and local planning policy framework of direct relevance to North Shropshire Reinforcement Project.
- 6.1.2 The ES will also refer to the relevant legislation, policy and guidance in each of the technical chapters, including topic specific assessments against National Policy Statements and other relevant and important considerations. The more detailed planning policy assessment will however be provided in the Planning Statement which will be a separate document that will form part of the application for a DCO.
- 6.1.3 The purpose of this chapter is to set out the relevant national policies and provide an overview of local policies that set the context for, and are considered relevant to, the environmental assessment of the North Shropshire Reinforcement Project.

### 6.2 NATIONAL POLICY STATEMENTS

- 6.2.1 As outlined in Chapter 1 'Introduction', the Planning Act defines the installation of an above ground electric line of 132kV or above as being a Nationally Significant Infrastructure Project (NSIP).
- 6.2.2 National Policy Statements (NPS) set out Government policy for the delivery of national infrastructure and are of primary importance to the decision making process for NSIPs.
- 6.2.3 Section 104 of the Planning Act 2008 states:

*'(2) In deciding the application the Secretary of State must have regard to -*

*(a) any national policy statement which has effect in relation to development of the description to which the application relates (a "relevant national policy statement")*

*and*

*(3) The Secretary of State must decide the application in accordance with any relevant national policy statement, except to the extent that one or more of subsections (4) to (8) applies.'*

6.2.4 Six National Policy Statements for energy infrastructure were designated by the Secretary of State for Energy and Climate Change in July 2011. The most relevant NPS for transmission infrastructure are the Overarching National Policy Statement for Energy (EN-1)<sup>24</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>25</sup> (which must be read in conjunction with NPS EN-1).

### **6.3 OVERARCHING NATIONAL POLICY STATEMENT FOR ENERGY (NPS EN-1)**

6.3.1 Part 4 of NPS EN-1 sets out general policies in accordance with which applications relating to energy infrastructure are to be decided. It states that:

*'In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the IPC should take into account:*

- Its potential benefits including its contribution to meeting the need for energy infrastructure, job creation and any long term or wider benefits; and*
- Its potential adverse impacts, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.*

*In this context, the IPC should take into account environmental, social and economic benefits and adverse impacts at national, regional and local levels.'*  
*(paras 4.1.2 and 4.1.4)*

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<sup>24</sup> Department for Energy and Climate Change (July 2011), Overarching Energy National Policy Statement (EN-1)

<sup>25</sup> Department for Energy and Climate Change (July 2011), National Policy Statement for Electricity Energy Infrastructure (EN-5)

6.3.2 NPS EN-1 (para 4.1.5) references development plan policies as being ‘other matters’ which could potentially be taken into account by the relevant decision making authority in determining a DCO application:

*‘... matters that [the decision maker] may consider both important and relevant to its decision making may include Development Plan Documents or other documents in the Local Development Framework. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for the purposes of ... decision making given the national significance of the infrastructure’.*

6.3.3 Section 6.6 of this Chapter provide an overview of the local planning policies and note how the environmental assessment will address their requirements.

6.3.4 NPS EN-1 goes on:

*‘All proposals for projects that are subject to the European Environmental Impact Assessment Directive must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project’. (para 4.2.1)*

6.3.5 NPS EN-1 sets out additional matters which the Secretary of State must consider in his determination process. They include the matters summarised in Table 6.1 below:

| <b>Table 6.1<br/>Other Matters Identified for Consideration in the ES (NPS EN-1)</b>   |   |
|--|---|
| <b>Issue</b>   | <b>Included in the ES</b>   |
| Para 4.2.3 states that <i>‘For the purposes of this NPS and the technology-specific NPSs the ES should cover the environmental, social and economic effects arising from the pre-construction, construction, operation and decommissioning of the project’</i> | The ES will cover all these aspects as outlined in Chapter 5 ‘EIA Approach and Methodology’ of this Scoping Report. |

| <b>Table 6.1</b><br><b>Other Matters Identified for Consideration in the ES (NPS EN-1)</b>  |   |
|---|---|
| Issue   | Included in the ES  |
| <p>Para 4.3.1 states that <i>‘Prior to granting a development consent order the IPC must, under the Habitats and Species Regulations...consider where the project may have a significant effect on a European site....Applicants should also refer to Section 5.3 of this NPS on biodiversity and geological conservation.’</i></p> | <p>Chapter 9 of the ES ‘Ecology’ will describe the assessment of potential effects on European sites using the approach outlined in this Scoping Report.</p> <p>At this stage it is considered that the North Shropshire Reinforcement Project will not have an adverse effect on any European site of nature conservation importance.</p>  |
| <p>Para 4.4.1 confirms that <i>‘this NPS does not contain any general requirement to consider alternatives....However applicants are obliged to include their ES ....information about the main alternatives they have studied’.</i></p>  | <p>Chapter 2 ‘Alternatives and Design Evolution’ of the ES will describe how the North Shropshire Reinforcement Project has developed and explain the alternatives considered.</p>  |
| <p>Section 4.5 of the NPS deals with good design for energy infrastructure. <i>‘applicants should be able to demonstrate ... how the design process was conducted and how the proposed design evolved.’ (para 4.5.4).</i></p>   | <p>Chapter 2 ‘Alternatives and Design Evolution’ of the ES will describe how the North Shropshire Reinforcement Project has developed and explain the alternatives considered.</p> <p>The Trident wood pole design proposed is preferred as technically feasible, less visually intrusive, less likely to be visible on the skyline and more flexible for routing, thereby providing a better fit with the landscape.</p> |

6.3.6 Part 5 of NPS EN-1 goes on to identify the generic impacts which should be considered. The table below identifies these potential impacts and identifies where in this Scoping Report information is provided:



| <b>Table 6.2<br/>Generic Impacts to be considered in an ES (NPS EN-1)</b> |  |
|---|--|
| <b>Generic Impact (NPS EN-1)</b>  | <b>Location within ES</b>  |
| Air quality and emissions   | Information on air quality and emissions is presented in Chapter 14 'Statutory Nuisance' of this Scoping Report.   |
| Biodiversity and geological conservation                                  | Information on biodiversity is presented in Chapter 9 'Ecology' of this Scoping Report. There are no geological conservation sites in the area.  |
| Dust  | Information on the practices that will be adopted in order to reduce potential impacts associated with dust will be incorporated within a Construction Environmental Management Plan (CEMP), which will form part of the assessment and will be included as an Appendix to the ES. |
| Electro-magnetic fields (EMFs)  | Information is presented in Chapter 17 'Electric and Magnetic Fields' of this Scoping Report.  |
| Flood risk  | Information on flood risk is presented in Chapter 11 'Flood Risk and Water Quality' of this Scoping Report. The application for a DCO will also be accompanied by a Flood Consequence Assessment.  |
| Historic Environment  | Information on historic environment is presented in Chapter: 10 'Historic Environment' of this Scoping Report.   |
| Landscape and visual  | Information is presented in Chapters 7 and 8 'Landscape' and 'Visual' respectively of this Scoping Report.   |
| Land Use  | Information is presented in Chapter 13 'Land Use' of this Scoping Report.  |

| <b>Table 6.2<br/>Generic Impacts to be considered in an ES (NPS EN-1)</b> |   |
|---|---|
| <b>Generic Impact (NPS EN-1)</b>  | <b>Location within ES</b>   |
| Noise and vibration   | Information is presented in Chapter 14 'Statutory Nuisance' of this Scoping Report.   |
| Socio-economic  | Information is presented in Chapter 12 'Socio-Economic' of this Scoping Report.   |
| Traffic and transport   | Information on traffic and transport is presented in Chapter 15 'Traffic and Transport' of this Scoping Report.                         |
| Waste Management  | Information is presented in Chapter 14 'Statutory Nuisance' of this Scoping Report.   |
| Water quality and resources   | Information on water quality and water resources is also presented in Chapter 11 'Flood Risk and Water Quality' of this Scoping Report. |

6.3.7 Further information to demonstrate the North Shropshire Reinforcement Project’s compliance with the requirements of NPS EN-1 will be provided within the Planning Statement.

## **6.4 NATIONAL POLICY STATEMENT FOR ELECTRICITY NETWORKS INFRASTRUCTURE (NPS EN-5)**

6.4.1 National Policy Statement EN-5 provides specific guidance relevant to ‘electricity networks infrastructure’.

6.4.2 NPS EN-5 (para 2.6.1) sets out additional technology specific considerations on the generic impacts considered in NPS EN-1 (see Table 6.2 above). These are:

- Biodiversity and geological conservation;
- Landscape and visual; and
- Noise and vibration.

6.4.3 Consideration of these impacts, and the specific consideration set out in EN-5 will be covered in the appropriate topic specific chapters of the ES.

6.4.4 With respect to biodiversity and geological conservation the NPS states that:

*'...large birds such as swans and geese may collide with overhead lines associated with power infrastructure, particularly in poor visibility. Large birds in particular may also be electrocuted when landing or taking off by completing an electric circuit between live and ground wires'. (para 2.7.1)*

and

*'The applicant will need to consider whether the proposed line will cause such problems at any point along its length and take this into consideration in the preparation of the Environmental Impact Assessment.'* (para 2.7.2)

6.4.5 Chapter 9 'Ecology' of this Scoping Report sets out how the assessment of the potential effects of the North Shropshire Reinforcement Project on birds will be undertaken.

6.4.6 Generic landscape and visual effects are covered in Section 5.9 of NPS EN-1. Section 2.8 of EN-5 identifies specific considerations which apply to electricity networks infrastructure.

6.4.7 Para 2.8.2 of EN-5 states that:

*'...new above ground electricity lines, whether supported by lattice steel towers/pylons or wooden poles, can give rise to adverse landscape and visual impacts, dependent upon their scale, siting, degree of screening and the nature of the landscape and local environment through which they are routed. For the most part these impacts can be mitigated, however at particularly sensitive locations the potential adverse landscape and visual impacts of an overhead line proposal may make it unacceptable in planning terms, taking account of the specific local environment and context.'*

6.4.8 It goes on:

*'Cumulative landscape and visual impacts can arise where new overhead lines are required along with other related developments such as substations, wind farms and/or other new sources of power generation.'*

6.4.9 The scope of the assessment of the potential landscape and visual effects of the North Shropshire Reinforcement Project is set out in Chapters 7 and 8 of this Scoping Report, 'Landscape' and 'Visual' respectively. The approach to the assessment of cumulative landscape and visual effects is also considered in these chapters.

6.4.10 Para 2.8.4 notes that:

*'Where possible, applicants should follow the principles below in designing the route of their overhead line proposals and it will be for applicants to offer constructive proposals for additional mitigation of the proposed overhead line. .... The ES should set out details of how consideration has been given to undergrounding or sub-sea cables as a way of mitigating such impacts, including, where these have not been adopted on grounds of additional cost, how the costs of mitigation have been calculated.'*

6.4.11 Chapter 2 'Alternatives and Design Evolution' of this Scoping Report outlines how consideration has been given to other feasible means of making the connection.

6.4.12 With respect to noise and vibration, Section 2.9 of the NPS states that:

*'Generic noise effects are covered in Section 5.11 of EN-1. In addition there are specific considerations which apply to electricity networks infrastructure.'*  
(para 2.9.1)

and,

*'All high voltage transmission lines have the potential to generate noise under certain conditions.'* (para 2.9.2)

6.4.13 Chapter 14 'Statutory Nuisance' of this Scoping Report sets out the approach to the assessment of operational noise.

6.4.14 With respect to EMFs, Section 2.10 of the NPS notes that the ICNIRP has developed health protection guidelines<sup>26</sup> for both public and occupational exposure (para 2.10.3). Chapter 17 'Electric and Magnetic Fields' of this Scoping Report sets out the approach to the appraisal of EMFs.

## 6.5 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

6.5.1 The National Planning Policy Framework (March 2012) sets out government's planning policies for England and how these are expected to be applied.

6.5.2 The introduction to the framework notes that the NPPF '*sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so*'. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities. Planning law requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. The NPPF must be taken into account in the preparation of local and neighbourhood plans, and is a material consideration in planning decisions. Planning policies and decisions must reflect, and where appropriate promote, relevant EU obligations and statutory requirements.

6.5.3 The Framework does not contain specific policies for NSIPs as particular considerations apply to those projects. As noted above these are determined in accordance with the decision-making framework set out in the Planning Act 2008 and relevant national policy statements for major infrastructure, as well as any other matters that are considered both important and relevant (which may include the NPPF).

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<sup>26</sup> International Commission on Non-Ionising Radiation Protection (1998). Guidelines for limiting exposure to time varying electric, magnetic and electromagnetic fields

## 6.6 LOCAL PLANNING POLICY

6.6.1 The Local Development Framework for Shropshire comprises several planning documents, known as Local Development Documents (LDDs).

6.6.2 Two of the key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development (SAMDev) Plan (adopted 17 December 2015).

6.6.3 Since the adoption of the SAMDev Plan, any saved planning policies from the district councils are considered to be out of date and have been replaced by the Local Plan.

6.6.4 The Core Strategy provides the overarching local planning policy document for Shropshire and includes a spatial vision and a set of strategic county-wide objectives and policies to inform future development across Shropshire. The Core Strategy's 'vision' sets a 'development strategy' which identifies the level of development anticipated to take place over the plan period (to 2026).

6.6.5 The Strategic Approach (Core Strategy Policy CS1) states that:

*'Shropshire will flourish, accommodating investment and new development to contribute to meeting its needs and to make its settlements more sustainable, delivering over the plan period 2006 – 2026, around 27,500 new homes... around 290 hectares of employment land, and accompanying infrastructure across Shropshire....'*

6.6.6 Core Strategy Policy CS8 'Facilities, Services and Infrastructure Provision' seeks to encourage the development of '*sustainable places in Shropshire with safe and healthy communities where residents enjoy a high quality of life*', recognising that this will be assisted by:

*'working closely with network providers to ensure provision of necessary energy distribution networks'.*

6.6.7 Core Strategy Policy CS13 'Economic Development, Enterprise and Employment' goes on:

*'Shropshire Council ...will plan positively to develop and diversify the Shropshire economy...*

- *Planning and managing a responsive and flexible supply of employment land and premises comprising a range and choice of sites in appropriate locations to meet the needs of business, with investment in infrastructure to aid their development or to help revitalise them...;*

6.6.8 Core Strategy Policy CS5 'Countryside and the Green Belt' states that new development will be strictly controlled in accordance with national planning policies protecting the countryside.

6.6.9 Core Strategy Policy CS17 'Environmental Networks' seeks to ensure development which both protects and enhances the diversity, high quality and local character of Shropshire's natural, built and historic environment, noting that this should not adversely affect the visual, ecological, geological, heritage or recreational values and functions of these assets, their immediate surroundings or their connecting corridors. The policy also seeks to ensure that development should not have a significant adverse impact on environmental assets and should not create barriers or sever links between sites.

6.6.10 Core Strategy Policy CS20 'Strategic Planning for Minerals' notes that Shropshire has important and finite mineral resources:

*'Shropshire's important and finite mineral resources will be safeguarded to avoid unnecessary sterilisation .....*

- *Protecting Mineral Safeguarding Areas (MSAs)....Non-mineral development in these areas.....will be expected to avoid sterilising or unduly restricting the working of proven mineral resources..... consistent with the requirements of national and regional policy;'*

6.6.11 The SAMDev Plan (adopted 17<sup>th</sup> December 2015) supports the Core Strategy and provides the site specific allocations element of the Shropshire LDF.

6.6.12 The SAMDev Plan sets out proposals for the use of land and policies to guide future development. Of particular relevance to the North Shropshire Reinforcement Project are Sustainable Design (Policy MD2), Infrastructure Provision (Policy MD8), the Natural Environment (Policy MD12), the Historic Environment (Policy MD13), and Mineral Safeguarding (Policy MD16).

6.6.13 The explanation to Policy MD2: 'Sustainable Development' recognises that consideration should also be given to safeguarding existing infrastructure so as to maintain continued operation and provide opportunities for expansion of infrastructure, where appropriate, to meet local needs:

*'6. Ensure development demonstrates there is sufficient existing infrastructure capacity, in accordance with MD8, and should wherever possible actively seek opportunities to help alleviate infrastructure constraints....'*

6.6.14 Policy MD4 'Managing Employment Development' relates to the management of a portfolio of employment land and premises, and maintaining a reservoir of available sites. Sites are identified on the Policies Map. The policy reasoning provided is:

*'The strategic supply of employment land is a key resource for this authority, its partners and stakeholders and the commercial property market. The strategic land supply will be used to support and encourage economic development by businesses and investors and to deliver continuing growth and prosperity in the local economy'.*

6.6.15 Two areas have been identified to the east of Oswestry on the Policies Map:

- Land south of Whittington Road (ELR043): and
- Land at Mile End East (ELR072).

6.6.16 These areas are illustrated on Figure 2.5 (a reproduction of Figure 4.6 'Additional Environmental Constraints' from the Route Corridor Options Report, June 2016) and have been avoided by the sensitive routeing of the proposals.

6.6.17 Policy MD8: 'Infrastructure Provision' provides policy guidance for New Strategic Infrastructure':



*'3. Applications for new strategic energy, transport, water management and telecommunications infrastructure will be supported in order to help deliver national priorities and locally identified requirements, where its contribution to agreed objectives outweighs the potential for adverse impacts. Particular consideration will be given to the potential for adverse impacts on:*

- i. residential and other sensitive neighbouring land uses;*
- ii. visual amenity;*
- iii. landscape character and sensitivity, including impacts on sensitive skylines;*
- iv. natural and heritage assets...*
- v. the visitor and tourism economy including long distance footpaths, cycle tracks and bridleways (Policy MD11);*
- vi. noise, air quality, dust, odour and vibration;*
- vii. water quality and resources;*
- viii. impacts from traffic and transport during the construction and operation of the infrastructure development; and*
- ix. cumulative impacts.*

6.6.18 It goes on:

*'Development proposals should clearly describe the extent and outcomes of community engagement and any community benefit package'.*

6.6.19 Policy MD12: 'The Natural Environment' states that:

*'...the avoidance of harm to Shropshire's natural assets and their conservation, enhancement and restoration will be achieved by:*

*2 Ensuring that proposals which are likely to have a significant adverse effect, directly, indirectly or cumulatively, on any of the following:*

- i. the special qualities of the Shropshire Hills AONB;*
- ii. locally designated biodiversity and geological sites;*

- iii. *priority species;*
- iv. *priority habitats;*
- v. *important woodlands, trees and hedges;*
- vi. *ecological networks;*
- vii. *geological assets;*
- viii. *visual amenity; and*
- ix. *landscape character and local distinctiveness.*

*will only be permitted if it can be clearly demonstrated that:*

*a) there is no satisfactory alternative means of avoiding such impacts through re-design or by re-locating on an alternative site and;*

*b) the social or economic benefits of the proposal outweigh the harm to the asset.*

*In all cases, a hierarchy of mitigation then compensation measures will be sought.'*

6.6.20 Policy MD13: 'The Historic Environment' sets out specific guidance on the protection of Shropshire's historic environment including the requirements that need to be met for those development proposals which are likely to have an impact on the significance, including the setting, of a heritage asset.

*2. Ensuring that wherever possible, proposals avoid harm or loss of significance to designated or non-designated heritage assets, including their settings;*

*3. Ensuring that proposals which are likely to affect the significance of a designated or non-designated heritage asset, including its setting, are accompanied by a Heritage Assessment, including a qualitative visual assessment where appropriate; and*

*4. Ensuring that proposals which are likely to have an adverse effect on the significance of a non-designated heritage asset, including its setting, will only*

*be permitted if it can be clearly demonstrated that the public benefits of the proposal outweigh the adverse effect....'*

6.6.21 Mineral safeguarding is dealt with under Policy MD16, stating that every effort will be made to ensure that, where practicable, known mineral resources are not sterilised by other forms of development.

*'Applications for non-mineral development which fall within Mineral Safeguarding Areas (MSA) and which could have the effect of sterilising mineral resources will not be granted unless:*

- i. The applicant can demonstrate that the mineral resource concerned is not of economic value; or*
- ii. The mineral can be extracted to prevent the unnecessary sterilisation of the resource prior to the development taking place without causing unacceptable adverse impacts on the environment and local community; ...'*

6.6.22 It goes on

*'3. Applications for permission for non-mineral development in a MSA must include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development..... This assessment will provide information to ...demonstrate to the satisfaction of the MPA that mineral interests have been adequately considered and that known mineral resources will be prevented, where possible, from being sterilised or unduly restricted by other forms of development occurring on or close to the resource...'*

## **6.7 SUMMARY**

6.7.1 The policy context with which the North Shropshire Reinforcement Project will be set is laid out in a number of national and local planning policy documents.

6.7.2 The National Policy Statements provide the policy framework for NSIPs, particularly in this instance NPS EN-1 and NPS EN-5.

- 6.7.3 The ES will include topic specific assessments against National Policy Statements. It will also refer to relevant guidance, local planning policy and legislation in each technical chapter.
- 6.7.4 A more detailed planning policy assessment will be provided in the Planning Statement which will be a separate document that will form part of the application for a DCO for the North Shropshire Reinforcement Project.

## CHAPTER 7: LANDSCAPE

### 7.1 INTRODUCTION

- 7.1.1 This chapter sets out the proposed scope for assessing the likely landscape effects associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the Project'.
- 7.1.2 The methodology presented in this chapter is based upon the general assessment methodology summarised in Chapter 5 'EIA Approach and Methodology' of this Scoping Report. It has been developed to take account of the range of likely significant environmental effects on landscape receptors arising during the construction and operation phases of the North Shropshire Reinforcement Project.
- 7.1.3 In accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (the EIA Regulations), the landscape assessment will identify and appraise the potential effects which may arise during the construction and operation phases of the North Shropshire Reinforcement Project. As explained in Chapter 3, Section 3.7, as the proposed overhead line is considered by SP Energy Networks to be a permanent installation, decommissioning effects are proposed to be scoped out of the assessment.
- 7.1.4 This chapter is supported by the following figures and appendices:
- Figure 7.1: Proposed Line Route and Study Area for LVIA;
  - Figure 7.2: Shropshire Landscape Typologies;
  - Figure 7.3: Landscape Constraints (Sections 1 and 2);
  - Figure 7.4: Landscape Constraints (Sections 3 and 4) and
  - Appendix C: Viewpoint Schedule.

- 7.1.5 The European Landscape Convention<sup>27</sup>, which was ratified in the UK in 2006 defines landscape as: *'an area, as perceived by people, whose character is the result of the action and interaction of natural and/ or human factors.'*
- 7.1.6 Landscape and visual effects are closely linked which means there is some overlap of methodology, although the two topics are assessed separately.
- 7.1.7 Landscape assessment deals with the assessment of effects on the landscape as a resource in its own right, whilst assessment of visual effects considers the effects on specific views and on the general visual amenity experienced by people (visual receptors).
- 7.1.8 The assessment of landscape effects is also linked to the following environmental topics:
- Historic Environment;
  - Ecology;
  - Socio-economic (Tourism and Recreation);
  - Noise; and
  - Traffic.
- 7.1.9 The methodology for undertaking the landscape assessment has been developed in accordance with relevant guidance which is presented in the third edition of the 'Guidelines for Landscape and Visual Assessment'<sup>28</sup> (GLVIA3). GLVIA3 is the established best practice guidance for landscape and visual impact assessment and complies with the requirements of the Overarching National Policy Statement for Energy<sup>29</sup> (EN -1) and National Policy Statement for Electricity Networks

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<sup>27</sup> European Landscape Convention ETS No.176 ratified on the 21st November 2006

<sup>28</sup> Landscape Institute and IEMA (2013), Guidelines for Landscape and Visual Impact Assessment 3rd edition

<sup>29</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN- 1)

Infrastructure<sup>30</sup> (EN-5).

### **Scope of Assessment and Definitions**

- 7.1.10 For the purpose of the landscape assessment, the terms '*impacts*' and '*effects*' are considered to be interchangeable but the term '*effects*' will be mostly used, as this is the approach taken in GLVIA3.
- 7.1.11 The term '*landscape effects*', as defined in GLVIA3 (para 2.21), means impacts or effects on '*the landscape as a resource in its own right*'. It includes direct effects upon the fabric of the landscape (such as the addition, removal or alteration of structures, woodlands, trees or hedgerows), which may alter the character and perceived quality of the area, or more general effects on landscape character and designated areas of landscape arising from the introduction of new man-made features. In landscapes designated or valued for their scenic or landscape quality, such changes can affect its perceived value or the purpose of the designation.
- 7.1.12 Cumulative landscape effects occur when individual sources of effects add together to have an overall greater effect on receptors. This is explained more fully in Chapter 8 'Cumulative Effects' of this Scoping Report.
- 7.1.13 The assessment of likely significant landscape effects, including any cumulative landscape effects will be presented as an individual chapter within the ES. The chapter will refer to a series of illustrated record sheets, included in an appendix to the ES, which will detail the information recorded for individual landscape receptors.
- 7.1.14 The geographic boundaries for the baseline description and the subsequent landscape assessment will be a series of local landscape character areas (LCA). These are areas of broadly homogenous character. The identification of these LCA will be influenced by published landscape character assessments including the

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<sup>30</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

Shropshire Landscape Typology<sup>31</sup>, by any other local character assessments, the historic character assessment (HCA) and any relevant Conservation Area character appraisals. These local LCA will be sufficiently detailed to reflect changes in landscape character along the length of the North Shropshire Reinforcement Project. The results of this process, including descriptions of each local LCA will be clearly set out in the Environmental Statement (ES).

## 7.2 PLANNING POLICY CONSIDERATIONS

7.2.1 Planning policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report.

### **National Planning Advice and Policies**

7.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Electricity Networks Infrastructure (EN-5). A full assessment of compliance with policy as set out in the NPS will be provided in the Planning Statement which will be submitted as part of the application for a DCO.

### **Local Planning Policy and Guidance**

7.2.3 The key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

7.2.4 These documents will be reviewed and policies relevant to the landscape impact assessment and cumulative landscape impact assessment will be identified. Whilst

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<sup>31</sup> Shropshire Council (2006), Shropshire Landscape Typology



not forming part of the primary policy in relation to NSIPs, reference to this local plan policy will be supported by reference to the National Planning Policy Framework (NPPF) which gives context to these local policies.

7.2.5 The following supporting documents are also considered relevant to the landscape assessment and will be reviewed.

- Shropshire Council (2016), Natural Environment SPD consultation draft (JLDP Supporting Document).

### **Further Guidance**

7.2.6 In addition the following guidance will be referenced:

- The Holford Rules – Guideline for the Routeing of New High Voltage Overhead Transmission Lines;
- Landscape Institute (2011), Photography and Photomontage in Landscape and Visual Impact Assessment: Advice Note 01/11;
- Natural England (2014), An Approach to Landscape Character Assessment<sup>32</sup>;
- Scottish Natural Heritage (2017), Visual Representation of Windfarms Good Practice Guidance Version 2.2<sup>33</sup>;
- Scottish Natural Heritage (2012), Assessing the Cumulative Impact of Onshore Wind Energy Developments<sup>34</sup>; and
- The Planning Inspectorate (2015), Cumulative Effects Assessment.

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<sup>32</sup> Natural England (2014), An Approach to Landscape Character Assessment.

<sup>33</sup> Scottish Natural Heritage (2017), Visual Representation of Wind Farms.

<sup>34</sup> Scottish Natural Heritage (2012), Assessing the Cumulative Impact of Onshore Wind Energy Developments.

### 7.3 WORK UNDERTAKEN TO DATE

- 7.3.1 Extensive survey and assessment work has already been undertaken as part of the ongoing routeing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 ‘Alternatives and Design Evolution’ of the Scoping Report. Table 1.1, in Chapter 1 ‘Introduction’ lists the documents which have been produced to inform the route selection process and which include baseline information on the visual character of the landscape, key views, and constraints and opportunities afforded by these.
- 7.3.2 Consideration has been given to the nature and sensitivity of the landscape within the 5km study area to the proposed development. This information is being used to inform the detailed alignment and assessment process.
- 7.3.3 The EIA will build on this information through further field and desk survey. This is in order to provide a full appreciation of the landscape within the study area and its wider environment (the 5km study area), including its constituent elements and features, its character and the way this varies spatially, its history, condition, the way it is experienced and the value attached to it. The descriptions provided will include reference to published landscape character assessments at a national, regional and local level, including those in the Shropshire Landscape Typology<sup>35</sup> (which were used to inform the route selection process).
- 7.3.4 The landscape is dynamic and is influenced by social, economic, technological and climatic changes, all of which can influence patterns of land use, land cover and land management. As such, the baseline for the landscape assessment is constantly evolving. Because of this consideration will be given in the EIA process to how the landscape may change in the future irrespective of the North Shropshire Reinforcement Project.

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<sup>35</sup> The Shropshire Landscape Typology, Shropshire County Council, September 2006

## 7.4 CONSULTATION RESPONSES

7.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.

7.4.2 The consultations have secured additional detailed information about the landscape, agreed the general approach and appropriate methods for assessment of the landscape, and enabled stakeholder views to inform the assessment.

7.4.3 The initial consultation responses relating to the landscape assessment are detailed below:

- There were public concerns relating to introduction of 'pylons' and a concern that they would 'create a blot on the landscape';
- Some requests to underground the line 'to preserve the unspoiled area of North Shropshire';
- Requests to avoid individual landscape features such as the oak hedgerow trees near Kenwick Lodge;
- Shropshire Wildlife Trust noted the potential for tree clearance and hedge removal as a result of the construction of the proposed development;
- The Woodland Trust identified the locations of ancient woodland closest to the proposed development (including Long Wood) and their importance in terms of habitat;
- Shropshire Council requested that sites of local landscape interest be taken into consideration, and to give consideration to non-designated parklands and the impacts on their settings;
- Comments were received by some residents about the effects on the landscape setting of listed buildings and other non-designated assets; and
- The Canal and River Trust expressed concern about overhead lines

crossing the canal, and advised of the need to take their guidelines into account.

7.4.4 These comments have been addressed.

7.4.5 Shropshire Council have been consulted more recently on the methodology included within this chapter and stated that the proposed methodology is '*comprehensive, clear, plainly written and appropriate to the latest guidance*'.

## 7.5 BASELINE ENVIRONMENT

7.5.1 The landscape baseline forms the basis for the identification and description of the landscape changes that may result from the North Shropshire Reinforcement Project. It establishes the character of the area, based on reference to published characterisation studies, such as the Shropshire Landscape Character Assessment<sup>36</sup> and on-site surveys. Designated landscapes (national and local) and other sensitive landscape receptors are identified via GIS data sets, other desk based research and responses from consultation feedback.

7.5.2 Potential landscape receptors are identified through a review of the baseline studies, by responses from consultees and through site survey.

### Existing Baseline

7.5.3 Figures 7.3 and 7.4 provide mapping of potential landscape and visual constraints to the development within the study area.

7.5.4 The 132kV overhead line will originate east of Oswestry and the A5, in farmland north of Middleton Road, just south of Round Wood. The proposed development then runs some 20.5km broadly east to west across the Settled Farmlands, Estate Farmlands and Lowland Moors of north-west Shropshire. The overhead line will be taken underground in farmland immediately south of the B5063 Ellesmere Road, close to the Wem substation.

7.5.5 The 5km study area extends from the west of Oswestry to the east of Wem, to the

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<sup>36</sup> The Shropshire Landscape Typology, Shropshire County Council, September 2006

southern edge of Ellesmere in the north and just north of Baschurch in the south, near Stanwardine-in-the-Fields and Marton.

- 7.5.6 Much of the study area lies within the *Shropshire, Cheshire and Staffordshire Plain National Character Area (NCA 61)*, with a small section to the west of Oswestry that falls within the *Oswestry Uplands (NCA 63)*. The regional landscape through which the proposed development passes however, displays differing landscape characteristics with areas of settled farmland sitting alongside estate farmland and lowland areas. These variations in character are represented in more detail by the landscape character areas (LCAs) identified in *The Shropshire Landscape Typology*, September 2006). These are illustrated in Figure 7.2. The LCAs were established following a study of the cultural (land use, settlement, tree cover) and physiographic (soils, landform, geology) character of the landscape, and were informed by the results of Shropshire County Council's Historic Landscape Characterisation Project<sup>37</sup>.
- 7.5.7 At the western end, the Proposed Line Route originates some 400m east of the edge of settlement at Oswestry. The intervening A5 carriageway and its mature boundary treatment facilitate a change in character from suburban settlement to flat and low-lying pastoral farmland (approximately 80-100m AOD), with scattered hedgerow trees, small woodland blocks and a small to medium-scale field pattern. The Proposed Line Route continues to run east crossing more open and flat low-lying (approximately 75-85m AOD) floodplain landscapes associated with local watercourses (rivers, canals and brooks). The largest of these floodplains lie close to the Montgomery Canal, the River Perry in the centre of the study area, and near Sleaf Brook and the River Roden to the east of the study area, near Wem. These are marked by networks of ditches and drains, and tend to have fewer landscape

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<sup>37</sup>Between 2001 and 2004, the Shropshire Historic Landscape Characterisation (HLC) project mapped the historic character of the county's landscape. In 2006 the former Shropshire County Council also combined the HLC with the Shropshire Landscape Character Assessment, resulting in the definition of the Shropshire Landscape Typology.

features such as trees and woodland. Estate Farmlands landscape typology typifies the landscape of the middle section of the proposed development. These are gently rolling with some slightly more elevated sections (approximately 80-115m AOD). They include farmland which has a parkland character, including some areas of planned woodland character and a medium to large, and occasionally irregular, field pattern. The settlement pattern is one of villages, small hamlets and scattered individual properties, with some country houses. The eastern end of the proposed development runs through an area of principal settled farmland, lowland areas (approximately 80-100m AOD), with mixed farming, a varied field pattern, some evidence of hedgerows and trees, scattered hamlets, farmsteads and small villages.

- 7.5.8 Within the wider study area, the Sandstone Hills to the south form discrete elevated areas near Haughton, just south of the disused Rednal Airfield, and near Boreatton Park, rising to an elevation of 125-130m AOD. Sandstone Hills also feature to the east of the proposed development near Lee Brockhurst. The northern edge of the study area, near Colemere, contains the Shropshire Meres and Mosses, a mosaic of wetlands important for wildlife, which extend north into neighbouring Wales and north-west into Cheshire. To the west of the urban centre at Oswestry, the landscape becomes more elevated with farmed hills and plateaus forming the edge of the study area, close to the Welsh border, and the Shropshire Way and Offa's Dyke at Baker's Hill (352m AOD). This area is marked by an increase in woodland, including the large stretch of woodland adjacent to the River Morda, east of Llawnt.
- 7.5.9 The proposed development crosses or passes close to a number of rivers, brooks and a canal. To the west is Common Brook and the Montgomery Canal. The Canal connects into the Llangollen Branch of the Shropshire Union Canal near Lower Frankton, and sits within a flat low-lying landscape. The proposed development crosses it adjacent to the relatively well-wooded Woodhouse Estate. At this location the canal is bordered by mature trees and lies adjacent to pasture and arable fields. The River Perry (which feeds into the River Severn south of Baschurch) flows from the north-west of the study area near Gobowen, to the south of the study area near Boreatton Park, and is crossed by the proposed development to the west of Lower

Hordley, just north of Baggy Moor. The river follows a gently curved path through this low-lying area marked by ditches and drains, and the landscape is notable for its openness, the sparse scattering of mature trees and woodland, and the distinctive linear field pattern orientated towards the river as a result of the presence of drainage ditches. Wackley and Sleaf Brook, and a linear stretch of the River Roden, lie close to the eastern end of the proposed development near Noneley and Ruewood in a sparsely settled low-lying landscape of arable fields and pasture. The tightly meandering course of Sleaf Brook is marked by mature trees and lies close to the airfield at Sleaf. Within the wider study area, the Llangollen Branch of the Shropshire Union Canal can be found to the north near Colemere and Lower Frankton. The River Morda flows through the south-western edge of the study area.

- 7.5.10 The transport and communications pattern within the study area includes road and rail networks, including a section of the A5, from Weirbrook (to the south-east of Oswestry) to Gobowen (north of Oswestry). The A5 lies to the west of the proposed development. The A495 crosses the north-west of the study area from the A5 and through Whittington. The A528 passes from the south-east of the study area at Myddle, to Ellesmere in the north. The A483 connects the south-western corner of the study area between Llyncllys and the A5 junction at Mile End. These roads are supplemented by a network of B roads and minor roads, lanes and access tracks. The Shrewsbury to Crewe main line railway extends from Gobowen in the north-west of the study area, to Baschurch in the south. In addition there are two local airfields, one at Rednal and one at Sleaf, although Rednal is no longer in use.

#### Designated Landscapes

- 7.5.11 The Clwydian Range (Bryniau Clwyd) is the closest Area of Outstanding Natural Beauty (AONB), and lies some 8km to the northwest of the proposed development, at its closest point. The Shropshire Hills Area of Outstanding Natural Beauty lies approximately 21km to the south of the proposed development.

#### Other Landscape or Landscape-related Designated and Undesignated Features

- 7.5.12 There are other features, both designated and undesignated, that either add character and value to the landscape, or provide evidence that the landscape is

valued for a recreational activity where experience of the landscape is important. These include Open Access Areas identified under the Countryside and Rights of Way Act (CroW), Brogyntyn and Pradoc Registered Historic Parks and Gardens, Ancient sites of which some are Scheduled Monuments, and national and regional trails such as The Shropshire Way, Montgomery Canal Path and National Cycle Route 445 (formerly Regional Route 31).

#### Locally Valued Landscapes

- 7.5.13 Locally valued landscapes in the 5km study area include those where important views can be experienced (e.g., Old Oswestry Fort), landscapes experienced from recreation and important tourist routes (e.g. Offa's Dyke Path and the Shropshire Union Canal), designed landscapes (e.g. Tedsmore, Stanwardine Hall and Woodhouse), landscapes valued for distinctiveness or cultural associations (e.g. Whittington Castle), notable landscape features and characteristics of the landscape, in particular trees and woodlands.

#### Landscape Character Sensitivity

- 7.5.14 As part of the June 2016 Line Route Report, desk and field based work using information in The Shropshire Landscape Typology, was carried out to establish areas that could potentially be sensitive to the proposed development. Whilst these will be confirmed through further appraisal, these initial studies indicated that, whilst some areas are likely to have a low sensitivity to the proposed development, there are likely to be other areas where the sensitivity of the landscape to the proposed development may be higher:

- Landscapes with cultural importance and evidence of planned design such as Woodhouse Estate which sits within the Estate Farmlands of Shropshire;
- Landscapes associated with recreation including those close to recreational routes such as the Montgomery Canal;
- More elevated landscapes which are visible over a wider area (e.g. towards the middle section of the proposed development near Stanwardine and



Kenwick);

- Landscapes that are open and where longer views can be experienced, including those associated with the Lowland Moors and watercourses identified within flood risk areas;
- Landscapes containing distinctive features such as field patterns (e.g, near Moor Fields Local Wildlife Site); and,
- Landscapes which contribute to the wider setting of a conservation area, a listed building or a hamlet (e.g., near Loppington and Noneley).

## 7.6 ISSUES IDENTIFIED

### Construction

- 7.6.1 The most immediate effects arising from construction of the proposed overhead line would be those associated with access and clearance of the line corridor. Landscape pattern can be affected by the felling of individual mature trees, woodland, shelterbelts or screen planting as these often provide the landscape with a distinctive character or local identity. Woodland cover also has an important role in defining landscape spaces and scale. The removal of tree cover may cause the opening up of landscape spaces by reducing the sense of enclosure provided by woodland cover and allowing views into other landscape spaces beyond. Wayleave corridors are required when a line passes through a wooded area and the straight and linear nature of these can be visually intrusive. Mitigation measures may include planting and landscape design techniques to enhance the visual appearance and strengthen wayleave edges against potential windthrow damage. The removal of hedgerows may be required to provide access for construction and or maintenance. Where new access tracks are required, potential landscape effects may occur when a new straight access track is routed across a grassy hillside or peat moor, creating a visible man-made mark on the landscape.
- 7.6.2 Construction of the proposed overhead line would take approximately 12 months, but this would be phased across the length of the route, with works in any one pole location taking approximately 1 – 2 days. The potential effect of constructing the

proposed overhead line would be almost immediate. By contrast mitigation measures involving tree planting would take longer (typically 10-15 years) to become effective.

- 7.6.3 Removal of trees is normally regarded as a long term effect whereas hedges removed for access can be stored on site and reinstated within 48 hours. Creation of new access tracks, construction compounds and storage areas, and hardstandings may affect local landscape character, although in most instances such effects would be temporary as tracks and compounds would be reinstated upon completion of the works.

### **Operation**

- 7.6.4 The main effects of the proposed overhead line during its operational life would be the presence of additional wood pole structures within the countryside. Once constructed, however, there would be no moving parts or lighting and the line would only require very occasional visits by SP Energy Networks for maintenance and repair.
- 7.6.5 The main features of the overhead line which would give rise to landscape and visual effects would be the wood poles, their appearance, height and spacing. As with any external material, wood poles are susceptible to weathering and consequent colour variations. The colour of the poles at the time of construction would be dark brown but this would fade over time to a noticeably lighter silver-grey. The rate of colour change would depend on the prevailing weather conditions and to some degree on the type of timber and timber treatment that were used. Over time these changes would tend to reduce the perceptibility of elements viewed above the skyline, but may increase the visibility of structures when viewed against a dark background such as coniferous plantation. The metal bracing and the conductors would be constructed from aluminium, which is initially shiny but tends to dull over time to dark matt silver.
- 7.6.6 The findings of the surveys undertaken to date and discussions with stakeholders have led to the identification of the following locations, which are considered

sensitive and will require particular consideration in the ongoing iterative detailed design and assessment process:

- Localised areas of the Estate Farmlands LCA, with potential for landscape effects on the parkland character near Woodhouse and Petton, and on areas of localised higher ground close to Kenwick and Stanwardine;
- Localised areas of the low-lying landscape of the Lowland Moors LCA, close to the Montgomery Canal, the River Perry, Wackley Brook, Sleaf Brook, Moor Fields Local Wildlife Site and the River Roden; and
- Localised areas of the Principal Settled Farmlands LCA close to The Wood and Malt Kiln Farm, and the hamlets at Noneley and Commonwood.

## 7.7 PROPOSED ASSESSMENT METHOD

7.7.1 Landscape effects are defined by the Landscape Institute in GLVIA3 as follows:

*'An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern ... is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.... The area of landscape that should be covered in assessing landscape effects should include the site itself and the full extent of the wider landscape around it which the proposed development may influence in a significant manner.'*  
(para 5.1 and 5.2)

7.7.2 The proposed development may have direct (physical) effects on the landscape as well as indirect effects on landscape character which may be perceived over a wide area.

7.7.3 Landscape assessment follows a standard approach:

- Establish baseline conditions against which the effects of the North Shropshire Reinforcement Project will be assessed. This will include consideration of how the landscape may change in the future irrespective of the North Shropshire Reinforcement Project;

- Determine the nature of the landscape receptor likely to be affected, i.e. its sensitivity (which in turn combines judgements about its susceptibility to change arising from a specific proposal with judgements about its relative value);
- Predict the nature or magnitude of the effect likely to occur (which combines judgements about the likely size and scale of the change, the geographical extent of the area over which it is likely to occur, whether it is direct or indirect) and positive, negative or neutral; and
- Assess whether a significant effect on the landscape is likely to arise by considering the predicted magnitude of change together with the sensitivity of the receptor, taking into account any identified mitigation measures.

7.7.4 The landscape assessment involves a combination of quantitative and qualitative assessment and the application of professional judgement within a structured assessment framework. GLVIA3 notes:

*‘...whilst there is some scope for quantitative measurement of some relatively objective matters, ...much of the assessment must rely on qualitative judgement, for example what effect the introduction of a new development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative’.*  
(para 2.23)

*‘In all cases there is a need for judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others.’* (para 2.24)

7.7.5 The landscape baseline will use information from the visual baseline which will be included in the Chapter 8 ‘Visual’ of the ES.

#### **Spatial Scope of Study Area**

7.7.6 The landscape assessment will focus on those areas which are likely to experience

significant effects. This accords with the EIA Regulations<sup>38</sup>, which require the identification of the 'likely significant effects of the proposed development on the environment' (Schedule 4 Part 1 Para 20).

- 7.7.7 The study area for the landscape assessment extends up to 1km either side of the Proposed Line Route for the North Shropshire Reinforcement Project as shown in Figure 7.1. This is because at a distance of 1km, a Trident wood pole, which on average would be 12m high, would appear approximately 7mm high in the view, which is highly unlikely to give rise to significant effects.
- 7.7.8 Longer distance views of the overhead line may also result in significant landscape effects, particularly where the overhead line is viewed above the horizon – i.e. on the skyline. To ensure that any such effects are identified, a wider area up to 5km from the Proposed Line Route will initially be examined. This will be referred to as the '5km study area' and is also shown on Figure 7.1.
- 7.7.9 The study area will continue to be reviewed in the light of ongoing site surveys and stakeholder consultation as the North Shropshire Reinforcement Project develops. This is to ensure that all likely significant landscape effects will be captured by the assessment.

### **Temporal Scope**

- 7.7.10 For the purposes of the assessment, the proposed development will be assessed as permanent and the resulting effects will be described in terms of their duration as short-term, medium-term and long-term, as follows:
- Short-term effects are defined as 0 – 3 years;
  - Medium term effects are defined as 3 – 15 years; and
  - Long term effects are defined as > 15 years.

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<sup>38</sup>The Planning Inspectorate (PINS) (2009), Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended).

- 7.7.11 Short-term effects are typically those which would arise during the construction phase of the North Shropshire Reinforcement Project.
- 7.7.12 Medium and long-term effects are typically those which would arise during the operational phase of the North Shropshire Reinforcement Project. The opening year, when the overhead line is energised, will be used as the basis for assessing operational effects. This is anticipated to be 2021.
- 7.7.13 Long-term residual effects of the North Shropshire Reinforcement Project are typically those which would remain after a minimum fifteen years. When assessing landscape effects this includes the establishment of any mitigation planting which may be required and further growth of existing vegetation.

#### **Landscape Sensitivity**

- 7.7.14 The first step in assessing the landscape effects is to determine the sensitivity of the landscape to the North Shropshire Reinforcement Project.
- 7.7.15 Paragraph 3.24 of GLVIA3 defines landscape sensitivity as being derived from 'combining judgements about the susceptibility of the landscape to change arising from the specific proposals, with judgements about the value attached to the receptor'.
- 7.7.16 Judgements on the value attached to the landscape are unrelated to the nature of a development proposal, whilst judgements on susceptibility may vary in response to the type of development proposed and the attributes of the area in which it is to be located.

#### Determining Landscape Value

- 7.7.17 The relative value of the landscape (along the route of the overhead line and in the wider landscape) is a key contributing factor in determining the sensitivity of landscape receptors.
- 7.7.18 Paragraph 5.19 of GLVIA3 notes that:

*'This means the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different*

*stakeholders for a whole variety of reasons.... a review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered.'*

- 7.7.19 The fact that an area of landscape is not designated either nationally or locally does not mean that it does not have any value. The European Landscape Convention promotes the need to take account of all landscapes, with less emphasis on the special and more recognition that ordinary landscapes also have their value. This can be achieved through the application of a criteria based comparative landscape approach to determining value.
- 7.7.20 The value of the landscape within each of the local LCAs will be described and evaluated with reference to the following six criteria, which are specific to the landscape context of the area:
- Landscape character and quality (condition);
  - Scenic quality;
  - Natural landscape interests;
  - Historic landscape interests;
  - Recreation value; and
  - Perceptual aspects and tranquillity.
- 7.7.21 The criteria are listed in Table 7.1, together with an explanation as to how they can be applied to indicate higher or lower value. Table 7.1 also identifies which of the Holford Rules can be applied to each of the criteria.
- 7.7.22 For each criteria, professional judgement will be applied to make a judgement on the relative value. This will be informed by site visits and existing documentation including the Shropshire Landscape Typology, historic landscape character appraisal, stakeholder feedback and Conservation Area character appraisal. An overall value for each local LCA will be determined by bringing together the judgements made for each of the criteria. The resulting value will be described as

**high, medium-high, medium, medium-low and low**<sup>39</sup>. The rationale in support of the assessment will be explained for each receptor so that it is clear how each judgement has been made.

|   |   |
|---|---|
| <p><b>Table 7.1</b><br/><b>Criteria for Judging Landscape Value</b></p>   |   |
| <p><b>1. Landscape Character and Quality (Holford Rule 2)</b></p>   |   |
| <p>Areas where the landscape character/ quality is positive and intact, are likely to be more susceptible to a 132kV overhead line than areas where landscape character/ quality has been lost or is perceived as negative.</p> <p>Intactness of the landscape is demonstrated by, amongst other things, the presence of characteristic natural and man-made elements, which are generally in good condition and absence of significant incongruous or detracting elements.</p> |   |
| <p>This is a value judgement which will be informed by the following:</p> <ul style="list-style-type: none"> <li>• National Character Map and Shropshire Landscape Typology;</li> <li>• Local character assessments including Conservation Areas;</li> <li>• Aerial imagery; and</li> <li>• Site survey.</li> </ul>   |   |
| <p>Low</p>  | <p>A landscape in very poor condition. Few characteristic/ naturalistic features remain and these are highly fragmented and/ or spoilt by large-scale visually intrusive or other inharmonious development. Landscape character has been lost or is perceived as negative. Farmland is typified by a very large scale and regular field pattern with absent or heavily degraded field boundaries.</p> |
| <p>Medium-low</p>   | <p>A landscape in generally poor condition. Occasional characteristic/ naturalistic features remain intact but most are fragmented and/ or spoilt by some large scale visually intrusive or other inharmonious development. A weak sense of place with little distinctive identity. Farmland is typified by a large scale and regular field pattern with absent or degraded field boundaries.</p>     |

<sup>39</sup> When assessing the value, susceptibility, sensitivity and magnitude of change, some of the threshold categories have been subdivided to better reflect the nuances of the local landscape or visual conditions found within the study area and therefore do not necessarily reflect the subdivisions presented in the EIA methodology overview in Chapter 5 ‘EIA Approach and Methodology’ of this Scoping Report.



| <b>Table 7.1<br/>Criteria for Judging Landscape Value</b>   |   |
|---|---|
| Medium  | A landscape in reasonable condition. Some characteristic/ naturalistic features remain intact but others are fragmented and/ or spoilt by some large scale visually intrusive or other inharmonious development. The pattern of the landscape, its elements and features contribute to a local sense of place. Farmland is typified by a medium scale field pattern with generally intact field boundaries.   |
| Medium-high   | A landscape in mostly good condition and unspoilt by large scale visually intrusive or other inharmonious development. Characteristic/ naturalistic features are mainly intact. The pattern of the landscape, its elements and features contribute to a regional or county sense of place. Farmland is typified by a medium/ small scale irregular field pattern with mainly intact traditional field boundaries. Some historic field patterns are evident.   |
| High  | A landscape in a consistently good condition and unspoilt by large scale visually intrusive or other inharmonious development. Characteristic/ naturalistic features are widespread and intact. The landscape has a very distinctive character and sense of place which may be iconic and help to define a national and international landscape identity. Farmland is typified by an intimate or small scale irregular field pattern with intact traditional field boundaries. Extensive historic field patterns are evident. |
| <b>2. Scenic Quality (Holford Rule 2)</b>   |   |
| <p>Scenic landscapes are typically those that appeal to the senses through, for example, combinations of some of the following: distinctive, dramatic or striking landform or patterns of land cover; strong aesthetic qualities such as scale, form, colour and texture; or visual diversity which contributes to the appreciation of the landscape.</p> <p>Areas of attractive scenery, sense of place and local distinctiveness are typically more susceptible to a 132kV overhead line than less scenic areas. This includes landscapes designated for their natural beauty but also areas of undesignated landscape.</p> |   |
| <p>This is a value judgement which will be informed by the following:</p> <ul style="list-style-type: none"> <li>• National Character Map and Shropshire Landscape Typology; and</li> <li>• Site survey.</li> </ul>   |   |
| Low   | An unattractive landscape with very few or no aesthetically pleasing scenes. Very little visual interest in terms of scale, colour, form or   |

| <b>Table 7.1</b>   |  |
|--|--|
| <b>Criteria for Judging Landscape Value</b>  |  |
|  | texture. Also includes a landscape where different characteristics and elements visually compete and disrupt each other to create a chaotic and confused composition.  |
| Medium-low   | A landscape of generally low scenic quality with few aesthetically pleasing scenes. Little visual interest in terms of scale, colour, form or texture. Also includes landscapes where some characteristics and elements visually compete and disrupt each other to create a chaotic and confused composition.  |
| Medium   | A landscape with some aesthetically pleasing scenes of picturesque quality, which contribute to local value. Some variation in terms of scale, colour, form or texture. May includes some areas where characteristics and elements visually compete and disrupt each other to create a chaotic and confused composition. Such landscapes are typically valued locally.   |
| Medium-high  | An attractive landscape with many aesthetically pleasing scenes of picturesque quality and presence of some regionally important views, landmarks and/ or scenic routes. Varied landscape in terms of scale, colour, form or texture resulting from combination of flora, fauna, geological and physiographic features. Most characteristics and elements visually contribute to a balanced and even composition. Such landscapes are typically valued regionally. |
| High   | Very attractive and picturesque landscape with all or most of its scenic and special qualities retained, including flora, fauna, geological and physiographic features. Presence of nationally or internationally important views, landmarks and/ or scenic routes. Landscape characteristics and elements visually contribute to a harmonious and concordant composition. Such landscapes are typically valued nationally and internationally.                    |
| <b>3. Natural Landscape Interests (Holford Rules 1 and 2)</b>  |  |
| The natural landscape interest of each area will be demonstrated by the presence of designated ecological features and/ or by the presence of distinctive species and/ or habitats that contribute to the character of the landscape, including features such as veteran parkland trees, distinctive hedgerow species and ancient woodlands. |  |
| This is a value judgement which will be informed by the following:   |  |

| <b>Table 7.1</b>  |   |
|---|---|
| <b>Criteria for Judging Landscape Value</b>   |   |
| <ul style="list-style-type: none"> <li>• Ancient woodlands (including inventories of smaller ancient woodland sites 0.25 – 2ha);</li> <li>• Veteran parkland trees</li> <li>• National Nature Reserves (NNR);</li> <li>• Local Nature Reserves (LNR);</li> <li>• RSPB Reserves;</li> <li>• Habitats of principal importance;</li> <li>• Ramsar Sites;</li> <li>• Special Areas of Conservation (SAC);</li> <li>• Special Protection Areas (SPA); and</li> <li>• Sites of Special Scientific Interest (SSSI).</li> </ul> |   |
| Low   | Landscape characterised by low value habitats where the landscape is mainly arable land or improved pasture and fields are large and bounded by post and wire fences. No semi natural ancient woodland.   |
| Medium-low  | Landscape habitats of local importance, including areas of intensively farmed land where there are still robust managed hedgerows and occasional areas of native vegetation, e.g. fragmented woodlands.   |
| Medium  | Landscape habitats which are of local importance but also contains a local BAP or other native or semi natural habitat which may be a local wildlife site.  |
| Medium-high   | Landscape with some protected assets of national importance e.g. SSSIs which are enhanced by local features such as ponds, robust hedgerows, veteran trees, species rich areas of scrub and blocks of woodland, which form valuable wildlife corridors. It also includes areas where many diverse habitats are linked together by hedgerows or streams and may have a reasonably high concentration of protected species. May include small areas of ancient semi natural woodland. |
| High  | Landscape with multiple protected assets, including internationally or nationally designated sites. Much of the area comprises national or local BAP habitats or a substantial proportion of SSSI habitats. Likely to have a high concentration of protected species. Large areas of ancient semi natural woodland.   |
| <b>4. Historic Landscape Interests (Holford Rules 1 and 2)</b>  |   |

| <b>Table 7.1<br/>Criteria for Judging Landscape Value</b>  |  |
|--|--|
| <p>The historic landscape interest of each local LCA will be demonstrated by the presence of internationally or nationally designated heritage assets and/ or historic landscape assets, which although not protected by designation are considered to be of national value, for example Registered Parks and Gardens.</p>   |  |
| <p>This is a value judgement which will be informed by the following:</p> <ul style="list-style-type: none"> <li>• National Character Map and Shropshire HCA;</li> <li>• World Heritage Sites;</li> <li>• Scheduled Monuments;</li> <li>• Registered Park and Gardens;</li> <li>• Listed Buildings;</li> <li>• Historic Battlefields;</li> <li>• Historic mapped features; and</li> <li>• Conservation Areas.</li> </ul> |  |
| Low  | Landscape with few or no archaeological or historic features of note. No visible presence of historic landscape in terms of settlement or field boundary patterns. Absence of traditional land management practices.   |
| Medium-low   | Landscape with few archaeological or historic features of note. Features present are widely distributed regionally and of no local interest. Little visible presence of historic landscape in terms of settlement or field boundary patterns. Little evidence of traditional land management practices.  |
| Medium   | Landscape with some archaeological or historic features which are listed or designated and which contribute to landscape character. Includes features which although widely distributed regionally, may be of some local interest. Some evidence of historic landscape in terms of settlement or field boundary patterns, and continuity of historic land uses. Some traditional land management practices which contribute to scenic quality. |
| Medium-high  | Landscape with multiple archaeological or historic features which are listed or designated and which contribute to landscape character. Includes features which are historically rare or exceptional in a regional context. Good evidence of historic landscape in terms of settlement or field boundary patterns, and continuity of historic land uses. Traditional land management practices contribute to scenic quality.                   |

| <b>Table 7.1</b>   |   |
|--|---|
| <b>Criteria for Judging Landscape Value</b>  |   |
| High   | Landscape characterised by archaeological or historic features which are designated or listed and which are of exceptional historic importance and nationally or internationally rare or unique. Strong historic settlement and field patterns and continuity of historic land uses. Traditional field management practices contribute extensively to scenic quality. |
| <b>5. Recreation Value (Holford Rule 2)</b>  |   |
| <p>The recreational value of each local LCA will consider the extent to which the experience of the landscape makes an important contribution to recreational use and enjoyment of an area. This is indicated by the presence of designated and non-designated recreational features. Landscapes can be highly valued at different scales ranging from large nationally valued landscapes such as AONBs, through smaller locally valued landscapes to those which are valued for recreation at a small scale community level.</p>            |   |
| <p>This is a value judgement which will be informed by the following:</p> <ul style="list-style-type: none"> <li>• Open Access Land (including Common Land);</li> <li>• Country Parks;</li> <li>• Nationally designated and regionally promoted trails;</li> <li>• Public Right of Way (PRoW) network (footpaths, cycle routes and bridleways);</li> <li>• Promoted viewpoints;</li> <li>• Key visitor attractions (e.g. castles/ hillforts/ church towers); and</li> <li>• Visitor facilities (e.g. car parks and picnic sites).</li> </ul> |   |
| Low  | Landscape with very few or no recreational facilities offering opportunities for open air recreation. The PRoW network is small and typically poorly maintained and/ or doesn't appear well used  |
| Medium-low   | Landscape with few recreational facilities offering opportunities for open air recreation. The PRoW network is small and is mainly poorly maintained and/ or doesn't appear well used.  |
| Medium   | Landscape with some recreational facilities offering opportunities for open air recreation. The PRoW network is small and but is reasonably well maintained and appears to be in use. The area may include a locally local recreation route e.g. village walk.  |

| <b>Table 7.1</b>  |   |
|---|---|
| <b>Criteria for Judging Landscape Value</b>   |   |
| Medium-high   | Landscape with recreational facilities offering opportunities for open air recreation e.g. Open Access Land, Common Land, national and regional trails and local recreational routes. The PRow network is well maintained and appears to be well used. Visitor facilities such as car parks and picnic areas may be present.  |
| High  | Landscape with many visitor and recreational facilities offering opportunities for open air recreation e.g. presence of Country Parks, Open Access Land, and Common Land, national and regional trails, local recreational routes. The PRow network is extensive and well maintained, appears to be well used and is enhanced by visitor facilities such as car parks and picnic areas. |
| <b>6. Perceptual Aspects &amp; Tranquillity (Holford Rule 2)</b>  |   |
| <p>The extent to which the landscape provides opportunities to experience a sense of relative remoteness and/ or tranquillity. This may be influenced by the presence or absence of modern development or infrastructure, which may introduce new and uncharacteristic features, which do not respond well to landscape context and which may detract from a sense of tranquillity and/ or remoteness. Other factors which will be considered include the degree of seclusion or isolation experienced, perception of naturalness, level of screening afforded by landform or vegetation, levels of visual or audible road or rail traffic, levels of pedestrian movements and degree of light pollution.</p> |   |
| <p>This is a value judgement which will be informed by the following:</p> <ul style="list-style-type: none"> <li>• Lidar terrain data;</li> <li>• Aerial imagery;</li> <li>• Ordnance Survey mapping; and</li> <li>• CPRE tranquillity maps (2007).</li> </ul>  |   |
| Low   | A landscape dominated by large scale, visually intrusive or other inharmonious development. High level of human activity with movement for much of the day, such as large settlement, motorway or busy road resulting in visual and/ or audible intrusion and little sense of tranquillity or remoteness. High levels of artificial lighting.   |
| Medium-low  | A landscape with mostly large scale, visually intrusive or other inharmonious development. A frequent but interrupted stream of human activity with movement for much of the day, such as large village, motorway or busy road resulting in visual and/ or audible  |

| <b>Table 7.1<br/>Criteria for Judging Landscape Value</b> |  |
|---|--|
|   | intrusion and little sense of tranquillity or remoteness. Some artificial lighting.  |
| Medium  | A landscape with some large scale visually intrusive or other inharmonious development but also with areas which are more tranquil and remote. An infrequent flow of human activity for most of the day such as a quiet road or rail corridor, canal, park or footpath, small village or hamlet. Little artificial lighting. |
| Medium-high   | A landscape which is mostly remote and tranquil with few detracting features and only occasional presence of human activity, with movement only a few times a week, such as most valley floor agricultural areas or very quiet rural back road or track.   |
| High  | A landscape which has a strong sense of tranquillity and remoteness, with no detracting features and only the very occasional presence of human activity such as high hilltops or unvisited woodland.  |

Determining Landscape Susceptibility

- 7.7.23 The susceptibility of the landscape (along the route and in the wider landscape) is the second key contributing factor in determining the sensitivity of landscape receptors.
- 7.7.24 Paragraph 5.40 of GLVIA3 defines the susceptibility of the landscape to change as 'the ability of the landscape receptor (whether it be the overall character or quality/ condition of a particular landscape type or area, or an individual element and/ or features, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/ or achievement of landscape planning policies and strategies'.
- 7.7.25 The assessment of landscape susceptibility is tailored to the individual project, in this case the North Shropshire Reinforcement Project and requires:
  - Identification of the key components of the landscape that are likely to be

affected by the proposed development; and

- Identification of the various aspects of the North Shropshire Reinforcement Project, at all stages, that are likely to have an effect on those key components.

7.7.26 The susceptibility of each of the local landscape LCAs will be described and evaluated with reference to the following five criteria, which are specific to the landscape context of the area and to the North Shropshire Reinforcement Project.

- Landform;
- Landcover (including development);
- Landscape scale;
- Prominent landscape features and skylines; and
- Settlement pattern.

7.7.27 The criteria are listed in Table 7.2 together with an explanation as to how they can be applied to indicate higher or lower susceptibility. Table 7.2 also identifies which of the Holford Rules can be applied to each of the criteria.

7.7.28 For each criteria professional judgement will be applied to make a judgement on the susceptibility of the landscape within each local LCA. This will be informed by site visits and existing documentation including the Shropshire Landscape Typology, historic landscape character appraisal, stakeholder feedback and Conservation Area character appraisal. An overall value for each local LCA will be determined by bringing together the judgements made for each of the criteria. The resulting susceptibility will be described as **high, medium-high, medium, medium-low and low**<sup>40</sup>. The rationale in support of the assessment will be set out

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<sup>40</sup> When assessing the value, susceptibility, sensitivity and magnitude of change, some of the threshold categories have been subdivided to better reflect the nuances of the local landscape or visual conditions found within the study area and therefore do not necessarily reflect the subdivisions presented in the EIA methodology overview in Chapter 5 'EIA: Approach and Methodology' of this Scoping Report.



for each receptor so that it is clear how each judgement has been made.

| <b>Table 7.2</b>   |   |
|--|---|
| <b>Criteria for Judging Landscape Susceptibility</b>   |   |
| <b>1. Landform (Holford Rules 4 and 5) (closely linked to land cover)</b>  |   |
| <p>Steep, dramatic or elevated landforms will typically be more susceptible to a 132kV overhead line. This is because they are often prominent and distinctive in character and can also lead to skylining of overhead lines. Single and narrow ridges are particularly vulnerable especially where the slopes of the ridgeline are well defined/ steep/ or with rock outcrops. More complex landforms may provide some screening/ backdropping opportunities for wood poles.</p> <p>Valleys and low rolling hills are generally less susceptible because they have greater potential to provide backdropping and enclosure, limiting the perceptibility of an overhead line.</p> <p>Landforms that are undulating may have greater potential to provide visual enclosure, thereby limiting the perceptibility of a 132kV overhead line (although this has to be balanced against other factors such as tree cover). Flat open landforms may be more susceptible where there is an absence of surrounding higher landform or vegetation to provide a backdrop, although again this has to be carefully balanced against other factors.</p> |   |
| Judgement informed by GIS datasets on landform and Lidar terrain data.   |   |
| Low  | Low rolling/ undulating lowland with hills orientated in direction of the route. Also includes valleys within upland areas.   |
| Medium-low   | Simple regular and low lying landform which is predominantly flat and has which has few distinctive physiographic features.   |
| Medium   | A landform with some distinctive physiographic feature which have to be avoided. Also includes low rolling lowland with hills orientated against the direction of the route.  |
| Medium-high  | Relatively distinctive or complex landform, with some dramatic or elevated features such as rock outcrops or ridgelines.  |
| High   | Highly prominent, steep, dramatic and elevated landform, including exposed upland plateau. Rugged with extensive rock outcrops and high ridgelines. Also very complex or intricate small scale landform e.g. drumlin field. |

| <b>Table 7.2</b>   |  |
|--|--|
| <b>Criteria for Judging Landscape Susceptibility</b>   |  |
| <b>2. Land Cover Pattern (Holford Rules 5 and 6)</b>   |  |
| <p>This factor is not concerned with the material sensitivity of the particular type of land cover (which is considered in other environmental topics), but with the character of the landscape created through the landscape pattern, which includes the distribution of vegetation. Whilst trees and woodland offer the potential to screen wood poles (particularly in combination with undulating landform), complex landscapes comprising a variety or mosaic of characteristic or susceptible landscape features such as trees and woodlands, hedgerows or traditional/ historic field patterns, are typically more vulnerable to a 132kV overhead lines than simple uncluttered landscapes where there are few characteristic landscape features, or where such patterns have been obscured.</p> <p>Where landscape complexity is due to past or current commercial/ industrial influences, this indicates lower rather than higher susceptibility. In rural areas a 132kV overhead line is likely to be less intrusive in a landscape that is characterised by large agricultural structures, areas of commercial forestry or intensive farming or by the presence of road or rail infrastructure.</p> |  |
| Judgement informed by GIS datasets (topography and woodland) and Lidar terrain data.   |  |
| Low  | Developed land, including commercial forestry, quarrying, large scale industrial or infrastructure. Tree cover concentrated into discrete woodlands with few hedgerow or field trees. Absence of historic field pattern and agricultural intensification resulting in a simple regular or uncluttered landscape with few or no distinctive features and extensive areas of uniform ground cover. |
| Medium-low   | Some developed land, including commercial forestry, quarrying or infrastructure. Tree cover concentrated into discrete woodlands with few hedgerow or field trees. Absence of historic field pattern and agricultural intensification resulting in a simple, uniform or repetitive landcover pattern with few distinctive features and areas of uniform groundcover.                             |
| Medium   | Landcover pattern of some complexity with some distinctive features and few visually intrusive or inharmonious land uses. High tree cover with some large woodlands and high prevalence of individual hedgerow and field trees. Historic field pattern present but showing evidence of agricultural intensification.   |

| <b>Table 7.2</b>  |  |
|---|--|
| <b>Criteria for Judging Landscape Susceptibility</b>  |  |
| Medium-high   | Complex landcover pattern with distinctive features and very few visually intrusive or inharmonious land uses. Very high tree cover with woodlands and high prevalence of individual hedgerow and field trees. May include distinctive tree knolls or veteran parkland/avenue trees. Historic field pattern present with little evidence of agricultural intensification.  |
| High  | Intricate landcover pattern creating a complex and textured landscape with many distinctive features and no visually intrusive or inharmonious land uses. High tree cover with woodlands, individual hedgerow and field trees and strong presence of distinctive tree knolls or veteran parkland/avenue trees. Strong historic field pattern with robust traditional field boundaries and no evidence of agricultural intensification. |
| <b>3. Landscape Scale</b>   |  |
| Scale is typically related to landform or landcover. A small-medium scale landscape where the Trident wood poles would appear in proportion to landscape features (e.g. domestic buildings, trees), is likely to be of lower susceptibility than a large scale landscape where the wood poles would not be in proportion to the landform and/ or landcover. |  |
| Judgement informed by GIS datasets including background mapping (field boundaries and contours), slope analysis and aerial imagery.   |  |
| Low   | Medium or small scale landscape where the wood poles would be of a similar scale to the trees/ buildings and other human scale landscape components.   |
| Medium-low  | Medium or small scale landscape where the wood poles would be in proportion to most existing landscape features.   |
| Medium  | Large scale or small scale landscape but with some human scale features such as trees or domestic buildings, which would be more in proportion to the scale of the wood poles.   |
| Medium-high   | Mainly large scale or very small scale/ intimate landscape. In both situations the wood poles would appear out of proportion to the scale of the existing landscape.   |

| <b>Table 7.2</b>   |  |
|--|--|
| <b>Criteria for Judging Landscape Susceptibility</b>   |  |
| High   | Very large scale landscape or very small scale/ intimate landscape. In both situations the wood poles would appear out of proportion to the scale of the existing landscape.   |
| <b>4. Prominent Landscape Features and Skylines</b>  |  |
| <b>(Holford Rule 4)</b>  |  |
| <p>Landscapes with distinctive ridges or skylines are likely to be more susceptible to a 132kV overhead line than skylines that are less prominent or have been affected by contemporary structures. The presence of distinctive or historic landscape features such as hilltop monuments, church towers, vernacular villages or other landmark features (e.g. country houses, mansions, historic features), increases susceptibility as overhead lines can detract from or conflict with these features. Skylines which form prominent settings for settlement are also likely to be more susceptible as an overhead line may interrupt the relationship between these features and their landscape settings.</p> |  |
| Judgement informed by Shropshire Landscape Typology, GIS datasets (topography) and site survey.  |  |
| Low  | A landscape with few or no prominent or distinctive landscape features, where skylines are not distinctive and are characterised by large scale, visually intrusive or inharmonious development.   |
| Medium-low   | A landscape with some prominent and distinctive landscape features or skylines where legibility of such features would be susceptible to an overhead line, but more typically characterised by large scale, visually intrusive or inharmonious development.  |
| Medium   | A landscape where the skylines are typically mixed in character with some prominent and distinctive landscape features, but where some large scale visually intrusive or other inharmonious development may be present.  |
| Medium-high  | A landscape with mostly prominent and distinctive landscape features or skylines where legibility of such features would be susceptible to an overhead line. This includes naturalistic skylines with prominent physiographic features or woodlands, and skylines with prominent or iconic historic landmark features such as traditional hilltop villages, monuments, church towers/ spires or designed landscape features. |

| <b>Table 7.2</b>   |   |
|--|---|
| <b>Criteria for Judging Landscape Susceptibility</b>   |   |
| High   | A landscape with highly prominent and distinctive landscape features or skylines, where legibility of such features would be susceptible to an overhead line. This includes naturalistic skylines with prominent physiographic features or woodlands, and skylines with prominent or iconic historic landmark features such as traditional hilltop villages, monuments, church towers/ spires or designed landscape features. |
| <b>5. Settlement Pattern (Holford Rules 1 &amp; 2)</b>   |   |
| <p>This relates to settlement pattern in relation to landscape character, rather than to visibility and views, which is discussed separately. Because a 132kV Trident overhead line can deviate relatively easily around individual or small groups of properties, they are more flexible than overhead lines on heavy duty wood poles or steel lattice towers.</p> <p>A settlement pattern which is closely related to the pattern and form of the landscape, particularly where traditional patterns are intact, is potentially more sensitive to development. Conversely, a settlement pattern which is less closely related to landscape, for example larger-scale built development rising over ridgelines or masking field patterns, is likely to be less susceptible.</p> |   |
| Judgement informed by GIS datasets (settlement pattern), OS Data/ aerial imagery (Google Earth Pro) and site visits.   |   |
| Low  | Settlement clustered into a few villages or hamlets.  |
| Medium-low   | Mainly clustered settlement pattern with occasional dispersed properties or large farm complexes.   |
| Medium   | Mixed settlement pattern with villages, hamlets and dispersed properties or farms.  |
| Medium-high  | Mixed settlement pattern with multiple villages, hamlets and dispersed properties or farms.   |
| High   | Historic settlement pattern with a high density of dispersed farmsteads and properties.   |

Determining Landscape Sensitivity

- 7.7.29 The judgements on susceptibility and value will be considered together to provide an overall profile of the sensitivity of the landscape within each local LCA to the North Shropshire Reinforcement Project. Each local LCA will be classified into one of five tiers, **high**, **medium-high**, **medium**, **medium-low** or **low**, between which there is a gradual transition. The relationship between susceptibility to change and value can be complex and is not linear. For example a highly valued landscape (such as an AONB) may in some areas have a low susceptibility to change, due to the characteristics of the landscape and the nature of the development being proposed.
- 7.7.30 In accordance with GLVIA3, the final assessment of sensitivity for each of the local LCAs will be based on informed professional judgement based on consideration of the susceptibility and value judgements and the relative weight attached to these which varies from landscape to landscape based on the indicative descriptions in Table 7.3. The presence of any combination of attributes within the criteria above may be considered when assessing the sensitivity of each of the LCAs. The rationale in support of the assessment will be set out for each receptor so that it is clear how each judgement has been made.

| <b>Table 7.3</b>   |  |
|--|--|
| <b>Categories of Landscape Sensitivity to 132kV Overhead Lines</b> |  |
| Sensitivity  | Definition of Sensitivity to Change from Overhead Lines  |
| High   | <p>A landscape whose overall character, its individual elements and/ or features, or particular aesthetic or perceptual aspects are very vulnerable to change or loss and offer limited opportunities to accommodate a new overhead line. Typically includes:</p> <p>Landscapes of particularly distinctive character and/or high scenic quality which may be statutorily designated;</p> <p>Landscapes containing elements/ features that are nationally scarce, including mature vegetation such as ancient woodland or veteran trees; and</p> |

|             |  |
|-------------|--|
| Medium-high | Landscapes defined by very distinctive aesthetic or perceptual aspects.  |
| Medium      | <p>A landscape whose overall character, its individual elements and/ or features, or particular aesthetic or perceptual aspects are reasonably robust, vulnerable to change or loss and offer some opportunities to accommodate new overhead lines. Typically includes:</p> <ul style="list-style-type: none"> <li>• Landscapes of positive character but with some evidence of alteration to/ degradation of elements/ features resulting in areas of more mixed character;</li> <li>• Areas of degraded character but which are valued by local communities;</li> <li>• Landscapes containing elements/ features that are locally commonplace;</li> <li>• Landscapes containing elements/ features that are rare or unusual locally but are in degraded or poor condition; and</li> <li>• Landscapes with aesthetic or perceptual aspects that do not contribute particularly to local distinctiveness and quality.</li> </ul> |
| Medium-low  | <p>A landscape which is of low quality whose overall character, individual elements and/ or features, or particular aesthetic or perceptual aspects are robust, tolerant to change and offer good opportunities to accommodate wood pole overhead lines. Typically includes:</p> <ul style="list-style-type: none"> <li>• Landscapes of neutral character with few notable features;</li> <li>• Landscapes which have been adversely altered or degraded;</li> <li>• Landscapes containing elements/ features that are nationally or regionally ubiquitous;</li> <li>• Landscapes containing elements/ features that detract from landscape character e.g. other overhead lines, power stations, major roads; and</li> <li>• Landscapes whose key aesthetic or perceptual aspects are negative.</li> </ul>   |
| Low         |  |

**Magnitude of Change**

7.7.31 As explained in GLVIA3 (para 5.48 – 5.52), the nature or magnitude of change that is likely to occur is determined by reference to its size/ scale, geographical extent and duration/ reversibility as follows:

- The size/ scale of an effect is determined by considering the amount of

change experienced by a receptor, including the extent or proportion of loss or addition of existing landscape elements, the degree to which aesthetic or perceptual aspects of the landscape may be altered and whether the change affects its key characteristics and overall character;

- The geographical extent is the area over which the effects are experienced. It is not the same as size/ scale as a small-scale change may cover a wider area, or vice-versa. The geographical extent is described as being at the site level (within the PPB), within the immediate setting of the proposed development, at the scale of the local LCA or on a larger scale and affecting several local LCAs; and
- In accordance with GLVIA3, this is a separate, but linked consideration and the duration of effect may be described a short term (0-3 years), medium term (3 -15 years) or long term (> 15 years). For the purposes of the landscape and visual assessment construction effects are assumed to be short term and temporary, whilst operational effects are assumed to be long term and permanent, but generally reversible.

7.7.32 The judgements on the size/ scale of effect and geographical extent will be considered together to derive an overall magnitude of predicted change or effect for each receptor, which will be determined through informed professional judgement guided by the descriptions in Table 7.4. Duration and reversibility are not considered at this stage as it is not linked concern. For example a high magnitude of change may occur over a short or long time frame and may, or may not, be reversible. The magnitude of landscape effect will be described as **high**, **medium-high**, **medium**, **medium-low** and **low**. The rationale in support of the assessment will be explained for each receptor so that it is clear how each judgement has been made.



| <b>Table 7.4<br/>Judging the Magnitude of Landscape Effect</b> |  |
|--|--|
| Magnitude of Change  | Description  |
| High   | Considerable change to the landscape over a wide area or intensive change over a limited area with severe negative consequences for the elements, character and quality of the baseline landscape. The development will form a dominant landscape element and post development the baseline situation will be fundamentally changed, potentially creating a different landscape character. If designated, affecting the reasons for the designation. |
| Medium-High  | Conspicuous change to the landscape over a wide area or considerable change over a limited area, with undesirable consequences for the elements, character and quality of the baseline landscape. The development will form a prominent landscape element and post development the baseline situation will be substantially changed. If designated, affecting the reasons for the designation.   |
| Medium   | Noticeable change to the landscape over a wide area or conspicuous change over a limited area, with some undesirable consequences for the elements, character and quality of the baseline landscape. The development will form a conspicuous landscape element and post development the baseline situation may be noticeably changed. If designated, unlikely to affect the reasons for the designation.   |
| Medium-Low   | Slight change to the landscape over a wide area or noticeable change over a limited area, with few undesirable consequences for the elements, character and quality of the baseline landscape. The development will be perceptible but post development, the baseline landscape will be largely unchanged. If designated, not affecting the reasons for the designation.   |
| Low  | Inconspicuous change to the landscape, with no undesirable consequences for elements, character and quality of the baseline landscape. The development will be just perceptible and post development, the baseline landscape   |

|  |  |
|--|--|
|  | will appear unchanged. If designated, not affecting the reasons for the designation. |
|--|--|

7.7.33 The judgements on magnitude in Table 7.4 may need to be adjusted (either up or down) to reflect the duration of the change (i.e. short, medium or long term) and whether it is potentially reversible.

7.7.34 The assessment will also identifies areas where no landscape change is anticipated. In these instances, 'no change' will be inserted into the appropriate magnitude of effect column and the resulting effect will be described as 'none'.

**Determining Overall Significance**

7.7.35 In accordance with the overall approach described in Chapter 5 ‘EIA Approach and Methodology’ of this Scoping Report, the separate judgements about the sensitivity of the landscape receptor and the magnitude of likely effect will be combined to allow a final judgement to be made about whether or not the effect is considered significant using guidance presented in Table 7.5.

| <b>Table 7.5</b>  |   |  |
|---|---|--|
| <b>Judging Significance of the Effect on the Landscape</b>  |   |  |
| <b>Less likely to be significant</b>  | ↔ | <b>More likely to be significant</b>   |
| <p>The development is generally well accommodated within the landscape and does not conflict or undermine its key characteristics. The effects are will be small in scale and typically (but not always) limited in its geographical extent.</p> <p>The effects are more likely to be short term, temporary and reversible.</p> | ↔ | <p>The development conflicts with the character of the landscape, forming an intrusive feature which substantially erodes the valued characteristics. The effects will be large in scale and will typically (but not always) be perceived across a wide geographical area.</p> <p>The effects are more likely to be long term, permanent and irreversible.</p> |

7.7.36 The relationship between receptors and effects is not generally a linear one and there are no hard or fast rules about what makes an effect significant. Judgements

will therefore be supported by qualitative text to draw out the important issues, describe the effects and explain the underlying decision-making rationale.

7.7.37 Paragraph 5.54 of GLVIA3 notes that significance of landscape effects is not absolute and *'can only be defined in relation to each development and its specific location'*.

7.7.38 At opposite ends of the spectrum GLVIA3 notes that:

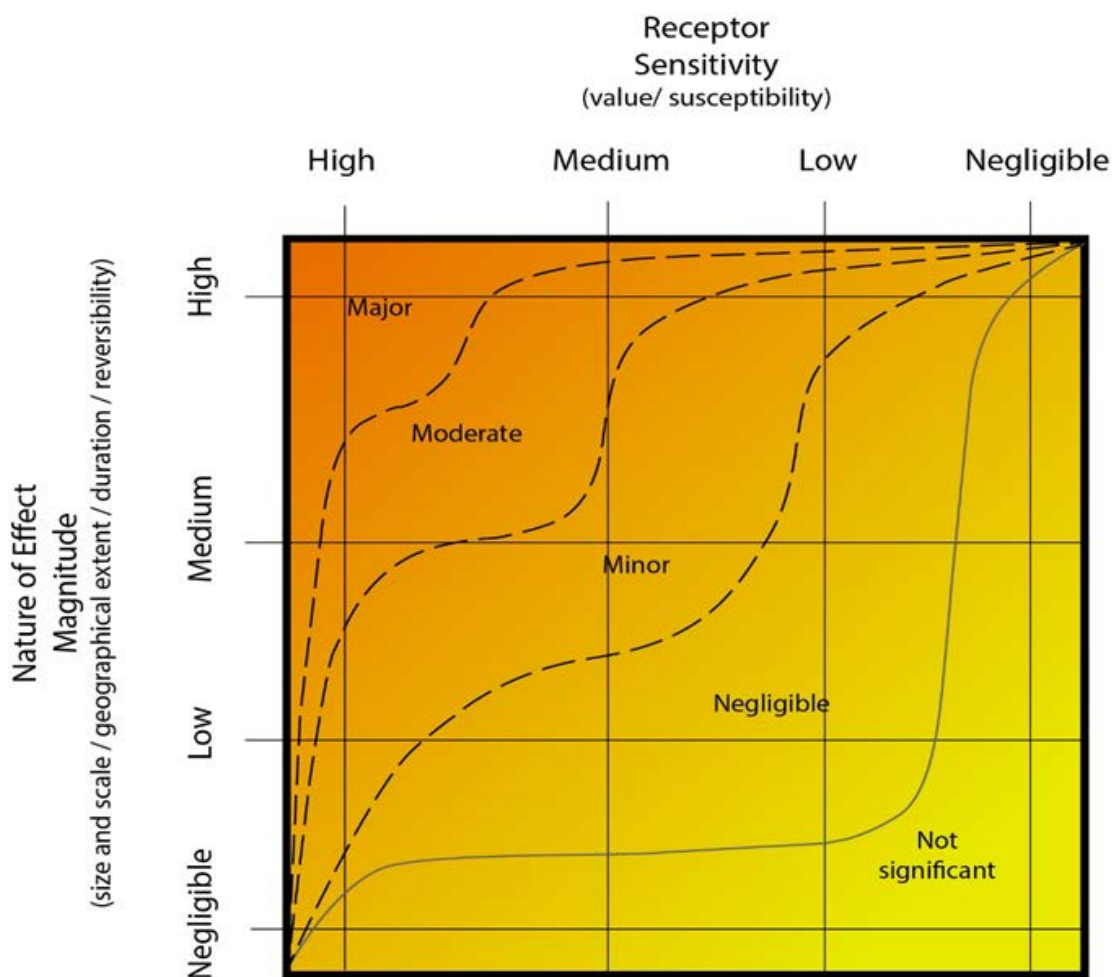
- *'Major loss or irreversible negative effects, over an extensive area, on elements and/ or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest significance; and*
- *Reversible negative effects of short duration, over a restricted area, on elements and/ or aesthetic and perceptual aspects that contribute to but are not key characteristics of the character of landscapes of community value are likely to be of the least significance and may, depending on the circumstances, be judged as not significant.'*
- *Where assessments of significance place landscape effects between these extremes, judgements will be made about whether or not they are significant, with explanations of why these conclusions have been reached.'*

7.7.39 The significance of landscape effects will be described as **major, moderate, minor** or **negligible**. Each of these categories covers a broad range of effects and represents a continuum or sliding scale as illustrated in the diagram below, which is adapted from the significance evaluation matrix in IEMA's report, The State of Environmental Impact Assessment Practice in the UK<sup>41</sup>. Although this diagram is useful in that it demonstrates that there is a gradual transition both within and between the categories, the two axes are not necessarily evenly weighted and the diagram should be only employed as a guide to inform the assessment. It is

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<sup>41</sup> Institute of Environmental Management & Assessment (IEMA) (June 2011), Special Report – The State of Environmental Impact Assessment Practice in the UK

important to note that each of the four categories covers a broad range of effects and represents a continuum or sliding scale. Because of this, effects may be for example be described as being at the ‘upper end of moderate’, which means that the effects would be considered significant but not of such importance as to fall firmly within the ‘major’ category.



Adapted from Fig 6.3 EIA significance evaluation matrix

7.7.40 The final decision on the level of effect and therefore significance ultimately relies on professional judgement which has to be supported through clear and transparently explained text.

### **Approach to Mitigation**

7.7.41 An integral part of the iterative design and assessment process undertaken to date has been the consideration of mitigation through sensitive routeing and design in accordance with the Holford Rules. The aim has been to ensure that the development takes account of environmental constraints and opportunities and achieves the optimum environmental fit as part of an environmentally integrated design.

7.7.42 During the ongoing detailed design process, there will be a continuing exploration of further opportunities for mitigation of likely significant landscape effects through sensitive alignment and siting of the component parts of the North Shropshire Reinforcement Project including:

- Individual pole positions and their associated infrastructure;
- Temporary and permanent access arrangements; and
- Construction areas (in relation to important landscape characteristics, and receptors).

7.7.43 The aim will be to maximise use of screening landform and vegetation when siting the different elements of the North Shropshire Reinforcement Project. Wherever possible wood poles will be sited close to woodland blocks, individual trees and hedgerows to help better accommodate them within the landscape. Working areas and access tracks will be kept to a minimum and any areas disturbed will be reinstated, including the replacement of any sections of hedgerow removed (applies to construction access and underground cable sections). In addition, there may be an opportunity for new screen planting to be undertaken if required to mitigate significant effects.

### **Cumulative Effects**

7.7.44 The different types of cumulative effect, including in-combination and inter-project cumulative effects are explained in Chapter 18 'Cumulative Effects' of this Scoping Report.

- 7.7.45 The purpose of the cumulative assessment is to identify whether potential changes to the landscape arising from the North Shropshire Reinforcement Project together with the predicted effects from other similar proposed developments would result in an overall change to the key characteristics and overall character of the landscape.
- 7.7.46 Paragraph 7.2 of GLVIA3 identifies cumulative landscape and visual effects as those that, ‘...result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other development (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the reasonable future’.
- 7.7.47 Paragraph 7.5 of GLVIA3 acknowledges that cumulative landscape assessment is complex and approaches to it are evolving, noting also that the *‘challenge is to keep the task reasonable and in proportion to the nature of the project under consideration.....It is always important to remember that the emphasis in EIA is on likely significant effects rather than on comprehensive cataloguing of every conceivable effect that might occur...’*
- 7.7.48 The different types of cumulative effect are explained in Chapter 17 (Cumulative Effects) of this Scoping Report.

### **Cumulative Effects – Approach and Methodology**

- 7.7.49 The assessment of cumulative landscape effects will follow a similar methodology to that described above for the main landscape assessment, in that the degree of landscape effect is determined by combining an evaluation of the sensitivity of the landscape and the magnitude of change. The resulting effect will be described in the ES as **major, moderate, minor** or **negligible**. The difference from the main landscape assessment is that the cumulative assessment considers the magnitude of change which would potentially arise from multiple developments.

#### Defining a Study Area

- 7.7.50 The study area for the cumulative assessment will take account of other proposed developments, which are either consented or under construction. The zones of visual influence for each development within the cumulative assessment will be

overlaid to produce a composite map showing areas from where multiple developments are likely to be seen. Where sufficient information is not available for the other developments then reasonable assumptions and judgments will be made. Theoretically, the areas where the effects of the different developments overlap are those which would potentially experience cumulative landscape effects. The larger the extent of the overlap, the greater the degree of cumulative effect likely to be experienced.

#### Baseline for the Assessment of Cumulative Effects

- 7.7.51 The baseline information for the North Shropshire Reinforcement Project will start with the baseline for the main landscape assessment, but this may need to be modified to take account of any changes in the study area to allow for the inclusion of the other schemes.

#### Predicting Cumulative Landscape Effects

- 7.7.52 The cumulative landscape assessment will consider the degree to which the North Shropshire Reinforcement Project, in combination with other similar proposed developments, would change the existing key characteristics and overall landscape character through an incremental effect on characteristics elements, features, landscape patterns and quality, or by the cumulative addition of new features or removal of existing landscape features. Identified cumulative landscape effects will be described in relation to the local LCAs within the Shropshire Landscape Typology.

#### Assessment of Cumulative Landscape Effects

- 7.7.53 Criteria and thresholds for landscape sensitivity are set out earlier in this chapter.
- 7.7.54 Where required, mitigation will be considered and residual effects will then be assessed with mitigation in place. As noted previously, however, most mitigation will be undertaken as part of the iterative design of the North Shropshire Reinforcement Project and this will be in place when the cumulative assessment is undertaken. Nevertheless, if required, there may be scope in some areas to

introduce tree or shrub planting, to help reduce any significant adverse cumulative effects.

7.7.55 When considering cumulative effects it is the consequences for the important characteristics of the landscape in question that are particularly important, with judgements having to be made about such changes that may result in a new landscape character. In making these judgements, the assessment will consider:

- The sensitivity of the landscape to the types of development being considered;
- The value of the affected landscapes, particularly in relation to designated landscapes and other valued components of the landscape;
- The magnitude of effect, both in terms of size and geographical area. This may differ from the magnitude of effect identified for the North Shropshire Reinforcement Project; and
- The duration of the effects, including the timescale of the North Shropshire Reinforcement Project in relation to that of the additional developments being considered and the degree to which the effects are potentially reversible.

7.7.56 By considering all these factors together it is possible to determine whether the combined effects of the North Shropshire Reinforcement Project coupled with any additional proposed developments, will influence the significance of the individual landscape effects for each of the developments, and therefore whether significant cumulative landscape effects are likely to arise. The most significant cumulative landscape effects are likely to be those that would have major effects on the important characteristics of the landscape of the study area to the extent that they transform it into a different landscape. This may occur even where the effects of the individual developments are not significant.

7.7.57 The final overall judgement of the predicted cumulative effects on the landscape will be summarised as for the main landscape assessment in a series of four categories of significance – **major**, **moderate** or **minor**, **negligible**. The rationale



in support of the assessment of sensitivity will be set out for each receptor in the main landscape assessment, so that it is clear how each judgement has been made. The assessment will be prepared such that the results of the main landscape assessment for the North Shropshire Reinforcement Project will be reported alongside the additional combined cumulative effects. The cumulative effect will always be equal to or greater than the effects recorded for the landscape assessment as explained as follows:

- When a predicted significant landscape effect for the North Shropshire Reinforcement Project is added to a predicted significant landscape effect attributed to another proposed development(s), the overall effect is deemed to be significant and cumulative. The combined effect is greater than for each development individually;
- When a predicted significant landscape effect from the North Shropshire Reinforcement Project is added to a predicted non-significant landscape effect attributed to another proposed development(s), the overall effect is deemed to be significant and cumulative, but is attributed to the North Shropshire Reinforcement Project. The combined effect is greater than for each development individually;
- When a predicted non-significant landscape effect from the Proposed Project is added to a predicted significant landscape effect attributed to another proposed development(s), the overall effect is deemed to be significant and cumulative, but is attributed to the other proposed development. The combined effect is greater than for each development individually; and
- When a predicted non-significant effect from the North Shropshire Reinforcement Project is added to a predicted non-significant effect attributed to another proposed development(s), the overall effect is still deemed to be cumulative and greater than the level of effect for each development individually but the combined effects may or may not be

significant.

7.7.58 As with the main landscape assessment, the supporting text will clearly set out how professional judgements have been made in determining the level of effect in each case.

## 7.8 SUMMARY

7.8.1 The Trident wood pole design was identified during the strategic optioneering stage as the most technically feasible structure with the best fit in the landscape of North Shropshire, and therefore the design most likely to result in fewer landscape and visual effects. This is due to the scale and fabric of the design, which will be on approximately 12m high Trident wood poles. This design would assist in assimilating the design into the north Shropshire landscape, which is general low-lying and rural, with arable fields and pasture marked by hedgerows and hedgerow trees, and occasional scattered mature trees and field ponds (locally known as pits).

7.8.2 The assessment of landscape effects will take into account the construction, operation and decommissioning phases. Effects would be likely to arise from the appearance, height and spacing of the poles, and the any subsequent landscape losses. It is likely that any direct effects on the landscape in terms of tree or vegetation loss would occur as part of the construction phase, though these losses would be locally contained within the construction corridor, access areas and construction compounds, and limited to small sections of hedgerow and to scattered individual mature trees that are located within the required safety clearance zones.

7.8.3 Careful routeing and subsequent micro-siting of poles assists in further limiting these potential losses.

7.8.4 Mitigation proposals, including the lifting and reinstatement of hedgerows within 48 hours, and the planting of new trees to replace those lost and to provide additional screening means that some of these effects would be temporary.

7.8.5 The landscape assessment will give consideration to both the localised effects on the landscapes immediately adjacent to the proposed development, and to the wider landscape context. Consideration will be given to the sensitivity of the local

landscape through a sensitivity analysis based on Landscape Character Areas identified in the Shropshire Landscape Typology. Landscapes and features that add value and character to the landscape and/ or the experience of the landscape, including Registered Parks and Gardens and locally valued landscapes such as Woodhouse Estate will also be taken into account.

- 7.8.6 Consideration will also be given to cumulative effects resulting from landscape changes arising from the proposed development and other similar proposed developments, which could result in an overall change to the key characteristics and overall character of the landscape.

## CHAPTER 8: VISUAL

### 8.1 INTRODUCTION

- 8.1.1 This chapter sets out the proposed scope for assessing the likely visual effects associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the Proposed Development'.
- 8.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 'EIA Approach and Methodology' of this Scoping Report. It has been developed to take account of any likely significant impacts on agriculture arising during the construction and operation phases of the North Shropshire Reinforcement Project.
- 8.1.3 In accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009<sup>42</sup> (the EIA Regulations), the visual assessment will identify and appraise the potential effects which may arise during the construction and operation phases of the North Shropshire Reinforcement Project. As explained in Chapter 3, Section 3.7, as the proposed overhead line is considered by SP Energy Networks to be a permanent installation, decommissioning effects will not be included in the assessment.
- 8.1.4 This chapter is supported by the following figures and appendices:
- Figure 8.1: Visual Receptors Referred to in Baseline Text;
  - Figure 8.2: Suggested Viewpoint Locations;
  - Figure 8.3: Visual Constraints (Sections 1 and 2);
  - Figure 8.4: Visual Constraints (Sections 3 and 4) and
  - Appendix C: Viewpoint Schedule.

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<sup>42</sup> The Planning Inspectorate (PINS) (2009), Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended)

- 8.1.5 The European Landscape Convention<sup>43</sup>, which was ratified in the UK in 2006 defines landscape as, *'an area, as perceived by people, whose character is the result of the action and interaction of natural and/ or human factors.'*
- 8.1.6 Visual and landscape effects are closely linked which means there is some overlap of methodology, although the two topics are assessed separately. Assessment of visual effects considers the effects on specific views and on the general visual amenity experienced by people (visual receptors), whilst landscape assessment deals with the assessment of effects on the landscape as a resource in its own right.
- 8.1.7 The assessment of visual effects is also linked to the following environmental topics:
- Historic Environment;
  - Ecology;
  - Socio-economic (Tourism and Recreation); and
  - Traffic.
- 8.1.8 The methodology for undertaking the visual assessment has been developed in accordance with relevant guidance which is presented in the third edition of the Guidelines for Landscape and Visual Assessment<sup>44</sup> (GLVIA3). GLVIA3 is the established best practice guidance for landscape and visual impact assessment and complies with the requirements of the Overarching National Policy Statement for Energy<sup>45</sup> (EN-1) and National Policy Statement for Electricity Networks Infrastructure<sup>46</sup> (EN-5).

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<sup>43</sup> European Landscape Convention ETS No.176 ratified on the 21st November 2006

<sup>44</sup> Landscape Institute and IEMA (2013), Guidelines for Landscape and Visual Impact Assessment 3rd edition

<sup>45</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN- 1)

<sup>46</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

## Scope of Assessment and Definitions

- 8.1.9 For the purposes of the visual assessment, the terms '*impacts*' and '*effects*' are considered to be interchangeable but the term '*effects*' will be mostly used, as this is the approach taken in GLVIA3.
- 8.1.10 An assessment of visual effects deals with the effects of change and development on the composition of views available to people and their visual amenity<sup>47</sup>. The concern is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/ or introduction of new elements. In accordance with GLVIA3, the assessment will focus on public views experienced by those groups of people who are likely to be most sensitive to the effects of the North Shropshire Reinforcement Project. This includes: local communities where views contribute to the landscape setting enjoyed by residents in the area, road users and people using recreational routes, features and attractions.
- 8.1.11 In addition to public views, as agreed with Shropshire Council at Stakeholder Meeting 5 on the 23<sup>rd</sup> November 2016, the assessment will also consider the effects on views from residential properties, which lie close to the proposed development. This will be referred to as the residential visual amenity assessment, which is the assessment of the visual amenity experienced by occupiers of residential properties, including their gardens.
- 8.1.12 Cumulative visual effects occur when individual sources of effects add together to have an overall greater effect on receptors. This is explained more fully in Chapter 18 'Cumulative Effects' of this Scoping Report.
- 8.1.13 The visual assessment, including the residential visual amenity assessment and cumulative visual assessment, will be presented as an individual chapter within the

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<sup>47</sup> GLVIA3 defines visual amenity as 'Meaning the overall pleasantness of the views people enjoy of their surroundings as they live, work, recreate, visit or travel through an area'. (Glossary page 158)

ES. The chapter will refer to a series of illustrated record sheets, included as an appendix to the ES, which will detail the information recorded for individual visual receptors.

## 8.2 PLANNING POLICY CONSIDERATIONS

8.2.1 Planning policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report.

### **National Planning Advice and Policies**

8.2.2 The overarching National Policy Statement for Energy (NPS) EN-1 discusses generic impacts on the historic environment, resulting from the construction, operation and decommissioning of energy infrastructure.

8.2.3 A full assessment of compliance with policy as set out in the NPS will be provided in the Planning Statement which will be submitted as part of the application for a DCO.

### **Local Planning Policy and Guidance**

8.2.4 The key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

8.2.5 These documents will be reviewed and policies relevant to the visual impact assessment and cumulative visual impact assessment will be identified. Whilst not forming part of the primary policy in relation to NSIPs, reference to this local plan policy will be supported by reference to the National Planning Policy Framework (NPPF) which gives context to these local policies.

8.2.6 The following supporting documents are also considered relevant to the visual assessment and will be reviewed.

- Shropshire Council (2016), Natural Environment SPD consultation draft

(JLDP Supporting Document); and

- Shropshire Council (2016), Historic Environment SPD consultation draft (JLDP Supporting Document).

### Further Guidance

8.2.7 In addition the following guidance will be referenced:

- The Holford Rules – Guideline for the Routeing of New High Voltage Overhead Transmission Lines;
- Landscape Institute (2011), Photography and Photomontage in Landscape and Visual Impact Assessment: Advice Note 01/11;
- Natural England (2014), An Approach to Landscape Character Assessment;
- Scottish Natural Heritage (2017), Visual Representation of Windfarms Good Practice Guidance Version 2.2<sup>48</sup>;
- Scottish Natural Heritage (2012), Assessing the Cumulative Impact of Onshore Wind Energy Developments<sup>49</sup>; and
- The Planning Inspectorate (2015), Cumulative Effects Assessment.

## 8.3 WORK UNDERTAKEN TO DATE

8.3.1 Extensive survey and assessment work has already been undertaken as part of the ongoing routeing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 'Alternatives and Design Evolution' of the Scoping Report. Table 1.1, in Chapter 1 'Introduction' lists the documents which have been produced to inform the route selection process and which include baseline information on the

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<sup>48</sup> Scottish Natural Heritage (2017), Visual Representation of Wind Farms.

<sup>51</sup> Scottish Natural Heritage (2012), Assessing the Cumulative Impact of Onshore Wind Energy Developments.



visual character of the landscape, key views, and constraints and opportunities afforded by these.

8.3.2 The EIA will build on the information collected to date through further field and desk survey. This is in order to provide a full appreciation of the visual amenity of the study area and its wider environment.

## 8.4 CONSULTATION RESPONSES

8.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.

8.4.2 The consultations have secured additional detailed information about the visual environment, agreed the general approach and appropriate methods for assessment of views, and enabled stakeholder views to inform the assessment, particularly as regards sensitive views.

8.4.3 The initial consultation responses relating to the visual assessment are detailed below:

- Shropshire Council requested clarification regarding the relationship between the visual assessment and the residential visual amenity assessment, to the sensitivity appraisal and historic landscapes; and
- Shropshire Council Request that visual constraints are included in a visual appraisal plan and choice of viewpoints is clarified.

8.4.4 These comments have been addressed.

8.4.5 Shropshire Council have been consulted more recently on the visual methodology included within this chapter. In early 2017 the Council stated that the proposed methodology is '*comprehensive, clear, plainly written and appropriate to the latest guidance*'. The Council also agreed with the groups of visual receptors identified in Figure 8.1 and the choice of viewpoints presented in Figure 8.2.

## 8.5 BASELINE ENVIRONMENT

### Approach

- 8.5.1 The visual baseline (existing views and visual amenity) forms the basis for the identification and description of the visual changes that may result from the North Shropshire Reinforcement Project. It establishes the areas from where the development may be visible, the different groups of people who may experience views of the different elements of the North Shropshire Reinforcement Project, the locations or viewpoints where they will be affected and the nature of the views at those locations. It also establishes the relative number of receptors within each group of people who are likely to be affected by changes in their views or visual amenity.
- 8.5.2 Potential visual receptors are identified through a review of the baseline studies (particularly topography and vegetation cover), by responses from consultees and through site survey to verify the extent of potential visibility, identify features which may screen views and to identify potential visual receptors.
- 8.5.3 The visual baseline is informed by the landscape baseline presented in Chapter 7 'Landscape' of this Scoping Report.

### Visual Baseline

- 8.5.4 Most of the study area comprises low lying pastoral and arable farmland, with fields bounded by hedgerows with mature hedgerow trees. It is a rural landscape with a mixture of villages, hamlets and scattered individual properties, connected by a network of roads and lanes. The local landform lies between 90 and 110m AOD. There are small areas of higher ground but generally the landscape is relatively flat as indicated in Figures 7.5 and 7.6, particularly around the Rivers Roden and Perry.
- 8.5.5 Roadside hedgerows and occasional small woodlands serve to limit views and, in places it is only possible to appreciate the wider view through roadside field gates. Elsewhere, and beyond and above the confines of hedges, visual containment is provided primarily through tree cover, particularly through the 'layering effect' of field boundary trees.

8.5.6 In addition to the roads and lanes, the landscape is crossed by a network of footpaths. Whilst the numbers of people using this lane and footpath network may be relatively few, their attention is likely to be focussed on appreciation of the landscape and views.

8.5.7 The routing process has sought to locate wood pole supports close to field boundaries where the existing hedgerows, often with associated trees, help to provide screening and/ or a backdrop for the overhead line which reduces its visibility in the landscape. Based on the visibility work undertaken to date, including ongoing discussions with stakeholders, the following are locations where visual receptors could be affected by the proposed development. These are identified in Figure 8.1. The list is not exhaustive and will be refined, and where necessary expanded, throughout the design of the proposed development and in response to any input from stakeholders:

- The eastern edge of Oswestry including the A5;
- Scattered settlement in proximity to Middleton including Top House Farm and Bryn-y-plentyn;
- Scattered settlement in proximity to Babbinswood and the B5009 including properties such as Brookfields Farm, Henlarth, The Oaks, Babbinswood Farm and Perry Farm;
- The Montgomery Canal, the Regional Trail and the local cycle route;
- The north and east of Woodhouse Estate near Rednal Mill, The Lees Farm and Lower Lee;
- Users of/ visitors to the River Perry;
- Lower Hordley near Red House Farm, Sycamore Farm House, Park House and Reynold's Cottage;
- Bagley Marsh;
- Top House and Kenwick Oak;
- Kenwick Lodge, Shade Oak and Ferney Hough;

- The southern edge of settlement at Cockshutt including Stonehill, Highfields, Stanwardine Grange and Stanwardine;
- Properties along the A528, including Wackley Lodge and East Lodge;
- Scattered settlement near the B4397, including Wood Farm, Runner's Rest, The Wood, Malt Kiln Farm, Coppice Farm, Moor House Farm, Burlton Grange and Woodgate;
- Settlement to the north of the hamlet of Noneley including the Shayes and the Hollies
- Settlement to the south of the hamlet at Noneley including Noneley Hall, Forrester's Farm, and Grafton Farm;
- Settlement to the south of the hamlet at Commonwood including Willow Tree Cottage and Pearl Farm;
- The north-western edge of scattered settlement at Ruewood;
- Users of/ visitors to the River Roden;
- Pools Farm to the west of Wem;
- Settlement on the western edge of Wem, in particular along the B5063 Ellesmere Road at Avondale, Oakdene, Harley House and Sherfield; and
- PRoW and minor roads/ rural lanes that are crossed by or are in close proximity to the Proposed Overhead Line Route, and those located in more elevated areas of the landscape close to Stanwardine and Kenwick Lodge.

## 8.6 ISSUES IDENTIFIED

### Construction

- 8.6.1 The most immediate visual effects arising from construction of the proposed overhead line would be those associated with access and clearance of the line corridor. The removal of tree cover may open up new views. Wayleave corridors are required when a line passes through a wooded area and the straight and linear nature of these can be visually intrusive. The removal of hedgerows may be

required to provide access for construction and or maintenance. Creation of new access tracks, temporary site compounds, storage areas, and hardstandings may affect views, although in most instances such effects would be temporary as tracks and compounds would be reinstated upon completion of the works.

### **Operation**

- 8.6.2 The main effects of the proposed overhead line during operation would be the presence of additional wood pole structures within the countryside. Once constructed, however, there would be no moving parts or lighting and the line would only require very occasional visits by SP Energy Networks for maintenance and repair.
- 8.6.3 The main features of the overhead line which would give rise to visual effects would be the wood poles, their appearance, height and spacing. As with any external material, wood poles are susceptible to weathering and consequent colour variations. The colour of the poles at the time of construction would be dark brown but this would fade over time to a noticeably lighter silver-grey. The rate of colour change would depend on the prevailing weather conditions and to some degree on the type of timber and timber treatment that were used. Over time these changes would tend to reduce the perceptibility of elements viewed above the skyline, but may increase the visibility of structures when viewed against a dark background such as coniferous plantation. The metal bracing and the conductors would be constructed from aluminium, which is initially shiny but tends to dull over time to dark matt silver.
- 8.6.4 With respect to likely visual effects the routeing process has sought to avoid likely significant effects on visual receptors as described in the various documents listed in Table 1.1. During this process an area south of Noneley was identified as an area of particular concern, primarily in relation to the setting of a number of cultural heritage sites and to views from the Noneley Hall, which is a listed building. This resulted in the identification of the Noneley North Option, which has been included in this Scoping Report.

8.6.5 As part of detailed visual assessment work which has been undertaken around Noneley, a photomontage was produced to illustrate the view from Noneley Hall. Discussions with Shropshire Council and the local Council about potential effect on Noneley Hall are ongoing and the outcome will be reported in the Preliminary Environmental Information Report (PEIR).

## 8.7 PROPOSED ASSESSMENT METHOD

8.7.1 Visual effects are defined by GLVIA3 as the changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Effects may arise from changes to an existing

8.7.2 The EIA will build on the baseline work already undertaken and systematically identify the following groups of sensitive visual receptors.

- Settlements and residential properties;
- Visitor attractions and the setting of attractions, e.g., historic sites such as Whittington castle, and tourist routes;
- Informal recreational resources including regional and national trails, recreational waterways, cycle ways and public rights of way (PRoW), parks and gardens;
- Formal recreational resources including parks and gardens;
- Common land and open access areas;
- Main roads and routes, including and 'A' and 'B' class roads;
- Sensitive sites identified by stakeholders during the ongoing consultation process; and
- The locations of existing electricity infrastructure, including overhead lines, and the potential for combined visual effects.

8.7.3 The visual baseline will use information from the landscape baseline which will be included in the Chapter 7 'Landscape' of the ES.

#### Zone of Theoretical Visibility

- 8.7.4 As suggested in the June 2016 Line Route Report<sup>50</sup> (page 10) and discussed with Shropshire Council at Stakeholder Meeting 1 on the 12th April 2016, computer generated Zone of Theoretical Visibility' (ZTV) maps<sup>51</sup> will not be produced because the general pattern of visibility within the study area is such that this tool would not provide meaningful results. Given the above ground height of a Trident pole, the locally undulating nature of the terrain and the amount of scattered mature tree cover would combine to screen many views of the line. The proposed Trident wood pole supports are of a similar height to the mature trees and so carry the conductors at a level/ elevation which is generally below the horizon formed by mature trees. Therefore any analysis of visibility which doesn't take into account tree cover would produce a much larger zone of visibility than is likely to result in reality. Instead extensive field survey will be used to gain understanding of the likely extents of visibility. This will be carried out at the same time as the landscape assessment. No access to properties will be sought and the assessment will therefore be based on a best assumption from publicly accessible locations outside or close to properties.

#### Viewpoint Analysis

- 8.7.5 Viewpoint analysis will be conducted from a series of publicly accessible viewpoints. The analysis will be used to assist preparation of the visual assessment, both in terms of assessing the level of effect for particular receptors and to help guide the iterative design and assessment process. The range of viewpoints will be selected

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<sup>50</sup> SP Energy Networks (June 2016), North Shropshire Reinforcement Route Corridor Options Report

<sup>51</sup> These are typically based on topographic information<sup>51</sup> to identify areas from where the proposed development would be visible (known as 'bare ground' visibility).

to represent the different groups of people who are likely to be affected<sup>52</sup>. These will then be examined in detail to determine whether a significant effect is likely to arise. The analysis will involve visiting each viewpoint location. All information will be recorded as a Fulcrum dataset<sup>53</sup>. The fieldwork will be conducted in fine weather conditions and good visibility and will consider the seasonal effects of reduced leaf cover.

8.7.6 The proposed viewpoints have been agreed with Shropshire Council (email dated 17<sup>th</sup> February 2017) and are shown in Figure 8.2.

8.7.7 As explained in GLVIA3 (para 6.19), viewpoints have been deliberately selected to be either representative of the view experienced by different groups of people, to be specific to a particular location, or to demonstrate a particular effect. The selection took account of a number of factors, including:

- The accessibility to the public;
- The potential type, relative number and sensitivity of the viewers who may be affected;
- The viewing direction and distance (short, medium and long distance);
- Whether the view is static or part of a sequential view along a route;
- The view types (glimpsed, framed or panoramic); and
- The potential for cumulative views of the North Shropshire Reinforcement Project in conjunction with other similar proposed developments.

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<sup>52</sup> It should be noted that it is the people who would be experiencing the view from the viewpoint that are the receptor, not the viewpoint itself. The location affords the view to the recipient, and whilst the location cannot change, the opinion of the viewer can be variable. These people will generally have different responses to a change in view depending on their location, the activity they are engaged in and other factors, including the weather and the time of day/ year.

<sup>53</sup> Fulcrum is a hosted mobile platform for recording and storing data collected in the field. It will be customised for the North Shropshire Reinforcement Project.



- 8.7.8 It should be noted that the selected viewpoints are not intended to be representative sample of all the visual receptors, but are deliberately biased to be representative of the most sensitive visual receptor groups – namely residential areas and valued landscapes/ sites.
- 8.7.9 No access to private land will be sought and the assessment will therefore be based on a best assumption from publicly accessible locations.
- 8.7.10 Wherever possible, viewpoints were selected in places where they represent several different receptor groups (e.g. on the edge of a settlement where a footpath leaves the village; at a car park and picnic site on promoted footpath, or at a trig point in an area of Open Access Land).
- 8.7.11 Each viewpoint will be visited and a winter photographic record taken. The composition of the view will be described, including foreground mid ground and background characteristics, the nature of the view towards the proposed development, any obstruction to the view and whether the view is glimpsed, framed, panoramic or sequential. As wood pole overhead lines do not require any artificial lighting, and construction is anticipated to take place during normal working hours, no significant effects arising from lighting are anticipated. Therefore a night time visual assessment will not be undertaken or included in the EIA.

#### Photography

- 8.7.12 Ordinary reference photography is considered appropriate for the purpose of initial viewpoint and character recording/ information capture. For full assessment photographs (following agreement of draft viewpoints and for photomontages) technically verifiable photographs will be produced. These will be prepared in accordance with the Landscape Institute's (LI) Advice Note 01/11 'Photography and Photomontage in Landscape and Visual Assessment'<sup>54</sup> and Scottish Natural

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<sup>54</sup> Landscape Institute (LI) Advice Note 01/11 (2011), Photography and Photomontage in Landscape and Visual Assessment

Heritage's (SNH) Visual Representation of Wind Farms Version 2.2<sup>55</sup>. Whilst the latter is specifically intended for use in relation to wind farms, it is widely accepted as being applicable to other vertical infrastructure including overhead lines. The Landscape Institute (LI) Advice Note 01/11 strongly advises members to follow this document where applicable in preference to any other guidance or methodology.

#### Verifiable Photomontage Methodology

8.7.13 In some locations the assessment of visual effects will be supported by the production of verifiable photomontages. These will help to illustrate the scale of the proposals within the view and to assist the assessment process. Photomontages will not form the basis of the assessment but will be illustrative, with locations chosen to illustrate the proposed scheme to the public and stakeholders and highlight specific issues.

8.7.14 Visual assessment follows a standard approach:

- Establish baseline conditions against which the effects of the North Shropshire Reinforcement Project will be assessed. This will include consideration of how the landscape (and therefore views) may change in the future irrespective of the project;
- Determine the nature of the receptor likely to be affected, i.e. its sensitivity (which in turn combines judgements about its susceptibility to change arising from a specific proposal with judgements about its value attached); and
- Predict the nature or magnitude of the effect likely to occur (which combines judgements about the likely size and scale of the change, the extent of the area over which it is likely to occur, whether it is direct or indirect, reversible or irreversible, short, medium or long term in duration) and positive, negative

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<sup>55</sup> Scottish Natural Heritage (SNH) (2017), Visual Representation of Wind Farms Version 2.2

or neutral.

8.7.15 Visual assessment involves a combination of quantitative and qualitative assessment and the application of professional judgement within a structured assessment framework outlined in the flowchart below. GLVIA3 notes:

- *'...whilst there is some scope for quantitative measurement of some relatively objective matters, ...much of the assessment must rely on qualitative judgement, for example what effect the introduction of a new development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative'. (para 2.23)*
- *'In all cases there is a need for judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others.'* (para 2.24)

### **Spatial Scope of Study Area**

8.7.16 The visual assessment will focus on those groups of receptors which are likely to experience significant effects. This accords with the EIA Regulations<sup>56</sup>, which require the identification of the 'likely significant effects of the proposed development on the environment' (Schedule 4 Part 1 Para 20).

8.7.17 The design and route of the proposed 132kV overhead line, combined with the screening effects of landform and vegetation, means that its effects on views and visual amenity would generally be limited. Only those receptors close to the proposed development, would experience a significant change in their view. Although the overhead line may be visible in the distance, the effects on views further away would not be significant as it would be perceived as a small feature in the view and would generally blend into the background scenery.

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<sup>56</sup> The Planning Inspectorate (PINS) (2009), Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended)

### Public Views

- 8.7.18 The assessment of visual effects will address potential changes in people's views or visual amenity caused by the appearance and prominence of the proposed development in those views. In accordance with GLVIA3, the assessment will focus on publicly accessible rather than private viewpoints, and on those receptor groups who are likely to be most sensitive to the effects of an overhead line. Receptor groups which will be assessed include communities, where views contribute to the wider landscape setting enjoyed by residents in an area, road users and residents or visitors using recreational routes features and attractions. It will include an assessment of the effects on views from the edges of defined settlements and from aggregated groups of dispersed properties.
- 8.7.19 The study area for the visual assessment will extend up to 1km either side of the Proposed Line Route as shown in Figure 7.1<sup>57</sup>. This is because at a distance of 1km, a Trident wood pole, which on average would be 12m high, would appear approximately 7mm high in the view, which is highly unlikely to give rise to significant effects.
- 8.7.20 There are rare occasions where longer distance views of a wood pole overhead line may result in significant visual effects, particularly where the poles are seen above the horizon – i.e. on the skyline. To ensure that any such effects are identified, a wider area up to 5km from the Proposed Line Route will initially be examined. This will be referred to as the '5km study area' and is also shown on Figure 7.1.
- 8.7.21 The study area will continue to be reviewed in the light of ongoing site surveys and stakeholder consultation as the North Shropshire Reinforcement Project develops. This is to ensure that all likely significant visual effects will be captured by the assessment.

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<sup>57</sup> The study areas are the same as for the landscape assessment.

### Residential Visual Amenity

- 8.7.22 The aim of the residential visual amenity assessment is to help identify whether the effects of the Proposed Development in views from a private house or garden would render that property an unattractive and thus unsatisfactory place in which to live. There is no published guidance that sets out the criteria for establishing whether or not the visual presence of a development impacts unacceptably on living conditions although the issue has been considered at a number of public inquiries. The approach taken by Inspectors in England confirms that in planning, no individual has a right to a particular view. However there may be a point when, by virtue of the proximity, size and scale of a development, a residential property would be rendered so unattractive a place to live that planning permission should be refused. Whilst the assessment of whether a change in outlook materially harms residential amenity or living conditions is ultimately a planning issue, a judgement on the visual component of residential amenity is often needed from a landscape architect to inform the planning judgement and this is increasingly being undertaken as part of an EIA.
- 8.7.23 GLVIA3 (para 6.3.6) notes that when undertaking a residential visual amenity assessment, it is occupiers of rooms normally occupied during waking or daylight hours (assumed to be downstairs), that are likely to be more susceptible to changes in their visual amenity as views from these rooms are likely to be experienced for longer. For the purposes of the assessment, therefore, and because the assessment has to be undertaken from publicly accessible locations, it is the view from the nearest downstairs window facing towards the proposed development which will be assessed (in addition to the view from the garden as noted previously). The actual process by which the assessment is undertaken will be the same as that for the main visual assessment. The aim will be to identify any residential properties where significant visual effects are likely to arise. This information will then be used by the Inspector in the decision making process.
- 8.7.24 The suggested study area for the residential visual amenity assessment is 200m either side of the Proposed Line Route. This distance is informed by work undertaken by Gillespies independently of this project and which won a Landscape

Institute (Local Planning category) award in 2015<sup>58</sup>. This study, which was undertaken on behalf of three North Wales local authorities, concluded that significant visual effects are only likely to arise if a structure (for example, a Trident wood pole) appears 7.5 cm high (or greater) at arm's length from the viewer. Based on this work, a 12m Trident wood pole would have an apparent height<sup>59</sup> of 7.5cm when seen from a distance of 122m. Therefore by selecting a study area of 200m, all significant effects should be identified and a residential property located 200m from the proposed overhead line is highly unlikely to experience an overbearing effect on visual amenity given that the apparent height of the poles in the view would be much less than 7.5cm.

8.7.25 Receptors greater than 200m from the Proposed Line Route will be included where concerns about individual properties have been raised during the Stage One Consultation. For example, where there would be the potential for the proposed overhead line to be seen on the skyline or where the geographic extent of the effects was likely to be very large.

### **Temporal Scope**

8.7.26 For the purposes of the assessment, the North Shropshire Reinforcement Project will be described as permanent and the resulting effects will be described in terms of their duration as short, medium term and long-term as follows:

- Short-term effects are defined as 0 – 3 years;
- Medium term effects are defined as 3 – 15 years; and
- Long term effects are defined as > 15 years.

8.7.27 Short-term effects are typically those which would arise during the construction and decommissioning phases of the North Shropshire Reinforcement Project.

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<sup>58</sup> Gillespies (2014), Wind Turbines and Pylons: Guidance on the Application of Separation Distances from Residential Properties.

8.7.28 Medium and long-term effects are typically those which would arise during the operational phase of the North Shropshire Reinforcement Project. The opening year, when the overhead line is energised, will be used as the basis for assessing operational visual effects. This is anticipated to be 2021.

8.7.29 Long-term residual effects of the North Shropshire Reinforcement Project are typically those which would remain after a minimum fifteen years. When assessing visual effects this includes the establishment of any mitigation planting which may be required and further growth of existing vegetation.

### **Sensitivity of Visual Receptors**

8.7.30 The first step in assessing visual effects is to identify the receptor groups and determine their sensitivity to the North Shropshire Reinforcement Project.

8.7.31 Paragraph 6.31 of GLVIA3 notes that the sensitivity of visual receptors 'should be assessed in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views'.

8.7.32 The susceptibility of a visual receptor is defined on page 158 of the Glossary of GLVIA3 as the, 'ability of a defined visual receptor to accommodate the specific proposed development without undue negative consequences'.

8.7.33 The susceptibility of visual receptors to change is discussed in GLVIA3 (para 6.32 – 6.36). These paragraphs explain that the susceptibility of visual receptors to changes in views and general visual amenity is primarily a function of:

- *'The occupation or activity of people experiencing the view at a particular location; and*
- *The extent to which their attention or visual interest may therefore be focussed on the views and the visual amenity they experience at particular locations.'*

8.7.34 The first bullet point and first part of the second bullet point relate to how much people are likely to be interested in their surroundings at a particular location. For example, people using a National Trail will have a special interest in their surroundings and are more likely to be susceptible to changes in the view than

those using a sports pitch or working in an industrial unit where the landscape setting may not be the primary focus. This association between activity and susceptibility to changes in view is essentially a consideration of the expectations of the visual receptor.

- 8.7.35 The second part of the second bullet point, namely the visual amenity that people currently experience, and consideration of whether any particular value or importance is likely to be attributed to the view by them i.e. whether they have any expectation of a view is an important one. For example, travellers using a motorway (typically considered to be of lower susceptibility) may be more susceptible when driving along a highly scenic section. Similarly residents of a particular settlement (typically considered to be of higher susceptibility) may be considered less susceptible if the settlement has a degraded visual setting.
- 8.7.36 The type of development being proposed affects the expectations and therefore susceptibility of a visual receptor. For example walkers on a National Trail in a tranquil rural area with occasional residential development, are more likely to be susceptible to a new overhead line than to a new residential property constructed in the local vernacular. Similarly if a section of National Trail passes through an urban area, it is likely that the expectations of people using that section of trail will be reduced.
- 8.7.37 The value/ popularity of a viewpoint and/ or relative numbers of viewers also plays a part in determining the sensitivity of different receptors groups. This can be estimated by reference to Ordnance Survey maps, observations made during site visits and publicly available information on user numbers. For example, tourist attractions, important landmarks or heritage sites, and nationally designated trails which are used by relatively high numbers of people are likely to be more sensitive than those which are used less frequently. Exceptions to this are travellers on motorways which although used by many people are typically assigned to the low sensitivity category. This is because the speed of travel makes appreciation of views difficult unless it is a very large scale landscape, and the appreciation of the views is not usually their primary motivation for undertaking a motorway journey. Similarly, people visiting remote areas such as hill walkers, are unlikely to be high



in numbers but will have a high or very high sensitivity because the primary purpose of the visit is likely to be an appreciation of the landscape and the views and tranquillity that it offers.

8.7.38 These divisions are not black and white and the nature of the groups of people who are likely to be affected and the extent to which their attention is likely to be focused on views and visual amenity will be carefully considered. The specific circumstances behind individual judgements will be explained in each case and linked back to the visual baseline assessment.

8.7.39 Paragraph 6.37 of GLVIA3 notes that the value attached to a particular view is another contributing factor in determining the sensitivity of visual receptors. The value of a view depends on:

- *'Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations; and*
- *Indicators of the value attached by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature or art....'*

8.7.40 Judgements about the value of the view take account of:

- *'Planning designations specific to views;*
- *Views which are important in relation to the special qualities of a designated landscape or which are identified in specific viewpoint studies;*
- *Views recorded as important in relation to heritage assets;*
- *Appearances in guidebooks or on tourist maps, or provision of facilities for their enjoyment, such as parking, picnic facilities and interpretation; and*
- *Judgements about the quality or condition of the view as assessed by a landscape professional.'*

8.7.41 Views which are not widely recognised as valuable can still be important at a local scale. The identification of locally valued views will be informed by stakeholder discussions and the North Shropshire Reinforcement Project's assessment of local

LCA which will be undertaken for the EIA. For example views related to local LCA judged to be of relatively low sensitivity will be considered of lower value whilst the views related to local LCA judged to be of relatively high sensitivity will be considered of higher value.

- 8.7.42 An assessment of the sensitivity of the visual receptors to the North Shropshire Reinforcement Project will be made by combining judgements about the value attached to the existing view and the susceptibility of the receptors to changes in their view or visual amenity.
- 8.7.43 Table 8.1 provides guidance on the evaluation of visual sensitivity. Receptors are classified into one of four sensitivity threshold categories, **very high**, **high**, **medium**, and **low**. These serve to capture all visual receptor groups that might potentially be affected by the North Shropshire Reinforcement Project.
- 8.7.44 In formulating sensitivity categories it is important to acknowledge the special circumstances where peoples' expectations in relation to the view are enhanced and where a sensitivity category of 'very-high' has been introduced. This means for example that receptors experiencing views from locations in a National Park or AONBs will be defined as 'high' rather than 'very-high', with 'very-high' only applying to designed landscapes/ parks/ gardens and/ or specific views, vistas, borrowed landscapes and visual experiences which are the main focus of the activity and fundamental to the appreciation of that location. If all receptors within nationally designated landscapes were defined as 'very-high' then this would undervalue the primacy of panoramic viewpoints (such as those identified on OS maps) and designed views or particularly valued viewpoints where the prime objective is for receptors to be able to absorb the valued view.
- 8.7.45 The rationale and justification behind attributing a 'high' rather than 'very-high' sensitivity for people living in local communities also needs clarification. People living in settlements are acknowledged as having a higher than average sensitivity to the proposed development. They do not, however, have the highest level of sensitivity unless standing at a specific destination and/ or valued viewpoint in which case they are captured under that category of visitor.

| <b>Table 8.1<br/>Categories of Typical Visual Receptor Sensitivity</b> |   |
|--|---|
| <b>Category</b>  | <b>Typical Receptors</b>  |
| Very High  | <p>Locations which people might visit purely to experience the view and which typically offer a prolonged viewing opportunity, including:</p> <ul style="list-style-type: none"> <li>• Panoramic viewpoints (often marked on OS plans and providing interpretation facilities);</li> <li>• Mountain and hilltops;</li> <li>• Tourist, visitor and other destinations where the view is an important contributor to the experience;</li> <li>• Nationally designated walks, cycleways and bridleways; and</li> <li>• Heritage destinations affording a specific, important and highly valued view.</li> </ul>  |
| High   | <p>Locations where people are likely to pause to appreciate the view, including:</p> <ul style="list-style-type: none"> <li>• Occupiers of residential properties (assessed as part of the residential visual amenity assessment);</li> <li>• People living and moving around their local community;</li> <li>• Promoted scenic drives or tourist routes;</li> <li>• Designed landscapes/ parks and gardens with specific views/ vistas/ borrowed landscapes and visual experiences which are fundamental to the appreciation of the attraction;</li> <li>• Tourist, visitor or heritage destinations where views of the surroundings are fundamental to the experience;</li> <li>• Viewpoints marked on road atlases, or referred to in guidebooks and have brown road signage and/ or interpretation boards; and</li> <li>• Nationally designated/ regionally promoted walks and cycle routes.</li> </ul> |
| Medium   | <p>People with a general interest in their surroundings or with transient viewing opportunities, including:</p> <ul style="list-style-type: none"> <li>• Incidental footpaths and local PRoWs;</li> <li>• Residential distributor and local road network;</li> <li>• General public open spaces, greenspace, recreation grounds and play areas;</li> </ul>  |

| <b>Table 8.1</b><br><b>Categories of Typical Visual Receptor Sensitivity</b> |   |
|--|---|
| Category   | Typical Receptors   |
|  | <ul style="list-style-type: none"> <li>• People in rural offices and business parks; and</li> <li>• Rural outdoor workers and those engaged in marine surface-based activities such as fishing.</li> </ul>  |
| Low  | <p>People with limited opportunity to enjoy the view due either to the speed of travel or because their attention is elsewhere, including:</p> <ul style="list-style-type: none"> <li>• Workers in industrial and commercial buildings;</li> <li>• Main roads (although sensitivity may be higher in scenic locations);</li> <li>• Indoor facilities;</li> <li>• Commuters; and</li> <li>• Those engaged in outdoor sport or recreation which does not depend on an appreciation of views of their surroundings.</li> </ul> |

8.7.46 Depending on the individual circumstances of each receptor, the judgements on sensitivity in Table 8.1 may then need to be adjusted (either up or down) to fully reflect the viewer's expectations at a particular location. At one end of the scale are locations where receptors experience a highly valued, impressive or well composed view, with no detracting features and where changes would be highly noticeable. At the other end of the scale are locations where the view is incidental or not important to the receptors and the nature of the view is of limited value or poorly composed with numerous detracting features and is tolerant of a large degree of change.

8.7.47 The assessment will also identifies areas where no change to the view is anticipated. In these instances, 'no change' will be inserted into the appropriate magnitude of effect column and the resulting effect will be identified as 'none'.

8.7.48 A reasoned narrative will be set out in the visual chapter of the ES in order to justify the particular visual sensitivity allocated of each receptor so that it is clear how the judgement has been made.

### **Magnitude of Change**

8.7.49 As explained in GLVIA3 (para 6.38), the nature or magnitude of visual effect that is likely to occur is determined by reference to its size/ scale, geographical extent and duration/ reversibility.

### Size and Scale

8.7.50 The size/ scale of visual effect is determined by considering the amount of change experienced by a receptor, which is influenced by a combination of the following factors:

- Scale: The scale of change in the view with respect to the loss or addition of features in the view and changes in its composition including the proportion of the view occupied by the development. This can be explained by reference to the relative height of the poles and the number of them which appear in the view as well as by the field of view that they occupy and is described by words such as 'dominant', 'prominent', 'noticeable' and 'negligible';
- Contrast: The degree of contrast or integration of any new features or changes in the view with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture. Developments which contrast or appear incongruous with their surroundings are more likely to be visible and lead to a higher magnitude of change;
- Speed: The duration and nature of the visual effect, whether temporary or permanent, intermittent or continuous, stationary or transient etc. This depends on the speed of travel which will affect how long a view will be experienced (continuously, intermittently, glimpsed either once or repeatedly and sequentially along a route) and the possibility that a development will be

noticed;

- Screening: Screening by buildings, landform or vegetation (including seasonal effects due to variations in deciduous leaf cover<sup>60</sup>) may wholly or partly obstruct or screen views of a development. Visual receptors with open views, particularly where such views are a key characteristic, are likely to be able to see much more of a proposed development; and
- Skylining/ backgrounding: Whether a development is viewed against the sky or against a solid, such as landform or vegetation, can affect the level of contrast and scale. For example wood poles, conductors (wires) and other electricity infrastructure are more difficult to discern when viewed against a textured background than against an open sky background. Any backgrounding minimises the scale of change on the view as is acknowledged in the Holford Rules.

### Geographical Extent

8.7.51 The geographical extent is the area over which the visual effects will be experienced. It is not the same as size/ scale as a small scale change may be experienced over a wide area or vice-versa. The geographical extent will vary depending on the viewpoint and is likely to reflect:

- Angle of View: This applies both horizontally and vertically. Views up to a development are generally considered to be of greater magnitude due to the enhanced verticality of the structures than views down to a development where the height appears foreshortened or reduced. Developments which will be seen directly in front of the viewer are likely to be more visible than developments which will be seen obliquely. Road users are typically more aware of the views in the direction of travel, whilst rail users tend to be more

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<sup>60</sup> In visual assessment terms, the worst case scenario prevails for winter views where there is minimal screening by vegetation and deciduous trees.

aware of views to the side.

- Distance: The distance of the viewpoint from a development is measured objectively and used to determine the relative height of a development in the landscape at the viewpoint. Distance can be strong indicator of the magnitude of visual change although, as explained above, apparent height of a development can be affected by the surrounding landscape.
- Extent of Visibility: the geographical extent of the area over which the changes to the view would be visible, which is defined by the distance, area and the horizontal and vertical field of the view affected.

#### Duration and Reversibility

- 8.7.52 In accordance with GLVIA3, this is a separate, but linked consideration and the duration of effect may be described a short term (0-3 years), medium term (3 -15 years) or long term (> 15 years). For the purposes of the visual assessment construction effects are assumed to be short term and temporary, whilst operational effects are assumed to be long term and permanent, but generally reversible.
- 8.7.53 The judgements on the size/ scale of effect and geographical extent will then considered together to derive an overall magnitude of predicted change or effect for each receptor, which will be determined through informed professional judgement guided by the descriptions in Table 8.2. Duration and reversibility are not considered at this stage as it is not linked concern. For example a high magnitude of change may occur over a short or long time frame and may, or may not, be reversible. The magnitude of visual effect will be described as **high, medium-high, medium, medium-low** and **low**. The rationale in support of the assessment is set out for each receptor so that it is clear how each judgement has been made.

| <b>Table 8.2</b><br><b>Indicative Criteria for Judging the Magnitude of Change in the View</b> |   |
|--|---|
| Magnitude  | Typical Example   |
| High   | <p>The development will form a dominant element in the view and result in a dramatic change to the character and quality of the existing view and how it is perceived.</p> <p>Typically this would be where a development would be seen in very close proximity with a large proportion of the view affected by no/ minimal filtering or backgrounding.</p> <p>The development will control the view and is likely to be seen by many people.</p>   |
| Medium-High  | <p>The development will form a prominent element in the view and result in a substantial change to the character and quality of the existing view and how it is perceived.</p> <p>Typically this would be where a development would be seen in close proximity with a large proportion of the view affected by little filtering or backgrounding.</p> <p>The development will affect the main focus of the view and is likely to be seen by many people.</p>  |
| Medium   | <p>The development will form a conspicuous element in the view and result in a noticeable change to the character and quality of the existing view and how it is perceived.</p> <p>Typically this would be where a development would be seen in views where a moderate promotion of the view is affected, although there may be some screening or backgrounding.</p> <p>The development will be clearly visible and well-defined and is also likely to be seen by a relatively high number of people.</p> |



| <b>Table 8.2</b><br><b>Indicative Criteria for Judging the Magnitude of Change in the View</b> |   |
|--|---|
| Magnitude  | Typical Example   |
| Medium-Low   | <p>The development will form a small element in the view and result in a slight change to the character and quality of the existing view and how it is perceived.</p> <p>Typically this would be where a development would be seen in distant views, where only a small proportion of the view is affected, where the effect is reduced due to a high degree of filtering of backgrounding or where there is a low scale of change from the existing view.</p> <p>The development would be visible but be indistinct and/ or partially obscured and is likely to be seen by few people.</p> |
| Low  | <p>The development will form an inconspicuous element in the view and result in a barely perceptible change to the character and quality of the existing view and how it is perceived.</p> <p>Typically this would be where a development would be barely perceptible within a long distance panoramic view and/ or where a very small proportion of the view is affected.</p> <p>The development would be barely discernible and likely to be visible only under certain weather or lighting conditions and is likely to be seen by very few people.</p>                                   |

8.7.54 The assessment of magnitude in Table 8.2 may then need to be adjusted (either up or down) to reflect the duration of the visual change and whether it is likely to be reversible.

8.7.55 The assessment will also identify areas where no visual change is anticipated. In these instances, 'no change' will be inserted into the appropriate magnitude of effect column and the resulting effect will be described as 'none'.

### **Determining Overall Significance**

8.7.56 In accordance with the overall approach described in Chapter 5 'EIA Approach and Methodology' of this Scoping Report, the separate judgements about the sensitivity of the visual receptor and the magnitude of likely effect will be combined to allow a

final judgement to be made about whether or not the effect is considered significant using guidance presented in Table 8.3.

| <b>Table 8.3</b>   |   |   |
|--|---|---|
| <b>Judging Significance of the Visual Effect</b>   |   |   |
| Less likely to be significant  |   | More likely to be significant   |
| The development is generally well accommodated in views and/or is small features within a view that does not have recognised value.<br>The effects are more likely to be short term, temporary and reversible. | ⇔ | The development is dominant or prominent in views and the effect is typically large in scale, and/or within a view that is promoted or advertised.<br>The effects are more likely to be short term, temporary and reversible. |

8.7.57 Once an assessment has been made of the effects at each viewpoint, these will be brought together in a summary assessment of the effect of the north Shropshire Reinforcement Project on each visual receptor group (e.g. users of PRow, people living and moving around settlements) will be made, taking an overview of the generalised assessment of the significance of effects and by including a broad judgement on the geographical extent of the effects and the numbers of people likely to be affected using guidance provided in Table 8.4.

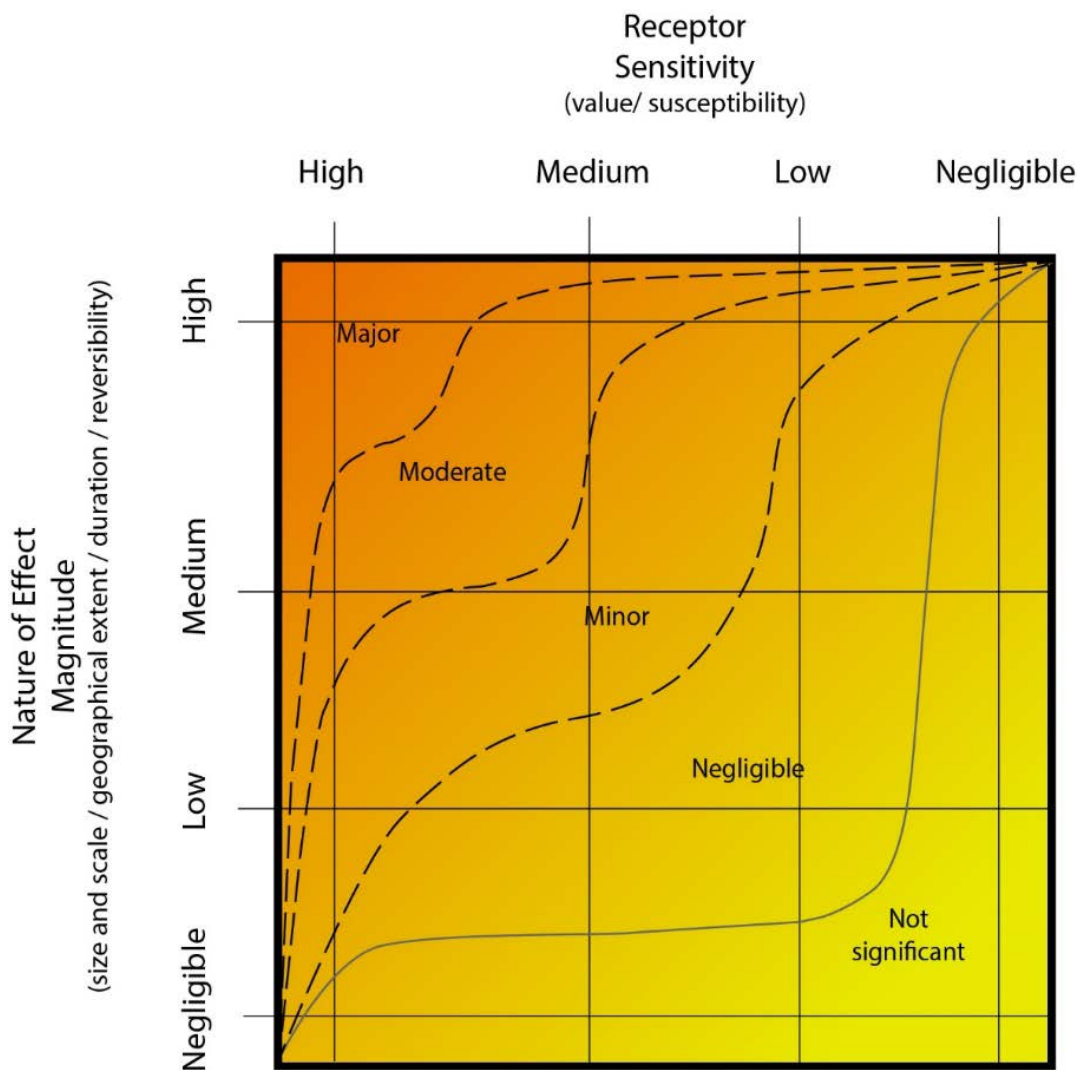
| <b>Table 8.4</b>   |   |   |
|--|---|---|
| <b>Criteria for Judging Significance of the effect on Visual Amenity of Receptor Groups.</b>   |   |   |
| The development is seen at only a few locations, affects relatively few receptors and is limited in geographical extent. The development is generally well accommodated in views and the effect is typically small in scale. | ⇔ | The development is seen at many locations, affects many receptors and is widespread in geographical extent or is seen continuously along a route. The development is prominent in views and the effect is typically large in scale. |

- 8.7.58 The relationship between receptors and effects is not generally a linear one and there are no hard or fast rules about what makes an effect significant. Judgements will therefore be supported by qualitative text to draw out the important issues, describe the effects and explain the underlying decision-making rationale.
- 8.7.59 Paragraph 5.54 of GLVIA3 notes that significance of landscape effects is not absolute and *'can only be defined in relation to each development and its specific location'*.
- 8.7.60 At opposite ends of the spectrum GLVIA3 notes that:
- *'Effects on people who are particularly sensitive to changes in views and visual amenity are more likely to be significant;*
  - *Effects on people at recognised and important viewpoints or from recognised scenic routes are more likely to be significant; and*
  - *Large-scale changes which introduce new, non-characteristic or discordant or intrusive elements into the view are more likely to be significant than small changes or changes involving features which are already present within the view.'*
- 8.7.61 For the purposes of this assessment, effects will be categorised as **major**, **moderate**, **minor** or **negligible**. Each of these categories covers a broad range of effects and represents a continuum or sliding scale as illustrated in the diagram below, which is adapted from the significance evaluation matrix in IEMA's report, The State of Environmental Impact Assessment Practice in the UK<sup>61</sup>. Although this diagram is useful in that it demonstrates that there is a gradual transition both within and between the categories, the two axes are not necessarily evenly weighted and the diagram should be only employed as a guide to inform the assessment. It is important to note that each of the four categories cover a broad range of effects and represents a continuum or sliding scale. Because of this, effects may be for

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<sup>61</sup> Institute of Environmental Management & Assessment (IEMA) (June 2011), Special Report – The State of Environmental Impact Assessment Practice in the UK

example be described as being at the 'upper end of moderate'. In this example the likely effects would be considered significant but not of such importance as to fall firmly within the 'major' category.



Adapted from Fig 6.3 EIA significance evaluation matrix

8.7.62 The final decision on the level of effect and therefore significance ultimately relies on professional judgement which has to be supported through clear and transparently explained text.

### Approach to Mitigation

8.7.63 An integral part of the iterative design and assessment process undertaken to date has been the consideration of mitigation through sensitive design development in

accordance with the Holford Rules. The aim has been to ensure that the development takes account of environmental constraints and opportunities and achieves the optimum environmental fit as part of an environmentally integrated design.

8.7.64 During the ongoing design process, there will be a continuing exploration of further opportunities for mitigation of likely significant visual effects through sensitive alignment and siting of the component parts of the North Shropshire Reinforcement Project including:

- Individual pole positions and their associated infrastructure;
- Temporary and permanent access arrangements; and
- Construction areas (in relation to important landscape characteristics, and visual receptors).

8.7.65 The aim will be to maximise use of screening landform and vegetation when routeing and siting the different elements of the North Shropshire Reinforcement Project. In addition, there may be an opportunity for new screen planting to be undertaken if required to mitigate significant effects.

### **Cumulative Effects**

8.7.66 The different types of cumulative effect, including in-combination and inter-project cumulative effects are explained in Chapter 18 'Cumulative Effects' of this Scoping Report.

8.7.67 The purpose of the cumulative assessment is to identify whether potential changes to the landscape arising from the North Shropshire Reinforcement Project together with the predicted effects from other similar proposed developments would result in additional visual effects.

8.7.68 Paragraph 7.2 of GLVIA3 identifies cumulative landscape and visual effects as those that,

*'...result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other development*

*(associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the reasonable future’.*

8.7.69 Paragraph 7.5 of GLVIA3 acknowledges that cumulative assessment is complex and approaches to it are evolving, noting also that the,

*‘challenge is to keep the task reasonable and in proportion to the nature of the project under consideration.....It is always important to remember that the emphasis in EIA is on likely significant effects rather than on comprehensive cataloguing of every conceivable effect that might occur...’*

8.7.70 The different types of cumulative effect, including in-combination and inter-project cumulative effects are explained in Chapter 18 ‘Cumulative Effects’ of this Scoping Report.

### **Cumulative Effects – Approach and Methodology**

8.7.71 The assessment of cumulative visual effects will follow a similar methodology to that described above for the main visual assessment, in that the degree of visual effect is determined by combining an evaluation of the sensitivity of the visual receptor and the magnitude of change. The resulting effect will be described as in the ES as **major**, **moderate**, **minor** or **negligible**. The difference from the main visual assessment is that the cumulative assessment considers the magnitude of change which would potentially arise from multiple developments.

#### Defining a Study Area

8.7.72 The study area for the cumulative assessment will take account of other proposed developments, which are either consented or under construction. The zones of visual influence for each development within the cumulative assessment will be overlain to produce a composite map showing areas from where multiple developments are likely to be seen. Where sufficient information is not available for the other developments then reasonable assumptions and judgments will be made. Theoretically, the areas where the effects of the different developments overlap are those which would potentially experience cumulative visual effects. The

larger the extent of the overlap, the greater the degree of cumulative effect likely to be experienced.

#### The Baseline for the Assessment of Cumulative Effects

- 8.7.73 The baseline information for the North Shropshire Reinforcement Project will start with the baseline for the main landscape assessment, but this may need to be modified to take account of any changes in the study area and allow for the inclusion of the other schemes.

#### Predicting Cumulative Visual Effects

- 8.7.74 The cumulative visual assessment will consider the degree to which the North Shropshire Reinforcement Project, in combination with other similar proposed developments, would change the key characteristics and overall character of the existing view through an incremental effect on characteristics elements, features, landscape patterns and quality, or by the cumulative addition of new features or removal of existing landscape features.
- 8.7.75 Viewpoints will be identified and analysed specifically focusing on locations and receptors that would experience potentially significant cumulative visual effects. For combined visibility (whether in combination or succession), agreement with will be sought whether the set of viewpoints selected for the main visual assessment is likely to be sufficient for the cumulative visual assessment or (as is likely), additional viewpoints will need to be identified.
- 8.7.76 For sequential visibility it will be unfeasible to carry out cumulative assessments for all roads and rights of way within the study area. Routes to be assessed will therefore be informed by the composite zone of visual influence produced for the cumulative appraisal and defined and agreed with consultees.

#### Assessment of Cumulative Visual Effects

- 8.7.77 Criteria and thresholds for visual sensitivity are set out earlier in this chapter.
- 8.7.78 Mitigation will be considered where there is the opportunity and residual effects will then be assessed with mitigation in place. As noted previously, however, most mitigation will be undertaken as part of the iterative design of the North Shropshire

Reinforcement Project and this will be in place when the cumulative assessment is undertaken. Nevertheless, there may be scope in some areas to introduce mitigation, such as new tree or shrub planting, to help reduce the potential for any adverse cumulative effects.

- 8.7.79 For each viewpoint or linear route, the nature of the existing view, the predicted view with the North Shropshire Reinforcement Project, and the predicted view with the additional developments will be identified. The aim will be to understand and describe the contribution and importance of the North Shropshire Reinforcement Project to the overall cumulative visual effects.
- 8.7.80 For each linear route, the way in which the sequential view will be experienced, will be described, including the duration of the view of other developments when seen in combination with the North Shropshire Reinforcement Project.
- 8.7.81 In making these judgements, the assessment will consider:
- The sensitivity of the visual receptor to the types of development being considered;
  - The value of the existing view;
  - The magnitude of effect, both in terms of size and geographical area. This may differ from the magnitude of effect identified for the North Shropshire Reinforcement Project; and
  - The duration of the effects, including the timescale of the North Shropshire Reinforcement Project in relation to that of the additional developments being considered and the degree to which the effects are potentially reversible.
- 8.7.82 By considering all these factors together it is possible to determine whether the combined effects of the North Shropshire Reinforcement Project coupled with any additional proposed developments, will influence the significance of the individual visual effects for each of the developments, and therefore whether significant cumulative visual effects are likely to arise.



8.7.83 The most significant cumulative visual effects are likely to be where developments that lie close to the main development are clearly visible together in the view. It may also arise where developments are highly inter-visible, with overlapping zones of visual influence. This may be the case even though the individual developments may be at some distance from the main development and from individual viewpoints. When viewed individually, the effects of the developments may not be significant, but the overall combined cumulative effects on a viewer may be significant.

8.7.84 The final overall judgement of the predicted cumulative visual effects will be summarised as for the main visual assessment in a series of four categories of significance, **major, moderate, minor, negligible**. The rationale in support of the assessment of sensitivity will be set out for each receptor in the main visual assessment, so that it is clear how each judgement has been made. The assessment will be prepared such that the results of the main visual assessment for the North Shropshire Reinforcement Project will be reported alongside the additional combined cumulative effects. The cumulative effect will always be equal to or greater than the effects recorded for the visual assessment as explained as follows:

- When a predicted significant visual effect for the North Shropshire Reinforcement Project is added to a predicted significant visual effect attributed to another proposed development(s), the overall effect is deemed to be significant and cumulative. The combined effect is greater than for each development individually;
- When a predicted significant visual effect from the North Shropshire Reinforcement Project is added to a predicted non-significant visual effect attributed to another proposed development(s), the overall effect is deemed to be significant and cumulative, but is attributed to the North Shropshire Reinforcement Project. The combined effect is greater than for each development individually;
- When a predicted non-significant visual effect from the Proposed Project is

added to a predicted significant visual effect attributed to another proposed development(s), the overall effect is deemed to be significant and cumulative, but is attributed to the other proposed development. The combined effect is greater than for each development individually; and

- When a predicted non-significant visual effect from the North Shropshire Reinforcement Project is added to a predicted non-significant visual effect attributed to another proposed development(s), the overall effect is still deemed to be cumulative and greater than the level of effect for each development individually but the combined effects may or may not be significant.

8.7.85 As with the main visual assessment, the supporting text will clearly set out how professional judgements have been made in determining the level of effect in each case.

## 8.8 SUMMARY

8.8.1 The Trident wood pole design was identified during the strategic optioneering stage as the most technically feasible structure with the best fit in the landscape of North Shropshire, and therefore the design most likely to result in fewer visual effects. This is due to the scale and fabric of the design, which will be on average 12m tall with wood pole supports. This design is similar in scale to mature trees present within the landscape, and is therefore able to take advantage of the screening and backdrop opportunities provided by existing trees and woodland. The fabric of the design is similar to existing, albeit smaller-scale, lower voltage overhead lines that are present in this landscape, which are an established visual component of the landscapes of north Shropshire.

8.8.2 Visual effects deals with the effects of change and development on the composition of views available to people, and their visual amenity. Receptors includes local communities where views contribute to the landscape setting enjoyed by residents in the area, road users and people using recreational routes, features and attractions.

- 8.8.3 Consideration will be given to residential visual amenity, to help the SoS determine whether the effects of the Proposed Development in views from a private house or garden would render that property an unattractive and thus unsatisfactory place in which to live.
- 8.8.4 The assessment of visual effects will take into account the construction and operation phases. Visual effects would be likely to arise from the appearance, height and spacing of the poles, and any subsequent landscape losses.
- 8.8.5 Proximity to the proposed development, the extent of the view of the proposed development and the presence of any intervening screening all affect the likely significance of effect on visual amenity. As such, receptors close to the line, those with a wide, or a sky-lined view or with a view of multiple poles, etc., are most likely to experience significant effects. Consideration will also be given to more distant receptors to establish whether any significant effects could be experienced up to 5km from the proposed development. A viewpoint analysis, conducted from publically accessible viewpoints representative of views from a variety of different receptors, will be used to inform the assessment.
- 8.8.6 Mitigation proposals, including the lifting and reinstatement of hedgerows within 48 hours, and the planting of new trees to provide additional screening means that some of the visual effects resulting from landscape losses would be temporary.
- 8.8.7 Careful routeing and micrositing of poles assists in further limiting potential effects.
- 8.8.8 Consideration will also be given to cumulative visual effects which can occur when the visual effects resulting from other development combine with the effects from the 132kV overhead line, with an overall greater effect on receptors.

## CHAPTER 9: ECOLOGY

### 9.1 INTRODUCTION

- 9.1.1 This chapter sets out the proposed scope for assessing the likely ecological effects associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the Project'. It builds upon the earlier routeing work which is presented in the suite of documents listed in Table 1.1 in Chapter 1 'Introduction' of this Scoping Report.
- 9.1.2 The methodology presented in this chapter is based upon the general assessment methodology summarised in Chapter 5 'EIA: Approach and Methodology' of this Scoping Report. It has been developed to take account of the range of likely significant environmental effects on ecological features arising during the construction and operational phases of the North Shropshire Reinforcement Project.
- 9.1.3 This chapter is supported by Figures 9.1 to 9.8 in Appendix A and in further detail by Appendix E which provides a summary of winter bird survey work undertaken to date and previous ecological survey work. Figures 9.1 to 9.6 show broad-scale Phase 1 habitats along and around the Proposed Line Route.
- 9.1.4 The assessment of ecological effects also includes arboriculture surveys and an assessment of impacts on trees and bats, and ornithological surveys and an assessment of impacts on birds.
- 9.1.5 The ecological assessment is also linked to landscape and visual effects in that impacts on vegetation can have consequences for the landscape and for views.
- 9.1.6 The methodology for undertaking the assessment has been developed in accordance with relevant guidance published by the Chartered Institute of Ecology and Environmental Assessment (CIEEM) '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2016).

9.1.7 In accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009<sup>62</sup> (the EIA Regulations), the ecology assessment will identify and appraise the potential effects which may arise during the construction and operation phases of the North Shropshire Reinforcement Project. As explained in Chapter 3, Section 3.7, as the proposed overhead line is considered by SP Energy Networks to be a permanent installation, decommissioning effects will not be included in the assessment.

## 9.2 PLANNING POLICY CONSIDERATIONS

9.2.1 Planning policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report.

### **National Planning Advice and Policies**

9.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1)<sup>63</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>64</sup>. A full assessment of compliance with policy, as set out in the NPS, will be provided in the Planning Statement which will be submitted as part of the application for a DCO.

### **Local Planning Policy and Guidance**

9.2.3 The key documents which make up the Shropshire Local Development Framework (LDF) are:

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<sup>62</sup> The Planning Inspectorate (PINS) (2009), Infrastructure Planning (Environmental Impact Assessment) Regulations

<sup>63</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

<sup>64</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

9.2.4 These documents will be reviewed and policies relevant to the ecological impact assessment and cumulative impact assessment will be identified. Whilst not forming part of the primary policy in relation to NSIPs, reference to this local plan policy will be supported by reference to the National Planning Policy Framework<sup>65</sup> (NPPF) which gives context to these local policies.

9.2.5 The following supporting documents are also considered relevant to the ecology assessment and will be reviewed:

- Shropshire Council (2016), Natural Environment SPD consultation draft (JLDP Supporting Document); and
- Shropshire Biodiversity Action Plan (BAP) (November 2002) and information provided by the Shropshire Biodiversity Partnership<sup>66</sup>.

9.2.6 The ecology assessment includes those aspects relating to biodiversity. The 'UK Post-2010 Biodiversity Framework'<sup>67</sup> succeeds the UK Biodiversity Action Plan (UKBAP) and 'Conserving Biodiversity - the UK Approach'. The lists of priority species and habitats agreed under the UK BAP still form the basis of much biodiversity work and are therefore will also considered within the assessment in the context of the objectives of the Biodiversity Framework. BAPs identify habitats and species of nature conservation priority on a UK (UK BAP) and Local (LBAP) scale. The UK BAP lists of priority species and habitats remain important and

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<sup>65</sup>National Planning Policy Framework (NPPF), Department for Communities and Local Government, March 2012

<sup>66</sup>The Shropshire Biodiversity Action Plan is no longer being updated, however relevant information on Shropshire biodiversity will be gathered from the Plan and from the Shropshire Ecological Data Network (SEDN). BAP information accessed via <http://www.naturalshropshire.org.uk/>

<sup>67</sup> The UK Post-2010 Biodiversity Framework JNCC and Defra July 2012

valuable reference sources. Notably, they have been used to help draw up statutory lists of priority species and habitats in England under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006, which will also be considered within the assessment.

### **Statutory Provisions**

9.2.7 The following national legislation with regards to species and habitats in England will be referred to as applicable within the ES:

- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act 2000;
- The Natural Environment and Rural Communities Act 2006;
- The Protection of Badgers Act 1992; and
- The Hedgerows Regulations 1997.

### **Further Guidance**

9.2.8 In addition the following guidance will be referenced:

- The Holford Rules – Guideline for the Routeing of New High Voltage Overhead Transmission Lines<sup>68</sup>;

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<sup>68</sup>In 1959, Lord Holford, then advisor to the Central Electricity Generating Board (CEGB), developed a series of planning guidelines in relation to amenity issues, which have subsequently become known as the 'Holford Rules'. The National Grid Company (NGC) subsequently revised these rules in the 1990s, and although never formally published as official guidance, they are often referred to in planning publications such as, 'Planning Overhead Routes' (RJB Carruthers, 1987) and 'Visual Amenity Aspects of High Voltage Transmission' (GA Goult, 1989). The Holford Rules form the basis for the decision making process of siting overhead transmission lines, and minimising the potential landscape impact of such infrastructure. They are particularly helpful in identifying route options, as most landscape visual impact assessment guidelines relate to other forms of infrastructure. In contrast, the Holford Rules relate specifically to transmission lines, and

- The Planning Inspectorate (2015), Advice Note 17: Cumulative Effects Assessment.

### Scope of Assessment and Definitions

9.2.9 For the purpose of the assessment, the terms '*impacts*' and '*effects*' are referred to in accordance with the definitions set out in the CIEEM Guidelines as follows:

***Impact:*** Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow;

***Effect:*** Outcome to an ecological feature from an impact. For example, the effects on a species' population from the loss of a hedgerow.

9.2.10 The assessment of likely significant ecology effects, including any cumulative effects will be presented as an individual chapter within the ES. The chapter will refer to relevant surveys and associated plans and photographs included as technical appendices to the ES.

9.2.11 The geographic boundaries for the baseline description will be described, with the results set out in plans and maps in the ES.

## 9.3 WORK UNDERTAKEN TO DATE

9.3.1 Survey and assessment work has already been undertaken as part of the ongoing routing and design as explained in Chapter 2 'Alternatives and Design Evolution', which also includes baseline information on ecology. An overview of habitats in the area is provided from the broad-scale baseline Phase 1 habitat plans provided on Figures 9.1 – 9.6.

### Habitats and Species

9.3.2 The habitats and species present within the study areas form the basis for the identification and description of the biodiversity and ecological changes that may

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although slightly amended in the 1990s, the core premise of each rule remains intact since originally proposed in 1959. Although they have been developed for transmission lines (steel towers), SP Energy Networks consider that the basic principles are applicable to the routing of wood pole overhead lines.



result from the North Shropshire Reinforcement Project. Consideration has been given to the nature and sensitivity of the habitats and species likely to be present, including ponds and watercourses, hedgerows, grasslands, trees and woodlands. This information is being used to inform the detailed alignment, requirement for further surveys and the assessment process.

9.3.3 In summer 2016, a broad-scale Phase 1 habitat survey was undertaken of a 500m wide corridor along the Preferred Route Corridor (described in Chapter 1: 'Introduction'). The purpose of this survey was to gather an initial habitat baseline to inform consultations and the scoping of further surveys. This has informed reports, consultations and design work since then as summarised in the reports listed in Table 1.1. The broad-scale Phase 1 habitat mapping involved surveys from publicly accessible land, footpaths and roads, in combination with a review of online aerial imagery and desk study review of statutory and non-statutory designated sites. Habitats were mapped in accordance with the '*Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*', JNCC (2010). The survey drawings are reproduced as Figures 9.1 to 9.6.

9.3.4 Baseline information on the habitats and species present and their distribution is being gathered through ongoing desk study, consultations and field surveys.

#### Trees and Woodland

9.3.5 The broad-scale Phase 1 habitat survey undertaken in summer 2016 identified groups of individual mature trees in fields or along hedgerows, and areas of woodland. Particular note was made of possible veteran trees. This information was used to help inform the routeing process and allow mature trees and woodland areas to be avoided where possible.

#### Birds

9.3.6 Non-breeding bird surveys comprising vantage point, walkover and driven surveys commenced in the winter of 2016/ 2017 at key locations along the Proposed Line Route. A summary update on findings to date is provided as Appendix E and this information is being used to inform ongoing consultations and the need or otherwise for further survey.

## 9.4 CONSULTATION RESPONSES

- 9.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.
- 9.4.2 Baseline information gathering has included a range of data collation and consultations with relevant organisations. Desk-based study and preliminary discussions with Natural England, Shropshire Council, the RSPB, Shropshire Wildlife Trust and Shropshire Ornithological Society has been undertaken. The outcome of this work is presented in the documents listed at Table 1.1 in Chapter 1: 'Introduction' of this Scoping Report and is also set out in Table 9.1 of this Chapter. In addition, baseline ecological surveys along the Preferred Route Corridor have been undertaken as part of the routeing process. Information received through desk study, consultations and field survey has been digitally mapped and recorded via field notes and photographs as appropriate.
- 9.4.3 Paragraph 4.1.6 details likely impacts identified with the development. Those which relate to ecology are:
- Knowledge on habitats and species gained through the consultation process should be used to ensure these constraints are taken into account and Baggy Moor and River Parry should be avoided (Shropshire Wildlife Trust and Meres and Mosses Landscape Partnership Scheme). Baggy Moor is a main concern as it is an area where local farmers are working with the RSPB to protect the wet grassland habitat for breeding waders so should be avoided (RSPB);
  - Request that the Shropshire Ornithological Society needs to be consulted (Shropshire Wildlife Trust);
  - Care needed during construction phases (Shropshire Wildlife Trust);
  - Concerns expressed about the overhead line crossing the Shropshire Union

Canal (Canal and River Trust);

- Whilst effects on the Midlands Meres and Mosses is unlikely, the assessment should reference this for these sites and measures for safeguarding protected species need to be referred to (Natural England);
- More information is needed for Long Wood before a view on impact assessment can be made (Woodland Trust).

9.4.4 The initial consultation responses relating to ecology are detailed below:

- Habitat and species surveys and further consultations will be undertaken to understand what ecological features are present and how they may be affected. This information will be used to take into account and address consultee areas of interest and to identify appropriate avoidance, protection and mitigation measures should these be necessary;
- Targeted ornithological surveys are being undertaken, specifically focused on areas of potential breeding and wintering bird interest;
- The Shropshire Ornithological Society has been consulted in relation to bird interests and will continue to be involved, along with the RSPB, throughout the consultation and data gathering process;
- The construction and operational phases of the proposed development and potential effects on ecological features will be addressed as part of the EIA;
- Watercourses (both upstream and downstream of proposed crossing points) are recognised as potentially sensitive ecological features and their banksides will be surveyed for otter and water vole, and potential ecological effects around crossing points will be addressed as part of the EIA;
- The EIA will address potential effects on designated sites and their qualifying interests, and protected species. While effects on the Midlands Meres and Mosses Phase 2 Ramsar site are acknowledged as unlikely by Natural England, this will be discussed as part of the EIA and is discussed further within this Scoping Report under Habitats Regulations Assessment.

9.4.5 Further details of the consultation responses are detailed in Table 9.1:

| <b>Table 9.1<br/>Initial Consultation Responses on Ecology</b> |  |
|--|--|
| <b>Organisation</b>  | <b>Comment</b>   |
| Natural England  | <p>The proposed route options have taken into account statutory designated sites in the area and are not considered likely to have direct effects. Indirect effects can be readily managed and avoided through the implementation of standard pollution prevention and control measures during the construction phase. Risks to designated sites and associated protected species are considered low due to the nature of the project. The project should ensure that due reference is made to the Midlands Meres and Mosses Ramsar/SAC/SSSI designated areas however it is agreed that effects on these areas are unlikely due to the nature of the project and low risk of indirect pathways for effects. The assessment process should however reference and confirm this.</p> <p>Consideration should be given in the normal way to protected species in line with the legislation, through survey and suitable mitigation where required. Natural England has no specific comments with regard to particular concerns or issues in relation to this project.</p> <p>There are no designated landscapes affected by the project. Natural England stated it had no other comments or issues to raise at this stage.</p> |
| Shropshire Council   | <p>Council Ecology officer noted the potential for effects in relation to protected species in general and more specifically noted:</p> <ul style="list-style-type: none"> <li>- ponds and woodlands;</li> <li>- potential presence of otter and water vole along watercourses;</li> <li>- potential for watercourses (including River Perry) to act as a flight path for birds;</li> <li>- areas of local botanical interest including Ruewood pastures SSSI and Moorfields, Loppington LWS and vicinity;</li> </ul>  |

| <b>Table 9.1<br/>Initial Consultation Responses on Ecology</b> |   |
|--|---|
| <b>Organisation</b>  | <b>Comment</b>  |
|  | - bat roost potential in mature trees.<br><br>Opportunities for further consultation and discussion was welcomed.   |
| RSPB   | The area is not considered particularly sensitive for birds and any concerns are relatively low-key. RSPB note no SSSI or Natura Sites lie near the planned route. RSPB would also expect local routeing to avoid damage to non-statutory sites. A potential area of local sensitivity relates to the northern end of the Baggy Moor area where the RSPB has worked with local farmers in recent years to identify remaining clusters of breeding waders (primarily lapwing and curlew) and offer advice on Countryside Stewardship options. RSPB requests information on bird surveys to be undertaken in the area and concludes: 'If you have done a Phase 1 habitat survey and this suggests that the fields that previously supported these lapwings are still suitable (or if no Phase 1 survey has been completed), then I think we would like to see breeding wader surveys carried out in spring 2017 following the methodology in Bird Monitoring Methods (Gilbert et al, 1998). If further surveys done either in 2015/16, or next year, show lapwings or curlews are still breeding in these fields, we would like to discuss the potential for local alterations in routing with you, <i>perhaps for example simply to follow field boundaries more closely in this area</i> '. |
| Shropshire Wildlife Trust/ SEDN                                | Provided designated site (LWS) information. Ongoing consultation will take place in relation to defined proposed Line Route for species records and comments, plus opportunities for enhancements.  |
| Shropshire Ornithological Society (SoS)                        | Shropshire Ornithological Society provide all data to SEDN who offer a biological records service to consultants. Happy to respond to any specific queries.   |

## 9.5 BASELINE ENVIRONMENT

- 9.5.1 The ecological baseline forms the basis for the identification and description of the effects that may result from the North Shropshire Reinforcement Project. It establishes the value and potential sensitivity of ecological features, and their distribution in relation to the Proposed Line Route. The baseline describes the ecological context within which the proposed development will take place, including biodiversity networks and habitat connectivity.
- 9.5.2 Ecological features (also known as ecological receptors) are identified through desk-based study and review of biological records available from organisations such as the Shropshire Ecological Data Network and, Shropshire Wildlife Trust, consultee responses, and from habitat and species surveys.
- 9.5.3 Survey and assessment work has already been undertaken as part of the ongoing routing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 (Alternatives and Design Evolution) of the Scoping Report. Table 1.1, in Chapter 1 (Introduction to the Scoping Report) lists the documents which have been produced to inform the route selection process and which include baseline information on ecology such as designated sites.
- 9.5.4 The EIA will build on the information collected to date through further field and desk survey. This is in order to provide a full appreciation of the ecological and biodiversity interests of the study area.

### Habitats and Species

- 9.5.5 The Proposed Line Route passes through lowland agricultural land primarily comprising improved species-poor grassland or arable fields interspersed with a network of hedgerows, ditches, watercourses, mature trees, including hedgerow trees, and scattered tracts of woodland. Numerous ponds and other waterbodies are also present, often associated with wet/ marshy grasslands.
- 9.5.6 These habitats are suitable to support a range of species, including protected or notable species such as badger, bats, great crested newt, otter, water vole, reptiles and brown hare.

### Birds

- 9.5.7 The proposed Line Route crosses an area which includes large open fields likely to be subject to seasonal flooding, the waterways of the Montgomery Canal, Rivers Perry and Roden and numerous ponds, all of which have some potential to be used by geese and other wildfowl, species considered to be potentially at risk of collision with overhead power lines.
- 9.5.8 The findings of the winter bird surveys completed to date indicate that the Proposed Line Route does not cross an area of high winter wildfowl activity or flight concentrations (see Appendix E). This confirms the RSPB consultation response which notes that the area is not considered particularly sensitive part from potential interest for breeding lapwing in the Baggy Moor area near the River Perry.

### Designated Sites

- 9.5.9 The Multi Agency Geographic Information for the Countryside' (MAGIC<sup>69</sup>), Joint Nature Conservation Committee (JNCC) and Natural England websites have been consulted to obtain information on statutory and non-statutory designated sites within a 5km radius of the Proposed Line Route and identify the presence of any 'Ancient woodland' or 'Priority habitats' within and immediately adjacent to the Proposed Line Route. Shropshire's Environmental Network mapping has also been consulted as part of baseline information gathering to help identify potential areas of Priority Habitat<sup>70</sup>. Reference has also been made to Ordnance Survey maps of the wider area and online aerial images ([www.google.co.uk/maps](http://www.google.co.uk/maps)) in order to determine any features of nature conservation interest in the wider area.
- 9.5.10 Designated sites such as Sites of Special Scientific Interest (SSSI), Ramsar sites, Special Protection Areas (SPA) and Special Areas of Conservation (SACs) were mapped and described in the Route Corridor Options Report 2016 (Table 1.1).

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<sup>69</sup> <http://www.magic.gov.uk/MagicMap.aspx>

<sup>70</sup> <https://shropshire.gov.uk/maps/Sites/embEnvNetwork/>

Additional information on County Wildlife Sites and Local Nature Reserves was also provided by Shropshire Wildlife Trust in partnership with Shropshire Council.

9.5.11 Part of the Midland Meres and Mosses Phase 2 Ramsar and SSSI site lies approximately 2km north of the Proposed Line Route. The Meres & Mosses of the north-west Midlands form a nationally important series of open water and peatland sites. The Ramsar site supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane *Cicuta virosa* and, elongated sedge *Carex elongata*. Also present are the nationally scarce bryophytes *Dicranum affine* and *Sphagnum pulchrum*. Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insects listed for this site including the following endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae*. Bird species include passage northern shoveler *Anas Clypeata* and wintering great cormorant *Phalacrocorax carbo carbo*. Great bittern *Botaurus stellaris stellaris* and water rail *Rallus aquaticus*.

9.5.12 The following two Sites of Special Scientific Interest (SSSI) lie within 1km of the Proposed Line Route:

- A section of the Montgomery Canal, lying approximately 850m south of where the Proposed Line Route crosses the Canal. The special interest of this section of the Montgomery Canal is in the aquatic features;
- Ruewood Pastures lying approximately 150m south-east, of the Proposed Line Route (Noneley North option) is designated for its grassland plant species;
- Brownheath Moss lying approximately 1.7km north of the Proposed Line Route is part of the Midlands Meres and Mosses Phase 2 Ramsar area and is important for its fen and carr vegetation communities;
- Sweat Mere and Crose Mere lying 2km north of the Proposed Line Route is part of the Midlands Meres and Mosses Phase 2 Ramsar area and supports



a complex of open water, reedswamp, fen and woodland habitats; and,

- Fernhill Pastures lying 2.8km north of the Proposed Line Route is a series of traditionally managed fen-meadows situated on gently sloping ground alongside the River Perry.

#### 9.5.13 Three Local Wildlife Sites (LWS) lie within 1km of the Proposed Line Route:

- Moorfields, Loppington – lies approximately 90m south of the Proposed Line Route. The LWS comprises two fields which are good examples of unimproved and marshy grassland supporting areas of semi-improved and unimproved neutral grassland and areas of rush-dominated grassland bounded primarily by ditches and alder trees;
- Ruewood Pools lies approximately 630m south of the Proposed Line Route and comprises an area of damp, unimproved pasture with silted murky pools, surrounded by encroaching alders; and
- Halston Hall heronry lies approximately 750m north of the Proposed Line Route and is an area of deciduous woodland containing a heronry on an island within an ornamental lake.

9.5.14 There are no areas of ancient woodland crossed by the Proposed Line Route. The nearest area of ancient woodland is at Gravenall, approximately 750m to the north of the Proposed Line Route.

## 9.6 ISSUES IDENTIFIED

9.6.1 The findings of the desk study and surveys undertaken to date and discussions with stakeholders has led to the identification of important or sensitive ecological features which will be subject to careful consideration in the iterative detailed design and assessment process. Consultation feedback from key organisations contacted to date are summarised in Table 9.1 (above). This feedback has been used to inform the scoping process.

9.6.2 The assessment will address protected species and statutory and non-statutory designated sites, (including the Midlands Meres and Mosses Phase 2 Ramsar areas, SSSIs, and LWS) and notable species and habitats (including those listed

under Section 41 of the NERC Act). In addition, consultation feedback and information received, including from Shropshire Council, the RSPB, Natural England and Shropshire Wildlife Trust highlighted the following habitats as being of particular relevance to the ecological assessment:

- Watercourses including the Montgomery Canal, Rivers Perry and Roden and their potential to support protected species such as otter and water vole, and to act as flyways for geese and other waterfowl;
- Ponds and other waterbodies and their potential to support amphibians, in particular great crested newts;
- Woodlands, mature trees and species-rich hedgerows, including their potential value for bats; and,
- Species-rich grasslands, in particular in the vicinity of Ruewood Pastures and Moorfields, Loppington.

## 9.7 PROPOSED ASSESSMENT METHOD

### Spatial Scope

- 9.7.1 The ecological assessment will focus on those areas which are likely to experience significant effects, as set out in the CIEEM Guidelines 2016. This also accords with the EIA Regulations, which require the identification of the '*likely significant effects of the proposed development on the environment*' (Schedule 4 Part 1 Para 20).
- 9.7.2 An initial review of ecological features, together with a review of the likely activities associated with the proposed development, was used to identify the specific study areas for the surveys (both desk and field), which will be undertaken to inform the valuation of ecological features as part of the EIA. The review was also used to inform the selection of important ecological features scoped in to the assessment. The extent of the study areas may vary, for example in accordance with the typical distribution and movements of individual species and the likely mobility of qualifying interests of statutory designated sites. The ecological study areas identified for the assessment are described further under 'field surveys' below, and in Table 9.2.

9.7.3 The study areas will continue to be reviewed in the light of ongoing site surveys and stakeholder consultation. This is to ensure that all likely significant ecological effects are identified and can be captured by the assessment.

### **Temporal Scope**

9.7.4 For the purposes of the assessment, the proposed development will be assessed as permanent and the resulting effects will be described in terms of their duration as short, medium term and long-term as follows:

- Short-term effects are defined as 0 – 3 years;
- Medium term effects are defined as 3 – 15 years; and
- Long term effects are defined as > 15 years.

9.7.5 Short-term effects are typically those which would arise during the construction phase of the North Shropshire Reinforcement Project.

9.7.6 Medium and long-term effects are those which would arise during the operational phase of the North Shropshire Reinforcement Project.

9.7.7 Long-term residual effects of the North Shropshire Reinforcement Project are typically those which would remain after a minimum fifteen years.

### **Approach**

9.7.8 The EIA will build on the information collected to date through further field and desk survey as summarised below.

### **Desk Study**

9.7.9 Baseline information will be gathered through desk study and consultation with relevant organisations including the Shropshire Wildlife Trust to identify local records of protected or notable species along the Proposed Line Route which is the subject of this Scoping Report and within a 250m search area either side (500m overall width). Data will also be gathered for a 100m wide search buffer along access routes and construction compounds/ storage areas, which are shown on Figure 1.6.

Field Surveys

- 9.7.10 The ecological study area for the Proposed Line Route generally encompasses the 100m wide corridor described in Chapter 1: ‘Introduction’. This is then extended as necessary to land on either side (buffer areas) to take into account habitats and species potentially affected by access routes and additional land take that might be required for construction. It is also extended to take into account the location of access tracks and construction compounds/ storage areas. The aim is such that baseline information on habitats and species potentially directly or indirectly affected by the Proposed Line Route is captured and can be given due consideration within the assessment. The extent of these buffer areas may vary depending on the ecological feature being considered, the ‘zone of influence’ of potential effects on ecological features, the evolving design, and information gathered from consultees.
- 9.7.11 A series of habitat and species surveys is to be undertaken in 2017, a summary of which, along with the extent of the study areas and methodologies to be followed, is provided in Table 9.2. At specific locations the study areas may be extended or additional survey effort undertaken to ensure appropriate information on individual habitats or species is gathered. The need or otherwise for additional surveys at specific locations will be reviewed along with the evolving detailed design and as baseline information is gathered.

| <b>Table 9.2<br/>Baseline Field Surveys and Study Areas</b> |   |
|---|---|
| <b>Ecological Feature</b>                                   | <b>Survey Type, Extent and Methodology</b>  |
| Habitats  | Extended Phase 1 habitat survey along the 100m wide corridor of the Proposed Line Route, building on the broad-scale Phase 1 completed in 2016. The survey area will be extended where necessary along accesses and up to an additional 50m either side of the 100m corridor to ensure that features of ecological interest/ value outside the corridor (for example ponds within 50m) are suitably mapped and described. |

| <b>Table 9.2<br/>Baseline Field Surveys and Study Areas</b> |   |
|---|---|
| <b>Ecological Feature</b>                                   | <b>Survey Type, Extent and Methodology</b>  |
|   | The survey methodology will follow that set out in <i>Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit</i> JNCC (2010), 'extended' to allow the recording of additional features of interest, and assesses the potential for protected or notable species or species listed under Section 41 of the NERC Act 2006, as recommended in the Guidelines for Preliminary Ecological Appraisal (CIEEM 2013) and in line with British Standard 42020:2013 Biodiversity – <i>Code of Practice for Planning and Development</i> .   |
| Species-rich vegetation                                     | Certain locations may have potential to support vegetation communities of particular interest, for example in the vicinity of Ruewood Pastures SSSI and near Moorfelds, Loppington. These locations will be subject to more detailed botanical (National Vegetation Classification, or NVC), survey based on Rodwell, J. (1991) <i>British Plant Communities Vols. 1-5</i> .  |
| Hedgerows   | Hedgerows within the 100m wide Proposed Line Route and where crossed by accesses will be described and mapped as part of the extended Phase 1 habitat survey. Sections of hedgerow likely to be directly affected (e.g. sections to be temporarily removed for access including those beyond the 100m wide corridor) potentially qualifying as 'Important' under the Hedgerows Regulations 1997 will be subject to full survey following the Hedgerow Survey Handbook. A standard procedure for local surveys in the UK. (Defra, 2007) and Clements DK and Tofts RJ <i>Hedgerow Evaluation and Grading Systems (HEGS): A Methodology for the Ecological Survey, Evaluation and Grading of Hedgerows</i> (1992). |
| Trees   | An arboricultural survey will be undertaken of trees within the 100m wide Proposed Line Route and along or adjacent to access routes where they may potentially be affected. This will primarily relate to trees within the 20 - 40m wide Limits of Deviation. Survey methods will follow British Standard BS5837 <i>Trees in Relation to Construction: 2012</i> . Veteran trees will also be identified where present from the combined  |

| <b>Table 9.2<br/>Baseline Field Surveys and Study Areas</b> |   |
|---|---|
| <b>Ecological Feature</b>                                   | <b>Survey Type, Extent and Methodology</b>  |
|   | findings of the arboricultural survey, extended Phase 1 habitat survey and desk study.  |
| Badgers   | <p>Signs of badger presence/ activity including setts, latrines, paths etc. within the 100m wide Proposed Line Route and up to 50m buffers either side where required, including along accesses.</p> <p>Information will be recorded as a separate Confidential Annex to the Technical Appendices.</p>  |
| Bats  | <p>Preliminary bat roost assessments (PRA) (ground-based) of trees likely to be affected by works within the 100m wide Proposed Line Route and where trees may be affected by accesses (as described above under Trees). These will identify trees with low, medium or high bat roost potential.</p> <p>Activity (transect) surveys and automated detector surveys will also be used at selected locations along the Proposed Line Route with the aim of identifying any important foraging and commuting flyways.</p> <p>Trees directly affected by the project (felled or cut back) with medium or high bat roost potential will be subject to further survey to identify whether or not they support bat roosts, for example through climbing tree roost inspections.</p> <p>Methodologies in accordance with Collins Bat Conservation Trust, Collins J. 'Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition, (2016).</p> |
| Dormouse  | As explained later in this chapter, no specific presence/ absence surveys are considered necessary to inform the assessment.  |
| Great crested newts   | Waterbodies within the 100m wide corridor and up to 50m beyond this where required, will be identified from aerial images, desk study and the Extended Phase 1 habitat survey. These will be subject to Habitat   |

| <b>Table 9.2<br/>Baseline Field Surveys and Study Areas</b> |   |
|---|---|
| <b>Ecological Feature</b>                                   | <b>Survey Type, Extent and Methodology</b>  |
|   | <p>Suitability Assessment using HSI methodology (Oldham et al 2000, and ARG UK 201071).</p> <p>Presence/ absence surveys of ponds within the 100m wide Proposed Line Route and 50m buffers will be undertaken using Environmental DNA (e-DNA) methodology (Biggs et al. 2014a)<sup>72</sup> with analysis undertaken by a suitably equipped laboratory in adherence to the analysis methodology outlined within the DEFRA Project WC1067 report (Biggs et al., 2014b<sup>73</sup>). If required, conventional population level surveys may be undertaken of individual ponds.</p> |
| Otter and water vole  | Watercourses and suitable ditches will be surveyed for habitat suitability and signs of otter and water vole presence along both banks 100m upstream and downstream of Proposed Line Route crossing points.   |
| Breeding birds  | <p>A consultation response from the RSPB noted that some agricultural fields may be used for breeding by protected or notable bird species such as lapwing.</p> <p>Targeted breeding bird surveys will comprise three survey visits at selected locations following a simplified version of the Common Bird Census (CBC) and Gilbert et al. ‘<i>Bird Monitoring Methods: A manual of techniques for key UK species</i>’ RSPB (1998).</p>  |

<sup>71</sup> Oldham R.S., Keeble J., Swan M.J.S & Jeffcote M. (2000), Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155.

<sup>71</sup> ARG UK (2010), ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom.

<sup>72</sup> Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson j., Arnett A., Williams P, and Dunn F (2014), Analytical and methodological development for improved surveillance of the Great Crested Newt.

<sup>73</sup> Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust. Oxford.

| <b>Table 9.2<br/>Baseline Field Surveys and Study Areas</b>                           |  |
|---|--|
| <b>Ecological Feature</b>   | <b>Survey Type, Extent and Methodology</b>   |
| Non-breeding birds  | Vantage point (three locations) and non-breeding walkover/ driven surveys will have been completed between October 2016 and March 2017 in line with Natural England guidance TIN069 (2010) and with reference to SNH (2016) guidance on recommended survey methodologies for overhead lines for birds. The surveys focused on species generally acknowledged to be vulnerable to collision risk, such as geese and waders. Surveys are currently still underway but a summary of findings to date is provided as Appendix E.     |
| Reptiles  | As explained later in this chapter, given the relatively restricted footprint of the construction and operational phases of the proposed development within a largely agricultural area, no specific presence/ absence surveys are considered necessary to inform the assessment.  |
| Aquatic species including fish and white-clawed crayfish                              | Watercourses and ditches will be mapped as part of the Extended Phase 1 habitat survey. As the Proposed Line Route will not involve any works within watercourses, and poles and construction areas will be set back from bankside habitats, no specific presence/ absence surveys are considered necessary to inform the assessment.  |
| Other species including other mammals, invertebrates and invasive non-native species. | Potential habitat suitability and presence of notable species including invasive species will be noted where observed as part of the Extended Phase 1 habitat survey. Given the relatively restricted footprint of the construction and operational phases of the proposed development within a largely agricultural area, and the fact that waterbodies and watercourses will be avoided and hedgerows will be reinstated, no detailed invertebrate or other species surveys are considered necessary to inform the assessment. |



9.7.12 It is not considered that specific surveys for dormice are required, given the current known distribution of dormice in Shropshire and the relatively limited extents of habitat removal required for the proposed development. It is considered that information from local records obtained through desk study and consultation, and data on habitat suitability gathered during the Extended Phase 1 habitat survey, will be sufficient to inform the assessment and any mitigation that might be proposed. Such information will however also be used to review the potential need for targeted surveys at specific locations, for example based on likely construction effects combined with desk study records and presence of high suitability habitat and connectivity with mature woodlands.

9.7.13 While reptiles may be present within the study area, the proposed development will not isolate, fragment or cause the loss of large areas of high value reptile habitat. It is considered that information from local records obtained through desk study and consultation, and habitat suitability gathered during the Extended Phase 1 habitat survey, will be sufficient to inform the assessment and any mitigation that might be proposed. Such information will however also be used to review the potential need for targeted surveys at specific locations.

### **Assessment Approach**

9.7.14 The effects on ecological features will be assessed based upon the interaction between the importance, or sensitivity, of the feature and the magnitude of change it is likely to experience. The overall approach is also described in Chapter 5 'EIA Approach and Methodology'.

9.7.15 The potential ecological effects of the construction and operation of the overhead line considered to be relevant to the EIA are:

- Habitat loss, degradation or fragmentation during construction. The operation of the North Shropshire Reinforcement Project is not considered likely to have any significant effects on habitats additional to the construction phase, however this will be explained with supporting information in the EIA;
- Disturbance or harm to individuals of protected or notable species during construction works. Once operational it is not considered that the North

Shropshire Reinforcement Project will have any significant effects on protected or notable species additional to the construction phase, however this will be explained with supporting information in the EIA; and

- Risk of bird collision or electrocution due to the presence of the overhead line, when operational. The potential for increased predation by raptors and other species on vulnerable ground-nesting birds, caused by the use of poles and lines as hunting perches, will also be considered.

- 9.7.16 Relevant European, national and local legislation and guidance from government and specialist organisations will be referred to in order to determine the importance of ecological features. Additionally, importance will be determined on a contextual basis, taking into account the results of baseline surveys and the context of the geographic area and not solely the level of legal protection that a feature receives. Ecological features may be important for a variety of reasons, examples of which include the diversity and naturalness of habitats, the rarity of species or the geographical location of species relative to their known range.
- 9.7.17 As set out in Chapter 5 'EIA Approach and Methodology', predicted effects will be classified according to whether they are considered to be major, moderate, minor or negligible and beneficial or adverse. The assessment and reporting of ecological effects upon ecological features identified will follow the principles set out in the CIEEM Guidelines 2016.
- 9.7.18 The assessment will describe and consider only potentially significant effects in detail. In accordance with paragraph 5.25 of the CIEEM guidelines, a 'significant effect' is an effect that either '*supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*'. The guidance further states at paragraph 5.26, that '*a significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project*'.
- 9.7.19 In addition paragraph 5.26 of the guidance also notes that, '*A significant effect is a positive or negative ecological effect that should be given weight in judging whether*

*to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring. A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission’.*

9.7.20 In this assessment, ecological feature importance is described on a scale from International to Less than Local (or Site level), as detailed in Table 9.3.

| <b>Table 9.3<br/>Definition of Ecological Value</b> |  |
|---|--|
| <b>Sensitivity of Feature/ Scale of Importance</b>  | <b>Definition (Examples)</b>   |
| <b>High - International and European</b>            | Beyond a UK scale, typically at European level. E.g. internationally designated site (SPA, SAC and/ or Ramsar site) or proposed/ candidate site (pSPA or cSAC), large area of a habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of the larger whole, large population of an internationally important species or site supporting such a species (or supplying a critical element of their habitat requirement) or species listed in Annex IV of the Habitats Directive. |
| <b>High - National</b>                              | UK: A nationally designated site (e.g. SSSI) or a discrete area which meets the selection criteria for national designation.<br><br>An area of a priority habitat which constitutes a significant proportion of the UK resource of that habitat.<br><br>Populations of a nationally important species or site supporting such a species (or supplying a critical element of their habitat requirement) which constitutes more than 1% of the national population of that species.  |
| <b>Medium – County</b>                              | Shropshire. Locally designated sites (Local Nature Reserves, County Wildlife Sites).<br><br>Areas of priority habitat which constitutes a significant proportion of the County’s resource of that habitat.   |

| <b>Table 9.3<br/>Definition of Ecological Value</b> |   |
|---|---|
|   | Large populations of species listed in the County 'red data book' or BAP due to its rarity or County context or sites supporting 1% or more of a County population.   |
| <b>Low - Local</b>                                  | Parishes and land areas between Oswestry and Wem along the Proposed Line Route.<br><br>For example areas of priority habitat but which are not large enough to meet the criteria for County value, or small but sustainable populations of a protected or notable species |
| <b>Negligible - Site</b>                            | Considered within the context of the Proposed Line Route only.  |

9.7.21 Ecological effects will also be further described as far as possible and where information allows, in terms of the parameters detailed in Table 9.4.

| <b>Table 9.4<br/>Environmental Parameters</b> |  |
|---|--|
| <b>Environmental Parameter</b>                | <b>Description</b>   |
| <b>Magnitude</b>                              | The 'size' or amount of the effect is referred to as the magnitude and is determined on a quantitative basis where possible.   |
| <b>Extent</b>                                 | The area over which an effect occurs. The magnitude and extent of an effect may be synonymous.   |
| <b>Duration</b>                               | The time over which an effect is expected to last prior to the recovery or replacement of the feature. This can be considered in terms of life cycles of species or regeneration of habitats. The duration may be longer than the duration of an activity. |
| <b>Reversibility</b>                          | Reversible (or temporary) effects are those that occur during construction and are either re-instated post construction or in the case of species able to recover within a reasonable  |

| <b>Table 9.4<br/>Environmental Parameters</b> |   |
|---|---|
|   | <p>timescale which would not affect the functionality of the population.</p> <p>Either spontaneous recovery or effective mitigation is possible. Permanent effects are those which cannot be recreated within the proposed development or there is no reasonable chance that actions can be undertaken to reverse it.</p> |
| <b>Timing and frequency</b>                   | <p>The timing of effects in relation to important seasonal and/or life cycle constraints has also been evaluated. Similarly, the frequency with which activities and simultaneous effects would take place can be an important determinant, and has therefore also been assessed and described where possible.</p>        |

9.7.22 The assessment will consider how existing baseline conditions may change over time. Changes in the baseline could occur through land use and habitat changes, in the form of differing management and natural growth or succession of habitats.

**Magnitude of Change**

9.7.23 The magnitude of change effected on features will be described within the assessment, described in terms of ecology in Table 9.5. The likelihood or probability that an effect will occur will be described as far as possible based on available information. Whilst it is reasonably straightforward to identify effects that are certain to occur, or conversely will not occur, it is generally less practicable to quantify occurrences defined as 'likely' or 'unlikely'. In these circumstances, professional judgement will be used, with reasoning supported by available evidence.

| <b>Table 9.5<br/>Magnitude of Change</b> |  |
|--|--|
| <b>Magnitude</b>                         | <b>Criteria</b>  |
| <b>High</b>                              | <p>The change (either on its own or with other proposals) may negatively or positively affect the conservation status of a site/ species population, in terms of the coherence of its ecological structure and function, across its whole area, that enables it to</p> |

| <b>Table 9.5<br/>Magnitude of Change</b> |  |
|--|--|
|  | sustain the habitat, complex of habitats and/or the population levels of species of interest.  |
| <b>Medium</b>                            | Conservation status of a site or population will not be negatively or positively affected, but some element of the functioning might be affected and the effect on the site/ population is likely to be significant in terms of its ability to sustain some part of itself in the long term. |
| <b>Low</b>                               | Neither of the above applies, but some minor negative or positive effect is evident on a temporary basis or affects extent of habitat abundant in the local area.  |
| <b>Negligible</b>                        | No observable effect in either direction.  |

### **Assessment of Effect Significance**

- 9.7.24 Ecological effects are considered in terms of the importance or sensitivity of the ecological feature and the magnitude of change effected upon it. A significant effect in the context of the EIA (as set out in Chapter 5 'EIA Approach and Methodology' is considered to be any major or moderate effect on an important ecological feature, whether positive or negative.
- 9.7.25 For an effect to be significant, the ecological integrity or conservation status of a sensitive feature must be influenced in some way. It may be that the effect is substantial in magnitude or scale, irreversible, has a long-term effect, or coincides with a critical period in a species' life-cycle.
- 9.7.26 Professional judgement will be employed throughout, and where ecological features of lower value or importance could experience significant effects, albeit at a Local or Site geographic scale, this will be discussed and a precautionary approach adopted where appropriate. Where uncertainty or limitations exist, this will be acknowledged.
- 9.7.27 It is recognised that discernible effects can also occur at a local geographic level or below which are not sufficiently severe to be categorised as 'significant' in accordance with the approach set out in Chapter 5 'EIA Approach and

Methodology', but nonetheless merit discussion within the assessment. In the interest of completeness these effects will be discussed in the mitigation section of the Ecology Chapter of the ES in relation to general construction good practices to avoid or minimise low-level or minor disruption as well as standard pollution avoidance and control measures.

- 9.7.28 Opportunities to provide ecological enhancements as part of the North Shropshire Reinforcement Project will also be identified. SP Energy Networks has already worked with the Shropshire Wildlife Trust to fund improvement schemes associated with the Meres and Mosses Nature Improvement Area (NIA) and similar opportunities to provide net biodiversity benefits linked to the proposed development will be explored as part of the ongoing consultations and within the assessment.

#### **Habitats Regulations Assessment**

- 9.7.29 In relation to the North Shropshire Reinforcement Project, potential impacts upon Ramsar sites designated under the Convention on Wetlands of International Importance (the Ramsar Convention), will be considered. And consultations are ongoing with Natural England and Shropshire Council in this respect. Guidance (EC, 2001; The Planning Inspectorate, 201274) on undertaking assessment of plans or projects that may impact upon Natura 2000 Sites recommends a staged approach to the assessment process. Stage 1: Screening of this process identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

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<sup>74</sup> European Commission (EC) (2001) Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

The Planning Inspectorate (2012) Habitat Regulations Assessment. Advice Note Ten: Habitat Regulations Assessment relevant to nationally significant infrastructure projects. Version 3.

- 9.7.30 Given the distance of the Midlands Meres and Mosses Ramsar site from the Proposed Line Route and the restricted footprint of the overhead line once constructed, it is considered that the operational phase of the proposed development would have no likely significant effects on the qualifying habitat or species interests of the protected area as set out by the Conservation of Habitats and Species Regulations 2010, and that this could be satisfactorily addressed through a Stage 1 screening process and a No Likely Significant Effects Report. The risk of construction phase effects on the Ramsar site is considered to be limited, related to the potential for impacts on surface water quality (for example pollution events), but only if there is shown to be a functional link between drainage features and watercourses along the construction corridor, and the wetland features of the Ramsar site itself.
- 9.7.31 It is not considered that there are other likely effects either alone or in combination with other projects that would require assessment in relation to the Ramsar site. However the opinion of Natural England and Shropshire Council is sought in order to confirm this view and to agree the information required to inform a screening assessment in relation to this designated feature.

### **Approach to Mitigation**

- 9.7.32 An integral part of the iterative design and assessment process undertaken to date has been the consideration of mitigation through sensitive routeing and design in accordance with the Holford Rules and in response to consultation. The aim has been to ensure that the proposed development takes account of ecological constraints and opportunities and achieves the optimum fit as part of an environmentally integrated design.
- 9.7.33 During the ongoing detailed design process, there will be a continuing exploration of further opportunities for mitigation of likely significant ecological effects through sensitive alignment and siting of the component parts of the North Shropshire Reinforcement Project including:
- Individual pole positions and their associated infrastructure;
  - Temporary and permanent access arrangements; and



- Temporary construction areas (in relation to important ecological features, ecological networks and connectivity).

9.7.34 The aim will be to minimise loss and disruption to valuable habitats or effects on protected and notable species populations when siting the different elements of the North Shropshire Reinforcement Project. Working areas and access tracks will be kept to a minimum and existing tracks and gaps in hedgerows will be used as far as practicable. Any areas disturbed will be reinstated, including the reinstatement of disturbed habitat and replacement planting, including along hedgerows. For example, any sections of hedgerow which have to be removed for pole installation will be stored on site and replaced within 48 hours.

### **Cumulative Effects**

- 9.7.35 The different types of cumulative effect, including in-combination and inter-project cumulative effects are explained in Chapter 18 'Cumulative Effects' of this Scoping Report.
- 9.7.36 The cumulative assessment will identify whether potential ecological changes arising from the North Shropshire Reinforcement Project in conjunction with or combined with other developments would result in significant additional effects. Relevant developments to be considered within the cumulative assessment will be agreed in consultation with Shropshire Council.

### **Approach and Methodology**

- 9.7.37 The assessment of cumulative ecological effects will follow a similar methodology to that described above for the main ecological assessment, in that the degree of effect is determined by combining an evaluation of the sensitivity of the ecological feature and the magnitude of change. The resulting effect will be described in the ES as major, moderate, minor or negligible. The cumulative assessment considers the magnitude of change which would potentially arise from multiple developments.

### Defining a Study Area

- 9.7.38 The study area for the cumulative assessment will take account of other proposed developments, which are either consented or under construction. The zones of

influence for each development within the cumulative assessment will be defined once the nature and location of the other developments is known. Where sufficient information is not available from the other developments then reasonable assumptions and judgments will be made.

#### Baseline for the Assessment of Cumulative Effects

9.7.39 The baseline information for the North Shropshire Reinforcement Project will include the baseline for the main ecological assessment, amended if necessary to allow for the consideration of the other developments.

#### Predicting Cumulative Ecological Effects

9.7.40 The cumulative ecological assessment will consider the degree to which the North Shropshire Reinforcement Project, in combination with other similar proposed developments, would affect existing ecological features.

9.7.41 Potential cumulative effects could include:

- Cumulative loss of protected or priority habitats;
- Fragmentation of habitat, loss of ecological networks and potential isolation of species; and,
- Cumulative effects on protected species, for example great crested newts.

#### Assessment of Cumulative Ecological Effects

9.7.42 Criteria and thresholds for ecological importance or sensitivity are set out earlier in this chapter.

9.7.43 Where required, mitigation will be considered for any identified cumulative effects and residual effects will then be assessed with mitigation in place. As noted previously, however, most mitigation will be undertaken as part of the iterative design and routing of the North Shropshire Reinforcement Project.

9.7.44 When considering cumulative effects the assessment will (so far as available information allows) consider factors such as magnitude, duration, reversibility and geographic scale in the same way as the main assessment of the North Shropshire Reinforcement Project.

## 9.8 SUMMARY

- 9.8.1 The North Shropshire Reinforcement Project is required because of the need to reinforce the electricity network in the North Shropshire area. The project will help to provide the capacity required for current planning forecasts for the local rural population including homes and businesses. The Proposed Line Route is being developed as an iterative process which seeks to avoid adverse ecological effects as far as practicable, and to provide appropriate mitigation where necessary. Opportunities for enhancement measures within the local environment are also being identified.
- 9.8.2 Through desk study, consultation and baseline surveys, the ecological assessment will identify and assess the significant effects on habitats and species associated with the proposed 132kV overhead line, addressing direct, indirect, permanent and temporary changes arising from the Proposed Development. The assessment will cross reference with other topic disciplines such as landscape and visual to ensure the EIA takes an integrated approach to the assessment of effects and provision of suitable mitigation.

## CHAPTER 10: HISTORIC ENVIRONMENT

### 10.1 INTRODUCTION

- 10.1.1 This chapter sets out the proposed scope and approach to assessing the likely effects on the historic environment ('heritage') associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the Project'. It builds upon the earlier routeing work which is presented in the suite of documents listed in Table 1.1 in Chapter: 'Introduction' of this Scoping Report.
- 10.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 'EIA Approach and Methodology' of this Scoping Report. It has been developed to take account of the range of likely significant effects on the historic environment arising during the construction and operation phases of the North Shropshire Reinforcement Project.
- 10.1.3 The historic environment resource includes archaeology, built heritage and the historic landscape. The proposed development has the potential to affect the significance of heritage assets by physically impacting below ground archaeology, and by altering the settings of built heritage and the historic landscape.
- 10.1.4 This chapter is supported by the following:
- Figure 10.1 Historic Environment Assets;
  - Figure 10.2 Historic Environment Assets;
  - Figure 10.3 Provisional List of Viewpoints; and
  - Appendix F Historic Environment Asset List.
- 10.1.5 In accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009<sup>75</sup> (the EIA Regulations), the historic environment assessment will identify and appraise the potential effects which may arise during the construction and operation phases of the North Shropshire Reinforcement Project. As explained in Chapter 3, Section 3.7, as the proposed overhead line is considered by SP

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<sup>75</sup> The Planning Inspectorate (PINS) (2009), Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended)

Energy Networks to be a permanent installation, decommissioning effects will not be included in the assessment.

## 10.2 PLANNING POLICY CONSIDERATIONS

10.2.1 Planning Policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report.

### **National Planning Advice and Policies**

10.2.2 The overarching National Policy Statement for Energy (EN-1)<sup>76</sup> discusses generic impacts on the historic environment, resulting from the construction, operation and decommissioning of energy infrastructure. A full assessment of compliance with policy as set out in the NPS will be provided in the Planning Statement which will be submitted as part of the application for a DCO.

10.2.3 NPPF paragraphs 126-141 state that,

*'A positive strategy should be implemented for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. Heritage assets should be conserved in a manner appropriate to their significance.'*

### **Local Planning Policy and Guidance**

10.2.4 Planning Policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report.

10.2.5 The key documents that make up the Shropshire Local Development Framework (LDF) are:

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<sup>76</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

- The Core Strategy DPD (adopted 24 February 2011);
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015); and
- Historic Environment Supplementary Planning Document, Consultation Draft (March 2016).

10.2.6 These documents will be reviewed and information relevant to the historic environment assessment will be identified. Whilst not forming part of the primary policy in relation to NSIPs, reference to this local plan policy will be supported by reference to the National Planning Policy Framework (NPPF) which gives context to these local policies.

10.2.7 The following supporting documents are also considered relevant to the historic environment assessment and will be reviewed:

- Shropshire Council (March 2016), Historic Environment SPD consultation draft Joint Local Development Plan (JLDP), Supporting Document; and
- Shropshire Council (March 2016), Natural Environment SPD consultation draft (JLDP), Supporting Document).

### **Statutory Provisions**

10.2.8 The following national legislation with regards to the historic environment will be referred to as applicable within the ES:

- Ancient Monuments and Archaeological Areas Act 1979 affords statutory protection to any structure, building or work which is considered to be of particular historic or archaeological interest and regulates any activities which may affect such areas. Under the Act any work that is carried out on a Scheduled Ancient Monument must first obtain scheduled monument consent. Scheduled Ancient Monuments and their setting are a material consideration in the NPPF;
- Planning (Listed Buildings and Conservation Areas) Act 1990 applies special protection to buildings and areas of special architectural or historic interest. Section 66 (1) of the act states that '*In considering whether to grant*

*planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses*<sup>77</sup>;

- Section 72 (1) of the act states that ‘In the exercise, with respect to any buildings or other land in a General duty as conservation area, of any powers under any of the provisions mentioned respects in subsection (2), special attention shall be paid to the desirability of conservation preserving or enhancing the character or appearance of that area.’
- Whilst not directly applicable, by extension, the same principles as outlined in Section 66 (1) and Section 72 (1) are assumed to be applied in the grant of development consent; and
- The Hedgerow Regulations 1997 (Section 97 of the Environment Act 1995) affords protection to hedgerows deemed to be ‘*important*’ under the criteria of the Regulations.

### **Further Guidance**

10.2.9 The following guidance documents are considered directly relevant to the historic environment assessment and will be reviewed and applied to the assessment:

- Historic England Good Practice Planning Advice Note 2: Managing Significance in Decision-Taking in the Historic Environment<sup>77</sup>;
- Historic England Good Practice Planning Advice Note 3: The Setting of Heritage Assets<sup>78</sup>;

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<sup>77</sup> Historic England (2015), Historic Environment Good Practice Advice in Planning Note 2, Managing Significance in Decision; Taking in The Historic Environment

<sup>78</sup> Historic England (2015), Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets

- Historic England Seeing the History in the View<sup>79</sup> ;
- Historic England Conservation Principles, Policies and Guidance<sup>80</sup>;
- Codes, Standards and Guidance documents by the Chartered Institute for Archaeologists, the regulatory body for the archaeological profession, including:
  - Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment<sup>81</sup>;
  - Code of Conduct<sup>82</sup>;
  - Standard and guidance for historic environment desk-based assessment<sup>83</sup>;
- Revised Design Manual for Roads and Bridges (DMRB), Volume 11 Section 3 Part 2, Highways Agency 208/07<sup>84</sup>;

10.2.10 Further relevant guidance includes:

- The Holford Rules – Guideline for the Routeing of New High Voltage Overhead Transmission Lines<sup>85</sup>; and

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79 Historic England (formerly English Heritage) (2012), Seeing the History in the View: A Method for Assessing Heritage Significance within Views

80 Historic England (formerly English Heritage) (2008), Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment

81 Chartered Institute for Archaeologists (2014), Standard and Guidance for Commissioning Work or Providing Consultancy Advice on Archaeology and the Historic Environment

82 Chartered Institute for Archaeologists (2014), Code of Conduct

83 Chartered Institute for Archaeologists (2014), Standard and Guidance for Historic Environment Desk-Based Assessment

84 Highways Agency (2007), Design Manual for Roads and Bridges Volume 11, Section 3 Part 2 Ha 208/07

85 In 1959, Lord Holford, then advisor to the Central Electricity Generating Board (CEGB), developed a series of planning guidelines in relation to amenity issues, which have subsequently become known as the 'Holford Rules'. The Holford Rules form the basis for the decision-making process of siting overhead transmission lines, and minimising the potential landscape impact of such infrastructure as explained further Chapter 7 'Landscape' of this Scoping Report.



- The Planning Inspectorate (2015), Cumulative Effects Assessment<sup>86</sup>.

### Scope of Assessment and Definitions

10.2.11 The historic environment resource includes archaeology, built heritage and the historic landscape.

10.2.12 Designated heritage assets are defined by the NPPF as ‘*A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.*’ Registered Parks and Gardens and Registered Battlefields are not subject to specific legal protection.

10.2.13 Table 10.1, which is adapted from Table 1 of Shropshire Council’s Historic Environment SPD<sup>87</sup>; presents the relevant policy and legislation for each type of designated asset.

| <b>Table 10.1</b>   |                                  |   |   |   |
|---|----------------------------------|---|---|---|
| <b>Designated Heritage Assets and Relevant Legislation and Policy</b> |                                  |   |   |   |
| <b>Type of designated Heritage Asset</b>                              | <b>Asset Grade</b>               | <b>Asset Significance</b>                     | <b>Relevant Legislation</b>                                 | <b>Protected in planning process</b>                              |
| Conservation Areas  | n/a                              | National or Regional                          | Planning (Listed Buildings and Conservation Areas) Act 1990 | Section 12 of NPPF, specifically paragraphs 128, 132, 133 and 134 |
| Listed buildings  | Grade I<br>Grade II*<br>Grade II | National<br>↓ in descending order of interest | Planning (Listed Buildings and Conservation Areas) Act 1990 |   |

<sup>86</sup> The Planning Inspectorate (2015), Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects

<sup>87</sup> Shropshire Council (2016) Historic Environment Supplementary Planning Document Consultation Draft

| <b>Type of designated Heritage Asset</b> | <b>Asset Grade</b>               | <b>Asset Significance</b>                     | <b>Relevant Legislation</b>   | <b>Protected in planning process</b> |
|--|----------------------------------|---|---|--------------------------------------|
| Registered Parks and Gardens             | Grade I<br>Grade II*<br>Grade II | National<br>↓ in descending order of interest | National Heritage Act 1983  | Core Strategy, Policies CS6 and CS17 |
| Registered Battlefields                  | n/a                              | National                                      | National Heritage Act 1983  |                                      |
| Scheduled Monuments                      | n/a                              | National                                      | Ancient Monuments and Archaeological Areas Act 1979                                     |                                      |
| World Heritage Sites                     | n/a                              | International                                 | UN Convention concerning the Protection of the World Cultural and Natural Heritage 1972 |                                      |

10.2.14 Non-designated heritage assets include:

- Nationally important assets which have not been designated, but should be subject to the same policy considerations as designated assets, in accordance with NPS EN-1 (DECC, 2011. Overarching National Policy Statement for Energy (EN-1), paragraph 5.8.4).
- Assets which have not been designated but are recorded on county Historic Environment Records (HER) or equivalent databases. NPPF states that non-designated assets are a material consideration in the planning process (DCLG, 2012. National Planning Policy Framework, paragraph 135).

10.2.15 A heritage asset is defined in Annex 2 of the National Planning Policy Framework<sup>88</sup> (NPPF) as,

*'a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).'*

10.2.16 Setting is defined by Annex 2 of the NPPF as,

*'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.'*

10.2.17 English Heritage<sup>89</sup> defines setting as,

*'The surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape.'*

10.2.18 ICOMOS<sup>90</sup> states that,

*'the setting of a heritage structure, site or area is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character. Beyond the physical and visual aspects, the setting includes interaction with the natural environment; past or present social or spiritual practices, customs, traditional knowledge, use or activities and other forms of intangible cultural heritage aspects that created and form the space as well as the current and dynamic cultural, social and economic context.'*

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<sup>88</sup> Department of Communities and Local Government (DCLG) (2012), National Planning Policy Framework, Annex 2: Glossary

<sup>89</sup> English Heritage (2008), Conservation Principles, p72

<sup>90</sup> ICOMOS (2005), Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas, Annex 2: Glossary

## Significance (Importance) and Values/ Interests of Heritage Assets

10.2.19 The significance of a heritage assets is defined by the NPPF as,

*'The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting'.*

10.2.20 ICOMOS defines the significance of an asset as,

*'the sum of the cultural and natural heritage values of a place, often set out in a statement of significance.'*

10.2.21 Historic England's Conservation Principles<sup>91</sup> provide a comprehensive framework for the sustainable management of the historic environment. It sets out a method for thinking systematically and consistently about the heritage values that can be ascribed to a place.

10.2.22 The 'significance' of a heritage asset lies at the core of 'Conservation Principles'. Significance is a collective term for the sum of all the heritage values attached to a place, be it an archaeological site, built heritage or an historic landscape.

10.2.23 The Conservation Principles shows how the ways people value historic places can be grouped into four categories:

- Evidential value: the potential of a place to yield evidence about past human activity.
- Historical value: the ways in which past people, events and aspects of life can be connected through a place to the present - it tends to be illustrative or associative.
- Aesthetic value: the ways in which people draw sensory and intellectual stimulation from a place.

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<sup>91</sup> Historic England (formerly English Heritage) (2008), Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment

- Communal value: the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory

10.2.24 Archaeological interest is defined by the NPPF as

*‘There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.’*

10.2.25 Sensitivity of a heritage asset refers to the capacity of its setting to accommodate change without harm to the significance of the heritage asset. This capacity is not dependent on designation or grade or the type of change.

### **Significance of Effect**

10.2.26 The term significance/ significant has two meanings in historic environment assessments. As explained above in paragraphs 10.19 to 10.22, the NPPF, ICOMOS and Historic England define the significance (importance) of heritage assets.

10.2.27 Significance is also a term used in Environmental Impact Assessment (EIA), where it means the severity of an impact or effect. In order to comply with EIA policy, while avoiding confusion with UK heritage terminology, significance in this respect will be referred to as *‘significance of effect’*. It is important that the distinction drawn between these two uses of the word is understood.

10.2.28 For the purpose of assessment, the following terms are considered to be interchangeable:

- ‘Historic environment’ and ‘heritage’,
- ‘Assets’ and ‘receptors’,
- ‘Impacts’ and ‘effects’, and
- ‘Significance’ and ‘importance’; and
- ‘Values’ and ‘interests’.

### 10.3 WORK UNDERTAKEN TO DATE

- 10.3.1 Extensive survey and assessment work has already been undertaken as part of the ongoing routeing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 ‘Alternatives and Design Evolution’ of the Scoping Report. Table 1.1, in Chapter 1 ‘Introduction’ of this Scoping Report lists the documents which have been produced to inform the route selection process and which include baseline information on the historic environment.
- 10.3.2 Figure 2.5 in the Route Corridor Options Report<sup>92</sup> shows the heritage assets which have been identified and how they have been avoided through the routeing process.
- 10.3.3 The EIA will build on the information collected to date through further desk-based and field survey. This is in order to provide a full understanding of the likely effects of the North Shropshire Reinforcement Project on the historic environment, and to meet relevant policy requirements, statutory provisions and relevant guidance, as outlined later in this chapter.
- 10.3.4 This chapter has been prepared through desk-based studies within a study area extending 5km either side of the Proposed Line Route using the following sources:
- National Heritage List for England, an online searchable spatial database of designated heritage assets (excluding conservation areas);
  - Shropshire Council’s Conservation Areas Designation Plans, and
  - Shropshire Council Historic Environment Record (SHER), a database of non-designated heritage assets. This is a resource covering all aspects of the historic environment in the historic county of Shropshire. The resource includes a relational database linked to GIS mapping, indexes of available ‘sources’ held by the HER and by other organisations, and supporting collections of primary and secondary information.

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<sup>92</sup> SP Energy Networks (June 2016), Route Corridor Options Report

10.3.5 A site visit was undertaken in summer 2016 to a) assess the extent of settings of the higher value heritage assets and b) inform the initial characterisation of the nature of visual impact.

## 10.4 CONSULTATION RESPONSES

10.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.

10.4.2 The consultations have a) secured relevant heritage data, b) agreed the general approach and appropriate methods for assessment of the historic environment, c) ensured mutual interpretation of relevant policy, and d) enabled stakeholder views to inform the assessment, particularly as regards sensitive heritage assets.

10.4.3 This scoping chapter incorporates feedback from Shropshire Council.

10.4.4 The relevant initial consultation responses relating to the historic environment are detailed below:

- Historic England recommended that the EIA assessment should incorporate the advice and methodology set out in Historic England's 'Good Practice Advice in Planning Notes' (GPAs), especially: GPA2, Managing Significance in Decision -Taking in the Historic Environment; and GPA3, The Setting of Heritage Assets;
- Historic England recommended the impact of the proposed development on Stanwardine scheduled moated site (SM 1017240) is assessed at the EIA stage by using the methodology set out in advice note GPA3, The Setting of Heritage Assets (Ref. 10.8);
- Historic England commented that for Whittington Castle (SM 1019450) the Preferred Route is likely to have a '*less than substantial*' impact (in terms of the NPPF definitions), although this would also need to be assessed further at EIA stage;

- Shropshire Council confirmed agreement with a previously supplied provisional list of heritage assets classified as being of regional significance, with the exception of the WWI Practice Trenches (SHER MSA 33916) located within the Scheduled Monument of Old Oswestry hillfort (SHER MSA 261), which should be considered as of national significance in their own right;
- Shropshire Council commented on the low number of buildings classified as being of regional significance and suggested that Stanwardine Grange (SHER MSA 30370), near Cockshutt, is one potential candidate;
- Shropshire Council commented that Paradise (Lower Lees) Farm (SHER MSA 22938) should be considered of local significance only, and expressed no concerns about the Preferred Route;
- Shropshire Council commented on the small cluster of listed buildings and non-designated buildings at Middleton, south-east of Oswestry, expressing no concerns about the Preferred Route to the north;
- Shropshire Council commented on the settings of Halston Hall Park (SHER MSA 4075) and Woodhouse Park (SHER MSA 4092), stating that the Preferred Route would not have any significant effects, and noted that the cluster of listed buildings and associated non-designated buildings, including Woodhouse itself, at the centre of the park are screened from preferred route by woods. The principle elevations of the house are also oriented south and east, away from the Preferred Route;
- Shropshire Council commented on the cluster of heritage assets at Stanwardine, comprising a Scheduled Monument (SM 1017240) a listed building (LB 1176127) and non-designated buildings, suggesting that there would be no effect on the settings of these assets, on account of intervening landform;
- Shropshire Council expressed a preference for Option 3b to the south of Cockshutt, on account of a) increasing the distance between the proposed development and heritage assets in Cockshutt, b) minimising impacts on



the setting of Stanwardine Grange, and c) retaining the visual connections with Cockshutt; the current Preferred Route broadly adopts Option 3b;

- Shropshire Council expressed a preference for the overhead line to be routed to the north of the cluster of listed buildings (LB 1212917, LB 1366490) and non-designated buildings in the hamlet of Noneley. As a consequence, further viable routes in this area were sought, and this has resulted in the identification of the Noneley North Option, which has been included in this Scoping Report;
- Shropshire Council commented on the non-designated marching camp at Perry Farm (SHER MSA 655) suggesting that the main potential effect of the proposed development would potentially be to detract to some degree from the ability to appreciate the landscape context of the fort; and
- Shropshire Council also expressed a preference that any effects on the settings of non-designated parklands are avoided or minimised.

10.4.5 To date Shropshire Council have not expressed concerns regarding potential significant impacts as a result of the proposed development.

## 10.5 BASELINE ENVIRONMENT

10.5.1 The historic environment baseline forms the basis for the identification and description of the historic environment changes that may result from the North Shropshire Reinforcement Project.

10.5.2 This starting point is gathering data, using trusted sources to collate adequate, up-to-date and relevant information on known and potential assets, and undertaking proportionate research where the evidence base is weak.

10.5.3 What matters for heritage assets is establishing an understanding of their value to society (i.e. their significance) and the contribution of setting to significance of those assets which are affected by the proposed development.

10.5.4 Potential visual effects are identified through a review of the baseline studies, and also through site survey to a) verify key views, b) establish the extent of potential inter-visibility of heritage assets to one another and the proposed development, and c) develop an understanding of the experience of assets and their settings and

potential change which may result from different elements of the North Shropshire Reinforcement Project. This work would be supported by the identification of the locations or 'viewpoints' which assist in the understanding of effects on important heritage assets and their settings.

- 10.5.5 This work needs to be proportionate to the significance of the heritage assets affected and the impact on the significance of those assets.
- 10.5.6 The following sections describe the existing baseline by each section (and option) of the route (1 to 4 and section options) as described in Chapter 3 'Description of the Project'.
- 10.5.7 As the proposed development progresses further, data will be collected and the project historic environment baseline will be expanded (see below).
- 10.5.8 The proposed 132kV overhead line originates east of Oswestry and the A5 in farmland north of Middleton Road, just south of Round Wood. It then runs for approximately 20.4km broadly west to east across the settled farmlands, estate farmland and lowland moors of north-west Shropshire. The overhead line would then be taken underground in farmland immediately south of the B5063 Ellesmere Road close to the Wem substation.

### **Section 1**

- 10.5.9 This section runs from the A5 on the east side of Oswestry town eastwards to the western edge of the River Perry floodplain.
- 10.5.10 In the study area of Section 1, one of the most prominent heritage assets, albeit not necessarily one of the most significant assets, is the scheduled remains of Old Oswestry Iron Age Hillfort (SM 1014899) and several sections of Watts Dyke (SM 1014899, SM 1020564, SM 1020619), a post-Roman linear boundary, occupying the uplands to the west of the proposed development. Watts Dyke runs north to south across the western end of the study area.
- 10.5.11 The scheduled remains of Old Oswestry Castle, a medieval motte and town wall (SM 1019300), also occupies elevated land to the west of Section 1, whilst a further three scheduled medieval motte & bailey castles occupy low hills to the north

(Whittington Castle, SM 1019450) and south (West Felton Castle, SM 1019296 and Hisland Castle, SM 1013497). Collectively, these four castles form part of an extensive medieval defensive network. Their settings are large and are crossed by the proposed development. Whittington Castle is located closest, at a distance of just over one kilometre from Section 1. The castle's setting on its south side is compromised by modern development including the railway. The castle's historic sight line with Oswestry Castle has long been lost to modern development around the town.

- 10.5.12 One further scheduled monument dating to the medieval period is Bromwich Park (SM 1017006), a moated site and formal garden, located towards the southern edge of the study area.
- 10.5.13 There are three conservation areas at the western end of the study area. The largest is Pantglass and Brogyntyn, which includes the registered park and garden of Brogyntyn. To the immediate south-east is Oswestry Town Centre conservation area, which includes the scheduled remains of Oswestry Castle (SM 1019300) and a very large number of listed buildings, mostly dating to the post-medieval and early modern periods. Four of these are Grade I/ II\* listed.
- 10.5.14 Further east, lying on the north side of the proposed development, is Whittington conservation area, which includes the scheduled remains of Whittington Castle, the grade I listed Whittington Hall (LB 1178307) and a small concentration of other listed buildings.
- 10.5.15 Other notable listed buildings in the study area include Halston Hall (LB 1054216) and Chapel (LB 1367397), which are both grade I listed, and located approximately 2km and 1.5km, respectively, north of the proposed development in the middle of Section 1. Old Hall (LB 1307787), which is Grade II\*, is located further north towards the northern edge of the study area.
- 10.5.16 Towards the eastern end of Section 1, the proposed development skirts to the north of a small cluster of listed buildings at Woodhouse, including the house and stable-block (LB 1054231, LB 1367378), which are grade II\* listed.

- 10.5.17 The Church of St Michael at West Felton (LB 1367365) and Pradoc Hall (LB 1054637), both Grade II\* listed buildings, are located towards the southern edge of the study area.
- 10.5.18 Grade II listed buildings are mostly concentrated to the west of the proposed development in Oswestry conservation area and in settlements to the south and south east, including Maesbury, Middleton and West Felton/ Twyford. Other concentrations are to be found in Whittington conservation area or dispersed along the Ellesmere Canal on the north side of the proposed development.
- 10.5.19 The large registered park and garden of Brogyntyn (RPG 1001326) is located on elevated land to the north west of Oswestry town, while the smaller Pradoc Park (RPG 1001251) occupies low lying ground towards the southern edge of the study area. Both parks are Grade II.
- 10.5.20 There are a large number of non-designated historic landscapes of potential regional significance in Section 1, which are informed by the Shropshire Historic Landscape Characterisation Project and Shropshire Historic Farmsteads Characterisation Project. The closest, Woodhouse Park (SHER MSA 18442), is approximately 230m to the south of the proposed development, while Park Hall Park & Garden (SHER MSA 4080) and Halston Hall Park (SHER MSA 4075) are both approximately 1km to the north. Other non-designated parks and gardens include Fernhill Hall Park (SHER MSA 07624) to the north, and Tedsmore Hall (SHER MSA 07638) and Aston Hall Park (SHER MSA 07618) to the south.
- 10.5.21 Notable non-designated assets of potential regional significance include a Roman Marching Camp (SHER MSA 0935), located just 550m to the north of the proposed development, and the Montgomery Canal (SHER MSA 651), this being the only asset which is crossed by the proposed development in Section 1. This canal connects to the Ellesmere Canal (SHER MSA 03414) at Lower Frankton towards the northern edge of the study area.
- 10.5.22 Non-designated buildings of potential local significance located within 250m of the proposed development include Rednall Mill Farm (SHER MSA 27051).

## Section 2

- 10.5.23 This section runs eastwards from the west side of the River Perry, across the floodplain and past Lower Hordley before rising onto rolling hills to a point north-east of Bagley. There are two route options, 'Lower Hordley' passing to the north of the village and 'Lower Hordley South' passing to the south of the village.
- 10.5.24 Notable listed buildings include the grade I listed St Mary's church at Hordley (LB 1055883) which is approximately 1.5km north-west of the Lower Hordley Option. Two grade II\* listed buildings, Lee Old Hall (LB 1055893) and The Lythe (LB 1055920), are located towards the northern edge of the study area.
- 10.5.25 The closest grade II listed building to the proposed development is Shade Oak Farmhouse which is approximately 800m to the south. The remaining grade II listed buildings are almost exclusively located to the north in settlements such as Hordley and Lee, and along the Ellesmere Canal.
- 10.5.26 The density of listed buildings in the study area around Section 2 is notably low and there are none within 1km of either line route option.
- 10.5.27 There are no scheduled monuments, registered parks and gardens or conservation areas in the study area of Section 2.
- 10.5.28 Three notable non-designated assets of potential regional significance include Kenwick Park (SHER MSA 4036) located 1.1km to the north-east of the proposed development, Hem Deer Park (SHER MSA 1877) located almost 1.7km to the south and Bagley Hall (HER MSA16857) located just over 1.2km to the south.
- 10.5.29 Non-designated buildings of potential local significance located within 250m of the proposed development include Lees Farm (SHER MSA 27057), Paradise, Lower Lee (SHER MSA 22938), Dandyford Farm (SHER MSA 24732), Red House Farm (SHER MSA 24776), Reynolds Cottage (SHER MSA 24730) and Top House Farm (SHER MSA 24780).

## Section 3

- 10.5.30 This section runs eastwards from a point north-east of Bagley, across rolling hills to the south of Cockshutt to the lowland moors south west of Loppington.

- 10.5.31 The study area surrounding Section 3 contains four scheduled monuments. Stanwardine medieval moated site and associated fishpond (SM 1017240) is the closest at less than 450m to the south of the proposed development. A second medieval moated site (SM 1016828) and a nearby prehistoric bowl barrow (SM 1016826) are located in Petton Park, approximately 1.6km and 2km respectively to the south of Section 3. The fourth scheduled monument is a medieval motte castle on the north bank of Crose Mere (SM 1020289) almost 2.5km to the north.
- 10.5.32 The most notable listed building is the grade II\* Stanwardine Hall (LB 1176127), which is located immediately east of the scheduled moat referenced above and approximately 370m south of the proposed development.
- 10.5.33 Wycherley Hall (LB 1055965), a further grade II\* listed building, is located close to Stanwardine but at distance approaching 1km to the south of the proposed development. Petton Church (LB 1055887) located within Petton Park is also grade II\* listed. A fourth grade II\* listed building, the Church of St John the Evangelist, is located at Colemere (LB 1055926) towards the northern edge of the study area.
- 10.5.34 The closest listed building to the proposed development in this section is Malt Kiln Farmhouse, which is grade II listed and located less than 150m to the south-east at the eastern end of Section 3. Three further grade II listed buildings are located further south, these being Burlton Grange Farmhouse (LB 1212453)/ Mill Farmhouse (LB 212502) and Wackley Farmhouse (LB 1366566) at distances of approximately 850m and 1.1km respectively.
- 10.5.35 Small concentrations of grade II listed buildings are present in the towns of Cockshutt and Colemere to the north of the proposed development, while others are dispersed along distant roads to the south and the Ellesmere Canal towards the northern edge of the study area.
- 10.5.36 There are no registered parks and gardens or conservation areas in the study area of Section 3.
- 10.5.37 Non-designated historic landscapes of potential regional significance include Petton Hall Park (SHER MSA 4045) located approximately 560m to the south of the

proposed development and Frankton Grange Parkland (SHER MSA 33406) located approximately 1.3km to the north.

10.5.38 Non-designated buildings of potential local significance located within 250m of the proposed development include Stanwardine Grange (SHER MSA 30370), Stonehill (SHER MSA 30369), The Wood (SHER MSA 30368) and The Moors (SHER MSA 25994).

#### **Section 4**

10.5.39 This section runs from the lowland moors south west of Loppington eastwards to Wem. There are two route options, 'Noneley North' passing to the north of the hamlet of Noneley and south of Loppington, and 'Noneley South', passing to the south of the hamlet.

10.5.40 The study area surrounding Section 4 contains three scheduled monuments, the most prominent of which, Wem Castle, is a medieval motte castle located immediately south-west of St Peter and St Paul's Church in the town of Wem (SM 1020287) and over 800m east of Section 4.

10.5.41 Northwood Hall, a medieval double moated site (SM 1019606), is located well over 2km to the north of the proposed development. The third scheduled monument is a sundial in the parish churchyard at Loppington (SM 1003020), which is also a grade II listed building (LB 1390988) and is located over 900m to the north-west of the Noneley North Option.

10.5.42 There are two conservation areas at the east end of the study area. The largest is Wem, which is approximately 650m to the east of the proposed development. It includes the scheduled remains of the medieval castle (referenced above) and a large number of listed buildings, mostly dating to the post-medieval and early modern periods, and three of which are grade II\* listed.

10.5.43 Loppington Conservation Area, which is approximately 840m to the north-west of the Noneley North Option, contains a smaller concentration of listed buildings, including the grade I parish church of St Michaels (LB 1056050).

- 10.5.44 The Ditches Hall (LB 1264550) is located just over 750m to the north-west of the proposed development. It is notable as being the only grade II\* listed building in the study area surrounding Section 4 (outside of Wem) and also for having a formal garden arrangement encompassing a grade II listed sundial (LB 1236569). The Former Lodge, Entrance to Belle (LB 1264545), which is grade II listed, is located close-by to the east at just over 600m from the proposed development.
- 10.5.45 The closest listed building to the proposed development in this section is The Shayes Farmhouse (LB 1056054), which is grade II listed and located less than 200m east (and south) of the Noneley North Option and 800m north of the Noneley South Option.
- 10.5.46 Other grade II listed buildings close to the proposed development include: Noneley Hall Farmhouse (LB 1212917) and Grafton Farmhouse (LB 1366490) in the hamlet of Noneley located at a distance of just over 400m from the Noneley South Option; Ruewood Farmhouse in the parish of Loppington (LB 1289496) and Ruewood Farmhouse in the parish of Wem (LB 1236794), located at distances of approximately 560m and 700m respectively to the south-east of the Noneley South Option; and Woodgate (LB 1289526) and its associated stables (LB 1366485), located approximately 650m to the north of the proposed development.
- 10.5.47 Non-designated buildings of potential local significance located within 250m of the proposed development include Pearl Farm (SHER MSA 290773), Lower Pool Farm (SHER MSA 25235) and The Pools Far (SHER MSA 29048) and Clays Buildings (SHER MSA 29049).
- 10.5.48 Loppington House (SHER MSA 16860) sits within Loppington House Park (SHER MSA 4038) to the north of Loppington town and is over 1.2km to the north-west of the proposed development.
- 10.5.49 Other notable non-designated assets include Wem Street System (SHER MSA 12884) which is approximately 250m to the east of the proposed development. Wem Post-medieval Town (SHER MSA 11818), Wem Tenement Plots (SHER MSA 12877/12888) and Wem Civil War Defences (rt0 -SHER MSA 13505) are also close to the east in Wem town.



**Summary Quantification of Assets by Section/ Option of the Route**

10.5.50 Table 10.2 presents a summary quantification of heritage assets within the study area, and more specifically it provides a breakdown of the total counts of each asset type by the section (and option) of the proposed development. The purpose of this summary is to convey the number and distribution (i.e. the broad density) of each asset type along the study area.

| <b>Table 10.2</b>   |                     |                    |                 |                          |                        |                   |                                |                      |                      |                   |                                    |  |  |
|---|---------------------|--------------------|-----------------|--------------------------|------------------------|-------------------|--------------------------------|----------------------|----------------------|-------------------|------------------------------------|--|--|
| <b>Summary Quantification of Heritage Assets by Section of the Proposed Route</b> |                     |                    |                 |                          |                        |                   |                                |                      |                      |                   |                                    |  |  |
|   | DESIGNATED          |                    |                 |                          |                        |                   |                                | NON-DESIGNATED       |                      |                   |                                    | Notes  |  |
| Section of the Preferred  | World Heritage Site | Scheduled Monument | Listed Building | Registered Park & Garden | Registered Battlefield | Conservation Area | <b>Total Designated Assets</b> | Nationally Important | Regionally Important | Locally Important | <b>Total Non-Designated Assets</b> |  |  |
| Section 1   | 0                   | 13                 | 277             | 2                        | 0                      | 3                 | <b>295</b>                     | 5                    | 51                   | 721               | <b>777</b>                         | Closest designated asset is Woodhouse LBs at 496-589m    |  |
| Section 2 Lower Hordley   | 0                   | 0                  | 39              | 0                        | 0                      | 0                 | <b>39</b>                      | 1                    | 12                   | 102               | <b>115</b>                         | Closest designated asset is Shade Oak Farmhouse at 802m  |  |
| Section 2 Lower Hordley South   | 0                   | 0                  | 12              | 0                        | 0                      | 0                 | <b>12</b>                      | 0                    | 9                    | 100               | <b>109</b>                         | Closest designated asset is Shade Oak Farmhouse at 802m  |  |
| Section 3   | 0                   | 4                  | 51              | 0                        | 0                      | 0                 | <b>55</b>                      | 1                    | 6                    | 171               | <b>178</b>                         | Closest designated asset is Malt Kiln Farmhouse at 149m  |  |
| Section 4 Noneley North   | 0                   | 3                  | 148             | 0                        | 0                      | 1                 | <b>152</b>                     | 1                    | 24                   | 307               | <b>332</b>                         | Closest designated asset is The Shayes Farmhouse at 180m |  |
| Section 4 Noneley South   | 0                   | 2                  | 122             | 0                        | 0                      | 1                 | <b>125</b>                     | 1                    | 24                   | 292               | <b>317</b>                         | Closest designated asset is Beech House at 282m          |  |
| <b>TOTALS</b>   | <b>0</b>            | <b>22</b>          | <b>649</b>      | <b>2</b>                 | <b>0</b>               | <b>5</b>          | <b>678</b>                     | <b>9</b>             | <b>126</b>           | <b>1693</b>       | <b>1828</b>                        |  |  |

10.5.51 Each asset has been assigned to the nearest section (or option) of the proposed route. The total count of each type of asset is greater than the actual number on account of the fact that a) the existing baseline data has not yet been rationalised and cross-referenced, so there may be duplicates, and b) some assets are equidistant to more than one section (or option) of the route and may, therefore, be double-counted.

10.5.52 More information on these assets is presented in Figure 10.1 and 10.2 in Appendix A of this Scoping Report.

## 10.6 ISSUES IDENTIFIED

### Construction

10.6.1 Direct physical impacts on below ground archaeology are most likely to occur during the construction phase. The effects of such impacts would be permanent and irreversible.

10.6.2 Below-ground activities may also cause indirect below-ground impacts, such as dewatering or desiccation of permanently or seasonally-waterlogged deposits, resulting from changes to groundwater hydrology. Such effects could be either permanent and irreversible or short-term and temporary but are highly unlikely to result from construction of a wood pole overhead line which does not require any foundations.

10.6.3 Some of the working practices during construction may cause effects, resulting from visual intrusion on built heritage and historic landscape. Such effects would be short-term and temporary.

### Operation

10.6.4 Effects on built heritage and historic landscape are most likely to occur during the operation phase, resulting from visual intrusion into the landscape from the overhead line and alteration to the visual setting or tranquillity of heritage assets. Such effects would be permanent but potentially reversible.

10.6.5 Direct physical impacts on heritage assets are unlikely to occur during the operation phase as the overhead line would only require very occasional visits by SP Energy Networks for maintenance or repair.

10.6.6 The findings of the assessment undertaken to date and discussions with stakeholders have led to the identification of locations where there are heritage assets requiring very careful consideration in the ongoing iterative detailed design and assessment process. Table 10.3 presents those assets.

| <b>Table 10.3<br/>Heritage Assets Requiring Careful Consideration</b> |  |
|---|--|
| <b>Section of the Route</b>   | <b>Heritage Assets</b>   |
| Section 1   | <ul style="list-style-type: none"> <li>• Whittington Castle (SM 1019450)</li> <li>• Woodhouse Grade II* listed building and Pump/Basin (LB 1054231/ LB 1177780)</li> <li>• Perry Farm Roman marching camp (Non-designated HER 00935)</li> <li>• Woodhouse Park (Non-designated HER 07644)</li> </ul>   |
| Section 2   | <ul style="list-style-type: none"> <li>• None</li> </ul>   |
| Section 3   | <ul style="list-style-type: none"> <li>• Stanwardine moated site (SM 1017249)</li> <li>• Stanwardine Hall Grade II* listed building (LB 1176127)</li> <li>• Malt Kiln Farmhouse (LB 1056039) and setting</li> <li>• Woodgate (LB 1289526) and Stables (LB 1366485)</li> </ul>  |
| Section 4   | <ul style="list-style-type: none"> <li>• Burlton Grange Farmhouse (LB 1212453), Mill Farmhouse (LB 212502) and Pump/ Basin (LB 1056040)</li> <li>• Grafton Farmhouse (LB 1366490)</li> <li>• Loppington Conservation Area</li> <li>• Noneley Hall Farmhouse (LB 1212917)</li> <li>• Ruewood Farmhouse (LB 1289496)</li> <li>• Ruewood Farmhouse (LB 1236794)</li> <li>• The Ditches Hall (LB 1264550) and Sundial (SM 1003020/ LB 1236569)</li> <li>• The Shayes Farmhouse (LB 1056054)</li> </ul> |

### **Areas to be Scoped Out**

10.6.7 Certain effects resulting from the proposed development are unlikely to impact heritage assets so it is proposed to scope these activities out of the assessment as follows:

- Effects of routine operation and maintenance of overhead lines during the operational phase as this will require a limited number of visits;
- Effects of pruning/ vegetation clearance at overhead lines during the operational phase; and

- Effects of changes to underground hydrology which might arise from an overhead line during the construction and operational phases, as the wood poles require no foundations.

## 10.7 PROPOSED ASSESSMENT METHOD

10.7.1 The following sections provide a detailed description of the proposed assessment methodology. This will build on the work undertaken to date and consultation feedback summarised in Sections 10.3 and 10.4 through further desk and field based studies.

### **Spatial Scope of the Assessment**

- 10.7.2 The assessment will focus on those areas which are likely to experience significant effects, as per the requirements of the EIA Regulations. The parameters which matter to the spatial scope of the historic environment assessment are the asset type and value. Table 10.4 identifies the study areas which will be applied by value of each type of heritage asset.
- 10.7.3 A distance of 2km from the proposed development for medium and higher value assets has been selected primarily for the purpose of establishing the visual impact of the proposed development on the setting of heritage assets that are unlikely otherwise to be impacted directly by the proposed development.
- 10.7.4 A distance of 2km will be applied because this is regarded as the maximum point at which it would potentially give rise to significant visual effects on medium and higher value assets. Very high and high value assets, located beyond 2km, up to a maximum distance of 5km will also be considered in the assessment, if effects are considered likely.

| <b>Table 10.4<br/>Study Area for each type of Heritage Asset to either side of the Proposed Development</b> |  |                                      |                                   |
|---|--|--------------------------------------|-----------------------------------|
| <b>Asset Type</b>   | <b>Assets of Very High and High Significance</b> | <b>Assets of Medium Significance</b> | <b>Assets of Low Significance</b> |
| Archaeology   | Min. 2km and up to 5 km                          | 2km                                  | 0.5km                             |
| Built Heritage  | Min. 2km and up to 5 km                          | 2km                                  | 1km                               |
| Historic Landscape  | Min. 2km and up to 5km                           | 2km                                  | 1km                               |

### Temporal Scope

10.7.5 For the purposes of the assessment, the North Shropshire Reinforcement Project will be described as permanent and the resulting effects will be described in terms of their duration as short, medium term and long-term as follows:

- Short-term effects are defined as 0 – 3 years;
- Medium term effects are defined as 3 – 15 years; and
- Long term effects are defined as > 15 years.

10.7.6 Short-term effects are typically those which would arise during the construction and decommissioning phases of the North Shropshire Reinforcement Project.

10.7.7 Medium and long-term effects are typically those which would arise during the operational phase of the North Shropshire Reinforcement Project. The opening year, when the overhead line is energised, will be used as the basis for assessing operational visual effects. This is anticipated to be 2021.

Long-term residual effects of the North Shropshire Reinforcement Project are typically those which would remain after a minimum fifteen years.

**Desk Top Collection of Baseline Data**

- 10.7.8 In order to identify heritage assets that may be affected by the proposed development, data will be collected from a variety of sources with regard to the guidance in the Chartered Institute for Archaeologists (CIfA) Standard and guidance for Historic Environment desk-based assessment, and Historic England’s Good Practice Planning Advice Note GPA3, The Setting of Heritage Assets;
- 10.7.9 Primary data will be collected for the study area defined above in Table 10.4, and will be collected from those sources which have been identified as holding data within the study area, as outlined in Table 10.5.

| <b>Table 10.5<br/>Potential Sources of Historic Environment Data</b> |  |   |                               |
|--|--|---|-------------------------------|
| <b>Asset Type</b>  | <b>Source</b>  | <b>Data type</b>  | <b>Data in 5km Study Area</b> |
| <b>Designated</b>  | Historic England<br>(National Heritage List for England) | List of Buildings of Special Architectural or Historic Interest – ArcGIS shapefiles and full descriptions | Y                             |
|  |  | Register of Historic Battlefields   | N                             |
|  |  | Register of Parks and Gardens of Special Historic Interest in England                                     | Y                             |
|  |  | Schedule of Ancient Monuments of England – ArcGIS shapefiles and full descriptions                        | Y                             |
|  |  | World Heritage Sites  | N                             |
|  | Shropshire Council                                       | Local Plans – Conservation Area designation plans and Conservation Area Appraisals and Management Plans   | Y                             |

| <b>Table 10.5</b>                                     |                                 |  |                               |   |
|---|---------------------------------|--|-------------------------------|---|
| <b>Potential Sources of Historic Environment Data</b> |                                 |  |                               |   |
| <b>Asset Type</b>                                     | <b>Source</b>                   | <b>Data type</b>   | <b>Data in 5km Study Area</b> |   |
| <b>Non-Designated</b>                                 | British Museum                  | Portable Antiquities Database  | Y                             |   |
|   | Council for British Archaeology | Defence of Britain Database  | Y                             |   |
|   | Countryside Agency              | Heritage Coasts  | N                             |   |
|   | English Nature                  | Ancient Woodland   | Y                             |   |
|   | Historic England                | National Mapping Programme (NMP)   |                               | Y |
|   |                                 | National Monuments Register (NMR) Events database of archaeological works  |                               | Y |
|   |                                 | NMR Aerial Photographs: oblique and vertical   |                               | Y |
|   |                                 | NMR Monarch database of registered archaeological sites  |                               | Y |
|   | Shropshire Council              | Cartographic Sources, including Historic Ordnance Survey editions and Pre-Ordnance Survey maps, including tithe and or estate maps |                               | Y |
|   |                                 | Grey literature reports of relevant previous archaeological investigations   |                               | Y |
|   |                                 | Historic Environment Record (HER): ArcGIS shapefiles and long descriptions of archaeological sites and events                      |                               | Y |

| <b>Asset Type</b> | <b>Source</b> | <b>Data type</b>                                  | <b>Data in 5km Study Area</b> |
|-------------------|---------------|---|-------------------------------|
|                   |               | Historic Farmsteads Characterisation Project data | Y                             |
|                   |               | Historic Landscape Characterisation (HLC) data    | Y                             |
|                   |               | Place Plans                                       | Y                             |
|                   | SP Manweb     | Project-specific Lidar data                       | Y                             |

10.7.10 Secondary data sources will include:

- Background information on the general development of the historic environment;
- Historic England Archive, including photographs and records;
- Regional Research Frameworks; and
- Reports on recent archaeological investigations within the study area that are not yet included in the HER (where available).

### **Field Reconnaissance and Condition Survey**

10.7.11 A reconnaissance and condition survey will take place along the proposed route and also of any land crossed by access tracks or used as a construction area. The fieldwork will seek to a) corroborate known assets, b) identify previously unrecorded archaeology, c) determine condition, and d) determine setting.

10.7.12 Further archaeological investigations will be carried out, as required, to inform the baseline assessment. The location, nature and scope of these investigations will be determined as part of the findings of the desk-based assessment and field surveys, and through discussion with the consultees.

10.7.13 Invasive archaeological investigations are not currently planned, as part of this assessment.



## Approach

- 10.7.14 There is currently no methodology consistently adopted by the Historic Environment profession for assessing impacts on heritage assets as part of an environmental impact assessment (EIA). The only EIA guidance available for assessing impacts to heritage assets was produced by the Highways Agency, specifically for use in assessing road schemes, and this is presented in the revised Design Manual for Roads and Bridges<sup>93</sup> (DMRB), Volume 11 Section 3 Part 2 HA208/07.
- 10.7.15 Whilst this guidance has been endorsed by Historic England for use on road schemes, it provides a suitable framework and promotes a methodology that is equally applicable for the assessment of other linear projects, including high voltage electricity connections. For instance, the guidance has been used for many years on other SP Energy Network projects, most recently the North Wales 132kV Connection Project.
- 10.7.16 In the absence, therefore, of any industry accepted methodology for electricity infrastructure, the Historic Environment impact assessment for the proposed development will be carried out broadly in accordance with the methodology laid out in DMRB and using professional judgement.
- 10.7.17 The DMRB considers all components of the historic environment and provides a methodology for determining a) significance of heritage assets, b) magnitude of impact and c) significance of effects.
- 10.7.18 In places, the proposed assessment methodology will diverge from DMRB as it is recognised that DMRB is designed for road schemes, so not all elements of DMRB will be applicable to the proposed development. Where a departure from the approach set out in the DMRB is proposed this will be explained within the assessment text.

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<sup>93</sup> <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol11/section3/ha20807.pdf>

### **Avoidance of Double Counting of Impacts**

10.7.19 Impacts to the setting of particular heritage assets may begin in the construction phase but may extend into the operational phase. In order to avoid double counting of impacts, all impacts to setting of heritage assets will be assessed in the operation phase unless the impact would occur solely at the construction phase.

### **Determining Significance of Effect**

10.7.20 Government planning guidance advises that the significance of heritage assets may be affected by direct physical change or by change in their setting. Being able to properly assess the nature, extent and significance of a heritage asset, and the contribution of its setting, is very important to understanding the potential impact and acceptability of development proposals.

10.7.21 The EIA Regulations require that the significance of the overall effect of a development, taking into consideration the significance of a receptor and the degree or magnitude of benefit or damage, is defined in the ES.

10.7.22 A judgement about the likely significance of effect arising from the proposed development on each of the heritage assets identified during the baseline assessment is a function of the significance of the asset and the magnitude of change likely to arise from it (i.e. the effect on its significance).

10.7.23 These three sub-topics, *significance of heritage assets*, *magnitude of effect* and *significance of effect*, will be determined against criteria laid out in a series of tables and matrices adapted from those provided by the DMRB). These three sub-topics are described in turn below and presented in Tables 10.6 to 10.8.

### **Significance of Heritage Assets (Importance)**

10.7.24 Table 10.6, which is adapted from DMRB, sets out the criteria for assessing the significance (or importance) of heritage assets that will be applied in the assessment.

| <b>Table 10.6<br/>Criteria for Assessing the Significance of Heritage Assets</b> |   |
|--|---|
| <b>Significance of Heritage Asset</b>  | <b>Example</b>  |
| <b>Very High</b>   | <ul style="list-style-type: none"> <li>• World Heritage Sites (including nominated sites);</li> <li>• Assets of acknowledged international significance;</li> <li>• Assets that can contribute significantly to acknowledged international research objectives;</li> <li>• Other buildings of recognised international significance;</li> <li>• Historic landscapes of international value, whether designated or not; and</li> <li>• Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).</li> </ul>  |
| <b>High</b>  | <ul style="list-style-type: none"> <li>• Scheduled monuments (including proposed sites)</li> <li>• Undesignated assets of Schedulable quality and significance;</li> <li>• Assets that can contribute significantly to acknowledged national research objectives;</li> <li>• Grade I, II and II* listed buildings;</li> <li>• Grade I, II and II* Registered Parks and Gardens;</li> <li>• Other listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade;</li> <li>• Conservation Areas containing very important buildings;</li> <li>• Undesignated structures of clear national significance;</li> <li>• Undesignated historic landscapes of outstanding interest;</li> <li>• Undesignated historic landscapes of high quality and significance, and of demonstrable national value;</li> <li>• Well-preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s).</li> </ul> |

| <b>Table 10.6<br/>Criteria for Assessing the Significance of Heritage Assets</b> |   |
|--|---|
| <b>Significance of Heritage Asset</b>  | <b>Example</b>  |
| <b>Medium</b>  | <ul style="list-style-type: none"> <li>• Designated or undesignated assets that contribute to regional research objectives;</li> <li>• Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations;</li> <li>• Conservation Areas containing buildings that contribute significantly to its historic character<br/>Historic townscape or built up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)</li> <li>• Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value; and</li> <li>• Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).</li> </ul>  |
| <b>Low</b>   | <ul style="list-style-type: none"> <li>• Designated and undesignated assets of local significance;</li> <li>• Assets compromised by poor preservation and/ or poor survival of contextual associations;</li> <li>• Assets of limited value, but with potential to contribute to local research objectives;</li> <li>• ‘Locally listed’ buildings;</li> <li>• Historic (unlisted) buildings of modest quality in their fabric or historical association;</li> <li>• Historic townscape or built up areas of limited historic integrity in their buildings or built settings (e.g. including street furniture and other structures);</li> <li>• Robust undesignated historic landscapes;</li> <li>• Historic landscapes with significance to local interest groups; and</li> <li>• Historic landscapes whose value is limited by poor preservation and/ or poor survival of contextual associations.</li> </ul> |
| <b>Negligible</b>  | <ul style="list-style-type: none"> <li>• Assets with very little or no surviving archaeological interest;</li> <li>• Buildings of no architectural or historical note; buildings of intrusive character; and</li> <li>• Landscapes with little or no significant historical interest.</li> </ul>  |

| <b>Table 10.6<br/>Criteria for Assessing the Significance of Heritage Assets</b> |   |
|--|---|
| <b>Significance of Heritage Asset</b>  | <b>Example</b>  |
| <b>Unknown</b>   | <ul style="list-style-type: none"> <li>• Buildings with some hidden (i.e. inaccessible) potential for historic significance.</li> </ul> |

10.7.25 World Heritage Sites are considered of international importance and are therefore graded of very high significance.

10.7.26 Scheduled Monuments and Registered Battlefields are considered of national importance and are therefore graded of high significance.

10.7.27 Listed buildings and registered parks and gardens are each assigned to one of three levels, which in descending order of interest are Grade I, Grade II\* and Grade II. All listed buildings and registered parks and gardens are considered of national importance. For the purposes of the EIA assessment, they will all be considered of high significance, but it does not follow that their significance is equal. Professional judgement will be used when considering the precise significance of assets on a case-by-case basis.

10.7.28 Conservation areas vary considerably in their make-up, with some containing more important buildings than others. Therefore, depending on the particular circumstances, individual conservation areas and their constituent parts and settings could be of either medium or high significance. This will be determined by professional judgement.

10.7.29 In addition to determining the significance of heritage assets, a qualitative assessment will also be made of an asset's sensitivity, i.e. its capacity to absorb change.

## Magnitude of Effect

10.7.30 The assessment of the magnitude of effect will consider the extent to which a heritage asset may be changed or affected by the proposed development by reason of its location or design.

10.7.31 Table 10.7, which is adapted from DMRB, sets out the thresholds and criteria for assessing the magnitude of impacts to heritage assets that will be applied in this assessment.

| <b>Table 10.7<br/>Criteria for Assessing Magnitude of Impact to Heritage Assets</b> |  |
|---|--|
| <b>Magnitude of Impact</b>  | <b>Example</b>   |
| <b>Major</b>  | <ul style="list-style-type: none"> <li>• Change to most or all key archaeological materials, such that the resource is totally altered;</li> <li>• Change to key historic building elements, such that the resource is totally altered or lost;</li> <li>• Comprehensive changes to the setting of historic buildings; and</li> <li>• Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.</li> </ul>   |
| <b>Moderate</b>   | <ul style="list-style-type: none"> <li>• Changes to many key archaeological materials, such that the resource is clearly modified;</li> <li>• Considerable changes to setting that affect the character and significance of the asset;</li> <li>• Change to many key historic building elements, such that the resource is significantly modified;</li> <li>• Changes to the setting of an historic building, such that it is significantly modified and its significance is affected; and</li> <li>• Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or</li> </ul> |

| <b>Table 10.7</b><br><b>Criteria for Assessing Magnitude of Impact to Heritage Assets</b> |  |
|---|--|
| <b>Magnitude of Impact</b>  | <b>Example</b>   |
|   | <p>access; resulting in moderate changes to historic landscape character.</p>  |
| <p><b>Minor</b></p>   | <ul style="list-style-type: none"> <li>• Changes to key archaeological materials, such that the asset is slightly altered;</li> <li>• Slight change to setting that affects its significance;</li> <li>• Change to key historic building elements, such that the asset is slightly different;</li> <li>• Change to setting of an historic building, such that it is noticeably changed and its significance is affected; and</li> <li>• Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in limited changes to historic landscape character.</li> </ul> |
| <p><b>Low</b></p>   | <ul style="list-style-type: none"> <li>• Very minor changes to archaeological materials, or setting;</li> <li>• Slight changes to historic building elements or setting that hardly affect it; and</li> <li>• Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.</li> </ul>   |

| <b>Table 10.7</b><br><b>Criteria for Assessing Magnitude of Impact to Heritage Assets</b> |  |
|---|--|
| <b>Magnitude of Impact</b>  | <b>Example</b>   |
| <b>No Change</b>  | <ul style="list-style-type: none"> <li>• No change to archaeological assets;</li> <li>• No change to fabric or setting of historic buildings; and</li> <li>• No change to elements, parcels or components of the historic landscape; no visual or audible changes; no changes arising from in amenity or community factors.</li> </ul> |

10.7.32 In some cases, impacts will be allocated to the upper or lower end of a particular magnitude of impact category by the historic environment assessor(s) using their professional judgement.

10.7.33 The following parameters will be considered in determining the magnitude of impact:

- Impacts arising at the construction or operation stages;
- Beneficial, adverse or neutral impacts;
- Direct and indirect impacts;
- Extent/ scale of impacts;
- Duration, timing, frequency and reversibility of impacts, and
- Cumulative effects.

10.7.34 **Temporary impacts** may be short, medium or long term, are always reversible and will mostly occur in the construction phase of the proposed development.

10.7.35 **Irreversible impacts** are described as permanent, and occur in the construction, operational and decommissioning phases.

10.7.36 **Direct impacts** are those that arise as straightforward consequences of a project. This could include physical change to an asset or its setting.

10.7.37 **Indirect impacts** are impacts that arise via a complex route, where the connection between the project and the impact is complicated, unpredictable or remote. Indirect impacts are not necessarily less damaging than direct impacts.



10.7.38 **Cumulative effects** occur when incremental effects arise in combination with other aspects of the proposed development or cumulatively with other relevant developments.

10.7.39 **Relationships between assets** will be considered in the assessment where such relationships contribute to the significance of a heritage asset.

### **Significance of Effect**

10.7.40 The significance of potential effects or changes to heritage assets is determined by the 'heritage value' of the asset/ asset group and the magnitude of change that might affect the significance of that asset or group.

10.7.41 Table 10.8 illustrates how information on the value of the heritage asset and the magnitude of impact will be combined to arrive at an assessment of the level of effect arising from the proposed development.

10.7.42 The matrix in Table 10.8 is not intended to 'mechanise' judgement of the significance of effect but to act as a check to ensure that judgements regarding value, magnitude of impact and significance of effect are reasonable and balanced.

10.7.43 In order to allow for professional judgement, in some cases, the matrix allows a choice of level of effect to be made for the same combination of value and magnitude. In these cases, the individual attributes of a specific asset, along with any relevant site specific factors and consideration of other influencing elements, will be taken into account in considering the most appropriate significance of effect to use.

10.7.44 Based on professional judgement and the guidance set out in the Historic Environment Good Practice Planning Advice Note 2<sup>94</sup>, a 'significant' effect is considered to be one of moderate significance or above. All effects that are considered to be significant are highlighted in bold in Table 10.8.

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<sup>94</sup> Historic England (2015), Historic Environment Good Practice Advice in Planning Note 2, Managing Significance in Decision; Taking in The Historic Environment

**Table 10.8**  
**Criteria For Determining The Level Of Effects**

|                |            | Magnitude Of Effect        |                          |                         |                 |           |
|----------------|------------|----------------------------|--------------------------|-------------------------|-----------------|-----------|
|                |            | Major                      | Moderate                 | Minor                   | Negligible      | No Change |
| Value of Asset | Very High  | <b>Very Large</b>          | <b>Large/ Very Large</b> | <b>Moderate/ Large</b>  | Slight          | Neutral   |
|                | High       | <b>Large/ Very Large</b>   | <b>Moderate/ Large</b>   | <b>Moderate/ Slight</b> | Slight          | Neutral   |
|                | Medium     | <b>Moderate/ Large</b>     | <b>Moderate</b>          | Slight                  | Neutral/ Slight | Neutral   |
|                | Low        | Slight/<br><b>Moderate</b> | Slight                   | Neutral/ Slight         | Neutral/ Slight | Neutral   |
|                | Negligible | Slight                     | Neutral/ Slight          | Neutral/ Slight         | Neutral         | Neutral   |

**Methodology for Assessing Setting**

10.7.45 An assessment will be undertaken in line with Historic England’s Good Practice Planning Advice Note 3 to identify those heritage assets where significant effects on settings may arise.

10.7.46 The assessment will refine understanding on the extent of setting for all designated assets and important non-designated assets identified during baseline data collection and then establish which are likely to be affected by the proposed development.

**Determining Extent of visibility**

10.7.47 Computer generated Zone of Theoretical Visibility' (ZTV) maps will not be produced, on account of the fact that it is considered that these would be unreliable, given the pattern of visibility relative to the height of a Trident pole, the local undulating terrain and vegetation cover.

10.7.48 Extensive field survey, therefore, will be used to gain understanding of visibility of the proposed development. Access to private land and properties will not be sought. The assessment will therefore be based on judgements made from publicly accessible land. A precautionary approach will be applied, therefore, in determining the likely magnitude of potential effects on heritage assets, particularly those assets which possess height (e.g. buildings with upper storeys).

10.7.49 Settings of heritage assets which are unaffected or negligibly affected would be discounted from subsequent assessment.

**Assessing whether, how and to what degree setting makes a contribution to the significance of an asset**

10.7.50 The assessment will consider whether, how and to what degree setting makes a contribution to the significance of heritage assets. The assessed effects of the proposed development on setting will then be used to determine the effects on the significance of the assets. Detailed consideration of setting will be employed for any assets where setting is a major contributor to their significance. The assessment will consider a combination of physical attributes and the experience of the asset, including the following factors:

- Character, integrity, appearance and the way in which these are appreciated;
- Reasons for designation, and degree to which those reasons contribute to appreciation and significance of the asset;
- Relationships with other heritage assets, group value and shared settings, including a consideration of formal design, intended sight lines and vistas and inter-visibility with other heritage assets and natural features;
- 'Key' (principal/critical) views towards, from, across and within the heritage asset;
- Topography/ landscape situation;
- Asset scale, i.e. prominence/ dominance and character;
- Landscape character, degree of alteration within setting, and existing impacts; and

- Capacity to absorb change to setting (i.e. sensitivity).

10.7.51 Following the detailed consideration of setting, the assessment will employ the impact assessment methodology outlined above to assess potential effects of the proposed development on the significance of heritage assets, taking account of the predicted relative scale of the proposed development. Assets that would be subject to neutral or negligible effects would be discounted from further assessment.

### **Additional Archaeological Investigation**

10.7.52 The baseline data presented in this document comprises the known historic environment resource based on data collected to date. There is also the potential for currently unknown heritage assets, including built heritage and archaeology, to be present within the study area. In order to identify these remains and assess any potential impacts from the proposed development, further archaeological investigations are likely to be carried out in particular areas. These could include assessment techniques such as field reconnaissance, geophysical survey or intrusive investigations such as trial trench evaluation and/or test pitting. Any areas of the proposed development that will be subject to additional archaeological investigation will be determined through further assessment of existing baseline data and through consultation with stakeholders. The methodology for these investigations will follow best practice and guidance notes issued by the ClfA and Historic England (see above).

### **Potential Mitigation Measures**

10.7.53 Mitigation will include embedded mitigation and good practice mitigation as described below:

#### **Mitigation**

##### Embedded Mitigation

10.7.54 An integral part of the iterative design and assessment process undertaken to date has been the consideration of mitigation through sensitive routeing and design in accordance with the Holford Rules and in response to consultation. The aim has

been to ensure that the proposed development avoids heritage assets and sensitive areas and achieves the optimum fit as part of an environmentally integrated design.

10.7.55 Throughout the remainder of the design process, the findings of the desk-based assessment, consultations and further survey work will be used to refine the design and wherever possible will seek to avoid impacts to heritage assets and their settings through the design of:

- Individual pole positions and their associated infrastructure, including their materials and finish;
- Temporary and permanent access arrangements; and
- Temporary construction areas (in relation to historic environment assets).

#### Good Practice Mitigation

10.7.56 Good practice mitigation would encompass the standard range of archaeological investigation and recording techniques to ensure that where archaeology is identified as being at risk of being impacted by construction activity it is appropriately mitigated.

10.7.57 Good practice mitigation measures will be incorporated into the Construction Environment Management Plan (CEMP) and will be subject to Written Schemes of Investigation. These will be produced and agreed with the Historic Environment Advisors to Shropshire Council and, if appropriate, Historic England, and will follow appropriate guidance as issued by Historic England and ClfA (see paragraph 10.25).

10.7.58 If necessary, good practice mitigation will also consider appropriate screen planting to reduce or remove impacts to the settings of designated assets.

#### **Approach to Inter-Discipline Relationship Effects**

10.7.59 The assessment will consider the inter-relationship of historic environment effects resulting from the proposed development and effects resulting from other disciplines, notably landscape and visual, and potentially also geology, soils, noise, and traffic and transport.

### **Cumulative Historic Environment Effects**

10.7.60 The cumulative assessment will identify whether potential historic environment changes arising from the North Shropshire Reinforcement Project in conjunction with or combined with other developments would result in significant additional effects. Relevant developments to be considered within the cumulative assessment will be agreed in consultation with Shropshire Council. The different types of cumulative effect are explained in Chapter 17 'Cumulative Effects' of this Scoping Report.

#### Approach

10.7.61 The assessment of cumulative historic environment effects will follow a similar methodology to that described above for the main historic environment assessment, in that the degree of effect is determined by combining an evaluation of the significance of the heritage asset and the magnitude of change. The resulting effect will be described in the ES as major, moderate, minor or negligible. The cumulative assessment will consider the magnitude of change which would potentially arise from multiple developments.

10.7.62 Cumulative effects will generally consider designated assets and significant non-designated assets.

#### Defining a Study Area

10.7.63 Cumulative effects will generally consider designated assets and significant non-designated assets.

10.7.64 The study area for the cumulative assessment will take account of other proposed developments, which are either consented or under construction. The zones of influence for each development within the cumulative assessment will be defined once the nature and location of the other developments is known. Where sufficient information is not available from the other developments then reasonable assumptions and judgments will be made.

10.7.65 Cumulative effects will normally be considered over a distance of 5km from the proposed development, although this will be reviewed on a case-by-case basis for different types of heritage assets.

#### Baseline for the Assessment of Cumulative Effects

10.7.66 The baseline information for the North Shropshire Reinforcement Project will include the baseline for the main historic environment assessment, amended if necessary to allow for the consideration of the other developments.

#### Predicting Cumulative Historic Environment Effects

10.7.67 When considering cumulative effects the assessment will (so far as available information allows) consider factors such as magnitude, duration, reversibility and geographic scale in the same way as the main assessment of the North Shropshire Reinforcement Project.

#### Assessment of Cumulative Historic Environment Effects

10.7.68 Criteria and thresholds for historic environment value or sensitivity are set out earlier in this chapter.

10.7.69 Where required, mitigation will be considered for any identified cumulative effects and residual effects will then be assessed with mitigation in place. As noted previously, however, most mitigation will be undertaken as part of the iterative design and routeing of the North Shropshire Reinforcement Project.

## **10.8 SUMMARY**

10.8.1 The North Shropshire Reinforcement Project is required because of the need to reinforce the electricity network in the North Shropshire area. The project will help to provide the capacity required for current planning forecasts for the local rural population including homes and businesses. The Trident wood pole design has been chosen to fit with the existing rural landscape and therefore result in fewer historic environment effects. The historic environment assessment will identify and assess the significant effects associated with the proposed 132kV overhead line. Historic environment assessment will focus 1) on direct physical impacts on archaeology arising within the footprint of the proposed development during

construction, and 2) on the visual effects arising from the proposed development primarily on the settings of built heritage and historic landscapes, during the operational phase.

- 10.8.2 Liaison will also occur with other technical teams such as landscape and visual and noise to ensure any inter-relational discipline effects that could occur have been considered from a historic environment perspective. At this stage of the project, it would seem from an historic environment perspective that listed buildings, scheduled monuments and conservation areas in close proximity to the proposed development where effects will require particular scrutiny.
- 10.8.3 Certain effects resulting from the proposed development are unlikely to impact heritage assets so it is proposed to scope these activities out of the assessment as follows:
- Effects of routine operation and maintenance of overhead lines during the operational phase;
  - Effects of pruning/ vegetation clearance at overhead lines during the operational phase; and
  - Effects of changes to underground hydrology which might arise from an overhead line during the construction and operational phases.
- 10.8.4 Scoping is an iterative process and as the proposed development evolves individual heritage assets may be scoped in or out of the assessment as their potential to experience impacts changes and consultation with the relevant stakeholders develops.



## CHAPTER 11: FLOOD RISK AND WATER RESOURCES

### 11.1 INTRODUCTION

11.1.1 This chapter sets out the proposed scope and approach to assessing the likely effects on flood risk and water resources associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 ‘Description of the North Shropshire Reinforcement Project’.

11.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 ‘EIA Approach and Methodology’ of this Scoping Report. It has been developed to take account of the range of likely significant environmental effects on flood risk and water resources arising during the construction and operation phases of the North Shropshire Reinforcement Project. This chapter will also address compliance with the EU Water Framework Directive<sup>95</sup> (WFD).

11.1.3 The main areas considered for assessment are the potential effects on:

- Flooding impacts on the project;
- Flood risk to third parties arising from the project; and
- Water resources within both surface and groundwaters.

11.1.4 This chapter is supported by the following:

- Figure 11.1 Flood Risk and Water Resources Constraints (Sections 1 and 2);
- Figure 11.2 Flood Risk and Water Resources Constraints (Sections 3 and 4); and
- Figure 11.3 Shropshire Groundwater Scheme Phase 7.

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<sup>95</sup> Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy.

## 11.2 PLANNING POLICY CONSIDERATIONS

11.2.1 Planning policy relevant to the North Shropshire Reinforcement, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report. A summary of applicable policy relevant to this topic is provided below.

### **National Planning Advice and Policies**

11.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1)<sup>96</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>97</sup>.

11.2.3 A full assessment of compliance with policy as set out in the NPS will be provided in the Planning Statement, which will be submitted as part of the application for a DCO.

11.2.4 NPS EN-1 sets out in Part 4 the general policies in accordance with which applications relating to energy infrastructure are to be decided.

11.2.5 NPS EN-5 advises in Section 2.4.2 that the resilience of the proposed development to climate change should be assessed in the Environmental Statement (ES). For example, future increased risk of flooding should be covered in any flood risk assessment (see Section 5.7 in NPS EN-1).

11.2.6 The National Planning Policy Framework<sup>98</sup> (NPPF) states that:

*'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development*

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<sup>96</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

<sup>97</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

<sup>98</sup> Department for Communities and Local Government (2016), National Planning Policy Framework

*is necessary, making it safe without increasing flood risk elsewhere’.*

11.2.7 Technical guidance to the NPPF provides more detailed information on flood risk.

### **Local Planning Policy and Guidance**

11.2.8 The key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

11.2.9 These documents will be reviewed and policies relevant to the flood risk and water resources impact assessment and cumulative assessment will be identified.

11.2.10 Shropshire Council’s ‘Strategic Flood Risk Assessment for Local Development Framework Level 1 - Update Volume 1’<sup>99</sup> is also considered relevant to the assessment of flood risk and will be reviewed.

## **11.3 WORK UNDERTAKEN TO DATE**

11.3.1 Extensive survey and assessment work has already been undertaken as part of the ongoing routeing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 ‘Alternatives and Design Evolution’ of the Scoping Report. Table 1.1, in Chapter 1 ‘Introduction to the Scoping Report’ lists the documents which have been produced to inform the route selection process and which include baseline information on the study area and constraints and opportunities afforded by these.

11.3.2 The EIA will build on the information collected to date through further field and desk survey.

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<sup>99</sup> Shropshire Council (2012), Strategic Flood Risk Assessment for Local Development Framework Level 1 - Update Volume 1’

## 11.4 CONSULTATION RESPONSES

11.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.

11.4.2 Paragraph 4.1.6 details likely impacts identified with the project. Those which relate to flood risk and effects on water resources, are:

- The Shropshire Wildlife Shropshire Wildlife Trust and the Meres and Mosses Landscape Partnership Scheme request that knowledge on habitats and species gained through the consultation process should be used to ensure these constraints are taken into account and Baggy Moor and River Perry should be avoided. The RSPB highlight Baggy Moor as being of particular concern as it is an area where local farmers are working with the RSPB to protect the wet grassland habitat for breeding waders so should be avoided;
- The Shropshire Wildlife Trust notes that care should be taken during construction phases;
- The Environment Agency make reference to a Shropshire Groundwater Scheme planned for 2017 comprising the creation of a number of new boreholes; and
- Severn Trent Water request consideration for the investment programme in works proposed by them.

11.4.3 The key consultation has been with the EA, who in a letter to SP Energy Networks dated 9 May 2016 raised the following points:

- ***'Environment Agency 'Shropshire Groundwater Scheme': We note a number of route options ... appear to fall within close proximity to our 'Shropshire Groundwater Scheme (SGS)'. Our future proposed Phase 7 would comprise up to six groundwater pumping stations, interlinked by underground pipelines... It should be noted that both the construction and***

*maintenance of these wells will require large cranes with 50m boom arms on-site and their operation could be impacted by any potential power line. We would expect, as part any consideration for power cable routes, confirmation that a safe working distance is maintain around each proposed pumping station to allow operation of the cranes and ensure no impact upon the construction and maintenance of this Phase of the SGS.'*

The proposed boreholes and pipeline locations are indicated on Figure 11.3. The closest borehole is approximately 400m from the proposed route. The proposed pipeline passes underneath the Proposed Line Route in one location.

- **'Water Quality and Water Resources:** *In addition to the above mentioned SGS there are a number of Source Protection Zones (SPZ) that fall within the Draft Route Corridor, along with smaller licensed groundwater abstraction supplies. Given the rural setting, reliance on private wells and boreholes for drinking water supply to individual residential buildings and business is common in this area. In consideration of the above we would expect any forthcoming planning application to be accompanied by a 'water features survey' which should provide the precise location of any well or borehole source. These features should be identified and provision made to provide protection against potential contamination arising from the construction phase to the underlying groundwater environment.'*

Figures 11.1 and 11.2 identify the water resources, including Source Protection Zones close to the proposed development. There is not considered to be any risk to these from any contamination which may arise from construction of the proposed development.

- **'Flood Risk:** *The potential route options will involve the cross of two main rivers (River Perry and River Roden), which fall under the jurisdiction of the Environment Agency. Additionally, there are number of small, ordinary watercourses, which cross, or run in close proximity to, the various route options. Some of these watercourses have been modelled as part of our Flood Map but others due to their scale and nature (catchments less than*

*3km<sup>2</sup>) are un-modelled and have no flood zone designation associated with them. Some assessment of these watercourses will be necessary, as part of a Flood Risk Assessment (FRA), looking at both construction and operational phases.*

*In accordance with the National Planning Policy Framework (NPPF), the development (which is taken as ‘essential infrastructure’) should be located outside of the 1% plus climate change fluvial floodplain. It should also be located at least 8 metres from the top of bank of a Main River (and similar distance for ordinary watercourse as agreed by you in consultation with the Lead Local Flood Authority – Shropshire Council).’ Whilst we would recommend that development is kept outside the 1% plus climate change floodplain by siting within Flood Zone 1, if the proposed development is essential and necessary in the floodplain, we would not normally object or raise significant concerns relating to impact on flood storage, or flows, given the type of application/likely impact. Attention should also be given to the potential impact that the mobile temporary works may have on the flow routes within the 1% plus climate change floodplain. It is important that flow routes are not adversely impacted from tower foundations and/or crossings. These issues should be assessed as part of any forthcoming FRA.*

*With regard to surface water matters we would expect surface water run-off from tower foundations and any hardstanding areas to be assessed, to the 1% plus climate change standard ensuring surface water is not increased to third parties, utilising Sustainable drainage techniques. We would also expect the FRA to cover residual risk should any drainage features fail.’*

It would not be possible to connect the substations at Oswestry and Wem without crossing Flood Zone 3. In these circumstances the Proposed Line Route crosses Flood Zone 3 in five locations, the largest stretches of which are approximately 500m (west of the Montgomery Canal) and approximately 1km (east of the River Roden) long. It should be noted, however, that in making this point the EA references steel towers with concrete foundations and areas of hardstanding. The proposed 132kV overhead line comprises wood poles, installed directly into

the ground, with no concrete foundations and no areas of hardstanding. No additional surface water run-off will be generated by the proposed development.

- ***'Water Framework Directive (WFD): As stated above the preferred routes appear to cross above the Rivers Perry and Roden. It is essential that the proposed development (construction and maintenance) is managed in such a way that continues to protect the adjacent watercourses and ditches in order to avoid deterioration of the water quality and habitat in these water bodies, with opportunities to improve the watercourse implemented where viable.'***

All the wood poles will be situated at least 8m from the banks of the rivers and other main water courses. As such there is not considered any risk to the water quality and habitat of the study area.

11.4.4 The issues raised within the EA consultation feedback are further considered within the overall text and conclusions made within the remainder of this chapter.

## 11.5 BASELINE ENVIRONMENT

11.5.1 The baseline for the assessment of flood risk and effects on water resources within the Scoping Stage Project Boundary has been established by desk based study of published information and consultation with the Environment Agency (EA).

### Surface Water

11.5.2 The 132kV overhead line would originate east of Oswestry and the A5, in farmland north of Middleton Road, just south of Round Wood. The proposed development then runs some 20.5km broadly west to east across the farmed landscape of north-west Shropshire before terminating in farmland immediately south of the B5063 Ellesmere Road, close to the Wem substation.

11.5.3 The topography of the area is typical of the Shropshire Plain, being low lying and relatively flat or gently undulating. There are some areas of higher ground (between 110 – 120mAOD) in the north-west close to Oswestry.

11.5.4 The area lies entirely within the upper reaches of the Severn catchment and features many small watercourses and drainage channels, particularly at the

western end of the Proposed Line Route. There are no large rivers, and each of the watercourses crossed by the proposed development will be simply spanned without requiring support within watercourse channels. The new overhead line would cross two watercourses recognised by the EA as main rivers. These are the Rivers Perry and Roden, though the latter is spilt into two separate channels resulting in three main watercourse channels to be crossed. The Hordley and Noneley options would cross each of these watercourses at different locations, as shown in Table 11.1 and Figures 11.1 and 11.2 of Appendix A.

| <b>Table 11.1<br/>Main River Crossing Points</b>   |  |
|--|--|
| <b>Watercourse and Approximate Crossing Point</b>  | <b>Description</b>   |
| River Perry<br>Section 2 via Lower Hordley: SJ 385 294<br>Section 2 via Lower Hordley South: SJ 397 288                | Left bank tributary of the River Severn, with an approximate catchment area of 111.5km <sup>2</sup> at either crossing point option. This watercourse has been semi-canalised to receive water from local drainage channels. |
| River Roden<br>Section 4 via Noneley North: SJ 490 285<br>Section 4 via Noneley South: SJ 494 282                      | Left bank tributary of the River Severn, with an approximate catchment area of 70.7km <sup>2</sup> at either crossing point. This watercourse has been semi-canalised to receive water from local drainage channels.         |
| Unnamed tributary to River Roden<br>Section 4 via Noneley North: SJ 490 285<br>Section 4 via Noneley South: SJ 497 285 | Drainage channel which flows alongside the Roden across low lying land and then flows separately to the north of the Roden, and joins it on the outskirts of Wem.  |

11.5.5 All other watercourses crossed by the Proposed Line Route are classed as ordinary watercourses.



- 11.5.6 The 132kV overhead line would also cross the Montgomery Canal at SJ 357 296.
- 11.5.7 Crossings of other watercourses which have been identified along the Proposed Line Route, including ponds, have been minimised.

### **Flood Risk Areas**

- 11.5.8 Areas of fluvial flood risk associated with each main river have been identified by the Environment Agency and are shown in Figures 11.1 and 11.2. These areas are defined and mapped as three flood zones for the purposes of planning by the Environment Agency, as follows:
- Flood Zone 1 where the annual fluvial flood risk is less than 0.1% (i.e. less than 0.1% risk of fluvial flooding occurring in any one year);
  - Flood Zone 2 where the annual risk is between 1% and 0.1%; and
  - Flood Zone 3 where the annual flood risk is considered greater than 1%.
- 11.5.9 Each of the main rivers identified in Table 11.1 is associated with land in either Flood Zone 3, i.e. land with an annual flood risk of greater than 1% or Flood Zone 2, with an annual flood risk of between 0.1% and 1%.
- 11.5.10 The effects of climate change are likely to result in an increase in the extent of the 1% flood zone, but this is not likely to exceed the present 0.1% flood extent. Where available, the modelled extent of Flood Zone 2 will be used to estimate the possible future extent of the 1% flood zone.
- 11.5.11 Where Section 2 via Lower Hordley crosses the River Perry, the area of Flood Zone 3 is less than 200m wide and is relatively shallow owing to the low-lying nature of the land. Section 2 via Lower Hordley South crosses the River Perry where the flood area is very narrow, less than 50m wide, but lies to the east of the river channel. The extent of Flood Zone 2 is similar to that of Flood Zone 3 for both crossing points.
- 11.5.12 Where the Proposed Line Route crosses the River Roden, the flood extent is shared with the unnamed tributary. Section 4 via Noneley North runs close alongside the unnamed tributary within the Flood Zone 3 extent for approximately 1 km whereas

Section 4 via Noneley South crosses both the River Roden and the unnamed tributary more obliquely. Here the combined extent of Flood Zone 3 is approximately 500m wide. The Flood Zone 2 extent adds a further 200m to the flood zone total for both options.

- 11.5.13 The Proposed Line Route crosses a small area of Flood Zone 3 associated with a small watercourse between Burlton Grange and Bentley Farm (approx. NRG SJ 467 277), a tributary of Sleep Brook.
- 11.5.14 Areas of flood risk on the Proposed Line Route associated with small watercourses that have not been modelled will be identified using the surface water flood map of an equivalent probability.
- 11.5.15 Although the Proposed Line Route has been developed to avoid areas of flood risk wherever possible, in some locations it is unavoidable. In this situation wood poles will be located outside of areas of significant flood flow in consultation with the Environment Agency.

### **Water Resources**

- 11.5.16 Groundwater resources are significant within bedrock in the area, although substantial areas of less permeable superficial deposits exist in many areas, which offer protection to the groundwater.
- 11.5.17 The Proposed Line Route passes through a total catchment (Zone 3) groundwater source protection zone associated with a public water supply at Woodhouse (NRG SJ 369 287). This is the area around a source within which all groundwater recharge is presumed to be discharged at the source. The groundwater abstraction is used for potable supply by Severn Trent Water Ltd.
- 11.5.18 It is likely that further exploitation of groundwater in the area will occur in the future. Phase 7 of the Shropshire Groundwater Scheme, requiring construction of pumping stations and underground pipelines has been identified in initial consultations and is indicated in Figure 11.3.

- 11.5.19 There are also licensed abstractions of surface and groundwater in the River Perry and the River Roden catchments for agricultural purposes, principally for spray irrigation.
- 11.5.20 Private water supplies may exist in more remote rural areas where a public supply is not available.
- 11.5.21 A water features survey will be undertaken to identify existing water sources using records held by the Environment Agency and Shropshire Council. This will help to ensure that physical harm to private water supplies is prevented i.e. that wood poles are not located on top of private water supplies, rather than any potential effect on water quality.

## 11.6 ISSUES IDENTIFIED

### Flood Risk

- 11.6.1 Permanent flood risk effects are likely to be limited to the possible scour and collapse of wood poles during a flood event. This possibility would be minimised by the siting of poles away from watercourse channels. Should wood poles be washed away in the event of a large flood, they may become lodged in the channel or at a bridge downstream. This could potentially lead to a local increase in flood level or diversion of flood flows.
- 11.6.2 Temporary access routes, and construction and storage areas may block or divert flood water and access routes may need to cross small watercourses using temporary structures. There is therefore a possibility that flood risk could be created or increased if these activities are not undertaken with care. Stored materials could also be released if affected by a flood.
- 11.6.3 The assessment will consider sections of the Proposed Line Route which are within Flood Zone 3, i.e. annual fluvial flood risk of 1% or greater, as defined on the Environment Agency flood risk zones for planning maps. These are confined to agricultural areas. The effect of the 132kV overhead line crossing these areas of flood risk on flooding in the study area will be considered, as will the effect of potential fluvial flooding in these areas on the proposed development.

- 11.6.4 The effect of fluvial flooding in other areas where this has not been mapped by the Environment Agency, is not considered significant and at this stage is proposed to be scoped out.
- 11.6.5 It is also proposed to scope out the effect of flooding from non-fluvial sources along the Proposed Line Route.

### **Water Resources**

- 11.6.6 The construction phase of the North Shropshire Reinforcement Project would include excavation and the creation of temporary access routes, and construction and storage areas. These activities may involve disturbance and exposure of soil which could generate sediment and suspended solids in runoff if not properly controlled.
- 11.6.7 There is also the potential for accidental leaks or spills of oil, fuels and other hazardous chemicals from construction vehicles or through inadequate storage/handling. Without mitigation these activities may lead to contamination of surface and groundwater resources.
- 11.6.8 Adequate provision for the requirements of the proposed Phase 7 of the Shropshire Groundwater Scheme, as identified in consultations held with the Environment Agency and including maintenance of a safe working distance around identified construction areas, will be incorporated into the assessment.
- 11.6.9 The likely effects of the proposed development on water resources are limited to the potential for short term water quality impacts during the construction phase. Adequate mitigation for these will be provided through the application of normal construction good management methods which will be included in the Construction Environment Management Plan (CEMP). The CEMP will include measures to minimise contamination of the water environment and also to control sediment in runoff from construction sites and access tracks.
- 11.6.10 During the ongoing detailed design process SP Energy Networks will continue to liaise with landowners, farmers and farm tenants to identify further opportunities to mitigation effects through sensitive siting and construction practices including:

- Individual pole positions and their associated infrastructure;
- Temporary and permanent access arrangements; and
- Construction areas, techniques and programme.

11.6.11 With an effective CEMP in place it is anticipated that the proposed development will have no effect on water quality, either for groundwater or surface water, during the construction or operational phase. It is therefore proposed that effects on water resources be scoped out of the assessment.

11.6.12 Since it is intended to scope out water resources and the 132kV overhead line will span water courses without physically affecting them, the EU Water Framework Directive<sup>100</sup> (WFD) will not be relevant to the assessment.

## 11.7 PROPOSED ASSESSMENT METHOD

11.7.1 The proposed assessment of sections of the proposed development, which cross Flood Zone 3 follows a standard approach:

- Establish baseline conditions against which the effects of the North Shropshire Reinforcement Project will be assessed;
- Determine the nature of the receptor likely to be affected, i.e. its sensitivity (which in turn combines judgements about its susceptibility to change arising from a specific proposal with judgements about its relative value);
- Predict the nature or magnitude of the effect likely to occur (which combines judgements about the likely size and scale of the change, the geographical extent of the area over which it is likely to occur, whether it is direct or indirect) and positive, negative or neutral; and
- Assess whether a significant effect is likely to arise by considering the predicted magnitude of change together with the sensitivity of the receptor,

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<sup>100</sup> Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy.

taking into account any identified mitigation measures.

- 11.7.2 The assessment will be based entirely on published information and no surveys or field measurements will be taken specifically for the assessment.
- 11.7.3 The sensitivity of the watercourses, with respect to flood risk in the area, will be assessed using the criteria in Table 11.2.

| <b>Table 11.2<br/>Significance Criteria for Flood Risk</b>                                    |  |
|---|--|
| <b>Sensitivity/ Importance and Typical Descriptors</b>  |  |
| <b>Very High</b><br>(attribute has a high quality and rarity on a regional or national scale) | Flood plain or defence protecting more than 100 residential properties from flooding.                            |
| <b>High</b><br>(attribute has a high quality and rarity on a local scale)                     | Flood plain or defence protecting between 1 and 100 residential properties or industrial premises from flooding. |
| <b>Medium</b><br>(attribute has a medium quality and rarity on a local scale)                 | Flood plain or defence protecting 10 or fewer industrial properties from flooding.                               |
| <b>Low</b><br>(attribute has a low quality and rarity on a local scale)                       | Flood plain with limited constraints and low probability of flooding of residential and industrial properties.   |

- 11.7.4 The magnitude of change caused during the construction and operational phases of the North Shropshire Reinforcement Project will be qualitatively described, based on the descriptions detailed in Table 11.3 below.

| <b>Table 11.3<br/>Magnitude of Change Criteria</b> |            |  |
|--|------------|--|
| <b>Magnitude of Potential Change</b>               |            | <b>Criteria</b>  |
| High   | Adverse    | Results in loss of attribute and/ or quality and integrity of the attribute.                   |
|  | Beneficial | Results in major improvement of attribute quality.   |
| Medium   | Adverse    | Results in effect on integrity of attribute, or loss of part of attribute.                     |
|  | Beneficial | Results in moderate improvement of attribute quality.  |
| Low  | Adverse    | Results in some measurable change in attribute's quality or vulnerability.                     |
|  | Beneficial | Results in some beneficial effect on attribute or a reduced risk of negative effect occurring. |
| Negligible   |            | Results in effect on attribute, but of insufficient magnitude to affect the use or integrity.  |

11.7.5 The magnitude of changes caused during the construction and operational phases of the proposed development will be qualitatively described, based on the descriptions detailed in Table 11.4.

| <b>Table 11.4<br/>Significance of Effect</b> |                  |                            |               |            |                   |
|--|------------------|----------------------------|---------------|------------|-------------------|
|  |                  | <b>Magnitude Of Change</b> |               |            |                   |
|  |                  | <b>High</b>                | <b>Medium</b> | <b>Low</b> | <b>Negligible</b> |
| <b>Importance Of Attribute</b>               | <b>Very High</b> | Major                      | Major         | Moderate   | Negligible        |
|  | <b>High</b>      | Major                      | Moderate      | Minor      | Negligible        |
|  | <b>Medium</b>    | Moderate                   | Moderate      | Minor      | Negligible        |
|  | <b>Low</b>       | Moderate                   | Minor         | Minor      | Negligible        |

### **Potential Mitigation Measures**

- 11.7.6 An integral part of the iterative design and assessment process undertaken to date has been the consideration of mitigation through sensitive routeing and design. The aim been to ensure that the development takes account of environmental constraints and opportunities. Details of further mitigation measures will be provided in the CEMP.

### **Cumulative Effects**

- 11.7.7 The North Shropshire Reinforcement Project is located primarily within agricultural land and the majority of both potential construction and operational effects identified are likely to be localised in nature. The assessment will also however consider the potential for cumulative effects of the construction of the North Shropshire Reinforcement Project occurring at the same time as other construction works.

## **11.8 SUMMARY**

- 11.8.1 The Proposed Line Route crosses two rivers (one twice) classified as ‘main rivers’ by the Environment Agency and many smaller ditches and watercourses. All of the watercourses crossed are relatively small and can easily be spanned by the proposed Trident poles.
- 11.8.2 Potential effects of flood risk on the 132kV overhead line will be based on the likely flood depth and flood flow velocity which will be estimated using topography and available flood estimates.
- 11.8.3 There are three relatively small areas of identified flood risk along the Proposed Line Route. However, these are in agricultural land use and no property is directly affected.
- 11.8.4 The 132kV overhead line is likely to have a minor or insignificant effect on flood risk. The existing Environment Agency fluvial flood modelling will be used to assess the likely effects of flood risk in Flood Zone 3, both in terms of impacts on the proposed development and flood risk to third parties arising from the proposed development. Flooding in other areas, as well as the effect of flooding from non-fluvial sources are proposed to be scoped out.



- 11.8.5 Surface water resources are used primarily for agricultural purposes. There are significant groundwater resources in the area and part of the Proposed Line Route crosses a source protection zone associated with an existing public water supply.
- 11.8.6 Construction of the 132kV overhead line could potentially cause some release of sediment into watercourses and present a risk of contamination from oils and other chemicals. These would be controlled by normal construction good practice, however, and would not present an actual risk to water quality. The 132kV overhead line would present no risk to water quality during the operation phase.
- 11.8.7 It is therefore proposed to scope out effects on water resources.

## CHAPTER 12: SOCIO-ECONOMIC

### 12.1 INTRODUCTION

- 12.1.1 This chapter sets out the proposed scope and approach to assessment of the likely significant socio-economic effects associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the North Shropshire Reinforcement Project'. It has been completed by a local socio-economic specialist based within a consultancy on the Shropshire/ Cheshire border, Filkin & Co EHS Ltd.
- 12.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 'EIA Approach and Methodology' of this Scoping Report. It has been expanded to reflect the potential significant effects on socio-economic considerations.
- 12.1.3 This chapter is supported by the following:
- Figure 12.1 Socio-Economic Super Output Areas;
  - Figure 12.2 Public Rights of Way; and
  - Figure 12.3 Airfields and Approach Route.
- 12.1.4 In this context 'social effects' are changes that may occur to the ways in which people live, work, play and relate to one another. The term 'economic effects' includes issues such as employment, direct and indirect spending associated with the Project.
- 12.1.5 The socio-economic assessment focuses on effects that may occur in terms of contribution (including loss) to people's lives and generation (or loss) of economic effect.
- 12.1.6 The issues that will be considered as part of the socio-economic assessment include the impact on the well-being and enjoyment of the area by the local community and visitors. This will include the consequent potential socio-economic impacts on tourism and recreation.

12.1.7 The effect on agricultural businesses is considered in Chapter 13 'Land Use'. Health considerations associated with electric and magnetic fields is considered within Chapter 17 'Electric and Magnetic Fields'.

12.1.8 Although often a concern of stakeholders and the general public, the potential effects on property values as a result of the North Shropshire Reinforcement Project are considered not to be a matter for consideration under the EIA Regulations. Consequently, the effects on property prices will be scoped out from further assessment within the socio-economic assessment.

## 12.2 PLANNING POLICY CONSIDERATIONS

12.2.1 Planning policy relevant to the North Shropshire Reinforcement Project, including the important role of National Policy Statements (NPS) is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report. A summary of applicable policy relevant to this topic is provided below.

### **National Planning Advice and Policies**

12.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1)<sup>101</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>102</sup>. A full assessment of compliance with policy as set out in the NPSs will be provided in the Planning Statement that will be submitted as part of the application for a DCO.

### **Local Planning Policy and Guidance**

12.2.3 The key documents that make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and

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<sup>101</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

<sup>102</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

12.2.4 These documents will be reviewed and information relevant to the socio-economic assessment will be identified. Whilst not forming part of the primary policy in relation to NSIPs, reference to this local plan policy will be supported by reference to the National Planning Policy Framework (NPPF) that gives context to these local policies. Supporting and other Council documents will also be considered from a socio-economic perspective to check for relevance to the project, including:

- Place Plans (including Wem);
- Neighbourhood plans including Oswestry Town Plan 2020 (Adopted 26 September 2013); and
- Statement of Community Involvement (Adopted 24 February 2011).

### **Further Guidance**

12.2.5 There is no dedicated UK legislation that specifies the detailed scope of socio-economic assessment or that provides appropriate standards and thresholds for determining the significance of effects. However, there is planning policy and best practice guidance of relevance to socio-economic assessment in the context of this Project, including:

- Guidelines and Principles for Social Impact Assessment (updated 2003)<sup>103</sup>;
- Requirements for socio-economic considerations listed in NPS EN-1; and
- Requirements for socio-economic considerations listed in NPS EN-5.

## **12.3 WORK UNDERTAKEN TO DATE**

12.3.1 Baseline data collection has been undertaken to understand the context of the socio-economic issues prior to introduction of the North Shropshire Reinforcement Project. The Project has been placed within the context of the super-output areas

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<sup>103</sup> <http://www.iaia.org/publicdocuments/special-publications/SP2.pdf> [last accessed 14/02/2017]

(SOAs) along the Proposed Line Route (see Figure 12.1). Baseline information to date has been obtained from the Neighbourhood Statistics website and Census 2011 data. Records of consultation undertaken to date have also been considered.

## 12.4 CONSULTATION RESPONSES

12.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process.

12.4.2 The reinforcement to the North Shropshire electricity supply will help to meet energy demands of the next few decades. The consultation undertaken to date suggests a level of support for the Project. SP Energy Networks has a dedicated website for the Project<sup>104</sup> that includes newsletters etc. that have been produced to date. Support for the Project includes the Project Update from summer 2016<sup>105</sup> that includes a quote from the Deputy Leader and Portfolio Holder for Business and Economy stating,

*"These proposals are good news. Shropshire Council has been pressing for investment in North Shropshire infrastructure, including Whitchurch, for a number of years. With the new homes and employment sites proposed, we are going to need the extra power. The North Shropshire reinforcement project will help our area realise its economic ambitions and ensure that we continue to enjoy a reliable electricity supply".*

12.4.3 In addition, Chapter 4 'Consultation' of this Scoping Report lists the work undertaken to date on discussions to shape the proposals prior to statutory

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<sup>104</sup>See: [http://www.spenergynetworks.co.uk/pages/reinforcement\\_to\\_north\\_shropshire\\_electricity\\_distribution\\_network.asp](http://www.spenergynetworks.co.uk/pages/reinforcement_to_north_shropshire_electricity_distribution_network.asp)

<sup>105</sup>See: [http://www.spenergynetworks.co.uk/userfiles/file/NS\\_Feedback\\_Report.pdf](http://www.spenergynetworks.co.uk/userfiles/file/NS_Feedback_Report.pdf)

consultation. It is of note that there are no negative issues identified that are specific to socio-economic concerns.

- 12.4.4 As a member of the North Shropshire business community there are a number of groups that the socio-economic specialist attends. At a local event contact was made with ABP, which is the closest business to the proposed development. Having been sent details of the reinforcement project a representative emailed the socio-economic specialist (March 2017) stating the proposed development will not impact on what they do. Contact will also be made with economic and tourism officers within North Shropshire to ensure baseline information is suitably comprehensive and to provide clarification on the assessment.
- 12.4.5 Pre-application consultation feedback noted that the area surrounding Sleaf Airfield is used by jets and helicopters for training purposes, with residents noting that there are approach routes that fly over Noneley and Commonwood, both of which are located north of the airfield. Initial consultation has been undertaken with the Civil Aviation Authority to seek confirmation of this approach. No immediate concerns for air safety (Ministry of Defence and National Air Traffic Systems) were identified; however, the Civil Aviation Authority advised of the need to check local aerodrome safeguarding areas with the local authority. Shropshire Council's response noted a buffer zone to the north-east of the Sleaf Airfield, see Figure 12.3. This area has subsequently been excluded from the routeing to avoid any potential conflict with operational activities associated with the airfield. The likely effects on aviation as a result of the proposed development will be assessed as part of the EIA.
- 12.4.6 The records of consultation events will continue to be scrutinised. In addition, rights of way and tourism locations in proximity to the route will be visited.

## 12.5 BASELINE ENVIRONMENT

- 12.5.1 Resources for baseline data as the project progresses will include Nomis (<http://www.nomisweb.co.uk>) and Shropshire Council website (<http://www.shropshire.gov.uk>). Where possible, demographic information will be obtained from the most up-to-date sources (as opposed to a reliance on Census

data, which dates from 2011). Information will also be obtained from local community internet site and community description sites including examples such as <http://www.zoopla.co.uk> and crime statistics from the police website (<http://www.police.uk>).

12.5.2 The Proposed Line Route passes through a rural area, between towns, with agricultural businesses and some isolated commercial premises. There are a number of Public Rights of Way (PRoW) within the area and tourism related businesses, which suggest that tourism and recreation are important from a socio-economic perspective.

12.5.3 The information in the remainder of the chapter has been obtained from <http://www.neighbourhood.statistics.gov.uk> and presents Census 2011 data according to the Office for National Statistics (unless otherwise indicated).

### **Super-output Areas**

12.5.4 SOA are a set of geographic areas developed to produce a set of areas of consistent size, whose boundaries would not change (unlike electoral wards). The SOA used for this study typically have a population of 1500. SOA for the North Shropshire Reinforcement Project are shown in Figure 12.1 and include:

- Shropshire 004E;
- Shropshire 006H;
- Shropshire 008C;
- Shropshire 010C;
- Shropshire 010D;
- Shropshire 011B; and
- Shropshire 011E.

### **Population**

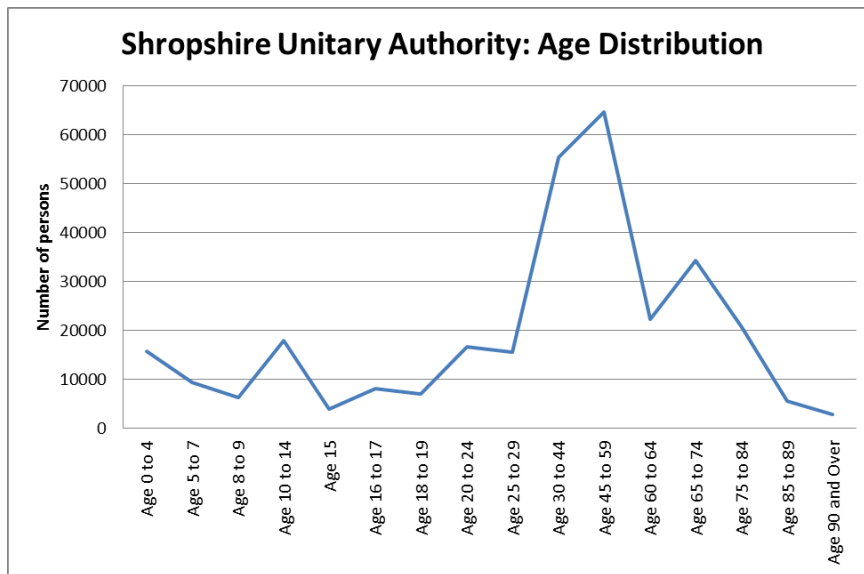
12.5.5 The SOA are within the administration area of Shropshire Council. Table 12.1 presents the breakdown of population (including by proportion of gender). There is

a total of 11,631 residents within the identified super-output areas, which is approximately 4% of the population of Shropshire. The gender structure of the population within the SOA are similar levels to those in Shropshire overall. Density provides a measure of the people living in an area. It is higher in urban areas and lower in rural. Table 12.1 highlights that the SOA are largely rural, Shropshire 006H (Oswestry) and Shropshire 008C (Wem) have higher density results.

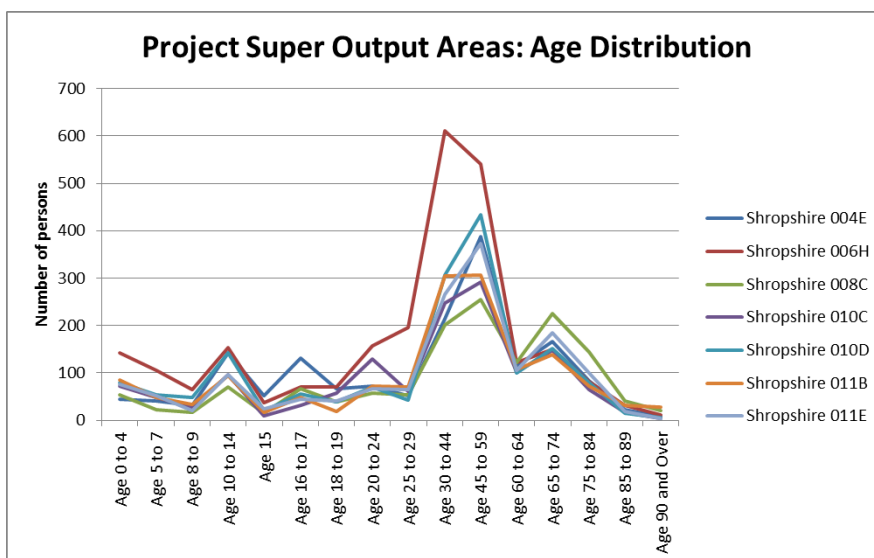
| <b>Table 12.1<br/>Population and Density</b> |                    |                 |                 |                 |                 |                 |                 |                 |
|--|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|  | Shropshire Council | Shropshire 004E | Shropshire 006H | Shropshire 008C | Shropshire 010C | Shropshire 010D | Shropshire 011B | Shropshire 011E |
| Resident population (ALL)                    | 306129             | 1630            | 2545            | 1401            | 1403            | 1641            | 1475            | 1536            |
| Resident population (MALE)                   | 151606             | 860             | 1219            | 658             | 716             | 818             | 712             | 750             |
| Resident population (MALE %)                 | 49.5               | 52.8            | 47.9            | 47              | 51              | 49.8            | 48.3            | 48.8            |
| Resident population (FEMALE)                 | 154523             | 770             | 1326            | 743             | 687             | 823             | 763             | 786             |
| Resident population (FEMALE %)               | 50.5               | 47.2            | 52.1            | 53              | 49              | 50.2            | 51.7            | 51.2            |
| Area (Hectares)                              | 319730             | 5419            | 108             | 139             | 3932            | 4997            | 2453            | 1434            |
| Density (no. of persons p/ hectare)          | 1                  | 0.3             | 23.6            | 10.1            | 0.4             | 0.3             | 0.6             | 1.1             |



12.5.6 The age structure of a population indicates both the current and future requirements of an area. A younger population, for example, may require access to schools, safe recreation play facilities and development of future employment opportunities. Aging populations are likely to require a greater focus on health care, living support and social networks. Graphs 12.1 and 12.2 demonstrate the age distribution within the administrative area of Shropshire Council and for the project SOA respectively.



Graph 12.1 Shropshire Council: Age Distribution



Graph 12.2 Project Super-Output Areas: Age Distribution

12.5.7 The graphs show a similar age distribution with a peak in the project super-output areas at age 30 to 44. The peak for Shropshire is at ages 45 to 59. The average age for the SOAs is approximately 41 years of age (for Shropshire this is 43 years). The data suggests working age persons present the greatest proportion of population.

**Industry**

12.5.8 The industry that people work in is shown in Table 12.2. Note this table details the occupation of those living in the SOAs and is not necessarily a reflection of the businesses within the area.

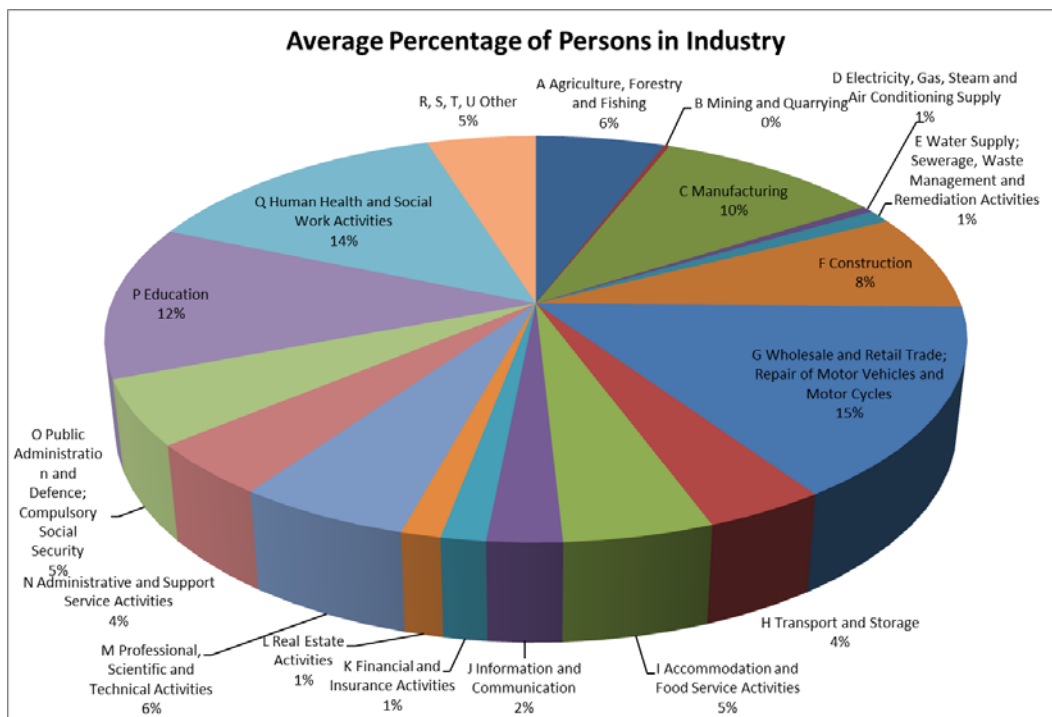
| <b>Table 12.2</b>  |                    |                 |                 |                 |                 |                 |                 |                 |
|--|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Industry</b>  |                    |                 |                 |                 |                 |                 |                 |                 |
|  | Shropshire Council | Shropshire 004E | Shropshire 006H | Shropshire 008C | Shropshire 010C | Shropshire 010D | Shropshire 011B | Shropshire 011E |
| A: Agriculture, Forestry and Fishing                                   | 3.9                | 9.1             | 1.2             | 2.9             | <b>9.2</b>      | 8.4             | 5.5             | 3.8             |
| B: Mining and Quarrying  | 0.2                | 0.4             | 0.2             | 0.2             | <b>0.5</b>      | 0               | 0               | 0.4             |
| C: Manufacturing   | 10.6               | 10.7            | 13.5            | 10              | 6.5             | 7.3             | 10.5            | <b>11.7</b>     |
| D: Electricity, Gas, Steam and Air Conditioning Supply                 | 0.4                | 0.5             | 1               | 0.2             | 0.1             | 0               | 0.7             | <b>1.2</b>      |
| E: Water Supply; Sewerage, Waste Management and Remediation Activities | 0.9                | 0.3             | 1.1             | <b>2.6</b>      | 0.8             | 0.6             | 0.9             | 0.9             |
| F: Construction  | 8.3                | 8.5             | <b>8.6</b>      | 8.3             | 5.4             | 8.1             | 7.9             | 7.1             |
| G: Wholesale and Retail Trade;   | 16.1               | 13              | <b>19.5</b>     | 17.6            | 10.6            | 14.9            | 14.5            | 16.7            |

| <b>Table 12.2</b>  |                    |                 |                 |                 |                 |                 |                 |                 |
|--|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Industry</b>  |                    |                 |                 |                 |                 |                 |                 |                 |
|  | Shropshire Council | Shropshire 004E | Shropshire 006H | Shropshire 008C | Shropshire 010C | Shropshire 010D | Shropshire 011B | Shropshire 011E |
| Repair of Motor Vehicles and Motor Cycles                        |                    |                 |                 |                 |                 |                 |                 |                 |
| H: Transport and Storage   | 3.9                | 2.8             | 4.4             | 3.9             | 3.9             | 3.6             | 2.9             | <b>5.5</b>      |
| I: Accommodation and Food Service Activities                     | 5.5                | 3.4             | 4.7             | 5.7             | <b>5.8</b>      | 4.9             | 4.6             | 4.4             |
| J: Information and Communication                                 | 2.7                | 2.3             | <b>2.9</b>      | 1.8             | 1.7             | 2.8             | 2.4             | 2.8             |
| K: Financial and Insurance Activities                            | 2                  | 0.8             | <b>2.7</b>      | 1               | 0.5             | 2.2             | 1.3             | 1.5             |
| L: Real Estate Activities  | 1.3                | <b>2.6</b>      | 0.7             | 0.8             | 1.4             | 0.7             | 1.5             | 1.2             |
| M: Professional, Scientific and Technical Activities             | 5.2                | 6.8             | 3.2             | 4.6             | 5.5             | <b>7.4</b>      | 6.7             | 4.3             |
| N: Administrative and Support Service Activities                 | 3.9                | 4.1             | 3.8             | 4.6             | <b>5.6</b>      | 3.7             | 3.8             | 3.8             |
| O: Public Administration and Defence; Compulsory Social Security | 6.8                | 5.1             | 4.2             | <b>7.3</b>      | 4.2             | 5.9             | 5.9             | 3.6             |
| P: Education   | 10                 | 16.1            | 8.6             | 11.6            | <b>17.3</b>     | 12.6            | 9.1             | 10.5            |
| Q: Human Health and Social Work Activities                       | 13.7               | 9.6             | 14.8            | 13.5            | 11.4            | 12.3            | 17.4            | <b>17.5</b>     |

**Table 12.2**  
**Industry**

|                  | Shropshire Council | Shropshire 004E | Shropshire 006H | Shropshire 008C | Shropshire 010C | Shropshire 010D | Shropshire 011B | Shropshire 011E |
|------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| R, S, T, U Other | 4.7                | 4.1             | 4.9             | 3.4             | 9.6             | 4.5             | 4.4             | 3               |

12.5.9 Graph 12.3 shows the average occupation percentages for working age persons within the super-output areas highlighting that there is a relatively large percentage working in wholesale and retail trade; repair of motor vehicles and motor cycles (15%). Human health and social work activities (14%), education (12%) and construction (8%) are also common sectors of industry for people from the area to work in.



*Graph 12.3 Average Percentage of Persons in Industry Based on Project Super-Output Areas*

12.5.10 Within the SOA there are a number of agricultural and tourism-based industries. There are also businesses located at Rednal Industrial Estate and other businesses located within the SOA, including packaging and fencing companies.

### **Tourism and Recreation Areas**

12.5.11 In terms of tourism locations, it is noted that Whittington and Ellesmere are both outside the identified SOA for assessment but with the importance of these locations to Shropshire tourism the socio-economic assessment will seek to confirm (in conjunction with the landscape, visual and transport assessments) that these areas would not be affected by proposed works.

12.5.12 Other tourism and recreation locations within the SOA areas include:

- Cole Mere and White Mere (popular for sailing and walking);
- Rednal Karting (karting, paintball and laser activities);
- Montgomery Canal (recreation activities);
- Shropshire Way (Route 27) walking trail (Lower Frankton to Llanymynech, a total of 11 mile canalside walk);
- Bed and Breakfasts (e.g. Hordley Hall);
- Pub and restaurants (e.g. The Burlton Inn);
- Sleaf Airfield (various recreation activities including café, restaurant and museum); and
- National Cycle Route 455 (Oswestry, Ellesmere and Whitchurch route, 28 mile route).

12.5.13 There are also a number of PRow, including footpaths, bridleways and byways, twelve of which are crossed by the proposed development (see Figure 12.2).

### **Existing Aviation Facilities**

12.5.14 There is one operational aviation site located at Harmer Hill, some 3km to the south-west of Wem. Sleaf Airfield is home to the Shropshire Aero Club, the only civilian

licensed airfield in Shropshire. Rednal Airfield, to the south of the Proposed Route, is no longer used as an airfield.

## 12.6 ISSUES IDENTIFIED

12.6.1 Based on the baseline work undertaken and consultation feedback received to date, the following conclusions are drawn.

### **Employment Generation and the Supply Chain**

12.6.2 The employment generation associated with the North Shropshire Reinforcement Project will be minimal. There will be a limited number of employees required and the likelihood is that a contractor may not come from the immediate locality of the route, due to the specialist nature of the project. In addition, the supply chain in terms of capital expenditure will be minimal and will also have specific requirements that may not be available in the immediate locality. Therefore, in socio-economic terms it is considered that employment generation (direct and indirect) and supply chain effects (on a local and national basis) should be scoped out of further assessment.

### **Temporary Closure of Public Rights of Way**

12.6.3 Construction of the overhead line may affect the use of an area with effects on PRoW due to temporary closure during construction, although these are likely to be localised, very short term and highly unlikely to give rise to significant effects, see Figure 12.2 for more details. Because of this it is proposed to scope construction phase effects on ProW out of further assessment.

### **Social Effects - Noise**

12.6.4 The proposed 132kV overhead line is unlikely to generate any significant noise effects (see Chapter 14 'Statutory Nuisance' and Chapter 15 'Traffic and Transport').

12.6.5 It is therefore proposed to scope any noise effects on the well-being and enjoyment of the area by the local community and visitors out of further assessment.

## **Social Effects - Landscape and Visual**

12.6.6 The presence of a new 132kV overhead line in the landscape may lead to adverse visual effects on the well-being and enjoyment of the area, by the local community and visitors, as informed by the landscape and visual assessment this could lead to consequent socio-economic effects. The effects on the quality of views experienced from ProW, and other community and recreational facilities may have similar socio-economic effects. Although unlikely with a Trident wood pole line, given its small size and appearance, these are important issues for the tourism industry within North Shropshire that is a diverse and important aspect of the local economic structure.

## **Civil Aviation**

12.6.7 Any direct conflict with Sleaf Airfield and the Shropshire Aero Club as a result of the proposed development has been avoided through the routeing and design process, i.e., the exclusion of identified buffer zones that mark the approach route into Sleaf Airfield and by the use of Trident poles. Trident poles are on average 12m tall (including the upper steelwork), whereas steel pylons carrying 132kV are around 26m in height. Although it is considered unlikely that any significant effects would arise, effects on the use and enjoyment of Sleaf Airfield and the Aero Club will be assessed as part of the EIA and the results presented in the ES.

## **12.7 PROPOSED ASSESSMENT METHOD**

12.7.1 The assessment will focus on the social effects of the proposed development and will build on the information collected to date through further field and desk survey. This is to provide a full appreciation of any socio-economic impacts of the proposed development.

12.7.2 The methodology adopted for the socio-economic assessment will take into account feedback following scoping and ongoing stakeholder engagement.

12.7.3 Baseline data has to date been collected through desk-based research. The desk-based assessment will continue to be updated throughout the Environmental Impact Assessment (EIA) process as additional documents and data sources are

identified and engagement with Shropshire Council and other key stakeholders continue.

### **Spatial Scope**

- 12.7.4 Given the focus of the assessment is the 'social' effects arising from the permanent presence of the overhead line in the landscape, the socio-economic assessment will consider an area of influence similar to that of the landscape and visual assessments. This extends to 1km either side of the Proposed Line Route as shown in Figure 7.1. Beyond this distance a Trident wood pole, which on average would be 12m high, would appear approximately 7mm high in the view and is highly unlikely to give rise to significant effects.
- 12.7.5 The need to have baseline data available at a fairly detailed level means that super-output areas (SOAs) have been used as the basis of the geographic boundary for the socio-economic assessment baseline.
- 12.7.6 This will be reviewed against the visual assessment study area to ensure that it covers any potential viewpoints beyond 1km where sensitive recreational receptors may be affected by the proposed development, and which may therefore have implications for the socio-economic assessment. It may be relevant for some socio-economic effects to be discussed at a wider geographic scale.

### **Temporal Scope**

- 12.7.7 The North Shropshire Reinforcement Project is considered to be a permanent development and any effects will be described in terms of their duration as short, medium and long term as follows:
- Short term effects are defined as 0-3 years;
  - Medium term effects are defined as 3-15 years; and
  - Long term effects are defined as >15 years.
- 12.7.8 Short-term socio-economic effects are typically those which would arise during the construction phase of the North Shropshire Reinforcement Project.



12.7.9 Long-term effects are those which would arise during the operational phase of the North Shropshire Reinforcement Project. The opening year, when the line is commissioned will be used as the basis for assessing operational effects.

12.7.10 Long-term residual effects of the North Shropshire Reinforcement Project are typically those which would remain after a minimum fifteen years.

### **Activities**

12.7.11 The following activities will be undertaken as part of the assessment:

- Description of the existing socio-economic baseline conditions, including population and demography, tourism and recreation within the study area;
- Where possible visitor numbers to any tourist attractions will be identified to allow demonstration of those areas where tourism effect could be greater. Recreation facilities within the study area will also be identified and contacted to identify their thoughts/ concerns. Recreational facilities (including Sleaf Airfield) and PRoW will be visited along the route to help understand use of the area and the potential effect of a development of this type;
- Further identification and assessment of community facilities and recreational receptors along the Proposed Line Route, within the socio-economic study area, including schools, health care facilities, churches and other faith buildings, festivals, access land and registered common land, and the potential effects on these;
- Co-ordination Liaison with the landscape and visual assessments to complete socio-economic interpretation of potential issues on local communities and resources;
- The assessment will also address the potential for combined effects on receptors and/ or groups of receptors;
- Identification of measures to avoid, manage or mitigate potential effects;
- Assessment of potential cumulative effects based on proposals for other

similar developments surrounding the North Shropshire Reinforcement Project; and

- Assessment of residual effects.

**Assessment of Significance**

12.7.12 Assessment will be made by considering the findings from a range of sources including Geographical Information Systems (GIS), background research, site visit and professional judgement. Significance is determined by assessing magnitude (the scale) and sensitivity (of receptors) for each effect.

12.7.13 As noted in Chapter 5 ‘EIA Approach and Methodology’ the EIA Regulations require that only significant effects are reported; to identify significance a standard approach has been assigned for this Project as major, moderate, minor or negligible and beneficial or adverse. These terms in a socio-economic context are defined as described in Table 12.3.

12.7.14 With respect to the number of people affected (see Table 12.3), the average density of persons per hectare for the SOA is 5.2, so less than this was identified as negligible and then scaled up from there for minor, moderate and major, taking into account the rural nature of the area. The SOA with the highest density has 23.6 persons per hectare so 20 was identified as a maximum for major.

| <b>Table 12.3<br/>Socio-Economic Definition of Significance</b> |   |
|---|---|
| <b>Classification</b>   | <b>Socio-economic Description</b>   |
| Adverse   | Detrimental or negative effects on an environmental resource or receptor.                           |
| Beneficial  | Advantageous or positive effects on an environmental resource or receptor.                          |
| Negligible  | Imperceptible effects on an environmental resource or receptor.<br><br>Less than 5 people affected. |

| <b>Table 12.3<br/>Socio-Economic Definition of Significance</b> |   |
|---|---|
| Minor   | Slight, very short term or highly localised effect of no significant consequence.<br>Less than 10 people affected.  |
| Moderate  | More than a slight, very short or localised effect (by extent, duration or magnitude) that may be considered significant.<br>Less than 20 people affected.  |
| Major   | Considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.<br>More than 20 people affected. |

12.7.15 For the purposes of the assessment moderate and major effects are generally deemed to be ‘significant’. However, it is important to note that placing a limit on ‘moderate’ and above when considering cumulative issues could lead to errors. Therefore, professional judgement will be used throughout assessment of socio-economic effects from a cumulative perspective.

### **Approach to Mitigation**

12.7.16 In the event of negative effects the assessment will identify suitable mitigation to reduce, remove or compensate significant adverse effects and to enhance beneficial ones.

### **Cumulative Effects**

12.7.17 The proposed approach to assessing cumulative impacts is set out in Chapter 18 ‘Cumulative Effects’ of this Scoping Report.

12.7.18 The purpose of the cumulative assessment is to identify whether potential changes to the socio-economic conditions arising from the North Shropshire Reinforcement Project, together with the predicted effects from other similar proposed developments, would result in additional socio-economic effects.

12.7.19 Where available environmental statements for other proposed developments, will be scrutinised for information related to socio-economic conditions; otherwise

planning support statements should provide sufficient information for a judgement to be made. Classification of significance of an effect will be completed using the same criteria as for the main socio-economic assessment. The baseline information will start with the baseline for the main socio-economic assessment checking with the landscape team that this is suitably comprehensive.

## 12.8 SUMMARY

- 12.8.1 The North Shropshire Reinforcement Project is required because of the need to reinforce the electricity network in the North Shropshire area. The project will help to provide the capacity required for current planning forecasts for the local rural population including homes and businesses.
- 12.8.2 As construction of the proposed development will require very few employees and have little effect on the local supply chain, it is therefore proposed to scope out any further assessment in this respect.
- 12.8.3 Temporary footpaths closures may be required during the construction period but this would be localised, very short term and highly unlikely to give rise to significant effects. It is therefore proposed to scope these out of further assessment.
- 12.8.4 From a socio-economic perspective the assessment will focus on places of tourism and recreation (including Sleaf Airfield) as these are the areas where the presence of the 132kV overhead line may affect peoples' well-being and enjoyment of the area, as informed by the landscape and visual assessment.

## CHAPTER 13: LAND USE

### 13.1 INTRODUCTION

- 13.1.1 This chapter sets out the proposed scope and approach to assessing the likely effects on land use associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 ‘Description of the North Shropshire Reinforcement Project’.
- 13.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 ‘EIA Approach and Methodology’ of this Scoping Report. It has been developed to take account of any likely significant impacts on land use arising during the construction and operation phases of the North Shropshire Reinforcement Project.
- 13.1.3 Although the main land use in the area is agriculture, there are also areas of housing, retail development, services (e.g. garages), schools and healthcare facilities as well as parks and playing fields. These land uses were all avoided through the routeing process as they are typically found in and around residential areas which are not affected by the proposed development. Similarly a planned extension to north-east Oswestry identified within Figure 2.5 (a reproduction of Figure 4.6 ‘Additional Environmental Constraints’ from the Route Corridor Options Report, June 2016) has been avoided by proposed undergrounding of the circuit.
- 13.1.4 Four wind turbines, a solar farm and landfill site (see Figure 13.1, a reproduction of Figure 2.5 ‘Composite Constraints’ of the July 2016 Route Corridor Options Report<sup>106</sup>) were identified and avoided through the routeing process. Because no significant effects are likely to arise from the proposed development, it is therefore proposed that these land uses are scoped out of the assessment.
- 13.1.5 The remainder of this chapter focusses on the potential effects on agricultural land including land take and effects on farming practices.

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<sup>106</sup> SP Energy Networks (July 2016), Route Corridor Options Report

13.1.6 This chapter is supported by the following:

- Figure 13.1: Figure 2.5 from Route Corridor Options Report, June 2016, showing Composite Constraints; and
- Figure 13.2: Agricultural Land Classification

## 13.2 PLANNING POLICY CONSIDERATIONS

13.2.1 Planning policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report. A summary of applicable policy relevant to this topic is provided below.

### **National Planning Advice and Policies**

13.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1)<sup>107</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>108</sup>. A full assessment of compliance with policy as set out in the NPSs will be provided in the Planning Statement which will be submitted as part of the application for a DCO.

13.2.3 NPS EN-1 sets out in Part 4 the general policies in accordance with which applications relating to energy infrastructure are to be decided.

13.2.4 NPS EN-5 does not identify 'agriculture' as a specific consideration, identifying that *'all of the generic impacts covered in EN-1 are likely to be relevant'* (para 2.6.1).

13.2.5 The National Planning Policy Framework (March 2012) sets out government's planning policies for England and how these are expected to be applied.

13.2.6 The NPPF states that:

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<sup>107</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

<sup>108</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

*'Local planning authorities should take into account the economic and other benefits of 'the best and most versatile' agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality'.*

13.2.7 The NPPF does not specifically classify the 'best and most versatile' agricultural land. Guidance is provided in the Guidelines for Agricultural Land Classification of England and Wales<sup>109</sup>, which refers to the 'best and most versatile' land as Grades 1 to 3a.

#### **Local Planning Policy and Guidance**

13.2.8 The key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

13.2.9 These documents will be reviewed and policies relevant to the assessment of effects on agriculture will be identified.

### **13.3 WORK UNDERTAKEN TO DATE**

13.3.1 Extensive survey and assessment work has already been undertaken as part of the ongoing routeing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 'Alternatives and Design Evolution' of the Scoping Report. Table 1.1, in Chapter 1 'Introduction to the Scoping Report' lists the documents which have been produced to inform the route selection process and which include baseline information on the study area and constraints and opportunities afforded by these.

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<sup>109</sup> MAFF (Revised 1988), Guidelines for Agricultural Land Classification of England and Wales

13.3.2 The EIA will build on the information collected to date through further field and desk survey. This is in order to provide a full appreciation of the agricultural practices undertaken within the study area for the proposed development.

#### 13.4 CONSULTATION RESPONSES

13.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routeing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.

13.4.2 Paragraph 4.1.6 details likely impacts identified with the development. The following initial consultation responses were received from the National Farmers Union (NFU):

- Impacts on farming practices should be minimised and information sought from local farmers;
- That the proposed design is clearly communicated to and shared with farmers;
- Consideration is given to any deviations of existing overhead lines being placed underground;
- In addition to the engagement already taking place with landowners and occupiers, the NFU encourage this to continue, in particular, where new accesses are required and how this can be provided whilst respecting the ongoing farming and domestic operations; and
- SP Energy Networks to maintain dialogue with landowners and occupiers regarding compensation procedures.

13.4.3 Consultation feedback identified the presence of large centre point irrigation facilities used for the growing of quinoa near Lower Hordley and the River Perry. At the request of a local landowner, Section 2 of the Proposed Line Route has been subject to further consideration in terms of the likely impact on this large field irrigation system and its consequent effect on agricultural operations. This has resulted in two alternative options being presented in the Scoping Report. These



are identified as Lower Hordley South (the original Proposed Line Route) and Lower Hordley (a route further to the north, which is similar to a route that was identified in the Updated Line Route Report, November 2016, as Option 2B). Both are shown in Figure 1.1.

### 13.5 BASELINE ENVIRONMENT

- 13.5.1 Details of agricultural land classification in the study area are illustrated in Figure 13.1 and the topography of the area in Figure 7.6.
- 13.5.2 The topography of the area, is typical of the Shropshire Plain, being low lying and relatively flat or gently undulating. There are some areas of higher ground (between 110 - 120mAOD) in the north-west close to Oswestry.
- 13.5.3 The predominant land use, and therefore the focus of this chapter is agriculture. Arable and pastoral farmland is interspersed with small settlements including Lower Hordley and Bagley, Cockshutt, Noneley and Loppington.
- 13.5.4 Farming is generally medium scale arable and dairying, with some larger scale fields set aside for arable farming in proximity to some of the low-lying areas associated with flood risk near the River Perry, Wackley and Sleaf Brook, and the River Roden.
- 13.5.5 Consultation feedback identified the presence of large centre point irrigation facilities used for the growing of quinoa near Lower Hordley and the River Perry.
- 13.5.6 The quality of agricultural land is assessed using the Agricultural Land Classification (ALC) scheme established by the Ministry for Agriculture, Fisheries and Food (now the Department for the Environment, Food and Rural Affairs (DEFRA)). There are five classifications of agricultural land (six with a subsequent subdivision of Grade 3) with Grades 1, 2 and 3a land currently defined as '*best and most versatile*' (BMV).
- 13.5.7 The classification is based on the long term physical limitations of land for agricultural use. Factors affecting the grade are climate, site and soil characteristics. The ALC system is used by DEFRA and others to give advice to local planning authorities, developers and the public if development is proposed on agricultural land or other 'greenfield' sites that could grow crops.

13.5.8 The Proposed Line Route passes through predominantly Grade 3 (good to moderate quality) agricultural land with some areas of Grade 2 (very good quality) agricultural land and 4 (poor quality) agricultural land. Much of the land within the area is classified as Grade 3, with smaller pockets of Grade 2 near Lower Hordley Cockshutt, Loppington, Noneley and just west of Wem, and small pockets of Grade 4 particularly near the Montgomery Canal and the River Perry, and in the area south of Loppington.

#### **Agri-environment Schemes**

13.5.9 There is a New Environmental Land Management Scheme (NELMS) countryside stewardship (middle tier) area scheme to the south of Lower Hordley.

### **13.6 ISSUES IDENTIFIED**

13.6.1 The majority of effects on farming operations will arise during the construction phases. Potential temporary effects include:

- Loss of grazing and cropping area. The temporary loss of limited areas of cropping and grazing will occur along temporary access tracks and within working areas surrounding pole locations. This will be during the construction phase and for a short period following reinstatement as the ground settles and re-establishes;
- Timings of construction works. This may impact on seasonally dependent agricultural operations such as harvesting, sowing and lambing and calving;
- Disruption to field drainage and water supplies, which may require diversion or repair;
- Compaction of soil due to tracking by vehicles;
- Temporary removal of field boundaries for access, which will require reinstatement on completion;
- Impact on the commitments made by the farmers/ landowners, etc. with regard to agri-environmental schemes; and

- Increased risk of disease transmission and transfer of invasive weeds associated with vehicle movements along the working corridor.

13.6.2 The above described potential impacts can be mitigated through careful management and best practice construction techniques prepared and agreed in advance with the landowner/ tenant and included within the CEMP. Assuming the implementation of best practice throughout the construction phase, residual effects are likely to be of negligible or minor significance, and of a temporary and reversible nature.

13.6.3 Longer term potential operational effects on agriculture as a result of the proposed development are associated with the permanent loss of small areas of operational agricultural land associated with the footprints of the wood poles and stays. The presence of wood poles within the fields causes inconvenience to agricultural operations, for example during grass cutting, spraying and irrigation operations.

### 13.7 PROPOSED ASSESSMENT METHOD

13.7.1 The potential impacts of the North Shropshire Reinforcement Project on agriculture, will be assessed within the Scoping Stage Project Boundary and associated construction areas and accesses, which lie outside this corridor (see Figure 1.6). The assessment will focus on:

- Land take: which will be assessed in terms of quality and quantity and the losses evaluated against national and local criteria;
- Farming practices: the farming methods will be described and the impact of the proposed development assessed. Where alternative methods of working are possible, these will be described. Losses in terms of cropping will be described; and
- Economic impacts: the effect of the proposed development will be assessed in terms of broad economic impact. Comparative assessments using standardised data will be made to evaluate the likely magnitude of the impact;

- Drainage and water supply: any disruption to field drains and water supplies will be described; and
- Agri-environment schemes: details of the schemes will be identified and any impacts described.

13.7.2 There are a number of factors which influence the value and sensitivity ascribed to various land use and agricultural receptors. These include the quality of agricultural land and land under environmental stewardship schemes. The magnitude of any effect reflects physical extent and duration. The significance of the effects can be identified by considering the sensitivity and magnitude of any effects.

13.7.3 The assessment will be undertaken largely by means of a desk study, utilising information from published sources and from specific liaison and consultation, including information that is being obtained from farmers and farm tenants, via consultations between them and SP Energy Networks' land agents. More detailed information on agri-environment schemes and organic land will be obtained via discussions with farmers, and from information available through the DEFRA website.

13.7.4 Permanent land take for the proposed development will only be the footprint of the Trident wood poles (and area of land covered by the stays on angle poles), and if required a small number of new permanent access tracks. The assessment therefore uses professional judgement rather than any formal methodology.

#### **Potential Mitigation Measures**

- 13.7.5 During the ongoing detailed design process SP Energy Networks will continue to liaise with landowners, farmers and farm tenants to identify further opportunities to mitigation effects through sensitive siting and construction practices including
- Individual pole positions and their associated infrastructure;
  - Temporary and permanent access arrangements; and
  - Construction areas, techniques and programme.

- 13.7.6 The majority of pole positions would be accessed by existing farm access arrangements and field gates.
- 13.7.7 SP Energy Networks will arrange pre-entry meetings with owners and occupiers of land or their agents to ensure that disruption to farming activities is kept, where possible, to a minimum and there will be liaison with farmers and/ or their agents throughout.
- 13.7.8 SP Energy Networks will ascertain, with the assistance of the landowner/ occupier, the location of any field drains which could be damaged by the construction works. These drains may be diverted at pole sites and protected elsewhere. Any damage to land drainage caused by the construction works will be reinstated and/ or compensation paid as appropriate.

### **Cumulative Effects**

- 13.7.9 The proposed approach to assessing cumulative impacts is set out in Chapter 18 'Cumulative Effects' of this Scoping Report.
- 13.7.10 The proposed development is located primarily within agricultural land and the majority of both potential construction and operational effects identified are likely to be localised in nature. The assessment will also however consider the potential for cumulative effects of the construction of the North Shropshire Reinforcement Project occurring at the same time as other similar construction works.

## **13.8 SUMMARY**

- 13.8.1 Work undertaken to date in relation to agriculture has identified a range of potential temporary effects as a result of the proposed development including the temporary loss and disruption to agricultural land use practices during the construction of the overhead line. The likely effects on agriculture, as a result of the proposed development, will be assessed as part of the EIA. It is considered that any significant effects identified can be fully mitigated by the ongoing detailed design process where SP Energy Networks will continue to liaise with landowners, farmers and farm tenants to identify further mitigation opportunities to mitigate effects through sensitive siting and construction practices.

## CHAPTER 14: STATUTORY NUISANCE (NOISE, VIBRATION AND AIR QUALITY)

### 14.1 NOISE AND VIBRATION

#### Construction Noise

- 14.1.1 The British Standard 5228-1:2009+A1: 2014 'Code of practice for noise and vibration control on construction and open sites'<sup>110</sup> provides guidance that is relevant to noise assessments for developments such as that proposed.
- 14.1.2 Consideration has been given to the potential for the proposed development to cause noise impacts during the construction and operational phases of the project.
- 14.1.3 The area within which the proposed development is set is predominantly rural with scattered residential dwellings and some smaller villages. Sources of ambient noise in the locality are expected to consist of local road traffic, agricultural working and wildlife.
- 14.1.4 Given the rural situation, it is anticipated that ambient noise levels throughout the area are typically low, around 55 dB(A). It is therefore proposed that baseline noise levels surveys will not be required to inform the EIA, as the adoption of the 55 dB(A) daytime ambient noise level assumes a worst case scenario.
- 14.1.5 BS 5228-1:2009+A1: 2014 provides a scope and methodology for the consideration of noise from construction activities, methodologies for predictions and suggests assessment criteria whereby significant impacts may be defined.
- 14.1.6 Annex E of BS 5228 presents various methods of determining the significance of noise effects due to construction works. In this appraisal, the ABC method detailed in Annex E.3.2 has been used, where for the appropriate period (night, evening/weekends or day), the measured ambient noise level is rounded to the nearest 5dB. This is then compared with the estimated construction noise level. If the

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<sup>110</sup> British Standards Institute (BSI) (2009), 'Code of Practice for Noise and Vibration Control on Construction and Open Sites - noise' (BS 5228-1:2009+a1: 2014).

construction noise level exceeds the appropriate category value, then there is potential for a significant effect to occur. The example threshold levels for significant effects at dwellings is shown below in Table 14.1.

| <b>Table 14.1<br/>Construction Noise Threshold of Potential Significant Effect</b> |                             |                      |                      |
|--|-----------------------------|----------------------|----------------------|
| <b>Assessment Category and<br/>Threshold Value Period</b>                          | <b>Threshold Value (dB)</b> |                      |                      |
|  | <b>Category A a)</b>        | <b>Category B b)</b> | <b>Category C c)</b> |
| Night-time (23:00 – 07:00)   | 45                          | 50                   | 55                   |
| Evenings and Weekends d)   | 55                          | 60                   | 65                   |
| Daytime (07:00 – 19:00) and<br>Saturdays (07:00 – 13:00)                           | 65                          | 70                   | 75                   |

- 14.1.7 It is assumed that all of the residential receptors in the study area are noise sensitive and therefore a precautionary approach has been adopted, assigned a noise threshold of 65 dB LAeq.
- 14.1.8 The 5 dB(A) Change method outlined in BS 5228 Annex E.3.3 is considered most appropriate for the assessment of construction noise impacts in public open spaces. If the pre-construction baseline noise level plus construction noise level exceeds the pre-construction baseline noise level by 5 dB(A), a potential significant effect is deemed to have occurred.
- 14.1.9 BS 5228 provides generic source noise data for various items of plant used on open sites along with methods for calculating the effects of these activities and their respective noise levels at nearby noise sensitive properties. The calculation method takes into account distance, ground effects, reflections from surfaces, and screening by obstacles.
- 14.1.10 It is assumed that all of the construction works for this Development will take place during the normal day time working hours (07:00 – 19:00) and Saturdays (07:00 – 13:00).

14.1.11 Generally the construction sequence will be as follows:

- i) Pre-Construction Enabling Works
  - Tree trimming
  - Undergrounding or diversion of lower voltage overhead line crossings
  - Alterations to the existing road network if required
- ii) Site Set Up
  - Establishment of secure storage area, welfare cabins, and temporary offices;
  - Construction of temporary site access points where required
  - Erection of temporary works access signing and access route signing
  - Construction of temporary stone haul roads
  - Scaffolding of road crossings
  - Construction of hard stands for winches
- iii) Delivery of materials to the Proposed Development
- iv) Pole Erection and Conductor Stringing
  - Excavations for foundations
  - Dressing and erection of poles 51
  - Installation of temporary stays
  - Running out of conductor pulling bonds
  - Installation of insulators and conductors
  - Commissioning
- v) Demobilisation
  - Removal of welfare cabins, temporary offices, work compounds and storage areas



- Removal of temporary access tracks, working areas and demarcation zones, and reinstatement of fields
- Removal of temporary access points and signing
- Reinstatement of verges and hedgerows

14.1.12 Typical vehicles will include 4 x 4 pickup, trailer/ wood chipper, HiAb lorry, tipper/ grab lorry and agricultural tractor/ trailer and excavator. Although delivery vehicles generate noise levels in the order of LWA 108 dB when in motion, they usually pass a noise sensitive receptor quite quickly. When stationary, the same vehicles will be operating in 'idle' (or switched off) which significantly lowers the noise output to the environment.

14.1.13 At the present time, an indicative construction programme and duration of works has not been established but it is assumed that each wood pole structure is likely to be constructed in a single operation, i.e. the hole dug and the pole erected within the same day. Upgrading and construction of access tracks to pole locations, if required, will typically be completed at a rate of 50 m per day. These works will generally not involve rock or road surface breaking except in the very unlikely event that ground conditions require such processes.

14.1.14 Table 14.2 details anticipated plant noise levels for constructing overhead lines:

| <b>Table 14.2</b>   |            |                 |
|---|------------|-----------------|
| <b>Typical Plant Noise Levels for Constructing Overhead Lines</b> |            |                 |
| Plant   | BS5228 Ref | LAeq at 10m, dB |
| 360 Excavator   | C2 14-25   | 74              |
| Dumper  | D3 98 73   | 73              |
| Tipper Lorries  | C8 20      | 79              |
| Concrete mixer lorry  | C4 18-23   | 73              |
| Auger piling (if required)  | C3 14-16   | 81              |
| Sheet piling (if required)  | D4 3-14    | 87              |

- 14.1.15 The Category A noise level limit of 65 dB LAeq,T is unlikely to be exceeded given the nature of the works to be undertaken and significant effects are therefore not anticipated. Notwithstanding this there is the potential for further mitigation as outlined below.
- 14.1.16 The potential for mitigation exists via the ongoing design of the Preferred Line Route and through the micro-siting of the pole structures that may have a marginal effect on the potential for noise effects during construction. General principles for the control of noise during the construction works are presented below;
- Appropriate choice of plant and equipment;
  - Regular plant maintenance to keep plant in good working condition and reduce noise from machinery;
  - Careful phasing of the proposed operations; and
  - Provision of temporary barriers as suggested in Section 8 of BS 5228-1:2009.
- 14.1.17 Should any unforeseen ground conditions be encountered then specific mitigation measures will be implemented to reduce noise effects, for example temporary noise barriers, which typically reduce noise levels by 5-10 dB. These will be set out within activity/ location specific method statements following consultation with Shropshire Council.
- 14.1.18 SP Energy Networks understands that good stakeholder relations are often the most effective way to manage potential noise impacts on site. Therefore, they will keep local residents and other receptors informed of the progress of the works, including when and where the noisiest activities will be taking place and how long they are expected to last. Any noise complaints will be effectively recorded, investigated and addressed. In addition, the measures to reduce noise impacts will be included within the Construction Environmental Management Plan (CEMP) which will be submitted as an Appendix to the ES.

## Operational Noise

- 14.1.19 All high voltage overhead lines have the potential to generate noise under certain conditions. Line noise is generated when the conductor surface electric stress exceeds the inception level for corona discharge<sup>111</sup> activity which is released as acoustic energy and radiates into the air as sound. The noise levels generated from corona discharge are related to the design of the conductors, the altitude of the lines above sea level, and the electrical potential within the overhead line. 132kV line conductors are designed to operate below the threshold at which corona discharge may arise. However, surface contamination on a conductor or accidental damage during transport or installation can cause local enhancement of electric stress and initiate discharge activity leading to the generation of noise.
- 14.1.20 The highest noise levels generated by a line typically occur during rain. Water droplets may collect on the surface of the conductor and initiate corona discharges with noise levels being dependent on the level of rainfall. Fog may also give rise to increased noise levels, although these levels are lower than those during rain.
- 14.1.21 After a prolonged spell of dry weather without rain to wash the conductors, contamination may accumulate at sufficient levels to result in increased noise. After heavy rain, these discharge sources are washed away and the line will be quiet again.
- 14.1.22 Audible noise from an overhead line is generally categorised as 'crackle' or 'hum', according to its tonal content.

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<sup>111</sup> Corona discharge is an electrical discharge brought on by the ionization of a fluid surrounding a conductor, which occurs when the strength of the electric field exceeds a certain value, but conditions are insufficient to cause complete electrical breakdown or arcing.

14.1.23 The National Policy Statement for Electricity Networks Infrastructure<sup>112</sup> (EN-5) provides advice on the consideration of noise from operational overhead transmission lines. Guidance and an assessment methodology for assessing noise from operational overhead transmission lines is given in Technical Report TR(T)94 'Method for Assessing the Community Response to Overhead Line Noise'<sup>113</sup>. This guidance does not provide a methodology for quantification of physical noise levels and therefore reference has been made to the EPRI Transmission Line Reference Book<sup>114</sup>, which provides general guidance on noise levels from transmission lines and a methodology for the prediction of noise levels under various weather conditions.

14.1.24 The EPRI Transmission Line Handbook suggests that the noise emissions from overhead lines are primarily driven by the voltage potential of the lines. As the maximum voltage potential of the proposed development will be 132kV, it is expected that the resulting noise emissions will be minimal. It is not anticipated that significant effects from operational noise (i.e. from corona discharge) will arise as a result of the proposed development and therefore it is proposed to scope operational noise from corona discharge out of the EIA process.

### **Construction Vibration**

14.1.25 The main vibration impacts could arise from piling activities or heavy construction vehicle movements near sensitive receivers (typically within 20m).

14.1.26 Traffic vibration can either be ground-borne or airborne. Ground-borne vibration arising from the interaction between vehicles' wheels and the road surface can be

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<sup>112</sup> Department for Energy and Climate Change (2011), National Policy statement for Electricity Networks (EN-5)

<sup>113</sup> National Grid Technology & Science Laboratories (1993), 'Technical Report No. TR(T)94. A Method for Assessing the Community Response to Overhead Line Noise'

<sup>114</sup> Electric Power Research Institute (2013), 'AC Transmission Line Reference Book – 200kV and Above'

perceptible in nearby buildings if heavy vehicles pass over irregularities in the road. Extensive research on a wide range of buildings of various ages and types has found no evidence to indicate that traffic induced vibrations are a source of significant damage to buildings<sup>115</sup>

14.1.27 Airborne vibration can be produced by low frequency sound emitted by vehicle engines and exhausts and can occur along any type of road. Airborne vibration may result in detectable vibrations in building elements (e.g. windows and doors). The disturbance produced by airborne vibration is closely linked to traffic noise levels and can therefore be assessed based on noise predictions.

14.1.28 BS 5228-2:2009 ‘Code of practice for noise and vibration control on construction and open sites – Part 2’, gives guidance on vibration levels that can be used to assess the likely impacts of construction activities, including piling, on the environment and people. Annex B of BS 5228 Part 2 gives guidance on the significance of vibration effects in terms of human response to vibration. This information is set out in Table 14.3.

| <b>Table 14.3</b>  |  |
|--|--|
| <b>BS 5228 Part 2: Guidance on Human Responses to Vibration Levels</b> |  |
| Vibration Level  | Effect   |
| 0.14 mm/s  | Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration |
| 0.3 mm/s   | Vibration might be just perceptible in residential environments  |
| 1.0 mm/s   | It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation is given to residents                        |

<sup>115</sup> Watts (1990), Traffic induced vibration in buildings. TRRL RR246. Transport and Road Research Laboratory

|  |  |
|--|--|
| <b>Table 14.3</b>  |  |
| <b>BS 5228 Part 2: Guidance on Human Responses to Vibration Levels</b> |  |
| 10 mm/s  | Vibration is likely to be intolerable for any more than a brief exposure at this level |

14.1.29 In terms of traffic induced vibration, it is stated in Annex A1.22 of DMRB that calculations or measurements of vibration at the foundations of typical buildings considered to be high risk may be taken if vibration on existing routes is considered to be a potential problem. This includes locations where traffic is expected to pass very close to buildings. At the time of writing, there are no known existing vibration issues on existing routes in the study area, and a traffic induced vibration assessment is therefore not considered necessary.

14.1.30 The only significant vibration during the construction of the proposed development would result from the use of a continuous flight auger. These are unlikely to be required as wood pole structures do not typically require piled foundations. In the unlikely event that a continuous flight auger would be required, a review of the historical data given within British Standard 5228-2:2009<sup>116</sup> for continuous flight augers (of larger size than that which would be utilised in the construction of the proposed development) indicates that levels of ground borne vibration would be imperceptible to humans at distances of 20m and greater. There is the potential for one receptor, near Wem substation, to fall within 20m of a proposed pole location, but this assumes the poles would be located on the very edge of the 100m corridor and this is unlikely to occur. Therefore it is unlikely that there will be any significant effects on people, although wildlife could be disturbed by noise and vibration should use of a continuous flight auger be required.

<sup>116</sup> British Standards Institute (BSI) (2009), 'Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration' (BS 5228-2:2009).

14.1.31 The effects of construction vibration are expected to be negligible and are therefore proposed to be scoped out of the EIA process.

### **Operational Vibration**

14.1.32 The operation of the proposed development will not cause ground or airborne borne vibrations and therefore operational vibration is proposed to be scoped out of the EIA process.

## **14.2 AIR QUALITY**

14.2.1 Potential effects to air quality arising from the proposed development would occur during the construction phase. No effects would be anticipated during the operation of the proposed development as there will be no polluting emission sources or dust generation.

14.2.2 The area in which the proposed development is located is rural in character. Levels of nitrogen oxide (NO<sub>2</sub>) and sulphur dioxide (PM<sub>10</sub>) and other air pollutants associated with industrial and vehicle pollution are relatively low. Away from the roads, the current air environment comprises mainly natural sources.

14.2.3 Baseline conditions have been identified through a desk based review. This review was based on analysis of air quality monitoring data published on the UK Air Information Resource website<sup>117</sup> and the Shropshire Council website.

14.2.4 The DEFRA website provides estimated background air pollution data for NO<sub>2</sub> and PM<sub>10</sub> for each 1km by 1km OS grid square across the UK<sup>118</sup>. This shows that baseline background levels of NO<sub>2</sub> and PM<sub>10</sub> are below the air quality objective level of 40 µg/m<sup>3</sup> set by DEFRA's 2007 Air Quality Strategy for England, Scotland, Wales and Northern Ireland<sup>119</sup>.

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<sup>117</sup> <http://uk-air.defra.gov.uk/>

<sup>118</sup> Baseline data is provided on the website for 2013

<sup>119</sup> DEFRA (2007), The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

14.2.5 Shropshire Council have 5 Air Quality Management Areas (AQMAs);

- Shrewsbury (3);
- Oswestry; and
- Bridgnorth.

14.2.6 In all instances the main source of NO<sub>2</sub> is road traffic.

14.2.7 The area in which the proposed development is located is sparsely populated with most of the population living in scattered farms, hamlets or villages. The main centres of population within approximately 2km of the proposed development are listed below.

- Oswestry, Whittington/ Babbinswood, Cockshutt, Loppington and Wem are the larger areas of settlement within 2km of the proposed development at its closest point: and
- Middleton, Rednal, Haughton, Hordley, Lower Hordley, Bagley, Burlton, English Frankton, Noneley and Commonwood, Ruewood, Tilley, Horton are the smaller areas of settlement within 2km of the proposed development at its closest point.

14.2.8 The receptors closest to the proposed development have been identified as part of the Visual Assessment Chapter 8 'Visual' and are also as noted in the assessment of noise and vibration above.

14.2.9 Sensitive ecological sites are those for which their designated features are sensitive to air pollutants, either directly or indirectly, and which could be adversely affected by the effect of air pollution on vegetation within the nature conservation sites. There is one ecologically designated site that lies just over 50m from the edge of the proposed development at Moorfields Local Wildlife Site (LWS). It is anticipated that poles will be micro-sited to lie as far from the LWS as is technically feasible. In addition the locally designated sites within 50m are not considered to support habitats sensitive to dust.



### Potential for Mitigation for Air Quality

14.2.10 The main air quality impacts that may arise during construction activities are:

- Dust deposition, from pole excavation;
- Elevated PM<sub>10</sub> concentrations, as a result of dust generating activities on site; and
- An increase in concentrations of airborne particles and NO<sub>2</sub> due to exhaust emissions from diesel powered vehicles and equipment<sup>120</sup> used on site and on the road network.

14.2.11 As noted above an indicative construction programme and duration of works has not yet been established but it is assumed that each wood pole structure is likely to be constructed in a single operation within the same day. Site clearance and reinstatement works will be phased throughout the construction programme, thereby minimising the length of exposure of areas of bare ground and potential for dust generation.

14.2.12 SP Energy Network's experience of assessing the exhaust emissions from on-site plant and site traffic suggests that they are unlikely to make a significant impact on local air quality, and do not therefore need to be quantitatively assessed.

14.2.13 Based on the above, there is little potential for air quality effects associated with the construction of the proposed development. Mitigation measures will however be incorporated within the Construction Environmental Management Plan (CEMP) which will be submitted as an Appendix to the ES. These will include measures to control traffic movements and dust emissions.

14.2.14 There will be no air quality effects associated with the operation of the proposed development. No additional mitigation measures are required and it is therefore proposed to scope air quality out of the EIA process.

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<sup>120</sup> In the UK the maximum permitted sulphur content of fuels used in road and off-road applications is 10ppm, and therefore sulphur dioxide is not long a significant pollutant from these sources.

### 14.3 SUMMARY

- 14.3.1 Construction noise from the erection of the proposed development is expected to be extremely transient in nature at any given receptor. The proposed noise level limit of 65 dB LAeq, 12h for weekday operations is unlikely to be exceeded given the nature of the works to be undertaken. It is proposed that subject to approval, construction noise is scoped out of the assessment.
- 14.3.2 The operational noise from the 132kV overhead line is expected to be minimal, owing to the low voltage generated by the conductors. Consequently, no significant effects are anticipated, and subject to approval, it is proposed that an assessment of operational noise is scoped out of the assessment.
- 14.3.3 The potential for construction ground borne vibration impacts is considered to be minimal and significant effects are not anticipated. There is no potential for vibration effects once the proposed development is operational. Subject to approval, it is proposed that vibration is scoped out of the assessment.
- 14.3.4 As there is little potential for air quality effects associated with the construction of the proposed development given standard construction mitigation measures that will be secured through a Requirement to the DCO and there is no potential for operational effects it is proposed that, subject to approval, air quality is scoped out of the assessment.

## CHAPTER 15: TRAFFIC AND TRANSPORT

### 15.1 INTRODUCTION

- 15.1.1 This chapter sets out the proposed scope and approach to assessing the likely traffic and transport effects associated with the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the Project'.
- 15.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 'EIA Approach and Methodology' of this Scoping Report. It has been developed to take account of the range of likely significant environmental effects on receptors arising during the construction and operational phases of the North Shropshire Reinforcement Project.
- 15.1.3 The main areas considered for assessment are the potential effects on traffic flows of construction traffic.
- 15.1.4 This chapter is supported by the following:
- Figure 15.1 Traffic and Transport.

### 15.2 PLANNING POLICY CONSIDERATIONS

- 15.2.1 Planning policy relevant to the North Shropshire Reinforcement, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report. A summary of applicable policy relevant to traffic and transport is provided below.

#### **National Planning Advice and Policies**

- 15.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1)<sup>121</sup> and the National Policy Statement for

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<sup>121</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

Electricity Networks Infrastructure (EN-5)<sup>122</sup>.

### **Local Planning Policy and Guidance**

15.2.3 The key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

15.2.4 Whilst not forming part of the primary policy in relation to NSIPs, reference to this local plan policy will be supported by reference to the National Planning Policy Framework<sup>123</sup> (NPPF) which gives context to these local policies.

### **Further Guidance**

15.2.5 In addition the following guidance has been considered:

- Institute of Environmental Assessment (IEA) (1993), Guidance Notes No. 1: Guidelines for the Environmental Assessment of Road Traffic (hereafter known as the IEMA guidelines).

## **15.3 WORK UNDERTAKEN TO DATE**

15.3.1 Extensive survey and assessment work has already been undertaken as part of the ongoing routeing and design of the North Shropshire Reinforcement Project. This is outlined in Chapter 2 'Alternatives and Design Evolution' of the Scoping Report. Table 1.1, in Chapter 1 'Introduction to the Scoping Report' lists the documents which have been produced to inform the route selection process and which include baseline information on the study area and constraints and opportunities afforded by these.

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<sup>122</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

<sup>123</sup> Department for Communities and Local Government (2016), National Planning Policy Framework (NPPF)

- 15.3.2 Potential transport sensitive receptors have been identified through a review of the site area using Ordnance Survey mapping, aerial imagery and with consideration of consultee comments.
- 15.3.3 Consideration has also been given to the construction access location information referenced in Figure 1.6.

## 15.4 CONSULTATION RESPONSES

- 15.4.1 Reference is made in Chapter 1 'Introduction' to the consultation undertaken to date with statutory stakeholders, local communities and groups, and those with an interest in land. Table 1.1 details the published documents relating to the routing and consultation process. Chapter 4 'Consultation' provides greater detail on the consultation process, which remains ongoing.
- 15.4.2 At present none of the key stakeholders (including Shropshire Council) have identified traffic and transport as a significant issue in respect of the proposals.
- 15.4.3 SP Energy Networks continues to maintain contact with Shropshire Council as the Local Highway Authority (LHA), to ensure all aspects of the scheme are communicated. Pre-application discussions have taken place in 2017 with Highway Officers from Shropshire Council to ensure that any concerns are captured and addressed at an early stage.

## 15.5 BASELINE ENVIRONMENT

- 15.5.1 For the purposes of considering the potential environmental effects arising from construction traffic, the study area considered within this scope covers the Scoping Stage Project Boundary, including all points of access, as well as the local roads utilised in the construction of the proposed development.
- 15.5.2 In addition, the wider classified highway network used to provide strategic access to the area has also been included. The wider highway network will be utilised for the bulk transfer of plant and equipment to a series of temporary storage areas, from which a series of smaller transfers will be made using the local road network.
- 15.5.3 The location of potential temporary construction compounds/ storage areas, have been identified and their locations are shown in Figure 1.6. The temporary storage

areas would primarily be within farmyards and will utilise minor roads and farm tracks where required.

15.5.4 The construction of the proposed development, requires the use of approximately 22 local construction accesses, which would utilise a combination of existing roads and farm access tracks. In places, trackways, comprising metal plates or hardcore of approximately 5m in width may be required. The former would be temporary, deployed from the back of a light goods vehicle and would be removed as soon as practicable. The latter would only be required in exceptional circumstances.

15.5.5 The following classified highways comprise the wider highway network that will be used during construction:

- A5 – situated to the west of the route alignment, providing direct access to the start of Section 1;
- B509 – routes south from Whittington, transecting Section 1;
- A528 – routes south from the A495, transecting Section 3;
- B4397 – routes through the start of Section 4; and
- B5603 – routes east towards Wem and provides direct access to the end of Section 4.

15.5.6 The study area is situated close to a series of high capacity classified highways, namely the A5 situated to the west and the south, the A49 to the east and the A495 to the north. The study area is also bisected by the A528, which connects the A495 with Shrewsbury, as well as a series of B classified highways referenced above (see Figure 15.1 in Appendix A).

15.5.7 Traffic data for the A classified network is available from the Department of Transport's (DfT) permanent traffic count sites and Table 15.1 provides a summary of the Annual Average Daily Traffic (AADT) Flows for 2016:

| <b>Table 15.1<br/>Annual Average Daily Traffic Flows ADT 2016</b> |                       |             |              |
|---|-----------------------|-------------|--------------|
| <b>Road</b>   | <b>Count Point ID</b> | <b>AADT</b> | <b>HGV %</b> |
| A5  | 58043                 | 24,853      | 9.4%         |
| A49   | 6515                  | 6,619       | 10.3%        |
| A495  | 58046                 | 6,306       | 5.6%         |
| A528  | 57304                 | 3,206       | 4.7%         |

15.5.8 Connected to these main highways is a network of smaller rural roads and lanes which would provide access to various points along the route.

15.5.9 Both the main highway network and the rural road network pass through a number of small towns and villages respectively. The towns are predominantly residential but also include schools, community centres, other leisure and sports facilities and commercial operations. The villages are relatively few in number and are not situated within the Scoping Stage Project Boundary. The corridor itself is rural in nature, with the surrounding landscape mainly consisting of agricultural land.

15.5.10 Public transport operates along routes throughout the area, including the B5009, B4397 and the A528. The services operate at a relatively low frequency, with service peaks coinciding with the morning peak period. The Wrexham – Shrewsbury train line also passes through the area corridor, though no stations are present within the vicinity.

15.5.11 Pedestrian facilities throughout the study area tend to be limited to footways through the towns and villages only, although Public Rights of Way are present throughout with twelve crossing the Proposed Line Route.

**15.6 ISSUES IDENTIFIED**

15.6.1 It should be noted that traffic flows associated with the construction and operation of the Proposed North Shropshire Reinforcement Project are generally very low and as such it is not anticipated that development traffic will give rise to any significant

effects on the surrounding highway network. It should also be noted that the construction traffic flows will be evenly distributed, as far as possible, over the Proposed Line Route utilising 22 points of access, ensuring that construction traffic is not focussed within one particular area. Furthermore and with reference to the most recent consultation, traffic has not been referenced by any of the key stakeholders (including Shropshire Council) as being of particular concern.

- 15.6.2 The types of vehicles required for construction of the Proposed Development are of a standard specification and can be used on the public highway with no escort vehicles or the need to deliver outside the working day. There would be no requirement for vehicles that would be described as an 'Abnormal Indivisible Load' (AIL).
- 15.6.3 During construction, the delivery of materials and plant to the temporary storage areas may cause some minor localised traffic delay and during stringing operations, management of Public Rights of Way that intersect the line may be required in order to ensure this construction activity can be undertaken safely, however the impact of these activities on traffic sensitive receptors is not anticipated to be significant.
- 15.6.4 Once constructed, traffic flows associated with the operational phase would be limited to inspection and maintenance. These flows are typically one light vehicle per month and in exceptional circumstances the occasional HGV to deliver material or replacement parts. This level of traffic would result in negligible transport effects during the operation/ maintenance phase of the Proposed Development.
- 15.6.5 During operation, no impacts are therefore expected.
- 15.6.6 Given the above and as noted in Chapter 5, it therefore proposed that traffic and transport is scoped out. This proposal is further supported by the information provided below.

## 15.7 PROPOSED ASSESSMENT METHOD

- 15.7.1 The determination of potential significant effects on a particular route or receptor relies on the methodologies detailed in the IEMA guidelines. The assessment can



relate to several areas of study, but normally the main focus relates to an assessment of the increase in total and HGV traffic levels.

15.7.2 In addition to total and HGV movements, the IEMA guidelines recommend that other environmental effects are potentially important when considering traffic from an individual development. These include the following issues which have been considered in this scope:

- Severance;
- Driver Delay;
- Pedestrian Delay;
- Pedestrian Amenity;
- Fear and Intimidation; and
- Accidents and Safety.

15.7.3 The guidelines identify thresholds of changes to the levels of traffic that would necessitate further assessment of environmental effects. Where there are specifically sensitive areas nearby, such as schools, hospitals, residential areas or areas with high pedestrian activity, then a threshold of 10% is used. In all other instances the threshold is 30%.

15.7.4 Given the rural nature of the Proposed Line Route and the excellent site connectivity via the wider and local highway network, which provides a multitude of routeing options, it is considered highly likely that any sensitive receptors could be avoided and thus the 30% assessment threshold would be applicable.

15.7.5 It should also be noted that the level of traffic generated during construction is expected to be extremely low. Based on past project experience, SP Energy Networks has provided typical construction traffic flows for the construction of a 1.5km section of overhead line. Each 1.5km section is expected to take 10 working days to complete. Table 15.2 sets out the construction activities and traffic movements expected over that period.

| <b>Table 15.2<br/>Typical Traffic Generation during Construction of a 132kV OHL</b> |  |   |
|---|--|---|
| <b>Activity/ Vehicle</b>  | <b>Visits off Highway based on 10 working days (approx.)</b> | <b>Purpose</b>                                    |
| <b>Pre-construction survey and investigation works</b>                              |  |   |
| 4 x 4 Pickup  | 2  | Surveyor vehicles                                 |
| <b>Sub Total</b>  | <b>2</b>   |   |
| <b>Pre-construction enabling works</b>  |  |   |
| 4 x 4 Pickup  | 8  | Supervisor/ Project Manager Vehicles              |
| LWB Van   | 5  | Transport for site operatives                     |
| Trailer/Wood chipper  | 2  | Tree/ hedgerow felling and removal                |
| Agricultural tractor/ trailer   | 2  | Removal of felled timber from site                |
| Excavator   | 2  | Excavations for accesses and highway entry points |
| HiAb Lorry  | 1  | Bringing materials to site                        |
| Tipper/ Grab Lorry  | 4  | Bringing loose materials to site                  |
| Road Sweeper  | 2  | Cleansing road surface after works                |
| <b>Sub Total</b>  | <b>26</b>  |   |
| <b>Pole Erection and Conductor Stringing</b>  |  |   |
| 4 x 4 Pickup  | 10   | Supervisor/ Project Manager Vehicles              |
| LWB Van   | 10   | Transport for site operatives                     |

| <b>Table 15.2</b>  |           |   |
|--|-----------|---|
| <b>Typical Traffic Generation during Construction of a 132kV OHL</b> |           |   |
| Agricultural tractor / trailer                                       | 11        | Bringing materials to pole positions    |
| Excavator  | 2         | Foundation excavation and pole erection |
| HiAb Lorry   | 4         | Bringing materials to site              |
| Tracker Excavator / low loader                                       | 3         | Bringing materials to pole positions    |
| Winch / Tensioner  | 4         | Installation of conductors              |
| <b>Sub Total</b>   | <b>44</b> |   |
| <b>Demobilisation</b>  |           |   |
| 4 x 4 Pickup   | 4         | Supervisor / Project Manager Vehicles   |
| LWB Van  | 2         | Transport for site operatives           |
| Agricultural tractor / trailer                                       | 1         | Bringing materials to pole positions    |
| Excavator  | 2         | Foundation excavation and pole erection |
| HiAb Lorry   | 2         | Bringing materials to site              |
| Tipper / Grab Lorry  | 2         | Bringing materials to/ from site        |
| Road Sweeper   | 2         | Cleansing road surface after works      |
| <b>Sub Total</b>   | <b>15</b> |   |
| <b>Total movements</b>   | <b>87</b> |   |
| <b>Average Movements per day</b>                                     | <b>9</b>  |   |

15.7.6 As can be seen from the above, the expected daily construction traffic flow equates to 9 movements, comprising approximately 5 HGV and 4 LV movements. Based on the typical daily construction flows summarised in Table 15.2 it is unlikely that the 30% threshold would be exceeded and thus an environmental assessment of traffic related effects would not be required. It is therefore proposed that traffic and transport is scoped out of the assessment.

#### **Potential Mitigation Measures**

- 15.7.7 Material delivery routes and access locations have been identified with consideration of the local surroundings to ensure any disruption to local road users and those residing within the vicinity of the works are minimised as far as practically possible.
- 15.7.8 In addition, standard working practices such as traffic management, will ensure the construction is undertaken in a controlled and courteous manner.

#### **Cumulative Effects**

- 15.7.9 Traffic generated by the proposed development will only occur during the construction period, which will be temporary and short term in nature. Given the rural setting it is considered highly unlikely that any other significant development works would occur during the construction period.
- 15.7.10 Notwithstanding the above, Shropshire Council would be consulted once the construction dates are known to identify whether any other significant traffic generating activities are likely to occur during the same time frame, to ensure any relevant mitigation measures are implemented.

### **15.8 SUMMARY**

- 15.8.1 Construction of the proposed development is anticipated to generate relatively low levels of traffic during the construction phase and negligible volumes of traffic during the operational phase. Furthermore, and with reference to the most recent public consultation, traffic was not referenced by any of the stakeholders (including Shropshire Council) as being of particular concern.

- 15.8.2 The types of vehicles required for construction of the proposed development are of a standard specification, which can be used on the public highway with no escort vehicles or the need to deliver outside the working day. Furthermore, there would be no requirement for any deliveries to be made by an AIL vehicle.
- 15.8.3 The Proposed Line Route can be accessed via a number of high capacity, 'A' classified highways, which in turn provide access to a varied and comprehensive local highway network, where a variety of construction route options are available.
- 15.8.4 The predominant land use both within and surrounding the route alignment corridor is rural in nature and as such there are no obvious receptors that would be overly sensitive to temporary increases in traffic.
- 15.8.5 Based on past project experience, overhead line developments typically generate around nine vehicle movements a day, comprising five HGV movements and four LV movements. It is highly unlikely that this level of traffic generation would necessitate an assessment of traffic related environmental affects and as such, subject to approval, it is proposed that traffic and transport is scoped out of the assessment.

## CHAPTER 16: MINERALS

### 16.1 INTRODUCTION

- 16.1.1 This chapter sets out the proposed scope and approach to assessing the likely effects on minerals from the North Shropshire Reinforcement Project, which is described in Chapter 3 'Description of the North Shropshire Reinforcement Project'.
- 16.1.2 The methodology presented in this chapter builds upon the general assessment methodology summarised in Chapter 5 'EIA Approach and Methodology' of this Scoping Report. It has been developed to take account of the any likely significant effects on active mineral sites and mineral protected areas arising during the construction and operation phases of the North Shropshire Reinforcement Project.
- 16.1.3 There are no sites designated for geological protection close to the Proposed Line Route. The closest is a Local Geological Site which lies some 3km distant.

### 16.2 PLANNING POLICY CONSIDERATIONS

- 16.2.1 Planning policy relevant to the North Shropshire Reinforcement Project, including the important role of the National Policy Statements (NPS), is set out in Chapter 6 'Planning Policy Considerations' of this Scoping Report. A summary of applicable policy relevant to this topic is provided below.

#### **National Planning Advice and Policies**

- 16.2.2 The principal policy statements are those provided by the Overarching National Policy Statement for Energy (EN-1)<sup>124</sup> and the National Policy Statement for Electricity Networks Infrastructure (EN-5)<sup>125</sup>.
- 16.2.3 NPS EN-1 sets out in Part 4 the general policies in accordance with which

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<sup>124</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

<sup>125</sup> Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

applications relating to energy infrastructure are to be decided.

- 16.2.4 NPS EN-5 does not identify ‘minerals’ as a specific consideration, identifying that *‘all of the generic impacts covered in EN-1 are likely to be relevant’ (para 2.6.1).*

#### **Local Planning Policy and Guidance**

- 16.2.5 The key documents which make up the Shropshire Local Development Framework (LDF) are:

- The Core Strategy DPD (adopted 24 February 2011); and
- The Site Allocations and Management of Development Adopted Plan (SAMDev) (adopted 17 December 2015).

- 16.2.6 These documents have been reviewed and policies relevant to the minerals assessment identified. Whilst not forming part of the primary policy in relation to NSIPs, the National Planning Policy Framework<sup>126</sup> (NPPF) which gives context to these local policies.

- 16.2.7 As noted in Chapter 6 ‘Planning Policy Considerations’ of this Scoping Report, Core Strategy Policy CS20: ‘Strategic Planning for Minerals’ notes that Shropshire has important and finite mineral resources:

*‘Shropshire’s important and finite mineral resources will be safeguarded to avoid unnecessary sterilisation .....*

- *Protecting Mineral Safeguarding Areas (MSAs)....Non-mineral development in these areas.....will be expected to avoid sterilising or unduly restricting the working of proven mineral resources..... consistent with the requirements of national and regional policy’.*

- 16.2.8 The SAMDev Plan (adopted 17<sup>th</sup> December 2015) supports the Core Strategy and provides the site specific allocations element of the Shropshire LDF.

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<sup>126</sup>National Planning Policy Framework (NPPF), Department for Communities and Local Government, March 2012

16.2.9 Policy MD12: 'The Natural Environment' states that:

*'...the avoidance of harm to Shropshire's natural assets and their conservation, enhancement and restoration will be achieved by:*

*Ensuring that proposals which are likely to have a significant adverse effect, directly, indirectly or cumulatively, on any of the following: .....*

*vii. geological assets;*

*will only be permitted if it can be clearly demonstrated that:*

*a) there is no satisfactory alternative means of avoiding such impacts through re-design or by re-locating on an alternative site and;*

*b) the social or economic benefits of the proposal outweigh the harm to the asset.*

16.2.10 Policy MD16: 'Mineral Safeguarding' states that every effort will be made to ensure that, where practicable, known mineral resources are not sterilised by other forms of development.

*'Applications for non-mineral development which fall within Mineral Safeguarding Areas (MSA) and which could have the effect of sterilising mineral resources will not be granted unless:*

*iii. The applicant can demonstrate that the mineral resource concerned is not of economic value; or*

*iv. The mineral can be extracted to prevent the unnecessary sterilisation of the resource prior to the development taking place without causing unacceptable adverse impacts on the environment and local community; ...'*

16.2.11 It goes on,

*'3. Applications for permission for non-mineral development in a MSA must include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development..... This assessment will provide information to ...demonstrate to the satisfaction of the*



*MPA that mineral interests have been adequately considered and that known mineral resources will be prevented, where possible, from being sterilised or unduly restricted by other forms of development occurring on or close to the resource...'*

16.2.12 An assessment of the likely effects of the proposed development on mineral resources has been undertaken (see below).

### **16.3 WORK UNDERTAKEN TO DATE**

16.3.1 A separate minerals assessment report has been produced and is included as Appendix D of this Scoping Report.

#### **Mineral Exploitation Sites**

16.3.2 There are no active mineral extraction sites close to the Proposed Line Route.

16.3.3 The closest is Wood Lane Quarry which lies is approximately 3.5km from the Proposed Line Route.

#### **Mineral Protected areas for Potential Future Exploitation**

16.3.4 The Proposed Line Route passes traverses a Mineral Safeguarding Area (MSA) for sand and gravel identified by Shropshire Council, which is the local mineral planning authority (see Shropshire Council's SamDev Plan<sup>127</sup>). In response to Shropshire Council's request, for an appraisal of the effects of the proposed development on any in-situ economic mineral resources, a Minerals Resource Assessment has been carried out by Wardell Armstrong on behalf of SP Energy Networks. A copy of this report is included at Appendix D. The following paragraphs (16.3.5 to 16.3.7) are taken from that report.

16.3.5 Published geological assessment reports for the area show that the route of the proposed 132kV overhead line traverses a broad resource area thought to contain deposits of glacial sand and gravel. Based upon known constraints, the Council have agreed to discount the significance of deposits of sand and gravel at the

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<sup>127</sup> Ref Shropshire Council's SAMDev Plan 2006-2026, adopted on 17<sup>th</sup> December 2015

western end of the Proposed Line Route and have instead directed focus upon the deposits observed at the eastern end of the route in proximity of Cockshutt. A detailed review of the published document ‘Sand and Gravel Resources – Mineral Assessment Report 86 – Wem, Shropshire’<sup>128</sup> (Mineral Report 86), with reference to the eastern end of the route, reveals a mineral resource inferred beneath the broader route of the overhead line that is predominantly either encumbered by the presence of overburden or geographically remote from a ready and appropriate means of access.

- 16.3.6 A limited area of mineral bearing land is noted to fall beneath the route of the overhead line, immediately south of Cockshutt and adjacent to the A528 Ellesmere Road. The impacted mineral area is measured to be relatively restricted in footprint and in the context of the extent of the total surrounding resource (stated in Mineral Assessment Report 86) represents a nominal proportion of the overall sand and gravel resource acknowledged to be present within Mineral Report 86.
- 16.3.7 The overall evidence demonstrates that the economic integrity of the inferred sand and gravel deposits along the route of the proposed overhead line would not be unduly compromised by the 132kV overhead line’s presence and that the proposed development of the 132kV overhead line would not cause sterilisation of a realisable, economic mineral resource and it does not conflict with local mineral safeguarding policy. It is therefore proposed that, subject to agreement, effects on mineral resources be scoped out of the assessment.

## 16.4 SUMMARY

- 16.4.1 There are no Local Geological Sites or active mineral extraction sites close to the proposed development. It is therefore proposed to scope out any further assessment in this respect.

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<sup>128</sup> British Geological Society (1981), Sand and Gravel Resources – Mineral Assessment Report 86– Wem, Shropshire

- 16.4.2 A detailed appraisal of the potential effects on mineral resources has been undertaken by specialist consultants Wardell Armstrong (Mineral Resource Assessment – Cockshutt to Wem, February 2017) on behalf of SP Energy Networks. The assessment concludes that the proposed development would not cause sterilisation of a realisable economic mineral resource, and it does not conflict with the local mineral safeguarding policy.
- 16.4.3 Shropshire Council have reviewed the minerals assessment and in a response from them, received in early 2017, they concur with the conclusion of the report stating that,
- 'I have reviewed the report and am satisfied that the overhead line proposals would not in this instance result in any unacceptable sterilisation of minerals within the Council's Minerals Safeguarding Area'.*
- 16.4.4 For these reasons it is therefore proposed, subject to approval, to scope mineral resources out of the assessment.

## CHAPTER 17: ELECTRIC AND MAGNETIC FIELDS

### 17.1 INTRODUCTION

17.1.1 EMFs and the electromagnetic forces they represent are an essential part of the natural world. Their sources are charged fundamental particles of matter (principally electrons and protons). Electromagnetic forces are responsible for the physical properties of materials and they mediate all the processes of chemistry, including those of life itself. Measurable electric and magnetic fields occur naturally within the body in association with nerve and muscle activity. We are also exposed to natural electric fields in the atmosphere as well as the natural magnetic field of the Earth (to which a magnetic compass responds). In daily life, people are exposed to EMFs around electrical appliances and electronic devices mostly in the home and at work.

17.1.2 This chapter deals with EMFs occurring in the electromagnetic frequency range from 1 Hz to 100 kHz. These are known as extremely low (ELF) EMFs but are also referred to as power-frequency EMFs. EMFs at much higher frequencies can be produced by other devices. Power-frequency EMFs, have two components: an electric field due to an electric charge and a related magnetic field.

17.1.3 Overhead lines only generate EMFs when they are energised. It is therefore proposed to scope out any EMF consideration during the construction stage as the overhead line will not be carrying electricity.

17.1.4 The remainder of this chapter therefore focuses on the potential effects of EMFs arising from the operational phase of the North Shropshire Reinforcement Project.

#### **Electric Fields**

17.1.5 Anything which uses or carries electricity is potentially a source of power-frequency electric fields, including overhead lines, underground cables and substations. The strength of the electric field depends on the operating voltage of the equipment producing them. Electricity in homes is at a voltage of 230V but outside homes it is distributed at higher voltages - from 11,000 kilovolts (kV) up to 400kV. Generally,

the higher the voltage, the higher the electric field. In the case of the North Shropshire Reinforcement Project, the voltage is at 132kV.

- 17.1.6 The natural atmospheric electric field at ground level is normally about 100 Volts per metre (V/m) in fine weather but can rise to many thousands of volts per metre during thunderstorms. Electric fields are shielded by most common building materials and by vegetation, and diminish rapidly with distance from the source. Therefore the electric field experienced inside a house from an overhead line is less than that experienced outside.
- 17.1.7 EMFs tend to be highest directly under an overhead line and decrease to the sides and also with increasing distance. Placing cables underground means that any electric fields produced are blocked by the overlying soil.

### **Magnetic Fields**

- 17.1.8 Magnetic fields are found wherever an electric current is flowing and are measured in microtesla ( $\mu\text{T}$ ). The size of the magnetic field depends on the electrical currents flowing. These vary according to the electrical power requirements at any given time. Unlike electric fields, magnetic fields are not significantly shielded by most common building materials or trees.
- 17.1.9 The magnetic field produced by the currents in an electrical circuit falls with distance from the circuit. The magnetic field is highest at the point of closest approach to the conductors and falls quite rapidly with distance. Similarly, there is partial cancellation between the electric fields produced by the voltages on individual conductors. As a result the magnetic field is usually highest at the point of closest approach to the conductors and falls quite rapidly with distance. This produces a bell-shaped curve when shown on a diagram.
- 17.1.10 The earth's magnetic field, which is primarily caused by currents circulating in the outer layer of its core, is approximately  $50\mu\text{T}$  in the UK. This field may be distorted locally by iron rich mineral deposits or by steelwork such as that found in buildings. Houses in the UK typically experience magnetic fields in the range of  $0.01 - 0.2\mu\text{T}$  with an average of approximately  $0.05\mu\text{T}$  and localised higher values close to electrical sources. The highest magnetic fields to which most people are exposed

arise close to domestic appliances that incorporate motors and transformers. For example, fields can be 2000 $\mu$ T for electric razors and hair dryers, 800 $\mu$ T for vacuum cleaners, and 50 $\mu$ T for TVs and washing machines.

## 17.2 LEGISLATION AND POLICY BACKGROUND

- 17.2.1 The UK policy on EMFs, set by Government, is made up of exposure limits plus certain precautionary measures. Several inputs went in to forming the policy, including scientific advice from Public Health England and the stakeholder process SAGE. The policy is set out in the Written Ministerial Statement of 2009 (formally, this was the Government's response to SAGE's First Interim Assessment). The policy for power lines has two key aspects: compliance with the 1998 International Commission on Non-Ionising Radiation Protection (ICNIRP) exposure guidelines in the terms of the 1999 EU Recommendation, and a precautionary policy called 'optimal phasing'. 'Phasing' only applies to double circuit overhead lines and is the name given to the order in which the conductors of the two circuits are connected relative to each other. Certain phasing arrangements produce lower magnetic fields than others. Because the overhead line proposed for the North Shropshire Reinforcement Project is designed to carry a single electrical circuit phasing is not a relevant consideration and will not be referred to further in this chapter.
- 17.2.2 The policy is then formally applied to power lines in England and Wales by the National Policy Statement for Electricity Networks Infrastructure<sup>129</sup> (NPS EN-5). As explained later in this chapter, all the practical details needed to apply the policy of compliance with exposure limits are contained in a Code of Practice<sup>130</sup>. This says

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<sup>129</sup> Department of Energy and Climate Change (July 2011), National Policy Statement for Electricity Networks Infrastructure (EN-5)

<sup>130</sup> Department for Energy and Climate Change (March 2012), Power Lines: Demonstrating Compliance with EMF Public Exposure Guidelines: A Voluntary Code of Practice

what land uses the limits apply to, what conditions compliance is assessed for, how accurate the calculations need to be, and so forth.

### **National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)**

17.2.3 The principal policy statements is that provided by the Overarching National Policy Statement for Energy (EN-1) and the National Policy Statement for Electricity Networks Infrastructure (EN-5). A full assessment of compliance with policy as set out in the NPSs will be provided in the Planning Statement which will be submitted as part of the application for a DCO.

17.2.4 NPS EN-5 gives clear guidance on the EMF requirements of all electricity infrastructure projects, stating:

*‘Before granting consent to an overhead line application, the IPC [PINS] should satisfy itself that the proposal is in accordance with the [ICNIRP] guidelines, considering the evidence provided by the applicant and any other relevant evidence.’ (para 2.10.9)*

*and*

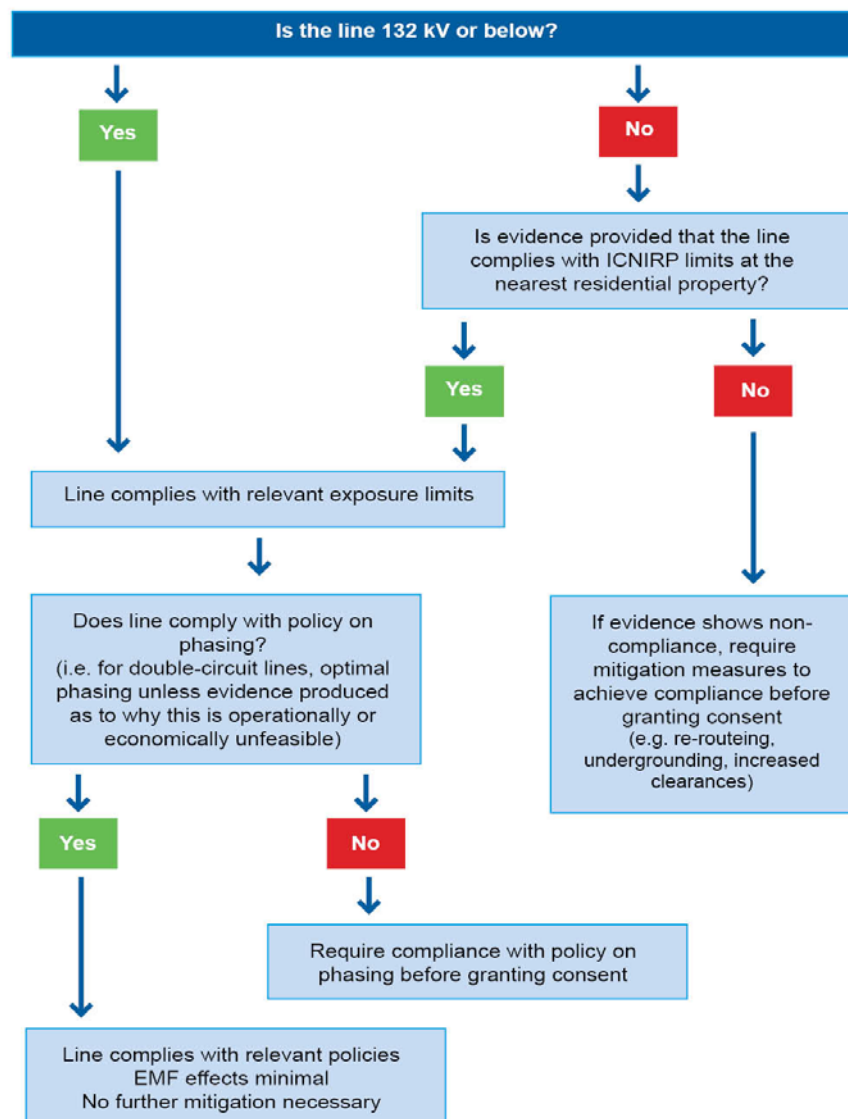
*‘Where the applicant cannot demonstrate that the line will be compliant with the Electricity Safety, Quality and Continuity Regulations 2002, with the exposure guidelines as specified in the Code of Practice on compliance, and with the policy on phasing as specified in the Code of Practice on optimal phasing then the IPC [PINS] should not grant consent.’ (para 2.10.11)*

17.2.5 EN-5 also states:

*‘There is no direct statutory provision in the planning system relating to protection from EMFs and the construction of new overhead power lines near residential or other occupied buildings. However, the Electricity Safety, Quality and Continuity Regulations 2002 set out the minimum height, position, insulation and protection specifications at which conductors can be strung between towers to ensure safe clearance of objects. The effect of these requirements should be that power lines at or below 132kV will comply with the ICNIRP 1998 basic restrictions, although the IPC [PINS] should be satisfied that this is the case on*

*the basis of the evidence produced as specified in the Code of Practice.’ (para 2.10.10)*

17.2.6 NPS EN-5 provides a flow chart for assessing whether a proposal is in accordance with the ICNIRP guidelines and this is reproduced below.



Source: Department of Energy and Climate Change (July 2011), National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)



## ICNRP Guidelines

- 17.2.7 In March 2004 the UK adopted the 1998 guidelines published by the ICNIRP and this policy was reaffirmed by a Written Ministerial Statement in October 2009. These guidelines also form the basis of a 1999 European Union Recommendation on public exposure and a Directive on occupational exposure. In 2010, ICNIRP produced new guidelines. For public exposure these do not, however, automatically take effect in the UK. The UK policy remains based on 1998 ICNIRP until Government decide otherwise. For occupational exposure, the Control of Electromagnetic Fields at Work Regulations 2016 implement the EU Directive 2013 in the UK and are based on the values from ICNIRP 2010.
- 17.2.8 The guidelines are designed to ensure that EMFs do not interfere with the nervous system, and were set after examining all the evidence, including scientific advice from the Health Protection Agency and SAGE<sup>131</sup>. The occupational limits are substantially higher, therefore, where the fields are compliant with the public guidelines, any occupational activities will also be compliant with the relevant guidelines.
- 17.2.9 The Government has made it clear that compliance with exposure limits plus optimum phasing, are the only policies applying to high-voltage infrastructure and has specifically rejected the introduction on EMF 'corridors' around power lines put forward by SAGE.
- 17.2.10 A summary of UK policy is outlined in Table 17.1 below:

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<sup>131</sup> In 2004, a Stakeholder Advisory Group on ELF and EMF, known as SAGE was established by the Department of Health to explore the implications and make practical recommendations for a precautionary approach to power-frequency electric and magnetic fields. SAGE's first interim report was published in 2007, with a second report being published in 2010. The Government responded in October 2011, endorsing the SAGE recommendations, and saying *'The Government will however discuss with the electricity industry through the Energy Networks Association (ENA) the possibility of reinforcing such existing best practice through the development and adoption of one or more Engineering Recommendations across industry.'*

**Table 17.1**

**Summary of UK Policy**

**Exposure Limits**

Exposures to the general public in the UK should comply with the ICNIRP 1998 exposure limits in the terms of the 1999 EU Recommendation. In practical application this means:

An electric field of 9 kV/m;

A magnetic field of 360  $\mu$ T; and

Both of the above apply where the time of exposure is significant, essentially homes, other places where people might stay overnight, and schools.

**Precautionary Measures**

In addition to the recommended exposure limits, additional precautionary measures are also included in the policy, which apply to different types of equipment.

Optimum phasing for high voltage overhead lines;

No additional precautionary measures for high voltage underground cables;

**Application to Electricity Equipment**

Electricity companies should design all their equipment lines such that they comply with the relevant limits to such an extent that the proximity of people to the line is irrelevant. In particular:

Overhead lines should be designed so that they are compliant even directly underneath the line where the fields are highest; and

Underground cables should be designed so that they are compliant even directly on top of them where the fields are highest.

There are no restrictions in the UK on how close a home can be to a power line, underground cable, or substation, or vice versa.

**SP Energy Networks' Commitment**

17.2.11 SP Energy Networks is committed to best practice health and safety in all of its activities. In relation to electric and magnetic fields, this means ensuring that the proposed overhead line for the North Shropshire Reinforcement Project complies with Government policy and with the voluntary Codes of Practice. The 132kV overhead line which is the subject of this Scoping Report is designed to be compliant even directly underneath the line where the fields are highest.

## Demonstrating Compliance

- 17.2.12 The UK electricity industry on its website<sup>132</sup> provides a formal statement of how the equipment used on UK electricity networks complies with the EMF public exposure limits in force in the UK.
- 17.2.13 The website explains that there is a Code of Practice<sup>133</sup> agreed between the Energy Networks Association<sup>134</sup> and the Government, which specifies how compliance will be determined. The electricity industry agrees that whenever evidence is required of compliance with EMF exposure limits, it will provide evidence according to this Code of Practice. Government agrees that such evidence will be regarded as sufficient to demonstrate compliance.
- 17.2.14 A formal statement by the UK electricity industry of compliance of the equipment used on UK electricity networks with the EMF public exposure limits in force in the UK is provided on the EMFs information website<sup>135</sup>. Among many other details, it says that for some equipment, compliance will be demonstrated on a case-by-case basis. For other equipment, including a 132kV overhead line, the industry does not have to demonstrate compliance on a case-by-case basis as the design is such that the electric and magnetic fields produced should always be below the guideline values. It then sets out the following evidence of compliance:

*'The largest fields produced by overhead lines at 132kV and below are those produced by 132kV overhead power lines with the physically largest design of pylon, operating at maximum load and minimum clearance. The largest design for 132kV lines currently used in the UK is the L7 steel tower*

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<sup>132</sup> <http://www.energynetworks.org/>

<sup>133</sup> Department of Energy and Climate Change (March 2012), *Power Lines: Demonstrating Compliance with EMF public exposure guidelines – A voluntary Code of Practice*.

<sup>134</sup> Of which SP Energy Networks is a member.

<sup>135</sup> <http://www.emfs.info/compliance/public/>

*design. Even for this worst case line, the EMF levels are compliant as shown in the text box below.'*

|   | <i>Magnetic Field</i> | <i>Electric Field</i> |
|---|-----------------------|-----------------------|
| <i>L7 design<br/>7m clearance<br/>1.4 ka per circuit<br/>Untransposed<br/>phasing</i> | <i>40µt</i>           | <i>3.6kV/m</i>        |
| <i>Limit values</i>   | <i>360µt</i>          | <i>9kV/m</i>          |
| <i>Conclusion</i>   | <i>Compliant</i>      | <i>Compliant</i>      |

17.2.15 These calculations are for the conditions specified in the Code of Practice, which also explains the limit values.'

17.2.16 The Code of Practice therefore provides evidence of why the 132kV overhead line proposed for the North Shropshire Reinforcement Project is of such a design that it is not capable of exceeding the ICNIRP exposure guidelines, with evidence as to why this is the case. It can therefore be assumed to be compliant with the exposure limits without provision of specific data to demonstrate this.

**Potential Effects of EMFs**

17.2.17 The question of whether electric and magnetic fields are linked in any way to ill-health is a long standing one which still has no conclusive answer.

17.2.18 Public Health England provides advice to the UK Government on standards of protection for exposure to non-ionizing radiation, including EMFs arising from overhead lines. Public Health England keeps under review emerging scientific research and/ or studies that may link EMF exposure with various health problems and provides advice to the Department of Health on the possible need for introducing further precautionary measures.

- 17.2.19 When people are exposed to power-frequency EMFs, electric fields and currents are generated inside the body and they can interfere with the body's own electric fields and current flows related to normal biological functioning. In addition, the low frequency electric field interacts with the surface charge of the body. Below the UK exposure limits, these interactions go mostly unnoticed and do not affect health.
- 17.2.20 There are, however, some suggestions that electric or, particularly, magnetic fields may have health effects at levels below the current UK exposure guidelines. The authoritative classification by the World Health Organisation that power-frequency magnetic fields are 'possibly' a cause of cancer, specifically just of childhood leukaemia, with the evidence relating to any other health effect 'much weaker'. The UK Government has addressed this uncertainty by adopting precautionary measure relating to various sources of EMFs.
- 17.2.21 The Energy Networks Association website notes that there are some effects that EMFs have, usually at relatively high levels, where there is little doubt about the effects - they are regarded as established. These include induced currents, microshocks, effects on equipment, etc. Of more relevance to the proposed development is the possibility of lower level - effects which are not established, but where there is some evidence suggesting the possibility of health effects.
- 17.2.22 The ICNIRP guidelines conclude that the evidence that power-frequency EMF exposure causes cancer in adults is very weak. There is no proven link between such exposure and multiple sclerosis, Parkinson's disease, developmental and reproductive effects or cardiovascular diseases. The evidence for Alzheimer's disease is inconclusive. Studies of the symptoms of sleep quality, and cognitive function have not provided consistent evidence of an effect from this type of exposure either.
- 17.2.23 Overall research has not shown to date that long-term low-level power-frequency exposure has detrimental effects on health.
- 17.2.24 NPS EN-5 states:

*'The balance of scientific evidence over several decades of research has not proven a causal link between EMFs and cancer or any other disease.'* (para 2.10.6)

17.2.25 The Department of Health does not consider that overhead line EMFs constitute a significant hazard to the operation of pacemakers.

17.2.26 A number of studies have looked at the possible effects of EMFs on various farm animals. No detectable effects have been found on, for example, health, milk production, fertility, behaviour, or carcass quality.

17.2.27 Most of the research on EMFs and flora and fauna was conducted in the 1970s and 1980s and tended to be related to farm animals. Since then little research on this subject has been performed, reflecting the general agreement that EMFs have not been shown to have any detectable effects.

17.2.28 NPS EN-5 states:

*'There is little evidence that exposure of crops, farm animals or natural ecosystems to transmission line EMFs has any agriculturally significant consequences.'* (para 2.10.8)

17.2.29 The UK Government have specifically rejected the introduction of 'corridors' around overhead lines on EMF grounds as suggested by SAGE and consider this option to be disproportionate in the light of the evidence base on the potential health risks.

17.2.30 The only specific precautionary measure relating to overhead lines is optimal phasing. As described above, the proposed development is a single-circuit overhead line and as such optimal phasing cannot be applied to this project as it relates to double-circuit overhead lines only.

### **17.3 SUMMARY**

17.3.1 As overhead lines only generate EMFs when they are energised or carrying electricity, this chapter has focussed on the potential EMF effects during operation, as during the construction stage the overhead line will not be energised.

- 17.3.2 As a 132kV single circuit overhead line, the proposed development will comply with the current public exposure guidelines as detailed in NPS EN-5. If these requirements are met NPS (EN-5) states that *'EMF effects are minimal'*.
- 17.3.3 The UK Government, acting on advice of the relevant scientific bodies, has put in place appropriate measures to protect the public from EMFs. These measures comprise compliance with the relevant exposure limits and are incorporated into NPS EN-5.
- 17.3.4 The proposed development would be fully compliant with the UK Government policy, specifically all the fields produced would be below the relevant exposure limits. Therefore there would be no significant EMF effects resulting from this proposed development.
- 17.3.5 Subject to approval it is proposed to scope EMFs during construction and operation out of the assessment.

## CHAPTER 18: CUMULATIVE EFFECTS

### 18.1 CUMULATIVE EFFECTS

18.1.1 The Environmental Impact Assessment (EIA) of the North Shropshire Reinforcement Project will consider the potential for cumulative effects to arise. Cumulative assessment is an assessment of the additional effects, which may occur when the proposed development is considered in conjunction with the potential impacts from other similar development or activities in the area, which are not part of the existing baseline.

18.1.2 The assessment of cumulative impacts is an iterative process, which is essentially similar in approach to that used in the main project assessment process.

### 18.2 SCOPE OF ASSESSMENT

18.2.1 There are two types of cumulative effects, both of which will be assessed as part of the EIA process:

- In-combination cumulative effects; and
- Inter-project cumulative effects.

#### In-combination Cumulative Effects

18.2.2 In-combination effects are the interactions between different types of environmental effects resulting from the North Shropshire Reinforcement Project, acting upon the same environmental receptor, for example the interaction of noise disturbance, dust and visual impacts on a sensitive residential receptor. Sometimes many small effects on one sensitive receptor can add up to a significant effect overall, even if individually they are insignificant.

18.2.3 These will be assessed using professional judgement and based on consideration of the conclusions of the relevant assessments.

#### Inter-Project Cumulative Effects

18.2.4 Inter-Project cumulative effects are the combined effects from other similar proposed developments acting together with the effects of the proposed



development. Individually these might be insignificant, but when considered together could amount to a significant cumulative impact, for example, combined landscape and visual impacts from two or more (proposed) developments.

- 18.2.5 These will be assessed cumulatively alongside other relevant development within the planning system. The other relevant developments considered within the assessment of cumulative effects will be discussed and agreed with the relevant statutory consultees (including Shropshire Council) at the commencement of the assessment and will be periodically reviewed.
- 18.2.6 One such project is National Grid's Mid Wales Connection Project, which proposes a 400kV pylon line between Cefn Coch in Powys and Lower Frankton in Shropshire. The route of this connection crosses the Proposed Line Route east of Babbinswood. This connection is currently on hold, pending the outcome of a judicial review into two proposed wind farms in Mid Wales. Depending on the outcome of this judicial review (which is anticipated in March 2017), this project may or may not form part of the cumulative assessment. At this stage there are no other projects which are likely to give rise to cumulative effects, but SP Energy Networks will continue to monitor Shropshire Council's planning portal and the PINs website to ensure that any relevant projects are identified.
- 18.2.7 Schemes at pre-planning stage will not be included within the cumulative effects assessment unless they are in the public domain as part of a public consultation exercise or identified through discussions with PINS, Shropshire Council and other statutory consultees as potentially significant.
- 18.2.8 It is recognised that there is an inherent uncertainty in the range of potential cumulative impacts that may arise, although this assessment seeks to identify the main impacts in a qualitative manner in order to provide for a robust analysis.

### **18.3 LEGISLATION AND GUIDANCE**

- 18.3.1 A range of public sector and industry-led guidance is available on cumulative effects assessment (CEA) but at present there is no single, agreed industry standard method.

18.3.2 PINS Advice Note Seventeen: Cumulative effects Assessment Relevant to Nationally Significant Infrastructure Projects<sup>136</sup> sets out a staged process for assessing the cumulative effects with ‘other development’. It complements guidance provided in the PINS Advice Note 9: Rochdale Envelope<sup>137</sup>.

18.3.3 The need to consider cumulative effects in planning and decision making is set out in planning policy<sup>138</sup>, in particular the National Policy Statements (NPS)<sup>139</sup>. For example, the Overarching National Policy Statement for Energy (EN-1)<sup>140</sup> paragraph 4.2.5 states that:

*‘When considering cumulative effects, the ES should provide information on how the effects of the applicant’s proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)’.*

## 18.4 APPROACH TO ASSESSMENT

18.4.1 The approach to assessing the cumulative effects with ‘other development’ is set out below:

### Assessment Method

18.4.2 Advice Note sets out a four stage approach to CEA:

- Stage 1 - undertakes desk study to establish Zone of Influence (ZOI) of scheme for environmental topics proposed to be scoped into the EIA;

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<sup>136</sup> The Planning Inspectorate (2015), Advice Note Seventeen: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects

<sup>137</sup> The Planning Inspectorate (2015), Advice Note Nine: Rochdale Envelope

<sup>138</sup> For example: The relevant National Policy Statements and National Planning Policy Framework (NPPF)

<sup>139</sup> <http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/national-policy-statements/>

<sup>140</sup> Department of energy and Climate Change (2015), Overarching National Policy Statement for Energy (NPS EN-1)

- Stage 2 - Develop a shortlist of 'other development' for CEA by applying inclusion/ exclusion criteria to the Stage 1 list of 'other development';
- Stage 3 - Applicant gathers available information regarding the shortlisted 'other development' to inform the CEA; and
- Stage 4 - reviews each of the 'other development' in turn to assess whether cumulative effects may arise.

18.4.3 The environmental effects of the other developments considered within the EIA Cumulative Assessment will be determined through a review of publically available consent application and consultation documents for each development (e.g. Environmental Statements and Scoping Reports).

#### **Mitigation**

18.4.4 Where significant cumulative effects are identified, any mitigation measures to prevent, reduce or where possible offset significant adverse effects will be described in the Cumulative Effects Chapter of the Environmental Statement (ES).

#### **Residual Effects**

18.4.5 The concluding section of the cumulative chapter in the ES will summarise the significant residual cumulative effects of the proposed development. For the purposes of the assessment only moderate and major cumulative effects will be considered significant.

## CHAPTER 19: TOPICS TO BE SCOPED OUT OF THE EIA

### 19.1 INTRODUCTION

19.1.1 A number of topics have been identified in the preceding chapters as potentially being ‘scoped out’ of the ongoing environmental impact assessment (EIA) process. This is because, although they may give rise to negligible or minor (or no) effects, these would not be sufficiently important to be considered significant. Justification for this is provided in the individual chapters.

19.1.2 In addition, it is proposed that assessment of the following environmental themes is not required as part of the EIA for the proposed development and that these themes are ‘scoped out’ of the ES:

- Ground conditions;
- Waste and other emissions; and
- Contribution to climate change.

19.1.3 Justification for scoping out these topic areas is presented below.

#### **GEOLOGY AND GROUND CONDITIONS**

A brief overview of geology has been undertaken by means of desk top study using published sources of information including mapping from the British Geological Survey and data on historic land uses held by the Environment Agency.

19.1.4 No designated sites of geological interest have been identified in the vicinity of the proposed development.

19.1.5 It is unlikely that the proposed development will have significant effects on ground conditions for the following reasons:

- Due to the rural setting of the proposed development, it is unlikely that areas of contaminated land will be encountered;
- The potential for contamination of soils during construction and decommissioning will be controlled by good site management practice as outlined in the Construction and Environmental Management Plan (CEMP) which will be provided with the Environmental Statement (ES). No sources

of potential contamination have been identified to date.

- The proposed development will not require disturbance or removal of large quantities of soil materials; and
- Compaction of soils will be limited to construction areas and will be minimised through design, good site management practices, and traffic management as outlined in the CEMP.

19.1.6 Detailed geotechnical investigations will be carried out pre-construction to deal with engineering risks in terms of ground stability.

19.1.7 These issues are therefore proposed to be scoped out of the EIA.

## **19.2 WASTE AND OTHER EMISSIONS**

19.2.1 The amount of waste that will be processed and removed from the site is anticipated to be minimal and, given SP Energy Networks' commitment to implement good site management practice during the construction phase, the potential environmental effects are not likely to be significant.

19.2.2 A specific ES chapter in consideration of waste is not proposed; however, a section summarising SP Energy Networks' proposed waste management procedures will be provided in the ES. This section will identify and describe the methods, control process and mitigation procedures for storing and transporting waste off site.

19.2.3 Other emissions comprise other potential sources of pollution not already covered elsewhere in the EIA, such as fuel/ oil spillages and leakages, mud and light pollution.

19.2.4 It is considered that such emissions will either not occur or will not be significant, as they will be controlled by good site management practice as outlined in the CEMP, throughout the construction and operational phases of the proposed development.

19.2.5 Subject to confirmation by the SoS, these issues are therefore proposed to be scoped out of the assessment.

### 19.3 CONTRIBUTION TO CLIMATE CHANGE

19.3.1 The Overarching National Policy Statement for Energy<sup>141</sup> (NPS EN-1) states that:

*‘Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is likelihood of increased flooding, drought, heat waves and intense rainfall events, as well as rising sea levels’.*  
(para 4.8.2)

19.3.2 The construction and operation of distribution network infrastructure will lead to a minor increase in emissions through embodied energy in materials and transport; however this contribution to climate change is not considered significant

19.3.3 During operation, the proposed development will not give rise to emissions or direct effects which could influence the climate.

19.3.4 It is therefore proposed that consideration of the proposed development’s contribution to climate change is scoped out of the assessment.

### 19.4 SUMMARY

19.4.1 Table 19.1 summarises the topics that SP Energy Networks propose are scoped out of any future environmental assessment work, as addressed in the preceding chapters.

| <b>Table 19.1<br/>Summary of Topics to be Scoped Out</b>  |  |
|---|--|
| <b>Topic</b>  | <b>Justification for Topic to be Scoped Out of the EIA (and where covered)</b>   |
| Socio-economic (construction and operation) (excluding potential effects on tourism and recreation) | The effects on employment and supply chains would be minimal as would be the effects on any business operations. Effects on agricultural operations are covered in a separate chapter. Therefore it is proposed to scope these aspects out of the EIA. |

<sup>141</sup> Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1)

| <b>Table 19.1<br/>Summary of Topics to be Scoped Out</b> |   |
|--|---|
|  | (Chapter 12 'Socio-economic')   |
| Water resources (construction and operation)             | The occasional maintenance required during the operational lifetime of the proposed development will not result in significant effects on water quality and groundwater. Therefore it is proposed to scope these aspects out of the EIA.<br><br>(Chapter 11 'Flood Risk and Water Resources')   |
| Mineral Resources  | The overall evidence demonstrates that the economic integrity of the inferred sand and gravel deposits along the route of the proposed overhead line would not be unduly compromised by the 132kV overhead line's presence and that the proposed development of the 132kV overhead line would not cause sterilisation of a realisable, economic mineral resource and does not conflict with local mineral safeguarding policy. Therefore it is proposed to scope these aspects out of the EIA.<br><br>(Chapter 13 'Land Use') |
| Traffic and Transport (construction and operation)       | Traffic and transport effects during the operation/ maintenance phase are unlikely to be significant. Therefore it is proposed to scope these aspects out of the EIA.<br><br>(Chapter 15 'Traffic and Transport')   |
| Noise and vibration (construction and operation)         | The potential effects of noise and vibration as a result of the construction and operation of the proposed development are not anticipated to be significant. Therefore it is proposed to scope these aspects out of the EIA.<br><br>(Chapter 14 'Statutory Nuisance')  |
| Air Quality (construction and operation)                 | The potential effects of the generation of construction dusts or vehicle emissions/ particulate matter during the construction,   |

| <b>Table 19.1</b><br><b>Summary of Topics to be Scoped Out</b>   |   |
|--|---|
|  | <p>operation and decommissioning of the proposed development are not anticipated to be significant. Therefore it is proposed to scope these aspects out of the EIA.</p> <p>(Chapter 14 'Statutory Nuisance')</p>  |
| Electric and Magnetic Fields (EMFs) (construction and operation) | <p>There will be no generation of EMFs during the construction phase and effects during operation are not anticipated to be significant. Therefore it is proposed to scope these aspects out of the EIA.</p> <p>(Chapter 17 'Electric and Magnetic Fields')</p>   |
| Geology and Ground Conditions (construction and operation)       | <p>It is unlikely that the proposed development will have significant effects on geology or ground conditions. Therefore it is proposed to scope this aspect out of the EIA.</p> <p>(Chapter 18 'Topics to be Scoped Out')</p>  |
| Other Emissions (construction and operation)                     | <p>The potential effects of other emissions such as fuel/ oil spillages and leakages, mud and light pollution which might arise during the construction, operation and decommissioning of the proposed development are not anticipated to be significant. Therefore it is proposed to scope these aspects out of the EIA.</p> <p>(Chapter 18 'Topics to be Scoped Out')</p> |
| Waste (construction and operation)                               | <p>The amount of waste that will be processed and removed from the site is anticipated to be minimal. Therefore it is proposed to scope this aspect out of the EIA.</p> <p>(Chapter 18 'Topics to be Scoped Out')</p>   |
| Contribution to Climate Change (construction and operation)      | <p>The proposed development will not give rise to emissions or direct effects which could influence the climate. Therefore it is proposed to scope this aspect out of the EIA.</p> <p>(Chapter 18 'Topics to be Scoped Out')</p>  |



## CHAPTER 20: SUMMARY AND CONCLUSIONS

- 20.1.1 This Scoping Report, has been prepared in accordance with legislative procedures under the Environmental Impact Assessment (the EIA) process. It provides the information for the North Shropshire Reinforcement Project required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended). It also provides notice that an Environmental Statement (ES) will accompany the Development Consent Order (DCO) application for the North Shropshire Reinforcement Project and seeks formal written notification from the Secretary of State (SoS) on the information to be included in the ES pursuant to Regulation 8(1) of the EIA Regulations.
- 20.1.2 Having considered the potential key environmental issues associated with the proposed development, it is proposed that the EIA will include assessments of the specialist technical topics listed in Table 20.1. The technical assessments, in combination and inter-project cumulative assessments will be reported within individual chapters of the ES.

| <b>Table 20.1<br/>Summary of EIA Scope - Topics to be Scoped In</b> |   |
|---|---|
| <b>Topic</b>  | <b>Scope of Studies to be Scoped In to the EIA</b>  |
| Planning Policy Considerations                                      | <p>A chapter on planning policy will be included within the ES to provide a general overview of the national and local planning policy framework of direct relevance to North Shropshire Reinforcement Project. The ES will also include topic specific assessments against National Policy Statements and will refer to relevant guidance, local planning policy and legislation in each technical chapter.</p> <p>The more detailed planning policy assessment will however be provided in the Planning Statement which will be a separate document that will form part of the application for a DCO.</p> |

|  |   |
|--|---|
| <p>Landscape and Visual</p>                    | <p>The Landscape and Visual ES chapters will consider the potential effects of the proposed development upon the landscape in its own right and effects on views and visual amenity (including residential visual amenity) within the specified study area during the construction and operation phases.</p> <p>The assessment will be based on a viewpoint survey and will include preparation of verifiable photomontages from selected viewpoints.</p> |
| <p>Ecology</p>                                 | <p>The ecological ES chapter will consider of potential effects of the proposed development upon designated sites and habitats, protected/ notable species within the construction and operation phases. Appropriate surveys will be undertaken, including Phase 1 and Phase 2 surveys, bird surveys and an arboriculture survey. A Habitats Regulations Assessment will be produced if considered necessary.</p>   |
| <p>Historic Environment</p>                    | <p>The Historic Environment ES chapter will consider both the direct and indirect effects (setting) of the proposed development on the historic environment resource. This will include an assessment of any effects upon historic hedgerows.</p>   |
| <p>Flood Risk</p>                              | <p>The Flood Risk ES chapter will consider will focus on those sections of the Proposed Line Route which are within Environment Agency Flood Zone 3 areas. These are confined to agricultural areas. The effect of the 132kV overhead line crossing these areas of flood risk elsewhere will also be considered, as will the effect of potential fluvial flooding in these areas on the proposed development.</p>   |
| <p>Socio-Economic (Tourism and Recreation)</p> | <p>The Socio-Economic ES chapter will consider the potential effects of the proposed development upon tourism and recreation during the construction and operation phases.</p>  |

|                    |  |
|--------------------|--|
| Land Use           | The Land Use ES chapter will assess potential effects of the proposed development in terms of Agricultural Land Classification, land drainage and agri-environment schemes during the construction and operation phases. |
| Cumulative Effects | Intra-project and inter-project cumulative effect will be identified and assessed if other similar developments in the planning system.  |

## GLOSSARY

Not all terms listed below will necessarily be used within this report.

|   |   |
|---|---|
| agri-environment scheme / agreement       | A UK government undertaking in which farmers are paid to farm in an environmentally sensitive way.  |
| AIL                                       | Abnormal indivisible load   |
| ALC                                       | Agricultural Land Classification  |
| alluvium                                  | Material transported by rivers and deposited along its course.  |
| AOD                                       | Above Ordnance Datum  |
| aquifer                                   | A body of permeable rock that is capable of storing significant quantities of water; is undertaken by impermeable material, and through which groundwater moves.  |
| Application Boundary                      | The red line boundary   |
| Area of Outstanding Natural Beauty (AONB) | An area designated by the Countryside Commission under the National Parks and Access to Countryside Act 1949 for its particularly attractive landscape and unspoilt character, which should be protected and enhanced as part of the national heritage. |
| Area of Search                            | The term given to a wide area within which the route corridors are identified.  |
| ASNW                                      | Ancient Semi-Natural Woodland   |
| Associated Development                    | Development which is associated with a Nationally Significant Infrastructure Project.   |

|  |  |
|--|--|
| BAP                                    | Biodiversity Action Plan. A strategy for conserving and enhancing wild species and wildlife habitats in the UK. Now replaced by Country Biodiversity Strategies.   |
| baseline                               | Existing environmental conditions.   |
| biodiversity                           | The variety and abundance of species, their genetic composition, and the natural communities, ecosystems, and landscapes in which they occur.  |
| BMV                                    | Best and Most Versatile (soils)  |
| broad route corridor(s)                | Initial strategic corridors identified for the project.  |
| BTO                                    | British Trust for Ornithology  |
| cable                                  | An insulated conductor designed for laying underground.  |
| Code of Construction Practice (CoCP) / | Outlines the approach to environmental management throughout the construction phase, with the aim of reducing adverse impacts from construction. May also be known as a Construction Environmental Management Plan (CEMP). |
| conductor                              | Overhead wire(s) attached to wood poles which conduct electricity.   |
| Conservation Area                      | Designated by local authorities on account of their special architectural or historic interest, the character and appearance of which it is intended to preserve and enhance   |
| constraint                             | An influence on the design and routeing of an overhead line  |
| construction phase                     | Activity taking place on site up until commissioning   |
| Consultation Zone                      | For the purpose of section 47 consultation - a broad geographic consultation zone was defined. The zone extends for at least two   |

|                       |  |
|-----------------------|--|
|                       | kilometres (approximately 1.24 miles) either side of the Preferred Route Alignment which was identified following feedback from previous consultations and detailed environmental and technical work. The consultation zone extends beyond a reasonable buffer for residences and businesses that could experience potential direct impact from the project. |
| CROW (Act)            | Countryside and Rights of Way Act, 2000  |
| cumulative effects    | The effects of other development schemes (whether underway, consented, or proposed) which, on an individual basis may be insignificant, but cumulatively with the proposed development, may have a significant effect. These effects can be temporal (e.g. construction phases occur at the same time) or spatial (e.g. the same area is affected)           |
| CWS                   | County Wildlife Site   |
| DECC                  | Department of Energy and Climate Change  |
| decibel (dB)          | The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ( $2 \times 10^{-5} \text{Pa}$ )  |
| decommissioning phase | Activity to remove the development from the environment once it is no longer in operational use  |
| DEFRA                 | Department for Environment, Food and Rural Affairs   |
| designated area       | Area designated and protected by national or international law for its landscape, biodiversity, or historic interest   |

|                                       |  |
|---------------------------------------|--|
| Development Consent Order (DCO)       | The Order made under the Planning Act 2008 which authorises an NSIP  |
| Distribution Network Operator (DNO)   | SP Manweb is the DNO for North and Mid Wales, Cheshire and Merseyside  |
| easement                              | Allowing another person to use your land for a specific purpose, such as installing utilities. Also the right over land for the benefit of adjoining land or electricity system    |
| EclA                                  | Ecological Impact Assessment   |
| EMFs                                  | Electromagnetic Fields – fields generated by electricity   |
| EN-1                                  | Overarching National Policy Statement for Energy   |
| EN-5                                  | National Policy Statement for Electricity Networks Infrastructure  |
| Environmental Impact Assessment (EIA) | A statutory process whereby a project is assessed through the collection and consideration of environmental information. The findings are published in an Environmental Statement. |
| Environmental Statement (ES)          | Report documenting the outcome of an Environmental Impact Assessment   |
| ESA                                   | Environmentally Sensitive Area   |
| FCA                                   | Flood Consequence Assessment   |
| Final Route Alignment                 | Confirmed route alignment approximately 100m wide following consultation, technical and environmental appraisal. This forms the basis for the EIA.                                 |
| floodplain                            | The area that would naturally be affected by flooding if a river rises above its banks   |

|                                       |  |
|---------------------------------------|--|
| Flood Zone (FZ)                       | Areas at risk of flooding, divided into subcategories / zones  |
| generator                             | Generator of electricity   |
| groundwater                           | Water flowing through or contained beneath the ground surface  |
| GVLIA                                 | Guidelines for Landscape and Visual Impact Assessment (Third Edition)  |
| Ha                                    | Hectare  |
| Habitats Regulations Assessment (HRA) | Assessment undertaken of the impacts of the Project on Natura 2000 sites in accordance with the requirements of The Conservation of Habitats and Species Regulations 2010. If a likely significant effect of the Project on a Natura 2000 site is identified as a result of the Project alone or in-combination, then an appropriate assessment of the implications for that site must be carried out. The term HRA is used to refer to the assessment of likely significant effects and, if required, any appropriate assessment. |
| HER                                   | Historic Environment Record  |
| HGV                                   | Heavy Goods Vehicle  |
| HLA                                   | Historic Landscape Assessment  |
| HLC                                   | Historic Landscape Characterisation  |
| HLCA                                  | Historic Landscape Character Area  |
| Holford Rules                         | A series of planning guidelines for the routeing of overhead lines first developed in 1959 by Lord Holford, advisor to the then Central Electricity Generating Board (CEGB) on amenity issues. They were reviewed in the 1990s by National Grid.   |



|                              |  |
|------------------------------|--|
| Horlock Rules                | Guidance relevant to the siting of substations which establishes a set of seven key criteria to assist those responsible for the siting and design of new substations during the identification and appraisal of suitable substation sites |
| HSI                          | Habitat Suitability Index  |
| ICNIRP                       | International Commission on Non-Ionizing Radiation Protection  |
| IDB                          | Internal Drainage Board  |
| IEMA                         | Institute of Environmental Assessment and Management   |
| IfA                          | Institute for Archaeologists   |
| IMD                          | Index of Multiple Deprivation  |
| indirect (secondary) effects | Potential indirect effects of the proposed development, such as sediment runoff potentially affecting a down-gradient receptor   |
| insulator                    | Used to safely connect the conductors to wood poles or pylons  |
| kV                           | kilovolt (1000 volts)  |
| LBAP                         | Local Biodiversity Action Plan   |
| LCA                          | Landscape Character Assessment   |
| LDF                          | Local Development Framework  |
| LDP                          | Local Development Plan   |
| Local Planning Authority     | Local decision maker for planning applications, in this case Denbighshire County Council and Conwy County Council  |
| LGV                          | Light Goods Vehicle  |
| LI                           | Landscape Institute  |

|   |  |
|---|--|
| likelihood  | The chance that a potential effect would be realised (in the event that development was undertaken)  |
| Listed Building                                       | A building of special architectural or historic interest which has been included on a list approved by the Secretary of State under the Planning (Listed Buildings and Conservation Areas) Act 1990 (known as the 'Statutory List of Buildings of Special Architectural or Historic Interest'). Buildings are classified in grades (I, II* and II) and to show their relative importance |
| Local Nature Reserve (LNR)                            | A site controlled by local authority, which offer people opportunities to study, learn or enjoy nature   |
| LV  | Low voltage  |
| LVIA  | Landscape and Visual Impact Assessment   |
| magnitude of potential effect                         | The degree of change that a receptor is anticipated to experience as a result of the Project   |
| mitigation  | Measures to avoid, reduce and offset environmental effects.  |
| MCA   | Minerals Consultation Area   |
| MW  | Megawatts – energy generated by the windfarms is described in MW   |
| Nationally Significant Infrastructure Projects (NSIP) | Large projects designated under the Planning Act 2008 that support the economy and vital public services,  |
| Natura 2000 sites                                     | A European-wide network of sites protected under the Habitats and Birds Directives, and made up of Special Areas of Conservation and Special Protection Areas  |

|   |  |
|---|--|
| NGR   | National Grid Reference  |
| NNR   | National Nature Reserve  |
| NPS   | National Policy Statement – sets out Government policy for NSIP projects   |
| NVC   | National Vegetation Classification   |
| NVZ   | Nitrate Vulnerable Zones   |
| OELS  | Organic Entry Level Stewardship  |
| Ofgem   | Office of Gas and Electricity Markets. The regulator for the UK gas and electricity industries whose role is to promote choice and value for customers                                 |
| OFS   | Organic Farming Scheme   |
| OHL   | Overhead Line  |
| Order Limits  | Area for which DCO consent is being sought   |
| Palaeo-channel                                      | Ancient relict watercourse   |
| Permitted Development                               | Statutory Undertakers such as SP Manweb have certain permitted development rights under the Town and Country Planning (General Permitted Development) Order 1995                       |
| Preliminary Environmental Information Report (PEIR) | The report of the initial environmental impact assessment findings for a project   |
| photomontage  | A collection of images used to create an overall image. The objective of a photomontage is to simulate the likely visual changes that would result from a proposed development, and to |

|                              |   |
|------------------------------|---|
|                              | produce printed images of a size and resolution sufficient to match the perspective in the same view as would occur in reality  |
| PILS                         | Persons with an interest in the Land – people who own, occupy or have an interest in the land potentially affected by a development, or who could be affected by the Project in such a way that they may be able to make a claim for compensation.                            |
| pinch point                  | A location where physical constraints impose a restriction on the routeing of infrastructure  |
| Planning Act 2008            | The legislation which sets out the process for a Development Consent Order and defines Nationally Significant Infrastructure Projects.  |
| Planning Inspectorate (PINS) | The body responsible for operating the planning process for NSIP projects. PINS examines the application and will make a recommendation to the Secretary of State for Energy and Climate Change who will make the decision on whether to grant or refuse development consent. |
| Preferred Route Corridor     | The Blue / Green Link – the wider route corridor selected after the appraisal of the Red, Blue and Green corridor options. The process for identifying the preferred route corridor is set out in the Route Corridor Study.   |
| Prescribed Consultees        | Organisations designated under the Planning Act 2008 who are consulted by PINS on an application  |
| The Project                  | The 132kV Overhead Line together with required accesses, construction laydown areas.  |
| Proposed Line Route          | 100m wide corridor(s) within which the overhead line will be constructed and which was the subject of statutory consultation (occasionally referred to as the proposed development)   |

|                                  |  |
|----------------------------------|--|
| PROW                             | Public Right of Way  |
| Ramsar sites                     | Wetlands of international importance designated under the Ramsar Convention (Convention on Wetlands of International Importance, especially as Waterfowl Habitats) (1971) and ratified in the UK in 1976). The convention was held in the town of Ramsar, Iran                                 |
| Red Data book                    | The IUCN (International Union for Conservation of Nature) Red List of threatened bird species categorised as Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened or Least Concern   |
| Registered Park and Garden (RPG) | Parks and gardens which have been classified by grade to show their relative importance: <ul style="list-style-type: none"> <li>• Grade I – international historic interest,</li> <li>• Grade II* - exceptional historic interest,</li> <li>• Grade II – national historic interest</li> </ul> |
| reinstatement                    | The actions undertaken to return a temporary working area to its previous condition, as far as reasonably practicable  |
| requirement                      | A requirement attached to a Development Consent Order, (similar to a planning condition).  |
| residual effects                 | Effects remaining after mitigation measures have been taken into account.  |
| RIGS                             | Regionally Important Geological Site   |
| route corridor                   | Search area used to provide a degree of flexibility in which to develop a route alignment, usually approximately 1km wide  |
| Route Corridor Study (RCS)       | An appraisal to identify potential route corridors within a defined study area   |

|  |   |
|--|---|
| RSPB                                       | Royal Society for the Protection of Birds   |
| Scheduled Ancient Monument                 | An archaeological site of national importance, which is included on a schedule compiled by the Secretary of State for National Heritage under the terms of the Ancient Monuments and Archaeological Areas act 1979 (as amended by the National Heritage Act 1983)   |
| scoping                                    | An early stage within the Environmental Impact Assessment (EIA) process where the significance of environmental issues and scope of the environmental studies are determined  |
| Scoping Stage Project Boundary             | This incorporates the Proposed Line Route (also referred to within this Scoping Report as the proposed development), which is a draft alignment of an overhead line within an approximate 100m wide corridor. It also incorporates temporary construction access and search areas for construction compounds. |
| SP Manweb                                  | The DNO for North and Mid Wales, Cheshire, Merseyside and North Shropshire. The promoter of the Project   |
| screening                                  | Initial process by which project proposals are assessed to decide whether they require a formal Environmental Impact Assessment   |
| significance                               | The significance of effects considers the value (or sensitivity) of the receptor and the magnitude and likelihood of potential effects  |
| SINC                                       | Site of Importance for Nature Conservation  |
| Site of Special Scientific Interest (SSSI) | An area of land of special interest by reason of its flora, fauna, geology or physiographical features notified under Section 28 of the Wildlife and Countryside Act 1981   |
| SMR  | Sites and Monuments Record  |

|  |   |
|--|---|
| Special Area of Conservation (SAC)         | Sites chosen to conserve the natural habitat types and species of wild flora and fauna listed in Annex I and II of the Habitats Directive. They are the best areas to represent the range and variety of habitats and species within the European Union. .  |
| Statement of Community Consultation (SOCC) | As required by Section 47(2) of the Planning Act 2008. Provides a description of how SP Manweb intended to consult the community on the project   |
| Strategic Options Report (SOR)             | Sets out the technical options for the project, an appraisal of each option, and identifies the preferred technical option for the project.   |
| SOS  | Secretary of State  |
| SOR  | Strategic Options Report – set out the initial technical options for the project, an appraisal of each option identifying the preferred technical option for the project  |
| Source Protection Zone (SPZ)               | A zone surrounding an aquifer where the contamination of the groundwater flow due to surface spills could pollute the aquifer   |
| Special Area for Conservation (SAC)        | Classified under the European Habitats Directive. A designated nature conservation site (protected under the UK Conservation of Habitats and Species Regulations 2010) to and provide rare and vulnerable animals, plants and habitats with increased protection and management                             |
| Special Landscape Area (SLA)               | Non statutory designation used by some local authorities to categorise sensitive landscapes which are, either legally or as a matter of policy, protected from development or other man-made influences. An area recognised as being of County-level landscape importance. SLAs border Areas of Outstanding |

|                               |  |
|-------------------------------|--|
|                               | Natural Beauty (AONBs), protecting the landscape settings of these statutorily designated sites  |
| Special Protection Area (SPA) | Classified under the Birds Directive. Areas designated for the protection of particularly sensitive bird species, or for regularly migrating birds: to help protect and manage areas which are important for rare and vulnerable birds because they use them for breeding, feeding, wintering or migration |
| SSA                           | Strategic Search Area - associated with Welsh Government Technical Advice Note 8   |
| statutory consultees          | Organisations that SP Energy Networks is required to consult by virtue of the Planning Act 2008  |
| statutory undertakers         | Companies with regulatory powers and duties, such as gas, electricity, water and transport providers / transmitters  |
| substation                    | Generated electricity is fed into the electrify distribution network through substations. Substations control the flow of power through the network by means of transformers and switchgear, with facilities for control, fault protection and communications  |
| technical scope               | The range of environmental topics that will be addressed as part the EIA   |
| temporary site compound       | Temporary base of the construction phase of a development, used by site workers (offices, welfare facilities, etc.) and for storage of materials. Removed once the construction is complete  |
| Terminal Point                | Location at which the overhead line stops and transfers to an underground cable. The cable will run down the terminal pole underground. No sealing end compound is required.   |
| TMP                           | Traffic Management Plan  |







|  |  |
|--|--|
| TPO  | Tree Preservation Order  |
| Transport Assessment / Traffic Impact Assessment | Examines the potential impact of a development on the surrounding transport network.   |
| undergrounding                                   | Electricity cables laid underground  |
| UDP  | Unitary Development Plan   |
| UKBAP  | United Kingdom Biodiversity Action Plan  |
| UKHAP  | United Kingdom Habitat Action Plan   |
| VPS  | Vantage Point Survey   |
| WHO  | World Health Organisation  |
| Wireframe  | Computer generated line drawing based on a digital terrain model, that illustrates the three dimensional shape of the landscape and any features within it |
| Working Corridor / Area                          | The area within which the construction or associated activity takes place.   |
| wood poles                                       | Wooden poles used to support and overhead electricity line (either single or double)   |
| ZTV  | Zone of Theoretical Visibility   |

## APPENDIX A – FIGURES



Powys

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- KEY**
-  Proposed Line Route
  -  100m Corridor
  -  Underground Route
  -  Section Separators



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
SCOPING REPORT  
FIGURE 1.1  
PROPOSED LINE ROUTE WITH  
100M CORRIDOR







\*Final route to be selected based on assessment of alternative routes shown in the plan near settlements at Lower Hordley and Noneley.

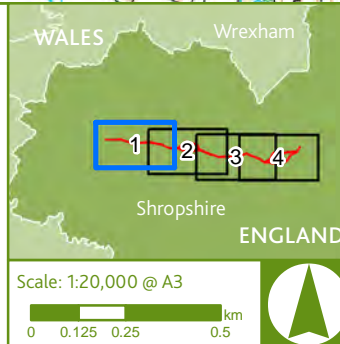


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**KEY**

-  Proposed Line Route
-  100m Corridor (excluding any woodland, ponds and commercial premises)
-  Underground Route
-  Section Separators

\*Final route to be selected based on assessment of alternative routes shown in the plan near settlements at Lower Hordley and Noneley.



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT  
SCOPING REPORT  
FIGURE 1.2**





**PROPOSED LINE ROUTE WITH  
100M CORRIDOR  
SECTION 1**



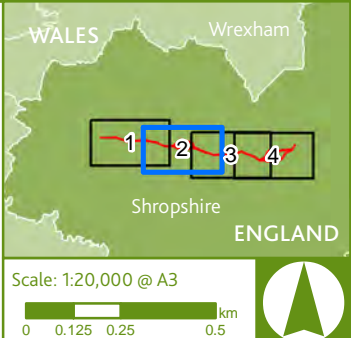


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**KEY**

-  Proposed Line Route
-  100m Corridor (excluding any woodland, ponds and commercial premises)
-  Underground Route
-  Section Separators

\*Final route to be selected based on assessment of alternative routes shown in the plan near settlements at Lower Hordley and Noneley.







**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 1.3**  
**PROPOSED LINE ROUTE WITH  
100M CORRIDOR**  
**SECTION 2**



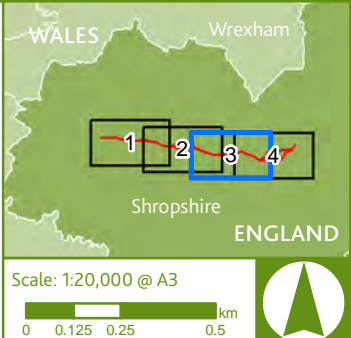


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**KEY**

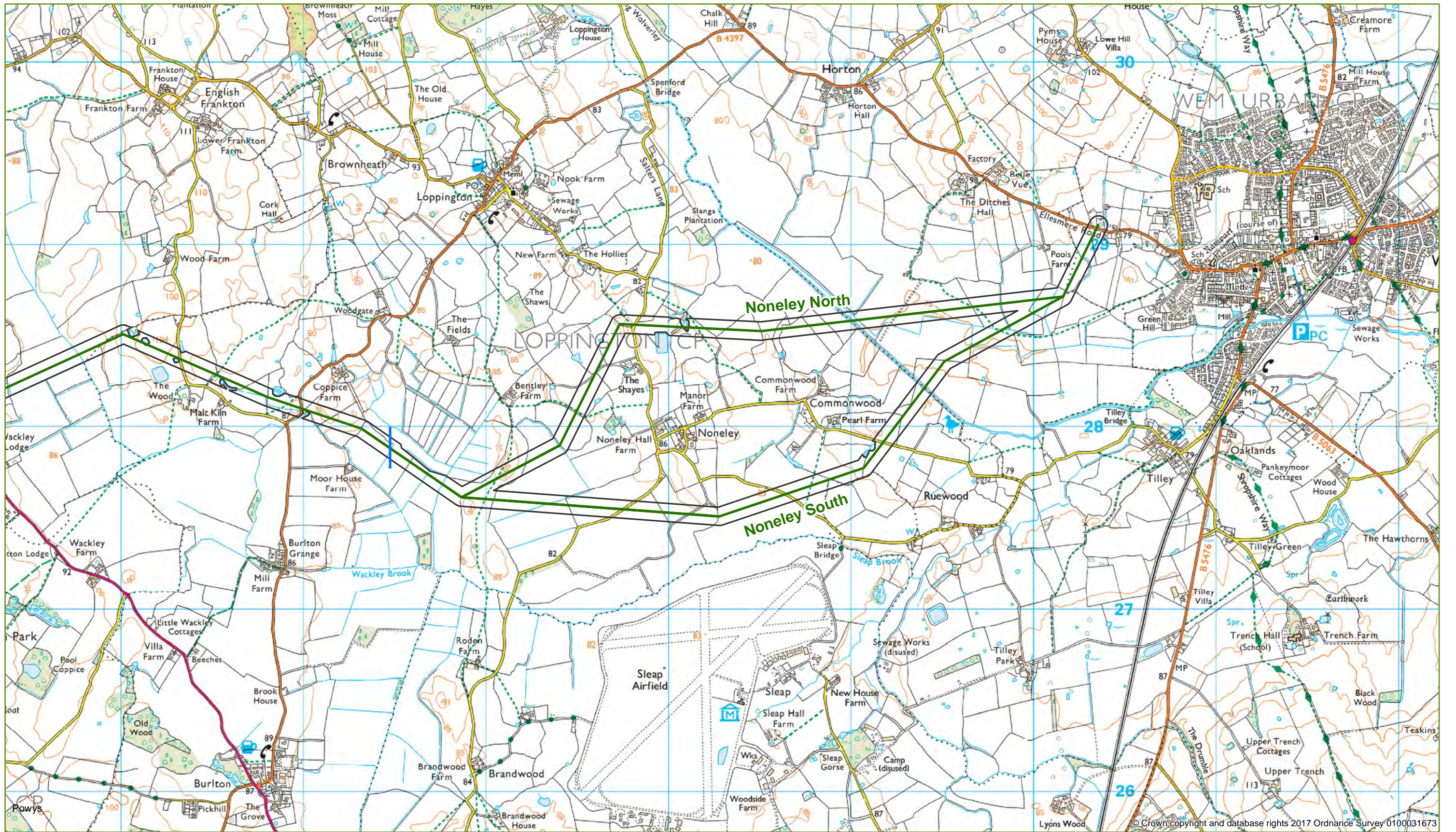
-  Proposed Line Route
-  100m Corridor (excluding any woodland, ponds and commercial premises)
-  Underground Route
-  Section Separators

\*Final route to be selected based on assessment of alternative routes shown in the plan near settlements at Lower Hordley and Noneley.



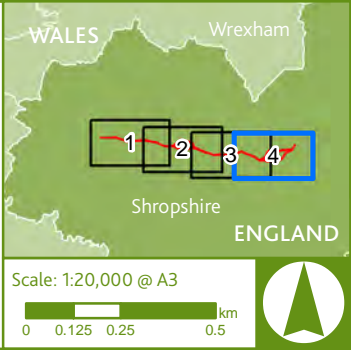
**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 1.4**  
**PROPOSED LINE ROUTE WITH  
100M CORRIDOR**  
**SECTION 3**





- KEY**
- Proposed Line Route
  - 100m Corridor (excluding any woodland, ponds and commercial premises)
  - Underground Route
  - Section Separators

\*Final route to be selected based on assessment of alternative routes shown in the plan near settlements at Lower Hordley and Noneley.



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 1.5**  
**PROPOSED LINE ROUTE WITH 100M CORRIDOR SECTION 4**





Powys

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**KEY**

- Proposed Line Route
- 100m Corridor (excluding any woodland, ponds and commercial premises)
- Underground Route
- Section Separators
- Scoping Stage Project Boundary (Incorporating 100m wide corridor with indicative access tracks and five search areas for construction compounds. Two compound locations to be chosen from these five.)



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 1.6**  
**PROPOSED DEVELOPMENT  
BOUNDARY WITH TEMPORARY  
CONSTRUCTION COMPOUNDS**





# NORTH SHROPSHIRE REINFORCEMENT PROJECT

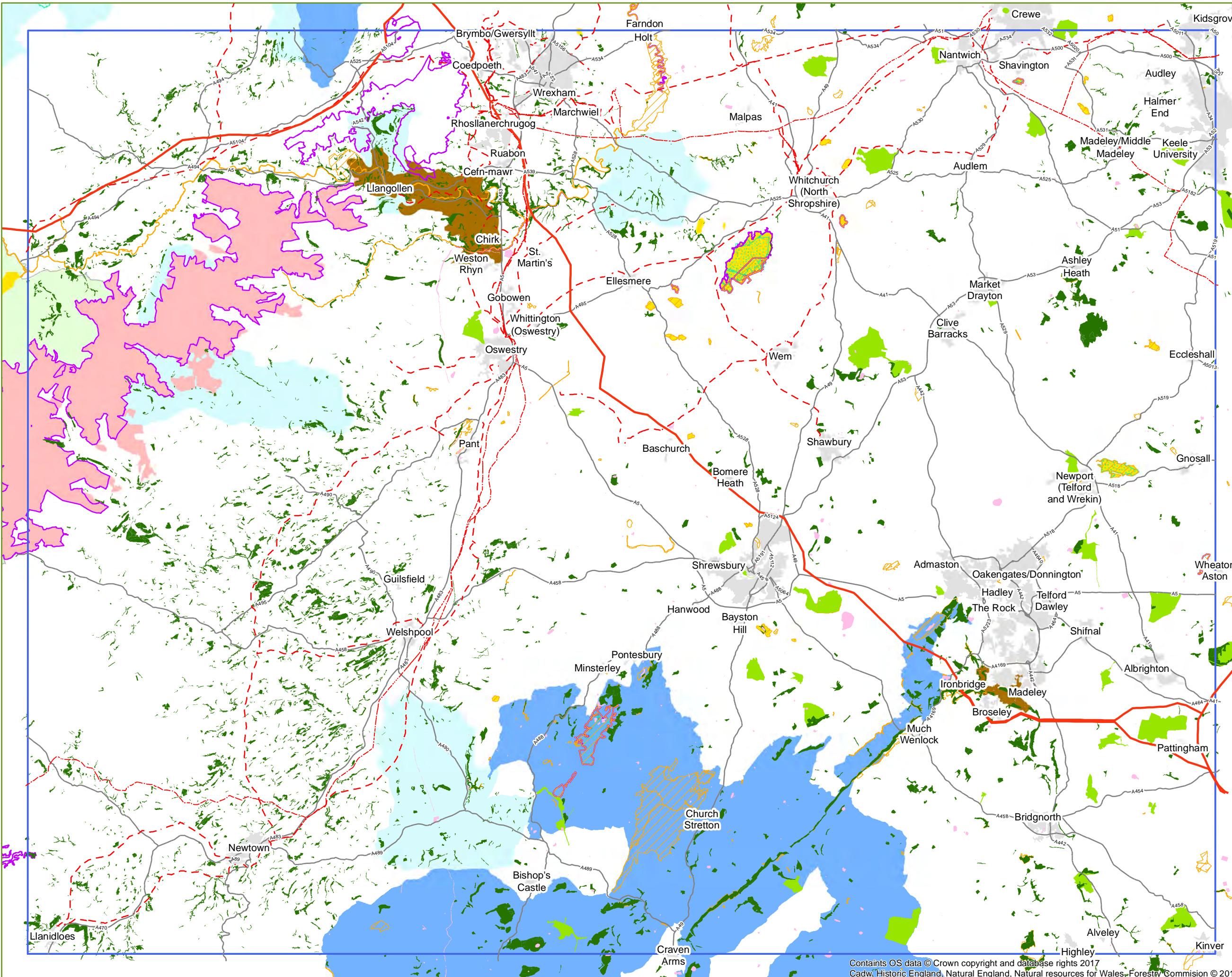
## SCOPING REPORT

**FIGURE 2.1**  
**APPENDIX 1 FROM STRATEGIC OPTIONS REPORT, MAY 2016**  
 North Shropshire Environmental Constraints

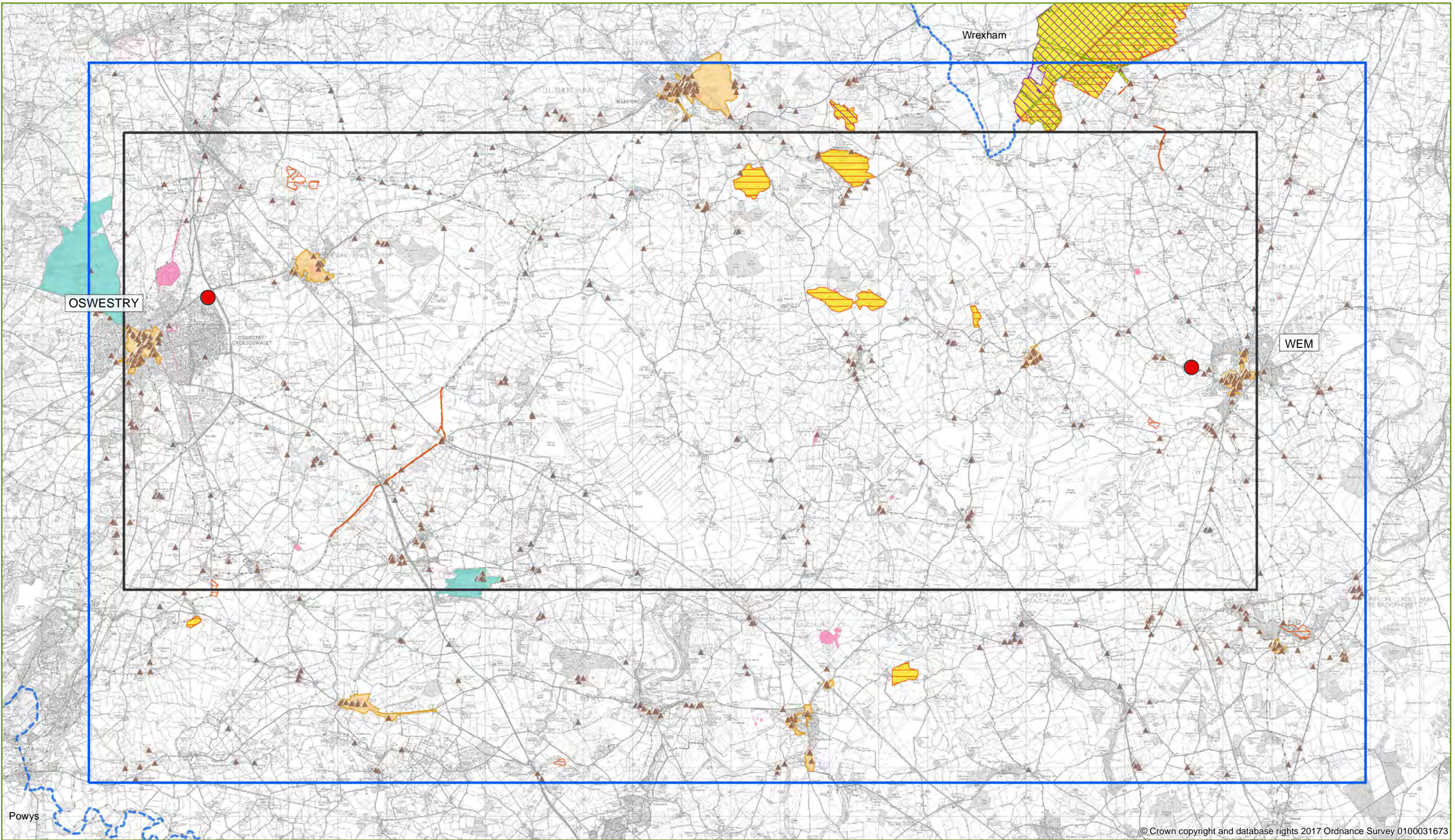


- KEY**
- SPEN Strategic Optioneering Report Study Area
  - Existing Electricity Network**
    - National Grid OHL 400 kV
    - SPEN OHL 33 kV
    - SPEN OHL 132 kV
  - Environmental Constraints**
    - Scheduled Ancient Monument
    - Ancient & Semi-Natural Woodland
    - Registered Parks and Gardens
    - Sites of Special Scientific Interest (SSSI)
    - Special Areas of
      - National Nature Reserves
      - Ramsar
      - Special Protection
      - National Park
      - World Heritage Site
      - AONB
      - Welsh Historic Landscape
      - 2001 Settlement

Scale: 1:750,000 @ A3

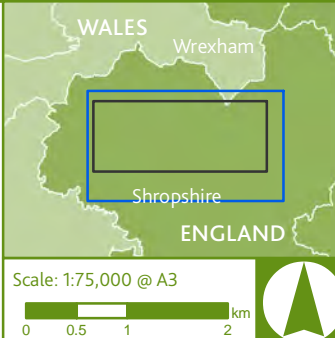


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 Cadw, Historic England, Natural England, Natural resources for Wales, Forestry Commission © 2017



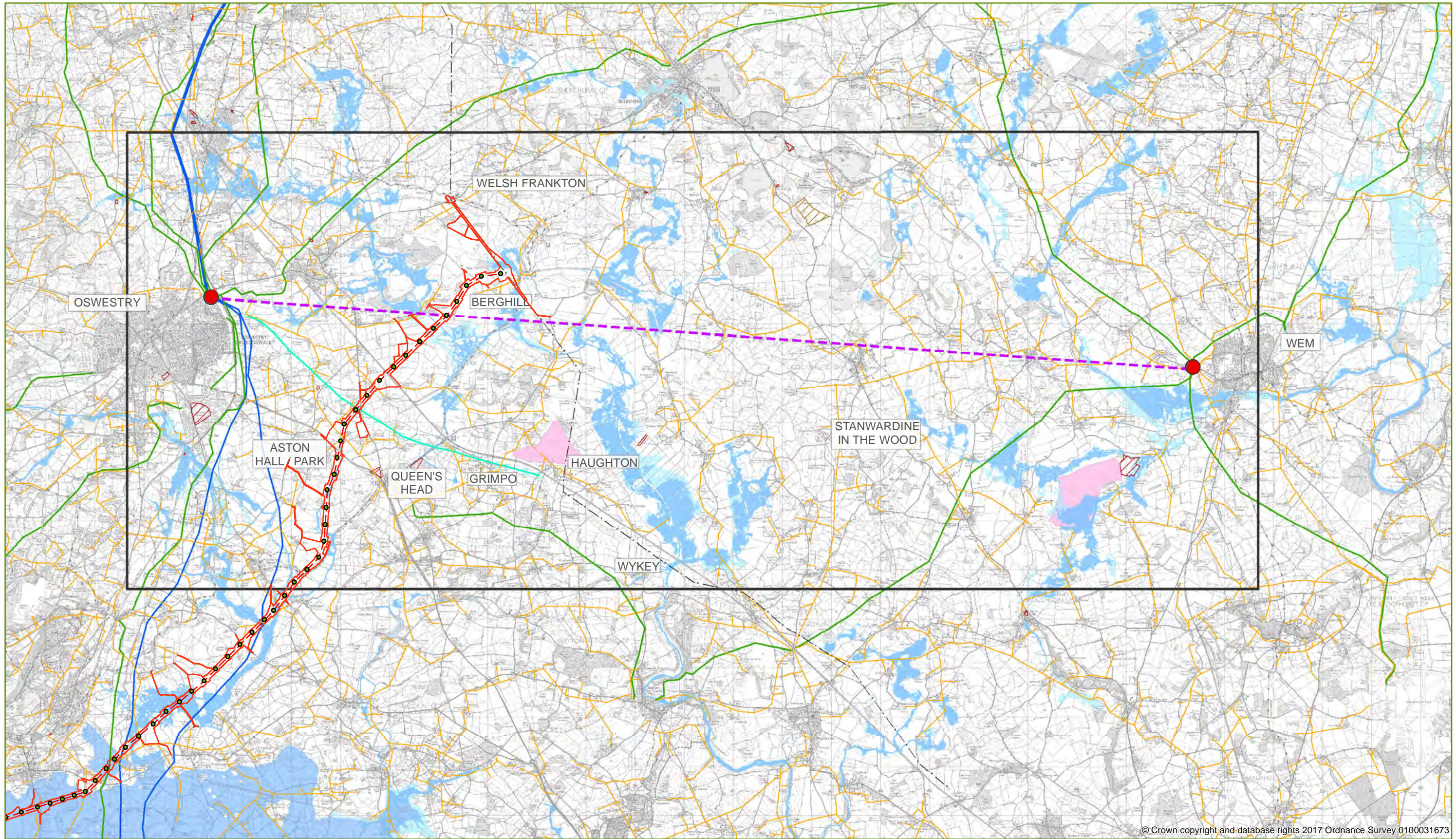
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| KEY |   |  |  |
|-----|---|--|--|
|     | Initial Study Area                          |  | Listed Building (Grades I, II and II*) |
|     | Reduced Study Area                          |  | Scheduled Monuments                    |
|     | SPEN Substation Compound                    |  | Shropshire North Conservation Areas    |
|     | Ramsar                                      |  | UK Unitary Authority Boundary          |
|     | Special Area of Conservation (SAC)          |  | National Nature Reserves (NNR)         |
|     | Site of Specific Scientific Interest (SSSI) |  | Registered Parks and Gardens           |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.2**  
**FIGURE 4.2 FROM ROUTE CORRIDOR OPTIONS REPORT, JUNE 2016**  
 Reduced Study Area and Areas of Higher Environmental Value

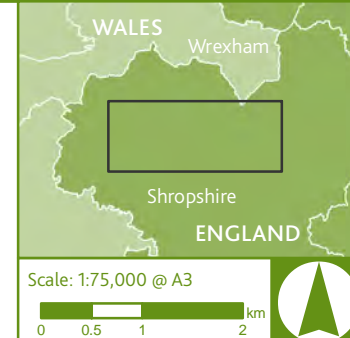




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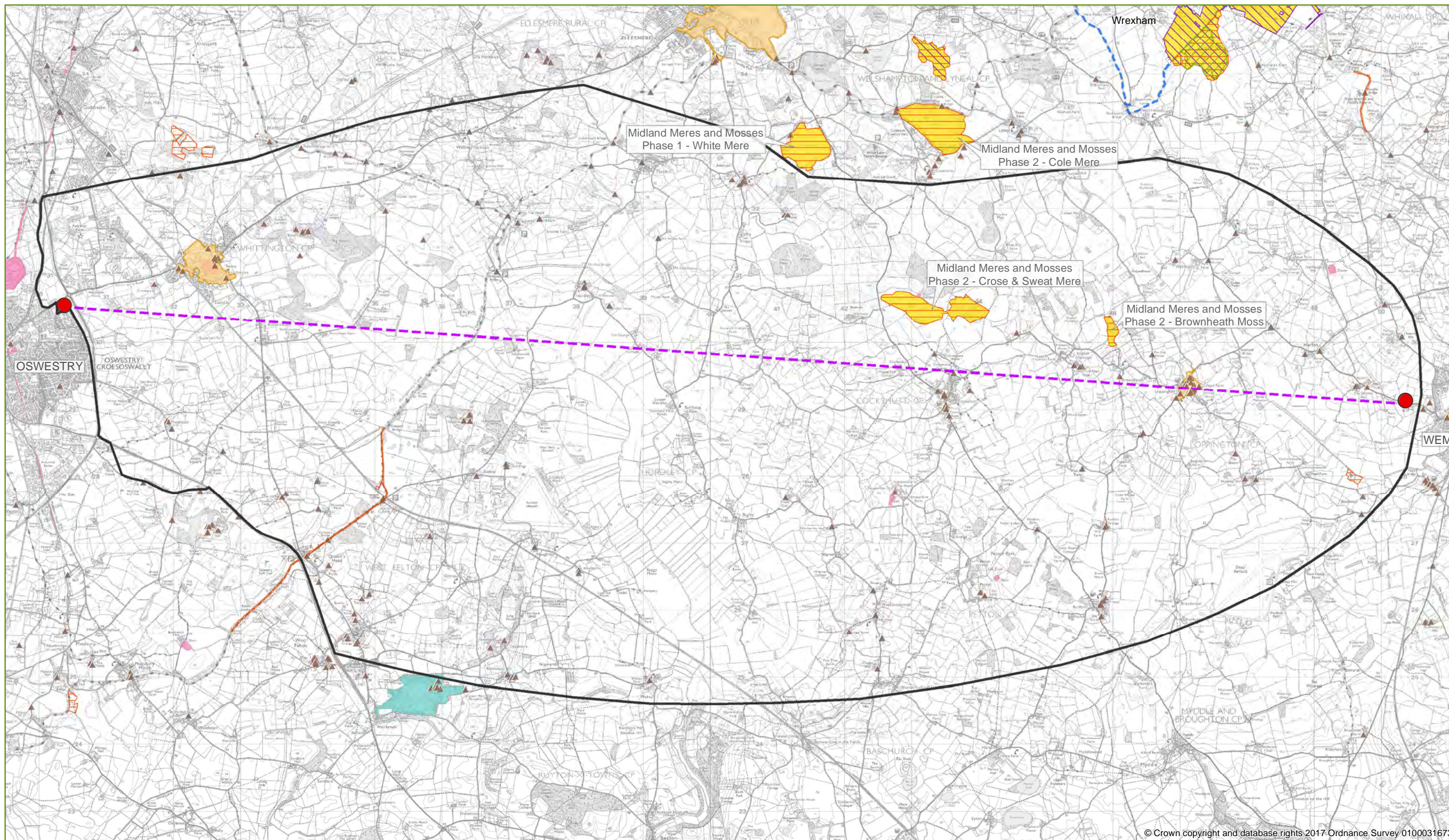
**KEY**

- |                      |                                |   |  |
|----------------------|--------------------------------|---|--|
| Reduced Study Area   | <b>Existing Infrastructure</b> | <b>National Grid Proposed Mid-Wales 400 kV Connection (Currently on hold)</b> | Authorised Landfill Site               |
| Oswestry_to_Wem_Line | National Grid 400 kV OHL       | Proposed Pylon Location   | Historic Landfill Site                 |
| SPEN Former Towers   | SPEN Substation Compound       | Proposed Overhead Line  | Flood Risk Zone 3 - High Probability   |
| SPEN Former OHL      | SPEN 11 kV OHL                 | Proposed Project Boundary   | Flood Risk Zone 2 - Medium Probability |
|                      | SPEN 33 kV OHL                 |   | Airfield                               |
|                      | SPEN 132 kV OHL                |   |  |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.3**  
**FIGURE 4.3 FROM ROUTE CORRIDOR OPTIONS REPORT, JUNE 2016**  
 Technical Considerations

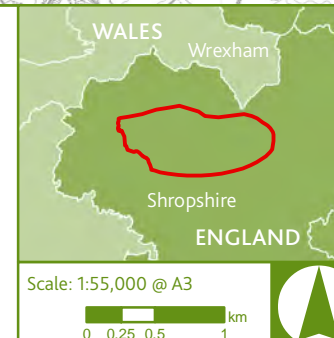




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**KEY**

- |                                   |   |  |
|-----------------------------------|---|--|
| Refined Study                     | Ramsar                                      | Listed Building (Grades I, II and II*) |
| SPEN Substation Compound          | Special Area of Conservation                | Scheduled Monuments                    |
| Direct Route from Oswestry to Wem | Site of Specific Scientific Interest (SSSI) | Shropshire North Conservation          |
|                                   | National Nature Reserves (NNR)              | UK Unitary Authority                   |
|                                   | Registered Parks and Gardens                |  |

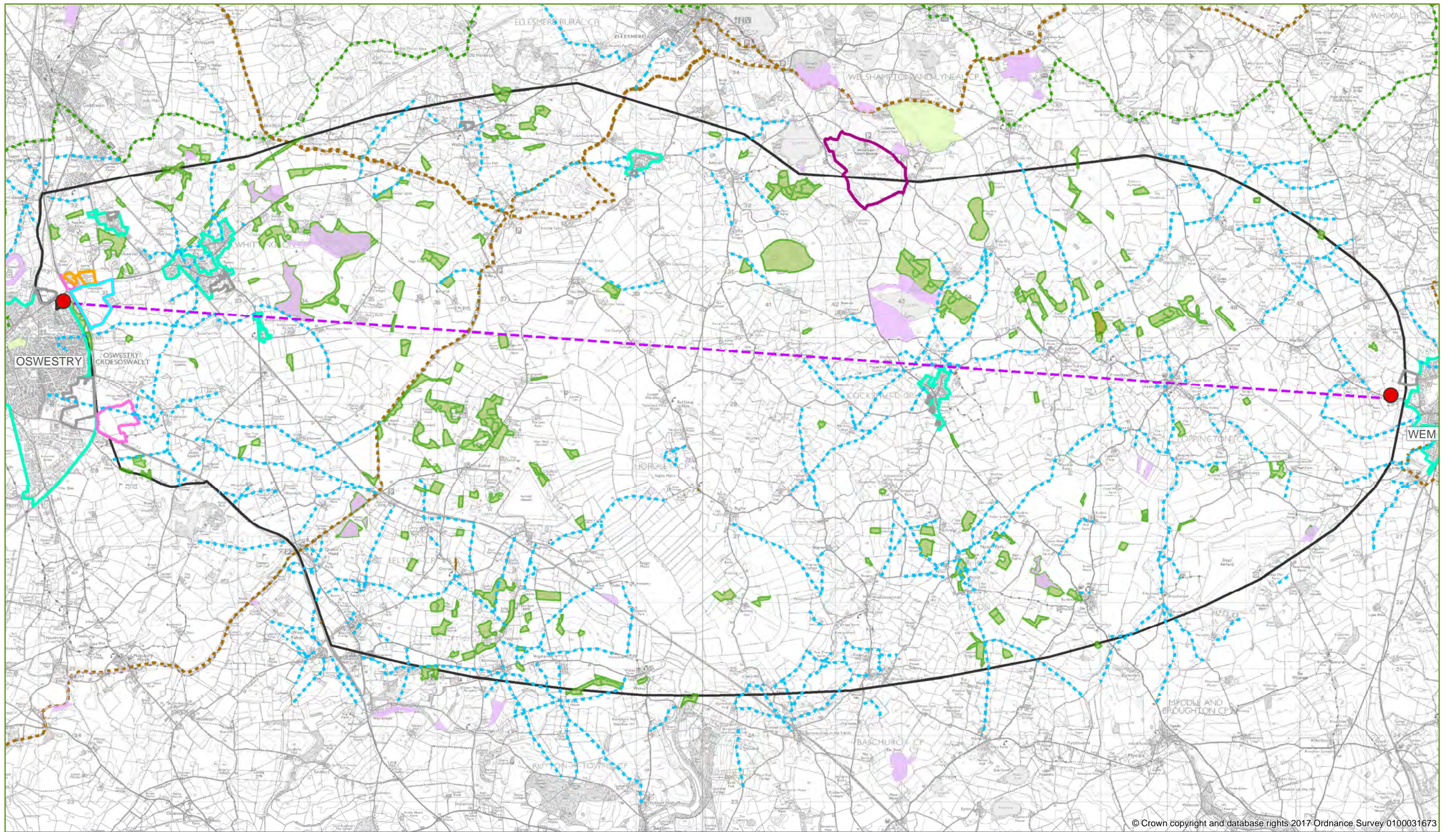


**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT  
SCOPING REPORT**

**FIGURE 2.4  
FIGURE 4.5 FROM ROUTE CORRIDOR  
OPTIONS REPORT, JUNE 2016**

Refined Study Area and Areas of Higher Environmental Value

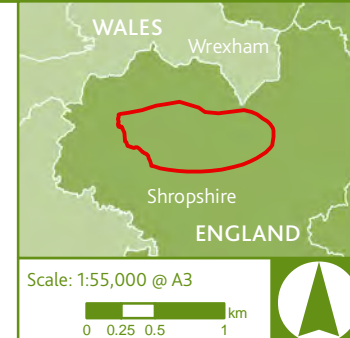




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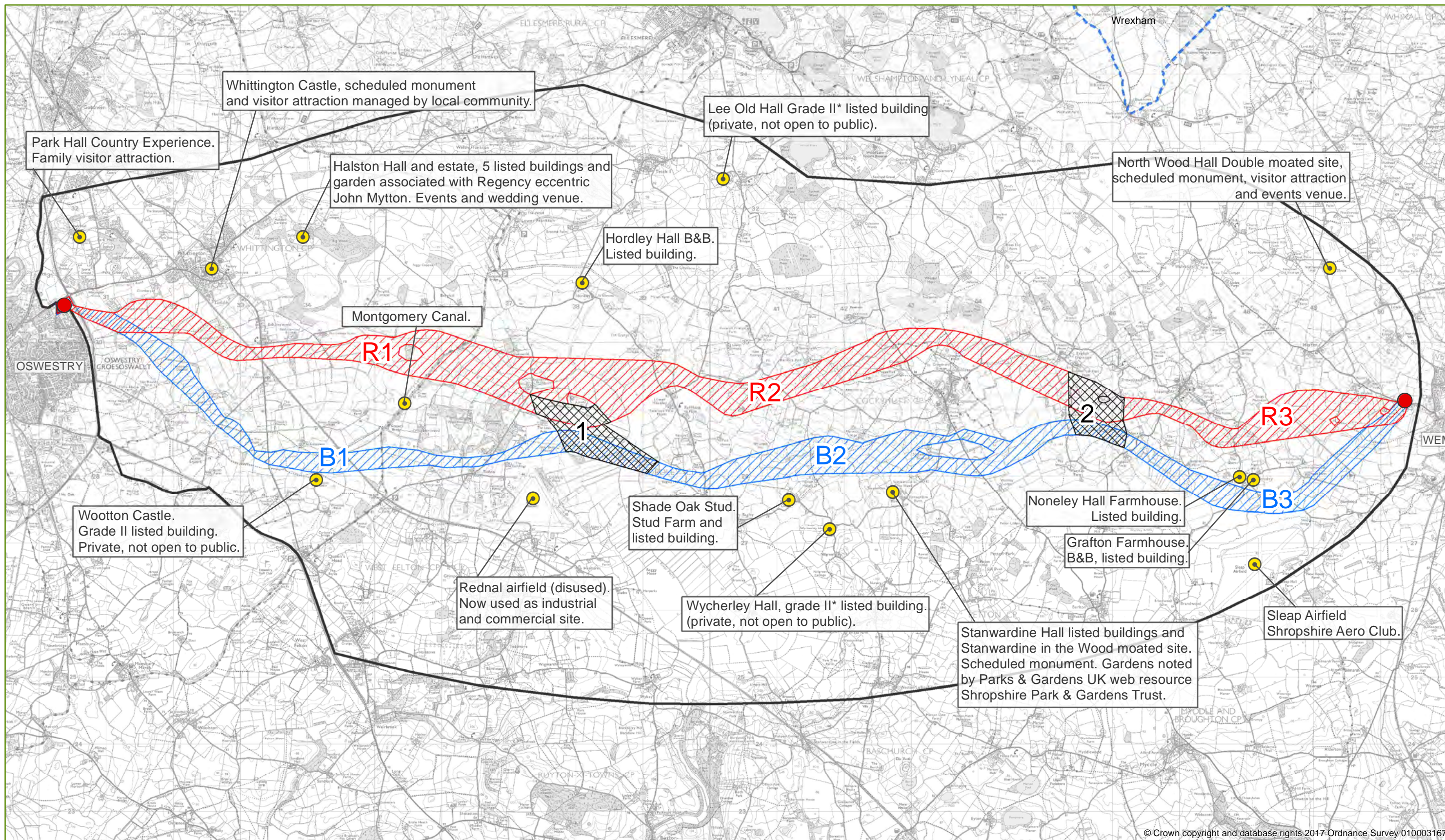
**KEY**

- |                                   |                         |  |                                      |
|-----------------------------------|-------------------------|--|--------------------------------------|
| Refined Study Area                | Regional Trail          | Registered Common Land                 | <b>Shropshire Council Local Plan</b> |
| SPEN Substation Compound          | National Cycleway       | Woodland (inc. Ancient & Semi-Natural) | Housing                              |
| Direct Route from Oswestry to Wem | Shropshire Council PRoW | Local Nature Reserve                   | Protected employment site            |
|                                   |                         | Shropshire Council Wildlife Site       | Employment                           |
|                                   |                         |  | Development boundary                 |
|                                   |                         |  | Existing site (Former Quarry)        |










**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.5**  
**FIGURE 4.6 FROM ROUTE CORRIDOR OPTIONS REPORT, JUNE 2016**  
 Additional Environmental Constraints

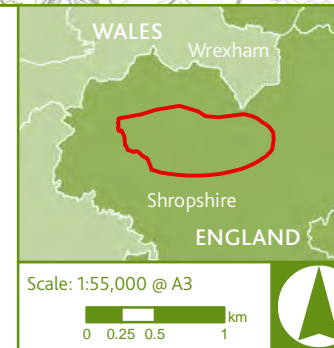




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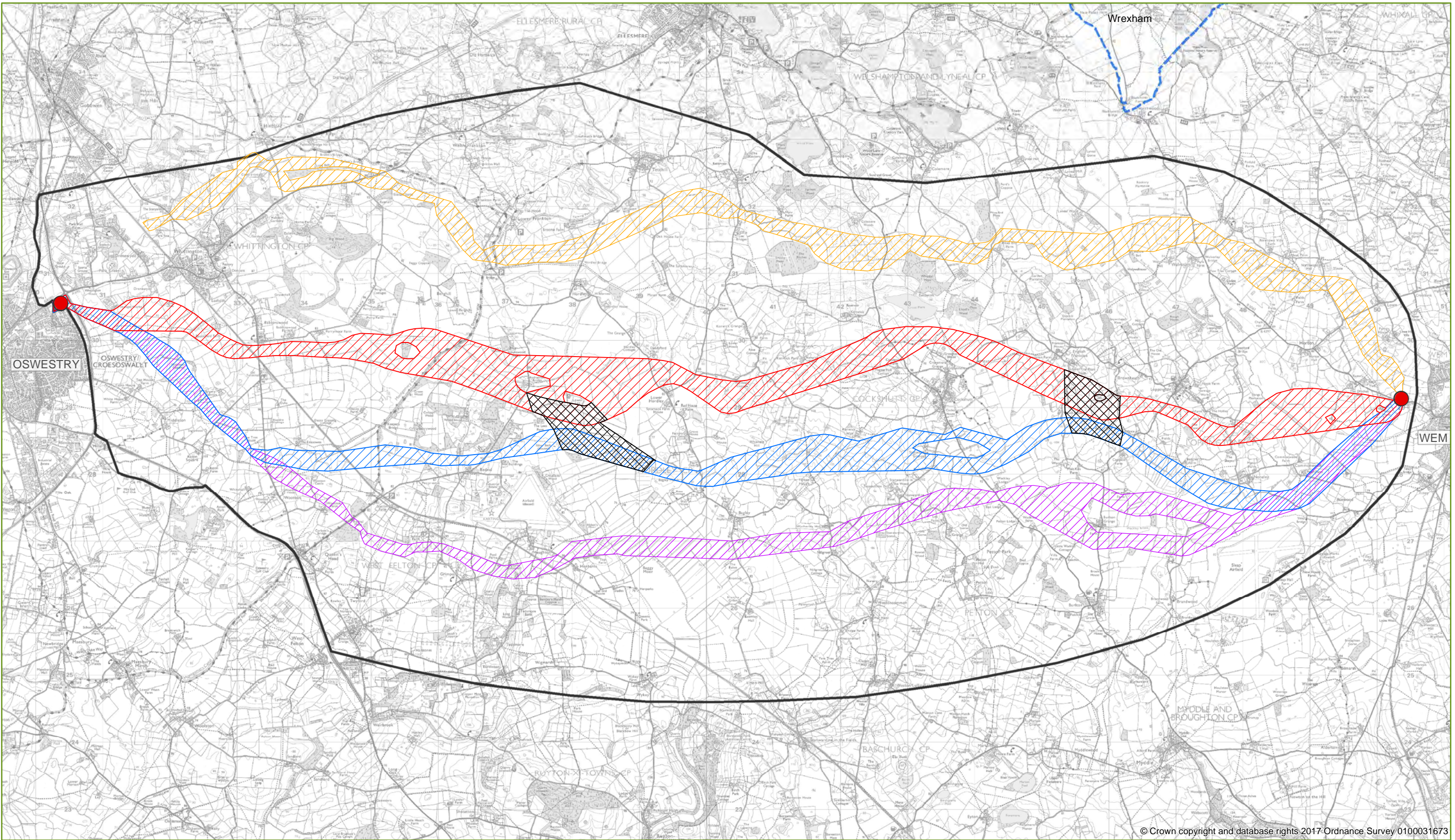
**KEY**

-  Refined Study Area
-  Route Option Red (R1, R2 and R3)
-  Sites of Local Interest & Importance
-  SPEN Substation Compound
-  Route Option 3
-  UK Unitary Authority Boundary
-  Possible Intersections between Option 2 and 3



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT  
SCOPING REPORT**  
**FIGURE 2.6**  
**FIGURE 6.1 FROM ROUTE CORRIDOR  
OPTIONS REPORT, JUNE 2016**  
 Sites of Local Interest & Importance

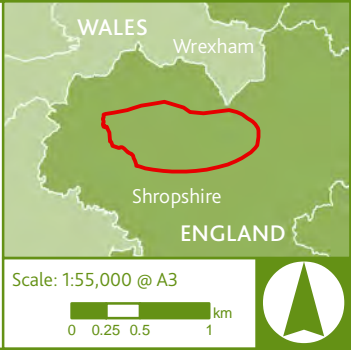




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**KEY**

- Refined Study Area
- SPEN Substation Compound
- Route Option 1
- Route Option 2
- Route Option 3
- Route Option 4
- Possible Intersections between Option 2 and 3
- UK Unitary Authority Boundary

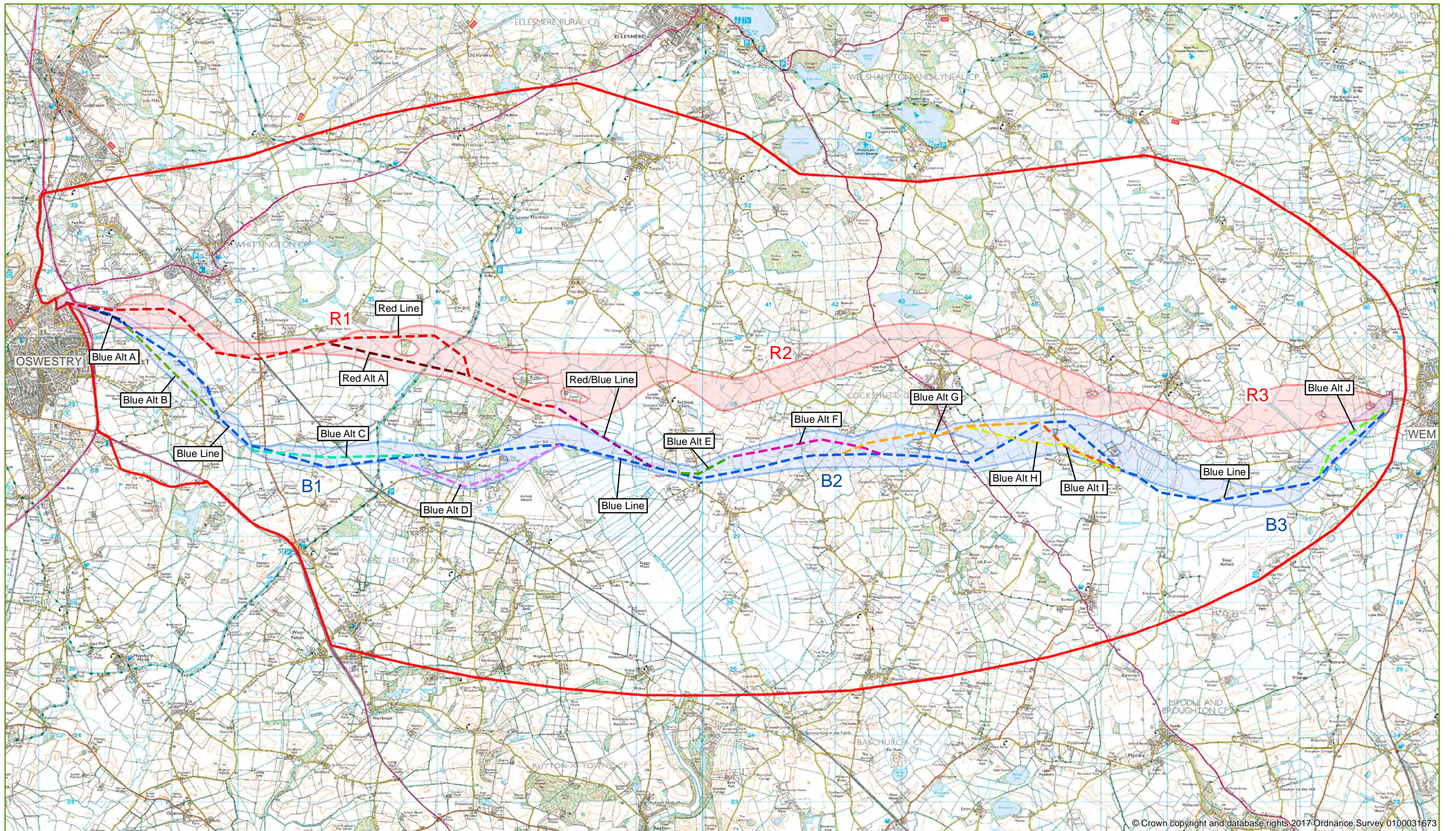


**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT  
SCOPING REPORT**

**FIGURE 2.7**  
**FIGURE 4.10 FROM ROUTE CORRIDOR  
OPTIONS REPORT, JUNE 2016**

Route Options





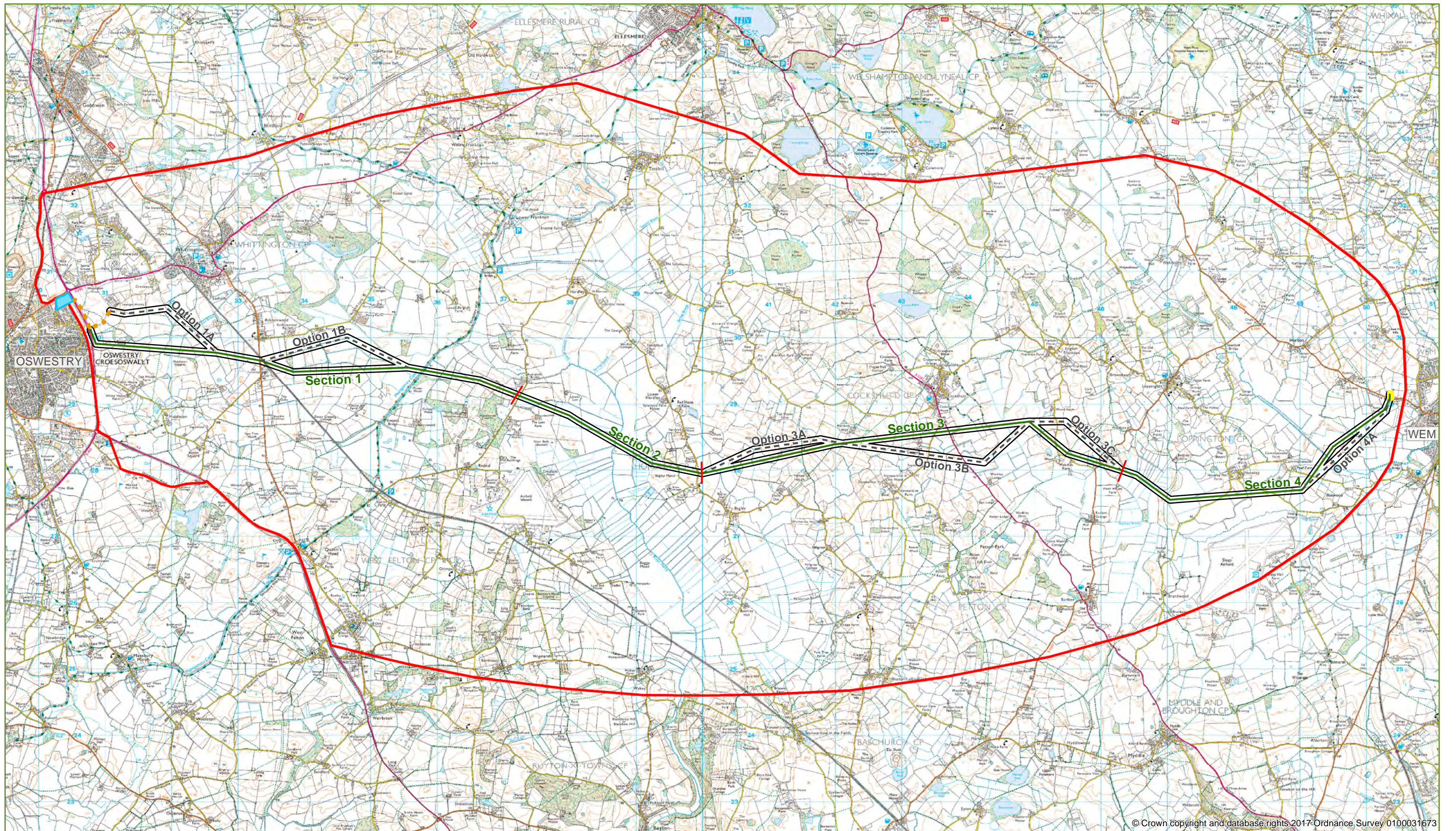
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| KEY |               |  |            |  |            |  |            |  |                            |
|-----|---------------|--|------------|--|------------|--|------------|--|----------------------------|
|     | Red Line      |  | Blue Alt A |  | Blue Alt E |  | Blue Alt I |  | Red Route Corridor Option  |
|     | Red Alt A     |  | Blue Alt B |  | Blue Alt F |  | Blue Alt J |  | Blue Route Corridor Option |
|     | Red/Blue Line |  | Blue Alt C |  | Blue Alt G |  | Blue Alt H |  | Refined Study Area         |
|     | Blue Line     |  | Blue Alt D |  | Blue Alt H |  |            |  |                            |

Scale: 1:55,000 @ A3

**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.8**  
**FIGURE 3.1 FROM LINE ROUTE REPORT, JUNE 2016**  
 Initial Line Route Options (100m Wide)

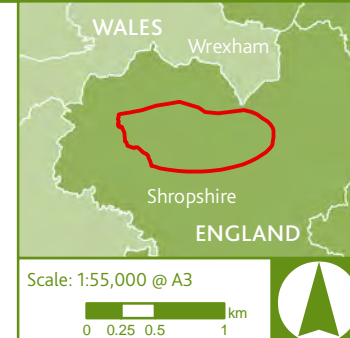




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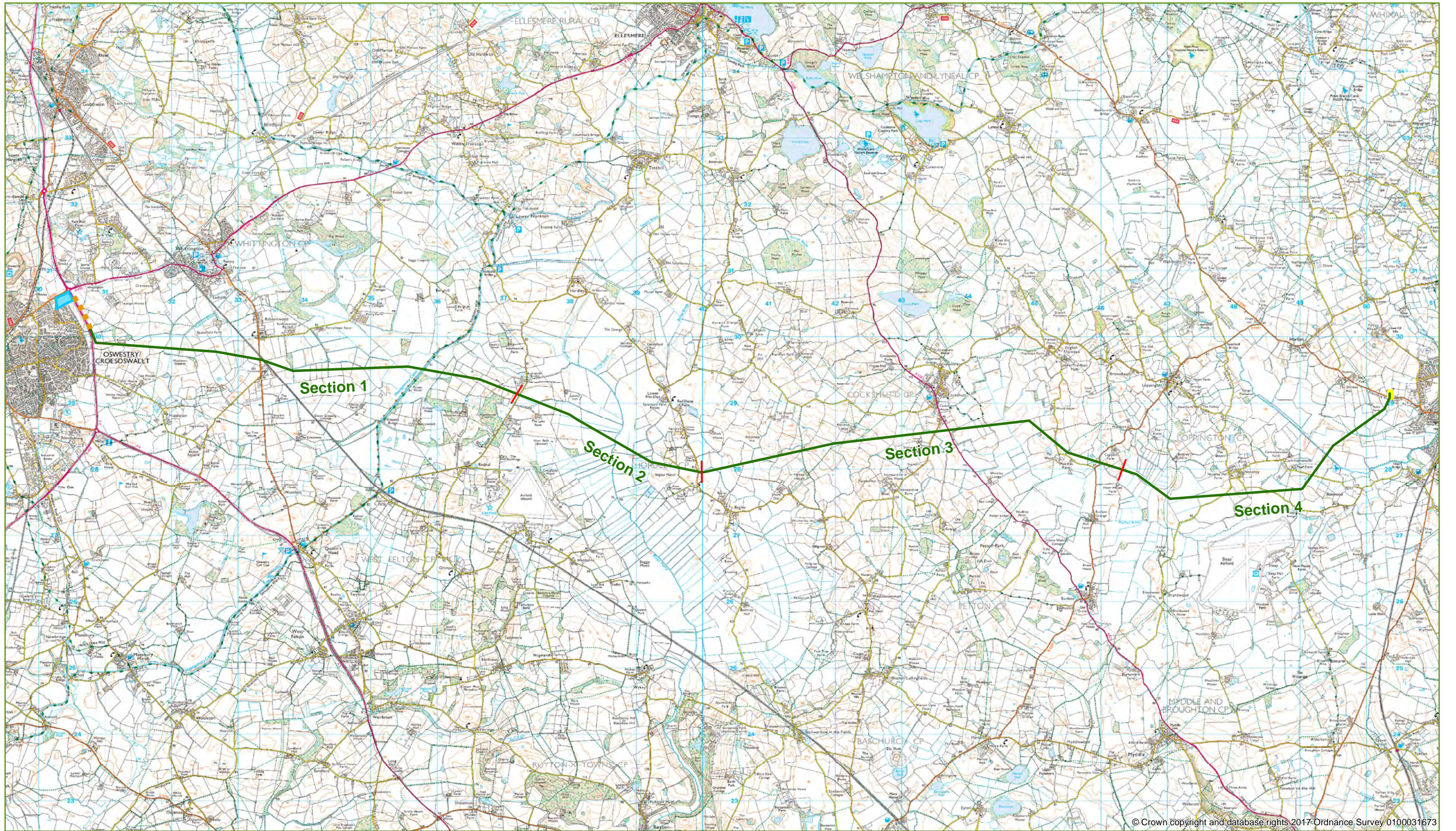
**KEY**

- Preferred Line Route
- Alternative Line Routes
- Line Route Options (100m)
- Initial Underground Route Option
- Oswestry Substation
- Wem Substation
- Study Area



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.9**  
**FIGURE 3.5 FROM LINE ROUTE  
REPORT, JUNE 2016**  
 Refined Line Route Options  
 (100m Wide)

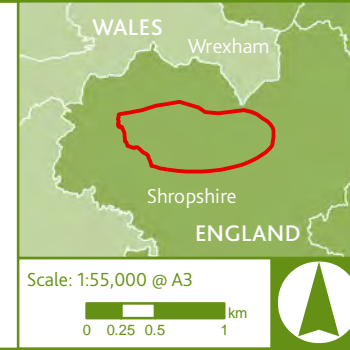




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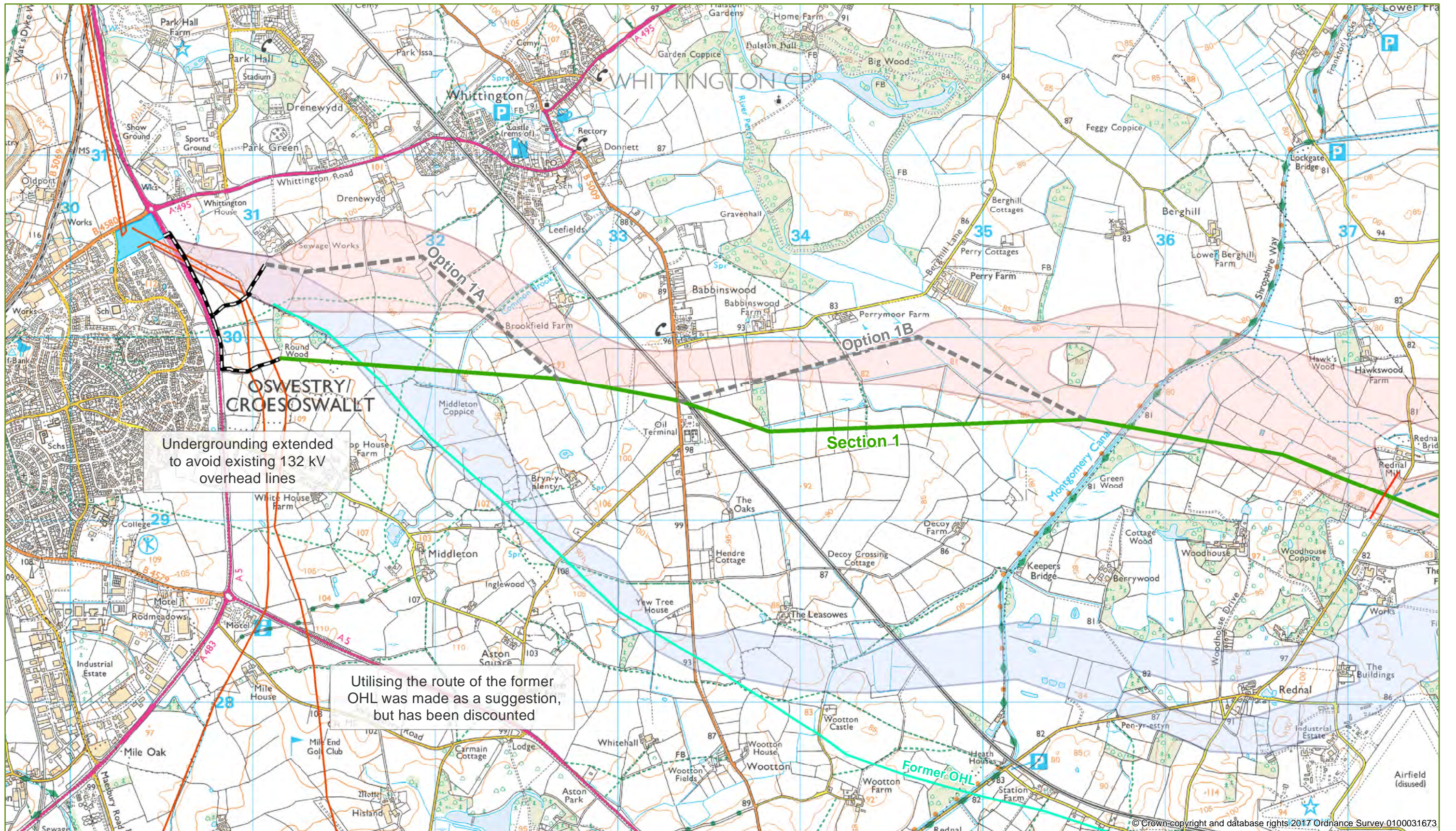
**KEY**

- Preferred Line Route
- Initial Underground Route Option
- Oswestry Substation
- Wem Substation



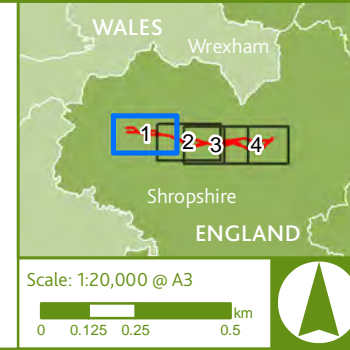
**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.10**  
**FIGURE 6.1 FROM LINE ROUTE  
REPORT, JUNE 2016**  
 Preferred 100m Wide Line Route





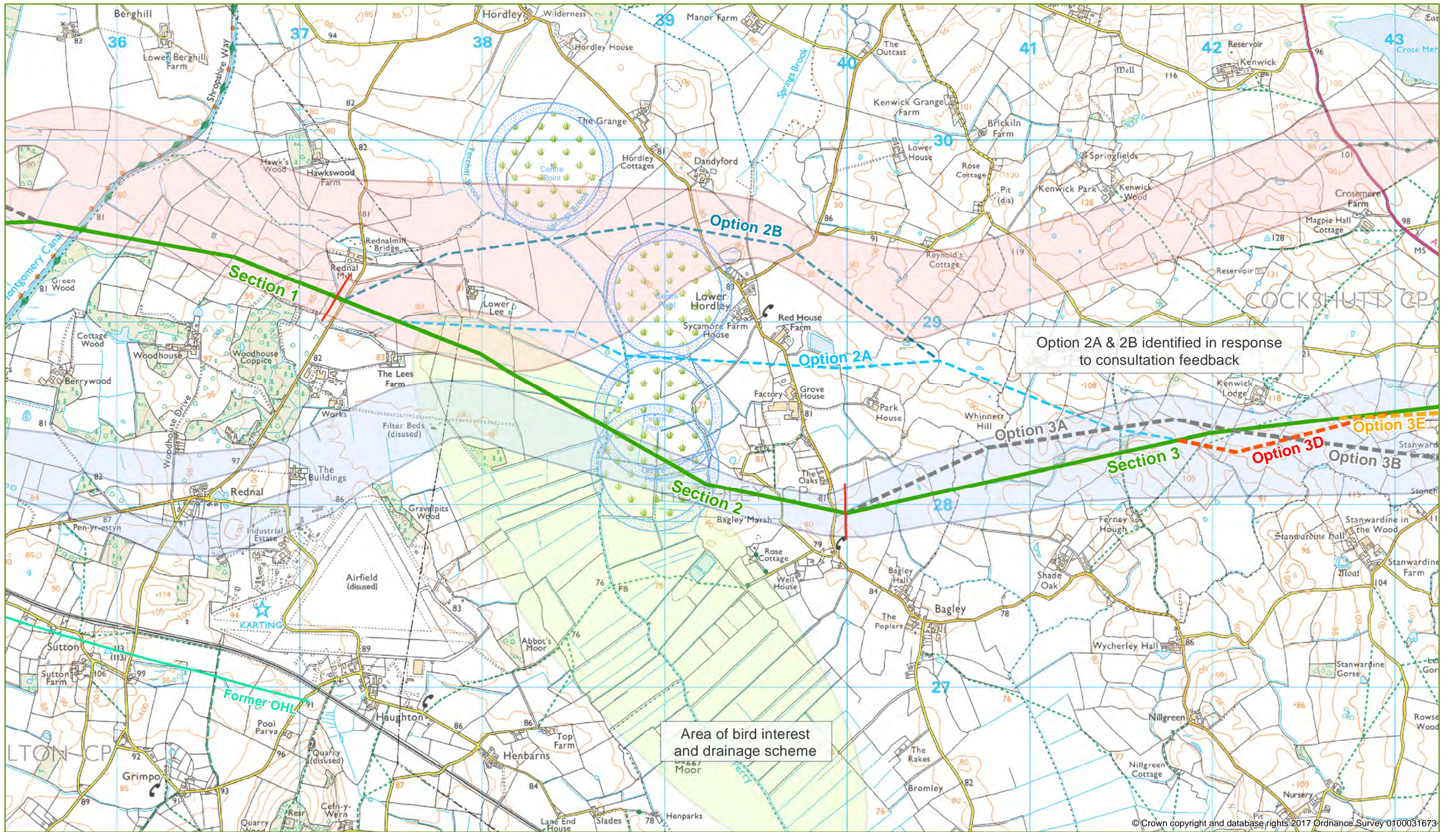
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| KEY                               |  |
|-----------------------------------|--|
| <b>Consultation Route Options</b> | <b>Post Consultation Route Options</b> |
| Preferred Line Route              | Option 2A                              |
| Alternative Line Routes           | Option 2B                              |
| Potential Undergrounding          | Option 3D                              |
| SPEN Former OHL                   | Option 3E                              |
| SPEN 132 kV OHL                   | Option 3F                              |
| Option 3E                         | Option 4B                              |
| Option 3F                         | Option 4C                              |
| Option 2A                         | Option 4D                              |
| Option 2B                         | Section Cutlines                       |
| Option 3D                         | Oswestry Substation                    |
| Option 3E                         | Wem Substation                         |
| Option 4B                         | Area of Bird Interest                  |
| Option 4C                         | Centre Point Irrigation Systems        |
| Option 4D                         | Route Option Red Corridor              |
| Section Cutlines                  | Route Option Blue Corridor             |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.11**  
**FIGURE 3.1 FROM UPDATED LINE ROUTE REPORT, NOVEMBER 2016**  
 Preferred Line Route and Options with Additional Constraints SECTION 1



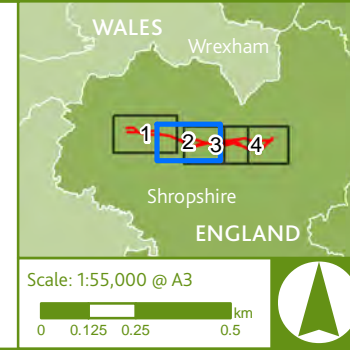


Option 2A & 2B identified in response to consultation feedback

Area of bird interest and drainage scheme

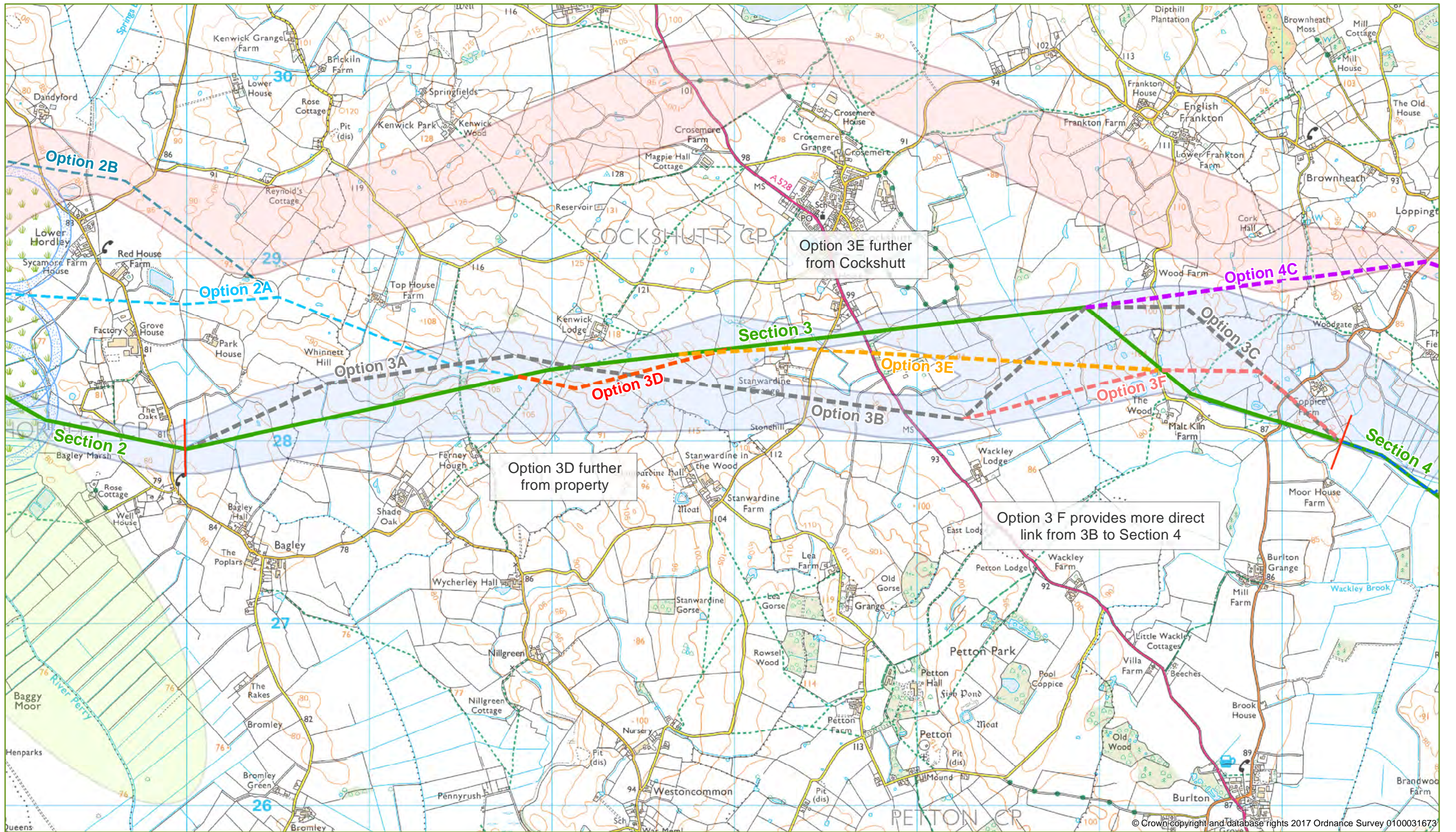
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| KEY                               |  |
|-----------------------------------|--|
| <b>Consultation Route Options</b> | <b>Post Consultation Route Options</b> |
| Preferred Line Route              | Option 2A                              |
| Alternative Line Routes           | Option 2B                              |
| Potential Undergrounding          | Option 3D                              |
| SPEN Former OHL                   | Option 3E                              |
| SPEN 132 kV OHL                   | Option 3F                              |
| Section Cutlines                  | Option 4B                              |
| Oswestry Substation               | Option 4C                              |
| Wem Substation                    | Option 4D                              |
| Area of Bird Interest             | Centre Point Irrigation Systems        |
| Route Option Red Corridor         | Route Option Blue Corridor             |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.12**  
**FIGURE 3.2 FROM UPDATED LINE ROUTE REPORT, NOVEMBER 2016**  
 Preferred Line Route and Options with Additional Constraints SECTION 2

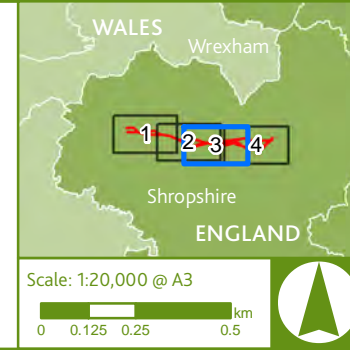




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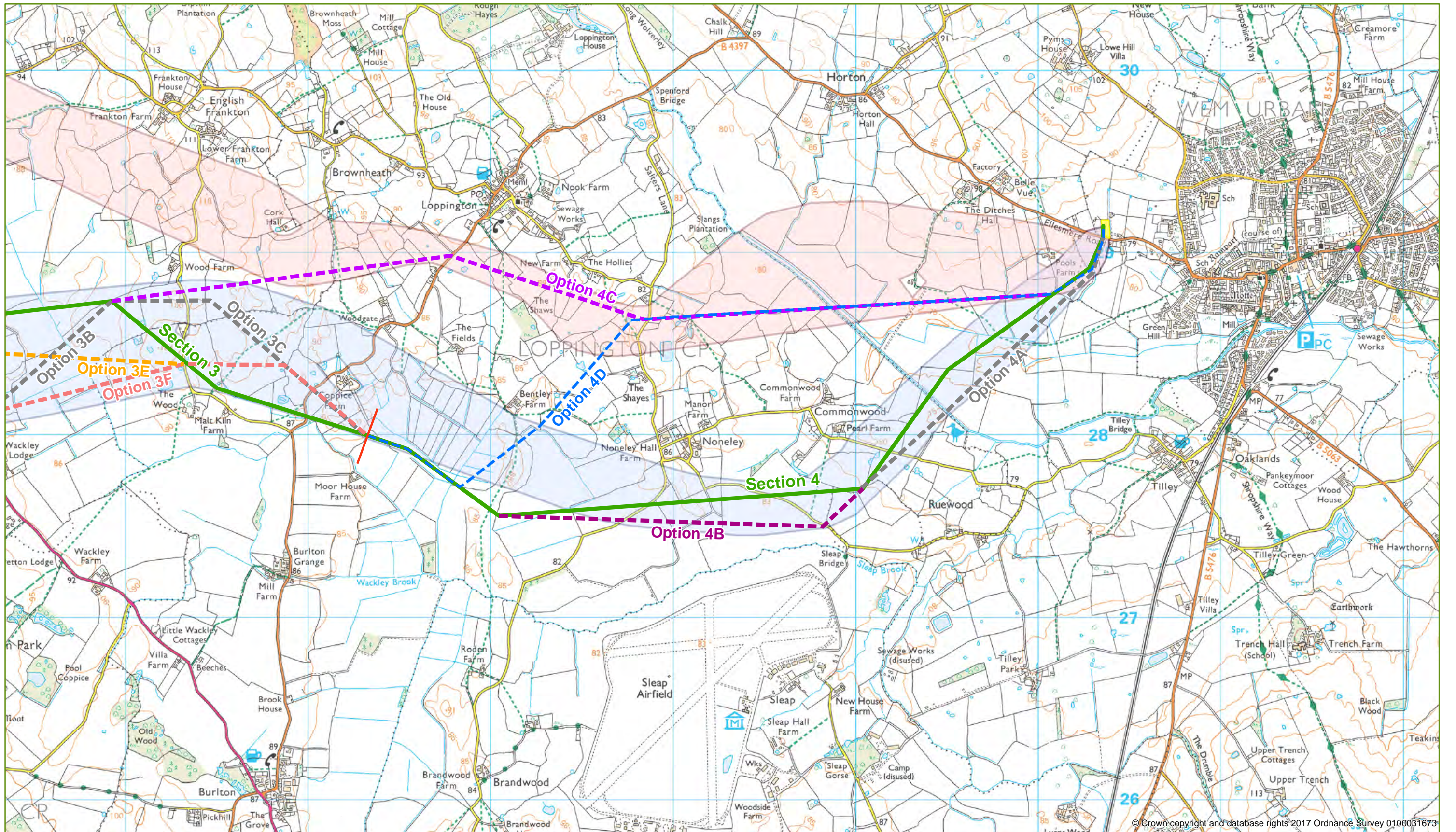
**KEY**

- |                                   |  |           |                       |                                 |
|-----------------------------------|--|-----------|-----------------------|---------------------------------|
| <b>Consultation Route Options</b> | <b>Post Consultation Route Options</b> | Option 3E | Section Cutlines      | Centre Point Irrigation Systems |
| Preferred Line Route              | Option 2A                              | Option 3F | Oswestry Substation   | Route Option Red Corridor       |
| Alternative Line Routes           | Option 2B                              | Option 4B | Wem Substation        | Route Option Blue Corridor      |
| Potential Undergrounding          | Option 3D                              | Option 4C | Area of Bird Interest |                                 |
| SPEN Former OHL                   |  | Option 4D |                       |                                 |
| SPEN 132 kV OHL                   |  |           |                       |                                 |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 2.13**  
**FIGURE 3.3 FROM UPDATED LINE ROUTE REPORT, NOVEMBER 2016**  
 Preferred Line Route and Options with Additional Constraints SECTION 3

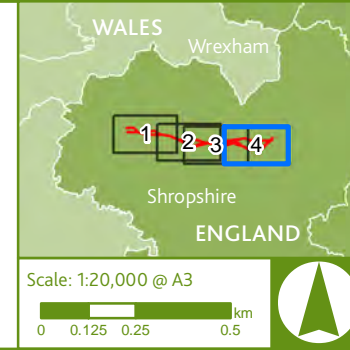




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**KEY**

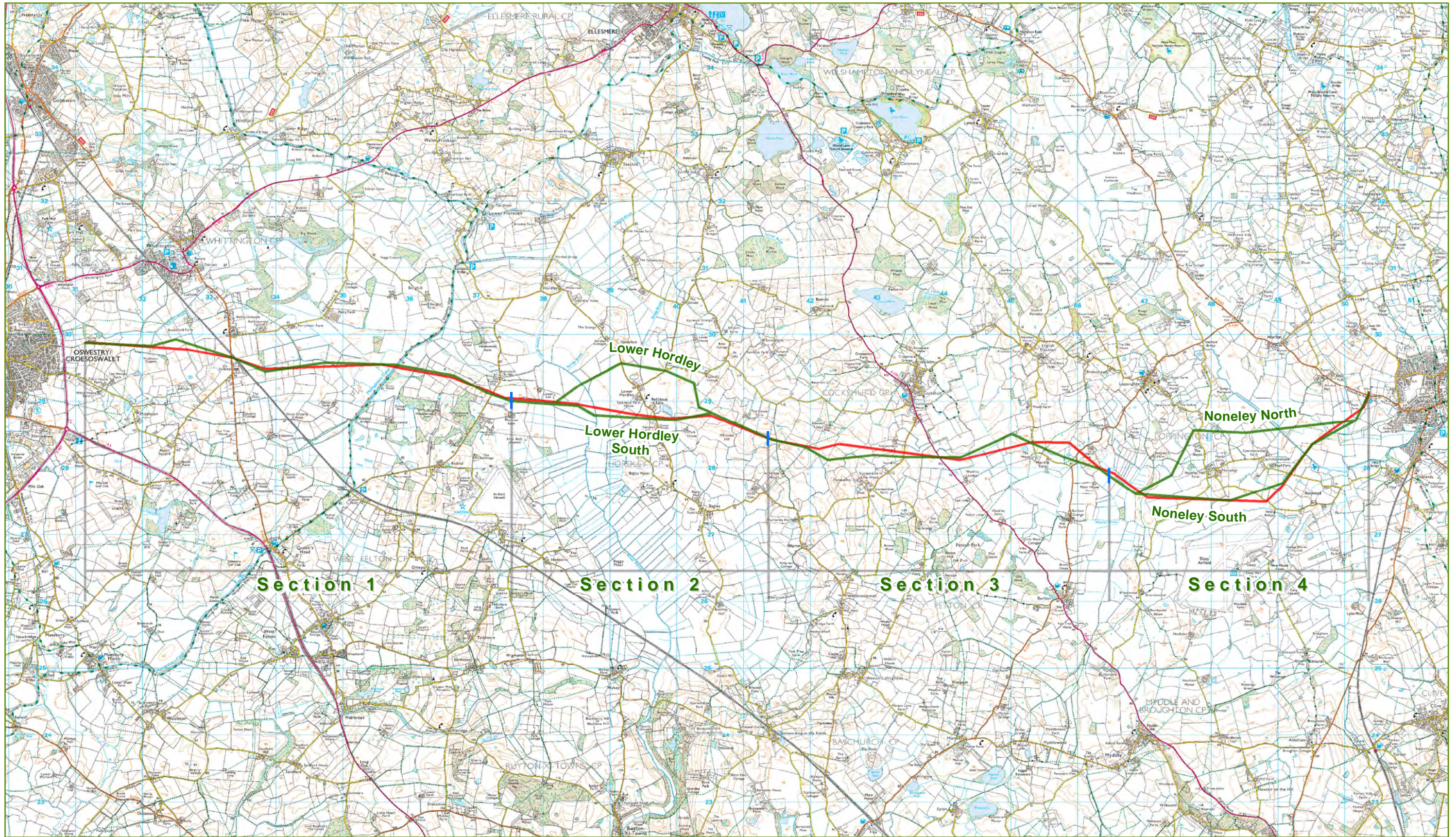
- |                                   |  |           |                       |                                 |
|-----------------------------------|--|-----------|-----------------------|---------------------------------|
| <b>Consultation Route Options</b> | <b>Post Consultation Route Options</b> | Option 3E | Section Cutlines      | Centre Point Irrigation Systems |
| Preferred Line Route              | Option 2A                              | Option 3F | Oswestry Substation   | Route Option Red Corridor       |
| Alternative Line Routes           | Option 2B                              | Option 4B | Wem Substation        | Route Option Blue Corridor      |
| Potential Undergrounding          | Option 3D                              | Option 4C | Area of Bird Interest |                                 |
| SPEN Former OHL                   |  | Option 4D |                       |                                 |
| SPEN 132 kV OHL                   |  |           |                       |                                 |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**

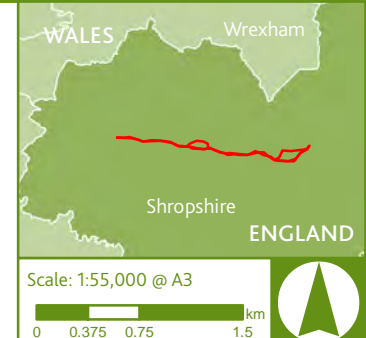
**SCOPING REPORT**  
**FIGURE 2.14**  
**FIGURE 3.4 FROM UPDATED LINE ROUTE REPORT, NOVEMBER 2016**  
 Preferred Line Route and Options with Additional Constraints SECTION 4





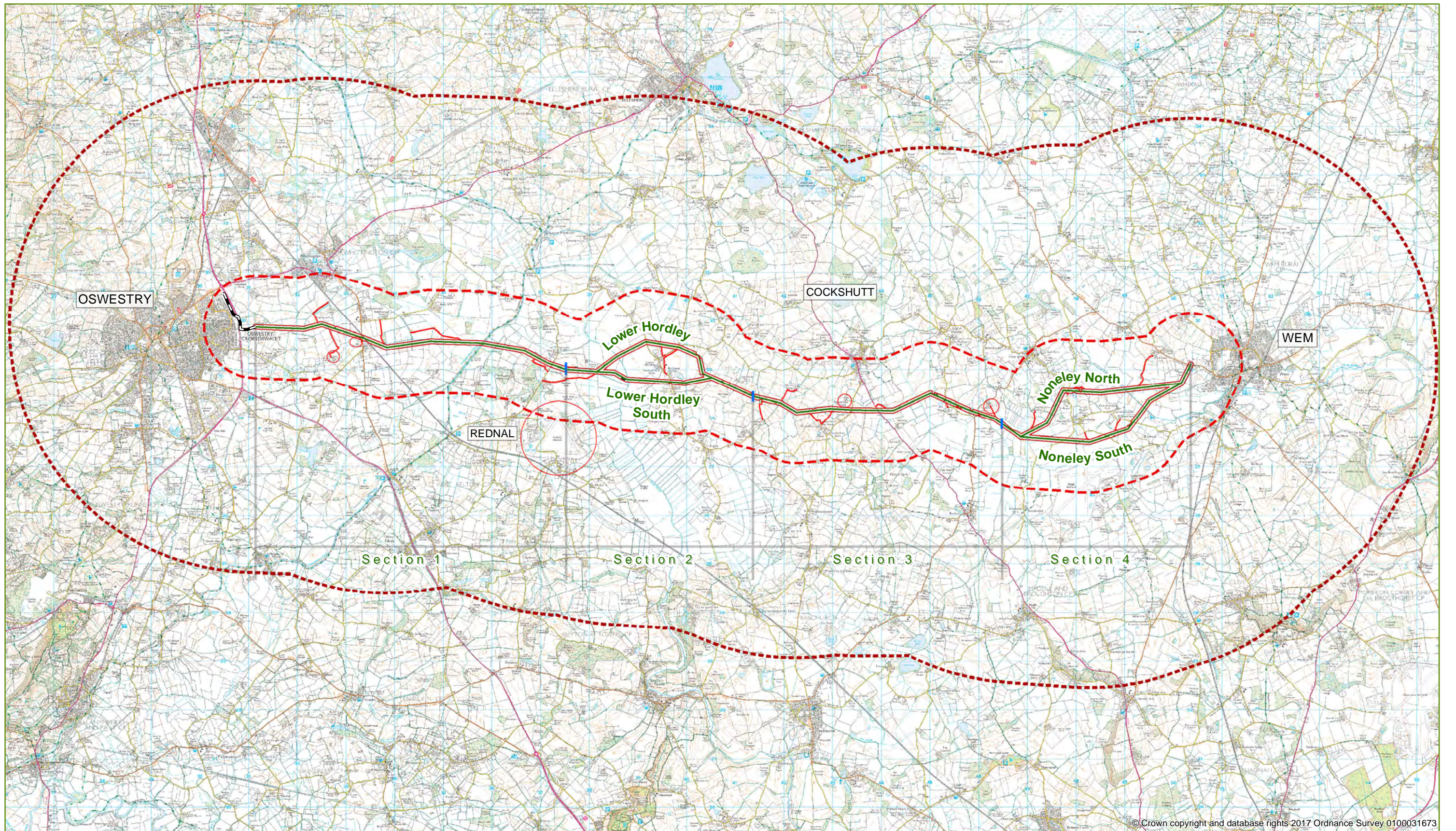
**KEY**

- Proposed Line Route, February 2017
- Proposed Line Route, November 2016 (from Updated Line Route Report)
- Section Separators






**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 4.1**  
**CHANGES TO PROPOSED LINE  
ROUTE SINCE PUBLICATION OF  
UPDATED LINE ROUTE REPORT**








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**KEY**

-  Proposed Line Route
-  Underground Route
-  Section Separation Indicators

 Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)

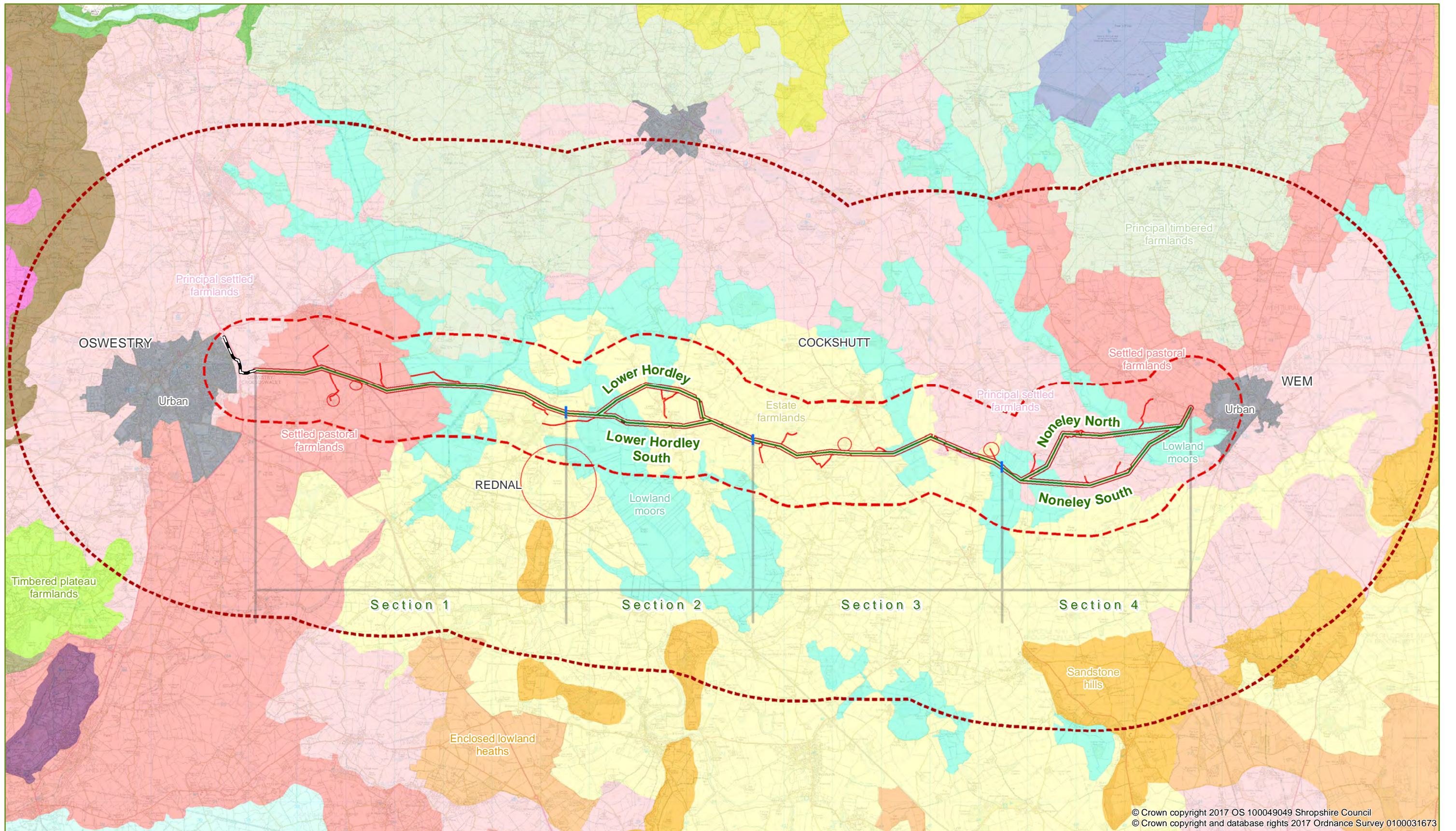
-  1km Study Area
-  5km Study Area



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 7.1**  
**PROPOSED LINE ROUTE & STUDY AREAS FOR LVIA**







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**KEY**

- Proposed Line Route
- Section Separators
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
- Underground Route
- 1km Study Area
- 5km Study Area

**Landscape Type Descriptive Units (Extracted from The Shropshire Landscape Typology, September 2006)**

- |                             |                          |                              |                             |                   |
|-----------------------------|--------------------------|------------------------------|-----------------------------|-------------------|
| High open moorland          | Principal wooded hills   | Incised sandstone valleys    | Wooded estatelands          | Riverside meadows |
| High enclosed plateau       | Wooded river gorge       | Wooded forest                | Estate farmlands            | Lowland moss      |
| High volcanic hills slopes  | Wooded hills farmlands   | Forest smallholdings         | Settled pastoral farmlands  | Coalfields        |
| Upland smallholdings        | Wooded hills estatelands | Timbered plateau farmlands   | Principal settled farmlands | Urban             |
| Upstanding enclosed commons | Sandstone hills          | Principal timbered farmlands | Enclosed lowland heaths     |                   |
| Pasture hills               | Sandstone estatelands    | Timbered pastures            | Lowland moors               |                   |



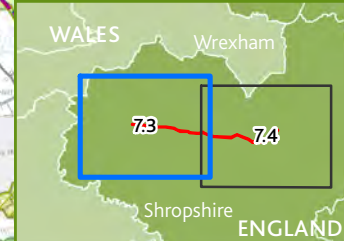
**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 7.2**  
**SHROPSHIRE LANDSCAPE TYPOLOGIES**



# NORTH SHROPSHIRE REINFORCEMENT PROJECT

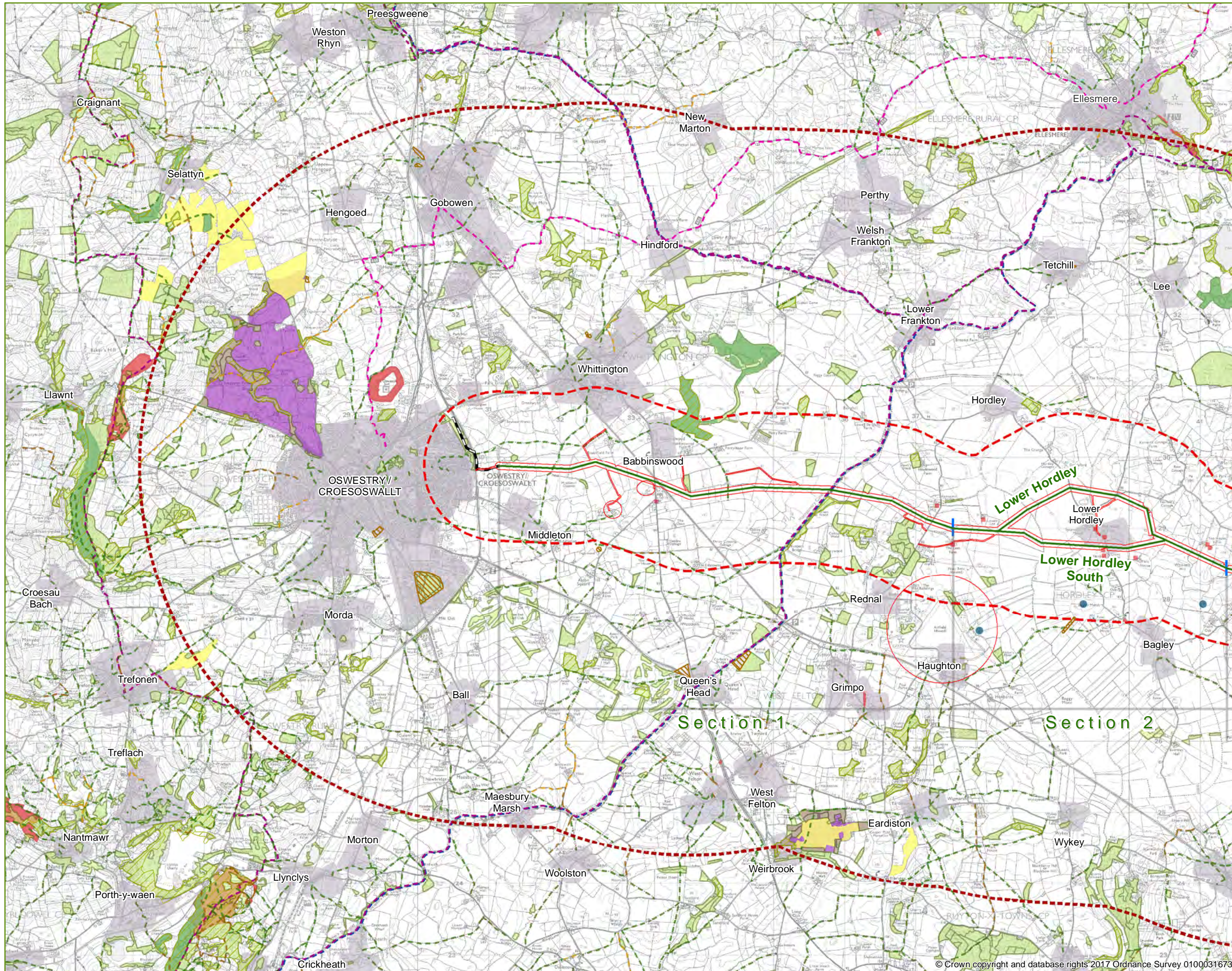
## SCOPING REPORT

FIGURE 7.3  
LANDSCAPE CONSTRAINTS



- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
    - 1km Study
    - 5 km Study
  - Underground Route
  - Landscape Constraints**
    - Countryside Stewardship
    - Registered Park and Gardens
    - Open Access
    - Ancient Woodland Inventory
    - Deciduous Woodland
    - National Forestry Inventory
    - Landfill Site (Authorised & Historic)
    - Burlton Solar Farm
    - Urban Areas
    - Residential Property (within 200m of Corridor)
    - National Cycle Route (On Road)
    - Canal Towpaths
    - Regional Trails
  - Public Rights of Way**
    - Bridleway
    - Footpath
    - Restricted Byway
  - Approx. location of Wind Turbines

Scale: 1:50,000 @ A3

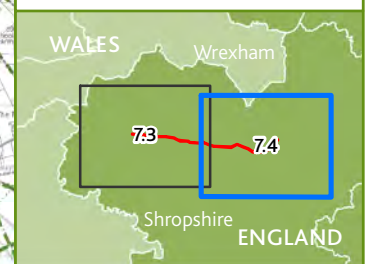


# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

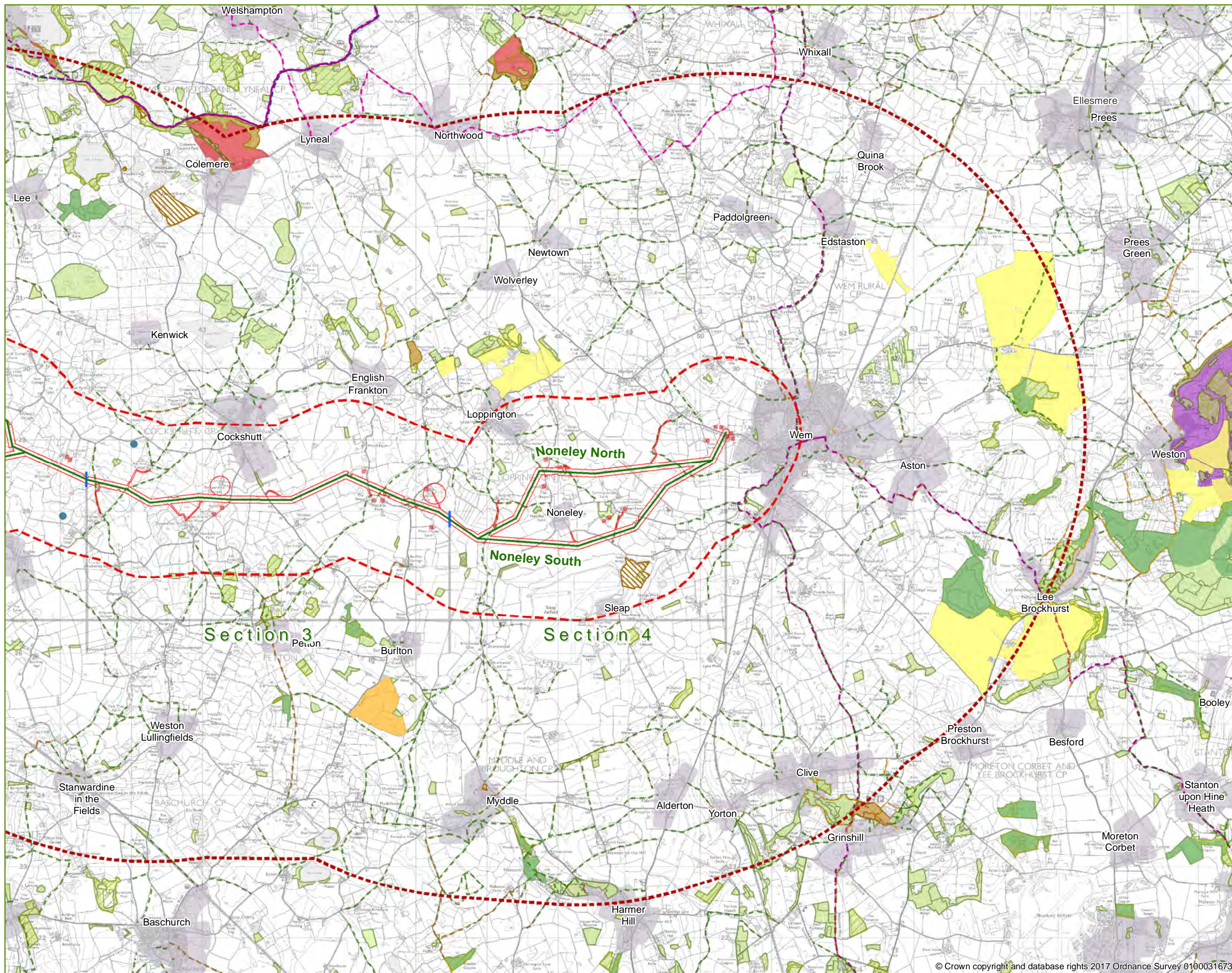
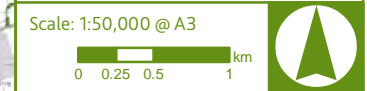
FIGURE 7.4

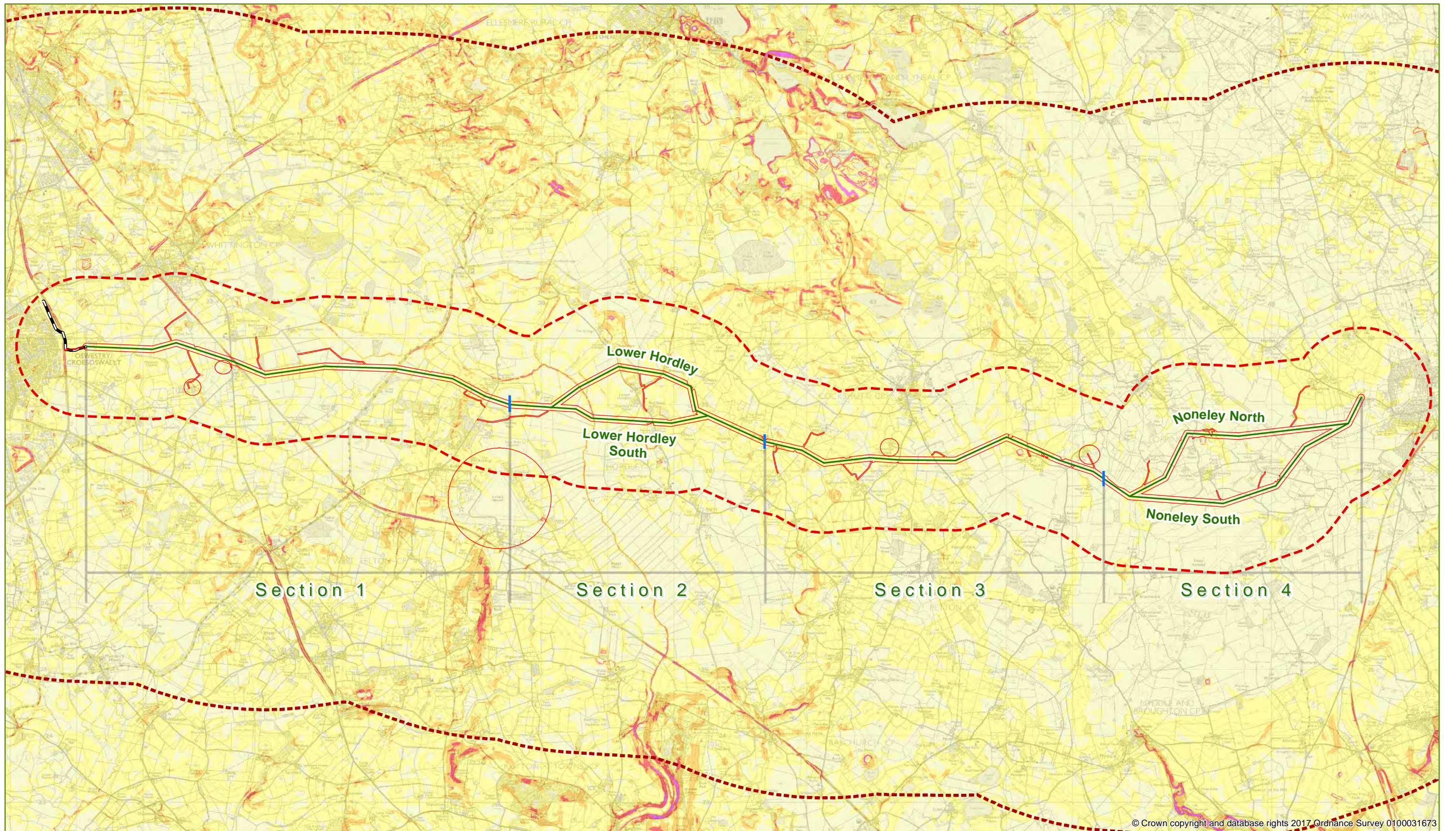
### LANDSCAPE CONSTRAINTS



- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study Area

- Landscape Constraints**
- Countryside Stewardship
  - Registered Park and Gardens
  - Open Access Land
  - Ancient Woodland Inventory
  - Deciduous Woodland
  - National Forestry Inventory
  - Landfill Site (Authorised & Historic)
  - Burton Solar Farm
  - Urban Areas
  - Residential Property (within 200m of Corridor)
  - National Cycle Route (On Road)
  - Canal Towpaths
  - Regional Trails
  - Public Rights of Way
  - Bridleway
  - Footpath
  - Restricted Byway
  - Approx. location of Wind Turbines





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**KEY**

- Proposed Line Route
- Underground Route
- Section Separators
- 1km Study Area
- 5km Study Area
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)

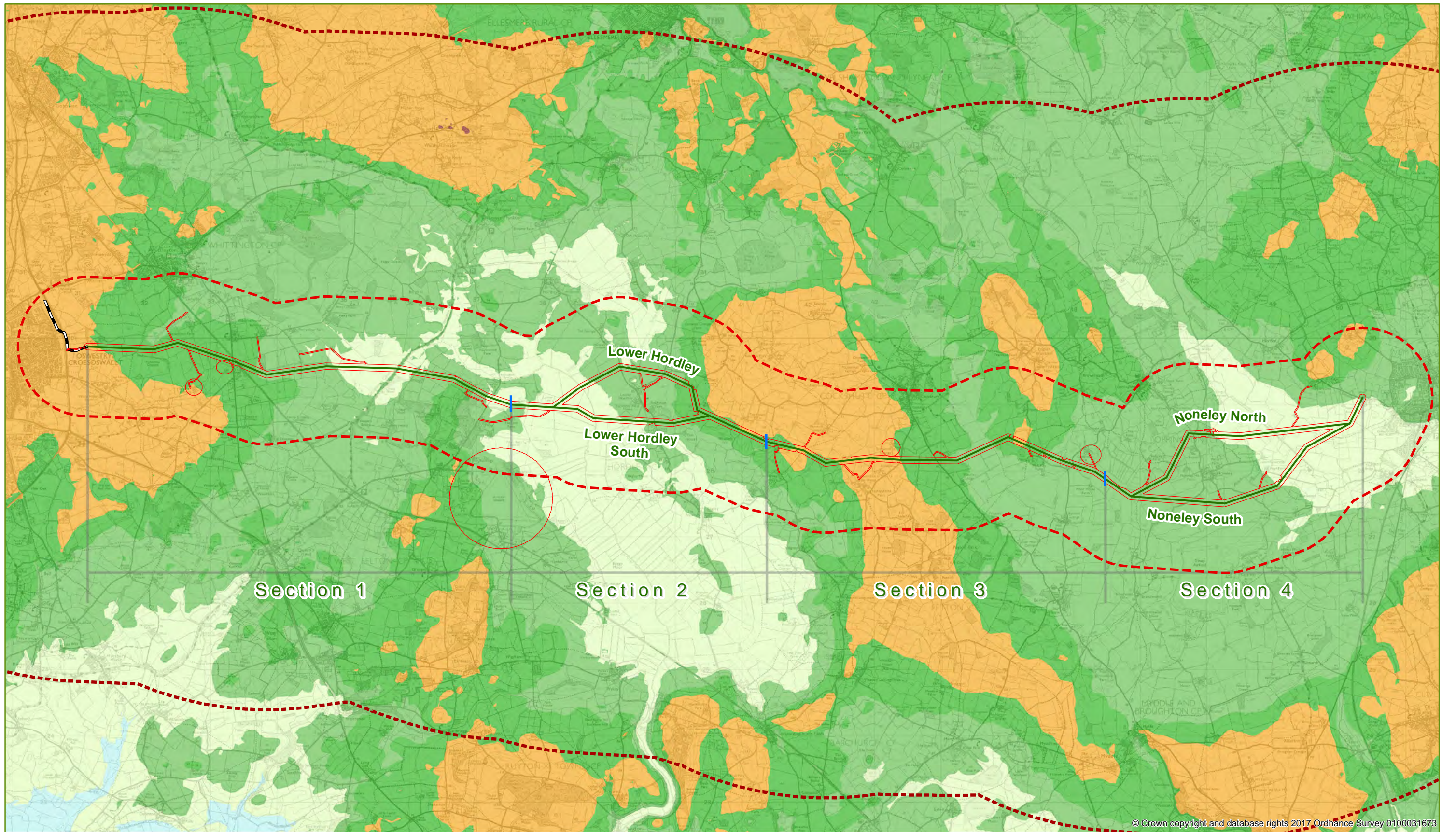
- Underground Route
- 1km Study Area
- 5km Study Area

| Slope (degrees) |         |
|-----------------|---------|
|                 | < 1     |
|                 | 1 - 5   |
|                 | 5 - 10  |
|                 | 10 - 20 |
|                 | 20 - 50 |
|                 | 50 - 70 |
|                 | 70 +    |



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 7.5**  
**TOPOGRAPHY - SLOPE  
GRADIENTS FOR STUDY AREA**





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**KEY**

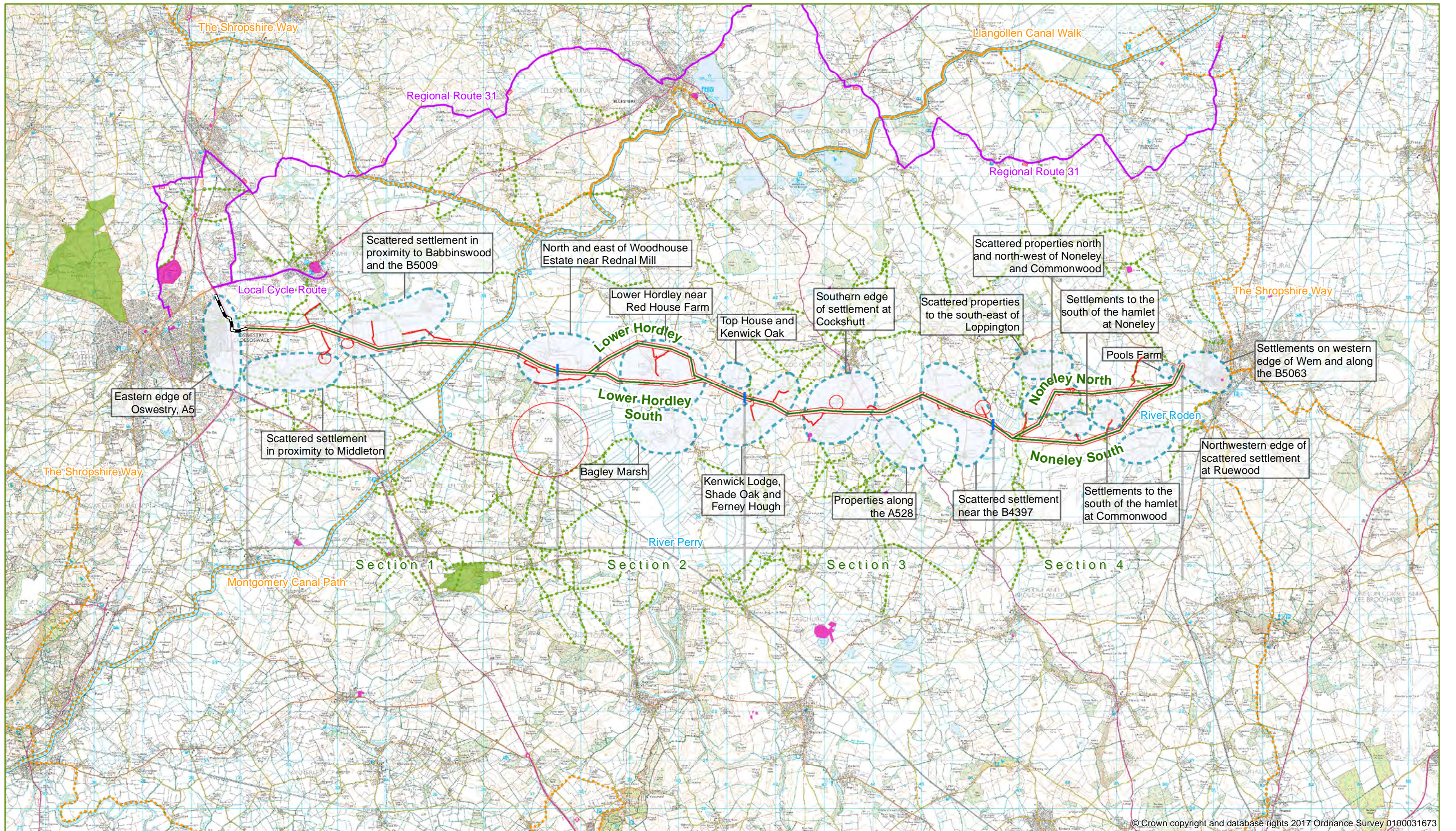
- Proposed Line Route
- Underground Route
- Section Separators
- 1km Study Area
- 5km Study Area
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)

| Elevation (m) |         |  |           |  |           |
|---------------|---------|--|-----------|--|-----------|
|               | < 70    |  | 90 - 100  |  | 200 - 250 |
|               | 70 - 80 |  | 100 - 150 |  | 250 - 300 |
|               | 80 - 90 |  | 150 - 200 |  | 300 - 350 |
|               |         |  | 350 - 400 |  |           |

Scale: 1:55,000 @ A3

**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 7.6**  
**TOPOGRAPHY - ELEVATION (AOD) FOR STUDY AREA**

**GILLESPIES**



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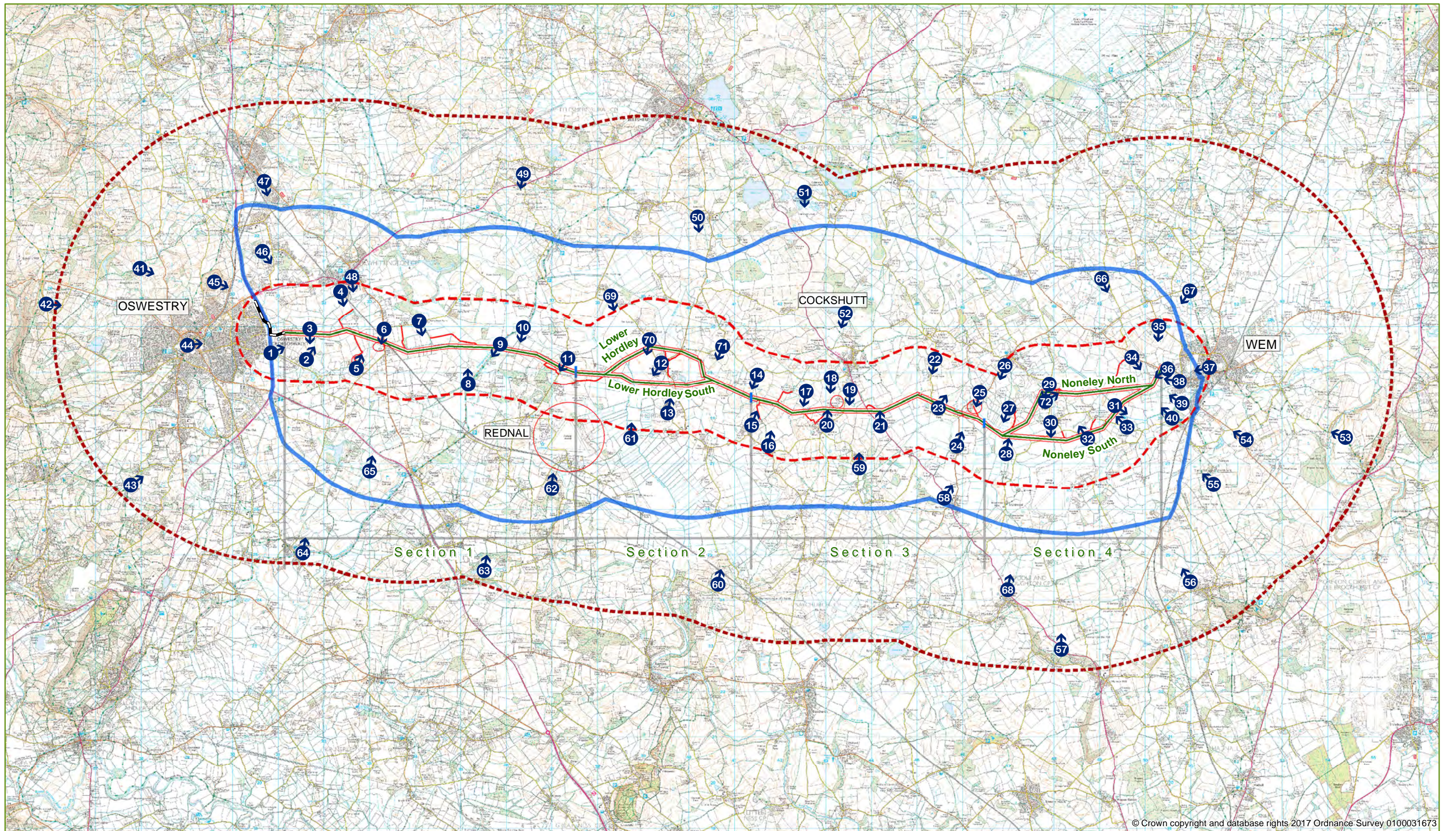
**KEY**

- Proposed Line Route
- Section Separation Indicators
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
- National and Local Cycle Routes
- Registered Parks and Gardens
- Scheduled Monuments
- Groups of receptors
- Canal Towpaths
- - - Public Rights of Way
- - - Regional Trails
- Underground Route
- Groups of receptors











**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 8.1**  
**VISUAL RECEPTORS REFERRED TO IN BASELINE TEXT**

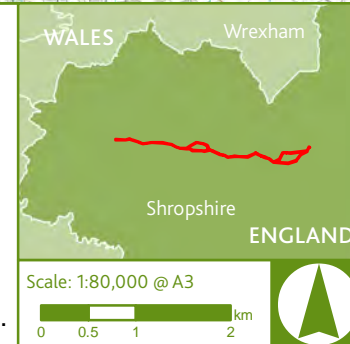




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**KEY**

-  Proposed Line Route
-  Section Separators
-  Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
-  Underground Route
-  Consultation Zone
-  1km Study Area
-  5km Study Area
-  Viewpoints



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 8.2**  
**VIEWPOINT LOCATIONS**



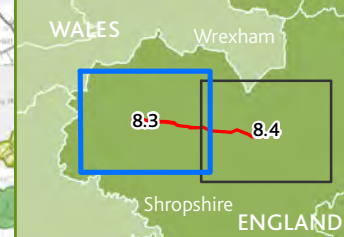
Note: See Appendix C for further details.

# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

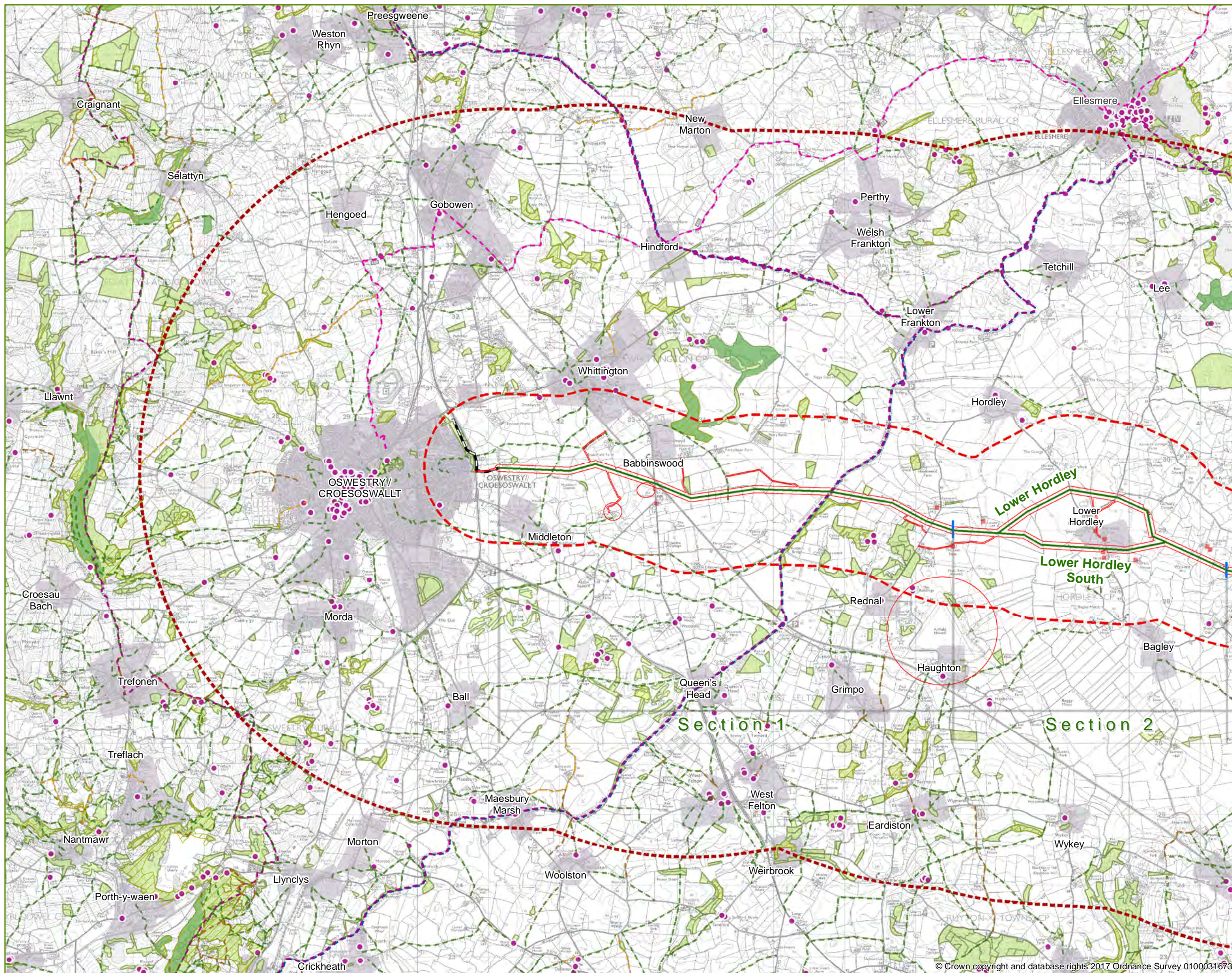
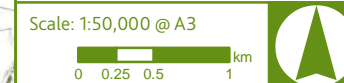
FIGURE 8.3

### VISUAL CONSTRAINTS



#### KEY

- Proposed Line Route
- Section Separators
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
- Underground Route
- 1km Study Area
- 5 km Study Area
- Visual Constraints**
- Ancient Woodland Inventory
- Deciduous Woodland
- National Forestry Inventory
- Listed Buildings
- Urban Areas
- Residential Property (within 200m of Corridor)
- National Cycle Route (On Road)
- Canal Towpaths
- Regional Trails
- Public Rights of Way**
- Bridleway
- Footpath
- Restricted Byway



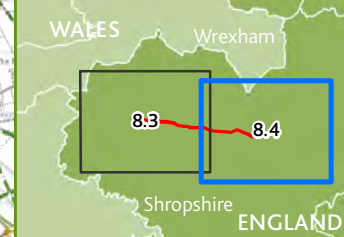


# NORTH SHROPSHIRE REINFORCEMENT PROJECT

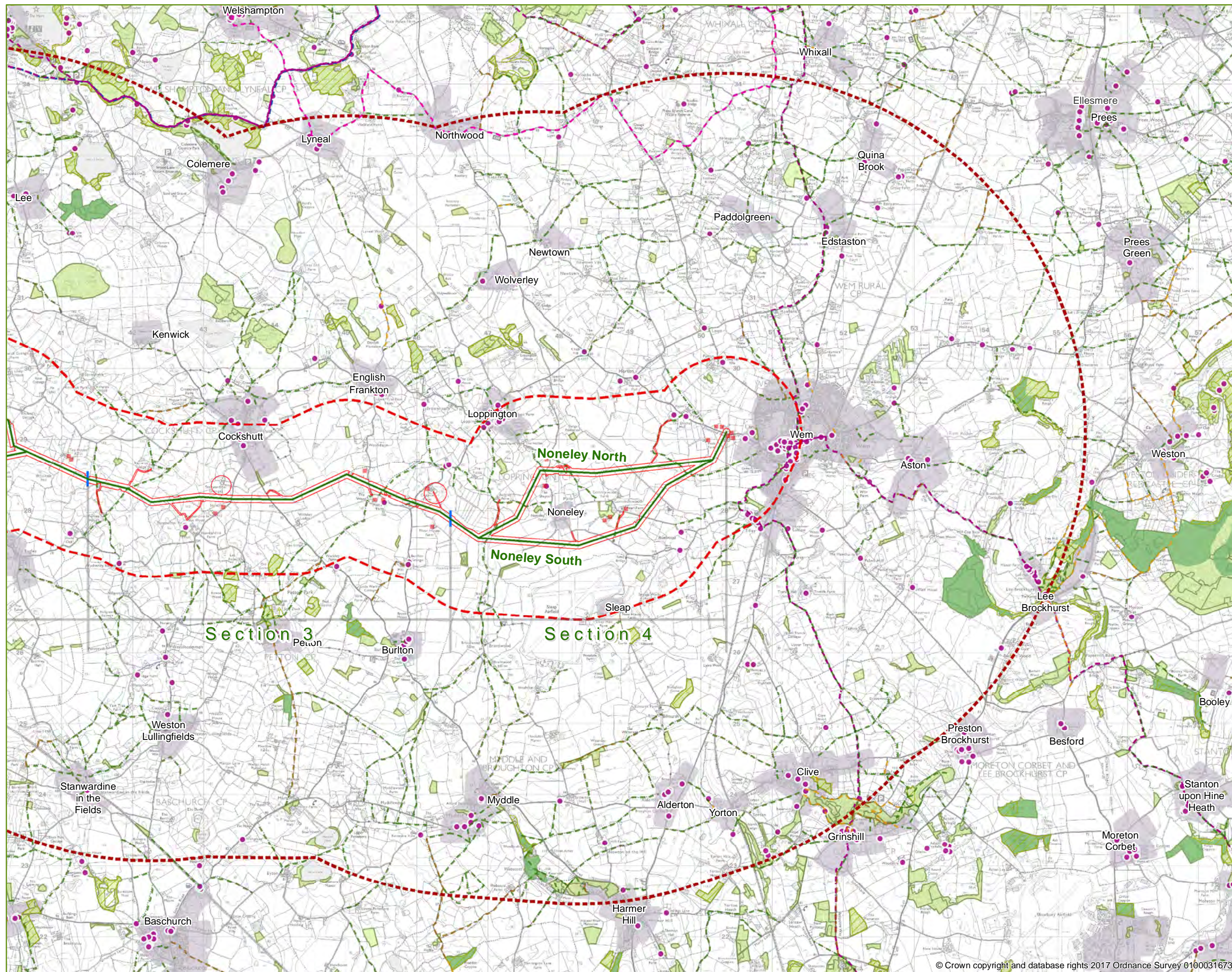
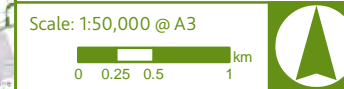
## SCOPING REPORT

FIGURE 8.4

### VISUAL CONSTRAINTS



- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study
- Visual Constraints**
- Ancient Woodland Inventory
  - Deciduous Woodland
  - National Forestry Inventory
  - Listed Buildings
  - Urban Areas
  - Residential Property (within 200m of Corridor)
  - National Cycle Route (On Road)
  - Canal Towpaths
  - Regional Trails
- Public Rights of Way**
- Bridleway
  - Footpath
  - Restricted Byway



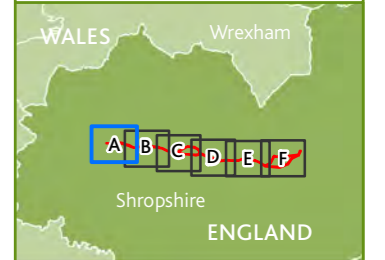
# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

FIGURE 9.1

ECOLOGY - DESIGNATED SITES AND BROAD-SCALE HABITAT BASELINE

SECTION A

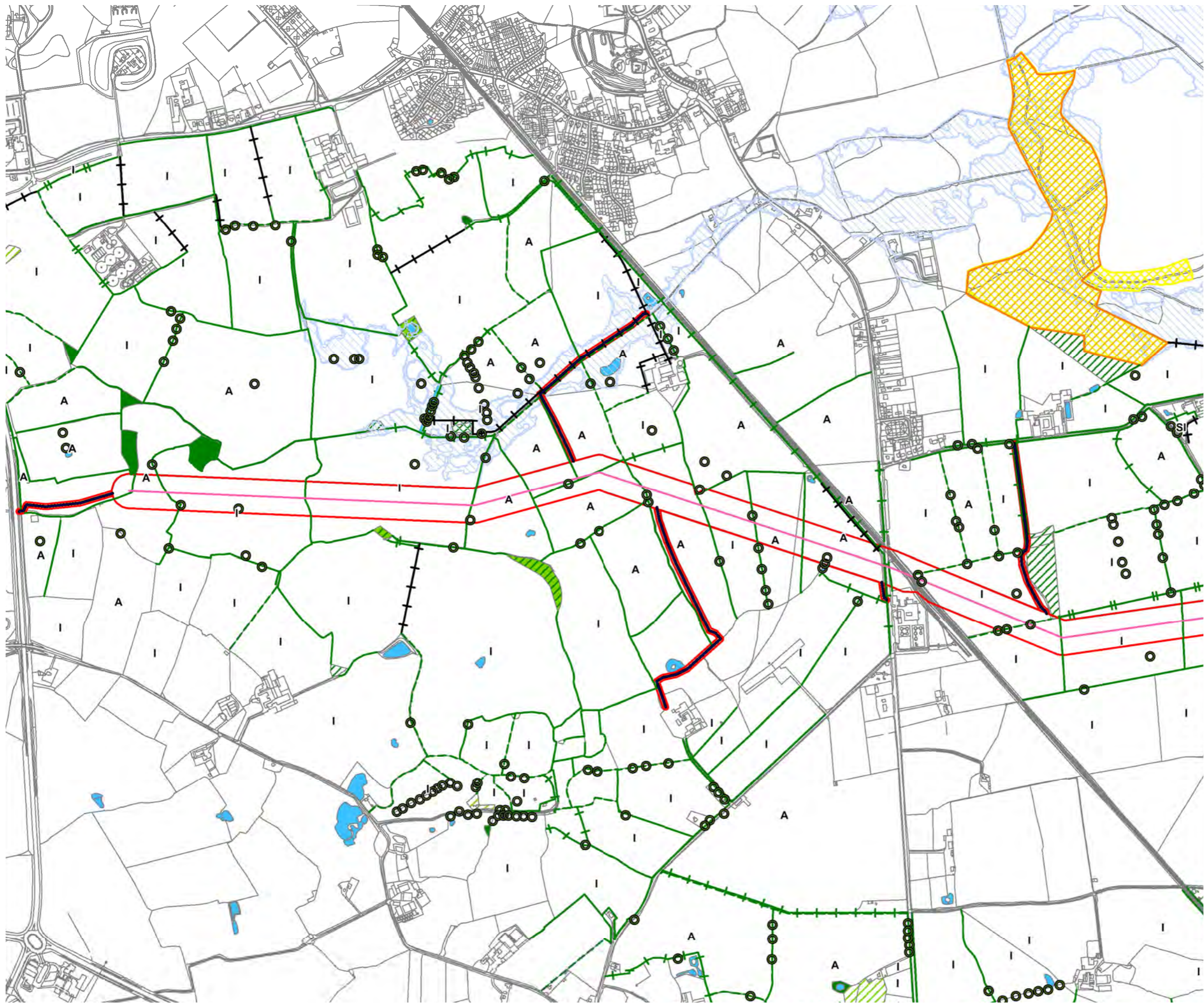
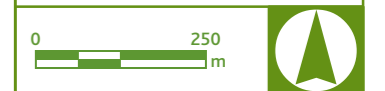


### KEY

- Proposed Line Route**
- Section 1
  - Section 2 (Lower Hordley South)
  - Section 2 (Lower Hordley)
  - Section 3
  - Section 4 (Noneley North)
  - Section 4 (Noneley South)
  - Proposed development boundary
  - Access routes

- Designated Sites**
- Statutory**
- SSSI
- Non-Statutory**
- Ancient Woodland
  - LWS

- Other Habitats of Note**
- Arable (A)
  - Improved grassland (I)
  - Poor semi-improved grassland (SI)
  - Maeschy grassland
  - Broad-leaved semi-natural woodland
  - Mixed semi-natural woodland
  - Broad-leaved plantation woodland
  - Coniferous plantation woodland
  - Mixed plantation woodland
  - Dense scrub
  - Tall ruderal
  - Pond
  - Watercourse
  - Environment Agency flood risk area 2 & 3
  - Intact hedgerow
  - Intact hedgerow with trees
  - Defunct hedgerow
  - Line of trees
  - Fence
  - Wet ditch
  - Tree
  - Japanese knotweed



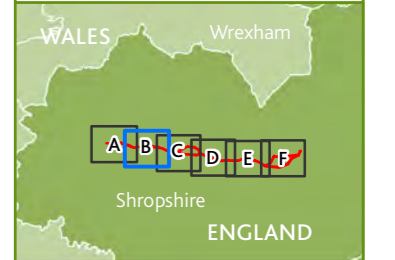
# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

### FIGURE 9.2

#### ECOLOGY - DESIGNATED SITES AND BROAD-SCALE HABITAT BASELINE

SECTION B



#### KEY

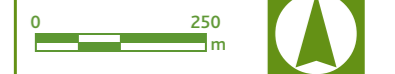
- Proposed Line Route**
- Section 1
  - Section 2 (Lower Hordley South)
  - Section 2 (Lower Hordley)
  - Section 3
  - Section 4 (Noneley North)
  - Section 4 (Noneley South)
- Proposed development boundary
- Access routes

#### Designated Sites

- Statutory**
- SSSI
- Non-Statutory**
- Ancient Woodland
  - LWS

#### Other Habitats of Note

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Maeschy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Environment Agency flood risk area 2 & 3
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed



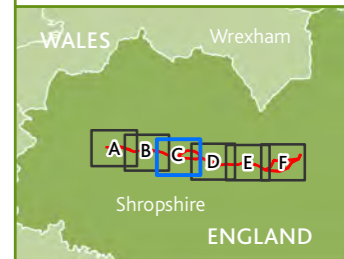
# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

### FIGURE 9.3

#### ECOLOGY - DESIGNATED SITES AND BROAD-SCALE HABITAT BASELINE

SECTION C



#### KEY

##### Proposed Line Route

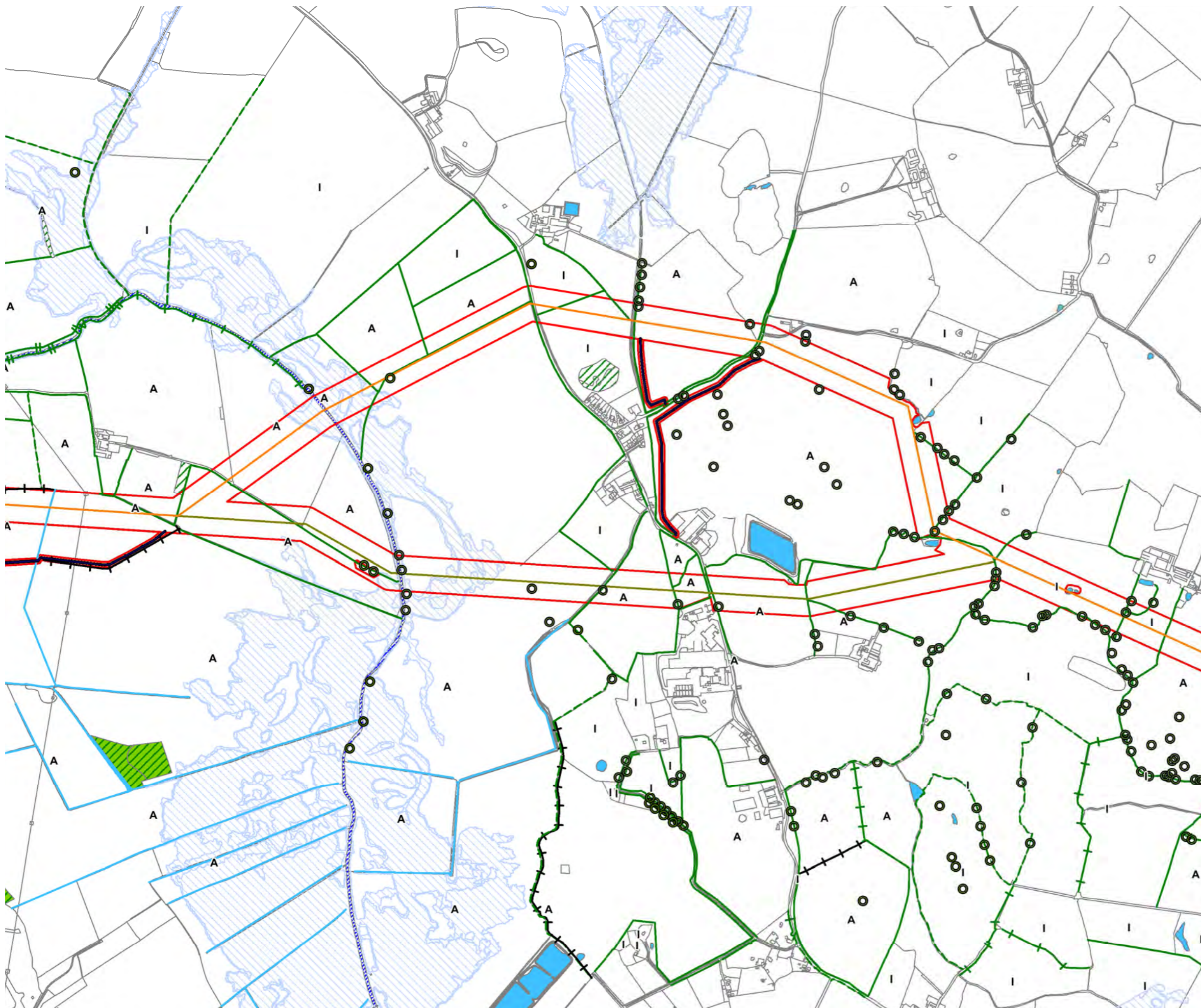
- Section 1
- Section 2 (Lower Hordley South)
- Section 2 (Lower Hordley)
- Section 3
- Section 4 (Noneley North)
- Section 4 (Noneley South)
- Proposed development boundary
- Access routes

##### Designated Sites

- Statutory
  - SSSI
- Non-Statutory
  - Ancient Woodland
  - LWS

##### Other Habitats of Note

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Maeschy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Environment Agency flood risk area 2 & 3
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed



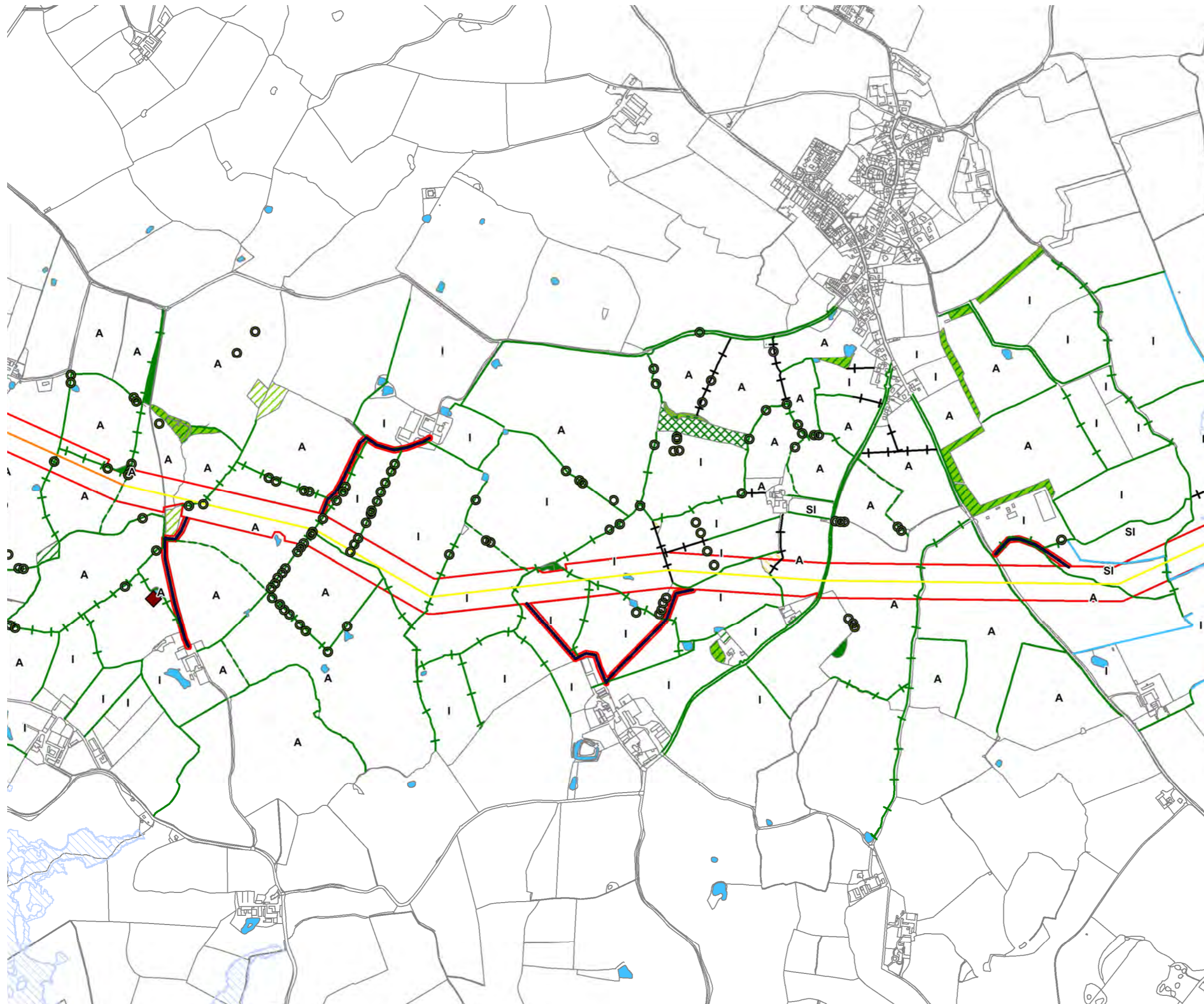
# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

FIGURE 9.4

ECOLOGY - DESIGNATED SITES AND BROAD-SCALE HABITAT BASELINE

SECTION D



**KEY**

**Proposed Line Route**

- Section 1
- Section 2 (Lower Hordley South)
- Section 2 (Lower Hordley)
- Section 3
- Section 4 (Noneley North)
- Section 4 (Noneley South)
- Proposed development boundary
- Access routes

**Designated Sites**

Statutory

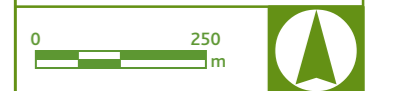
- SSSI

Non-Statutory

- Ancient Woodland
- LWS

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Maeschy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Environment Agency flood risk area 2 & 3
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed



# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

### FIGURE 9.5

#### ECOLOGY - DESIGNATED SITES AND BROAD-SCALE HABITAT BASELINE

SECTION E



#### KEY

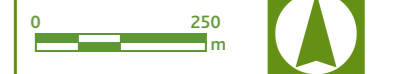
- Proposed Line Route**
- Section 1
  - Section 2 (Lower Hordley South)
  - Section 2 (Lower Hordley)
  - Section 3
  - Section 4 (Noneley North)
  - Section 4 (Noneley South)
- Proposed development boundary
- Access routes

#### Designated Sites

- Statutory**
- SSSI
- Non-Statutory**
- Ancient Woodland
  - LWS

#### Other Habitats of Note

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Maesly grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Environment Agency flood risk area 2 & 3
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed



# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

FIGURE 9.6

ECOLOGY - DESIGNATED SITES AND BROAD-SCALE HABITAT BASELINE

SECTION F



### KEY

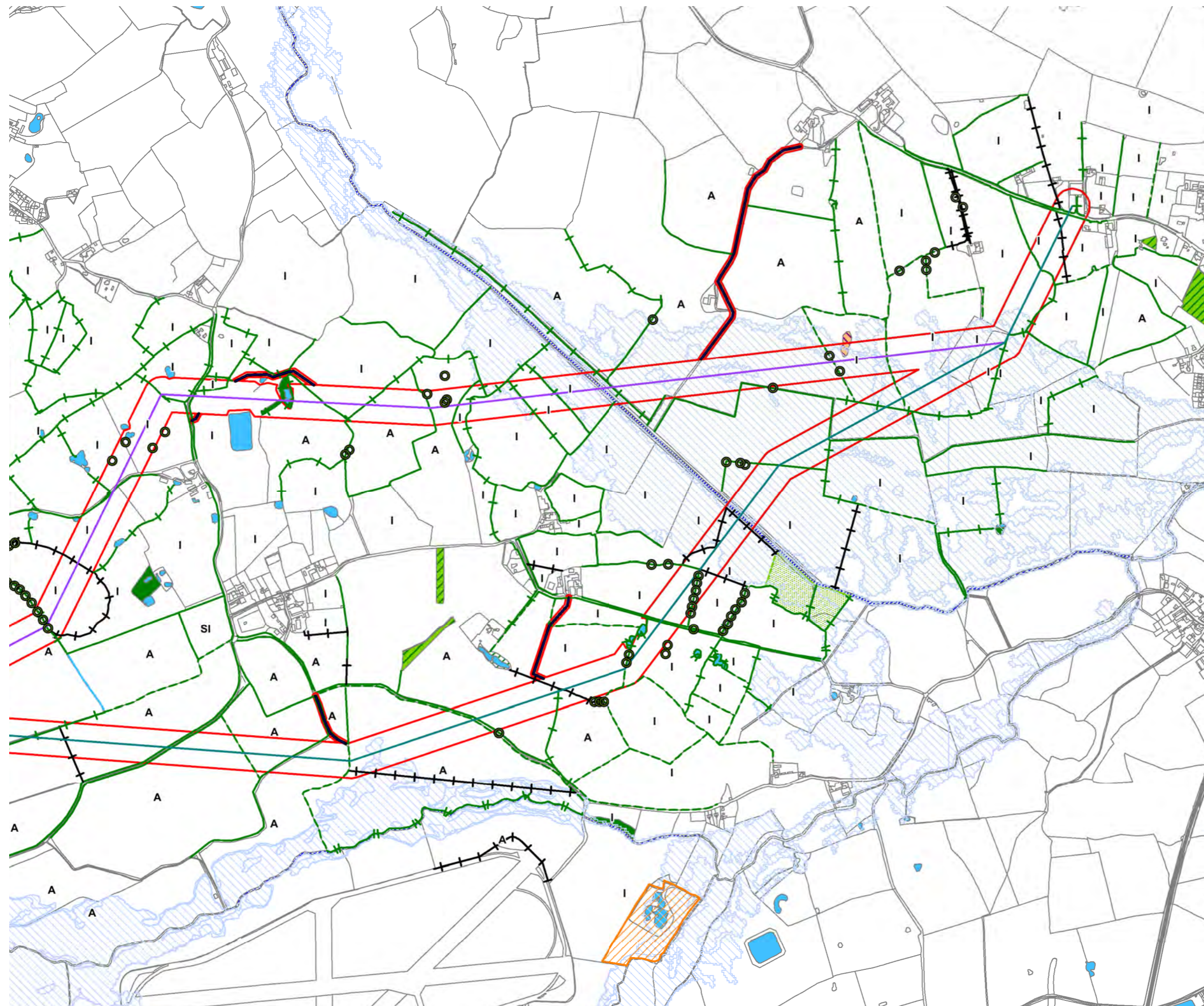
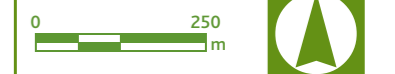
- Proposed Line Route**
- Section 1
  - Section 2 (Lower Hordley South)
  - Section 2 (Lower Hordley)
  - Section 3
  - Section 4 (Noneley North)
  - Section 4 (Noneley South)
- Proposed development boundary
- Access routes

### Designated Sites

- Statutory**
- SSSI
- Non-Statutory**
- Ancient Woodland
  - LWS

### Other Habitats of Note

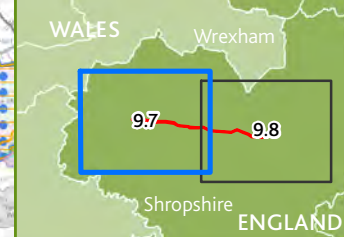
- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Maeschy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Environment Agency flood risk area 2 & 3
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed



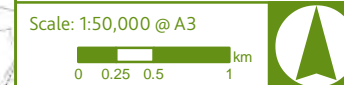
# NORTH SHROPSHIRE REINFORCEMENT PROJECT

## SCOPING REPORT

FIGURE 9.7  
ECOLOGY CONSTRAINTS



- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study Area
- Ecological Constraints**
- Shropshire Council Local Wildlife Site (LWS)
  - Special Area of Conservation (SAC)
  - Site of Special Scientific Interest (SSSI)
  - Ramsar
  - Local Nature Reserves (LNR)
  - National Nature Reserves (NNR)

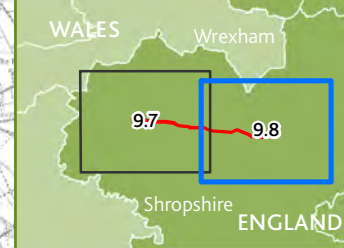




**NORTH SHROPSHIRE REINFORCEMENT PROJECT  
SCOPING REPORT**

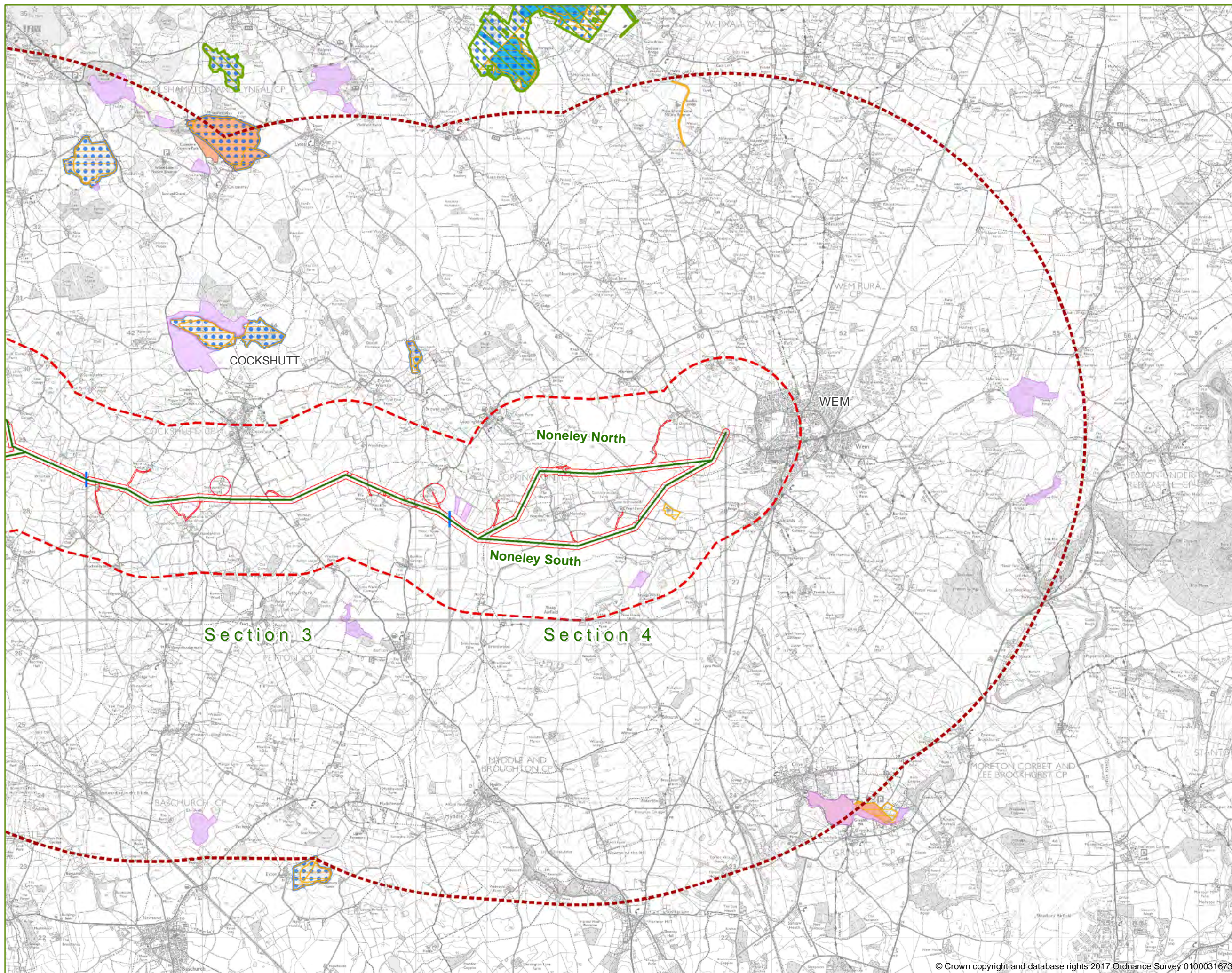
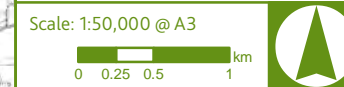
**FIGURE 9.8**

**ECOLOGY CONSTRAINTS**



- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study Area

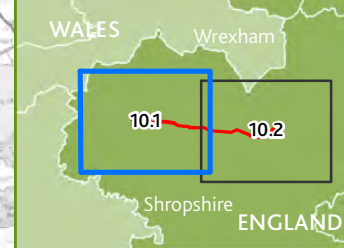
- Ecological Constraints**
- Shropshire Council Local Wildlife Site (LWS)
  - Special Area of Conservation (SAC)
  - Site of Special Scientific Interest (SSSI)
  - Ramsar
  - Local Nature Reserves (LNR)
  - National Nature Reserves (NNR)



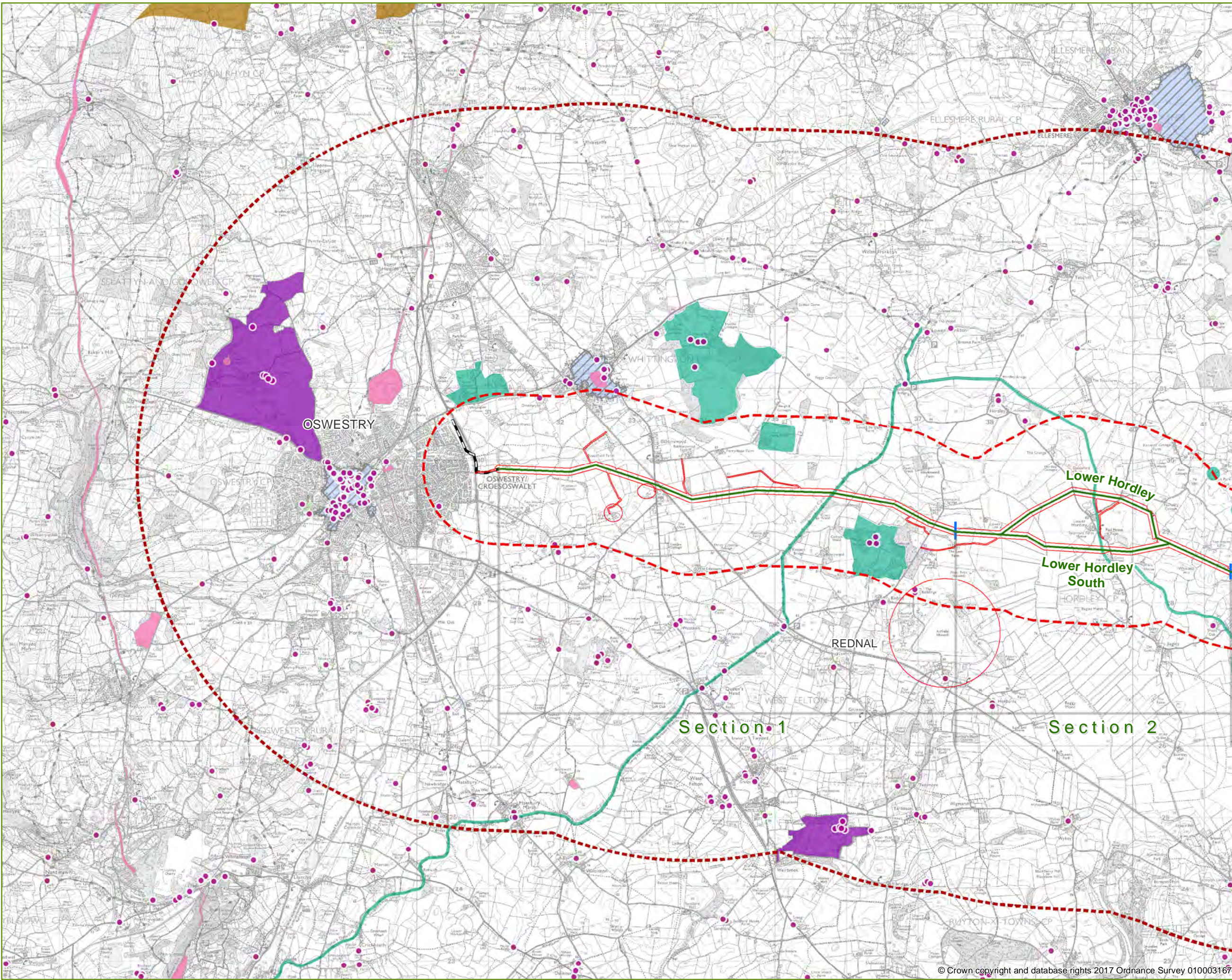
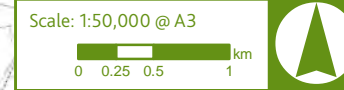
**NORTH SHROPSHIRE REINFORCEMENT PROJECT  
SCOPING REPORT**

**FIGURE 10.1**

**HISTORIC ENVIRONMENT ASSETS**



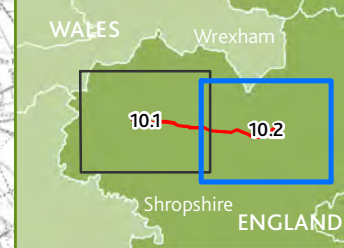
- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study Area
- Historic Environment Assets**
- Listed Buildings
  - Shropshire North Conservation Area
  - Scheduled Ancient Monument (SAM)
  - Registered Park and Gardens
  - World Heritage Site
  - Non-Designated Assets (within 1km study area)



**NORTH SHROPSHIRE REINFORCEMENT PROJECT  
SCOPING REPORT**

**FIGURE 10.2**

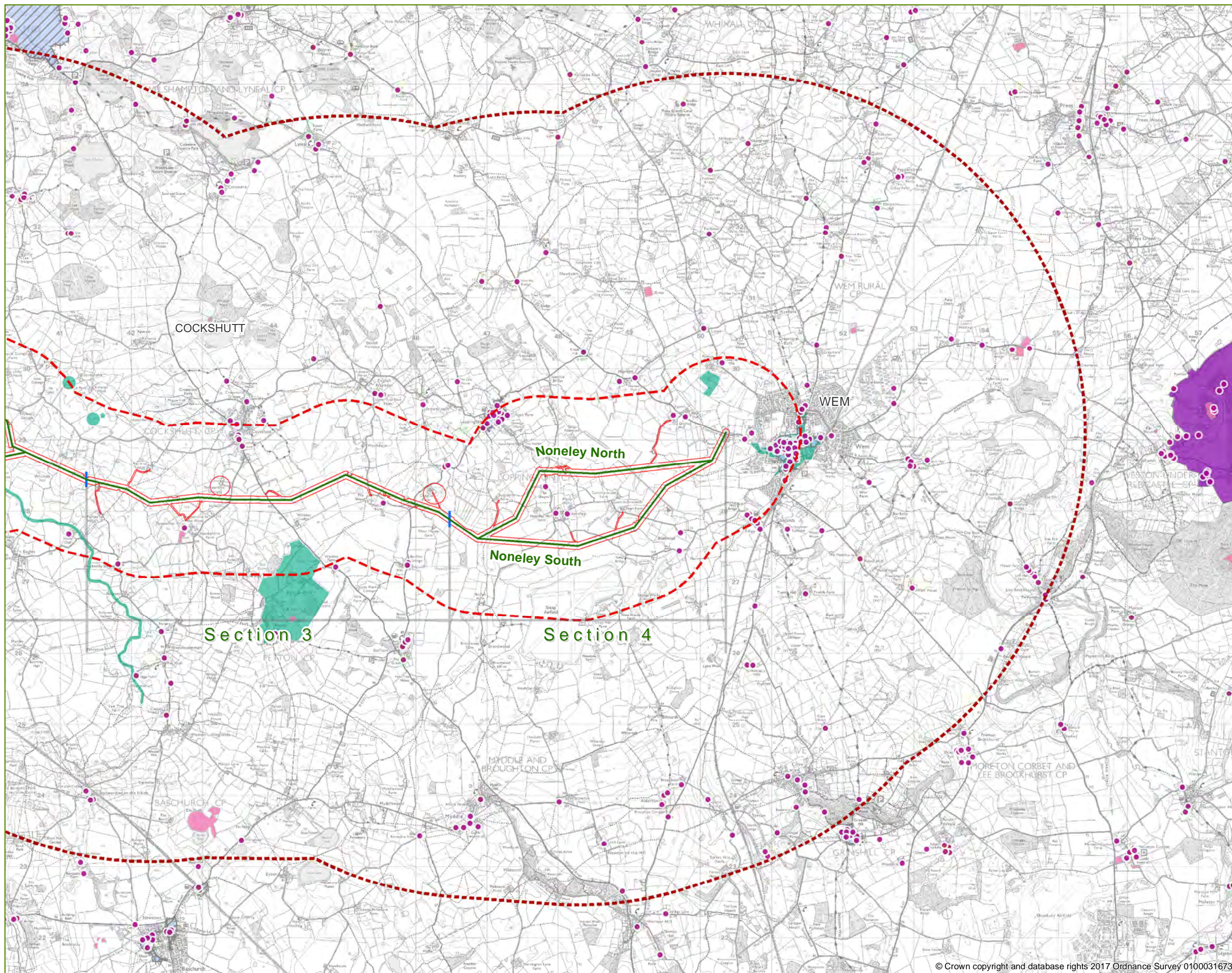
**HISTORIC ENVIRONMENT ASSETS**

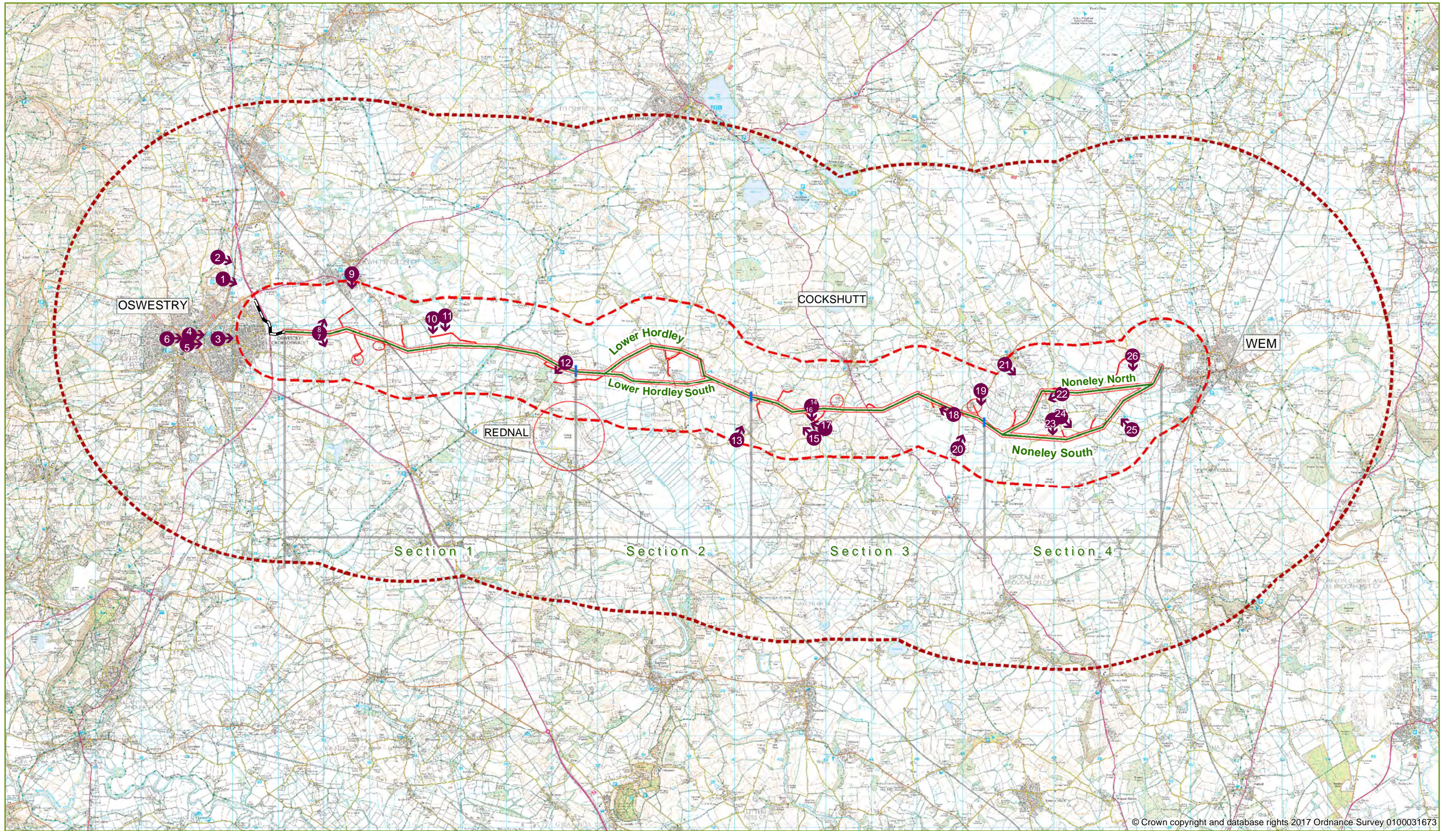


- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study Area

- Historic Environment Assets**
- Listed Buildings
  - Shropshire North Conservation Area
  - Scheduled Ancient Monument (SAM)
  - Registered Park and Gardens
  - World Heritage Site
  - Non-Designated Assets (within 1km study area)








Scale: 1:50,000 @ A3

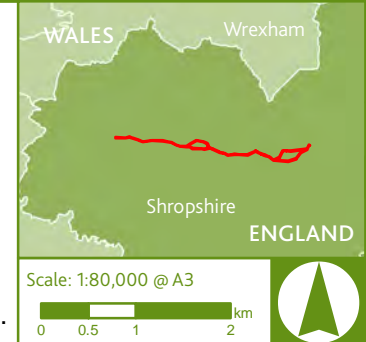




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**KEY**

-  Proposed Line Route
-  Section Separators
-  Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
-  Underground Route
-  1km Study Area
-  5km Study Area
-  Viewpoints



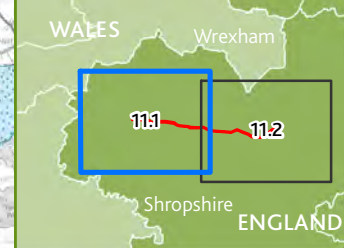
**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 10.3**  
**HISTORIC ENVIRONMENT VIEWPOINT LOCATIONS**



Note: See Appendix C for further details.

**NORTH SHROPSHIRE REINFORCEMENT PROJECT  
SCOPING REPORT**

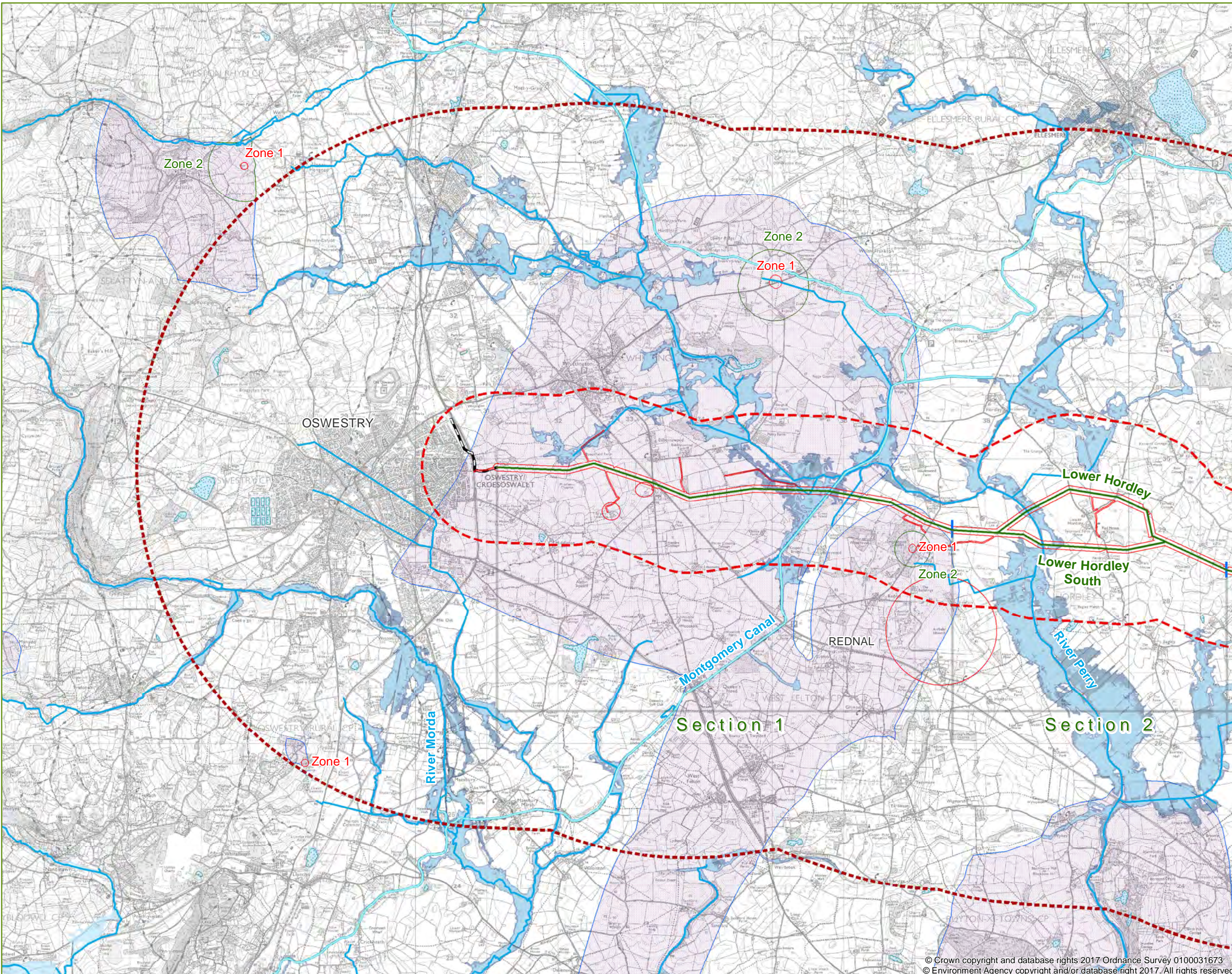
**FIGURE 11.1  
FLOOD RISK AND WATER RESOURCES CONSTRAINTS**



- KEY**
- Proposed Line Route
  - Section Separators
  - Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
  - Underground Route
  - 1km Study Area
  - 5 km Study Area

- Watercourses and Flood Risk**
- River / Watercourse
  - Canal
  - Lake
  - Flood Risk 2
  - Flood Risk 3
- Groundwater Source Protection Zones**
- Inner zone (Zone 1)
  - Outer zone (Zone 2)
  - Total catchment (Zone 3)

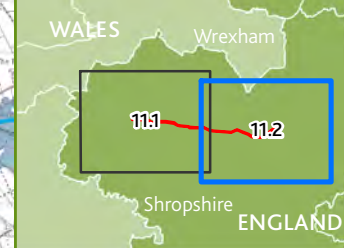
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**NORTH SHROPSHIRE REINFORCEMENT PROJECT  
SCOPING REPORT**

**FIGURE 11.2  
FLOOD RISK AND WATER RESOURCES CONSTRAINTS**



**KEY**

- Proposed Line Route
- Section Separators
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
- Underground Route
- 1km Study Area
- 5 km Study Area

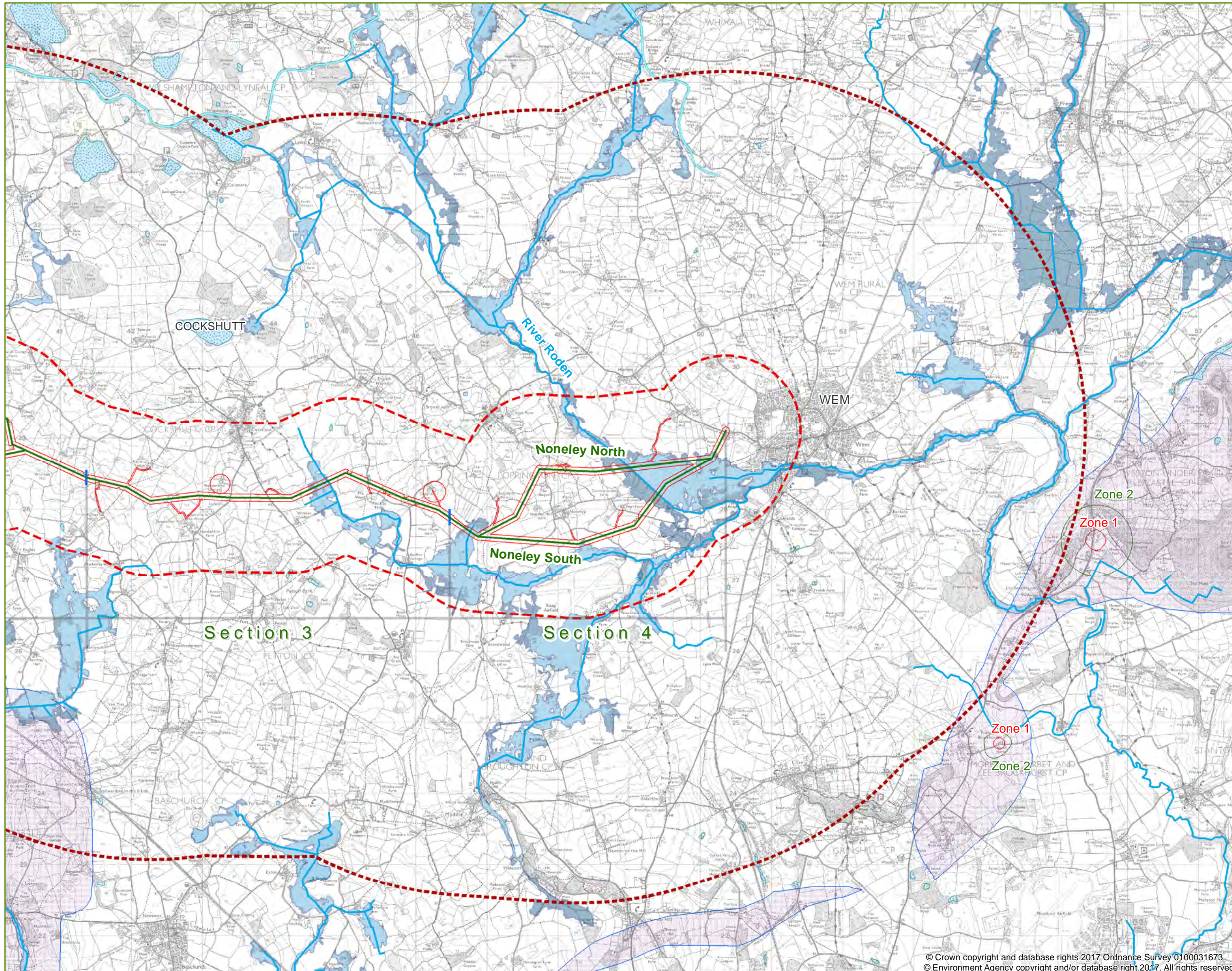
**Watercourses and Flood Risk**

- River / Watercourse
- Canal
- Lake
- Flood Risk 2
- Flood Risk 3

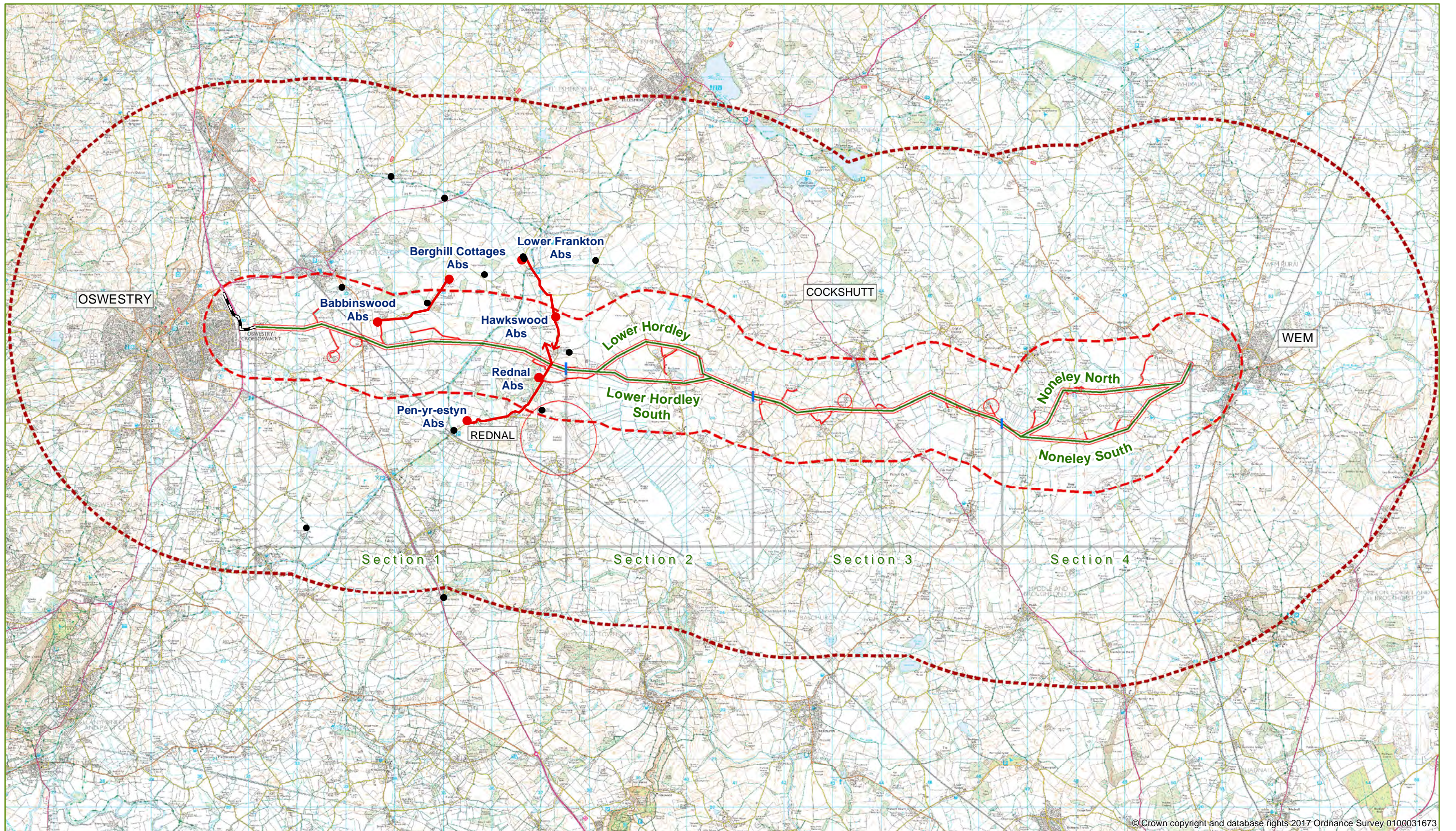
**Groundwater Source Protection Zones**

- Inner zone (Zone 1)
- Outer zone (Zone 2)
- Total catchment (Zone 3)

Scale: 1:50,000 @ A3



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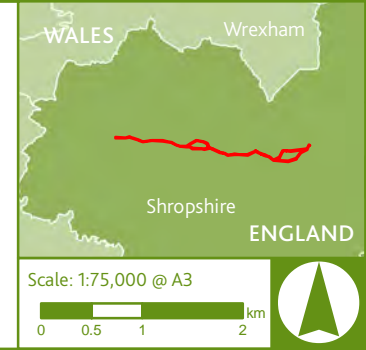
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**KEY**

- Proposed Line Route
- Section Separators
- 1km Study Area
- 5km Study Area
- Pipe Line
- Outfall
- Underground Route
- Observation Borehole
- Abstraction Borehole
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)

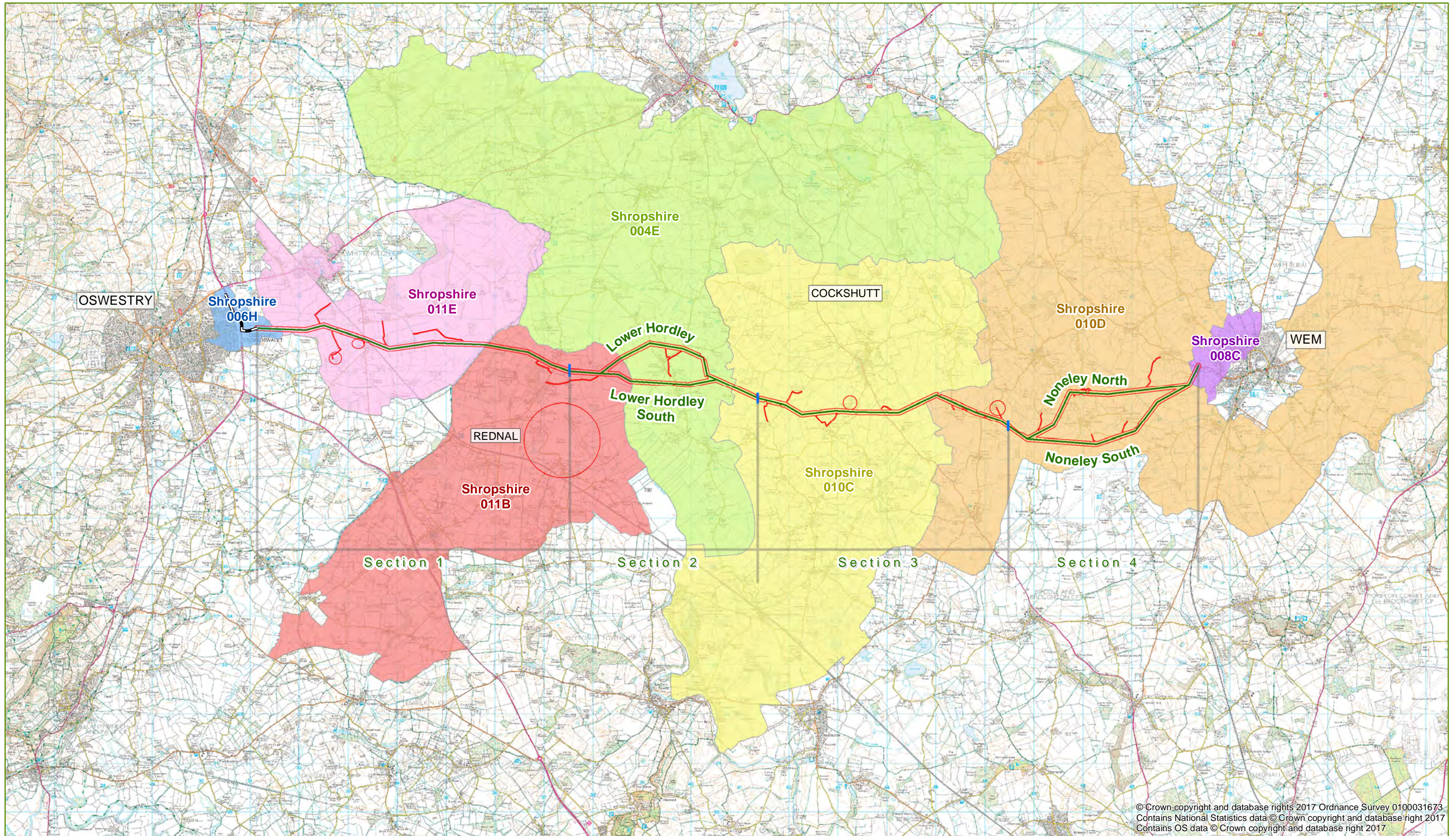
**Shropshire Groundwater Scheme Phase 7**

- Abstraction Borehole
- Observation Borehole
- Pipe Line
- Outfall



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 11.3**  
**SHROPSHIRE GROUNDWATER SCHEME PHASE 7**  
 Location of Pumping Stations and Distribution Pipe Line





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 Contains OS data © Crown copyright and database right 2017

**KEY**

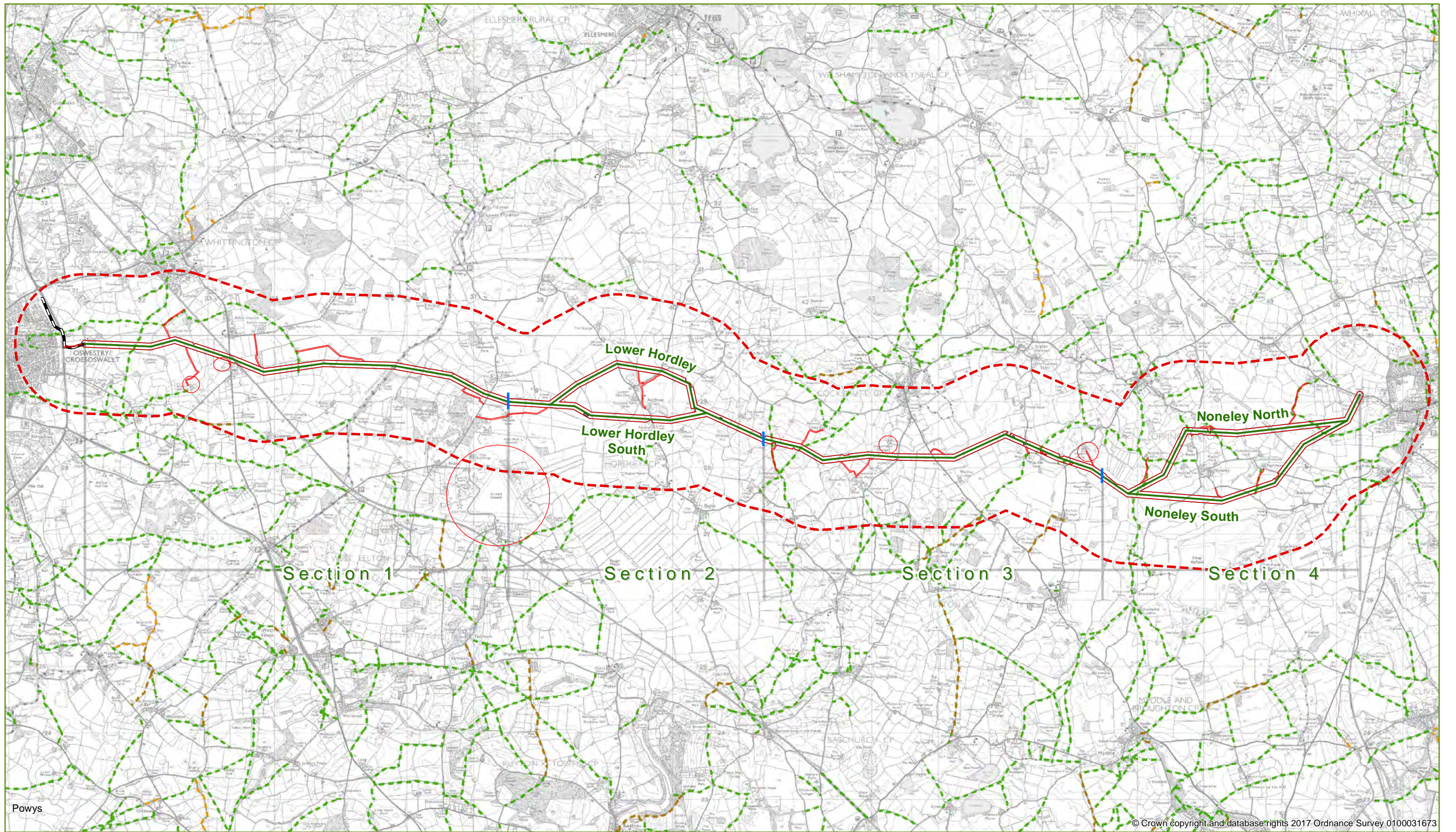
- |  |                          |                 |
|--|--------------------------|-----------------|
| Proposed Line Route  | Lower Layer Super Output | Shropshire 010C |
| Section Separation Indicators  | Shropshire 004E          | Shropshire 010D |
| Scoping Stage Project Boundary<br>(incorporating 100m wide corridor with<br>indicative access tracks and search<br>areas for construction compounds) | Shropshire 006H          | Shropshire 011B |
| Underground Route  | Shropshire 008C          | Shropshire 011E |



**NORTH SHROPSHIRE  
 REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 12.1**  
**SOCIO-ECONOMIC SUPER  
 OUTPUT AREAS**







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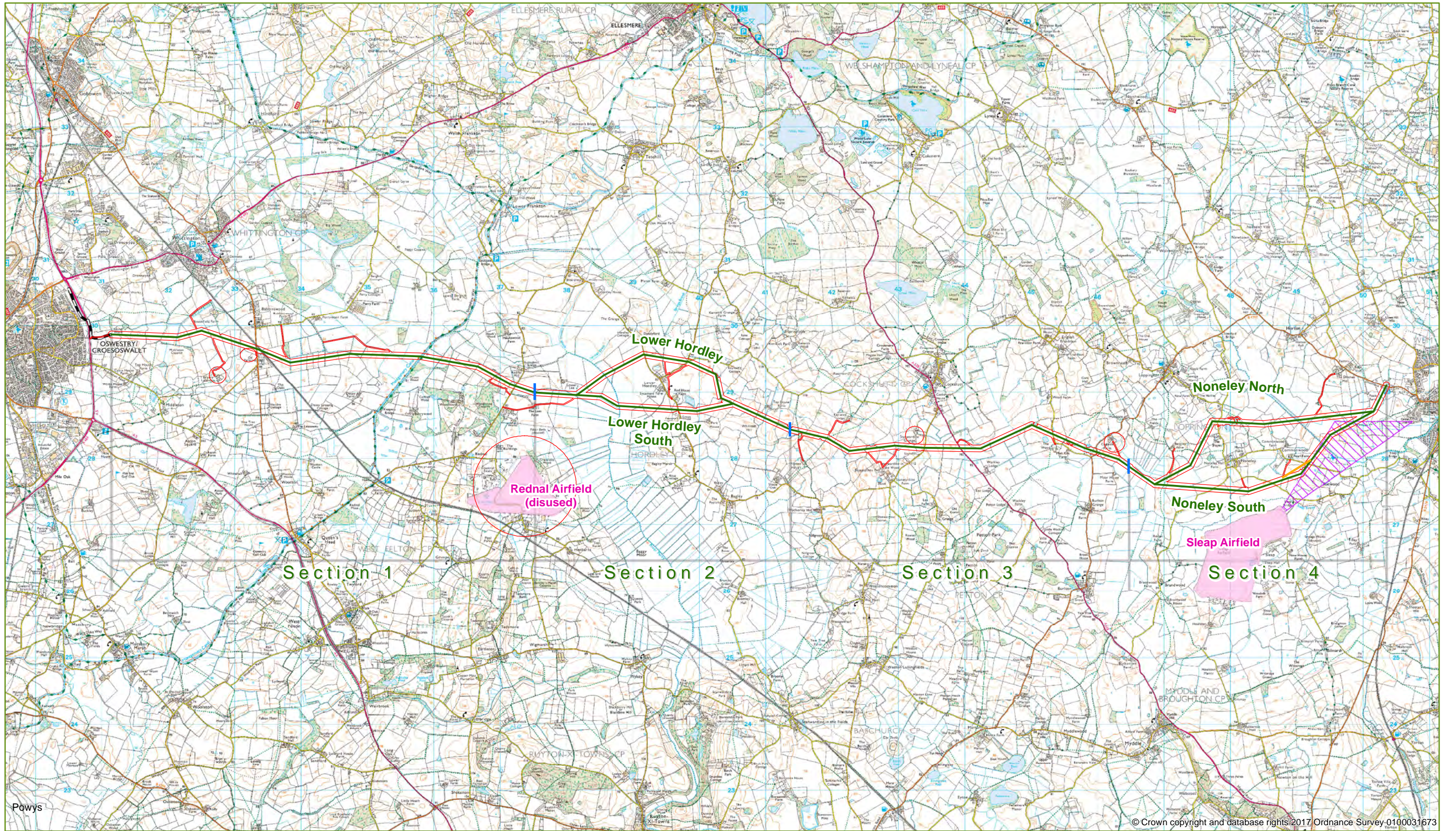
**KEY**

- Proposed Line Route
- Underground Route
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
- 100m Corridor (excluding any woodland, ponds and commercial premises)
- Section Separators
- 1km Study
- Public Rights of Way
- Bridleway
- Footpath
- Restricted Byway



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
SCOPING REPORT  
FIGURE 12.2  
PUBLIC RIGHTS OF WAY





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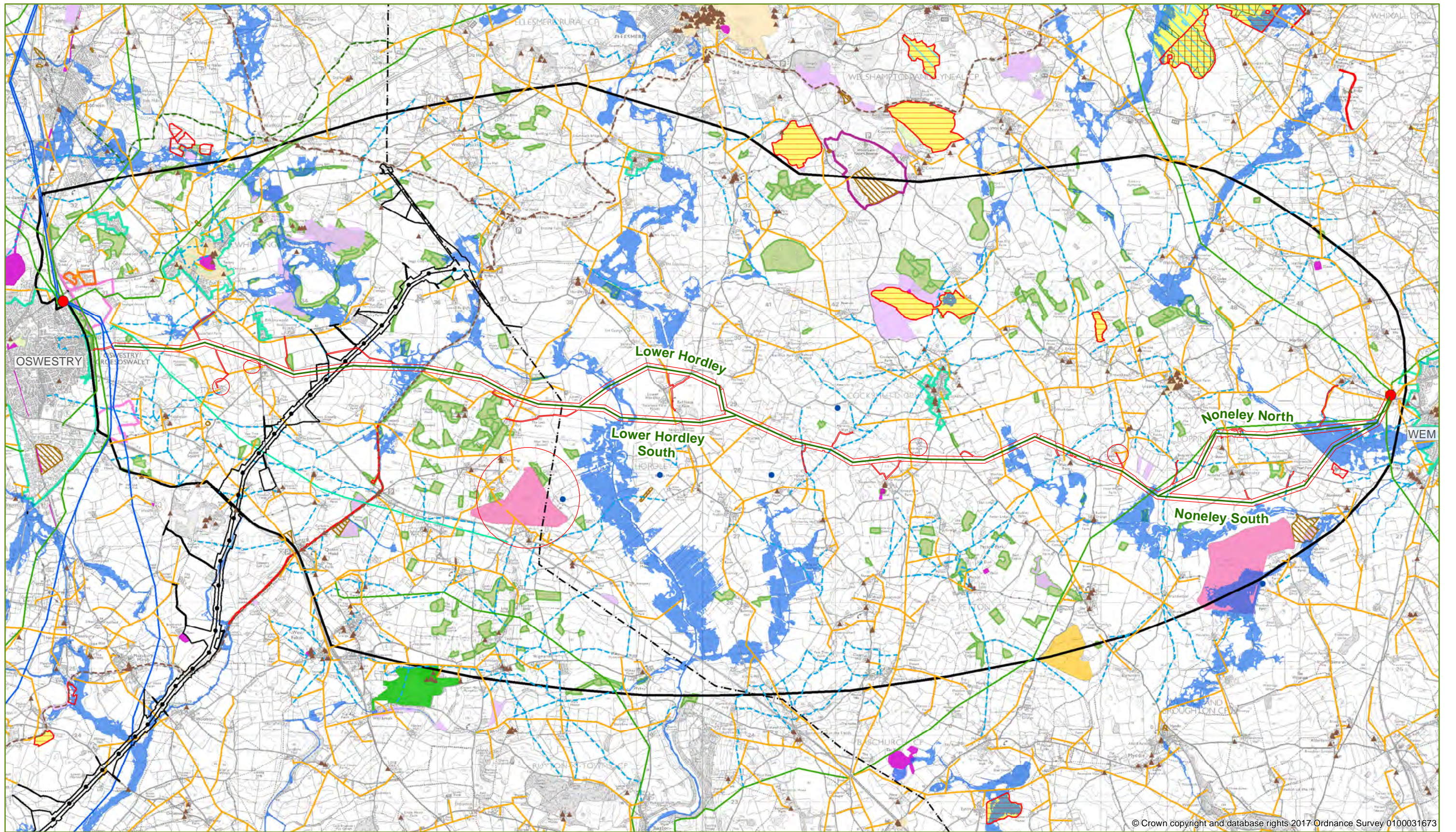
**KEY**

- Proposed Line Route
- Section Separators
- Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
- Underground Route
- Airfield
- Approach Route to Sleep
- Suggested Stand-off Route (proposed by Shropshire Council)



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 12.3**  
**AIRFIELDS AND APPROACH ROUTE**

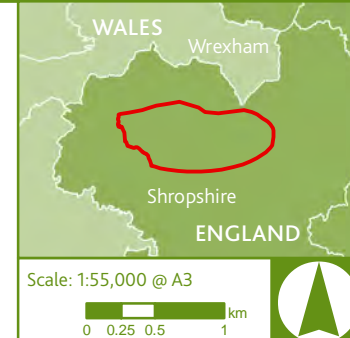




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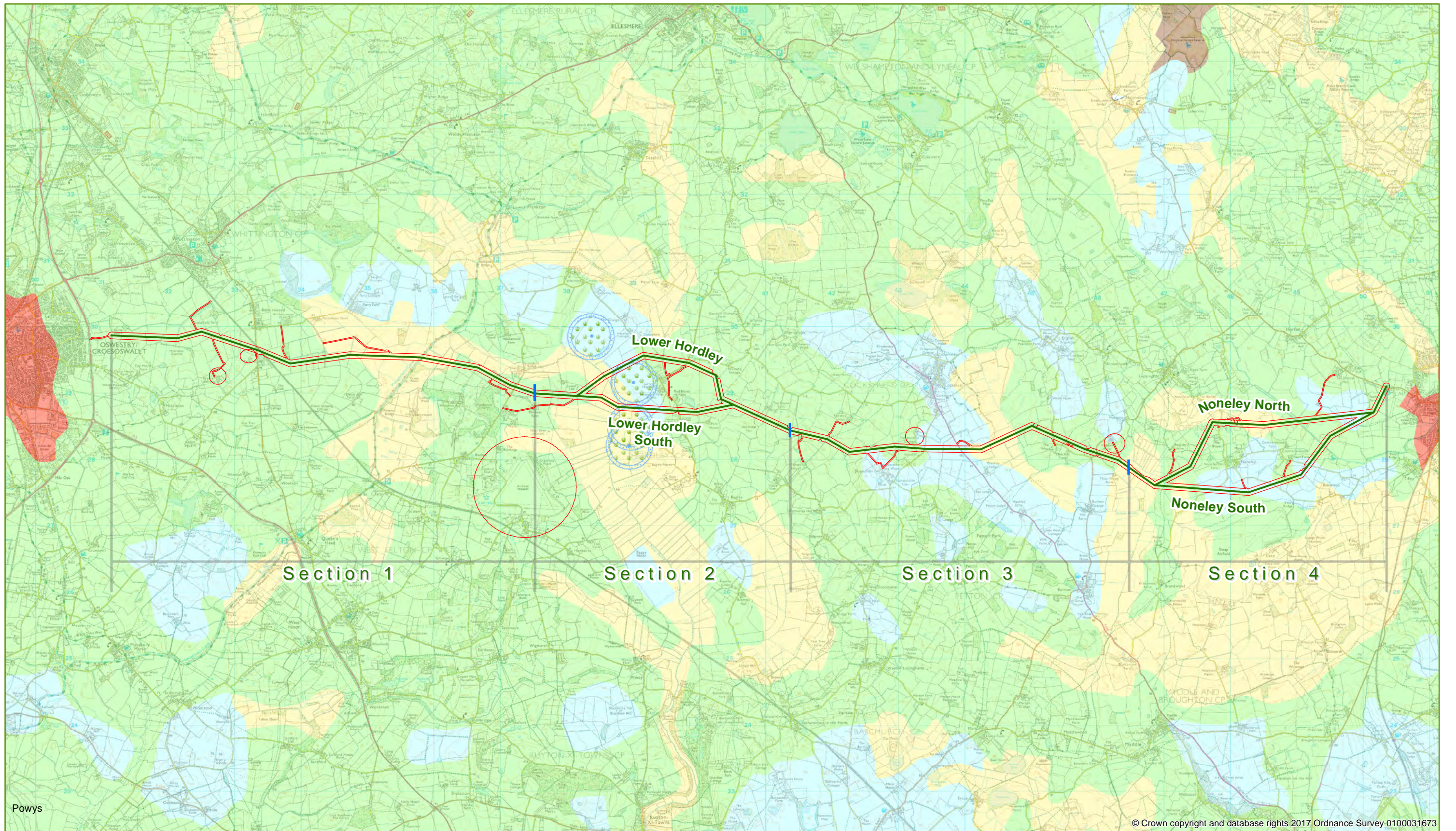
**KEY**

- |  |  |  |  |  |
|--|--|--|--|--|
| <ul style="list-style-type: none"> <li> Proposed Line Route</li> <li> Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)</li> <li> Study</li> <li> National Grid 400 kV OHL</li> <li> SPEN Substation Compound</li> </ul> | <ul style="list-style-type: none"> <li> SPEN 11 kV OHL</li> <li> SPEN 33 kV OHL</li> <li> SPEN 132 kV OHL</li> <li> SPEN Former OHL</li> <li> Approximate Location of Existing Wind Turbines</li> <li> Ramsar</li> <li> Site of Specific Scientific Interest (SSSI)</li> </ul> | <ul style="list-style-type: none"> <li> Special Area of Conservation</li> <li> National Nature Reserve (NNR)</li> <li> Local Nature Reserve</li> <li> Registered Common Land</li> <li> Shropshire Council Wildlife Sites</li> <li> Woodland (inc. Ancient &amp; Semi-Natural)</li> <li> Listed Building (Grade I, II and II*)</li> </ul> | <ul style="list-style-type: none"> <li> Scheduled Monument</li> <li> Registered Parks and Garden</li> <li> Shropshire North Conservation Area</li> <li> Development boundary</li> <li> Employment</li> <li> Existing site (Former Quarry)</li> <li> Protected employment site</li> </ul> | <ul style="list-style-type: none"> <li> Airfield</li> <li> Burlton Solar Farm (In Construction)</li> <li> Canal Towpath</li> <li> National Cycleway</li> <li> Public Rights of Way</li> <li> Landfill Site (Authorised &amp; Historic)</li> <li> Flood Risk Zone 3 - High Probability</li> </ul> |
|--|--|--|--|--|



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 13.1**  
**FIGURE 2.5 FROM ROUTE CORRIDOR OPTIONS REPORT, JUNE 2016**  
 Composite Constraints - with Proposed Line Route and Scoping Stage Project Boundary
















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**KEY**

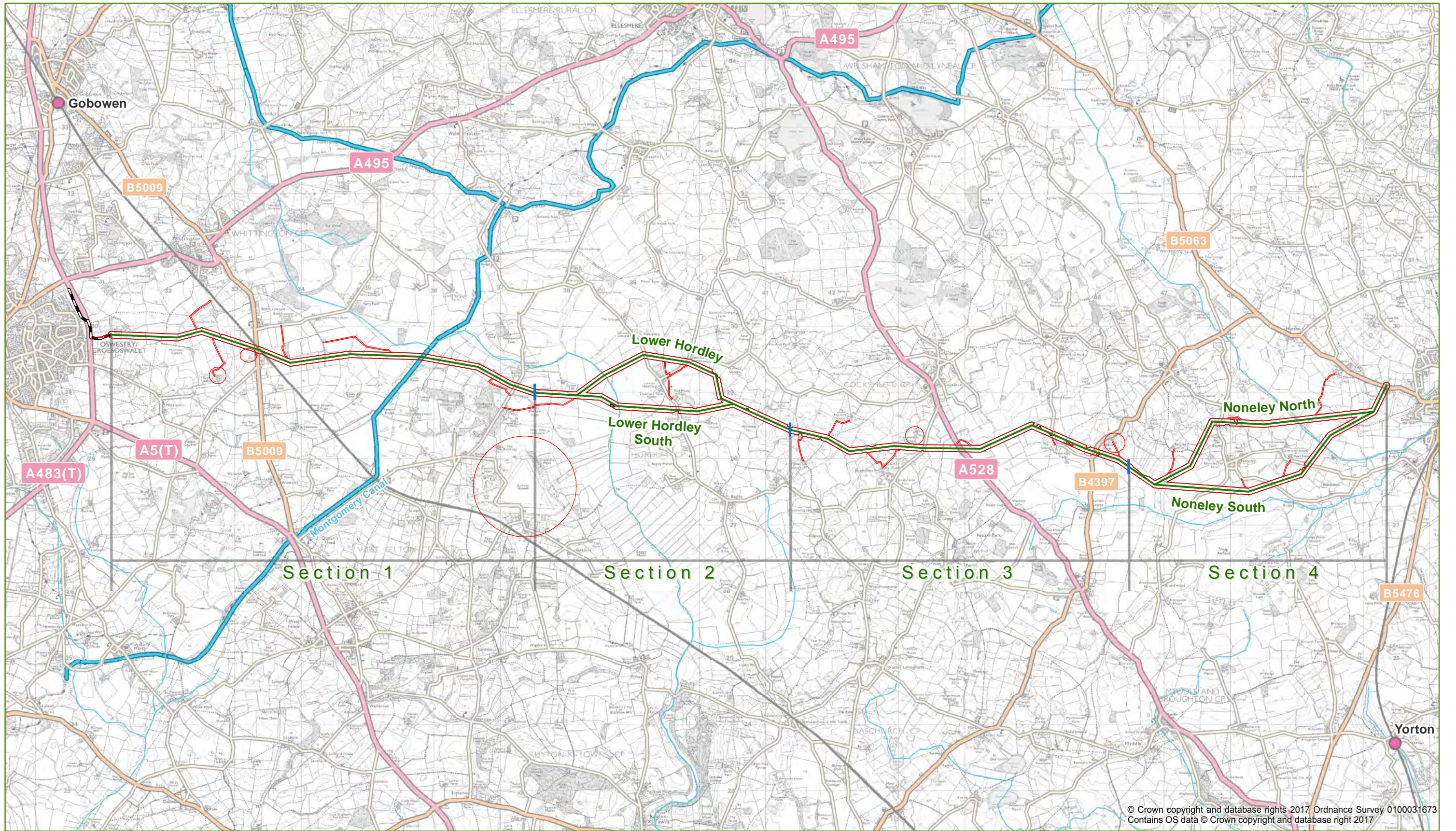
-  Proposed Line Route
-  Section Separators
-  Scoping Stage Project Boundary (incorporating 100m wide corridor with indicative access tracks and search areas for construction compounds)
-  Centre Point Irrigation Systems

- Provisional ALC © ADAS & Defra
- |  |  |
|--|--|
|  Grade 1 |  Grade 5          |
|  Grade 2 |  Non Agricultural |
|  Grade 3 |  Urban            |
|  Grade 4 |  |



**NORTH SHROPSHIRE  
REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 13.2**  
**AGRICULTURAL LAND  
CLASSIFICATION**





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| KEY |   |  |                    |
|-----|---|--|--------------------|
|     | Proposed Line Route   |  | Section Separators |
|     | Initial Underground Route Option  |  | A Road             |
|     | 100m Corridor (excluding any woodland, ponds and commercial premises)                         |  | B Road             |
|     | 100m wide corridor with indicative access tracks and search areas for construction compounds) |  | Minor Road         |
|     | Railway Station   |  | Motorway           |
|     | Railway line  |  | Canals             |
|     | Rivers  |  |                    |



**NORTH SHROPSHIRE REINFORCEMENT PROJECT**  
**SCOPING REPORT**  
**FIGURE 15.1**  
**TRAFFIC AND TRANSPORT**



## APPENDIX B – LIST OF STATUTORY CONSULTEES

| <b>Appendix B</b>   |                 |
|---|-----------------|
| <b>List of Bodies Consulted (from Appendix 2 of the Stage One Consultation Feedback Report)</b> |                 |
| <b>ORGANISATION</b>   | <b>Feedback</b> |
| <b>STATUTORY STAKEHOLDERS</b>   |                 |
| <b>Parish Councils Directly Affected within the Consultation Zone</b>                           |                 |
| Baschurch Parish Council  | <b>Yes</b>      |
| Cockshutt Parish Council  | <b>Yes</b>      |
| Hordley Parish Council  | <b>Yes</b>      |
| Loppington Parish Council   | <b>Yes</b>      |
| Oswestry Rural Parish Council   | <b>Yes</b>      |
| Oswestry Town Council   |                 |
| Wem Rural Parish Council  | <b>Yes</b>      |
| Wem Urban Parish Council  | <b>Yes</b>      |
| West Felton Parish Council  | <b>Yes</b>      |
| Whittington Parish Council  | <b>Yes</b>      |
|   |                 |
| <b>Parish Councils with Areas within the Consultation Zone</b>                                  |                 |
| Ellesmere Rural Parish Council  |                 |
| Myddle, Broughton and Harmer Hill Parish Council  |                 |
| Prees Parish Council  |                 |
| Ruyton-XI-Towns Parish Council  |                 |
| Sellattyn and Gobowen Parish Council  |                 |
| Welshampton and Lyneal Parish Council   |                 |
|   |                 |

| <b>Appendix B</b>   |                 |
|---|-----------------|
| <b>List of Bodies Consulted (from Appendix 2 of the Stage One Consultation Feedback Report)</b> |                 |
| <b>ORGANISATION</b>   | <b>Feedback</b> |
| <b>Additional Parish Councils included in the Consultation</b>                                  |                 |
| Whitchurch Town Council   |                 |
| Whitchurch Rural Parish Council   |                 |
|   |                 |
| <b>Other Statutory Stakeholders</b>   |                 |
| Planning Inspectorate   |                 |
| Shropshire Council  | <b>Yes</b>      |
| Natural England   | <b>Yes</b>      |
| The Environment Agency  | <b>Yes</b>      |
| The Environment Agency (Midlands Region)  |                 |
| The Forestry Commission (West Midlands)   | <b>Yes</b>      |
| The Forestry Commission (HQ)  | <b>Yes</b>      |
| Historic England  |                 |
| Historic England (Birmingham office)  |                 |
| Design Council CABE   |                 |
| Highways England  |                 |
| Shropshire Council Highways   |                 |
| The Civil Aviation Authority  |                 |
| Network Rail  |                 |
| West Midlands Passenger Transport Executive   |                 |
| Transport Focus   |                 |



| <b>Appendix B</b>   |                 |
|---|-----------------|
| <b>List of Bodies Consulted (from Appendix 2 of the Stage One Consultation Feedback Report)</b> |                 |
| <b>ORGANISATION</b>   | <b>Feedback</b> |
| The Disabled Persons Transport Advisory Committee   |                 |
| The Office of Rail Regulation   |                 |
| Network West Midlands (Integrated Transport Authority)  |                 |
| Canal and River Trust   | <b>Yes</b>      |
| Health & Safety Executive   |                 |
| West Midlands Strategic Health Authority  |                 |
| Shropshire Fire & Rescue Authority  |                 |
| Police and Crime Commissioner for West Mercia   |                 |
| Equality and Human Rights Commission  |                 |
| The Homes and Communities Agency (HQ)   |                 |
| The Homes and Communities Agency (Midlands)   |                 |
| Council Crown Estates Commissioners   |                 |
| The Coal Authority  |                 |
| Ofgem   |                 |
| Marches Local Enterprise Partnership  |                 |
| Gas and Electricity Markets Authority (GEMA)  |                 |
| Ofwat   |                 |
| Melverley Internal Drainage Board   |                 |
| SP Manweb   |                 |
| SP Distribution Limited   |                 |
| National Grid Electricity Transmission Plc  |                 |

| <b>Appendix B</b>   |                 |
|---|-----------------|
| <b>List of Bodies Consulted (from Appendix 2 of the Stage One Consultation Feedback Report)</b> |                 |
| <b>ORGANISATION</b>   | <b>Feedback</b> |
| National Grid Plc   |                 |
| National Grid Gas Plc   |                 |
| ESP Electricity Limited   |                 |
| Independent Power Networks Limited  |                 |
| The Electricity Network Company   |                 |
| Western Power Distribution (South Wales) Plc  |                 |
| Northern Powergrid  |                 |
| Energetics Gas Limited  |                 |
| Energetics Electricity Limited  |                 |
| ES Pipelines Ltd  |                 |
| ESP Connections Ltd   |                 |
| ESP Networks Ltd  |                 |
| ESP Pipelines Ltd   |                 |
| Fulcrum Pipelines Limited   |                 |
| GTC Pipelines Limited   |                 |
| Independent Pipelines Limited   |                 |
| LNG Portable Pipeline Services Limited  |                 |
| Quadrant Pipelines Ltd  |                 |
| Severn Trent Water  | <b>Yes</b>      |
| SSE Pipelines   |                 |
| Scotland Gas Networks Plc   |                 |

**Appendix B**

**List of Bodies Consulted (from Appendix 2 of the Stage One Consultation Feedback Report)**

| <b>ORGANISATION</b>        | <b>Feedback</b> |
|----------------------------|-----------------|
| Southern Gas Networks Plc  |                 |
| Royal Mail Group           |                 |
| BT Plc                     |                 |
| Ministry of Defence – DVOF | <b>Yes</b>      |

## APPENDIX C – VIEWPOINT SCHEDULES

North Shropshire Reinforcement Project  
Scoping Report  
Appendix C

| North Shropshire Reinforcement Project - Potential Viewpoints (Scoping Report Appendix C) |   |                 |                         |                                |
|---|---|-----------------|-------------------------|--------------------------------|
| See Figure 8.2 for plan illustrating viewpoint locations                                  |   |                 |                         |                                |
| Within 1km detailed study area  |   |                 |                         |                                |
| VP No.  | Location  | Approx E/N      | Receptor type           | Notes                          |
| 1   | Oswestry (edge) / A5 / PRoW 0306/12/7           | 330838 / 329429 | Settlement, PRoW, Road  |                                |
| 2   | Middleton / PRoW 0307/65/1                      | 331618 / 329284 | Settlement, PRoW        |                                |
| 3   | PRoW 0313/41/1                                  | 331691 / 329966 | PRoW                    |                                |
| 4   | Whittington / Jct of PRoWs 0313/40 & 0313/64    | 332368 / 330767 | Settlement, PRoW, Rail  |                                |
| 5   | Bryn-Y-Plentyn / PRoW 0313/47/1                 | 332712 / 329091 | Settlement, PRoW        |                                |
| 6   | Babbinswood jct of B5009 & Berghill Lane        | 333320 / 329952 | Settlement, Road        |                                |
| 7   | Berghill Lane / PRoW 0313/44/2                  | 334086 / 330123 | Road, PRoW              |                                |
| 8   | Montgomery Canal / Shropshire Way               | 335166 / 328750 | Trail                   |                                |
| 9   | Montgomery Canal / Shropshire Way (under line)  | 335871 / 329626 | Trail                   |                                |
| 10  | Montgomery Canal / Shropshire Way (River Perry) | 336370 / 329990 | Trail                   |                                |
| 11  | Rednal Mill on Woodhouse Drive                  | 337355 / 329312 | Settlement, Road        |                                |
| 12  | Lower Hordley                                   | 339398 / 329210 | Settlement, Road        |                                |
| 13  | Standor / PRoW 0214/2R/1                        | 339542 / 328116 | Road, PRoW              | Potentially screened by trees  |
| 14  | Kenwick Oak / PRoW 0207/14/3                    | 341501 / 328950 | Road, PRoW              |                                |
| 15  | Shade Oak Stud / PRoW 0207/15Y/1                | 341380 / 327845 | Settlement, PRoW        |                                |
| 16  | PRoW 0207/14/1                                  | 341750 / 327393 | Road, PRoW              |                                |
| 17  | Jct of PRoWs 0207/16 & 0207/15 nr Kenwick Lodge | 342573 / 328589 | PRoW                    |                                |
| 18  | Cockshutt / PRoW 0207/15/3                      | 343125 / 328881 | Settlement, PRoW, Road  |                                |
| 19  | Cockshutt                                       | 343539 / 328618 | Settlement, Road        |                                |
| 20  | Stanwardine in the Wood                         | 343033 / 327849 | Settlement, Road        |                                |
| 21  | A528 / Wackley Lodge                            | 344205 / 327826 | Settlement, Road        |                                |
| 22  | Acorns Camp Site (nr Wood Farm)                 | 345397 / 329295 | Tourist, Settlement     |                                |
| 23  | PRoW 0217/4/2 nr Malt Kiln Farm                 | 345470 / 328225 | Settlement, PRoW        |                                |
| 24  | B4397 at Wackley Brook nr Bridleway 0217/3/1    | 345879 / 327391 | Settlement, Road        |                                |
| 25  | B4397 / PRoW 0217/6/1                           | 346381 / 328565 | Road, PRoW              |                                |
| 26  | Loppington / B4397 / PRoW 0217/9/2              | 346933 / 329150 | Settlement, PRoW, Road  |                                |
| 27  | PRoW 0217/9/1 nr local wildlife sites           | 347016 / 328220 | PRoW, LWS               |                                |
| 28  | PRoW 0217/10/1                                  | 346961 / 327222 | PRoW                    |                                |
| 29  | Salter Lane / PRoW 0217/13/1                    | 347902 / 328746 | Settlement, PRoW, Road  |                                |
| 30  | Noneley   | 347934 / 327912 | Settlement Road         | Location confirmed after route |
| 31  | River Roden                                     | 349338 / 328274 | Landscape               | May not be publicly accessible |
| 32  | PRoW 0217/14/1 nr Sleaf Airfield                | 348746 / 327548 | Road, PRoW              |                                |
| 33  | Common Wood PRoW 0217/UN1/1                     | 349612 / 327804 | Road, PRoW              |                                |
| 34  | The Ditches / B5063 / PRoW 0230/47/1            | 349709 / 329330 | Settlement, PRoW, Road  |                                |
| 35  | Low Hill Road                                   | 350310 / 330015 | Settlement, Road        |                                |
| 36  | Wem sub-station / B5063                         | 350494 / 329079 | Settlement, Road        |                                |
| 37  | Wem centre (find most open view)                | 351412 / 329109 | Settlement, Heritage    | Views extremely unlikely       |
| 38  | Wem (edge) / PRoW 0231/9/1                      | 350754 / 328803 | Settlement, PRoW        |                                |
| 39  | Wem (edge) / PRoW 0231/7/1 / Shropshire Way     | 350815 / 328325 | Settlement, PRoW, Trail |                                |
| 40  | Tilley / Shropshire Way                         | 350596 / 328000 | Settlement, Trail       |                                |
| 70  | Dandyford Cottages, Hordley                     | 339128 / 329727 | Settlement, Road        |                                |
| 71  | Unnamed Road, Kenwick                           | 340741 / 329596 | Settlement, Road        |                                |
| 72  | The Shays, Noneley                              | 347819 / 328371 | Settlement, Road        |                                |

North Shropshire Reinforcement Project  
Scoping Report  
Appendix C

| North Shropshire Reinforcement Project - Potential Viewpoints (Scoping Report Appendix C) |  |                 |                               |                                   |
|---|--|-----------------|-------------------------------|-----------------------------------|
| See Figure 8.2 for plan illustrating viewpoint locations                                  |  |                 |                               |                                   |
| Within 1km-5km wider study area   |  |                 |                               |                                   |
| VP No.  | Location   | Approx E/N      | Receptor type                 | Notes                             |
| 41  | Brogynryn Reg. Park & Garden / ResByway 0310/27A/4                       | 327966 / 331282 | Landscape Des, PRoW           |                                   |
| 42  | Old Racecourse (high point in land nr Offa's Dyke Path), PRoW 0307/111/4 | 325916 / 330496 | Landscape Des, PRoW           | Offa's Dyke Path itself is wooded |
| 43  | Shropshire Way at Gronwen (high point in land)                           | 327772 / 326527 | Settlement, Trail             | Views extremely unlikely          |
| 44  | Oswestry Castle  | 329008 / 329595 | Settlement, Heritage          | Views extremely unlikely          |
| 45  | Oswestry Iron Age Fort   | 329600 / 330984 | Scheduled Ancient Mon         |                                   |
| 46  | Park Hall Countryside Experience   | 330647 / 331656 | Tourist, Leisure, Settlement  | Views unlikely                    |
| 47  | Golbown / PRoW 0310/27/1 / NCR 455                                       | 330692 / 333195 | Settlement, PRoW              | Views extremely unlikely          |
| 48  | Whittington Castle   | 332610 / 331102 | Tourist, Heritage, Settlement | Views extremely unlikely          |
| 49  | Welsh Frankton / A495 / PRoW 0208/55/1                                   | 336369 / 333359 | Settlement, PRoW, Road        |                                   |
| 50  | Lee Old Hall / PRoW 0208/59/1  | 340196 / 332410 | Settlement, PRoW              |                                   |
| 51  | Wood Lane NR / Colemere Country Park                                     | 342534 / 332959 | Landscape Des, Road           |                                   |
| 52  | Crosemere LWS / PRoW 0207/2/3  | 343430 / 330304 | Landscape Des, PRoW           |                                   |
| 53  | Lee Brockhurst / PRoW 0219/4/1 / Shropshire Way                          | 354401 / 327578 | Trail, PRoW                   | Views extremely unlikely          |
| 54  | Palms Hill / PRoW 0230/31/1  | 352226 / 327524 | Settlement, PRoW              | Views unlikely                    |
| 55  | Trench Hall / PRoW 0230/37/1 / Shropshire Way                            | 351509 / 326551 | PRoW, Trail                   | Views unlikely                    |
| 56  | Clive / PRoW 0206/1/2  | 350999 / 324408 | Settlement, PRoW              | Views extremely unlikely          |
| 57  | Newton on the Hill / A528 / PRoW 0221/68/1                               | 348173 / 322933 | Road, PRoW (high ground)      |                                   |
| 58  | Burlton / A528   | 345598 / 326247 | Settlement, Road              | Views unlikely                    |
| 59  | Petton / PRoW 0223/4/4   | 343745 / 326908 | Settlement, PRoW              | Views extremely unlikely          |
| 60  | Boreatton Park / PRoW 0202/10/1  | 340640 / 324351 | Tourist, Leisure, PRoW        |                                   |
| 61  | Baggy Moor (bridge over river) / PRoW 0311/15/1                          | 338733 / 327558 | PRoW                          |                                   |
| 62  | Quarry Wood (high ground) / PRoW 0311/22/1                               | 336995 / 326463 | PRoW                          |                                   |
| 63  | Pradoe Reg. Park & Garden / PRoW 0308/2/1                                | 335518 / 324657 | Landscape Des, PRoW           | Views extremely unlikely          |
| 64  | Maesbury Marsh, Shropshire Way   | 331543 / 325044 | Settlement, Trail             | Views extremely unlikely          |
| 65  | Oswestry Golf Club / PRoW  | 333007 / 326839 | Leisure, PRoW                 |                                   |
| 66  | North Wood Hall  | 349049 / 331061 | Settlement, Heritage, Road    |                                   |
| 67  | Ryebank, Shropshire Way  | 350987 / 330793 | Settlement, Road, PRoW, Trail |                                   |
| 68  | Myddle Hill, PRoW  | 346998 / 324236 | Settlement, PRoW, Road        |                                   |
| 69  | Church Farm Cottages, Hordley  | 338278 / 330656 | Settlement, Road              |                                   |

North Shropshire Reinforcement Project  
Scoping Report  
Appendix C

| North Shropshire Reinforcement Project - Historic Environment Viewpoints (Scoping Report Appendix C) |   |                 |  |         |
|--|---|-----------------|--|---------|
| See Figure 10.3 for plan illustrating viewpoint locations  |   |                 |  |         |
| VP No.   | Heritage Asset  | Approx E/N      | Location   | Looking |
| 1  | Oswestry Iron Age Hillfort (SM 1014899)   | 329790 / 331030 | E edge of hillfort                                   | ESE     |
| 2  | Wat's Dyke (SM 1014899, SM 1020564, SM 1020619)   | 329670 / 331510 | Wat's Dyke, N of Old Oswestry Hillfort               | ESE     |
| 3  | Wat's Dyke (SM 1020564)   | 329680 / 329720 | Wat's Dyke, S of Old Oswestry Hillfort (possible VP) | E       |
| 4  | Oswestry Castle (SM 1019300)  | 329050 / 329800 | Oswestry Castle (check view)                         | E       |
| 5  | Oswestry CA   | 329000 / 329600 | View to be determined                                | E       |
| 6  | Brogynryn (RPG 1001326)   | 328560 / 329720 | E side of RPG  | E       |
| 7  | Pool Farmhouse and Barn, Middleton Farmhouse (LB 1177306/ LB 1054273, LB 1367358)   | 331900 / 329840 | PRoW N of Middleton                                  | SSE     |
| 8  | Whittington CA  | 331900 / 329840 | PRoW N of Middleton                                  | NNE     |
| 9  | Whittington Castle (SM 1019450)   | 332615 / 331149 | Whittington Castle                                   | S       |
| 10   | Halston Hall Park (SHER MSA07627)   | 334390 / 330160 | S of Halston Hall Park                               |         |
| 11   | Perry Farm Roman marching camp (Non-designated HER 00935)   | 334660 / 330220 | W of Perry Farm Roman marching camp                  | S       |
| 12   | Woodhouse Grade II* listed building and Pump/Basin (LB 1054231/ LB 1177780) and Woodhouse Park (Non-designated HER 07644) | 337300 / 329200 | S of Rednall Barn                                    | SW      |
| 13   | Shade Oak Farmhouse (LB 1055946)  | 341050 / 327500 | S of Shade Oak Farmhouse                             | NNE     |
| 14   | Stanwardine moated site (SM 1017249)  | 342690 / 328250 | N of Stanwardine moated site                         | S       |
| 15   | Stanwardine moated site (SM 1017249)  | 342750 / 327540 | S of Stanwardine moated site (possible VP)           | NW      |
| 16   | Stanwardine Hall Grade II* listed building (LB 1176127)   | 342690 / 328250 | N of Stanwardine Hall                                | S       |
| 17   | Stanwardine Hall Grade II* listed building (LB 1176127)   | 342990 / 327750 | E of Stanwardine Hall (possible VP)                  | WNW     |
| 18   | Malt Kiln Farmhouse (LB 1056039) and setting  | 345812 / 328060 | SE of Malt Kin Farmhouse                             | WNW     |
| 19   | Woodgate (LB 1289526) and Stables (LB 1366485)  | 346405 / 328590 | S of Woodgate  | S       |
| 20   | Burlton Grange Farmhouse (LB 1212453), Mill Farmhouse (LB 212502) and Pump/ Basin (LB 1056040)                            | 345900 / 327310 | E side of Burlton Grange Farmhouse                   | NNE     |
| 21   | Loppington Conservation Area  | 346930 / 329155 | S edge of Loppington CA                              | SE      |
| 22   | The Shayes Farmhouse (LB 1056054)   | 348190 / 328510 | PRoW E of The Shayes Farmhouse                       | WSW     |
| 23   | Noneley Hall Farmhouse (LB 1212917)   | 347980 / 327940 | S side of Noneley Farmhouse                          | S       |
| 24   | Grafton Farmhouse (LB 1366490)  | 348150 / 328005 | N of Grafton Farmhouse                               | SE      |
| 25   | Ruewood Farmhouse (LB 1289496)  | 349720 / 327730 | N side of Ruewood Farmhouse                          | NW      |
| 26   | The Ditches Hall (LB 1264550) and Sundial (SM 1003020/ LB 1236569) and Former Lodge at entrance to Belle (LB 1264545)     | 349730 / 329345 | B5063 to E of The Ditches Hall and N of Belle        | S       |

## APPENDIX D – MINERALS ASSESSMENT



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ENERGY AND CLIMATE CHANGE  
ENVIRONMENT AND SUSTAINABILITY  
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**SP ENERGY NETWORKS**

**132KV WOOD POLE OVERHEAD LINE**

**MINERAL RESOURCE ASSESSMENT – COCKSHUTT TO WEM**

**FEBRUARY 2017**

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**Wardell Armstrong**

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**REPORT NUMBER:** 01

**SP ENERGY NETWORKS  
132KV WOOD POLE OVERHEAD LINE  
MINERAL RESOURCE ASSESSMENT – COCKSHUTT TO WEM**

**FEBRUARY 2017**

**PREPARED BY:**

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**APPROVED BY:**

Paul Clarke Technical Director

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**DRAWINGS**

ST16006-001 – Sand and Gravel Resources Map 1:25,000 @ A3

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ST16006-003 – Sand and Gravel Resources Map Inset 1(i) NTS

## EXECUTIVE SUMMARY

This report has been prepared to support a Development Consent Order application by Scottish Power Energy Networks Limited for a proposed development of a 132kV overhead power line including for land between Cockshutt and Wem, Shropshire. The route of the overhead power line traverses a Mineral Safeguarding Area (MSA) for sand and gravel resources identified by Shropshire Council, which is the local Mineral Planning Authority.

Published geological assessment reports for the area show that the route of the overhead line traverses a broad resource area thought to contain deposits of glacial sand and gravel. Based upon known constraints, the Council have agreed to discount the significance of deposits of sand and gravel at the western end of the overhead line route and have instead directed focus upon the deposits observed at the eastern end of the route in proximity of Cockshutt.

Detailed review of the published document 'Sand and Gravel Resources – Mineral Assessment Report 86 (January 1981) – Wem, Shropshire' with reference to the eastern end of the route reveals a mineral resource inferred beneath the broader route of the overhead line that is predominantly either encumbered by the presence of overburden or geographically remote from a ready and appropriate means of access.

By way of exception to this broader position, a limited area of unencumbered mineral bearing land is noted to fall beneath the route of the overhead line, immediately south of Cockshutt and adjacent to the A528 Ellesmere Road. The impacted mineral area is measured to be relatively restricted in footprint and in the context of the extent of the total surrounding resource (stated in Mineral Assessment Report) represents a nominal proportion of the overall sand and gravel resource acknowledged to be present within Mineral Assessment Report 86.

The overall evidence demonstrates that the economic integrity of the inferred sand and gravel deposits along the route of the proposed overhead line are not unduly compromised by the line's presence and that development would not cause sterilisation of a mineral resource of significant economic value so as to conflict with Shropshire County Council planning policy.

## 1 INTRODUCTION

- 1.1 This report has been considered in accordance with instructions from SP Energy Networks ('SPEN') to prepare a localised mineral assessment report in respect of land featured within the proposed 132kV Wood Pole Overhead Line route ('the OHL route') between Oswestry and Wem.
- 1.2 Development rights for the establishment and development of the OHL route are being pursued with Shropshire Council/the Planning Inspectorate by virtue of an application by SPEN for a Development Consent Order ('DCO').
- 1.3 Under direction from Shropshire Council as part of the DCO determination, a section of the proposed OHL route between the village of Cockshutt, Shropshire and the town of Wem, Shropshire is to be subject to further assessment in the context of the potential impact upon/sterilisation of mapped resources of sand and gravel which are observed to coincide with the OHL route.
- 1.4 The reference to mapped geology and the perceived presence of sand and gravel is understood to originate from the Council having directly referenced "Sand and Gravel Resources – Mineral Assessment Report 86 (January 1981) – Wem, Shropshire" published by the British Geological Survey. The Council also acknowledge the wider status of the surrounding area to be classified as a sand and gravel 'Mineral Safeguarding Area' within the prevailing development plan policy for the region, the SAMDev Plan 2006 – 2026.
- 1.5 In circumstances, whereby surface development may potentially impact upon Mineral Safeguarding Areas, the Council consider a mineral resource assessment is required to determine the likely impact upon any in-situ economic mineral resource and further consider whether the proposed development would accord with local planning policies relating to mineral safeguarding.
- 1.6 To support the preparation of the required resource assessment, we have relied upon the following information:
  - Sand and Gravel Resources – Mineral Assessment Report 86 (January 1981) – Wem, Shropshire;
  - SPEN's latest version of the proposed OHL route dated 19th January 2017;
  - Correspondence from Shropshire Council dated 9<sup>th</sup> November 2016;

- SPEN Meeting Record Note dated 5<sup>th</sup> January 2017;
- Shropshire Council's SAMDev Plan 2006 – 2026.

1.7 Supplemental to this list, we have also referred to commentary and direction provided by Shropshire Council during a meeting on the 30<sup>th</sup> January 2017 and relevant GIS datasets and information held on our own records.

## **2 GEOLOGY & ECONOMIC RESOURCES**

2.1 Geologically, a distinction is made between 'Superficial Deposits' and 'Solid Geology'. Superficial Deposits such as sand and gravel are found at, or close to, the surface. The solid bedrock beneath the superficial deposits is called the 'Solid Geology'. In this instance, the Council have directed SPEN to consider the impact of the OHL route in the context of the possible impact upon superficial deposits of sand and gravel which are the resource specifically subject to safeguarding policy in this area.

2.2 Review of 'Sand and Gravel Resources – Mineral Assessment Report 86 (January 1981) – Wem, Shropshire' reveals that significant sections of the proposed OHL route traverse land reported to feature underlying superficial deposits of glacial sand and gravel. Such mineral deposits are observed to be prevalent in proximity to the OHL route between Cockshutt and Wem and are effectively characteristic of the superficial geology across North Shropshire.

2.3 To better demonstrate this arrangement, enclosed Drawing No. ST16006-001 features an overlay of the proposed OHL route provided by SPEN and the mapped geological data included within Mineral Assessment Report 86. The proposed OHL route makes voluntary allowance for a 50m 'buffer zone' either side of the line route to assist with impact deliberations.

2.4 The proposed OHL route between Cockshutt and Wem is observed to cross two distinct resource blocks as defined within Mineral Assessment Report 86, namely Block C and Block D. However, following direct discussion with the Council, we have been directed to consider only the geology at the western end of the OHL route in proximity to Cockshutt as the Council consider this to be the more significant component of the route in geological terms. Cockshutt and the surrounding area falls exclusively within resource Block C.

2.5 Resource Block C is broadly defined within Mineral Assessment Report 86 as follows:

*“Block C extends over an area of 15.4km<sup>2</sup> of which 15.3km<sup>2</sup> is mineral-bearing. There are no mineral workings in the area.....The mean thickness of mineral is 7.9m; the range is from 2.6m to over 16.0m. The estimated volume of mineral is 120.9 million m<sup>3</sup> ±22 per cent. The overburden which consists of sandy soil and sandy clay, ranges in thickness from 0.1m to 5.5m and has a mean of 1.1m.....The fines content varies from 2 per cent to 18 per cent. The sand content usually exceeds 50 per cent and reaches a maximum of 89 per cent. The gravel commonly varies between 14 and 40 per cent although in several [locations] it is less than 3 per cent.....The mean grading for the block is fines 9 per cent, sand 67 percent and gravel 24 per cent.”*

- 2.6 To further assist SPEN in focusing upon mineral resources likely to be of note along the OHL route, the Council have also provided (within correspondence dated 9<sup>th</sup> November 2016) locations of indicative ‘Potential Resource Blocks’ which should serve to direct SPEN when considering locations for significant mineral potential. The locations of these resource blocks has also been transposed and overlaid as yellow circles onto Drawing No. ST16006-001 for ease of reference.
- 2.7 The arrangement of the Potential Resource Blocks is understood to be indicative only and is broadly defined by the geological arrangement featured within Mineral Assessment Report 86. Notably, a number of the Potential Resource Blocks either sit away from the latest iteration of the proposed OHL route prepared by SPEN and/or sit at the eastern end of the route in closer proximity to Wem rather than the preferred location of Cockshutt to the west.
- 2.8 Drawing No. ST16006-002 serves to identify at better scale the localised position in proximity to Cockshutt only, detailing both the proposed route of the OHL and the locations of the relevant Potential Resource Blocks intersected by the OHL route. The three Potential Resource Blocks have been individually numbered on Drawing No. ST16006-002 for ease of reference in this report.
- 2.9 A review of the three Potential Resource Blocks and the land immediately surrounding reveals the following:
- **Potential Resource Block 1** – underlain predominantly by mapped deposits of glacial sand and gravel. Borehole 42NW30 located along the northern edge of the proposed OHL route is noted to record 1.5m of overburden material overlying 5.0m of sand and gravel.

The A528 Ellesmere Road intersects the resource block area running broadly north/south. In terms of mineral development potential, it is considered reasonable to assume that the public highway would benefit from a suitable standoff from any proposed mineral development to maintain its integrity. A typical 50m stand-off from the route of the A528 effectively serves to almost wholly eliminate the mapped mineral to the west of the highway and leaves the remainder of the mineral deposit in this area rendered uneconomic.

Beyond an equivalent 50m stand-off to the highway to the east of the A528, the deposits of mineral beneath the proposed OHL route appear to be largely unimpeded by physical restraints. The c.450m length of the OHL route to the edge of Potential Resource Block 2 appears to exclusively traverse sand and gravel deposits with inferred overburden ratios that appear to be economic in extraction terms. The extent of this section of the route is demonstrated on Drawing No. ST16006-003.

To the south of the OHL route, towards Wackley Lodge, the underlying mineral deposit is noted to be contiguous to that within the resource block, but the exposed outcrop effectively tapers in width as a consequence of the arrangement with the overlying peat deposit. When considered alongside the 50m stand-off afforded to the A528 and a similar buffer to protect the amenity of the residential property at nearby Wackley Lodge, it would appear that potential in this southern area is somewhat restricted and not unduly prejudiced by the proposed OHL route.

- **Potential Resource Block 2** – from review of nearby borehole 42NW35 deposits of glacial sand and gravel in this area are observed to be largely encumbered by overlying deposits of brownish black peat (1.5m thickness) and peaty, sulphurous, greenish grey to yellow-brown clay (4.0m thickness). Underlying sand and gravel is observed to extend to beyond 9.5m in thickness, but is noted to then become increasingly sandy at depth.

The far-reaching extent of the peat/clay overburden within this area would seem to render most of the sand and gravel uneconomic, either by virtue of unfavourable overburden ratios (i.e. less than 1:2 in terms of overburden:mineral) or through severing the exposed mineral deposit to the



east from the remainder of the mineral to the west within Potential Resource Block 1.

- **Potential Resource Block 3** – The proposed OHL route in proximity of this block almost exclusively traverses sand and gravel overlain by significant deposits of peat and clay. Review of the records for borehole 42NE23 (located immediately south of the route corridor) reveals peat and alluvium (3.2m combined thickness) overlying pebbly sand deposits (4.6m thickness). The ratio of overburden to mineral in this location can be considered uneconomic given both the 1:1.43 rate and the remoteness of the land in question from frontage to a viable public highway.

2.10 When further reviewing the corridor of the proposed OHL route upon Drawing No. ST16006-002, it can be observed that between Potential Resource Blocks 2 and 3 the route transects other sand and gravel deposits intermittently overlain by further volumes of overburden. Amongst this mixed geological arrangement, there is observed to be an area of land north of Burlton Grange and to the immediate south of a property referred to as 'The Cobby', where the proposed OHL route does cross a block of mineral that is stated to be largely free of overburden.

2.11 However, upon further review, the economic viability of this area is likely negated given vehicular access to this land is seemingly restricted to the B4397. The permitted use of a B-road by HGV traffic then required to be routed via the small village of Burlton would seem unlikely.

### **3 POTENTIAL LOSS OF MINERAL RESOURCE**

3.1 When considering the review of economic geological resources in Section 2 of this report, it is apparent that the proposed OHL route impedes only upon a modest area of mineral bearing land immediately east of the A528, located south of Cockshutt and to the north of the property Wackley Lodge. For clarity, this land is annotated on Drawing No. ST16006-003.

3.2 Given the connecting length of the proposed OHL route in this instance is approximately 280m and the voluntary corridor width is defined by SPEN as 100m, this can be calculated to generate a maximum impacted area of 28,000m<sup>2</sup> or 0.028km<sup>2</sup>, which equates to c.0.18% of the total mineral bearing component reported to feature within Resource Block C.

- 3.3 When further considering that the proposed OHL route is specified to feature a configuration of wooden pole mounted cables capable of voluntary relocation, the true potential 'loss' is further debatable.

#### 4 PLANNING POLICY

- 4.1 The proposed OHL route crosses the administrative area of Shropshire Council which is the Mineral Planning Authority (MPA) for the region. The current planning policy for mineral development in Shropshire is contained in the policies of the SAMDev Plan 2006 – 2026). The SAMDev was adopted in December 2015.

- 4.2 In consultation with the Council, SPEN have been directed to consider Mineral Safeguarding Policy within the SAMDev, specifically covered by SAMDev policy MD16. Specifically, policy MD16 requires that:

1. *Applications for non-mineral development which fall within Mineral Safeguarding Areas (MSA) and which could have the effect of sterilising mineral resources will not be granted unless:*
  - i. *The applicant can demonstrate that the mineral resource concerned is not of economic value; or*
  - ii. *The mineral can be extracted to prevent the unnecessary sterilisation of the resource prior to the development taking place without causing unacceptable adverse impacts on the environment and local community; or*
  - iii. *The development is exempt as set out in the supporting text below.*
  
2. *Consistent with the requirements of Policy MD8, applications for non-mineral development within the identified buffer zone surrounding identified mineral transport and processing facilities will not be granted unless the applicant can demonstrate that:*
  - i. *The development proposed would not prevent or unduly restrict the continued operation of the protected infrastructure; or,*
  - ii. *That the identified facilities are no longer required or that viable alternative facilities are available.*

*MSA boundaries and protected mineral transport and processing facilities are identified on the Policies map and insets. The buffer zones which will apply to protected resources and facilities are identified in the explanatory text below.*
  
3. *Applications for permission for non-mineral development in a MSA must include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the*

*development or the protected mineral handling facility (termed a Mineral Assessment). This assessment will provide information to accompany the planning application to demonstrate to the satisfaction of the MPA that mineral interests have been adequately considered and that known mineral resources will be prevented, where possible, from being sterilised or unduly restricted by other forms of development occurring on or close to the resource;*

*4. Identification of these areas does not imply that any application for the working of minerals within them will be granted planning permission.*

- 4.3 With reference to para 3 of policy MD16, the Council have requested that SPEN prepare a resource assessment to consider the economic potential of safeguarded minerals potentially impacted by the proposed OHL route. However, it is perhaps more notable that para 1(iii) of MD16 exempts certain development from consideration in the context of mineral safeguarding if it accords with pre-determined criteria.
- 4.4 The SAMDev further defines exempt developments within paragraph 3.150 to include *“Non-mineral development which is exempt from the requirements of Policy MD16 comprises.....applications for development of national, regional or local significance.....”*.
- 4.5 Given the nature of the development and the live application to pursue development rights by a DCO, it would appear questionable as to whether SPEN are readily obliged to address mineral safeguarding issues in support of the determination of their DCO Application.
- 4.6 It is also understood that Shropshire Council intend to initiate a review of the SAMDev document during 2017, effectively enabling a possible re-fresh of prevailing policy in respect of mineral development in the County. It is assumed that the SAMDev’s plan period will be revised to accord with the current Local Plan partial review i.e. for a period spanning 2016-2036.
- 4.7 Whilst yet to be confirmed, it is understood that given the significant levels of current activity promoting further mineral development across the County, Shropshire Council recognise there is unlikely to be any requirement to specifically identify and allocate

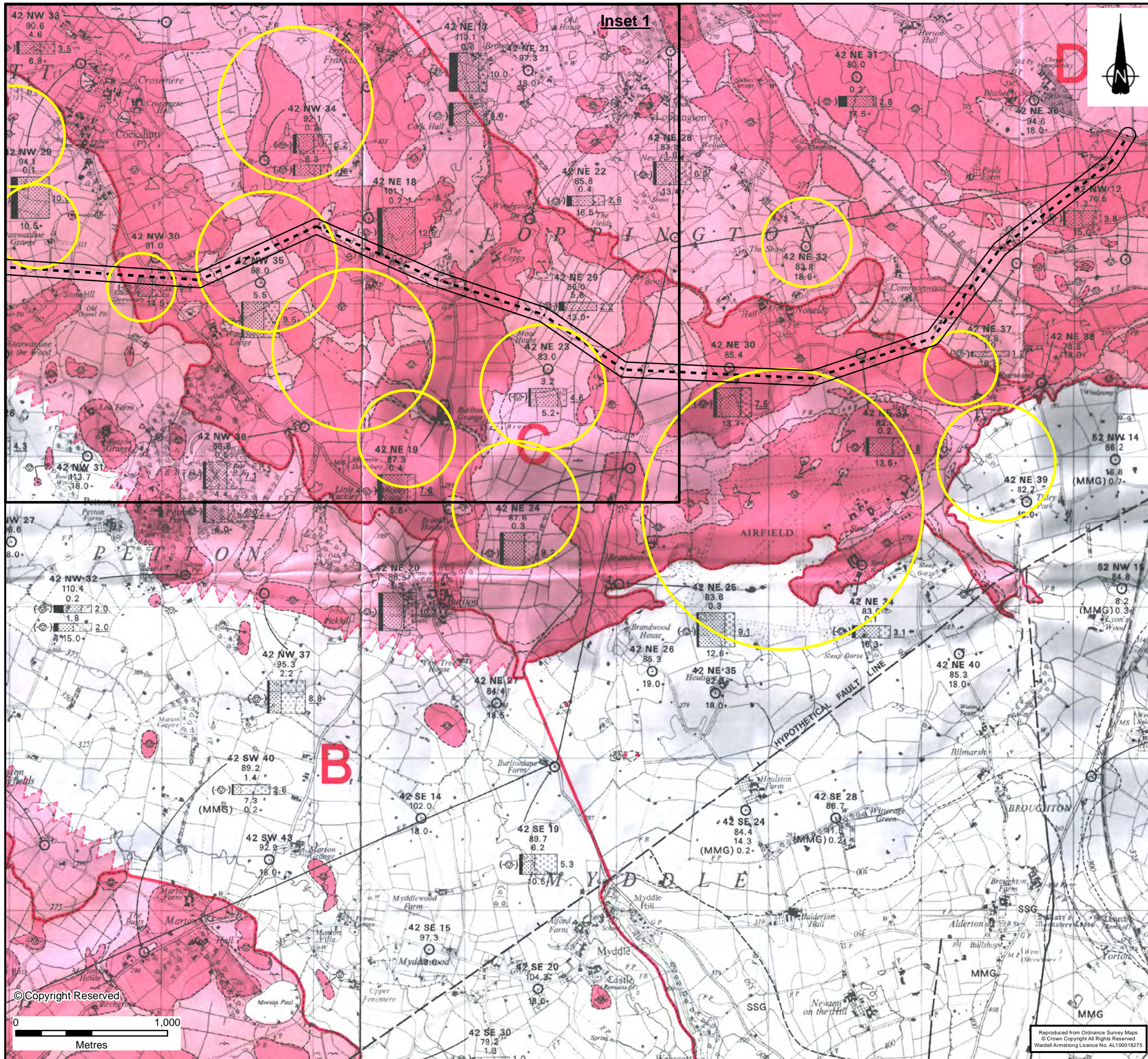
further locations for sand and gravel working during the forthcoming SAMDev plan period.

- 4.8 Such a strategy is notable as there is an inference from Shropshire Council that Potential Resource Block 1 may have been identified as a sand and gravel prospect of note by virtue of a historic proposal in the mid-1990's supporting an allocation as a preferred location for mineral extraction. Should site allocations not be required for the revised SAMDev plan period, this seemingly extinguishes the likelihood of any designated mineral extraction of any scale at this new location prior to 2036.

## **5 CONCLUSION**

- 5.1 This report demonstrates that when addressing the specific concerns of Shropshire Council and considering the position with safeguarded sand and gravels identified within Mineral Assessment Report 86, the western extents of the proposed OHL route do not impact upon a significant economic mineral resource that is likely to be permanently encumbered and/or subsequently sterilised by the establishment of apparatus associated with the OHL.
- 5.2 We therefore consider that the proposed development of the OHL route would not cause sterilisation of a realisable, economic mineral resource and it does not conflict with local mineral safeguarding policy.
- 5.3 Furthermore, we also query the application of mineral safeguarding policy within the SAMDev given the regional significance of the development in question.

## Drawings



- 100m route Corridor
- OHL Route dated 19/01/17
- Potential Resource Block
- Exposed Mineral
- Mineral Beneath Overburden

| REVISION | DETAILS | DATE | DRAWN | CHKD | APPD |
|----------|---------|------|-------|------|------|
|          |         |      |       |      |      |

CLIENT  
**SP ENERGY NETWORKS**

PROJECT  
**MINERAL REPORT COCKSHUTT TO WEM**

DRAWING TITLE  
**SAND AND GRAVEL RESOURCES MAP  
SCC RESOURCE BLOCK OVERLAY**

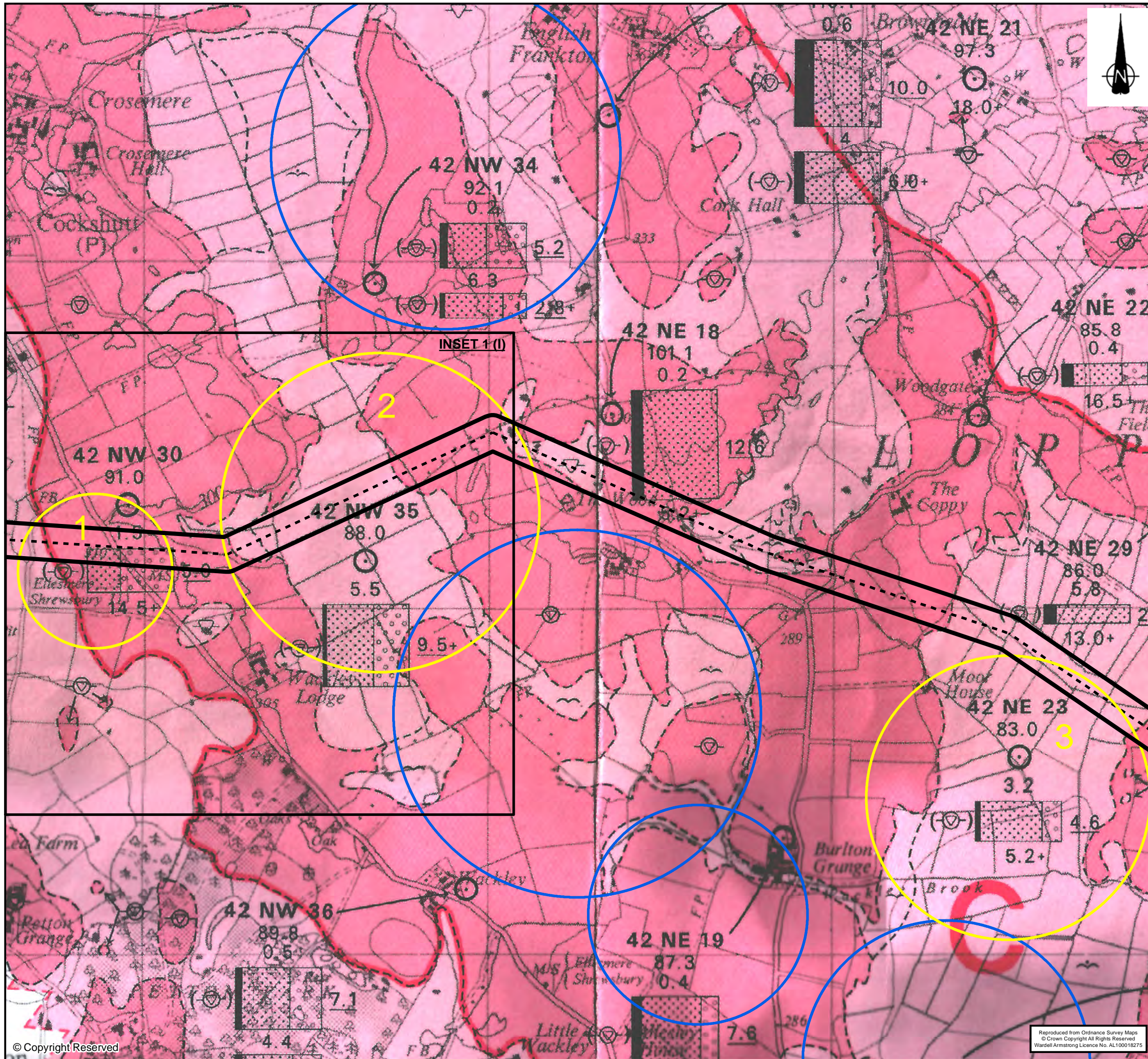
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| DRG No<br><b>ST16006-001</b> | SCALE<br><b>1:25,000 @ A3</b> | DATE<br><b>03/02/2017</b> |
| DRAWN BY<br><b>SB</b>        | CHECKED BY<br><b>PJC</b>      | APPROVED BY<br><b>PJC</b> |

|   |                   |                                    |                   |
|---|-------------------|------------------------------------|-------------------|
| <input checked="" type="checkbox"/> STOKE-ON-TRENT<br>(HEAD OFFICE) | TEL 01782 276700  | <input type="checkbox"/> CARDIFF   | TEL 029 2072 9191 |
| <input type="checkbox"/> NEWCASTLE UPON TYNE                        | TEL 0191 232 0943 | <input type="checkbox"/> LEIGH     | TEL 01942 260101  |
| <input type="checkbox"/> BIRMINGHAM                                 | TEL 0121 580 0909 | <input type="checkbox"/> SHEFFIELD | TEL 0114 245 6244 |
| <input type="checkbox"/> LONDON                                     | TEL 020 7287 2872 | <input type="checkbox"/> EDINBURGH | TEL 0131 555 3311 |
|   |                   | <input type="checkbox"/> TAUNTON   | TEL 01823 703100  |

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100m Route Corridor  
 OHL Route dated 19/01/17  
 Potential Resource Block - Intersecting Route Corridor  
 Potential Resource Block - Outside Route Corridor  
 Exposed Mineral  
 Mineral Beneath Overburden

|          |         |      |       |      |      |
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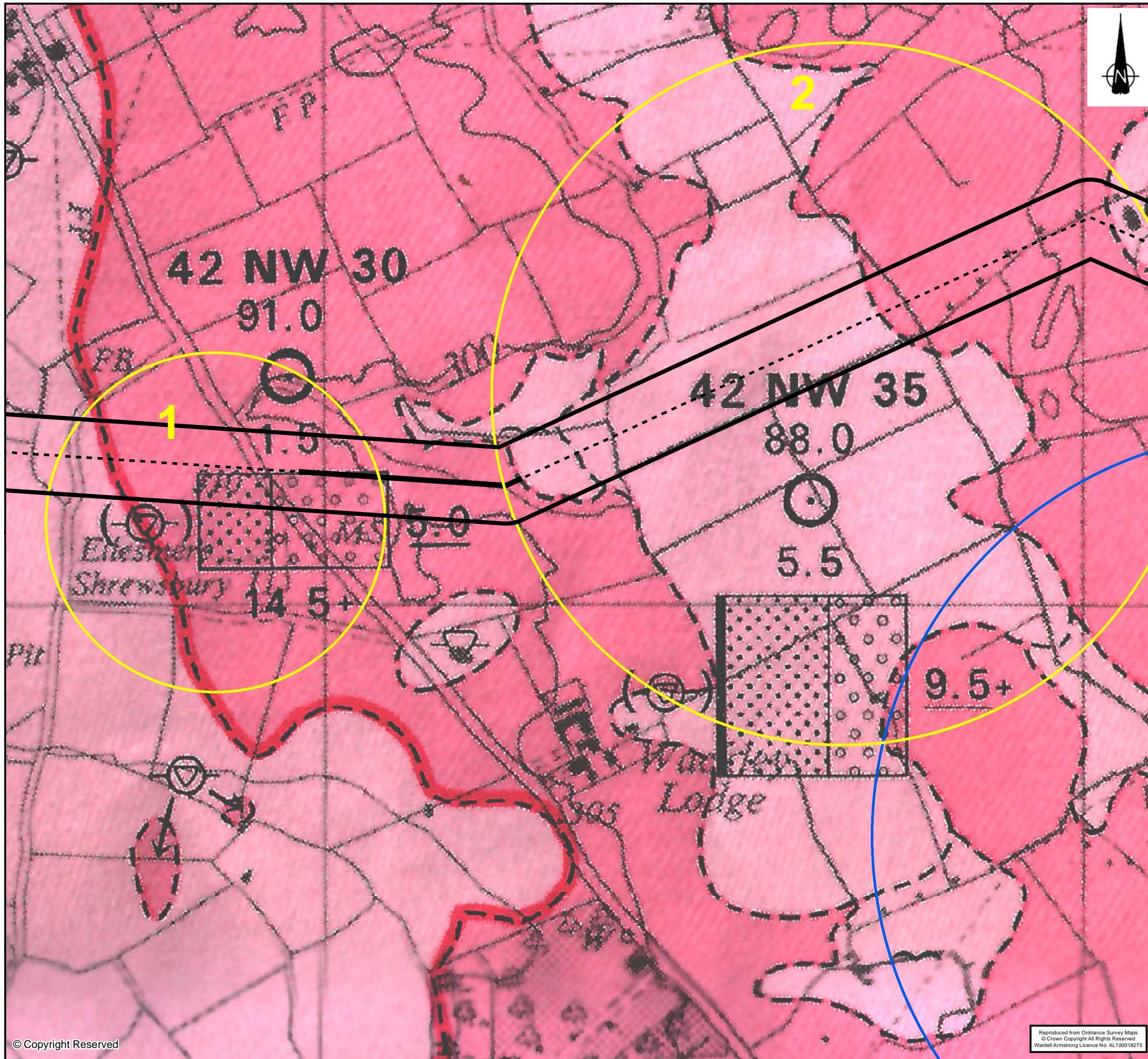
PROJECT  
**MINERAL REPORT COCKSHUTT TO WEM**

DRAWING TITLE  
**SAND AND GRAVEL RESOURCES MAP  
SCC RESOURCE BLOCK OVERLAY  
INSET 1**

|                       |                   |                    |
|-----------------------|-------------------|--------------------|
| DRG No<br>ST16006-002 | SCALE<br>NTS      | DATE<br>03/02/2017 |
| DRAWN BY<br>SB        | CHECKED BY<br>PJC | APPROVED BY<br>PJC |

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| <input type="checkbox"/> NEWCASTLE UPON TYNE                        | TEL 0191 232 0943 | <input type="checkbox"/> LEIGH     | TEL 01942 260101  |
| <input type="checkbox"/> BIRMINGHAM                                 | TEL 0121 580 0909 | <input type="checkbox"/> SHEFFIELD | TEL 0114 245 6244 |
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- 100m Route Corridor
- Potential Resource Block - Intersecting Route Corridor
- OHL Route dated 19/01/17
- OHL Route dated 19/01/17 - Economic Mineral
- Potential Resource Block - Outside Route Corridor
- Exposed Mineral
- Mineral Beneath Overburden

|  |                   |                                    |                   |      |      |
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| REVISION   | DETAILS           | DATE                               | DRAWN             | CHKD | APPD |
| CLIENT   |                   |                                    |                   |      |      |
| SP ENERGY NETWORKS   |                   |                                    |                   |      |      |
| PROJECT  |                   |                                    |                   |      |      |
| MINERAL REPORT COCKSHUTT TO WEM  |                   |                                    |                   |      |      |
| DRAWING TITLE  |                   |                                    |                   |      |      |
| SAND AND GRAVEL RESOURCES MAP<br>SCC RESOURCE BLOCK OVERLAY<br>INSET 1 (I) |                   |                                    |                   |      |      |
| DRG No   | SCALE             | DATE                               |                   |      |      |
| ST16006-003  | NTS               | 03/02/2017                         |                   |      |      |
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| SB   | PJC               | PJC                                |                   |      |      |
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## APPENDIX E – ECOLOGY SURVEY

**Client Name:** Gillespies/SP Energy Networks  
**Site Name:** North Shropshire Reinforcement Project  
**Project Ref:** Gille-391-746  
**Date:** 19<sup>th</sup> May 2016

## **Report on Broad-Scale Phase I Habitat Mapping – Blue Corridor and R1 Section Red Corridor**

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This report summarises the broad-scale Phase 1 habitat survey undertaken in relation to the North Shropshire Reinforcement Project. It should be read in conjunction with the Working Plans (**Figures 1-14** and **R1-5**) which show habitat features along the **Blue Corridor** and, additionally, along **Section R1 of the Red Corridor**.

### ***Method***

Habitats along the Blue Corridor and R1 of the Red Corridor including a 250m buffer either side (based on shapefiles corridors provided on 4<sup>th</sup> April 2016) were mapped in accordance with the '*Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*', JNCC (2010). The respective corridor alignments were based on shapefiles provided by Gillespies. Mapping was accompanied by field notes and photographs.

Information has been obtained from a review of online resources and in the field from publicly accessible roads and footpaths. No private land was accessed during the field surveys, and as a result some sections of the Corridors could not be directly viewed or surveyed. At these locations the mapping relies largely on satellite imagery pending further access consents.

The Phase 1 habitat plans are Working Plans and are therefore 'live' and subject to regular update as new information is obtained and added. Updated Plans will be periodically re-issued with a new date / revision number for tracking and quality control purposes.

### ***Habitat Overview***

The majority of the Blue Corridor and R1 of the Red corridor pass through lowland agricultural land primarily comprising improved species poor grassland or arable fields interspersed with a network of hedgerows, ditches, watercourses, scattered mature trees and woodland. Ponds and other waterbodies are also present, often associated with wet/marshy grasslands.

Grassland, where present in larger open fields associated with watercourses or areas of flood risk have been noted. These provide increased potential for use by wildfowl.

There are no areas of ancient woodland crossed by the Blue corridor (shapefile provided by Gillespies 13/04/2016).

Designated sites such as SSSIs, Ramsar sites and SACs have been mapped and described in the MWH Route Corridor Options Report (MWH 2016).

Two SSSIs lie within or adjacent to the Blue Corridor:

- A section of the Montgomery Canal; and,
- Ruewood Pastures

Information on County Wildlife Sites and LNR are provided by Shropshire Wildlife Trust in Partnership with Shropshire Council. Only one local wildlife site was located within or adjacent to Blue Corridor; Moor Fields LWS, a series of small, rough species-rich grassland. No LWS were identified within 250m of R1.

Shropshire has also mapped its Environmental Networks which will help inform the line route design and this has been reviewed and referenced in the broad-scale mapping:

<https://shropshire.gov.uk/maps/Sites/embEnvNetwork/>



### **Constraints and Limitations**

**Tables 1 and 2** overleaf provide an initial key features/constraint summary based on the broad-scale Phase 1 habitat survey. The tables should be read in conjunction with the Working Plans (**Figures 1-14 and R1-5**), where key feature have been identified. These have been ‘flagged’ at this stage to:

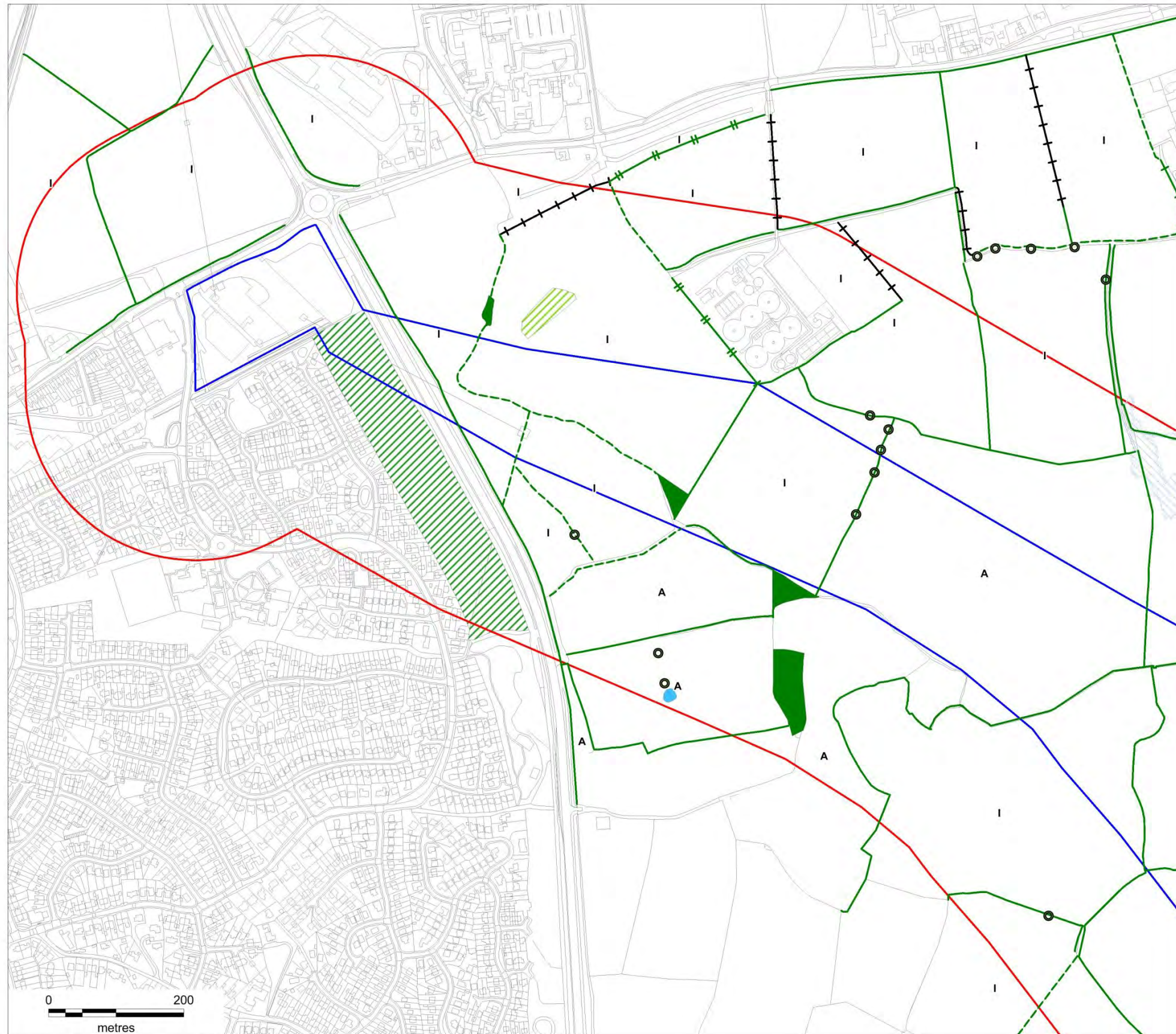
- a) inform the line design process; and,
- b) identify areas where further verification field survey may be required to confirm or exclude the possible constraint.

**Table 1: Blue Corridor Summary of Constraints**

| BLUE CORRIDOR Figure | Feature                 | Comments  |
|----------------------|-------------------------|---|
| 1                    | Pond                    | Pond within 250m, just N of blue line   |
| 1                    | Mat.trees/bat potential | Along hedgerows   |
| 1                    | Woods                   | Priority woodland habitat on Shropshire Environmental network at corridor end   |
| 1                    | Woods                   | Roundwood Priority habitat on Shropshire Environmental network just south of corridor                                     |
| 1                    | Hedgerows               | Across corridor but fields fairly large and open  |
| 2                    | Hedgerows               | Hedgerow network across corridor with hedgerow trees  |
| 2                    | Pond                    | 1 within corridor and several within 250m, not accessible   |
| 2                    | W'course                | Ditch network across corridor   |
| 2                    | Not viewable            | Much of area not viewable from public areas   |
| 2                    | Mat.trees/bat potential | Many mature oaks in hedgerows around horse paddocks eastern end of Figure section.  |
| 3                    | Pond                    | 1 within corridor and several unconfirmed within 250m, not accessible   |
| 3                    | Woods                   | Orchards Priority habitat to north of corridor. Woodland Priority habitat to south of corridor                            |
| 3                    | Hedgerows               | Hedgerows with mature trees   |
| 3                    | Other                   | Pinch point by Yew Tree House with woodland and pond just to north and priority habitat woodland to south                 |
| 4                    | W'course                | Canal - designated. Otter and water vole potential  |
| 4                    | Designated site         | Canal -SSSI crossed by corridor   |
| 4                    | Pond                    | Several within corridor and within 250m, not accessible   |
| 4                    | Woods                   | Small area with bat roost potential   |
| 4                    | Mat.trees/bat potential | Area of improved grassland to west with many mature oaks and intact hedgerow network - bat potential                      |
| 4                    | Woods                   | Woodland Priority habitat on Shropshire Environmental network north and south of corridor                                 |
| 4                    | More valuable Grassland | Extensive marshy grassland with reedmace and juncus and ponds nearby - amphibian potential                                |
| 5                    | Other                   | Corridor divides at Rednal and avoids orchard and deciduous woodland priority habitat on Shropshire Environmental Network |
| 5                    | Other                   | Further deciduous woodland and parkland Priority habitat outside corridor to south and north                              |
| 5                    | Other                   | Area of bare earth  |
| 5                    | More valuable Grassland | Marshy grassland within corridor  |
| 5                    | W'course                | Ditches, possible ponds   |
| 6                    | W'course                | Scattered ditches in large open arable fields & the Perry stream/river within flood risk area.                            |
| 6                    | Not viewable            | Area not viewed   |
| 6                    | Other                   | Parts of woodland adjacent to corridor marked Priority habitat on Shropshire Environmental Network                        |
| 6                    | Birds                   | Potential bird use of open arable land with few trees, surrounded by ditch/watercourse network in flood risk area         |
| 7                    | Pond                    | Within corridor and within 250m   |
| 7                    | Hedgerows               | Hedgerows with trees  |
| 7                    | Other                   | Evidence of badgers including Setts within and outside corridor. Likely high badger activity area                         |
| 7                    | W'course                | Ditch network to west   |
| 7                    | Birds                   | Western extents Bagley Marsh and part of flood zone - potential bird passage area with large open arable fields           |
| 8                    | Other                   | Evidence of badgers. Likely high badger activity area   |
| 8                    | Not viewable            | Sections not visible from public routes   |
| 8                    | Other                   | Colony of Japanese knotweed by pond within corridor   |
| 8                    | Mat.trees/bat potential | Mature trees within hedgerows   |
| 8                    | Pond                    | Several within corridor and within 250m   |
| 8                    | Other                   | Wood outside and north of corridor W of Kenwick Lodge - priority habitat on Shropshire Environmental Network              |
| 8                    | Woods                   | Small areas of woodland not viewable.   |
| 8                    | Badger                  | Sett outside corridor 250m from northern extent of corridor. Possible linking network of hedges and woods                 |
| 9                    | Mat.trees/bat potential | Scattered mature trees in hedgelines and across fields  |
| 9                    | Woods                   | Mixed semi-natural woodland and dense scrub north part of corridor where it divides                                       |
| 9                    | Pond                    | Several within corridor and within 250m   |
| 9                    | Other                   | Route splits - southern line marginally less constrained  |
| 10                   | Birds                   | Flood plain, open grassland fields lacking trees and hedges. Interest TBC   |
| 10                   | W'course                | Ditch / stream network and flood risk area  |
| 10                   | Pond                    | Several within corridor and within 250m   |
| 10                   | Woods                   | Copse and narrow mixed plantation woodland  |
| 10                   | Hedgerows               | Scattered low density hedges with trees   |
| 10                   | Not viewable            | Sections not viewable   |
| 10                   | Badger                  | Sett within corridor  |
| 11                   | Hedgerows               | Network of small grassland fields separated by numerous hedgerows with trees  |
| 11                   | Pond                    | Several within corridor and within 250m   |
| 11                   | Other                   | 2 priority habitat area on Shropshire Environmental network within corridor (fields)                                      |
| 11                   | Designated site         | Moor Fields LWS   |
| 11                   | Mat.trees/bat potential | Within and adjacent to corridor   |
| 12                   | Hedgerows               | Hedgerows few trees   |
| 12                   | Pond                    | Several within 250m north with cluster at Nonely Hall farm  |
| 12                   | W'course                | River to south within 250m otter and water vole potential   |
| 12                   | Other                   | Woodland Priority habitat on Shropshire Environmental network north of corridor. Associated several ponds                 |
| 12                   | Not viewable            | Section has restricted views from public routes   |
| 13                   | Designated site         | Ruewood Pastures SSSI. Lowland meadows Priority habitat. Adjacent to corridor   |
| 13                   | Pond                    | Several within corridor and within 250m, not accessible   |
| 13                   | Hedgerows               | Hedgerows with mature trees   |
| 13                   | W'course                | River Roden highly canalised across corridor  |
| 13                   | Not viewable            | Section not viewable  |
| 13                   | Mat.trees/bat potential | In hedgerows  |
| 14                   | Hedgerows               | Hedgerows with mature trees   |
| 14                   | Not viewable            | Much of section not viewable from public routes   |
| 14                   | Other                   | Orchard Priority habitat on Shropshire Environmental network east of corridor   |

**Table 2: Red Corridor Section R1 Summary of Constraints**

| RED R1<br>Figure | Feature                 | Comments   |
|------------------|-------------------------|--|
| 1                | Pond                    | Pond within 250m, south of corridor  |
| 1                | Mat.trees/bat potential | Along hedgerows  |
| 1                | Woods                   | Priority woodland habitat on Shropshire Environmental network at corridor end  |
| 1                | Woods                   | Roundwood Priority habitat on Shropshire Environmental network south of corridor                                     |
| 1                | Hedgerows               | Across corridor but fields fairly large and open   |
| 2                | Hedgerows               | Hedgerow network across corridor with hedgerow trees   |
| 2                | Pond                    | Two within corridor and several within 250m, not accessible  |
| 2                | W'course                | Within Flood risk zone and ditches likely present, not accessible  |
| 2                | Not viewable            | Much of area not viewable from public areas  |
| 2                | Mat.trees/bat potential | Mature trees and standing deadwood with bat potential in hedgerows and scattered across fields                       |
| 3                | Pond                    | Ponds south and north of corridor within 250m, not accessible  |
| 3                | Woods                   | Woodland Priority habitat to south of corridor. Ancient Woodland north of corridor                                   |
| 3                | Hedgerows               | Hedgerows with mature trees bat roost potential  |
| 3                | Badger                  | Active badger setts within corridor and north of corridor  |
| 3                | Other                   | Orchard priority habitat marked on Shropshire Environmental network north of corridor <i>no longer present</i>       |
| 4                | W'course                | Montgomery Canal - not designated at this section. Ditches/streams. Otter and water vole potential                   |
| 4                | Woods                   | Small areas with bat roost potential   |
| 4                | Woods                   | Woodland Priority habitat on Shropshire Environmental network north, south and in centre (excluded area) of corridor |
| 4                | Badger                  | Likely setts (TBC) within corridor   |
| 5                | Other                   | Corridor divides at Rednal and avoids properties and associated land   |
| 5                | Other                   | Ddeciduous woodland Priority habitat outside corridor to south and north   |
| 5                | Mat.trees/bat potential | Scattered trees and cluster SE of rednal within corridor   |
| 5                | W'course                | River Perry and ditches within corridor  |



**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**  
Protected & Notable Species

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**  
Statutory

- SSSI

**Other Habitats of Note**

|               |                                    |
|---------------|------------------------------------|
| <b>A/I/SI</b> | Arable (A)                         |
|               | Improved grassland (I)             |
|               | Poor semi-improved grassland (SI)  |
|               | Marshy grassland                   |
|               | Broad-leaved semi-natural woodland |
|               | Mixed semi-natural woodland        |
|               | Broad-leaved plantation woodland   |
|               | Coniferous plantation woodland     |
|               | Mixed plantation woodland          |
|               | Dense scrub                        |
|               | Tall ruderal                       |
|               | Pond                               |
|               | Watercourse                        |

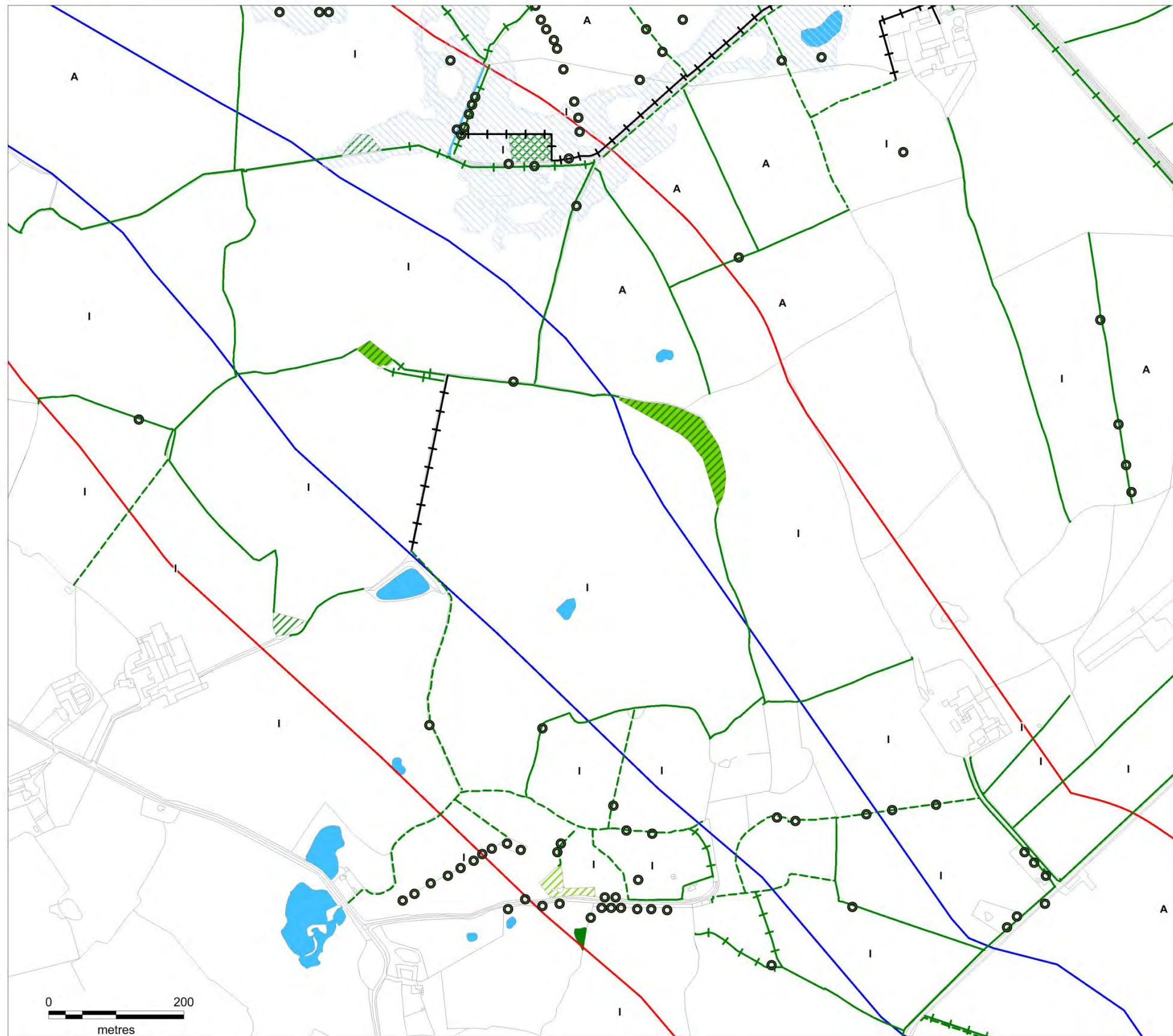
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

**Ecological Constraints**

|                  |                  |
|------------------|------------------|
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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Marshy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

**Ecological Constraints**

|           |            |             |      |
|-----------|------------|-------------|------|
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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

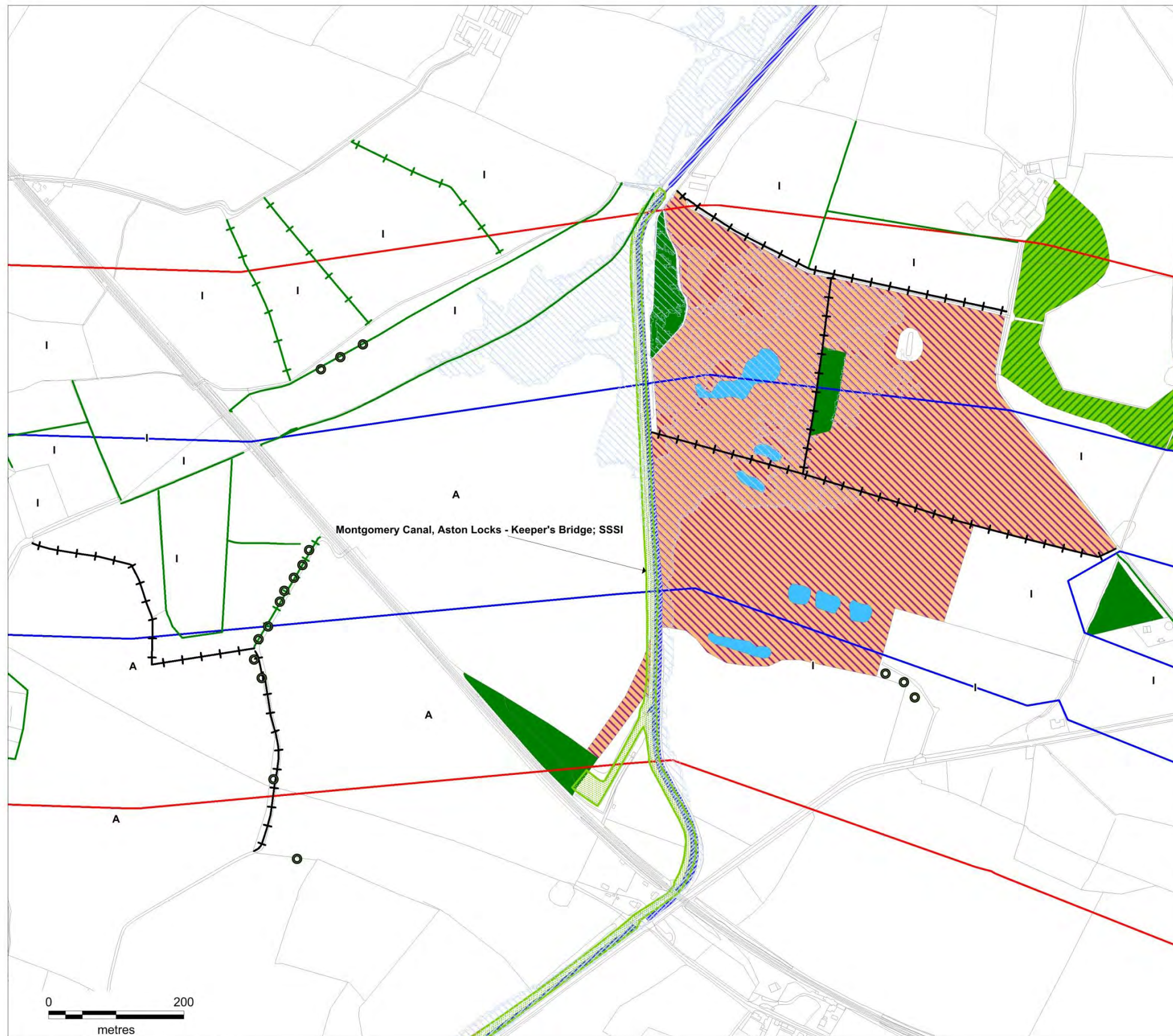
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- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

**Ecological Constraints**

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

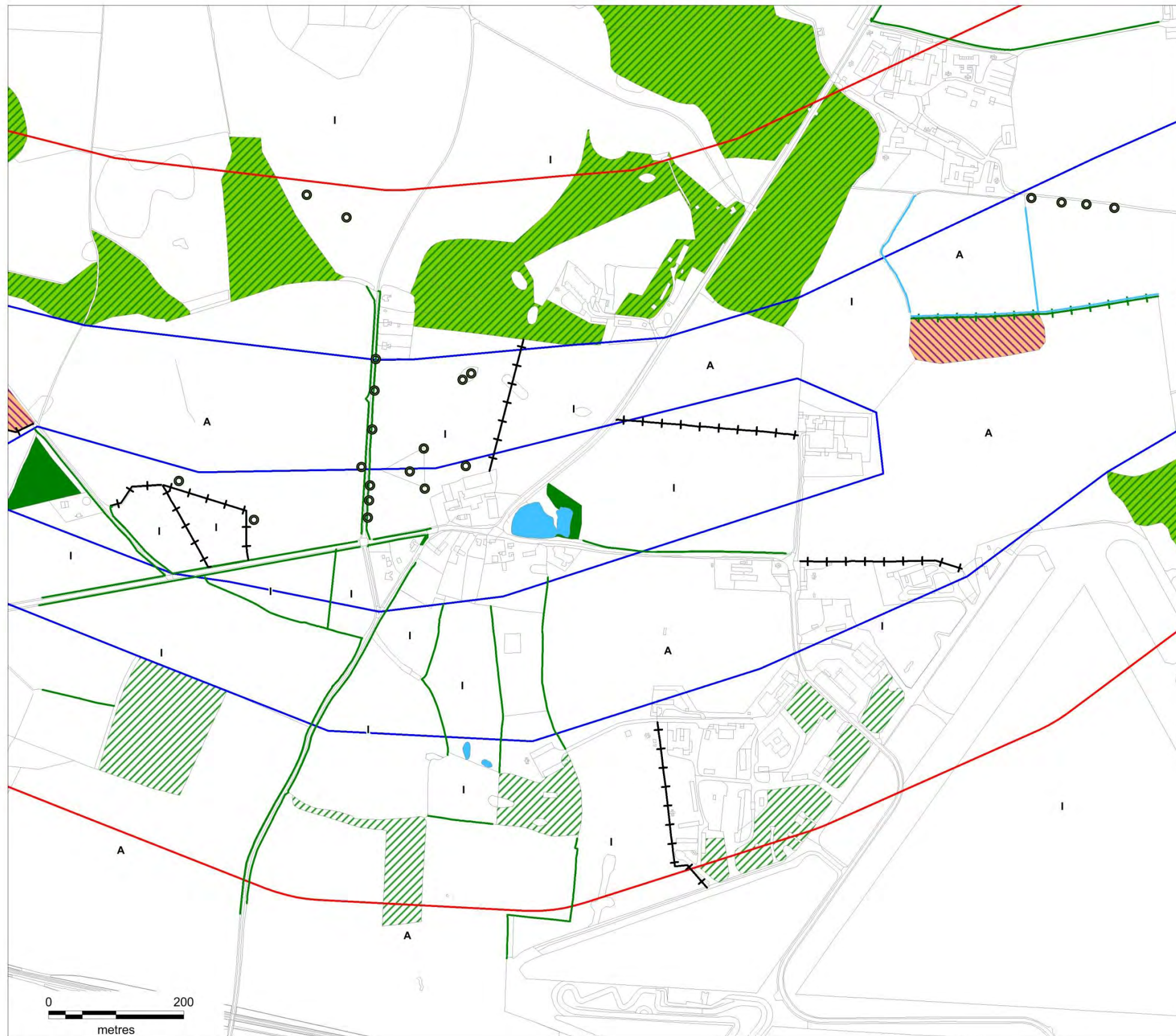
- Arable (A)
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- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

**Ecological Constraints**

|           |            |             |      |
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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

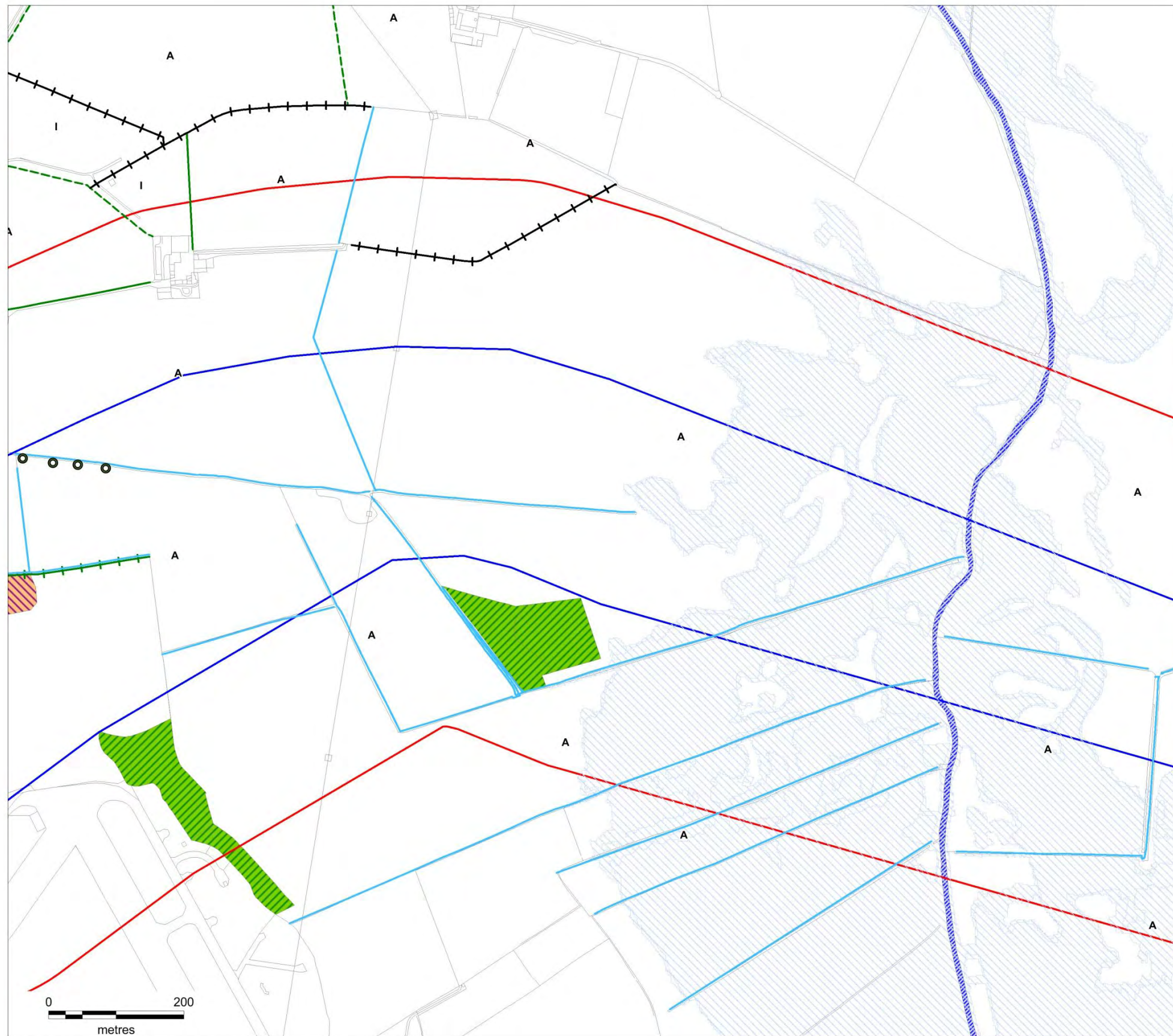
|               |                                    |
|---------------|------------------------------------|
| <b>A/I/SI</b> | Arable (A)                         |
|               | Improved grassland (I)             |
|               | Poor semi-improved grassland (SI)  |
|               | Marshy grassland                   |
|               | Broad-leaved semi-natural woodland |
|               | Mixed semi-natural woodland        |
|               | Broad-leaved plantation woodland   |
|               | Coniferous plantation woodland     |
|               | Mixed plantation woodland          |
|               | Dense scrub                        |
|               | Tall ruderal                       |
|               | Pond                               |
|               | Watercourse                        |
|               | Intact hedgerow                    |
|               | Intact hedgerow with trees         |
|               | Defunct hedgerow                   |
|               | Line of trees                      |
|               | Fence                              |
|               | Wet ditch                          |
|               | Tree                               |
|               | Japanese knotweed                  |

**North Shropshire Reinforcement Project**

**Ecological Constraints**

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

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- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

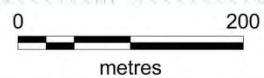
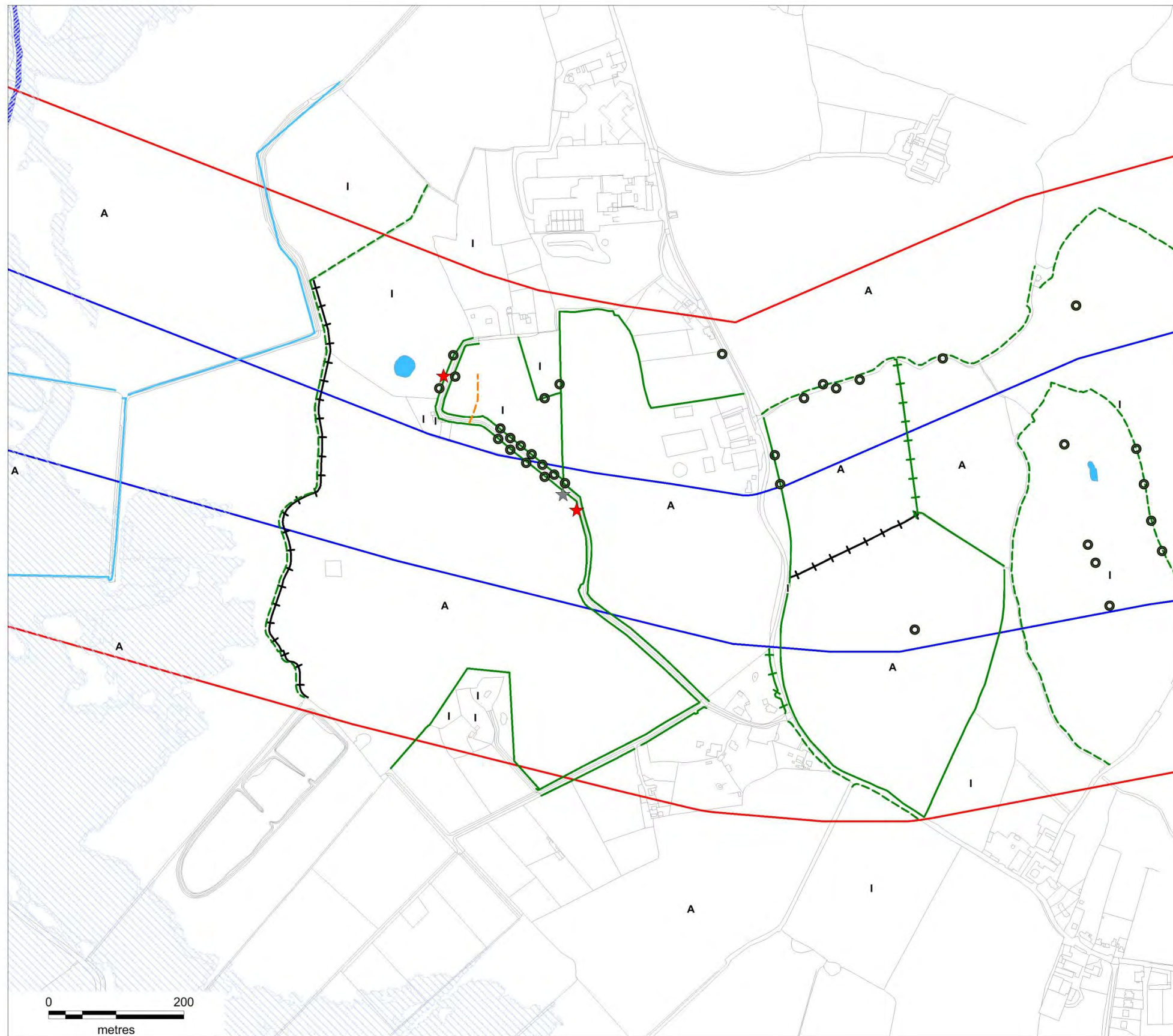
**Ecological Constraints**

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
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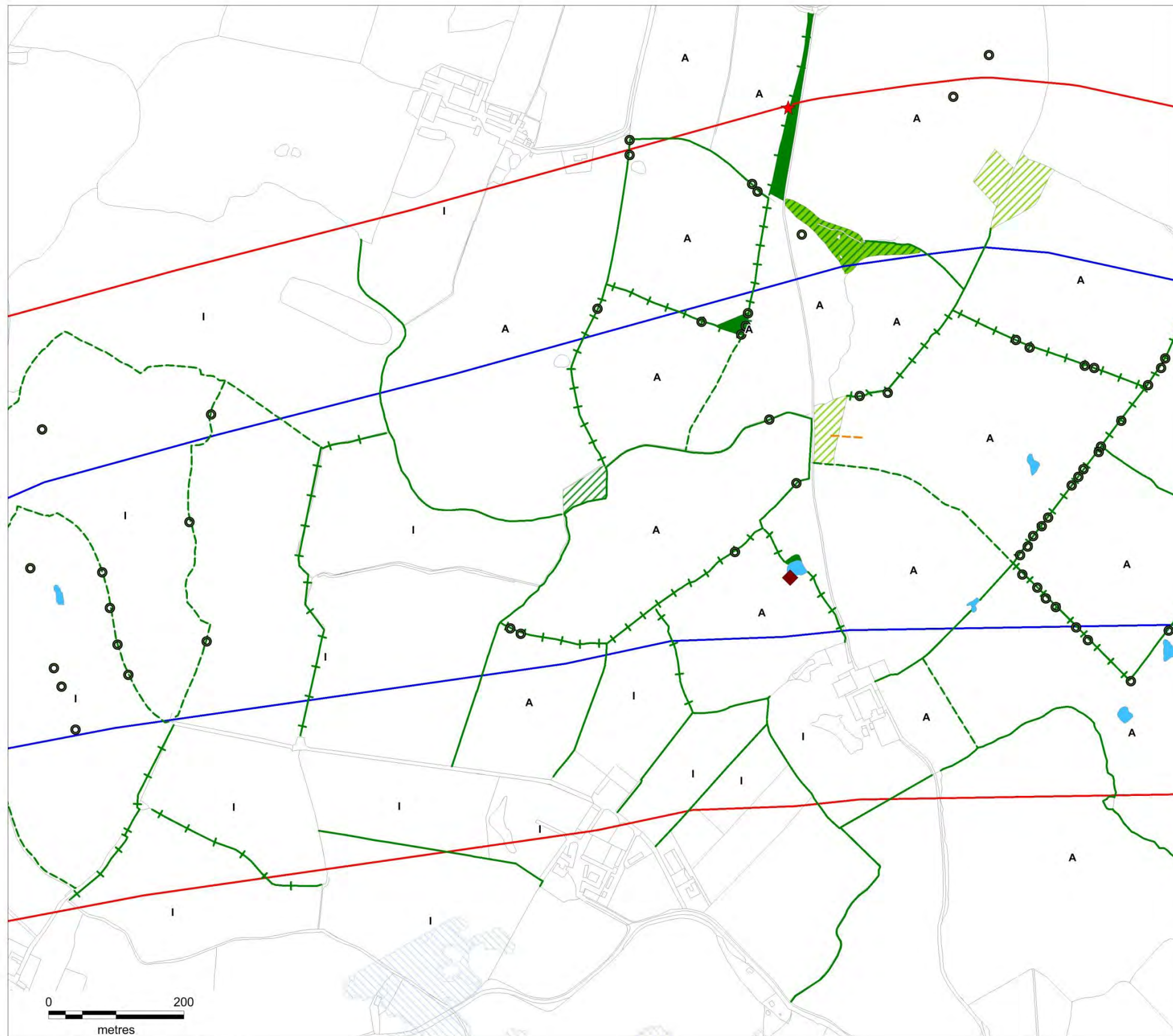
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**Ecological Constraints**

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**  
Protected & Notable Species

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**  
Statutory

- SSSI

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Marshy grassland
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- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
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- Pond
- Watercourse
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

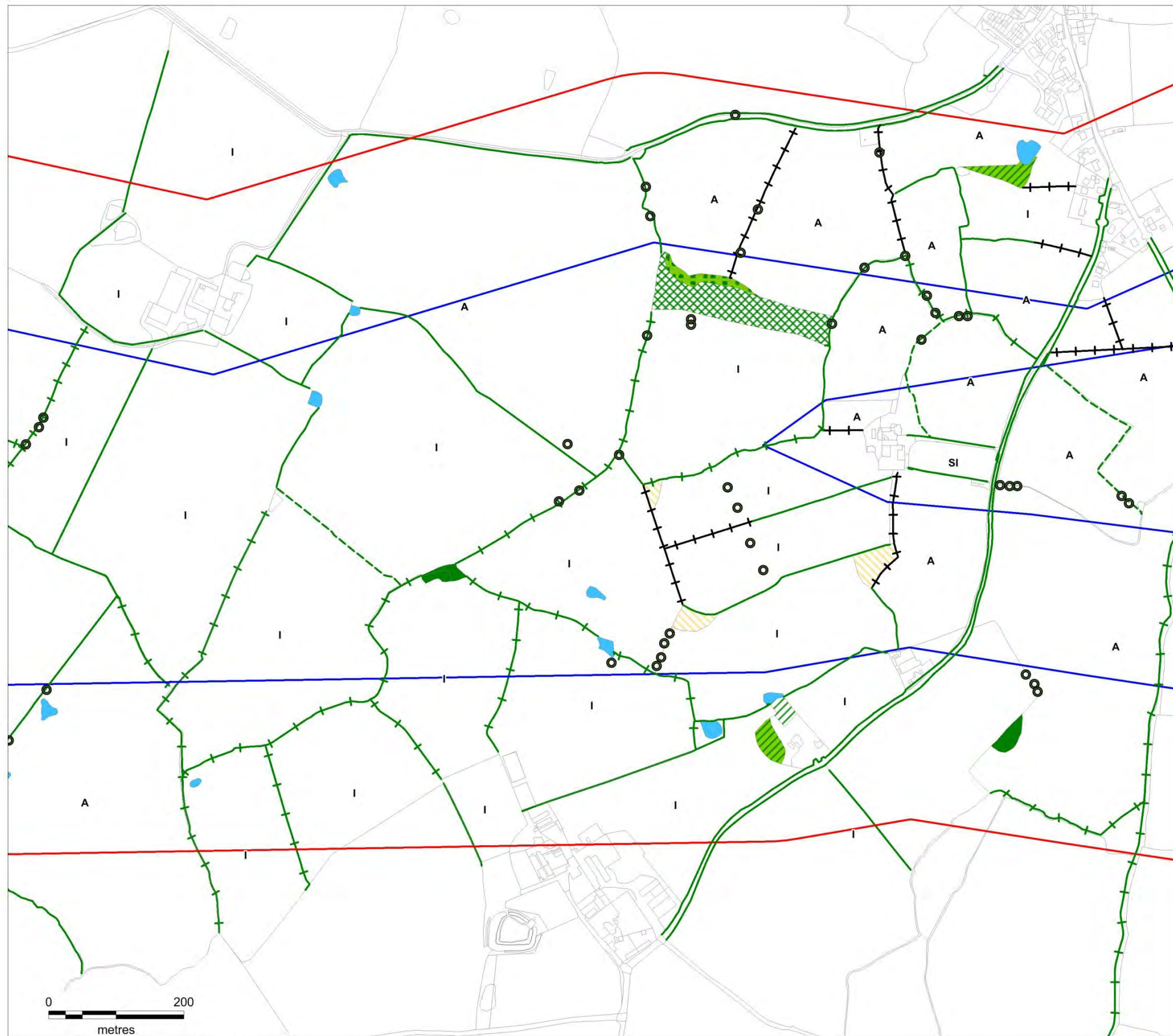
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**Ecological Constraints**

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**  
Protected & Notable Species

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**  
Statutory

- SSSI

**Other Habitats of Note**

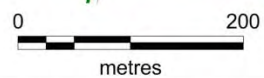
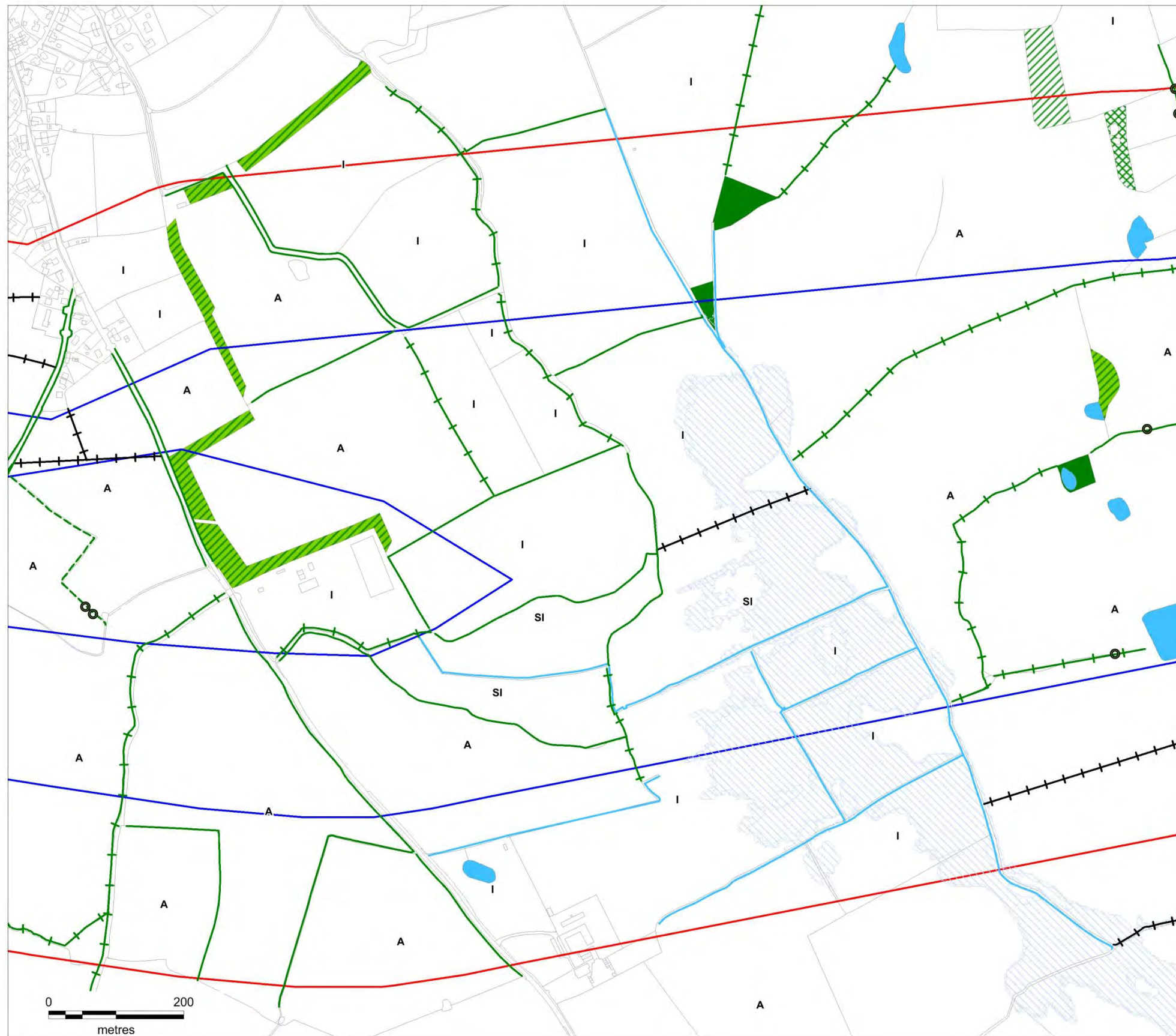
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- Tall ruderal
- Pond
- Watercourse
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

**Ecological Constraints**

|           |            |             |      |
|-----------|------------|-------------|------|
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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**  
Protected & Notable Species

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**  
Statutory

- SSSI

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
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- Intact hedgerow with trees
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- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

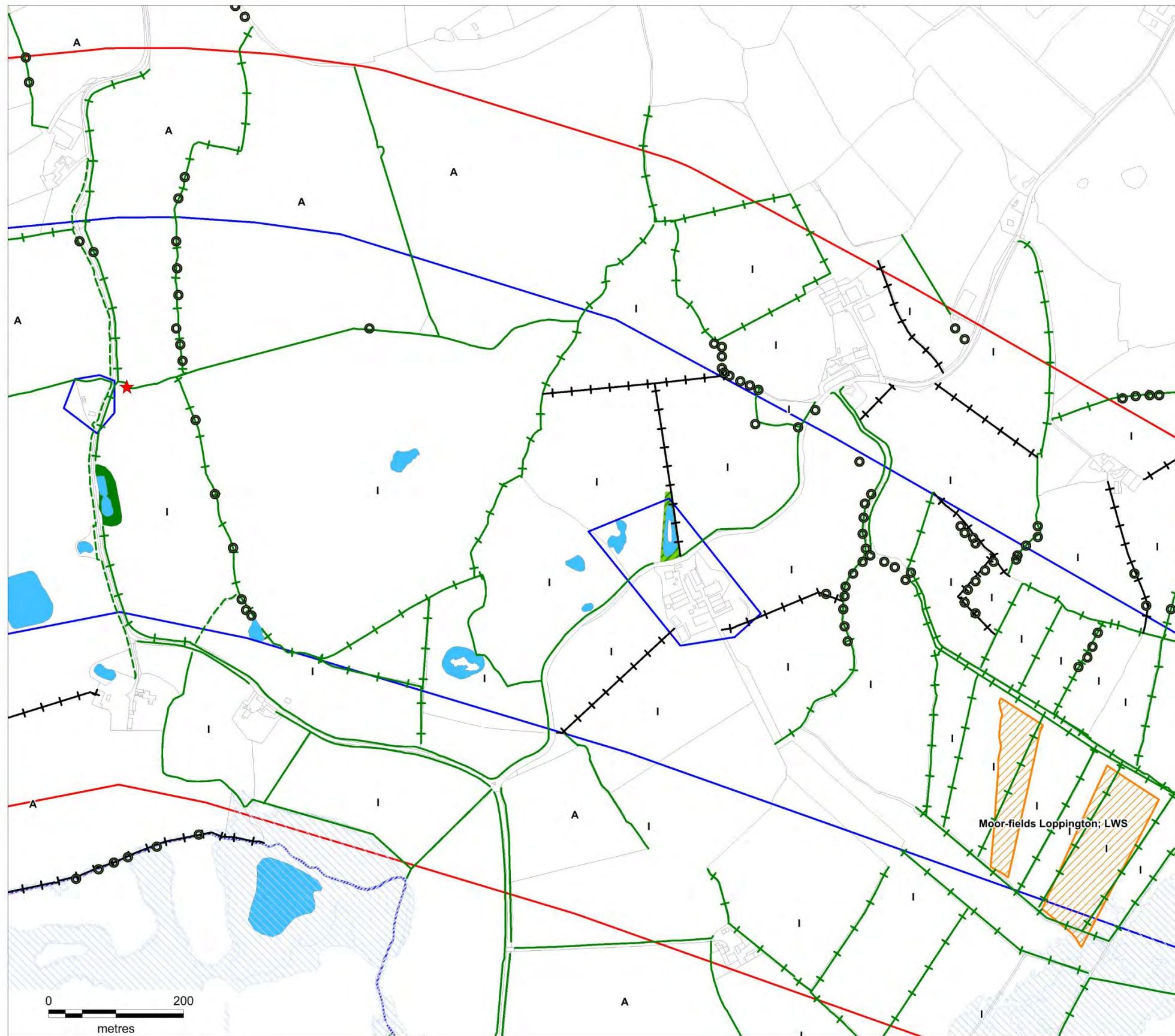
**Ecological Constraints**

|                  |                   |
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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**  
Protected & Notable Species

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

| Statutory | Non-statutory |
|-----------|---------------|
| SSSI      | LWS           |

**Other Habitats of Note**

| A/I/SI | Habitat                            |
|--------|------------------------------------|
| A      | Arable (A)                         |
| I      | Improved grassland (I)             |
| SI     | Poor semi-improved grassland (SI)  |
|        | Marshy grassland                   |
|        | Watercourse                        |
|        | Broad-leaved plantation woodland   |
|        | Coniferous plantation woodland     |
|        | Broad-leaved semi-natural woodland |
|        | Mixed plantation woodland          |
|        | Tall ruderal                       |
|        | Mixed semi-natural woodland        |
|        | Pond                               |
|        | Dense scrub                        |
|        | Intact hedgerow                    |
|        | Intact hedgerow with trees         |
|        | Defunct hedgerow                   |
|        | Line of trees                      |
|        | Fence                              |
|        | Wet ditch                          |
|        | Tree                               |
|        | Japanese knotweed                  |

**North Shropshire Reinforcement Project**

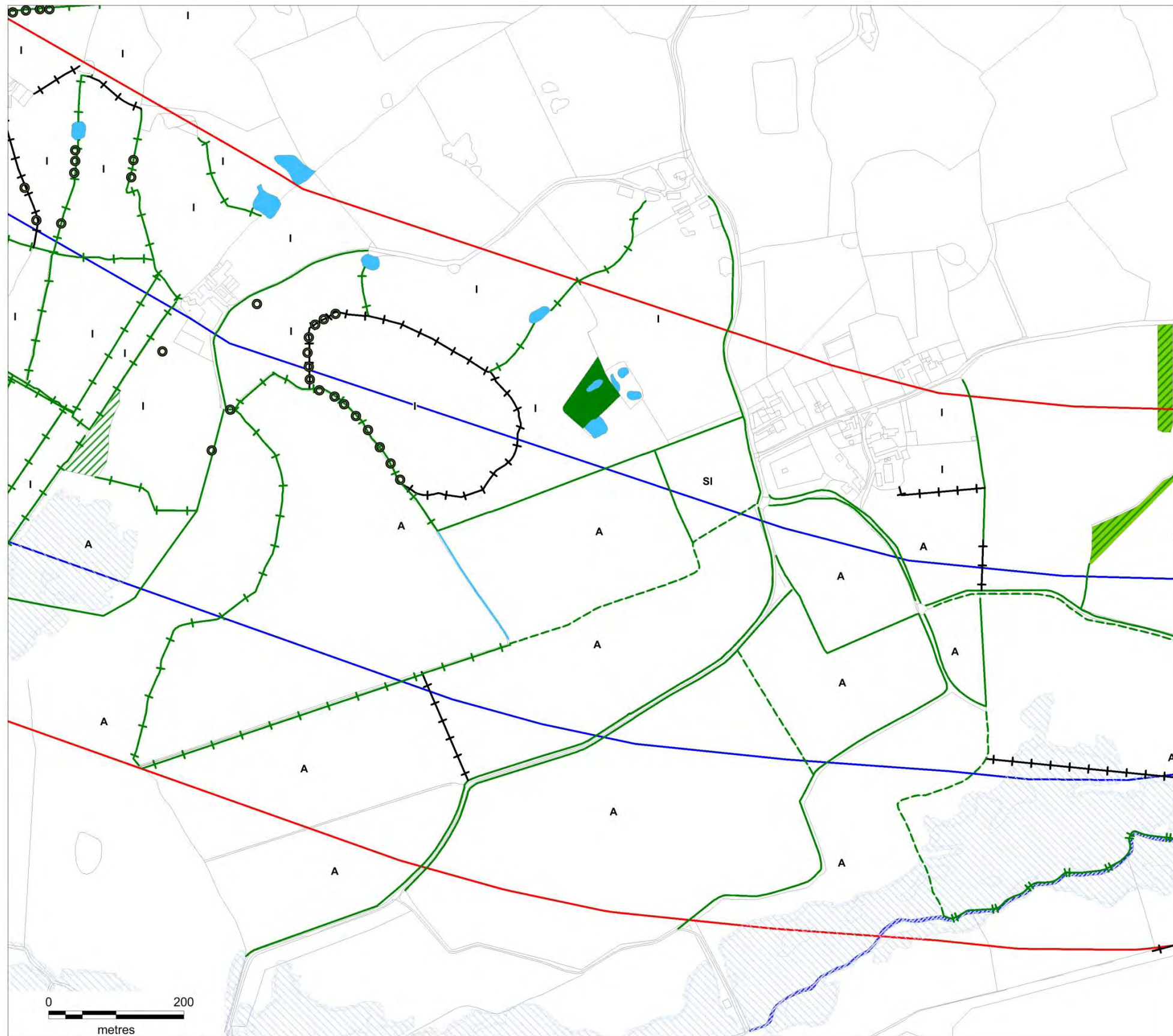
**Ecological Constraints**

|                  |                   |
|------------------|-------------------|
| Drawn by: JP     | Checked by: UM    |
| Date: 19/05/2016 | Drawing no: 11/14 |

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Marshy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

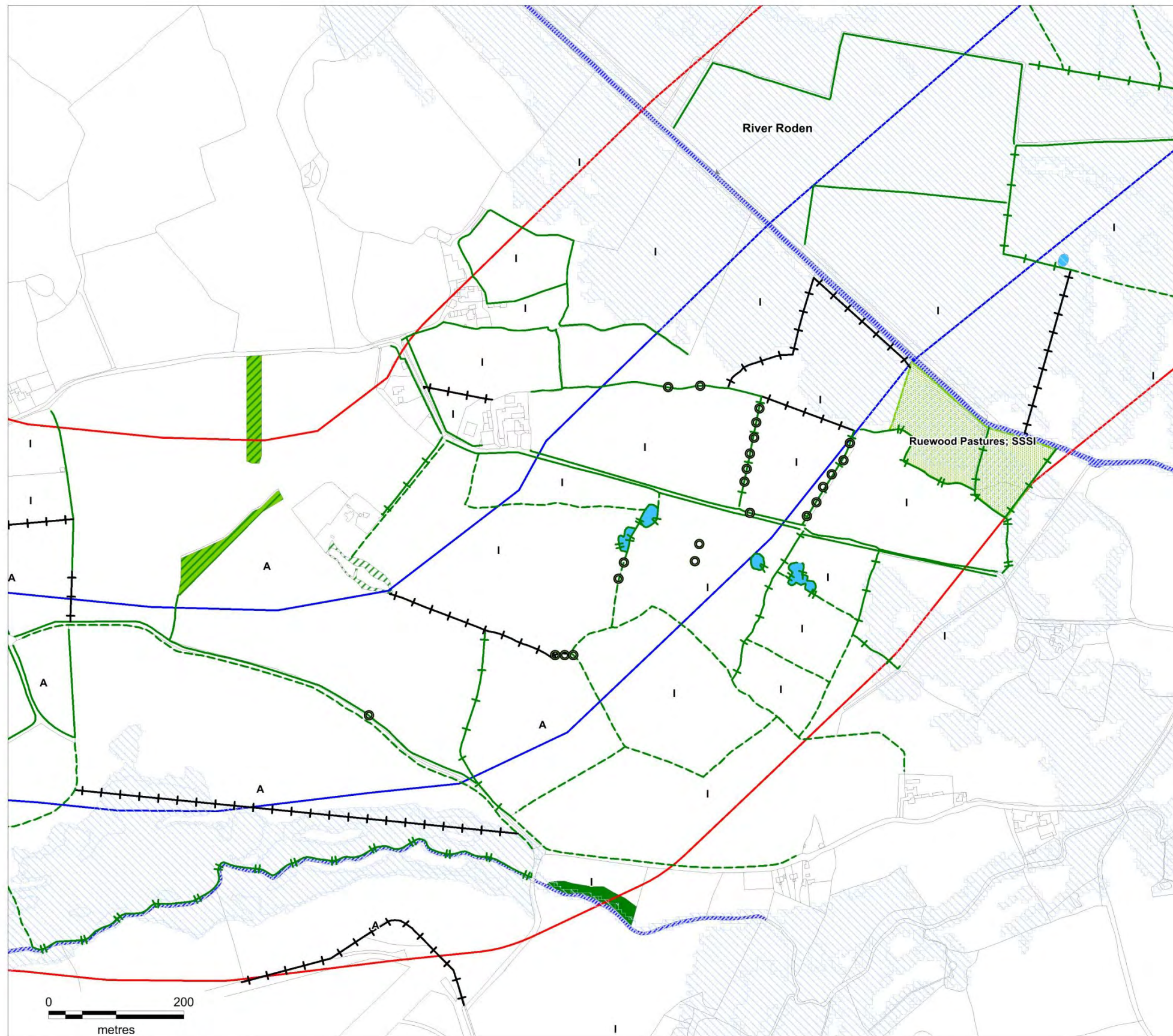
**Ecological Constraints**

|                  |                   |
|------------------|-------------------|
| Drawn by: JP     | Checked by: UM    |
| Date: 27/04/2016 | Drawing no: 12/14 |

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

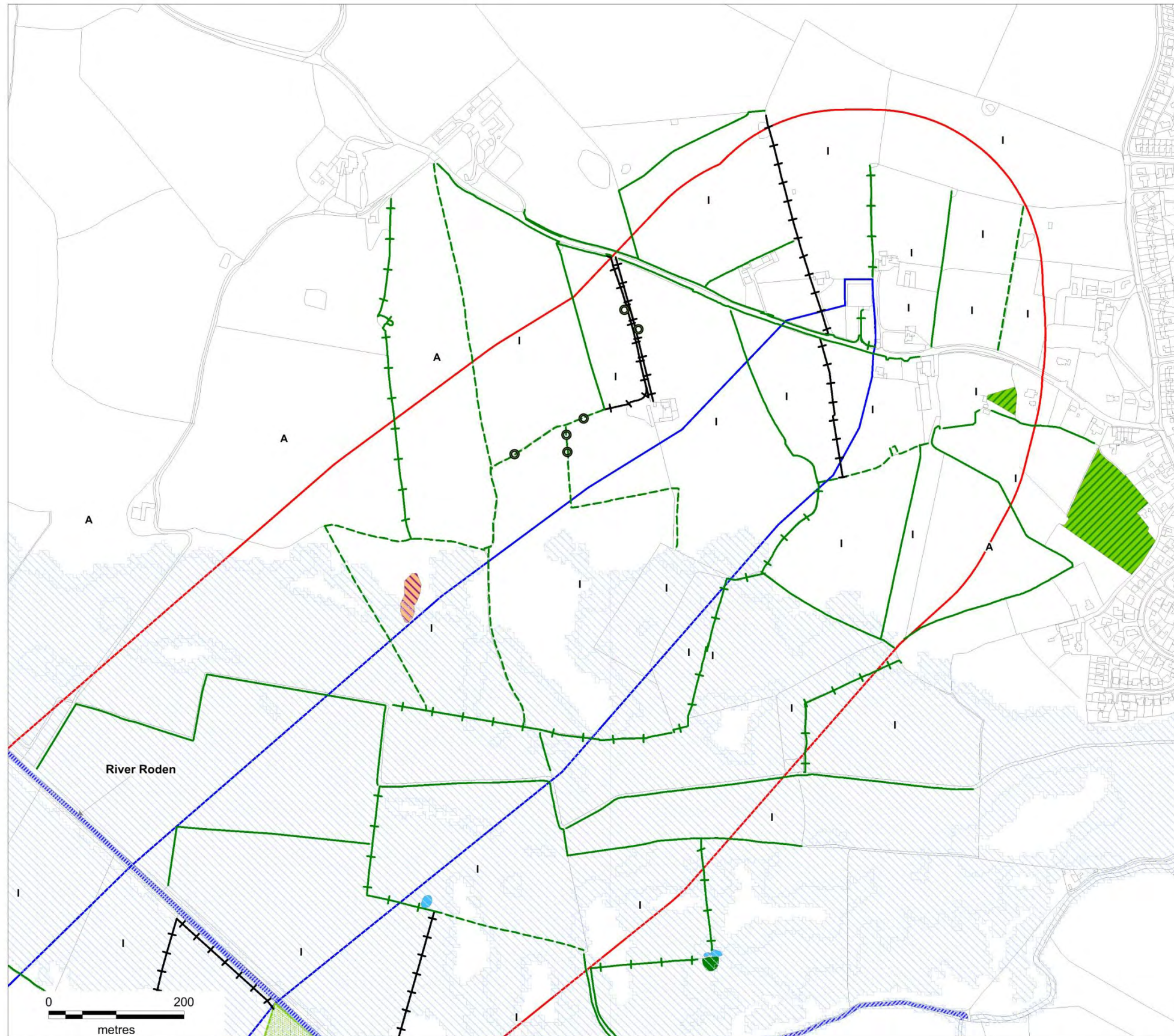
|               |                                    |
|---------------|------------------------------------|
| <b>A/I/SI</b> | Arable (A)                         |
|               | Improved grassland (I)             |
|               | Poor semi-improved grassland (SI)  |
|               | Marshy grassland                   |
|               | Broad-leaved semi-natural woodland |
|               | Mixed semi-natural woodland        |
|               | Broad-leaved plantation woodland   |
|               | Coniferous plantation woodland     |
|               | Mixed plantation woodland          |
|               | Dense scrub                        |
|               | Tall ruderal                       |
|               | Pond                               |
|               | Watercourse                        |
|               | Intact hedgerow                    |
|               | Intact hedgerow with trees         |
|               | Defunct hedgerow                   |
|               | Line of trees                      |
|               | Fence                              |
|               | Wet ditch                          |
|               | Tree                               |
|               | Japanese knotweed                  |

**North Shropshire Reinforcement Project**

**Ecological Constraints**

|           |            |             |       |
|-----------|------------|-------------|-------|
| Drawn by: | JP         | Checked by: | UM    |
| Date:     | 27/04/2016 | Drawing no: | 13/14 |

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**Legend**

- OHL route option
- 250m buffer

**Ecological Constraints**

**Protected & Notable Species**

- Badger sett
- Badger latrine
- Badger track
- Environment Agency flood risk areas 2 & 3

**Designated Sites**

**Statutory**

- SSSI

**Other Habitats of Note**

- Arable (A)
- Improved grassland (I)
- Poor semi-improved grassland (SI)
- Marshy grassland
- Broad-leaved semi-natural woodland
- Mixed semi-natural woodland
- Broad-leaved plantation woodland
- Coniferous plantation woodland
- Mixed plantation woodland
- Dense scrub
- Tall ruderal
- Pond
- Watercourse
- Intact hedgerow
- Intact hedgerow with trees
- Defunct hedgerow
- Line of trees
- Fence
- Wet ditch
- Tree
- Japanese knotweed

**North Shropshire Reinforcement Project**

**Ecological Constraints**

|                  |                   |
|------------------|-------------------|
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| Date: 27/04/2016 | Drawing no: 14/14 |

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**Client Name:** Gillespies  
**Site Name:** North Shropshire Reinforcement Project  
**Project Ref:** Gille-391-746  
**Date:** 12/12/2016

**Wintering Bird Survey Update – November 2016**

**Survey Effort**

The following ornithology surveys have been completed as part of the ongoing programme of winter bird surveys underway along the line route corridor and surrounds of the North Shropshire Reinforcement Project:

| Activity                         | Nov-16   |
|----------------------------------|--|
| Winter Walkovers/Driven Surveys  | 17/11/2016<br>18/11/2016<br>28/11/2016<br>29/11/2016   |
| Vantage Point (VP) Watches (hrs) | 07/11/2016 – VP1 (3 hrs)<br>19/11/2016 – VP1 (2hrs), VP2 (2hrs) & VP3 (2hrs)<br>20/11/2016 – VP1 (2hrs), VP2 (2hrs) & VP3 (2hrs)<br>23/11/2106 – VP1 (2hrs), VP2 (2hrs) & VP3 (2hrs)<br>25/11/2016 – VP1 (2hrs), VP2 (2hrs) & VP3 (2hrs)<br>26/11/2016 – VP1 (2hrs), VP2 (2hrs) & VP3 (2hrs)<br>27/11/2016 – VP1 (2hrs), VP2 (2hrs) & VP3 (2hrs) |

Further ornithology surveys are programmed for December 2016 – March 2017.

*Winter Walkovers / Driven Surveys*

Observations of waterbirds (and raptors and notable flocks of all other species) are being undertaken each month through the use of driven surveys and targeted walkover surveys along defined section of the route corridor (ie. those sections most likely to be used by target bird species at risk from overhead lines). Birds were observing out to c. 600m either side of the route at these locations (**Figure 1**). Surveys have been undertaken along the local road network and public rights of way.

The aim of surveys is to identify any areas of regular use by notable aggregations of species, which may be considered “at risk” from the proposed development.

*Vantage Point (VP) Watches*

Vantage Point (VP) watches to record flight activity of target (“at-risk”) species have been undertaken using three VP locations along the route corridor (VP1-VP3; **Figure 2**). The VP locations provide coverage of the airspace above and surrounding features considered most likely to provide regular flyways for target species. These were:

- The area around the Montgomery Canal in Section 1 (VP1);
- Land around the River Perry in Section 2 (VP2); and
- Land around Loppington in Section 3/4 (VP3).

Target species have been primarily selected by reference to Appendix 1 of Natural England TIN069 (Natural England, 2010<sup>1</sup>), which references species also potentially at risk from overhead lines, and noteworthy species of the Midlands Meres and Mosses Phase 2 Ramsar (breeding shoveler and non-breeding cormorant, bittern and water rail).

## **Results**

### *Winter Walkovers / Driven Surveys*

The following species have been recorded on the ground within 600m of the route corridor:

- |                  |                      |
|------------------|----------------------|
| • Mute swan;     | • Buzzard;           |
| • Greylag goose; | • Lapwing;           |
| • Canada goose;  | • Snipe;             |
| • Wigeon;        | • Redshank;          |
| • Teal;          | • Black-headed gull; |
| • Mallard;       | • Common gull;       |
| • Tufted duck;   | • Fieldfare;         |
| • Grey heron;    | • Jackdaw.           |

A table of raw visit counts is presented in **Annex 1**. The location of and number of birds recorded on the ground is shown in **Figure 3**.

### *Vantage Point (VP) Watches*

The following target species have been recorded flying over the line route key locations (Sections 1-3/4) and/or in the immediate surrounding area:

| Section 1   | Section 2  | Section 3/4  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Mute swan;</li> <li>• Heron;</li> <li>• Lapwing;</li> <li>• Snipe;</li> <li>• Woodcock.</li> </ul> | <ul style="list-style-type: none"> <li>• Snipe.</li> </ul> | <ul style="list-style-type: none"> <li>• Whooper swan;</li> <li>• Teal;</li> <li>• Heron;</li> <li>• Peregrine;</li> <li>• Lapwing;</li> <li>• Snipe.</li> </ul> |

Target species flights are illustrated on **Figure 4** and a table of target species flight activity is presented in **Annex 1**.

---

<sup>1</sup> Natural England (2010) Technical Information Note TIN069: *Assessing the effects of onshore wind farms on birds*. Natural England, Peterborough.

The following secondary species have been recorded flying over the line key route locations (Sections 1-3) and/or in the immediate surrounding area:

Section 1

- Mallard;
- Buzzard;
- Kestrel;
- Sparrowhawk;
- Black-headed gull;
- Lesser black-backed gull;
- Herring gull;
- Kingfisher;
- Fieldfare;
- Raven.

Section 2

- Mallard;
- Buzzard;
- Lesser black-backed gull;
- Herring gull;
- Raven.

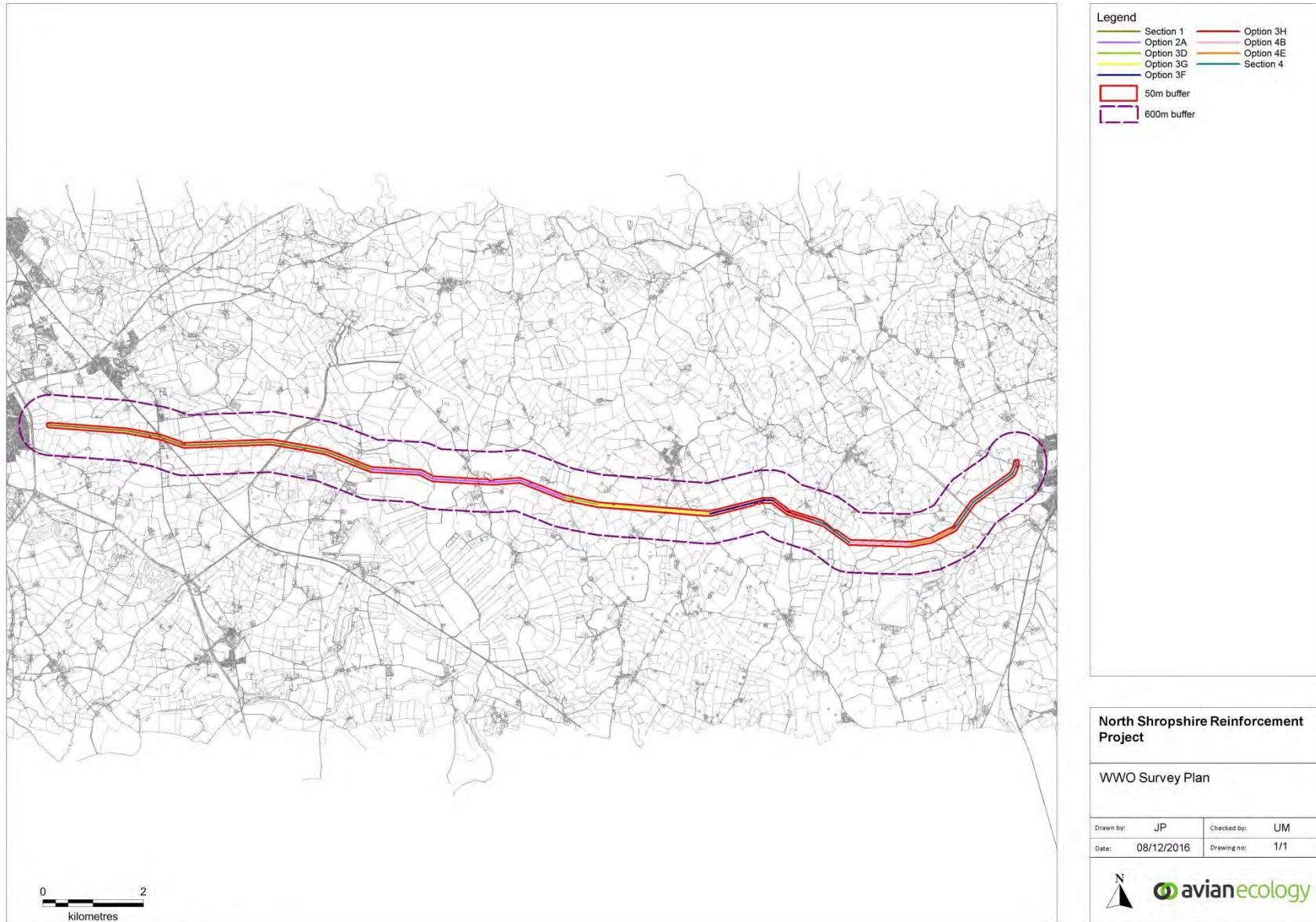
Section 3/4

- Greylag goose;
- Canada goose;
- Mallard;
- Buzzard;
- Kestrel;
- Lesser black-backed gull;
- Raven.

**Implications for Assessment**

Initial surveys have identified the presence of target species within the study area however, overall activity has been low and no implications for assessment have yet been identified.

**Figure 1 – WWO General Survey Corridor**



**Legend**

|             |           |
|-------------|-----------|
| Section 1   | Option 3H |
| Option 2A   | Option 4B |
| Option 3D   | Option 4E |
| Option 3G   | Section 4 |
| Option 3F   |           |
| 50m buffer  |           |
| 600m buffer |           |

**North Shropshire Reinforcement Project**

WWO Survey Plan

|                  |                 |
|------------------|-----------------|
| Drawn by: JP     | Checked by: UM  |
| Date: 08/12/2016 | Drawing no: 1/1 |

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**Figure 2 – VP Survey Plan**

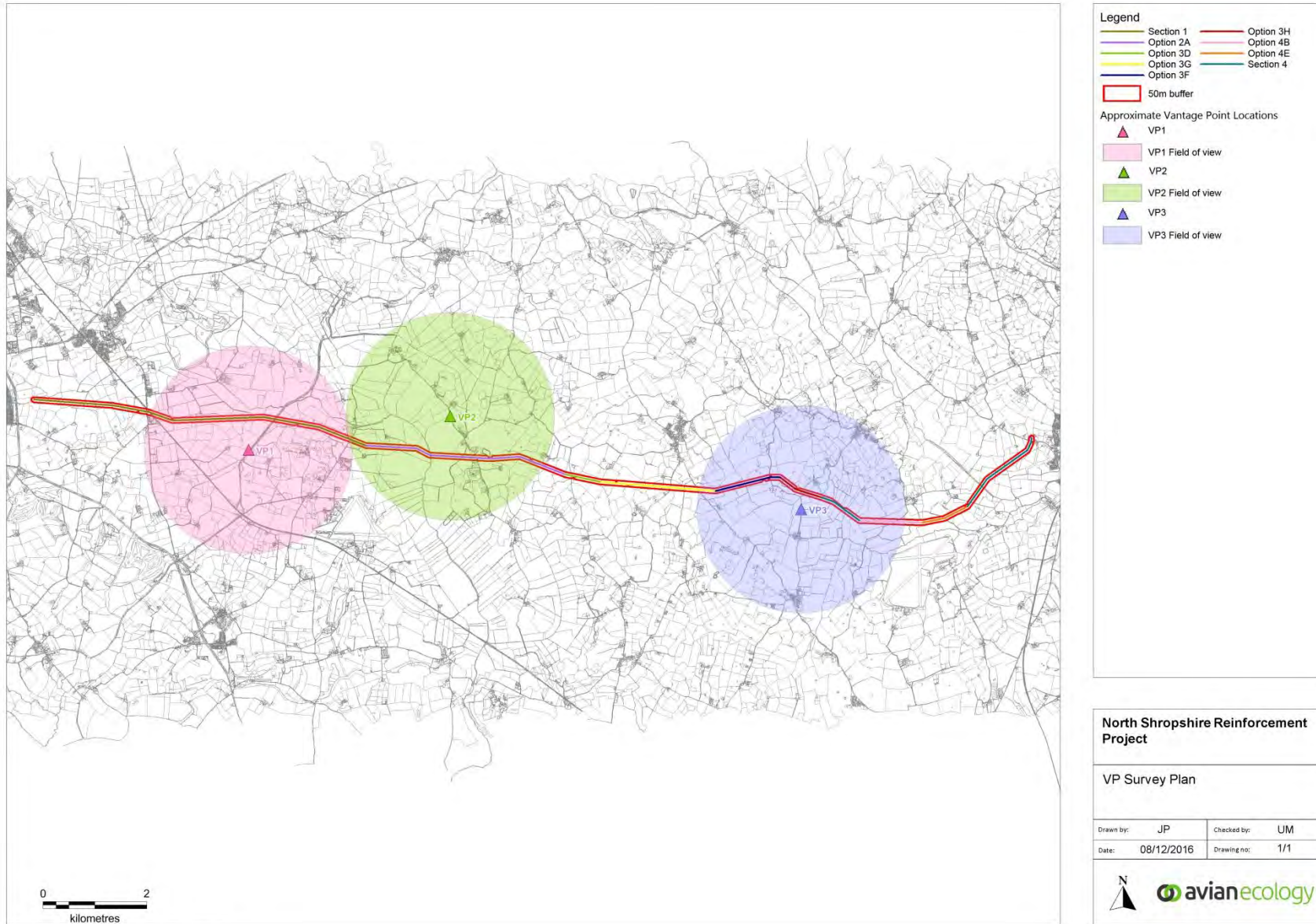


Figure 3 – Winter Walkover Results November 2016



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**North Shropshire Reinforcement Project**

WVO Survey Results  
November 2016

|                  |                 |
|------------------|-----------------|
| Drawn by: JP     | Checked by: UM  |
| Date: 12/12/2016 | Drawing no: 1/1 |

Figure 4 – VP Results November 2016



**Legend**

|  |            |  |           |
|--|------------|--|-----------|
|  | Section 1  |  | Option 3H |
|  | Option 2A  |  | Option 4B |
|  | Option 3D  |  | Option 4E |
|  | Option 3G  |  | Section 4 |
|  | Option 3F  |  |           |
|  | 50m buffer |  |           |

**Approximate Vantage Point Locations**

- VP1
- VP1 Field of view
- VP2
- VP2 Field of view
- VP3
- VP3 Field of view

- Grey heron flights (8)
- Lapwing flights (2)
- Mute swan flights (1)
- Peregrine flights (1)
- Snipe flights (4)
- Teal flights (1)
- Woodcock flights (1)
- Whooper swan flights (1)

**North Shropshire Reinforcement Project**

VP Survey Results  
November 2016

|                  |                 |
|------------------|-----------------|
| Drawn by: JP     | Checked by: UM  |
| Date: 12/12/2016 | Drawing no: 1/1 |

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## Annex 1

### Winter Walkovers / Driven Surveys

Table A1-1 below details survey effort.

**Table A1-1: Winter Walkover effort.**

| Date     | Start Time | Finish Time |
|----------|------------|-------------|
| 17/11/16 | 11:30      | 13:30       |
| 17/11/16 | 14:00      | 15:30       |
| 18/11/16 | 10:00      | 12:00       |
| 28/11/16 | 09:00      | 11:00       |
| 28/11/16 | 12:00      | 14:00       |
| 29/11/16 | 10:00      | 12:00       |

Table A1-2 below presents raw bird counts at observation locations along the route corridor.

**Table A1-2: Raw tabulated bird counts.**

Note: Results presented are total counts of birds within 600m of the route corridor. Values in brackets indicate birds recorded in flight.

| Species           | Nov -16 |       |       |       |       |       | Comments on birds recorded on the ground  |
|-------------------|---------|-------|-------|-------|-------|-------|---|
|                   | 17/11   | 17/11 | 18/11 | 28/11 | 28/11 | 29/11 |   |
| Mute swan         |         |       |       | (1)   |       | 5     | On a pond within land around Loppington.  |
| Greylag goose     |         | 2     |       |       |       | (2)   | Recorded feeding around a pond on land around Loppington.                         |
| Canada goose      | (2)     |       | 2     |       |       |       | In field close to Lower Hordley on land around the River Perry.                   |
| Pink-footed goose |         |       |       |       |       | (100) |   |
| Wigeon            |         | 80    |       |       |       | 30    | Recorded feeding around a pond on land around Loppington.                         |
| Teal              |         | 10    |       |       |       |       | Recorded feeding around a pond on land around Loppington.                         |
| Mallard           | 2       | 8     |       |       |       |       | Recorded feeding around a pond on land around Loppington and on Montgomery Canal. |
| Tufted duck       | 1       |       |       |       |       |       | On Montgomery Canal.  |
| Grey heron        |         |       | (1)   | 1     |       |       | On side of ditch to the west of the Montgomery Canal.                             |
| Buzzard           | 1       | (2)   | (1)   |       | (1)   | (1)   | In tree to the east of the Montgomery Canal.                                      |

| Species                  | Nov -16 |       |       |       |       |       | Comments on birds recorded on the ground   |
|--------------------------|---------|-------|-------|-------|-------|-------|--|
|                          | 17/11   | 17/11 | 18/11 | 28/11 | 28/11 | 29/11 |  |
| Kestrel                  |         | (1)   |       |       |       | (1)   |  |
| Peregrine                |         | (1)   |       |       |       |       |  |
| Lapwing                  |         | 27    |       | 20    |       | 80    | Recorded at two locations on land around Loppington. Also recorded on land around the River Perry. |
| Snipe                    | (1)     |       | 1     |       |       |       | Flushed from field close to Lower Hordley on land around the River Perry.                          |
| Redshank                 |         | 1     |       |       |       |       | Recorded feeding around a pond on land to the south of Loppington.                                 |
| Black-headed gull        |         |       |       |       | 20    |       | Feeding on land around the River Perry.  |
| Common gull              |         |       |       | 10    | 10    |       | In a field to the west of the Montgomery Canal and on land around the River Perry.                 |
| Lesser black-backed gull |         |       |       | (2)   |       |       |  |
| Herring gull             |         | (3)   |       |       |       |       |  |
| Kingfisher               |         |       |       | (1)   |       |       |  |
| Skylark                  |         | (2)   |       |       |       |       |  |
| Fieldfare                |         |       |       |       |       | 50    | In hedge, on land to the south of Loppington.  |
| Jackdaw                  |         |       |       |       |       | 80    | On land to the south of Loppington.  |
| Raven                    |         |       |       | (1)   |       | (2)   |  |

Vantage Point Surveys

**Table A1-3** below details Vantage Point (VP) survey effort.

**Table A1-3: VP survey effort.**

| Date       | VP | Start Time | End Time | Total Time |
|------------|----|------------|----------|------------|
| 07/11/2016 | 1  | 09.15      | 11.15    | 2 hours    |
| 07/11/2016 | 1  | 13.30      | 14.30    | 1 hour     |
| 19/11/2016 | 2  | 07.30      | 09.30    | 2 hours    |
| 19/11/2016 | 3  | 12.00      | 14.00    | 2 hours    |
| 19/11/2016 | 1  | 15.15      | 17.15    | 2 hours    |
| 20/11/2016 | 3  | 07.15      | 09.15    | 2 hours    |
| 20/11/2016 | 1  | 11.00      | 13.00    | 2 hours    |
| 20/11/2016 | 2  | 14.30      | 16.30    | 2 hours    |
| 23/11/2016 | 1  | 07.30      | 09.30    | 2 hours    |
| 23/11/2016 | 2  | 11.00      | 13.00    | 2 hours    |
| 23/11/2016 | 3  | 14.30      | 16.30    | 2 hours    |
| 25/11/2016 | 1  | 14:30      | 16:30    | 2 hours    |
| 26/11/2016 | 1  | 11:00      | 13:00    | 2 hours    |
| 27/11/2016 | 1  | 07:30      | 09:30    | 2 hours    |
| 25/11/2106 | 2  | 07:45      | 09:45    | 2 hours    |
| 26/11/2016 | 2  | 14:30      | 16:30    | 2 hours    |
| 27/11/2016 | 2  | 11:00      | 13:00    | 2 hours    |
| 25/11/2016 | 3  | 11:00      | 13:00    | 2 hours    |
| 26/11/2016 | 3  | 07:30      | 09:30    | 2 hours    |
| 27/11/2016 | 3  | 14:30      | 16:30    | 2 hours    |

**Table A1-4** below presents a target species summary of the total number of flights and total number of birds recorded to date, with notes on the location of each flight.

**Table A1-4: Summary of target species flight activity.**

| Species      | Total No. of Flights | Total No. of Birds | Total Flight Time | Comments  |
|--------------|----------------------|--------------------|-------------------|---|
| Mute swan    | 1                    | 2                  | 20                | Flew low over fields to the west of the Montgomery Canal.   |
| Whooper swan | 1                    | 4                  | 30                | Flew north (crossed line route) over fields to the south of Loppington (Section 3/4).   |
| Teal         | 1                    | 3                  | 15                | Across line route in fields to the south of Loppington (Section 3/4).   |
| Heron        | 8                    | 10                 | 155               | Severn flights in Section 1, including flights across land parallel to the Montgomery Canal (crossed line route) and along the canal.<br>One from Section 3/4.  |
| Peregrine    | 1                    | 1                  | 10                | One flight parallel to route on fields to the south of Loppington (Section 3/4).  |
| Snipe        | 4                    | 6                  | 55                | Two flights over land near Montgomery Canal (Section 1), one from land to the east of the River Perry (Section 2), and one from fields to the south of Loppington (Section 3/4) (crossed line route). |
| Woodcock     | 1                    | 4                  | 15                | Flying south, crossing Montgomery Canal.  |
| Lapwing      | 2                    | 28                 | 55                | One flight of 12 individuals over land to the west of the Montgomery Canal. One flight north over fields to the south of Loppington (Section 3/4), crossing line route.                               |

## APPENDIX F – HISTORICAL ASSETS SUMMARY



| List Entry/<br>MONUID | Name of Heritage Asset  | Designated (D)<br>Non-<br>Designated<br>(ND) | D Grade | Easting   | Northing  |
|-----------------------|---|--|---------|-----------|-----------|
| CA                    | Loppington Conservation Area  | D  | n/a     | 347118.61 | 329362.49 |
| CA                    | Oswestry Town Centre Conservation Area                                    | D  | n/a     | 328987.63 | 329485.16 |
| CA                    | Pantglas and Brogyntyn Conservation Area                                  | D  | n/a     | 327587.68 | 331305.68 |
| CA                    | Wem Conservation Area   | D  | n/a     | 351159.28 | 328998.76 |
| CA                    | Whittington Conservation Area   | D  | n/a     | 332495.43 | 331192.49 |
| HER MSA10253          | The Don, Albion Hill  | ND   | n/a     | 329112.2  | 329750.75 |
| HER MSA10254          | The Guildhall   | ND   | n/a     | 329080    | 329780    |
| HER MSA10255          | Nos 23 and 25 (including Passage to Clifton Place) Bailey Street          | ND   | n/a     | 329066.3  | 329688.05 |
| HER MSA10256          | No 31 Bailey Street   | ND   | n/a     | 329075.9  | 329713.55 |
| HER MSA10257          | Nos 39 and 41 Bailey Street   | ND   | n/a     | 329082.8  | 329732.65 |
| HER MSA10258          | Nos 1 and 3 Church Street   | ND   | n/a     | 329064.35 | 329594    |
| HER MSA10259          | Nos 9 and 11 Church Street  | ND   | n/a     | 329047.67 | 329579.21 |
| HER MSA10260          | Oak Inn, Church Street  | ND   | n/a     | 328915.05 | 329357.2  |
| HER MSA10261          | Nos 57 and 59 Church Street   | ND   | n/a     | 328904    | 329339.2  |
| HER MSA10262          | No 63 Church Street   | ND   | n/a     | 328896.9  | 329317.05 |
| HER MSA10263          | War Memorial, Church Street, Oswestry                                     | ND   | n/a     | 328932.8  | 329455.35 |
| HER MSA10264          | Gate Pier Attached to SE Corner of No 36 Church Street                    | ND   | n/a     | 328920    | 329430    |
| HER MSA10265          | Gate Pier Attached to NE Corner of 40 Church Street (Bellan House School) | ND   | n/a     | 328918.05 | 329426.65 |
| HER MSA10266          | Gate Piers apx 30m S of Church of St Oswald                               | ND   | n/a     | 328876.65 | 329322.35 |
| HER MSA10267          | Lamp apx 4m W of Tower of Church of St Oswald, Church Street              | ND   | n/a     | 328842.2  | 329362.45 |
| HER MSA10268          | Sundial apx 30m SW of Tower of Church of St Oswald, Church Street         | ND   | n/a     | 328839.9  | 329332.5  |
| HER MSA10269          | Group of 7 Chest Tombs apx 15m W of Church of St Oswald, Church Street    | ND   | n/a     | 328838.35 | 329383    |
| HER MSA10270          | Pair of Memorials to Members of Jones Family, Church of St Oswald         | ND   | n/a     | 328838.15 | 329398    |
| HER MSA10271          | Bennion/Lewis Memorial Abutting E End of Vestry of Church of St Oswald    | ND   | n/a     | 328887.15 | 329354.85 |
| HER MSA10272          | Hunt Memorial apx 25m NW of N Aisle of Church of St Oswald, Church Street | ND   | n/a     | 328839.65 | 329395.25 |
| HER MSA10273          | Jones Memorial apx 2m E of S Porch of Church of St Oswald, Church Street  | ND   | n/a     | 328863.7  | 329351.5  |
| HER MSA10274          | Jones Memorial apx 35m W of West End of Nave of Church of St Oswald       | ND   | n/a     | 328825.85 | 329372.9  |

|              |  |    |     |           |           |
|--------------|--|----|-----|-----------|-----------|
| HER MSA10275 | Williams Memorial apx 25m NW of Church of St Oswald, Church Street     | ND | n/a | 328835.25 | 329394.2  |
| HER MSA10276 | Wolfe/Jennings Memorial, Church of St Oswald                           | ND | n/a | 328890    | 329390    |
| HER MSA10277 | Nos 4 and 6 The Cross  | ND | n/a | 329046.9  | 329610.4  |
| HER MSA10278 | Nos 18 and 20 Cross Street   | ND | n/a | 329123.5  | 329633.35 |
| HER MSA10279 | Former Railway Works (Cambrian Works)                                  | ND | n/a | 329572.4  | 329982.4  |
| HER MSA10280 | Nos 14 to 18 (even), Kent Place, Roft Street                           | ND | n/a | 329208.65 | 329397.05 |
| HER MSA10281 | Nos 21 and 23 Leg Street   | ND | n/a | 329165.15 | 329654.55 |
| HER MSA10282 | No 25 Leg Street   | ND | n/a | 329171.95 | 329637.85 |
| HER MSA10283 | No 8 Leighton Place  | ND | n/a | 328941.75 | 329202.8  |
| HER MSA10284 | No 6 Lower Brook Street  | ND | n/a | 328922.55 | 329255.75 |
| HER MSA10285 | Row of 7 Bollards Immediately in Front of No 6 Lower Brook Street      | ND | n/a | 328921    | 329265.2  |
| HER MSA10286 | White Lion Inn, Oakhurst Road  | ND | n/a | 328718.7  | 329975.6  |
| HER MSA10287 | Signal Box apx 80m S of Former Oswestry Station, Oswald Road           | ND | n/a | 329364.3  | 329707.9  |
| HER MSA10288 | Raised Pavement, Steps and Railings in front of 1-5 Porkington Terrace | ND | n/a | 328780.9  | 329886.9  |
| HER MSA10289 | Nos 49 and 51 Roft Street  | ND | n/a | 329031.8  | 329300.7  |
| HER MSA10290 | Church of Holy Trinity, Oswestry                                       | ND | n/a | 329270    | 329400    |
| HER MSA10291 | Nos 16 to 22 (even) Salop Road   | ND | n/a | 329250.8  | 329508    |
| HER MSA10292 | Nos 24 to 30 (even) Salop Street                                       | ND | n/a | 329270    | 329480    |
| HER MSA10293 | No 2 Upper Brook Street  | ND | n/a | 328859.4  | 329287.45 |
| HER MSA10294 | Nos 8 and 10 Upper Brook Street  | ND | n/a | 328843.25 | 329289.75 |
| HER MSA10295 | No 2 Upper Church Street   | ND | n/a | 328864.55 | 329285.15 |
| HER MSA10296 | Nos 4 to 14 (even) Upper Church Street                                 | ND | n/a | 328861.8  | 329272.4  |
| HER MSA10297 | Nos 18 and 20 Willow Street  | ND | n/a | 328978.6  | 329658.2  |
| HER MSA10298 | Nos 32 to 36 (even) Willow Street                                      | ND | n/a | 328952.2  | 329697    |
| HER MSA10299 | No 38 and Butchers Arms Public House, Willow Street                    | ND | n/a | 328947.2  | 329713    |
| HER MSA10300 | No 56 Willow Street  | ND | n/a | 328922.6  | 329749.25 |
| HER MSA10301 | Nos 58 and 60 Willow Street  | ND | n/a | 328918.4  | 329758.5  |
| HER MSA10302 | Nos 9 and 11 Willow Street   | ND | n/a | 328974.75 | 329613.7  |
| HER MSA10303 | Boars Head Inn, Willow Street  | ND | n/a | 328970.9  | 329623.85 |
| HER MSA10304 | No 41 Willow Street  | ND | n/a | 328899    | 329725.25 |
| HER MSA10305 | Nos 43 and 45 Willow Street  | ND | n/a | 328899.55 | 329734.9  |
| HER MSA10306 | Nos 53 and 55 Willow Street  | ND | n/a | 328876.7  | 329765.7  |
| HER MSA10307 | No 57 Willow Street  | ND | n/a | 328867.5  | 329774.1  |
| HER MSA10308 | No 59 Willow Street  | ND | n/a | 328862.15 | 329781.3  |
| HER MSA10310 | Bridge over Aston Hall Lake Inlet Stream                               | ND | n/a | 331979.6  | 327356.6  |
| HER MSA10331 | Milestone at NGR SJ 3299 2742 on A4083                                 | ND | n/a | 332988.41 | 327411.8  |

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| HER MSA10332 | Milestone, old A5, by Golf Course  | ND | n/a | 331552.13 | 327912.98 |
| HER MSA10333 | L-shaped Range of Outbuildings, Aston Hall                                 | ND | n/a | 332613.2  | 327268.8  |
| HER MSA10334 | Decorative Urn apx 25m W of West Front of Aston Hall, Aston Park           | ND | n/a | 332506    | 327263.5  |
| HER MSA10335 | Decorative Urn apx 25m W of West Front of Aston Hall, Aston Park           | ND | n/a | 332502.8  | 327254.75 |
| HER MSA10336 | Kitchen Garden Wall apx 120m E of Aston Hall, Aston Park                   | ND | n/a | 332739.6  | 327205.55 |
| HER MSA10337 | Pedestal Tomb apx 20m S of Domestic Chapel at Aston Hall, Aston Park       | ND | n/a | 332499.6  | 327149.35 |
| HER MSA10345 | Middleton Farmhouse, Middleton   | ND | n/a | 331975.6  | 328703    |
| HER MSA10346 | Pool Farmhouse, Middleton  | ND | n/a | 331926    | 328811.9  |
| HER MSA10347 | Barn apx 25m NW of Pool Farmhouse, Middleton                               | ND | n/a | 331902    | 328838.25 |
| HER MSA10364 | Oak Tree Cottage, Wootton  | ND | n/a | 334159    | 327513.05 |
| HER MSA10365 | Wootton Castle , Wootton   | ND | n/a | 334144.6  | 327952.15 |
| HER MSA10366 | Outbuilding apx 15m S of Wootton Castle, Wootton                           | ND | n/a | 334139.8  | 327929.3  |
| HER MSA10367 | Wootton House, Wootton   | ND | n/a | 333701.4  | 327734.35 |
| HER MSA10368 | Pump and Basin apx 60m SW of Wootton House, Wootton                        | ND | n/a | 333624.6  | 327683.4  |
| HER MSA10558 | Woodgate and Attached Wall, B4397  | ND | n/a | 346410.6  | 328624.1  |
| HER MSA10559 | Stables apx 20m NE of Woodgate, B4397                                      | ND | n/a | 346449    | 328645.55 |
| HER MSA10560 | Burlton Grange Farmhouse, B4397  | ND | n/a | 345894.6  | 327275.35 |
| HER MSA10561 | Pump and Basin approx 10m N of Burlton Grange Farmhouse                    | ND | n/a | 345891.2  | 327265.6  |
| HER MSA10562 | Mill Farmhouse B4397   | ND | n/a | 345879.8  | 327243.8  |
| HER MSA10564 | Outbuildings and Attached Walls to Rear of Burlton Hall, Burlton           | ND | n/a | 345850.15 | 326155.35 |
| HER MSA10565 | Outbuilding apx 10m NW of Burlton Hall, Burlton                            | ND | n/a | 345840.25 | 326151.05 |
| HER MSA10566 | Farmbuilding and Attached Wall and Gateway apx 30m NE of Burlton Hall      | ND | n/a | 345890    | 326190    |
| HER MSA10567 | Wall Flanking Road Immediately to E of Hatchetts Farmhouse, Burlton        | ND | n/a | 345822.6  | 326079    |
| HER MSA10568 | Ruewood Farmhouse, Common Wood Road  | ND | n/a | 349720.7  | 327694.85 |
| HER MSA10569 | Village Pump and Basin   | ND | n/a | 347127.8  | 329441.3  |
| HER MSA10570 | Barn apx 10m NW of Parish Farmhouse  | ND | n/a | 347040.2  | 329395.05 |
| HER MSA10571 | Barn apx 15m SW of Pear Tree Farmhouse                                     | ND | n/a | 347036.6  | 329344.95 |
| HER MSA10572 | Group of Chest and Table Tombs to S of South Aisle of Church of St Michael | ND | n/a | 347162    | 329266.2  |

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| HER MSA10573 | Churchyard Wall to N and W of Church of St Michael                    | ND | n/a | 347137.99 | 329287.8  |
| HER MSA10574 | Barn apx 15m NE of Church Farmhouse                                   | ND | n/a | 347211    | 329296.5  |
| HER MSA10575 | Barn apx 15m SE of The Nook Farmhouse                                 | ND | n/a | 347289.4  | 329327.7  |
| HER MSA10610 | Woodhouse Farmhouse   | ND | n/a | 351701.8  | 327723.6  |
| HER MSA10613 | Former lodge at entrance to Belle Vue B5063                           | ND | n/a | 349787.4  | 329329.35 |
| HER MSA10614 | Sundial apx 15m E of The Ditches Hall B5063                           | ND | n/a | 349632.45 | 329360.35 |
| HER MSA10615 | Yew Tree Farmhouse B5063  | ND | n/a | 348859.7  | 329825.6  |
| HER MSA10616 | Milepost, B5476, near Trench Hall                                     | ND | n/a | 350764.2  | 326669.11 |
| HER MSA10617 | Pankeymoor Cottage B5476  | ND | n/a | 351222.2  | 327747.6  |
| HER MSA10618 | Milepost, B5476, Creamore Farm  | ND | n/a | 351635.02 | 330338.42 |
| HER MSA10628 | 2A, Horton Villa HORTON   | ND | n/a | 349077.05 | 329876.75 |
| HER MSA10630 | Gate piers apx 20m SW of Lowe Hall LOWE                               | ND | n/a | 350050    | 330570    |
| HER MSA10636 | Ruewood Farmhouse RUEWOOD   | ND | n/a | 349702.6  | 327439.35 |
| HER MSA10640 | Tilley Lodge TILLEY   | ND | n/a | 350836.6  | 327747.55 |
| HER MSA10677 | Milestone, B5069, Nr Hospital, Gobowen                                | ND | n/a | 330200.27 | 332560.78 |
| HER MSA10688 | pentreclawdd Farmhouse and attached cowhouse PENTRECLAWDD             | ND | n/a | 329920.4  | 332119.45 |
| HER MSA10694 | The Buildings Farmhouse   | ND | n/a | 336950    | 328190    |
| HER MSA10695 | Lshaped barn apx 10m S of The Buildings Farmhouse                     | ND | n/a | 336966.4  | 328146.9  |
| HER MSA10696 | Front wall, kitchen garden wall and outbuilding, Woodhouse            | ND | n/a | 336220    | 328800    |
| HER MSA10697 | Stable block apx 50m to N of Wood House with attached wall to S       | ND | n/a | 336400    | 328920    |
| HER MSA10698 | Pump and basin in yard to E of stable block to N of Woodhouse         | ND | n/a | 336420    | 328920    |
| HER MSA10701 | Milestone, old A5, South of Queens Head                               | ND | n/a | 334168.6  | 326430.62 |
| HER MSA10707 | Abbots Moor Farmhouse HAUGHTON  | ND | n/a | 337190    | 326950    |
| HER MSA10708 | Henbarns Farmhouse HENBARNs   | ND | n/a | 338038.25 | 326555.15 |
| HER MSA10709 | 2 barns apx 40m N of Henbarns Farmhouse HENBARNs                      | ND | n/a | 338041.55 | 326598.75 |
| HER MSA10711 | Pump and basin apx 2m N of The Fords QUEENS HEAD                      | ND | n/a | 334300    | 326690    |
| HER MSA10712 | Smithy Cottage REDNAL   | ND | n/a | 336513    | 328011.15 |
| HER MSA10713 | Bridge No 74 SHROPSHIRE UNION CANAL (Montgomeryshire Branch)          | ND | n/a | 335099.9  | 327632.2  |
| HER MSA10716 | Twyford House TWYFORD   | ND | n/a | 334807.2  | 326174.65 |
| HER MSA10729 | Great Fernhill Farmhouse, A5  | ND | n/a | 331674    | 332533.85 |
| HER MSA10730 | Disused cottage at N G R SJ 3274 2838 (Yew Tree Cottage) ASTON SQUARE | ND | n/a | 332750    | 328370    |

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| HER MSA10731 | Barn at Henhafod BERGHILL LANE  | ND | n/a | 335722.4  | 331533.15 |
| HER MSA10732 | Evenall Farmhouse BERGHILL LANE   | ND | n/a | 335119.6  | 331978.45 |
| HER MSA10733 | Nos 4 and 6 BOOT STREET   | ND | n/a | 332664.15 | 331259.9  |
| HER MSA10734 | Sundial apx 3m S of nave of Church of St John the Baptist CHURCH STREET | ND | n/a | 332607.35 | 331252.3  |
| HER MSA10735 | Game larder immediately to N of service range to Halston Hall           | ND | n/a | 333959.9  | 331655.65 |
| HER MSA10736 | Stable block, gate piers and farmbuildings, Halston Hall                | ND | n/a | 334001.35 | 331671.65 |
| HER MSA10737 | Ice house apx 90m NE of Halston Hall ELLESMERE ROAD                     | ND | n/a | 333821    | 331690    |
| HER MSA10738 | Garden Cottage with kitchen garden wall and outbuildings ELLESMERE ROAD | ND | n/a | 333394.92 | 331793.42 |
| HER MSA10738 | Garden Cottage with kitchen garden wall and outbuildings ELLESMERE ROAD | ND | n/a | 333428.55 | 331841.15 |
| HER MSA10740 | Crossing Cottage OSWESTRY ROAD  | ND | n/a | 332079.05 | 331102.75 |
| HER MSA10741 | Bridge No 70 SHROPSHIRE UNION CANAL (Llangollen Branch)                 | ND | n/a | 336982.25 | 331886.45 |
| HER MSA10747 | Lockgate Bridge SHROPSHIRE UNION CANAL (Montgomeryshire Branch)         | ND | n/a | 336813.4  | 331066.3  |
| HER MSA10748 | White Gables STATION ROAD   | ND | n/a | 332136.95 | 331066.35 |
| HER MSA11109 | Terraces, garden walls and gatepiers immediately S of Stanwardine Hall  | ND | n/a | 342717.8  | 327773.1  |
| HER MSA11110 | Sundial apx 10m S of Stanwardine Hall                                   | ND | n/a | 342737    | 327770.45 |
| HER MSA11120 | Mere Farmhouse CROSEMERE  | ND | n/a | 343340    | 329830    |
| HER MSA11121 | Barn apx 15m SE of The Hollies, ENGLISH FRANKTON                        | ND | n/a | 345424.9  | 329657.05 |
| HER MSA11122 | Sundial apx 12m S of nave of Church of St Simon and St Jude             | ND | n/a | 343470    | 329200    |
| HER MSA11123 | Burlton memorial, Church of St Simon and St Jude                        | ND | n/a | 343490    | 329210    |
| HER MSA11124 | Burlton memorial, Church of St Simon and St Jude                        | ND | n/a | 343490    | 329200    |
| HER MSA11125 | Phillips memorial, Church of St Simon and St Jude                       | ND | n/a | 343483    | 329220    |
| HER MSA11126 | No 7 SHREWSBURY ROAD  | ND | n/a | 343393.4  | 329275.05 |
| HER MSA11160 | Broad Oak Cottage, Lower Frankton                                       | ND | n/a | 337127.6  | 331783.05 |
| HER MSA11189 | Cureton memorial apx 1.5m N of vestry of Church of St Mary, Hordley     | ND | n/a | 338129.7  | 330834.55 |
| HER MSA11190 | Davies memorial apx 1.2m N of nave of Church of St Mary, Hordley        | ND | n/a | 338110.3  | 330835.6  |

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| HER MSA11191 | Dodd memorial apx 5m N of vestry of Church of St Mary, Hordley                        | ND | n/a | 338128.35 | 330841.5  |
| HER MSA11192 | Reynolds memorial, Church of St Mary, Hordley   | ND | n/a | 338107.4  | 330834.15 |
| HER MSA11193 | Hignett memorial apx 2m S of porch of Church of St Mary, Hordley                      | ND | n/a | 338114.63 | 330815.67 |
| HER MSA11194 | Churchyard wall and gate, Petton Church   | ND | n/a | 344020    | 326270    |
| HER MSA11195 | Ice house apx 60m SE of Petton Church   | ND | n/a | 344087.99 | 326223.84 |
| HER MSA11299 | Grafton Farmhouse, NONELY   | ND | n/a | 348131.2  | 327961.25 |
| HER MSA11304 | Drenewydd OSWESTRY ROAD   | ND | n/a | 331714.4  | 330869.1  |
| HER MSA11305 | The Twyfords, TWYFORD   | ND | n/a | 334928.8  | 326264.25 |
| HER MSA11306 | Highfields Farmhouse, TOP STREET  | ND | n/a | 332512.85 | 331401.65 |
| HER MSA11364 | Griffin Inn, ALBION HILL, Oswestry  | ND | n/a | 329120.5  | 329732.15 |
| HER MSA11365 | Nos 2 and 4 ALBION HILL, Oswestry   | ND | n/a | 329111.85 | 329736.6  |
| HER MSA11366 | No 6 ALBION HILL, Oswestry  | ND | n/a | 329104.15 | 329738.05 |
| HER MSA11672 | Oak Cottage (farmhouse), Tilley   | ND | n/a | 350761.4  | 327873.65 |
| HER MSA11817 | Medieval urban form, Wem  | ND | n/a | 351232.46 | 329002.74 |
| HER MSA11818 | Post Medieval urban form, Wem   | ND | n/a | 351210.68 | 328947.72 |
| HER MSA1226  | Cultivation Terraces at Shelf Bank, Oswestry  | ND | n/a | 329670.63 | 329919.74 |
| HER MSA12543 | Find Spot before 1900 of a Roman roof tile and coin at The Cross, Oswestry.           | ND | n/a | 329012.65 | 329581.66 |
| HER MSA12544 | Coin Hoard, Oswestry  | ND | n/a | 328559.01 | 329517.69 |
| HER MSA12546 | Market cross, The Cross, Oswestry   | ND | n/a | 329018.1  | 329596.61 |
| HER MSA12547 | Railway yard, Oswestry  | ND | n/a | 329431.53 | 329893.44 |
| HER MSA12548 | St David's Church, Welsh Walls, Oswestry  | ND | n/a | 328777.55 | 329488.44 |
| HER MSA12549 | Arrow head, Cambrian Drive, Oswestry  | ND | n/a | 329507.02 | 330200    |
| HER MSA12550 | Wat's Dyke (site 94), Ardmillan, Oswestry   | ND | n/a | 329546.69 | 329803.63 |
| HER MSA12551 | Wats Dyke (site 119), Shelf Bank, Oswestry  | ND | n/a | 329532.06 | 329903.97 |
| HER MSA12553 | Garden of Walford Cafe, 55, Willow St, Oswestry                                       | ND | n/a | 328844.42 | 329759.45 |
| HER MSA12554 | Duplicate of Event ESA 5554   | ND | n/a | 328869.81 | 329804.85 |
| HER MSA12555 | Town wall, Welsh Walls, Oswestry  | ND | n/a | 328838.03 | 329780.38 |
| HER MSA12556 | Town walls, Post office, Oswestry   | ND | n/a | 328957.68 | 329483.31 |
| HER MSA12557 | Excavation, Cae Glas Park, Oswestry   | ND | n/a | 328865.7  | 329623.97 |
| HER MSA12558 | Excavations near park Superintendents House, Cae Glas Park, Oswestry                  | ND | n/a | 328840.66 | 329681.99 |
| HER MSA12559 | Town wall, English walls, Oswestry  | ND | n/a | 329013.3  | 329469.67 |
| HER MSA12560 | Excavated section of town wall and ditch at corner of Castle Street and Chapel Street | ND | n/a | 328927.3  | 329827.4  |
| HER MSA12561 | Observed section of town wall and town ditch, Church Street car park                  | ND | n/a | 328980    | 329470    |

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| HER MSA12562 | Store cellar below 76, Willow St, Oswestry                 | ND | n/a | 328879.08 | 329798.1  |
| HER MSA12563 | Victoria Works, Lower Brook St, Oswestry                   | ND | n/a | 329072.53 | 329223.95 |
| HER MSA12564 | Bethesda Chapel, Penylan Lane, Oswestry                    | ND | n/a | 328787.14 | 329143.15 |
| HER MSA12566 | Tannery, Lower Brook St, Oswestry                          | ND | n/a | 328957.8  | 329283.79 |
| HER MSA12567 | Brick Kiln, east of Church St, Oswestry                    | ND | n/a | 328966.15 | 329047.25 |
| HER MSA12568 | Smithfield cattle market, English Walls, Oswestry          | ND | n/a | 329124.63 | 329458.8  |
| HER MSA12569 | Pipe Kiln, Morda Rd, Oswestry                              | ND | n/a | 328783.05 | 329072.2  |
| HER MSA12570 | Steel yard weight found in Market Place, Oswestry          | ND | n/a | 329031.58 | 329594.37 |
| HER MSA12571 | Snuff mill, Beatrice St, Oswestry                          | ND | n/a | 329259.95 | 329846.07 |
| HER MSA12571 | Snuff mill, Beatrice St, Oswestry                          | ND | n/a | 329259.86 | 329840.64 |
| HER MSA12572 | Market hall and gaol, Bailey head, Oswestry                | ND | n/a | 329081.49 | 329778.99 |
| HER MSA12573 | Pound, Castle Hill, Oswestry                               | ND | n/a | 329036.52 | 329782.35 |
| HER MSA12574 | Toll house, Upper Church St, Oswestry                      | ND | n/a | 328838.82 | 329164.88 |
| HER MSA12575 | Coach works, Salop St, Oswestry                            | ND | n/a | 329284.26 | 329466.59 |
| HER MSA12576 | Timber yard, Salop St, Oswestry                            | ND | n/a | 329254.08 | 329536.38 |
| HER MSA12577 | Wesleyan Methodist Chapel, Salop St, Oswestry              | ND | n/a | 329218.59 | 329593.07 |
| HER MSA12578 | Baptist Chapel, English walls, Oswestry                    | ND | n/a | 329054.36 | 329502    |
| HER MSA12579 | Porkington almshouse, Oakhurst Rd, Oswestry                | ND | n/a | 328692.01 | 329988.4  |
| HER MSA12580 | Primitive Methodist Chapel, Oakhurst Rd, Oswestry          | ND | n/a | 328721.8  | 330000.36 |
| HER MSA12581 | Gas works, Willow St, Oswestry                             | ND | n/a | 328805.3  | 329822.95 |
| HER MSA12582 | Welsh Methodist Chapel, Castle St, Oswestry                | ND | n/a | 328908.44 | 329814.28 |
| HER MSA12583 | Old Chapel, Arthur St, Oswestry                            | ND | n/a | 328981.73 | 329751.01 |
| HER MSA12584 | Old Gaol, Arthur St, Oswestry                              | ND | n/a | 329006.4  | 329766.3  |
| HER MSA12585 | Powis Hall, Bailey Head, Oswestry                          | ND | n/a | 329112.45 | 329803.49 |
| HER MSA12586 | New Churchyard, Welsh Walls, Oswestry                      | ND | n/a | 328761.77 | 329502.4  |
| HER MSA12587 | Malthouse, 2, Penylan Lane, Oswestry                       | ND | n/a | 328826.9  | 329174.21 |
| HER MSA12588 | Weslyan Chapel, Lower Brook St/Victoria Street, Oswestry   | ND | n/a | 329036.94 | 329187.61 |
| HER MSA12589 | Site of Theatre, Lower Brook St, Oswestry                  | ND | n/a | 329025.62 | 329240.34 |
| HER MSA12590 | Malthouse, Lower Brook St, Oswestry                        | ND | n/a | 328932.97 | 329302.32 |
| HER MSA12591 | Site of Medieval vicarage, Church St, Oswestry             | ND | n/a | 328816.61 | 329433.64 |
| HER MSA12592 | Our Lady's and St Oswalds Church, Upper Brook St, Oswestry | ND | n/a | 328652.5  | 329254.35 |
| HER MSA12594 | Site of Yales Cottages, Upper Brook St, Oswestry           | ND | n/a | 328740.44 | 329310.45 |
| HER MSA12595 | Broad Walk, Church St, Oswestry                            | ND | n/a | 328853.33 | 329412.35 |
| HER MSA12596 | Mill, Church St, Oswestry                                  | ND | n/a | 328979.06 | 329465.93 |

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| HER MSA12597 | Malthouse, rear of 9 Church St, Oswestry                    | ND | n/a | 329056.62 | 329573.97 |
| HER MSA12598 | Zion Chapel, Gatacre Place, Oswestry                        | ND | n/a | 328624.75 | 329642.45 |
| HER MSA12599 | C of E Junior School, Welsh Walls, Oswestry                 | ND | n/a | 328690.1  | 329583.55 |
| HER MSA12600 | Tollhouse, Oakhurst Rd, Oswestry                            | ND | n/a | 328700    | 329960    |
| HER MSA12601 | Tannery, Oak St, Oswestry                                   | ND | n/a | 328772.78 | 329984.02 |
| HER MSA12602 | Tannery, east side of Willow St, Oswestry                   | ND | n/a | 328856.24 | 329864.52 |
| HER MSA12603 | Ebenezer Chapel, Castle St, Oswestry                        | ND | n/a | 328954.2  | 329843.38 |
| HER MSA12604 | Observation of Town Walls, Oswestry                         | ND | n/a | 328874.31 | 329811.6  |
| HER MSA12605 | Market house, The Cross, Oswestry                           | ND | n/a | 329025.04 | 329591.32 |
| HER MSA12606 | Market Hall, The Cross, Oswestry                            | ND | n/a | 329020    | 329613.25 |
| HER MSA12607 | Charity School and Workhouse, Cross St, Oswestry            | ND | n/a | 329117.41 | 329624.06 |
| HER MSA12608 | Malkilns, Salop St, Oswestry                                | ND | n/a | 329331.02 | 329371.19 |
| HER MSA12609 | Tannery, east of Leg St, Oswestry                           | ND | n/a | 329227.98 | 329669.2  |
| HER MSA12610 | Ponds, Oswald Rd, Oswestry                                  | ND | n/a | 329331.04 | 329769.84 |
| HER MSA12611 | Former Presbyterian Church, Oswald St, Oswestry             | ND | n/a | 329294.85 | 329705.13 |
| HER MSA12612 | Christ Church, Arthur St, Oswestry                          | ND | n/a | 329000.71 | 329777.29 |
| HER MSA12612 | Christ Church, Arthur St, Oswestry                          | ND | n/a | 328999.89 | 329773.46 |
| HER MSA12613 | Obsevation of town wall, Christ Church, Arthur St, Oswestry | ND | n/a | 329005.29 | 329781.98 |
| HER MSA12614 | Welsh Congregational Chapel, Chapel St, Oswestry            | ND | n/a | 328981    | 329823.45 |
| HER MSA12615 | Pillory, Bailey Head, Oswestry                              | ND | n/a | 329100.99 | 329768.67 |
| HER MSA12616 | Stocks, Bailey Head, Oswestry                               | ND | n/a | 329115.54 | 329781.24 |
| HER MSA12617 | Ropewalk, Beatrice St Oswestry                              | ND | n/a | 329192.39 | 329927.9  |
| HER MSA12618 | Malthouse, Beatrice St Oswestry                             | ND | n/a | 329298.66 | 329944.6  |
| HER MSA12619 | The Malthouses, Beatrice St, Oswestry                       | ND | n/a | 329305.63 | 329953.64 |
| HER MSA12620 | Site of Wesleyan Methodist Chapel, Beatrice St, Oswestry    | ND | n/a | 329258.97 | 329846.24 |
| HER MSA12621 | Oswestry & Newtown Railway                                  | ND | n/a | 327775.71 | 322469.16 |
| HER MSA12621 | Oswestry & Newtown Railway                                  | ND | n/a | 329507.6  | 329229.61 |
| HER MSA12622 | Shrewsbury, Oswestry & Chester Junction Railway             | ND | n/a | 329779.84 | 330325.34 |
| HER MSA12622 | Shrewsbury, Oswestry & Chester Junction Railway             | ND | n/a | 330068.97 | 331336.73 |
| HER MSA12623 | South bailey, Oswestry Castle                               | ND | n/a | 329072.6  | 329685.64 |
| HER MSA12623 | South bailey, Oswestry Castle                               | ND | n/a | 329101.67 | 329626.36 |
| HER MSA12624 | East Bailey defences, Oswestry Castle                       | ND | n/a | 329193.12 | 329836.78 |
| HER MSA12625 | Oswestry Castle   | ND | n/a | 329078.65 | 329803.41 |
| HER MSA12626 | Medieval market place, Oswestry                             | ND | n/a | 329024.02 | 329603.37 |
| HER MSA12627 | Churchyard, St Oswalds Church, Oswestry                     | ND | n/a | 328851.87 | 329364.93 |



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|--------------|---|----|-----|-----------|-----------|
| HER MSA12628 | Medieval street system, Oswestry  | ND | n/a | 329079.74 | 329695.27 |
| HER MSA12629 | Tenement plots east side of Bailey St, Oswestry                           | ND | n/a | 329103.28 | 329678.54 |
| HER MSA12630 | Tenement plots west side of Bailey St, Oswestry                           | ND | n/a | 329052.83 | 329686.78 |
| HER MSA12631 | Tenement plots west of Beatrice St, south-east of Castle St, Oswestry     | ND | n/a | 329179.19 | 329803.65 |
| HER MSA12632 | Tenement plots east of Beatrice St, east of Leg St, Oswestry              | ND | n/a | 329232.64 | 329718.73 |
| HER MSA12633 | Tenement plots west of Beatrice St, north of Castle St, Oswestry          | ND | n/a | 329230.67 | 329929.93 |
| HER MSA12634 | Tenement plots east of Beatrice St, north of Albert St, Oswestry          | ND | n/a | 329279.76 | 329876.49 |
| HER MSA12635 | Tenement plots east of Leg St, south of Coney Green, Oswestry             | ND | n/a | 329269.38 | 329524.75 |
| HER MSA12636 | Tenement plots west of Leg St, and south of English Walls, Oswestry       | ND | n/a | 329203.63 | 329496.98 |
| HER MSA12637 | Tenement plots west of Church St, north of Broad walk, Oswestry           | ND | n/a | 328835.53 | 329466.61 |
| HER MSA12638 | Tenement plots east of Church St, south of English Walls, Oswestry        | ND | n/a | 328957.39 | 329365.34 |
| HER MSA12639 | Tenement plots east of Willow St, south of Castle St, Oswestry            | ND | n/a | 328938.66 | 329772.27 |
| HER MSA12640 | Tenement plots west of Willow St, west of Church St, Oswestry             | ND | n/a | 328924.61 | 329646.19 |
| HER MSA12641 | Tenement plots west of Willow St, north of Welsh Walls, Oswestry          | ND | n/a | 328766.77 | 329865.84 |
| HER MSA12642 | Tenement plots east of Willow St, north of Castle St, Oswestry            | ND | n/a | 328826.38 | 329887.56 |
| HER MSA12643 | Tenement plots south of Lower Brook St, east of Upper Church St, Oswestry | ND | n/a | 328917.44 | 329209.14 |
| HER MSA12644 | Tenement plots south of Upper Brook St, west of Upper Church St, Oswestry | ND | n/a | 328820.63 | 329230.3  |
| HER MSA12645 | Tenement plots east of Church St and Cross St, Oswestry                   | ND | n/a | 329075.56 | 329559.4  |
| HER MSA12646 | Medieval urban form, Oswestry   | ND | n/a | 329025.05 | 329586.61 |
| HER MSA12647 | Observation of town wall, 26 Church St, Oswestry                          | ND | n/a | 328967.69 | 329507.36 |
| HER MSA12649 | Stone rubble, Arundel Rd / Welsh Walls, Oswestry                          | ND | n/a | 328816.69 | 329720    |
| HER MSA12650 | Ditch of Oswestry Castle  | ND | n/a | 329002.75 | 329809.2  |
| HER MSA12652 | Open space, former Oswestry Castle  | ND | n/a | 329046.21 | 329810.41 |

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| HER MSA12653 | Post medieval churchyard, St Oswalds Church, Oswestry       | ND | n/a | 328854.1  | 329366.33 |
| HER MSA12654 | Bailey Head market place, Oswestry                          | ND | n/a | 329105.11 | 329802.16 |
| HER MSA12655 | Tenement plots, east of Bailey Rd, Oswestry                 | ND | n/a | 329131.67 | 329796.33 |
| HER MSA12656 | Tenement plots, north of Roft St, Oswestry                  | ND | n/a | 329190.9  | 329414.89 |
| HER MSA12657 | Tenement plots, north of Upper Brook St, Oswestry           | ND | n/a | 328806.07 | 329337.3  |
| HER MSA12658 | Post medieval street system, Oswestry                       | ND | n/a | 329079.74 | 329695.27 |
| HER MSA12659 | Tenement plots, east of Oakhurst Rd, Oswestry               | ND | n/a | 328738.46 | 329996.81 |
| HER MSA1266  | Whitchurch Gate   | ND | n/a | 351415.97 | 329090.6  |
| HER MSA12660 | Post medieval urban form, Oswestry                          | ND | n/a | 329022.01 | 329586.61 |
| HER MSA1267  | Drayton Gate  | ND | n/a | 351638.24 | 329015.06 |
| HER MSA1268  | Shrewsbury Gate   | ND | n/a | 351210.61 | 328650.74 |
| HER MSA1269  | Ellesmere Gate  | ND | n/a | 350921.76 | 328857.24 |
| HER MSA1271  | St Johns Well   | ND | n/a | 350775.03 | 328954.78 |
| HER MSA1273  | Olivers Well  | ND | n/a | 351310.23 | 328683.95 |
| HER MSA12836 | Alternative course of Civil War rampart, Wem                | ND | n/a | 351211.83 | 329064.94 |
| HER MSA12837 | Baptist Chapel, Market St, Wem                              | ND | n/a | 351192.73 | 328958.7  |
| HER MSA12838 | Catholic chapel, Wem  | ND | n/a | 351132.31 | 329055.43 |
| HER MSA12839 | Windmill on Castle mound, Wem                               | ND | n/a | 351176.27 | 328816.11 |
| HER MSA12840 | Surviving Civil War ditch/ rampart, Wem                     | ND | n/a | 351492.06 | 328734.27 |
| HER MSA12841 | Site of ditch of Civil War defences, Wem                    | ND | n/a | 351136.15 | 328721.45 |
| HER MSA12842 | Site of fish pond to north of Aston St, Wem                 | ND | n/a | 351630.31 | 329083.42 |
| HER MSA12843 | London & North Western Railway (Shrewsbury to Crewe Branch) | ND | n/a | 350641.26 | 327121.63 |
| HER MSA12843 | London & North Western Railway (Shrewsbury to Crewe Branch) | ND | n/a | 351436.05 | 328618.51 |
| HER MSA12844 | Wem Railway Station, Wem                                    | ND | n/a | 351682.1  | 328931.1  |
| HER MSA12845 | Saw Mill, Aston St, Wem                                     | ND | n/a | 351805.54 | 329135.17 |
| HER MSA12846 | Timber yard and saw mill by Wem Station, Wem                | ND | n/a | 351584.26 | 328885.24 |
| HER MSA12847 | Cemetery, Aston St, Wem                                     | ND | n/a | 351571.96 | 328956.92 |
| HER MSA12848 | Smithy, Aston St, Wem                                       | ND | n/a | 351551.75 | 329026.28 |
| HER MSA12849 | Timber yard, Aston St, Wem                                  | ND | n/a | 351609.11 | 329032.79 |
| HER MSA12850 | Smithy to south of Aston St, Wem                            | ND | n/a | 351550.31 | 328935.29 |
| HER MSA12851 | Talbot Brewery, Aston St, Wem                               | ND | n/a | 351421.83 | 328917.42 |
| HER MSA12852 | Cattle Market, Wem  | ND | n/a | 351354.21 | 329013.47 |
| HER MSA12853 | Drawwell Brewery, Noble St, Wem                             | ND | n/a | 351310.91 | 328999.31 |
| HER MSA12854 | Timber yard to north of Noble St, Wem                       | ND | n/a | 351273.2  | 329010.08 |
| HER MSA12855 | Tannery, Noble St, Wem                                      | ND | n/a | 351095.73 | 328937.29 |

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| HER MSA12856 | Boy and Girls School, Noble St, Wem                            | ND | n/a | 351091.36 | 328995.61 |
| HER MSA12857 | Free School/ Grammer School, Noble St, Wem                     | ND | n/a | 350993.24 | 328903    |
| HER MSA12858 | Gas works, Lowe Hill Rd, Wem                                   | ND | n/a | 350883.53 | 328890.82 |
| HER MSA12859 | Timber yard, Lowe Hill Rd, Wem                                 | ND | n/a | 350939.47 | 328834.29 |
| HER MSA12860 | Site of "Lock up House", Lowe Hill Rd, Wem                     | ND | n/a | 350909.94 | 328834.46 |
| HER MSA12861 | Earlier Mills at Wem Mill, Mill St, Wem                        | ND | n/a | 351194.85 | 328558.4  |
| HER MSA12862 | Police Station, Chapel St, Wem                                 | ND | n/a | 351315.46 | 328791.01 |
| HER MSA12863 | Burial ground, Chapel St, Wem                                  | ND | n/a | 351348.55 | 328839.04 |
| HER MSA12864 | Iron foundry, Chapel St, Wem                                   | ND | n/a | 351349.91 | 328858.49 |
| HER MSA12865 | School, Leek St, Wem   | ND | n/a | 351373.47 | 328828.6  |
| HER MSA12866 | Almshouses, Mill St, Wem                                       | ND | n/a | 351269.45 | 328821.13 |
| HER MSA12867 | Grounds of parsonage House, Mill St, Wem                       | ND | n/a | 351265.05 | 328719.85 |
| HER MSA12868 | St Johns Chapel, Wem   | ND | n/a | 350774.11 | 328949.99 |
| HER MSA12869 | Windmill Field, Wem  | ND | n/a | 350710.04 | 328405.07 |
| HER MSA12870 | Earlier course of River Rowden, Wem                            | ND | n/a | 351074.73 | 328561.83 |
| HER MSA12871 | Churchyard of St Peter and St Paul, Wem                        | ND | n/a | 351222.77 | 328842.77 |
| HER MSA12872 | Tenement plots to north of High St, and west of Market St, Wem | ND | n/a | 351097.66 | 328913.39 |
| HER MSA12873 | Tenement plots between Market St and Crown St, Wem             | ND | n/a | 351226.28 | 328928.38 |
| HER MSA12874 | Tenement plots to east of Crown St, Wem                        | ND | n/a | 351304.08 | 328932.63 |
| HER MSA12875 | Tenement plots to west of Chapel St, Wem                       | ND | n/a | 351299.28 | 328794.21 |
| HER MSA12876 | Tenement plots to east of Chapel St, Wem                       | ND | n/a | 351352.8  | 328829.49 |
| HER MSA12877 | Tenement plots to north of Noble St, Wem                       | ND | n/a | 351054.38 | 328962.04 |
| HER MSA12878 | Tenement plots to south of High St, Wem                        | ND | n/a | 351031.59 | 328807.89 |
| HER MSA12879 | Tenement plots to west of New St, Wem                          | ND | n/a | 351382.01 | 329153.39 |
| HER MSA12880 | Tenement plots to east of New St, Wem                          | ND | n/a | 351454.7  | 329185.32 |
| HER MSA12881 | Tenement plots to south of Aston St, Wem                       | ND | n/a | 351408.92 | 328890.27 |
| HER MSA12882 | Tenement plots to north of Aston St, Wem                       | ND | n/a | 351598.56 | 329021.06 |
| HER MSA12883 | Open space to east of Mill St, Wem                             | ND | n/a | 351264.42 | 328719.75 |
| HER MSA12884 | Street system, Wem   | ND | n/a | 350692.76 | 329000.01 |
| HER MSA12885 | Market place, Wem  | ND | n/a | 351264.08 | 328895.36 |
| HER MSA12886 | Possible site of Medieval town defences, Wem                   | ND | n/a | 350958.57 | 328847.01 |
| HER MSA12887 | Medieval court house, Wem                                      | ND | n/a | 351191.05 | 328895.02 |
| HER MSA12888 | Old Court house, Wem   | ND | n/a | 351222.44 | 328881.38 |
| HER MSA12889 | Post Medieval Churchyard, Wem                                  | ND | n/a | 351222.76 | 328838.25 |
| HER MSA12890 | Non Conformist meeting house, Leek Lane, Wem                   | ND | n/a | 351300    | 328800    |
| HER MSA12891 | Bridging point over river Roden, Wem                           | ND | n/a | 351201.84 | 328634.92 |
| HER MSA12892 | Old market house, Wem  | ND | n/a | 351200    | 328800    |

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| HER MSA12893 | Occupation to east of Bankhouse lane, Wem                     | ND | n/a | 350867.09 | 328834.23 |
| HER MSA12894 | Occupation to west of Lowe Hill Rd, Wem                       | ND | n/a | 350778.41 | 328899.67 |
| HER MSA12895 | Tenement plots to west of Grammer School, Wem                 | ND | n/a | 350906.63 | 328881.48 |
| HER MSA12896 | Tenement plots to north of the Castle, Wem                    | ND | n/a | 351170.45 | 328848.49 |
| HER MSA12897 | Tenement plots to west of Mill St, Wem                        | ND | n/a | 351201.8  | 328765.68 |
| HER MSA12898 | Tenement plots to south-east of Drawwell lane, Wem            | ND | n/a | 351359.97 | 328687.1  |
| HER MSA12899 | Suggested alternative route of Civil War defences, Wem        | ND | n/a | 350939.82 | 328853.63 |
| HER MSA12900 | Poor house, High St, Wem                                      | ND | n/a | 350882.46 | 328834.36 |
| HER MSA12901 | Primitive Methodist Chapel, High St, Wem                      | ND | n/a | 350885.89 | 328884.85 |
| HER MSA12902 | Large Sandstone blocks, Chapel Cottages, Wem                  | ND | n/a | 351145.91 | 329051.41 |
| HER MSA12903 | Large Sandstone blocks, behind 36, Noble St, Wem              | ND | n/a | 351156.84 | 329012.03 |
| HER MSA12904 | Large Sandstone blocks, behind 40, Noble St, Wem              | ND | n/a | 351144.05 | 328996.55 |
| HER MSA12905 | Large Sandstone blocks, to west of 40, Noble St, Wem          | ND | n/a | 351132.72 | 328987.2  |
| HER MSA12906 | Large Sandstone blocks, Lowe Hill Rd, Wem                     | ND | n/a | 350828.7  | 328931.2  |
| HER MSA12907 | Large Sandstone blocks, Bankhouse lane, Wem                   | ND | n/a | 350830.73 | 328837.52 |
| HER MSA12908 | Large sandstone blocks, to north and south of Bernard St, Wem | ND | n/a | 351085.27 | 328712.37 |
| HER MSA12909 | Large Sandstone blocks, Castle St, Wem                        | ND | n/a | 351150    | 328780    |
| HER MSA12910 | Large sandstone blocks, to west of Castle St, Wem             | ND | n/a | 351100    | 328830    |
| HER MSA12911 | Large Sandstone blocks, to east of Chapel St, Wem             | ND | n/a | 351351.85 | 328743.03 |
| HER MSA12912 | Large Sandstone blocks, west of Chapel St, Wem                | ND | n/a | 351336.97 | 328781.03 |
| HER MSA12913 | Large Sandstone blocks, west of Chapel St, Wem                | ND | n/a | 351331.72 | 328811.86 |
| HER MSA12914 | Large Sandstone blocks, to west of Leek St, Wem               | ND | n/a | 351352.89 | 328890.02 |
| HER MSA12915 | Large Sandstone blocks, to west of Drawwell walk, Wem         | ND | n/a | 351369.64 | 328976.65 |
| HER MSA12916 | Large Sandstone blocks, to west of White Lion, Aston St, Wem  | ND | n/a | 351437.22 | 328925.14 |

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| HER MSA12917 | Large Sandstone blocks, behind 11, Chapel St, Wem                          | ND | n/a | 351347.32 | 328859.64 |
| HER MSA12918 | Large Sandstone blocks, Brewery, Noble St, Wem                             | ND | n/a | 351303.28 | 328978.02 |
| HER MSA12992 | Oswestry, Ellesmere & Whitchurch Railway (Cambrian)                        | ND | n/a | 333427.52 | 332668.42 |
| HER MSA13161 | Watching brief at Ellesmere Gate, Wem                                      | ND | n/a | 350922.2  | 328844.13 |
| HER MSA13163 | Houses to west of Mill St, Wem   | ND | n/a | 351175.68 | 328671.25 |
| HER MSA13275 | Find of a Spindle whorl in 1932 S of Old Oswestry                          | ND | n/a | 329640    | 330620    |
| HER MSA13282 | Cropmark enclosure c700m WSW of The Brambles, Bagley Marsh                 | ND | n/a | 338680.58 | 327961.55 |
| HER MSA13290 | Find Spot in 1995 of a flint point or spear at Aston Hall.                 | ND | n/a | 332750    | 326920    |
| HER MSA13318 | Wall surrounding Church Farm on N, S & W sides                             | ND | n/a | 347185.8  | 329271.7  |
| HER MSA13342 | Rectangular Enclosure W of Old Oswestry                                    | ND | n/a | 329235.71 | 331180.04 |
| HER MSA13391 | Medieval Well discovered in 1959 on Church Farm                            | ND | n/a | 347108.96 | 329639.15 |
| HER MSA13392 | Earthworks c 200m SE of Bentley Farm                                       | ND | n/a | 347200    | 328000    |
| HER MSA13397 | Cropmark c 200m W of Drenwydd  | ND | n/a | 331492.02 | 330746.31 |
| HER MSA13398 | Cropmarks c 400m W of Drenwydd   | ND | n/a | 331244.96 | 330746.31 |
| HER MSA13407 | Possible Site of a Standing Stone, E of Gallowstree Bank                   | ND | n/a | 330381.85 | 328772.92 |
| HER MSA13408 | Find Spot in 1896-7 (and later) of an stone axe hammer at Aston gravel pit | ND | n/a | 333820    | 326910    |
| HER MSA13414 | Lime kilns c 50m W of New House  | ND | n/a | 341475.7  | 327429.61 |
| HER MSA13415 | Cropmarks c 500m SW of The Grange  | ND | n/a | 338286.04 | 329949.55 |
| HER MSA13416 | Cropmark c 420m NW of Top Farm   | ND | n/a | 338096.82 | 327080.05 |
| HER MSA13417 | Cropmark c 300m SW of Dandyford  | ND | n/a | 339026.66 | 329495.03 |
| HER MSA13435 | Cropmark c 230m SW of Berghill Cottages                                    | ND | n/a | 334859.9  | 330596.02 |
| HER MSA13442 | Cropmark c 550m SW of Whattall   | ND | n/a | 343297.28 | 330580.76 |
| HER MSA13463 | Cropmarks c 150m E of Grafton Farm   | ND | n/a | 348295.87 | 327920.39 |
| HER MSA13464 | Cropmarks c 550m S of Noneley Hall Farm                                    | ND | n/a | 347922.99 | 327340.3  |
| HER MSA13470 | Possible Roman Camp NE of Old Oswestry Hillfort                            | ND | n/a | 329919.4  | 331411.3  |
| HER MSA13471 | Linear Cropmarks W of Old Oswestry   | ND | n/a | 329253.4  | 331055.27 |
| HER MSA13505 | Civil War Defences, Wem  | ND | n/a | 350919.99 | 328868.68 |
| HER MSA13725 | Cropmarks of an enclosure c 850m NE of Fox Hall                            | ND | n/a | 333058.59 | 326654.92 |
| HER MSA13726 | Cropmarks of two enclosures c 650m N of Haughton Farm                      | ND | n/a | 337360.84 | 327814.61 |

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| HER MSA13730 | Cropmarks c 200m W of Sycamore View  | ND | n/a | 339112.98 | 329255.91 |
| HER MSA13733 | Cropmarks of an enclosure c 150m W of Lower Berghill Farm                  | ND | n/a | 335936.63 | 330426.52 |
| HER MSA13763 | Cropmarks of an enclosure and linear feature c 560m N of Perrymoor Farm    | ND | n/a | 334301.9  | 330749.14 |
| HER MSA13769 | Cropmarks of two ditches c 140m N of Berghill Farm                         | ND | n/a | 335587.14 | 330914.13 |
| HER MSA13770 | Cropmarks of a rectangular enclosure and ditch c 150m W of The Grange      | ND | n/a | 338580.15 | 330174.26 |
| HER MSA13865 | Cropmarks of a circular enclosure c 260m SW of Berghill Farm               | ND | n/a | 335657.09 | 330418.02 |
| HER MSA13866 | Cropmark of a sub rectangular enclosure, E of Oswestry Smithfield          | ND | n/a | 330487.75 | 328779.8  |
| HER MSA13904 | Cropmarks of enclosures c 650m NE of Queens Park                           | ND | n/a | 339424.72 | 326080.97 |
| HER MSA13926 | Enclosure 300m NNE of Pentre-Clawdd  | ND | n/a | 329859.6  | 332357.14 |
| HER MSA13939 | Cropmarks of a possible enclosure c 420m NE of Nillgreen                   | ND | n/a | 342367.52 | 327088.29 |
| HER MSA13941 | Cropmarks c 360m NE of Shrawardine Garage                                  | ND | n/a | 343568.06 | 328460.15 |
| HER MSA13951 | Cropmark enclosure c525m SSW of Houghton crossing                          | ND | n/a | 336914.36 | 326488.32 |
| HER MSA13952 | Remains of cropmark enclosure and ring ditch c400m NE of Harp Farm, Sutton | ND | n/a | 336405.41 | 327273.76 |
| HER MSA13953 | Cropmarks of an enclosure c 160m E of Chain Cottage                        | ND | n/a | 335965.3  | 326454.64 |
| HER MSA13971 | Cropmarks of a rectangular enclosure c 400m NE of Top House Farm           | ND | n/a | 331710.52 | 329652.29 |
| HER MSA13979 | Site of Postulated Moated Site   | ND | n/a | 329777.1  | 328488.37 |
| HER MSA13992 | Cropmarks of a linear feature c 200m NW of Yew Tree House                  | ND | n/a | 333112.62 | 328533.39 |
| HER MSA13993 | Cropmarks of an enclosure c 200m NE of Coppice House                       | ND | n/a | 333057.03 | 329077.02 |
| HER MSA14492 | Rectangular enclosure c 460m NW of Cabin House Farm                        | ND | n/a | 331011.95 | 329474.37 |
| HER MSA14507 | A field system c 200m N of Berghill Cottages                               | ND | n/a | 334892.35 | 331064.8  |
| HER MSA14545 | Burnt mound c 450m NE of Church Farm                                       | ND | n/a | 344477.35 | 326258.48 |
| HER MSA14557 | Enclosure c 1100m E of The Buildings                                       | ND | n/a | 338097.27 | 328081.75 |
| HER MSA14714 | Medieval Pottery Kiln Site S of Kenwick Wood, Cockshutt                    | ND | n/a | 341458.38 | 329299.97 |
| HER MSA14714 | Medieval Pottery Kiln Site S of Kenwick Wood, Cockshutt                    | ND | n/a | 341460    | 329300    |

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| HER MSA14991 | Skeleton found by Wat's Dyke   | ND | n/a | 329620    | 329580    |
| HER MSA15026 | Holly Cottage, Loppington  | ND | n/a | 347078.87 | 329407.68 |
| HER MSA1513  | Enclosure south of Wootton, Castle Field   | ND | n/a | 334021.01 | 327255.18 |
| HER MSA1515  | Cropmark enclosure and field system c.500m NE of Berghill Cottages                       | ND | n/a | 335326.59 | 331264.66 |
| HER MSA1530  | Square enclosure with polygonal annexe, and possible field system near Berghill cottages | ND | n/a | 335111.04 | 330494.53 |
| HER MSA1552  | Twyford  | ND | n/a | 334231.96 | 326199.74 |
| HER MSA1553  | Enclosure c300m SE of Spring Coppice   | ND | n/a | 336034.19 | 331727.03 |
| HER MSA1578  | Sycamore House rectangular cropmark enclosure  | ND | n/a | 339372.47 | 329084.17 |
| HER MSA1584  | Grimpo   | ND | n/a | 336619.98 | 326392.03 |
| HER MSA1600  | Lower Hordley Roman marching camp  | ND | n/a | 339246.92 | 329157.69 |
| HER MSA16169 | Canal Warehouse, Rednal  | ND | n/a | 335095.6  | 327659.3  |
| HER MSA1621  | Earthworks at Hisland  | ND | n/a | 331859.34 | 327356.48 |
| HER MSA16355 | Petton Park  | ND | n/a | 343995.56 | 326634.73 |
| HER MSA16495 | Old Unitarian Chapel, Wem  | ND | n/a | 351250.8  | 328947.35 |
| HER MSA16658 | Possible Round Barrow c850m SW of Bagley   | ND | n/a | 341120.86 | 326750.83 |
| HER MSA16661 | Possible Ring Ditch W of Park Issa   | ND | n/a | 331730.42 | 331618.52 |
| HER MSA16704 | Site of Stone at Maes y Clawdd   | ND | n/a | 330217.79 | 328537.97 |
| HER MSA16705 | Standing Stone at Park Issa  | ND | n/a | 331753.22 | 331763.65 |
| HER MSA16706 | Possible Standing Stone at 15 Middleton Road, Oswestry                                   | ND | n/a | 329387.87 | 329469.61 |
| HER MSA16722 | Tannery, Lowe Hill Road  | ND | n/a | 350946.04 | 328827.01 |
| HER MSA16842 | Cockshutt House, Cockshutt   | ND | n/a | 343550    | 328910    |
| HER MSA16843 | 29, 31 & 33 Cockshutt  | ND | n/a | 343530    | 329030    |
| HER MSA16844 | 1 & 2 Kenwick Cottages, Cockshutt  | ND | n/a | 342298.82 | 330360.88 |
| HER MSA16857 | Bagley Hall, Bagley  | ND | n/a | 340322.26 | 327478.11 |
| HER MSA16858 | Barn at Church Farm, Hordley   | ND | n/a | 338157.94 | 330807.86 |
| HER MSA16859 | The Dickin Arms, Loppington  | ND | n/a | 347070.71 | 329343.78 |
| HER MSA16860 | Loppington House   | ND | n/a | 347360    | 330240    |
| HER MSA16861 | Site of Well Cottage, Drawwell Lane  | ND | n/a | 351360    | 328620    |
| HER MSA16868 | Site of Outbuilding of Well House, Drawwell Lane   | ND | n/a | 351360.7  | 328621.72 |
| HER MSA16899 | Rose Cottage, Tilley   | ND | n/a | 350790    | 327850    |
| HER MSA16916 | Site of 25, 27 & 29 Chapel Street, Wem   | ND | n/a | 351348.49 | 328793.37 |
| HER MSA16917 | Well House, Drawwell Lane, Wem   | ND | n/a | 351339.61 | 328690.53 |
| HER MSA16918 | 94 High Street, Wem  | ND | n/a | 351052.4  | 328865.4  |
| HER MSA16919 | The Old Smithy, Leek Street, Wem   | ND | n/a | 351362.14 | 328907.65 |
| HER MSA16920 | Site of 19 & 21 Noble Street, Wem  | ND | n/a | 351250.46 | 328961.32 |

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| HER MSA1694  | Find in c 1961 of quern from Mowing Meadow, Sutton Farm                | ND | n/a | 335391.79 | 326683.86 |
| HER MSA17003 | Rednall Mill   | ND | n/a | 337325.93 | 329362.84 |
| HER MSA17003 | Rednall Mill   | ND | n/a | 337345    | 329355    |
| HER MSA17053 | Loppington Mill (Mill House)   | ND | n/a | 346270    | 330100    |
| HER MSA17054 | Burlton Mill (Mill Farm)   | ND | n/a | 345840    | 327210    |
| HER MSA17055 | Creamore Mill House Farm   | ND | n/a | 351770    | 329920    |
| HER MSA1709  | Find in 1973 of rapier from Church Farm                                | ND | n/a | 338150    | 330550    |
| HER MSA1710  | Find in 1973 of socketed knife from Grange Farm                        | ND | n/a | 339950    | 329950    |
| HER MSA17205 | Queen's Head Mill  | ND | n/a | 333998.15 | 326773.79 |
| HER MSA17245 | Carmain Cottage, Shrewsbury Rd   | ND | n/a | 332091.04 | 327772.67 |
| HER MSA17247 | The site of tollhouse, Gobowen Road, Oswestry                          | ND | n/a | 329610    | 330120    |
| HER MSA17274 | Toll House, A5, Queen's Head   | ND | n/a | 333938.34 | 326763.26 |
| HER MSA17274 | Toll House, A5, Queen's Head   | ND | n/a | 333937.17 | 326768.62 |
| HER MSA17276 | The site of a former Toll House, Near Twmpath Cottages, Great Fernhill | ND | n/a | 330807.33 | 332442.57 |
| HER MSA17347 | 56,58,60 Beatrice Street, Oswestry                                     | ND | n/a | 329273.11 | 329887.85 |
| HER MSA17348 | The Old Cake Shop, Church Street, Oswestry                             | ND | n/a | 329022.66 | 329562.22 |
| HER MSA17349 | 4 & 6 Church Street, Oswestry  | ND | n/a | 329000.82 | 329567.02 |
| HER MSA17350 | Site of Clifton House, Clifton Place, Oswestry                         | ND | n/a | 329051.54 | 329691.45 |
| HER MSA17351 | 10 & 12 Leighton Place, Lower Brook Street, Oswestry                   | ND | n/a | 328942.73 | 329191.91 |
| HER MSA17353 | Entrance Gates to Welsh Church, Welsh Walls, Oswestry                  | ND | n/a | 328790    | 329450    |
| HER MSA17354 | Site of Bank House, Willow Street, Oswestry                            | ND | n/a | 328960    | 329640    |
| HER MSA17364 | Castle Cottage, Whittington  | ND | n/a | 332650    | 331150    |
| HER MSA17365 | Fitzgwarine House, Whittington   | ND | n/a | 332640    | 331180    |
| HER MSA17417 | War Memorial, HIGH STREET (S Side), Wem                                | ND | n/a | 351237    | 328881    |
| HER MSA17433 | Bagley Chapel, Hordley   | ND | n/a | 340397.9  | 327125.37 |
| HER MSA17486 | Motte Castle on the N Bank of Crose Mere                               | ND | n/a | 343105.5  | 330698.12 |
| HER MSA1754  | Rednal Wharf   | ND | n/a | 334964.52 | 327898.13 |
| HER MSA1783  | Petton Farm  | ND | n/a | 343598    | 326536.57 |
| HER MSA1785  | Stone Axe from Old Oswestry Hut  | ND | n/a | 329550    | 331050    |
| HER MSA1786  | Find of Axe at Old Oswestry  | ND | n/a | 329550    | 331050    |
| HER MSA1791  | Find Spot in 1957 of Neolithic stone axe at Whittington.               | ND | n/a | 336350    | 331450    |
| HER MSA17992 | Hermon Chapel, Chapel Street, Oswestry                                 | ND | n/a | 328979    | 329818    |
| HER MSA1815  | Wycherley Hall   | ND | n/a | 341805.25 | 327270.13 |



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| HER MSA1817  | Find in 1976 of a Bronze Sword at Lower Berghill            | ND | n/a | 336150    | 330550    |
| HER MSA1820  | Domestic Chapel approx 110m south of Aston Hall, ASTON PARK | ND | n/a | 332502.8  | 327166.9  |
| HER MSA1826  | Circular cropmark enclosure, Stanyard                       | ND | n/a | 332472.24 | 332257.87 |
| HER MSA18296 | The Poplars, Bagley   | ND | n/a | 340385    | 327345    |
| HER MSA18297 | Bagley House, Bagley  | ND | n/a | 340455    | 327335    |
| HER MSA1830  | Donkey Tunnel, Queens Head                                  | ND | n/a | 333999.3  | 326803.67 |
| HER MSA1830  | Donkey Tunnel, Queens Head                                  | ND | n/a | 334067.62 | 326750.87 |
| HER MSA18371 | The site of a former Toll House, Tilley Road, Wem           | ND | n/a | 351131.6  | 328291.08 |
| HER MSA18372 | The site of a former Toll House, Soulton Road, Wem          | ND | n/a | 352349.52 | 329243.01 |
| HER MSA18378 | The possible site of former Toll House at Kenwick           | ND | n/a | 342545    | 330525    |
| HER MSA18426 | Limekilns at Queen's Head                                   | ND | n/a | 333978.8  | 326810    |
| HER MSA18427 | Probable site of cottage just south of Corbett's Bridge     | ND | n/a | 334301.85 | 327014.19 |
| HER MSA18428 | Limekiln near Corbett's Bridge                              | ND | n/a | 334280.14 | 327139.09 |
| HER MSA18429 | Sand pit at Queen's Head                                    | ND | n/a | 333971.06 | 326775.59 |
| HER MSA18430 | Site of house c130m SW of Heath Cottage, Rednal Moss        | ND | n/a | 335029.79 | 327546.25 |
| HER MSA18431 | Site of house c50m SE of Heath Cottage, Rednal Moss         | ND | n/a | 335141.53 | 327634.29 |
| HER MSA18432 | Earthworks at Corbett's Bridge                              | ND | n/a | 334607.25 | 327320.23 |
| HER MSA18433 | Queen's Head peat deposits                                  | ND | n/a | 334744.33 | 326970.52 |
| HER MSA18438 | Linear earthworks c300m NE of Decoy Farm                    | ND | n/a | 335146.88 | 329063.49 |
| HER MSA18439 | Woodhouse estate duck decoy                                 | ND | n/a | 335285.83 | 329447.44 |
| HER MSA18440 | Earthworks at Decoy Farm                                    | ND | n/a | 335217.14 | 329002.15 |
| HER MSA18441 | Shropshire Union Canal peat deposits                        | ND | n/a | 335346.6  | 328144.79 |
| HER MSA18442 | Unofficial Shropshire Union Canal branch, Woodhouse estate  | ND | n/a | 335897.21 | 328462.47 |
| HER MSA18442 | Unofficial Shropshire Union Canal branch, Woodhouse estate  | ND | n/a | 335897.21 | 328462.47 |
| HER MSA18442 | Unofficial Shropshire Union Canal branch, Woodhouse estate  | ND | n/a | 335474.37 | 327868.72 |
| HER MSA18443 | Rose Cottage, Lower Frankton                                | ND | n/a | 336908.99 | 331768.46 |
| HER MSA18444 | Probable fold c600m north of Hawkswood                      | ND | n/a | 336938.82 | 330495.97 |
| HER MSA18445 | Site of brick kilns c150m ESE of Lock Gate Bridge Cottage   | ND | n/a | 336876.41 | 331048.22 |
| HER MSA18446 | Lower Berghill quarries                                     | ND | n/a | 336550.08 | 330399.2  |

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| HER MSA18447 | Areas of former ridge and furrow in Whittington parish                                 | ND | n/a | 336676.55 | 331403.7  |
| HER MSA18447 | Areas of former ridge and furrow in Whittington parish                                 | ND | n/a | 337019.24 | 331692.47 |
| HER MSA18454 | Chapel House at Loppington   | ND | n/a | 347895    | 328735    |
| HER MSA18484 | Albert Road Chapel, Oswestry   | ND | n/a | 329208.92 | 329923.33 |
| HER MSA18489 | Houghton Methodist Chapel  | ND | n/a | 337652.85 | 326874.96 |
| HER MSA18498 | Oswestry Cemetary - Nonconformist  | ND | n/a | 329512    | 328924    |
| HER MSA18500 | Rabbinswood Chapel - Nonconformist   | ND | n/a | 333316    | 330125    |
| HER MSA18504 | Wem Mortuary - Disused Chapel  | ND | n/a | 351574.11 | 328971.56 |
| HER MSA18721 | Shrewsbury & Chester Railway   | ND | n/a | 338902.92 | 325822.83 |
| HER MSA18741 | Canal wharf and passenger terminus at Rednal   | ND | n/a | 335123.6  | 327647.41 |
| HER MSA18745 | Shrewsbury, Oswestry & Chester Junction Railway Station, Oswestry                      | ND | n/a | 329406.41 | 329912.1  |
| HER MSA1875  | Horton Hall moated site  | ND | n/a | 348750    | 329640    |
| HER MSA1877  | Hem Deer Park  | ND | n/a | 338736.66 | 327119.69 |
| HER MSA1877  | Hem Deer Park  | ND | n/a | 337679.17 | 326811.05 |
| HER MSA18936 | 17 New Street, Wem   | ND | n/a | 351403.4  | 329091.93 |
| HER MSA18937 | Former Congregational chapel, Mill Street, Wem   | ND | n/a | 351272.71 | 328819.85 |
| HER MSA18955 | Observed sections of Oswestry town wall at junction of Castle Street and Willow Street | ND | n/a | 328861.06 | 329807.1  |
| HER MSA18957 | Excavated section of town wall, west of Chapel Street                                  | ND | n/a | 328935.04 | 329818.83 |
| HER MSA18958 | D-shaped tower on town wall (west of Chapel Street)                                    | ND | n/a | 328934.74 | 329819.46 |
| HER MSA18959 | Postulated outer earthworks of Oswestry Castle   | ND | n/a | 329021.83 | 329865.68 |
| HER MSA18960 | Observed section of town wall at foot of Oswestry Castle mound                         | ND | n/a | 329020.84 | 329788.5  |
| HER MSA19043 | Brook House, Crosemere   | ND | n/a | 343560    | 329450    |
| HER MSA19072 | Burnt Mound c 350m SSE of Kenwick Wood Farm  | ND | n/a | 341597.6  | 329349.8  |
| HER MSA19113 | Carriage Shed 60m NE of former Station, Oswestry                                       | ND | n/a | 329495.61 | 329889.89 |
| HER MSA19114 | Loading Wharf 60m E of former station, Oswestry  | ND | n/a | 329489.17 | 329851.61 |
| HER MSA1917  | Broom  | ND | n/a | 337970    | 331680    |
| HER MSA1959  | Prehistoric and Roman Finds made in 1853 at Maes y Garreg Lllwyd                       | ND | n/a | 330425.8  | 328710.59 |
| HER MSA1961  | Old Park Hall ornamental lake  | ND | n/a | 330680.66 | 331489.16 |
| HER MSA20479 | Methodist Chapel, Cockshutt  | ND | n/a | 343591.81 | 328714.82 |

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| HER MSA20487 | Site of former electricity substation, Coney Green, Oswestry   | ND | n/a | 329234.92 | 329595.78 |
| HER MSA20491 | Section of possible Civil War fortification observed south of Aston Street, Wem                            | ND | n/a | 351543.97 | 328863.52 |
| HER MSA21693 | Pigsty, with Hen House over, converted to Kennels, at The Twyfords   | ND | n/a | 334943    | 326259    |
| HER MSA21694 | Cowhouse, converted to Loose Boxes, at The Twyfords  | ND | n/a | 334937    | 326264    |
| HER MSA21695 | Cartshed, converted to Loose Boxes, at The Twyfords  | ND | n/a | 334944    | 326269    |
| HER MSA21696 | Cowhouse or Mixing House, converted to Milking Parlour and Stable, at The Twyfords                         | ND | n/a | 334931    | 326282    |
| HER MSA21697 | Cartshed, converted to Garage, Cowhouse and Loose Box, at The Twyfords                                     | ND | n/a | 334908    | 326271    |
| HER MSA21698 | Cartshed, converted to Garage and Storage, at The Twyfords   | ND | n/a | 334907    | 326262    |
| HER MSA21711 | Farmhouse at Cefn Y Wern   | ND | n/a | 337215    | 326219    |
| HER MSA21712 | Unspecified Farm Building/Cartshed/Cowhouse, converted to Cowhouse, converted to Loose Box, at Cefn Y Wern | ND | n/a | 337235    | 326239    |
| HER MSA21713 | Cowhouse, partly converted to Loose Box, at Cefn Y Wern  | ND | n/a | 337228    | 326236    |
| HER MSA21714 | Loose Box at Cefn Y Wern   | ND | n/a | 337224    | 326240    |
| HER MSA21715 | Pigsty, and Hen House/Unspecified Farm Building, partly converted to Loose Box, at Cefn Y Wern             | ND | n/a | 337220    | 326237    |
| HER MSA21721 | Threshing Barn, converted to Cartshed and Loose Boxes, with Granary over, at White House Farm              | ND | n/a | 331328    | 329112    |
| HER MSA21722 | Cowhouse at White House Farm   | ND | n/a | 331341    | 329126    |
| HER MSA21723 | Gig House?, converted to Storage and Garage, with Granary over, at White House Farm                        | ND | n/a | 331357    | 329131    |
| HER MSA21724 | Farmhouse at Bryn Y Plentyn  | ND | n/a | 332782    | 329206.01 |
| HER MSA21725 | Cowhouse, converted to Loose Boxes, with Granary over, at Bryn Y Plentyn                                   | ND | n/a | 332761    | 329232    |
| HER MSA21726 | Cowhouse, converted to Bull Pens, at Bryn Y Plentyn  | ND | n/a | 332740    | 329220    |
| HER MSA21727 | Farmhouse at Paradise/Lower Lee  | ND | n/a | 337947    | 329184    |
| HER MSA21728 | Cartshed, with Granary over, at Paradise/Lower Lee   | ND | n/a | 337912    | 329176    |
| HER MSA21729 | Cartshed at Paradise/Lower Lee   | ND | n/a | 337924    | 329169    |

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| HER MSA21730 | Stable and Cowhouse, converted to Cowhouse, converted to Loose Box, at Paradise/Lower Lee | ND | n/a | 337922    | 329158    |
| HER MSA21731 | Cartshed, converted to Loose Box, at Paradise/Lower Lee                                   | ND | n/a | 337960    | 329146    |
| HER MSA21732 | Cowhouse, converted to Loose Box, at Paradise/Lower Lee                                   | ND | n/a | 337956    | 329146    |
| HER MSA21733 | Cowhouse, converted to Loose Box, at Paradise/Lower Lee                                   | ND | n/a | 337950    | 329147    |
| HER MSA21734 | Shelter Shed, converted to Loose Box, at Paradise/Lower Lee                               | ND | n/a | 337960    | 329163    |
| HER MSA21735 | Cartshed and Cowhouse, converted to Dairy Rooms and Mixing House, at Paradise/Lower Lee   | ND | n/a | 337952    | 329163    |
| HER MSA21736 | Loose Box or Feed Preparation Area at Paradise/Lower Lee                                  | ND | n/a | 337943    | 329149    |
| HER MSA21737 | Ice house, converted to Potato Store, at Paradise/Lower Lee                               | ND | n/a | 337922.37 | 329190.37 |
| HER MSA21760 | Farmhouse at Bromley Hall   | ND | n/a | 340621    | 325922    |
| HER MSA21761 | Mixing House, Loose Box and Cart entrance at Bromley Hall                                 | ND | n/a | 340624    | 325969    |
| HER MSA21762 | Shelter Shed/Cowhouse, converted to Loose Boxes, at Bromley Hall                          | ND | n/a | 340634    | 325968    |
| HER MSA21763 | Threshing Barn, converted to Cowhouse and Loose Boxes, at Bromley Hall                    | ND | n/a | 340611    | 325970    |
| HER MSA21764 | Stable, converted to Loose Boxes, at Bromley Hall   | ND | n/a | 340601    | 325972    |
| HER MSA21765 | Stable, converted to Loose Box, at Bromley Hall   | ND | n/a | 340588    | 325965    |
| HER MSA21766 | Cartshed, converted to Loose Boxes and Storage, at Bromley Hall                           | ND | n/a | 340587    | 325955    |
| HER MSA21767 | Barn/Mixing House, converted to Milking Parlour, with Granary over, at Wycherley Hall     | ND | n/a | 341787    | 327205    |
| HER MSA21768 | Stable, converted to cattle Loose Boxes, at Wycherley Hall                                | ND | n/a | 341828    | 327226    |
| HER MSA21769 | Cartshed, converted to Loose Boxes, at Wycherley Hall                                     | ND | n/a | 341829    | 327214    |
| HER MSA21770 | Cartshed and Stable, converted to Loose Boxes, at Wycherley Hall                          | ND | n/a | 341829    | 327203    |
| HER MSA21771 | Unspecified Farm Building (Store?) at Wycherley Hall                                      | ND | n/a | 341825    | 327266    |

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| HER MSA21772 | Cowhouse, converted to Collecting Area for milking, at Wycherley Hall                                     | ND | n/a | 341804 | 327198 |
| HER MSA21773 | Cowhouse, converted to Corn Processing and Loose Box, at Wycherley Hall                                   | ND | n/a | 341790 | 327237 |
| HER MSA21774 | Foldyard Complex, converted to Corn Processing and Loose Box, at Wycherley Hall                           | ND | n/a | 341730 | 327225 |
| HER MSA21782 | Cartshed at Wackley Farm  | ND | n/a | 344882 | 327196 |
| HER MSA21783 | Stable, converted to Loose Boxes, at Wackley Farm   | ND | n/a | 344894 | 327206 |
| HER MSA21784 | Pigsties, converted to Storage, at Wackley Farm   | ND | n/a | 344884 | 327229 |
| HER MSA21785 | Cowhouse, converted to Storage, at Wackley Farm   | ND | n/a | 344856 | 327172 |
| HER MSA21786 | Cowhouse, converted to Storage, at Wackley Farm   | ND | n/a | 344831 | 327168 |
| HER MSA21787 | Cowhouse (aisled), converted to Storage, at Wackley Farm  | ND | n/a | 344826 | 327172 |
| HER MSA21788 | Loose Box at Wackley Farm   | ND | n/a | 344877 | 327165 |
| HER MSA21789 | Farmhouse at Petton Farm  | ND | n/a | 343645 | 326545 |
| HER MSA21790 | Cowhouse, converted to Milking Parlour and Loose Box, at Petton Farm                                      | ND | n/a | 343695 | 326523 |
| HER MSA21791 | Loose Box, converted to Milking Parlour and Loose Box, at Petton Farm                                     | ND | n/a | 343693 | 326511 |
| HER MSA21792 | Cowhouse (aisle) and Workshop, or possible Shelter Shed, at Petton Farm                                   | ND | n/a | 343693 | 326539 |
| HER MSA21793 | Barn? converted to Cowhouse, converted to Pigsty, at Petton Farm  | ND | n/a | 343685 | 326530 |
| HER MSA21794 | Cartshed and entrance, with Granary over, converted to Cowhouse, converted to Loose Boxes, at Petton Farm | ND | n/a | 343671 | 326532 |
| HER MSA21795 | Gig House, converted to Storage, at Petton Farm   | ND | n/a | 343661 | 326558 |
| HER MSA21796 | Cowhouse, converted to Loose Boxes, Store and Pig Unit, at Petton Farm                                    | ND | n/a | 343680 | 326554 |
| HER MSA21797 | Cartshed, converted to Loose Boxes, at Petton Farm  | ND | n/a | 343673 | 326582 |
| HER MSA21798 | Stable, converted to Pigsties, at Petton Farm   | ND | n/a | 343659 | 326579 |
| HER MSA21799 | Pigsties at Petton Farm   | ND | n/a | 343646 | 326574 |
| HER MSA21800 | Feed Room? Or Pigsties, with Hen House over, converted to Pigsty, at Petton Farm                          | ND | n/a | 343641 | 326565 |
| HER MSA21801 | Farmhouse at Brandwood Farm   | ND | n/a | 347197 | 326405 |
| HER MSA21802 | Shelter Shed at Brandwood Farm  | ND | n/a | 347219 | 326383 |

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| HER MSA21803 | Cartshed at Brandwood Farm  | ND | n/a | 347229    | 326387    |
| HER MSA21804 | Cowhouse, Cartshed, Tack Room and Stable at Brandwood Farm                    | ND | n/a | 347243    | 326399    |
| HER MSA21805 | Cowhouse and Stable, converted to Loose Boxes, at Brandwood Farm              | ND | n/a | 347239    | 326420    |
| HER MSA21806 | Stable/Loose Box and Mixing House, with Granary over, at Brandwood Farm       | ND | n/a | 347227    | 326424    |
| HER MSA21807 | Cowhouse, converted to Loose Box, at Brandwood Farm                           | ND | n/a | 347212    | 326422    |
| HER MSA21871 | Cowhouse, converted to Storage, at Grafton Farm                               | ND | n/a | 348104    | 327930    |
| HER MSA21872 | Bay of Barn, converted to Cowhouse, converted to Storage, at Grafton Farm     | ND | n/a | 348108    | 327922    |
| HER MSA21873 | Cartshed and Machine Bay at Grafton Farm                                      | ND | n/a | 348109    | 327918    |
| HER MSA21874 | Cartshed and Stables, partly converted to Cowhouses, at Grafton Farm          | ND | n/a | 348123    | 327927    |
| HER MSA21875 | Gig House, converted to Granary and Dairy Room, at Grafton Farm               | ND | n/a | 348099    | 327949    |
| HER MSA21876 | Cowhouse, converted to Loose Boxes, at Grafton Farm                           | ND | n/a | 348111    | 327952    |
| HER MSA21877 | Pigsties, converted to Storage, at Grafton Farm                               | ND | n/a | 348120    | 327962    |
| HER MSA21878 | Cowhouse, converted to Loose Box, at Grafton Farm                             | ND | n/a | 348142    | 327925    |
| HER MSA21879 | Stable or Loose Box, with Granary over, at Grafton Farm                       | ND | n/a | 348139    | 327930    |
| HER MSA2207  | Ellesmere Canal   | ND | n/a | 335163.18 | 332645.27 |
| HER MSA22187 | Farmhouse at Hisland  | ND | n/a | 331766    | 327465    |
| HER MSA22188 | Gig House and Stables, converted to Storage, at Hisland                       | ND | n/a | 331755    | 327452    |
| HER MSA22189 | Gig House and Stables, converted to Loose Box and Garages, at Hisland         | ND | n/a | 331770    | 327444    |
| HER MSA22190 | Cowhouse?, converted to Loose Boxes, at Hisland                               | ND | n/a | 331774    | 327431    |
| HER MSA22191 | Cartshed, with Granary over, converted to Loose Boxes and Storage, at Hisland | ND | n/a | 331779    | 327416    |
| HER MSA22192 | Threshing Barn? and Cartshed, partly converted to Loose Boxes, at Hisland     | ND | n/a | 331770    | 327394    |
| HER MSA22193 | Pigsty, with Hen House over, partly converted to Store, at Hisland            | ND | n/a | 331751    | 327450    |
| HER MSA22298 | Farmhouse at Crosslanes Farm  | ND | n/a | 329413    | 332292    |
| HER MSA22299 | Pigsty and Pig Loose Box at Crosslanes Farm                                   | ND | n/a | 329396    | 332277    |

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| HER MSA22300 | Stable, converted to Silo Store, at Crosslanes Farm   | ND | n/a | 329384 | 332294 |
| HER MSA22301 | Cowhouse, converted to Loose Box, at Crosslanes Farm  | ND | n/a | 329385 | 332304 |
| HER MSA22302 | Threshing Barn, converted to Loose Boxes, at Crosslanes Farm                                | ND | n/a | 329392 | 332317 |
| HER MSA22303 | Loose Box at Crosslanes Farm  | ND | n/a | 329400 | 332322 |
| HER MSA22304 | Gig House, with Granary over, converted to Loose Box, at Crosslanes Farm                    | ND | n/a | 329410 | 332317 |
| HER MSA22305 | Shelter Shed or Cartshed at Crosslanes Farm   | ND | n/a | 329414 | 332322 |
| HER MSA22376 | Unspecified Farm Building, converted to Bull Pen and Garage, at Whittington Farm            | ND | n/a | 332519 | 331419 |
| HER MSA22377 | Gig House and Stables, converted to Cowhouse, Loose Box and Garage, at Whittington Farm     | ND | n/a | 332514 | 331429 |
| HER MSA22378 | Cowhouse at Whittington Farm  | ND | n/a | 332508 | 331440 |
| HER MSA22379 | Cartshed, with Granary over, converted to Mixing House, at Whittington Farm                 | ND | n/a | 332497 | 331450 |
| HER MSA22380 | Cartshed or Stable, converted to Loose Boxes, at Whittington Farm                           | ND | n/a | 332504 | 331452 |
| HER MSA22381 | Cowhouse, converted to Calf Pens, at Whittington Farm                                       | ND | n/a | 332495 | 331422 |
| HER MSA22382 | Threshing Barn, converted to Cowhouse, at Whittington Farm                                  | ND | n/a | 332485 | 331419 |
| HER MSA22383 | Shelter Shed, converted to Cowhouse, at Whittington Farm                                    | ND | n/a | 332486 | 331408 |
| HER MSA22384 | Cartshed, converted to Garage, with Granary over, at Drenewydd                              | ND | n/a | 331724 | 330860 |
| HER MSA22385 | Cowhouse?, partly converted to Stables and Cartshed, converted to Loose Boxes, at Drenewydd | ND | n/a | 331760 | 330889 |
| HER MSA22386 | Cowhouse, converted to Calf Pens, at Drenewydd  | ND | n/a | 331769 | 330866 |
| HER MSA22387 | Farmhouse at White House Farm   | ND | n/a | 331356 | 329104 |
| HER MSA2252  | Perry Aqueduct  | ND | n/a | 336010 | 329770 |
| HER MSA22830 | Hisland   | ND | n/a | 331758 | 327424 |
| HER MSA22833 | The Twyford   | ND | n/a | 334927 | 326267 |
| HER MSA22836 | Cefn Y Wern   | ND | n/a | 337229 | 326237 |
| HER MSA22840 | Bromley Hall  | ND | n/a | 340612 | 325955 |
| HER MSA22841 | Wycherley Hall  | ND | n/a | 341808 | 327213 |
| HER MSA22843 | Wackley Farm  | ND | n/a | 344844 | 327165 |
| HER MSA22844 | Petton Farm   | ND | n/a | 343680 | 326540 |

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|--------------|---|----|-----|-----------|-----------|
| HER MSA22845 | Brandwood Farm  | ND | n/a | 347224    | 326404    |
| HER MSA22856 | Grafton Farm  | ND | n/a | 348116    | 327941    |
| HER MSA22922 | Crosslanes Farm   | ND | n/a | 329401    | 332307    |
| HER MSA22934 | Whittington Farm  | ND | n/a | 332503    | 331421    |
| HER MSA22935 | Drenewydd   | ND | n/a | 331743    | 330868    |
| HER MSA22936 | White House Farm  | ND | n/a | 331336    | 329117    |
| HER MSA22937 | Bryn Y Plentyn  | ND | n/a | 332750    | 329221    |
| HER MSA22938 | Paradise/Lower Lee  | ND | n/a | 337936    | 329164    |
| HER MSA23099 | Leat downstream of Oak Mill   | ND | n/a | 331280.59 | 332721    |
| HER MSA23100 | Leat upstream of Oak Mill.  | ND | n/a | 331398.41 | 332712.54 |
| HER MSA23102 | Site of post-medieval cottages c.600m NE of Kenwick.                      | ND | n/a | 342610.39 | 330692.33 |
| HER MSA23103 | Probable cluster of flooded marl pits c.600m SW of Kenwick.               | ND | n/a | 341570.51 | 330095.74 |
| HER MSA23144 | Frankton Grange   | ND | n/a | 344782.31 | 330632.78 |
| HER MSA23333 | 94 Willow Street, Oswestry  | ND | n/a | 328840    | 329850    |
| HER MSA23338 | An Agricultural Building at Chapel House Farm, Cockshutt                  | ND | n/a | 343550.32 | 328749.58 |
| HER MSA2338  | Shade Oak   | ND | n/a | 341250    | 327550    |
| HER MSA2339  | Shade Oak   | ND | n/a | 341250    | 327650    |
| HER MSA23489 | Possible earthwork remains of ridge and furrow c.400m SE of Oakhurst      | ND | n/a | 328827.98 | 330730.67 |
| HER MSA23490 | Possible earthwork remains of ridge and furrow c.100m NE of Oakhurst      | ND | n/a | 328623.78 | 331196.26 |
| HER MSA23491 | Probable earthwork remains of ridge and furrow c.175m SW of Pentre-pant   | ND | n/a | 328544.72 | 331514.71 |
| HER MSA23492 | Earthwork remains of ridge and furrow c.280m W of Park Mill               | ND | n/a | 329134.58 | 332600.64 |
| HER MSA23604 | Milestone on B5069 North of Oldport                                       | ND | n/a | 329996.6  | 331015.75 |
| HER MSA23609 | Milestone on A528, North of Wackley Lodge                                 | ND | n/a | 344100.5  | 327963.83 |
| HER MSA23645 | Metal milepost on the B5476, Tilley, by the railway bridge turning to A49 | ND | n/a | 351168.23 | 328218.26 |
| HER MSA23925 | Pool Farm Cottage   | ND | n/a | 331554    | 329084    |
| HER MSA23994 | Smiths Restaurant, BAILEY HEAD, Oswestry                                  | ND | n/a | 329120    | 329750    |
| HER MSA23995 | The site of Powys Hall, Oswestry  | ND | n/a | 329110    | 329810    |
| HER MSA23996 | The site of Osborne Hotel, Bailey Street, Oswestry                        | ND | n/a | 329094.12 | 329704.12 |
| HER MSA23997 | The site of No 47 Beatrice Street, Oswestry                               | ND | n/a | 329230    | 329860    |
| HER MSA23998 | The site of Nos 25 and 27 Willow Street, Oswestry                         | ND | n/a | 328945.98 | 329670.32 |
| HER MSA23999 | Central Café and adjoining house Willow Street, Oswestry                  | ND | n/a | 328940    | 329680    |



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| HER MSA24000 | No 38 and Butchers Arms, Willow Street, Oswestry                | ND | n/a | 328944.34 | 329711.16 |
| HER MSA24001 | The site of Nos 42 to 50 Willow Street, Oswestry                | ND | n/a | 328926.82 | 329728.63 |
| HER MSA24002 | The site of No 72 Willow Street, Oswestry                       | ND | n/a | 328872.39 | 329803.58 |
| HER MSA24013 | Burnt mound at Oswalds Park, Oswestry                           | ND | n/a | 330289.83 | 329002.62 |
| HER MSA24196 | Site of cottage c.450m NW of The Oaks                           | ND | n/a | 339441.49 | 328328.48 |
| HER MSA24232 | Vyrnwy Aqueduct   | ND | n/a | 332169.54 | 331575    |
| HER MSA24454 | Pit near Oldport Farm, Oswestry                                 | ND | n/a | 330297.94 | 330833.77 |
| HER MSA24455 | Pit near Oldport Farm, Oswestry                                 | ND | n/a | 330332.23 | 330707.64 |
| HER MSA24457 | Ditch near Oldport Farm, Oswestry                               | ND | n/a | 330191.05 | 330740.5  |
| HER MSA24458 | Military training camp at Park Hall, Oswestry                   | ND | n/a | 330455.37 | 331081.87 |
| HER MSA24459 | Mortar crater Near Oldport Farm, Oswestry                       | ND | n/a | 330339.04 | 330705.89 |
| HER MSA24460 | Mortar crater Near Oldport Farm, Oswestry                       | ND | n/a | 330185.34 | 330746.91 |
| HER MSA24724 | Manor Farm  | ND | n/a | 339493    | 330615    |
| HER MSA24725 | Kenwick Grange Farm   | ND | n/a | 340579    | 330218    |
| HER MSA24726 | Brick Kiln Farm   | ND | n/a | 340744    | 330030    |
| HER MSA24728 | Springfields  | ND | n/a | 341301    | 329911    |
| HER MSA24729 | Kenwick Wood Farm   | ND | n/a | 341452    | 329719    |
| HER MSA24730 | Reynolds Cottage  | ND | n/a | 340422    | 329422    |
| HER MSA24731 | Lower House Farm  | ND | n/a | 340268    | 329936    |
| HER MSA24732 | Dandyford Farm  | ND | n/a | 339212    | 329780    |
| HER MSA24775 | Sycamore Farm   | ND | n/a | 339439    | 329046    |
| HER MSA24776 | Red House Farm  | ND | n/a | 339625    | 328895    |
| HER MSA24777 | Site of unnamed farmstead 80m SSW of the Brambles, Bagley Marsh | ND | n/a | 339381    | 328093    |
| HER MSA24778 | The Oaks  | ND | n/a | 339881    | 328117    |
| HER MSA24779 | Park House Farm   | ND | n/a | 340129    | 328538    |
| HER MSA24780 | Top House Farm  | ND | n/a | 341033    | 328767    |
| HER MSA24781 | Site of unnamed farmstead 510m SE of Top House Farm             | ND | n/a | 341537    | 328591    |
| HER MSA24782 | Ferneyhough   | ND | n/a | 341569    | 327926    |
| HER MSA24783 | Shade Oak   | ND | n/a | 341168    | 327678    |
| HER MSA24784 | Bagley House  | ND | n/a | 340479    | 327335    |
| HER MSA24785 | Poplars Farm  | ND | n/a | 340357    | 327370    |
| HER MSA24786 | Bagley Hall   | ND | n/a | 340306    | 327494.01 |
| HER MSA252   | St Edith's Chapel   | ND | n/a | 329770    | 330310    |
| HER MSA25235 | Lower Pool Farm   | ND | n/a | 349320    | 328835    |
| HER MSA253   | St John's Hospital  | ND | n/a | 329084.77 | 329292.95 |
| HER MSA254   | Church of St. Oswald  | ND | n/a | 328870    | 329370    |
| HER MSA25988 | Stanwardine Hall  | ND | n/a | 342777    | 327784    |

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|--------------|---|----|-----|-----------|-----------|
| HER MSA25989 | Stanwardine House                             | ND | n/a | 342874    | 327655    |
| HER MSA25990 | Lea Farm                                      | ND | n/a | 343535    | 327294    |
| HER MSA25991 | Petton Grange                                 | ND | n/a | 343632    | 327153    |
| HER MSA25992 | Wackley Lodge Farm                            | ND | n/a | 344332    | 327829    |
| HER MSA25993 | Burlton Grange Farm                           | ND | n/a | 345856    | 327268    |
| HER MSA25994 | The Moors                                     | ND | n/a | 346259    | 327761    |
| HER MSA25995 | Rue Wood Farm                                 | ND | n/a | 349670    | 327439    |
| HER MSA25996 | Ruewood Farm Stud                             | ND | n/a | 349712    | 327709    |
| HER MSA25997 | Ruewood House                                 | ND | n/a | 349505    | 327474    |
| HER MSA25998 | Tilley Hall farm                              | ND | n/a | 350702    | 327840    |
| HER MSA25999 | Tilley Manor                                  | ND | n/a | 350673    | 327926    |
| HER MSA26000 | Tilley Lodge                                  | ND | n/a | 350819    | 327747    |
| HER MSA26001 | Tilley Farm                                   | ND | n/a | 350766    | 327811    |
| HER MSA26002 | Brook Cottage                                 | ND | n/a | 350690    | 327964    |
| HER MSA26003 | The Oaklands                                  | ND | n/a | 351074    | 327963    |
| HER MSA26004 | Woodhouse Farm                                | ND | n/a | 351670    | 327740    |
| HER MSA261   | Old Oswestry Hillfort                         | ND | n/a | 329642.83 | 331341.92 |
| HER MSA2641  | Rednal Airfield cropmark ring ditch           | ND | n/a | 337364.26 | 327358.33 |
| HER MSA2645  | Sleap Bridge                                  | ND | n/a | 348813    | 327590.51 |
| HER MSA26818 | Brandwood Farm                                | ND | n/a | 346940    | 326137    |
| HER MSA26819 | Roden Farm                                    | ND | n/a | 346951    | 326708    |
| HER MSA26822 | Hatchetts Farm                                | ND | n/a | 345781    | 326084    |
| HER MSA26823 | Burton Hall                                   | ND | n/a | 345867    | 326199    |
| HER MSA26824 | Charity Farm                                  | ND | n/a | 345854    | 326072    |
| HER MSA26829 | Lyonswood Farm                                | ND | n/a | 350139    | 325927    |
| HER MSA2695  | Site of a watermill c.275m NW of Halston Hall | ND | n/a | 333700    | 331800    |
| HER MSA2702  | The Grange                                    | ND | n/a | 338738.9  | 330368.72 |
| HER MSA2748  | E of Oakhurst                                 | ND | n/a | 328870    | 331270    |
| HER MSA2763  | Springfields Shrewsbury Rd Wem (Tilley Villa) | ND | n/a | 350750    | 327100    |
| HER MSA2769  | Ffynon Goulden                                | ND | n/a | 329405.51 | 329440.23 |
| HER MSA2771  | Cremation Burial found at Coney Green         | ND | n/a | 329297.08 | 329587.71 |
| HER MSA2804  | Cropmark enclosure E of Wootton               | ND | n/a | 334459.43 | 327731.81 |
| HER MSA2805  | Wootton SE                                    | ND | n/a | 334500.11 | 327506.57 |
| HER MSA28094 | Fernhill Hall                                 | ND | n/a | 332190    | 332559    |
| HER MSA2825  | Bromley Hall                                  | ND | n/a | 340802.96 | 326171.66 |
| HER MSA28377 | Melrose House                                 | ND | n/a | 347128    | 329213    |
| HER MSA28425 | Foxleigh House                                | ND | n/a | 351601    | 329629    |
| HER MSA28632 | Little Wootton                                | ND | n/a | 334293    | 327480    |
| HER MSA28837 | Pentreclawdd House                            | ND | n/a | 329781    | 332034    |
| HER MSA28838 | Pentreclawdd Farm                             | ND | n/a | 329914    | 332129    |
| HER MSA28870 | Park Hall Farm                                | ND | n/a | 330485    | 331623    |

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|--------------|--|----|-----|-----------|-----------|
| HER MSA28871 | Pentrepant Cottages                                  | ND | n/a | 328842    | 331945    |
| HER MSA28872 | Pentrepant Hall Farmstead                            | ND | n/a | 328733    | 331856    |
| HER MSA28879 | The Oldport, or Oldport Farm                         | ND | n/a | 329878    | 330774    |
| HER MSA28880 | Site of unnamed farmstead at Croxon Rise, Oswestry   | ND | n/a | 330576    | 329791    |
| HER MSA28881 | Lys House  | ND | n/a | 330299    | 329334    |
| HER MSA28882 | Llys Cottage   | ND | n/a | 330166    | 329569    |
| HER MSA28883 | Site of Unicorn House                                | ND | n/a | 329949    | 329633    |
| HER MSA28884 | Site of unnamed farmstead at 52 College Road         | ND | n/a | 330015    | 329394    |
| HER MSA2890  | Brogyntyn Park ridge and furrow                      | ND | n/a | 328433.21 | 330294.84 |
| HER MSA2893  | Enclosure on Baggy Moor, c1km north east of Haughton | ND | n/a | 338384.92 | 327330.51 |
| HER MSA2895  | Tilley Park NW                                       | ND | n/a | 349401.45 | 327025.34 |
| HER MSA28990 | Kenwick Farm   | ND | n/a | 342079    | 330363    |
| HER MSA28992 | Span Cottage   | ND | n/a | 344566    | 330137    |
| HER MSA28996 | Lyneal Lodge Farm                                    | ND | n/a | 347312    | 330236    |
| HER MSA28999 | The Elms   | ND | n/a | 349255    | 330679    |
| HER MSA29000 | Horton Farm  | ND | n/a | 349259    | 330086    |
| HER MSA29001 | Lowe Hall Farm                                       | ND | n/a | 350008    | 330561    |
| HER MSA29002 | Pyms House   | ND | n/a | 350144    | 330019    |
| HER MSA29003 | Lowe Hill  | ND | n/a | 350274    | 330078    |
| HER MSA29004 | Cross Bank   | ND | n/a | 350574    | 330723    |
| HER MSA29005 | New House Farm                                       | ND | n/a | 350576    | 330427    |
| HER MSA29006 | Highfields Farm                                      | ND | n/a | 351063    | 330796    |
| HER MSA29008 | Creamore Farm  | ND | n/a | 351671    | 330253    |
| HER MSA29019 | Crosemere House                                      | ND | n/a | 343479    | 329785    |
| HER MSA29020 | Mere Farm  | ND | n/a | 343382    | 329854    |
| HER MSA29021 | The Red Lion   | ND | n/a | 343491    | 329054    |
| HER MSA29022 | Old Crosemere Farmhouse                              | ND | n/a | 343640    | 329377    |
| HER MSA29023 | Crosemere Hall                                       | ND | n/a | 343857    | 329310    |
| HER MSA29024 | Site of farmstead at Manor Farm                      | ND | n/a | 343654    | 329469    |
| HER MSA29025 | Crosemere Grange                                     | ND | n/a | 343577    | 329537    |
| HER MSA29026 | Brook House  | ND | n/a | 343560    | 329440    |
| HER MSA29027 | Frankton Farm  | ND | n/a | 345208    | 329755    |
| HER MSA29028 | The Hollies  | ND | n/a | 345428    | 329662    |
| HER MSA29029 | Lower Farmhouse                                      | ND | n/a | 345516    | 329633    |
| HER MSA29030 | Lees Farm  | ND | n/a | 345431    | 329913    |
| HER MSA29031 | The Laurels  | ND | n/a | 346250    | 329647    |
| HER MSA29032 | Bridge Farm  | ND | n/a | 346160    | 329573    |
| HER MSA29033 | Rose Villa   | ND | n/a | 346000    | 329672    |
| HER MSA29034 | Old Cross Keys                                       | ND | n/a | 346052    | 329624    |

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|--------------|---|----|-----|--------|-----------|
| HER MSA29035 | Sylvan Cottage                                | ND | n/a | 346096 | 329847    |
| HER MSA29036 | The Old House                                 | ND | n/a | 346587 | 329809    |
| HER MSA29037 | New House                                     | ND | n/a | 346500 | 329481    |
| HER MSA29038 | Rose Cottage                                  | ND | n/a | 346556 | 329461    |
| HER MSA29039 | Nook Farm                                     | ND | n/a | 347294 | 329329    |
| HER MSA29040 | Church Farmhouse                              | ND | n/a | 347224 | 329286    |
| HER MSA29041 | Parish Farm                                   | ND | n/a | 347054 | 329394    |
| HER MSA29042 | Factory Farm                                  | ND | n/a | 347003 | 329295    |
| HER MSA29043 | Salters Cottage                               | ND | n/a | 347929 | 329442    |
| HER MSA29044 | Yew Tree Farm                                 | ND | n/a | 348883 | 329831    |
| HER MSA29045 | Horton Hall Farm                              | ND | n/a | 348952 | 329824    |
| HER MSA29046 | Horton House Farm                             | ND | n/a | 349126 | 329866    |
| HER MSA29047 | The Ditches Hall                              | ND | n/a | 349592 | 329331    |
| HER MSA29048 | The Pools Farm                                | ND | n/a | 350073 | 328984    |
| HER MSA29049 | Clays Buildings                               | ND | n/a | 350459 | 329050    |
| HER MSA29050 | Site of unnamed farmstead at Barnfield Avenue | ND | n/a | 351234 | 329639    |
| HER MSA29070 | Weir Farm                                     | ND | n/a | 352250 | 328349    |
| HER MSA29072 | Common Wood Farm                              | ND | n/a | 348841 | 328193    |
| HER MSA29073 | Pearl Farm                                    | ND | n/a | 348908 | 328018.01 |
| HER MSA29074 | Manor Farm                                    | ND | n/a | 348177 | 328040    |
| HER MSA29075 | Shayes Farm                                   | ND | n/a | 347838 | 328317    |
| HER MSA29076 | Noneley Hall                                  | ND | n/a | 347949 | 327995    |
| HER MSA29077 | New Farm                                      | ND | n/a | 347423 | 328949    |
| HER MSA29078 | The Hollies                                   | ND | n/a | 347522 | 328975    |
| HER MSA29079 | Bentley Farm                                  | ND | n/a | 347105 | 328167    |
| HER MSA29080 | The Fields                                    | ND | n/a | 346818 | 328480    |
| HER MSA29081 | Barnes House                                  | ND | n/a | 346698 | 328898    |
| HER MSA29082 | Woodgate                                      | ND | n/a | 346414 | 328713    |
| HER MSA29083 | Coppice Farm                                  | ND | n/a | 346194 | 328324    |
| HER MSA29095 | Well house                                    | ND | n/a | 339727 | 327613    |
| HER MSA29096 | Yew Tree Cottage                              | ND | n/a | 339806 | 327686    |
| HER MSA29097 | Hordley Grange                                | ND | n/a | 338881 | 330117    |
| HER MSA29098 | Old Rectory Farm                              | ND | n/a | 338257 | 330698    |
| HER MSA29099 | Church Farm                                   | ND | n/a | 338126 | 330858    |
| HER MSA29100 | Lower Berghill Farm                           | ND | n/a | 336260 | 330533    |
| HER MSA29101 | Berghill Farm                                 | ND | n/a | 335739 | 330612    |
| HER MSA29102 | Perry Farm                                    | ND | n/a | 334747 | 330293    |
| HER MSA29103 | Babbinswood Farm                              | ND | n/a | 333795 | 330067    |
| HER MSA29104 | Perrymoor Farm                                | ND | n/a | 334205 | 330114    |
| HER MSA29105 | 1 & 2 Park Green Close                        | ND | n/a | 331395 | 330955    |
| HER MSA29106 | Brookfield farm                               | ND | n/a | 332721 | 330200    |

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|--------------|---|----|-----|-----------|-----------|
| HER MSA29107 | Donnett Farm  | ND | n/a | 332852    | 330974    |
| HER MSA29108 | Herschell House   | ND | n/a | 332744    | 330949    |
| HER MSA29109 | The Big House   | ND | n/a | 332802    | 330975    |
| HER MSA29110 | Leefields   | ND | n/a | 332827    | 330652    |
| HER MSA29121 | Broom Farm  | ND | n/a | 337933    | 331687    |
| HER MSA29123 | Breidden Cottage  | ND | n/a | 337067    | 331704    |
| HER MSA29125 | Elmtree Farm  | ND | n/a | 336873    | 331897    |
| HER MSA29126 | Henhafod  | ND | n/a | 335740.45 | 331527.92 |
| HER MSA29127 | Evenall Farm  | ND | n/a | 335121    | 331987    |
| HER MSA29128 | Halston Hall  | ND | n/a | 334035    | 331653    |
| HER MSA29129 | Park Issa   | ND | n/a | 331850    | 331624    |
| HER MSA29130 | The Stanyards   | ND | n/a | 331902    | 331955    |
| HER MSA29167 | Great Fernhill  | ND | n/a | 331671    | 332563    |
| HER MSA29168 | Five Crosses Farm   | ND | n/a | 330169    | 332095    |
| HER MSA2917  | Possible cropmark field system and enclosure N of Henparks farm | ND | n/a | 339012.32 | 326113.75 |
| HER MSA2918  | Possible field system at Berghill Cottages                      | ND | n/a | 335889.54 | 330903.66 |
| HER MSA2919  | Linear cropmark Heath Houses                                    | ND | n/a | 334919.34 | 327812.96 |
| HER MSA2919  | Linear cropmark Heath Houses                                    | ND | n/a | 334913.45 | 327769.95 |
| HER MSA29355 | Nilgreen  | ND | n/a | 341925    | 326805    |
| HER MSA29356 | Lakeland Cottage  | ND | n/a | 341798    | 326543    |
| HER MSA29391 | Fednal Mill Farm  | ND | n/a | 337329    | 329340    |
| HER MSA29392 | Hawkswood Farm  | ND | n/a | 337092    | 329891    |
| HER MSA29393 | Decoy Farm  | ND | n/a | 334855    | 328935    |
| HER MSA29394 | The Field Farm  | ND | n/a | 333498    | 329246    |
| HER MSA29395 | Top House   | ND | n/a | 331528    | 329276    |
| HER MSA29396 | Cabin House   | ND | n/a | 331421    | 329252    |
| HER MSA29397 | Lees Farm   | ND | n/a | 337517    | 328794    |
| HER MSA29398 | The Buildings Farm  | ND | n/a | 336968    | 328161    |
| HER MSA29399 | Rednal Farm   | ND | n/a | 336467    | 328064    |
| HER MSA29400 | Woodhouse Hall  | ND | n/a | 336347    | 328852    |
| HER MSA29401 | Berrywood Farm  | ND | n/a | 335681    | 328709    |
| HER MSA29402 | The Leaslows  | ND | n/a | 333903    | 328459    |
| HER MSA29403 | Aston Farm  | ND | n/a | 332559    | 328066    |
| HER MSA29404 | The Elms  | ND | n/a | 332187    | 328523    |
| HER MSA29405 | Vine Cottage  | ND | n/a | 332329    | 328962    |
| HER MSA29406 | Pool Farm   | ND | n/a | 331915    | 328829    |
| HER MSA29407 | Middleton Farm  | ND | n/a | 331951    | 328713    |
| HER MSA29408 | Red House   | ND | n/a | 331752    | 328738    |
| HER MSA29409 | The Mile House Farm   | ND | n/a | 330989    | 328178    |
| HER MSA29410 | Rod Meadows   | ND | n/a | 330472    | 328520    |
| HER MSA29412 | Haughton Farm   | ND | n/a | 337284    | 327104    |

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|--------------|---|----|-----|-----------|-----------|
| HER MSA29413 | Tedsmore Farm                                     | ND | n/a | 337375    | 326913    |
| HER MSA29414 | Abbots Moor Farm                                  | ND | n/a | 337399    | 326984    |
| HER MSA29415 | Bellstone   | ND | n/a | 337365    | 327053    |
| HER MSA29416 | Sutton Farm                                       | ND | n/a | 335783    | 327102    |
| HER MSA29417 | The Harp Farm                                     | ND | n/a | 336065    | 327057    |
| HER MSA29418 | Station Farm                                      | ND | n/a | 335288    | 327489    |
| HER MSA29419 | Old Hill Farm                                     | ND | n/a | 335488    | 327378    |
| HER MSA29420 | Little Sutton                                     | ND | n/a | 335627    | 327328    |
| HER MSA29421 | Heath House                                       | ND | n/a | 335130    | 327673    |
| HER MSA29422 | Wootton Farm                                      | ND | n/a | 334320    | 327449    |
| HER MSA29423 | Wootton Castle                                    | ND | n/a | 334145    | 327942    |
| HER MSA29424 | Wootton House Farm                                | ND | n/a | 333706    | 327734    |
| HER MSA29425 | White Hall Farm                                   | ND | n/a | 333174    | 327774    |
| HER MSA29426 | Aston Hall  | ND | n/a | 332665    | 327354    |
| HER MSA29448 | Little Bromley                                    | ND | n/a | 340493    | 326075    |
| HER MSA29449 | Top Farm  | ND | n/a | 338348    | 326758    |
| HER MSA29450 | The Slades  | ND | n/a | 338613    | 326325    |
| HER MSA29451 | Henbarns Farm                                     | ND | n/a | 338034    | 326583    |
| HER MSA29452 | Pool Parva  | ND | n/a | 336926    | 326736    |
| HER MSA29453 | Twyford Farm                                      | ND | n/a | 334815    | 326323    |
| HER MSA29454 | Hen Barns   | ND | n/a | 338212    | 326752    |
| HER MSA29768 | The Fords   | ND | n/a | 334299    | 326642    |
| HER MSA29770 | Queens Head Farm                                  | ND | n/a | 333881    | 326846    |
| HER MSA29811 | Bank Farm   | ND | n/a | 337189    | 325919    |
| HER MSA29833 | The Mill Farm                                     | ND | n/a | 345836    | 327238    |
| HER MSA29874 | Springfields                                      | ND | n/a | 350822    | 327058    |
| HER MSA29877 | Tilley Park Farm                                  | ND | n/a | 349959    | 326667    |
| HER MSA29878 | Sleep House Farm                                  | ND | n/a | 348683    | 326643    |
| HER MSA29879 | Site of farmstead c40m N of Sleep House Farmhouse | ND | n/a | 348629    | 326650    |
| HER MSA29880 | Sleep farmstead c70m W of Sleaphouse Farmhouse.   | ND | n/a | 348563    | 326599    |
| HER MSA29881 | Sleep Hall Farm                                   | ND | n/a | 348571    | 326307    |
| HER MSA30141 | Victoria Stables                                  | ND | n/a | 330187    | 332291    |
| HER MSA30142 | Wern Lodge  | ND | n/a | 330180    | 332414    |
| HER MSA30144 | Cliffton Villas                                   | ND | n/a | 334116    | 326655    |
| HER MSA3015  | Cropmark pit alignment in field at Crosmere       | ND | n/a | 344091.63 | 330101.9  |
| HER MSA3025  | Preceptory of St John, Halston                    | ND | n/a | 333849.4  | 331224.96 |
| HER MSA30366 | Wood Farm   | ND | n/a | 345265    | 328921    |
| HER MSA30367 | Malt Kiln Farm                                    | ND | n/a | 345554    | 328121    |
| HER MSA30368 | The Wood  | ND | n/a | 345361    | 328128    |
| HER MSA30369 | Stonehill   | ND | n/a | 343305    | 328049    |

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| HER MSA30370 | Stanwardine Grange  | ND | n/a | 343262    | 328411    |
| HER MSA30371 | 32 SHrewsbury Road  | ND | n/a | 343516    | 329000    |
| HER MSA30372 | Cockshutt House   | ND | n/a | 343520    | 328932    |
| HER MSA30373 | Kenwick Lodge   | ND | n/a | 342248    | 328618    |
| HER MSA30524 | Building foundations revealed in Church Street, Oswestry                | ND | n/a | 328973.17 | 329496.44 |
| HER MSA30537 | Plough scars near Aston Street, Wem                                     | ND | n/a | 351510.89 | 328868.76 |
| HER MSA30687 | Site of unnamed field barn c137m SW of Oswestry cemetery chapel         | ND | n/a | 329449.72 | 328809.82 |
| HER MSA30778 | Possible cropmark enclosure, SE of Oswestry                             | ND | n/a | 331197.33 | 329871.62 |
| HER MSA30832 | Site of an unnamed field barn or cottage c60 SW of Pen-yr-estyn, Rednal | ND | n/a | 335682.87 | 327884.93 |
| HER MSA30833 | Site of an unnamed field barn c780m N of Woodhouse Hall, Rednal         | ND | n/a | 336296.09 | 329642.86 |
| HER MSA30834 | Site of an unnamed cottage c165m SSW of Front Lodge, Woodhouse Hall     | ND | n/a | 336780.23 | 328340.44 |
| HER MSA30835 | Site of RAF Rednal  | ND | n/a | 337278.04 | 327499.51 |
| HER MSA30836 | Burnt mound c.250m NE of RAF Rednal                                     | ND | n/a | 337649.9  | 328109.84 |
| HER MSA30837 | Burnt mound c.140m NE of RAF Rednal                                     | ND | n/a | 337659.04 | 327940.96 |
| HER MSA30838 | Burnt mound c.90m NE of RAF Rednal                                      | ND | n/a | 337570.13 | 327990.67 |
| HER MSA30839 | Burnt mound c.130m N of Old Buildings Farm, Rednal                      | ND | n/a | 336960.24 | 328329.96 |
| HER MSA30840 | Burnt mound c.110m NE of Old Buildings Farm, Rednal                     | ND | n/a | 337069.03 | 328251.03 |
| HER MSA30841 | Burnt mound c.480m NE of Lower Lees, Rednal                             | ND | n/a | 338350    | 329420    |
| HER MSA30842 | Burnt mound c.580m E of Lower Lees, Rednal                              | ND | n/a | 338528.59 | 329229.51 |
| HER MSA30849 | Hoard of three bronze palstaves, Station Farm, Rednal                   | ND | n/a | 335320    | 327200    |
| HER MSA31021 | Earthwork ridge and furrow W of Wem                                     | ND | n/a | 350362.68 | 329304.95 |
| HER MSA31022 | Site of brickfield 460m NNW of The Old Rectory                          | ND | n/a | 350619.41 | 329539.37 |
| HER MSA31114 | Rectangular single ditched cropmark 300m south east of Top House Farm   | ND | n/a | 341307.39 | 328652.93 |
| HER MSA31155 | Cropmark pits 250m NW of Pentreclawdd Farm                              | ND | n/a | 329793.3  | 332344.39 |
| HER MSA31201 | Orchard SW of Halston Hall kitchen garden                               | ND | n/a | 333319.96 | 331750.79 |
| HER MSA31202 | Weir c290m WSW of Halston Hall  | ND | n/a | 333655    | 331559.2  |
| HER MSA31203 | Outbuildings NW of Garden Cottage, Halston Hall                         | ND | n/a | 333437.32 | 331858.74 |
| HER MSA31204 | Glasshouses W of Garden Cottage, Halston Hall                           | ND | n/a | 333452.18 | 331833.4  |

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| HER MSA31205 | Boat house c230m SW of Halston Hall  | ND | n/a | 333763.35 | 331489.61 |
| HER MSA31206 | Pump House c250m SSE of Halston Hall   | ND | n/a | 334078.78 | 331448.93 |
| HER MSA31207 | Boat House c330m ESE of Halston Hall   | ND | n/a | 334215.07 | 331482.42 |
| HER MSA31208 | Parkland building/field barn c280m ESE of Halston Hall                                       | ND | n/a | 334193.66 | 331513.98 |
| HER MSA31209 | Farm buildings c280m ESE of Halston Hall   | ND | n/a | 334255.8  | 331692.22 |
| HER MSA31210 | Farm buildings c280m ESE of Halston Hall   | ND | n/a | 334216.33 | 331717.34 |
| HER MSA31211 | WWII Military Hospital within Halston Park, N of Halston Hall                                | ND | n/a | 333964.56 | 331968.57 |
| HER MSA31212 | Icehouse c100m W of Evenall Farmhouse  | ND | n/a | 335059.57 | 331975.36 |
| HER MSA31213 | Weir c500m SE of Halston Hall  | ND | n/a | 334311.01 | 331325.12 |
| HER MSA31214 | Ha Ha c80m S of Halston Hall   | ND | n/a | 333823.13 | 331641.13 |
| HER MSA31215 | Serpentine Lake S of Halston Hall  | ND | n/a | 334461.3  | 331334.4  |
| HER MSA3128  | Ha Ha South of Plas Ffynnon  | ND | n/a | 329486.66 | 329377.63 |
| HER MSA31383 | Burnt mound c.245m NW of Rakes House, Ellesmere  | ND | n/a | 340080    | 326780    |
| HER MSA31531 | Regular rectangular multi celled building 700m north of Heath Houses                         | ND | n/a | 334825.01 | 328170.62 |
| HER MSA31537 | Parallel linear ditches enclosure + large circular feature 100m north west of Crosemere Farm | ND | n/a | 342794.98 | 329666.53 |
| HER MSA31625 | Site of Whittington Rectory  | ND | n/a | 332750.55 | 331053.07 |
| HER MSA31626 | Site of gardens for Whittington Rectory  | ND | n/a | 332739.04 | 331041.42 |
| HER MSA31627 | Earthworks c150m SE of Whittington Castle  | ND | n/a | 332729.38 | 331015.36 |
| HER MSA3163  | Malt House   | ND | n/a | 329470    | 330070    |
| HER MSA3164  | Saw Mill, Oswestry   | ND | n/a | 329822.17 | 330307.98 |
| HER MSA31678 | Babbinswood Primitive Methodist Chapel   | ND | n/a | 333306.88 | 330198.94 |
| HER MSA31692 | Former Brown Heath Wesleyan Methodist Chapel, Loppington                                     | ND | n/a | 346383.57 | 329542.78 |
| HER MSA31699 | Chirk Bank United Methodist Chapel   | ND | n/a | 333306.4  | 330189.59 |
| HER MSA31728 | The site of Grimpo Congregational Chapel   | ND | n/a | 336266    | 326512    |
| HER MSA31775 | Former English Baptist Chapel, Salop Road, Oswestry  | ND | n/a | 329189    | 329544    |
| HER MSA31776 | Former Penuel Capel y Bedyddwyr, Oswestry  | ND | n/a | 329190    | 329875    |
| HER MSA31777 | Zion Welsh Calvinistic Chapel, Park Avenue, Oswestry   | ND | n/a | 328619    | 329640    |
| HER MSA3181  | Coalpit Coyer  | ND | n/a | 331900    | 330450    |
| HER MSA3191  | Loppington Windmill, Brownheath  | ND | n/a | 346262    | 330185    |
| HER MSA31978 | Quarry, Pool Parva, Haughton   | ND | n/a | 337064.52 | 326682.36 |
| HER MSA3238  | Brickfield   | ND | n/a | 328940    | 329050    |
| HER MSA3239  | Victoria Works (Agricultural Engineering)  | ND | n/a | 329100.68 | 329215    |



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| HER MSA3240  | Tannery  | ND | n/a | 328810    | 329990    |
| HER MSA3241  | Malthouses   | ND | n/a | 329345.73 | 329373.05 |
| HER MSA3242  | Gas Works, later Gasholder Station   | ND | n/a | 329448.07 | 328971.74 |
| HER MSA3243  | Saw Mill, Oswestry   | ND | n/a | 329450    | 329820    |
| HER MSA3244  | Saw Mill, Oswestry   | ND | n/a | 329300    | 329620    |
| HER MSA3245  | Tannery, Oswestry  | ND | n/a | 329250    | 329660    |
| HER MSA3246  | Tannery  | ND | n/a | 328960    | 329280    |
| HER MSA3247  | Brewery  | ND | n/a | 329160    | 329770    |
| HER MSA3248  | Brewery, Leg Street, Oswestry  | ND | n/a | 329160    | 329580    |
| HER MSA3249  | Malt House   | ND | n/a | 329343.64 | 329673.94 |
| HER MSA3250  | Electric Works   | ND | n/a | 329250.71 | 329609.77 |
| HER MSA3257  | Tannery  | ND | n/a | 328820    | 329870    |
| HER MSA3263  | Brewery  | ND | n/a | 328840    | 329680    |
| HER MSA3264  | Malthouse  | ND | n/a | 328820    | 329799.99 |
| HER MSA3265  | Saw Mill   | ND | n/a | 328815.78 | 329804.84 |
| HER MSA3284  | Brick Field  | ND | n/a | 331453.89 | 328623.65 |
| HER MSA3287  | Aston Mill   | ND | n/a | 332094.62 | 326916.35 |
| HER MSA3288  | Possible windmill site at The Mount, Queen's Head                          | ND | n/a | 334150    | 326800    |
| HER MSA3289  | Rednal Bone Works  | ND | n/a | 335073.83 | 327904.34 |
| HER MSA3290  | Steel Fabrication Works  | ND | n/a | 337126.92 | 328644.75 |
| HER MSA3295  | Lime kiln battery, NW of Wycherley Hall                                    | ND | n/a | 341430    | 327480    |
| HER MSA3296  | Brick and Tile Works, Weston Common  | ND | n/a | 342654.76 | 326342.8  |
| HER MSA3297  | Brick and Tile Works   | ND | n/a | 343476.54 | 326070.37 |
| HER MSA3298  | Cheese Manufactory, S of Horton  | ND | n/a | 349831.29 | 329449.22 |
| HER MSA33019 | Suspected quarry (name/air ph), Quarry Wood, W.Felton                      | ND | n/a | 336806.08 | 326060.76 |
| HER MSA3305  | Creamore Mill, later known as Mill House Farm                              | ND | n/a | 351770    | 329890    |
| HER MSA33069 | Site of an unnamed field barn c530m NE of Crosmere Grange                  | ND | n/a | 344018.2  | 330005.74 |
| HER MSA3307  | Saw Mill   | ND | n/a | 351590    | 328880    |
| HER MSA33070 | Site of an unnamed field barn c50m N of Rosemary Cottage, CROSEMERE        | ND | n/a | 343598.94 | 329594.5  |
| HER MSA33071 | Site of an unnamed field barn c640m E of No.36 Shrewbury Road, Cockshutt   | ND | n/a | 344234.27 | 328802.23 |
| HER MSA33072 | Site of an unnamed field barn c710m ESE of No.36 Shrewbury Road, Cockshutt | ND | n/a | 344295.51 | 328664.85 |
| HER MSA33073 | Site of an unnamed field barn c855m SE of No.36 Shrewbury Road, Cockshutt  | ND | n/a | 344417.57 | 328541.86 |
| HER MSA3308  | Gas Works, Wem   | ND | n/a | 350900    | 328900    |
| HER MSA3309  | Tannery  | ND | n/a | 350930    | 328830    |

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|--------------|---|----|-----|-----------|-----------|
| HER MSA33096 | The Apostolic Chapel, Aston Street, Wem   | ND | n/a | 351541    | 328988    |
| HER MSA33097 | Former Baptist Chapel, corner of Market Street and Noble Street, Wem            | ND | n/a | 351188    | 328958    |
| HER MSA3310  | Talbot Brewery, Wem   | ND | n/a | 351419.08 | 328945.63 |
| HER MSA33108 | The Primitive Methodist Chapel, Aston Street, Wem                               | ND | n/a | 351564    | 329025    |
| HER MSA3311  | Brick Field   | ND | n/a | 350680    | 326770    |
| HER MSA33112 | The site of the former Presbyterian Chapel, Dodington, Whitchurch               | ND | n/a | 332533    | 331384    |
| HER MSA3312  | Milk Factory, later Creamery  | ND | n/a | 352297.84 | 328647.34 |
| HER MSA3313  | Tannery   | ND | n/a | 351080    | 328930    |
| HER MSA3314  | Iron Foundry  | ND | n/a | 351360    | 328850    |
| HER MSA33159 | The site of the former RAF Sleaf  | ND | n/a | 348109.55 | 326504.26 |
| HER MSA33159 | The site of the former RAF Sleaf  | ND | n/a | 348072    | 326435    |
| HER MSA3316  | Wem Mill. Site later occupied by Mill Dam Cottages                              | ND | n/a | 350680.58 | 328297.23 |
| HER MSA33171 | The site of a former Prisoner of War Camp (POW), Mile House, Oswestry           | ND | n/a | 331065.77 | 328569.84 |
| HER MSA33171 | The site of a former Prisoner of War Camp (POW), Mile House, Oswestry           | ND | n/a | 331058.9  | 328476.04 |
| HER MSA33183 | The site of a former Prisoner of War (POW) Camp, Wem                            | ND | n/a | 352300    | 329400    |
| HER MSA33183 | The site of a former Prisoner of War (POW) Camp, Wem                            | ND | n/a | 352583.41 | 329918.22 |
| HER MSA33278 | Find Spot in 2008 of a carving of a horse on a stone dubbed the "Pegasus Stone" | ND | n/a | 329304.68 | 330914.77 |
| HER MSA33406 | Parkland of Frankton Grange   | ND | n/a | 344733.5  | 330563.13 |
| HER MSA33407 | Pillbox on Haughton Farm  | ND | n/a | 337325.61 | 327085.1  |
| HER MSA33408 | Pillbox on Haughton Farm  | ND | n/a | 337321.34 | 327135.59 |
| HER MSA33409 | Pillbox on Haughton Farm  | ND | n/a | 337314.68 | 327153.95 |
| HER MSA33438 | Spenford Bridge   | ND | n/a | 347867.91 | 329887.72 |
| HER MSA33461 | Drainage ditches, Active Lifestyle Centre, Oswestry                             | ND | n/a | 330270.69 | 328849.91 |
| HER MSA33462 | Backfilled pond, Active Lifestyle Centre, Oswestry                              | ND | n/a | 330324.96 | 328812.97 |
| HER MSA33485 | Estate boundary wall, Brogyntyn Park and Gardens, near Oswestry                 | ND | n/a | 328231.6  | 330297.42 |
| HER MSA33485 | Estate boundary wall, Brogyntyn Park and Gardens, near Oswestry                 | ND | n/a | 328493.11 | 331329.56 |
| HER MSA33490 | Ha ha walling, Brogyntyn Park and Gardens, near Oswestry                        | ND | n/a | 327912.64 | 330831.16 |

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| HER MSA33498 | Mid 19th century tollhouse, Shrewsbury Road, Oswestry             | ND | n/a | 329826.76 | 328780.8  |
| HER MSA33515 | No 69 Peters Bridge, Llangollen Canal                             | ND | n/a | 337103    | 331842    |
| HER MSA33516 | No 2W Nicholas Bridge   | ND | n/a | 336577    | 332016    |
| HER MSA33517 | No 3W Rodenhurst Bridge, Llangollen Canal                         | ND | n/a | 336414    | 332096    |
| HER MSA33538 | Coach House, Pentre Pant Hall, Selattyn                           | ND | n/a | 328739.95 | 331888.29 |
| HER MSA33543 | Municipal boundary, Oswestry, Shropshire                          | ND | n/a | 329332.71 | 330457.25 |
| HER MSA33544 | Gravel pit, Whittington, Shropshire                               | ND | n/a | 332381.48 | 331718.02 |
| HER MSA33545 | Ballast pit, Whittington, Shropshire                              | ND | n/a | 332796.18 | 331903.07 |
| HER MSA33548 | Air ventilation shafts, Castle Fields, Oswestry                   | ND | n/a | 328834.35 | 330034.84 |
| HER MSA33549 | Air ventilation shafts, Whittington Road, Oswestry                | ND | n/a | 330346.95 | 330647.35 |
| HER MSA33550 | Gravel pit, Llwyn Road, Oswestry, Shropshire                      | ND | n/a | 329408.42 | 330553.46 |
| HER MSA33551 | South Lodge, south of Park Hall, Whittington                      | ND | n/a | 330844.2  | 330827.94 |
| HER MSA33553 | Former Lane, Oswestry, Shropshire                                 | ND | n/a | 329752.7  | 330466.77 |
| HER MSA33554 | Brick Kiln Field, Oswestry, Shropshire                            | ND | n/a | 329200.79 | 330334.79 |
| HER MSA33555 | Brick Kiln Field, Park Hall, Whittington, Shropshire              | ND | n/a | 331247.91 | 330786.47 |
| HER MSA33558 | Old Brick Works, Oswestry, Shropshire                             | ND | n/a | 330173.95 | 330345.06 |
| HER MSA33560 | Drainage ditch, Brogyntyn Park                                    | ND | n/a | 328434.5  | 330133    |
| HER MSA33561 | Field boundary, Brogyntyn Park                                    | ND | n/a | 328649.05 | 330010.64 |
| HER MSA33562 | Hollow, Brogyntyn Park  | ND | n/a | 328657    | 330030    |
| HER MSA33563 | Possible pond, Brogyntyn Park                                     | ND | n/a | 328616    | 330120    |
| HER MSA33564 | Possible pond, Brogyntyn Park                                     | ND | n/a | 328527.09 | 330083.65 |
| HER MSA33565 | Possible tree avenue, Brogyntyn Park                              | ND | n/a | 328510.93 | 330028.93 |
| HER MSA33566 | Possible pond or small marl pit, c.110m west of Drenewydd Cottage | ND | n/a | 330675    | 330726    |
| HER MSA33567 | Field boundary, Brogyntyn Park                                    | ND | n/a | 331960.63 | 331212.29 |
| HER MSA33568 | Drainage ditch, Brogyntyn Park                                    | ND | n/a | 328529    | 330033    |
| HER MSA33569 | Drainage ditch, Brogyntyn Park                                    | ND | n/a | 328537.5  | 330103.5  |
| HER MSA33570 | Possible pond, 200m NW of Whittington                             | ND | n/a | 331999.01 | 331430.11 |
| HER MSA33571 | Possible quarry, north of Whittington                             | ND | n/a | 332321.03 | 331716.93 |
| HER MSA33571 | Possible quarry, north of Whittington                             | ND | n/a | 332303.31 | 331728.82 |
| HER MSA33572 | Field boundary, north of Whittington                              | ND | n/a | 332009.89 | 331315.33 |
| HER MSA33581 | Ditch, c.350m NW of Whittington                                   | ND | n/a | 332249.5  | 331652.49 |
| HER MSA33582 | Narrow ridge and furrow, c.350m NW of Whittington                 | ND | n/a | 332313.28 | 331656.74 |
| HER MSA336   | Oswestry town defences  | ND | n/a | 328847.93 | 329655.72 |
| HER MSA33634 | Penrhos Arms, Station Road, Whittington                           | ND | n/a | 332583.37 | 330932.66 |
| HER MSA33634 | Penrhos Arms, Station Road, Whittington                           | ND | n/a | 332596.35 | 330945.18 |

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|--------------|---|----|-----|-----------|-----------|
| HER MSA33635 | Possible earthworks, south of Whittington Castle                          | ND | n/a | 332458.26 | 331050.86 |
| HER MSA337   | New Gate  | ND | n/a | 328980    | 329500    |
| HER MSA33718 | No 73 Wem-Shrewsbury Rail Bridge  | ND | n/a | 335158.62 | 327679.85 |
| HER MSA33749 | A canal milepost on the Montgomery Canal                                  | ND | n/a | 334005    | 326837    |
| HER MSA33779 | Late medieval ditch, Willow Street, Oswestry                              | ND | n/a | 329016.6  | 329698.15 |
| HER MSA33780 | No 73 Green Wicket Bridge (site of)                                       | ND | n/a | 335150    | 328719    |
| HER MSA33782 | Rednal Basin Swing Bridge (Bridge No 72a)                                 | ND | n/a | 335116.28 | 327940.05 |
| HER MSA33798 | Medieval industrial activity, Beatrice Street, Oswestry                   | ND | n/a | 329308.16 | 329912.47 |
| HER MSA33799 | Canal Milepost at the Welsh Frankton Locks, Montgomery Canal              | ND | n/a | 337001    | 331769    |
| HER MSA338   | Site of Beatrice Gate, demolished in 1782                                 | ND | n/a | 329228.66 | 329844.56 |
| HER MSA33801 | Canal Milepost, Montgomery Canal  | ND | n/a | 336628    | 330471    |
| HER MSA33802 | Canal Milepost, Montgomery Canal  | ND | n/a | 335595    | 329276    |
| HER MSA33803 | Canal Milepost  | ND | n/a | 335143    | 327843    |
| HER MSA33832 | Well, Bailey Head, Oswestry   | ND | n/a | 329104.36 | 329761.99 |
| HER MSA33876 | Earthworks of wharfage features, W of Queen's Head Mill, Montgomery Canal | ND | n/a | 333753.98 | 326709.39 |
| HER MSA33877 | Site of wharf, W of Queen's Head Mill, Montgomery Canal                   | ND | n/a | 333858.71 | 326771    |
| HER MSA33878 | Site of former canal bridge, Queen's Head, Montgomery Canal               | ND | n/a | 333930    | 326790    |
| HER MSA33879 | Site of canal side building, Queen's Head, Montgomery Canal               | ND | n/a | 333940    | 326810    |
| HER MSA33880 | Site of canal side crane, Queen's Head, Montgomery Canal                  | ND | n/a | 333960    | 326810    |
| HER MSA33881 | Site of 19th century sand quarry, Queen's Head, Montgomery Canal          | ND | n/a | 334108.92 | 326768.86 |
| HER MSA33882 | Site of canal side crane, Queen's Head, Montgomery Canal                  | ND | n/a | 333990    | 326820    |
| HER MSA33883 | Stone revetted wall, E of Queen's Head, Montgomery Canal                  | ND | n/a | 334016.38 | 326859.68 |
| HER MSA33884 | Site of winding hole, Queen's Head Wharfage, Montgomery Canal             | ND | n/a | 334040    | 326880    |
| HER MSA33885 | Site of 19th century sand quarry, Queen's Head, Montgomery Canal          | ND | n/a | 334206.67 | 327038.13 |
| HER MSA33886 | Site of winding hole, Upper Moor, Montgomery Canal                        | ND | n/a | 335130    | 328130    |
| HER MSA33887 | Earthworks of possible enclosure, W of Perry's Aqueduct, Montgomery Canal | ND | n/a | 335712.91 | 329524.68 |

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| HER MSA33888 | Site of 20th century lengthsman's hut, Perry Aqueduct, Montgomery Canal            | ND | n/a | 336000    | 329760    |
| HER MSA33889 | Brick structure, S of Perry Aqueduct, Montgomery Canal                             | ND | n/a | 335945.78 | 329688.81 |
| HER MSA33890 | Culvert, NE of Perry Aqueduct, Montgomery Canal                                    | ND | n/a | 336207.15 | 329900.02 |
| HER MSA339   | Black Gate   | ND | n/a | 329180    | 329600    |
| HER MSA33916 | Earthworks of WWI training trenches, interior of Old Oswestry Hillfort             | ND | n/a | 329585.44 | 331020.22 |
| HER MSA33921 | The site of the Crown Inn, Beatrice Street, Oswestry                               | ND | n/a | 329296.29 | 329905.4  |
| HER MSA33922 | Site of former Bus Station Depot, Oswald Road, Oswestry                            | ND | n/a | 329360.04 | 329857.47 |
| HER MSA340   | Willow Gate or Welsh Gate  | ND | n/a | 328855.46 | 329807.38 |
| HER MSA34006 | Site of 19th chapel for the Church in Wales, Welsh Walls, Oswestry                 | ND | n/a | 328797.75 | 329473.76 |
| HER MSA34031 | Finger post at English Frankton  | ND | n/a | 345425.65 | 329895.77 |
| HER MSA34107 | Findspot of Neolithic/Bronze Age flint, Rednal Airfield                            | ND | n/a | 337341.81 | 327561.86 |
| HER MSA34147 | Site of Union Buildings, Wem   | ND | n/a | 351226.58 | 328883.8  |
| HER MSA34170 |  | ND | n/a | 343477    | 329186    |
| HER MSA34171 |  | ND | n/a | 344029.94 | 326270.74 |
| HER MSA34180 |  | ND | n/a | 347077.53 | 329365.82 |
| HER MSA34188 | 19th-20th century pit, SW of Park Hall   | ND | n/a | 330278    | 330921    |
| HER MSA34217 | Possible medieval well, N gatehouse tower, Whittington Castle                      | ND | n/a | 332620.25 | 331155.76 |
| HER MSA34236 | Cambrian Railways War Memorial, Cae Glas Park, Oswestry                            | ND | n/a | 328929.99 | 329447.92 |
| HER MSA34239 |  | ND | n/a | 328870.91 | 329329.59 |
| HER MSA34240 |  | ND | n/a | 329380.52 | 328887.24 |
| HER MSA34243 | The Rent Office, Aston Hall, Oswestry  | ND | n/a | 332574.36 | 327305.42 |
| HER MSA34249 | Farmhouse at Oldport Farm  | ND | n/a | 329880    | 330745    |
| HER MSA34250 | T-shaped barn at Oldport Farm  | ND | n/a | 329875.52 | 330763.53 |
| HER MSA34267 |  | ND | n/a | 332654.31 | 331276.47 |
| HER MSA34372 |  | ND | n/a | 328938.3  | 329465.72 |
| HER MSA34425 | Medieval tile/pottery kiln, Market Street, Wem                                     | ND | n/a | 351202.28 | 328931.16 |
| HER MSA34426 | Site of 2 Market Street, Wem   | ND | n/a | 351193.37 | 328907.48 |
| HER MSA34462 | Practice trenches associated with Park Hall camp, Oldport Farm, Oswestry           | ND | n/a | 330187.49 | 330711.48 |
| HER MSA34463 | Practice trenches associated with Park Hall camp, S of Drenewydd Coppice, Oswestry | ND | n/a | 330632.43 | 330310.86 |

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| HER MSA34468 | Possible burnt mound, Bagley Marsh   | ND | n/a | 339360    | 328159.99 |
| HER MSA34470 | Possible burnt mound, c.400m W of Bromley Hall                             | ND | n/a | 340100    | 325999.99 |
| HER MSA34471 | Possible burnt mound, c.400m W of Bromley Hall                             | ND | n/a | 338280    | 329769.99 |
| HER MSA34485 | Possible burnt mound, c.400m SE of Kenwick Park                            | ND | n/a | 341120    | 329629.99 |
| HER MSA34486 | Possible burnt mound, c.400m SE of Kenwick Park                            | ND | n/a | 341150    | 329690    |
| HER MSA34498 | Lock Tavern, Frankton Locks  | ND | n/a | 336926.79 | 331690.31 |
| HER MSA34499 | Lock Cottage, Frankton Locks   | ND | n/a | 336935    | 331632.33 |
| HER MSA34500 | Dock House, Frankton Locks   | ND | n/a | 336898.07 | 331547.5  |
| HER MSA34500 | Dock House, Frankton Locks   | ND | n/a | 336914.39 | 331581.22 |
| HER MSA34501 | Aston Lock cottage/Lockgate House, Aston Locks                             | ND | n/a | 333553.07 | 326359    |
| HER MSA34503 | Find of glazed pottery sherd, c.700m ENE of Bromley Hall                   | ND | n/a | 340660    | 326720    |
| HER MSA34518 | Find of glazed pottery sherd, c.550m N of Bromley Hall                     | ND | n/a | 340620    | 326500    |
| HER MSA34519 | Find of whetstone, c.550m N of Bromley Hall                                | ND | n/a | 340660    | 326480    |
| HER MSA34520 | Find of unglazed rim sherd, c.640m NNE of Bromley Hall                     | ND | n/a | 340770    | 326580    |
| HER MSA34521 | Find of partially-glazed, rod-type handle sherd, c.300m SE of Bagley House | ND | n/a | 340740    | 327170    |
| HER MSA34522 | Find of rim sherd of midland purple ware, c.200m S of Bagley               | ND | n/a | 340310    | 327200    |
| HER MSA34548 | Find of flake, c.550m W of Lower Hordley                                   | ND | n/a | 338850    | 329210    |
| HER MSA34553 | Find of unretouched flake, c.490m SE of Lower Lees                         | ND | n/a | 338280    | 328770    |
| HER MSA34554 | Find of unretouched flake, c.175m WNW of Well House                        | ND | n/a | 339560    | 327670    |
| HER MSA34561 | Find of flint arrowhead c.810m S of Lower Lees                             | ND | n/a | 338140    | 328360    |
| HER MSA34563 | Find of unretouched flake c.750m S of Lower Lees                           | ND | n/a | 337880    | 328400    |
| HER MSA34564 | Find of two unretouched flakes c.840m S of Lower Lees                      | ND | n/a | 338090    | 328320    |
| HER MSA34570 | Find of two body sherds c.210m E of The Oaks                               | ND | n/a | 340080    | 328190    |
| HER MSA34572 | Find of four body sherds c.230m E of Rednal                                | ND | n/a | 336730    | 327940    |
| HER MSA34573 | Find of body sherd c.340m NE of Rednal                                     | ND | n/a | 336810    | 328180    |
| HER MSA34574 | Find of body sherd c.540m E of Rednal                                      | ND | n/a | 337080    | 328020    |

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| HER MSA34590 | Find of body sherd c.760m NNW of Lower Lees   | ND | n/a | 338210    | 329900    |
| HER MSA34591 | Find of body sherd c.780m S of Hordley  | ND | n/a | 338280    | 330030    |
| HER MSA34592 | Find of unretouched flake c.435m SE of Hordley  | ND | n/a | 338350    | 330440    |
| HER MSA34594 | Find of core fragment c.810m SW of Hordley  | ND | n/a | 337760    | 330080    |
| HER MSA34595 | Find of arrowhead c.340m NNW of Bromley   | ND | n/a | 340480    | 326300    |
| HER MSA34612 | Find of stone razor hone c.340m NW of Cartref, Westcommon   | ND | n/a | 342250    | 326200    |
| HER MSA34625 | Site of German POW Cemetery, Park Hall  | ND | n/a | 331506.32 | 331796.29 |
| HER MSA34627 | Find of three body sherds of medieval pottery, c.260m NW of Magpie Hall Cottage                     | ND | n/a | 342630    | 329750    |
| HER MSA34628 | Find of rim sherd of medieval pottery, c.120m NW of Magpie Hall Cottage                             | ND | n/a | 342700    | 329680    |
| HER MSA34629 | Find of two body sherds of medieval pottery, c. 240m WSW of Mere Farm, Crosemere                    | ND | n/a | 343110    | 329790    |
| HER MSA34630 | Find of two rim and two body sherds of medieval pottery, c. 55m NNW of Mere Farm Cottage, Crosemere | ND | n/a | 343290    | 329850    |
| HER MSA34658 | Tedsmore War Memorial   | ND | n/a | 337142    | 325811    |
| HER MSA34745 | Earthwork remains of a possible moat, S of Whittington  | ND | n/a | 332091.2  | 330211.57 |
| HER MSA34746 | Earthwork remains of a possible embanked and ditched oval enclosure, NE of Old Oswestry             | ND | n/a | 329900    | 331630    |
| HER MSA34749 | Earthwork remains of a rectilinear ditched enclosure, NW of Lion's Wood Farm                        | ND | n/a | 349750    | 326130    |
| HER MSA34754 | Earthwork remains of a possible rectilinear enclosure, W of Creamore                                | ND | n/a | 351382.49 | 330140.67 |
| HER MSA34794 | Findspot of gilt Bronze disc of 6th-century type, Cockshutt   | ND | n/a | 343800    | 328800    |
| HER MSA34809 | St Chad's, Haughton   | ND | n/a | 337219.21 | 327031.81 |
| HER MSA35332 | Possible ploughed-out ring ditch, c.500m E of Walford and North Shropshire College, Oswestry        | ND | n/a | 330752.15 | 328979.51 |
| HER MSA35353 | Nos 3 and 5, Albion Hill  | ND | n/a | 329122.39 | 329749.53 |
| HER MSA35354 | No 11, Arthur Street, Oswestry  | ND | n/a | 328990    | 329757    |
| HER MSA4036  | Kenwick Park  | ND | n/a | 341121.49 | 329807.73 |
| HER MSA4037  | Loppington Hall Garden  | ND | n/a | 347275.41 | 330079.07 |
| HER MSA4038  | Loppington House Park   | ND | n/a | 347177.38 | 330300.59 |
| HER MSA4045  | Park at Petton Hall   | ND | n/a | 344279.7  | 326869.39 |
| HER MSA4054  | Stanwardine in the Wood   | ND | n/a | 342758.42 | 327032.52 |

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|-------------|---|----|-----|-----------|-----------|
| HER MSA4057 | Tilley park   | ND | n/a | 350500    | 327500    |
| HER MSA4066 | Gardens and park at Aston Hall  | ND | n/a | 332826.79 | 327134.69 |
| HER MSA4068 | The Park and Gardens at Brogyntyn Hall                                  | ND | n/a | 327789.61 | 331306.49 |
| HER MSA4072 | Fernhill Hall Park  | ND | n/a | 331775.54 | 332370.05 |
| HER MSA4075 | Halston Hall Park   | ND | n/a | 334256.7  | 331372.12 |
| HER MSA4080 | Park Hall Park and Garden   | ND | n/a | 330845.94 | 331071.7  |
| HER MSA4086 | Tedsmore Hall Park and Gardens  | ND | n/a | 336464.66 | 325737.25 |
| HER MSA4092 | Woodhouse Park  | ND | n/a | 336403.82 | 328786.53 |
| HER MSA522  | Loppington Village Pound  | ND | n/a | 347170    | 329304.35 |
| HER MSA591  | Stanwardine Hall, STANWARDINE IN THE WOOD                               | ND | n/a | 342749.15 | 327806.1  |
| HER MSA592  | Whinnett Hill   | ND | n/a | 340720.67 | 328586    |
| HER MSA593  | Find Spot in 1825 of spearhead from Petton Moat                         | ND | n/a | 344270    | 326480    |
| HER MSA594  | Find Spot in 1872 of oak dug out canoe from Bagley Moor                 | ND | n/a | 339503.45 | 327486.95 |
| HER MSA596  | Find Spot of rotary quern from Bentley Farmyard                         | ND | n/a | 347110    | 328140    |
| HER MSA597  | Church of St Michael  | ND | n/a | 347160.2  | 329276.9  |
| HER MSA609  | Site of Park Hall   | ND | n/a | 330810    | 331210    |
| HER MSA610  | Domestic Chapel apx 350m south of Halston Hall, ELLESMERE ROAD (S side) | ND | n/a | 333882.1  | 331296.95 |
| HER MSA611  | Halston Hall, ELLESMERE ROAD (south side)                               | ND | n/a | 333928.4  | 331652.7  |
| HER MSA612  | Church of St. John the Baptist, CHURCH STREET (east side)               | ND | n/a | 332613.85 | 331267.5  |
| HER MSA613  | Ye Olde Boote Inn, BOOT STREET (southeast side)                         | ND | n/a | 332624.6  | 331229.95 |
| HER MSA615  | Church of St Mary, Hordley  | ND | n/a | 338119.9  | 330824.25 |
| HER MSA616  | Find Spot in 1950 of a Roman Coin Hoard S of Hordley                    | ND | n/a | 338650    | 330120    |
| HER MSA622  | Gesenok Well  | ND | n/a | 341488.46 | 330453.54 |
| HER MSA623  | Stockett Gate   | ND | n/a | 342539.69 | 330607.59 |
| HER MSA630  | Find Spot in c 1864 of bronze shield at Bagley                          | ND | n/a | 339560    | 327270    |
| HER MSA631  | Cobbled surface W of Sulton Farm  | ND | n/a | 335682.97 | 327116.43 |
| HER MSA632  | Find Spot before 1892 of socketed axe from Hordley Glebe on Bagley Moor | ND | n/a | 339550    | 327550    |
| HER MSA643  | Grange Farm Cottage   | ND | n/a | 347137    | 329240.95 |
| HER MSA651  | Montgomery Canal  | ND | n/a | 330441.8  | 324634.8  |
| HER MSA653  | The Big House, STATION ROAD (south side)<br>The Old House               | ND | n/a | 332784    | 330965.27 |
| HER MSA654  | Cropmark rectangular and oval enclosure N of Berghill Cottages          | ND | n/a | 335214.63 | 331039.69 |



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| HER MSA655  | Roman marching camp at Perry Farm                           | ND | n/a | 335023.14 | 330330.24 |
| HER MSA6928 | Stanwardine House, STANWARDINE IN THE WOOD                  | ND | n/a | 342850    | 327680    |
| HER MSA6929 | Wycherley Hall, Bashchurch                                  | ND | n/a | 341813    | 327258.1  |
| HER MSA6946 | Church of St Simon and St Jude SHREWSBURY ROAD              | ND | n/a | 343479.9  | 329217.15 |
| HER MSA6947 | The Red Lion, SHREWSBURY ROAD, Cockshutt                    | ND | n/a | 343500    | 329070    |
| HER MSA6948 | Crown Hotel, SHREWSBURY ROAD, Cockshutt                     | ND | n/a | 343490    | 329030    |
| HER MSA6949 | No 32 SHREWSBURY ROAD, Cockshutt                            | ND | n/a | 343518.55 | 329006.55 |
| HER MSA6950 | No 36 SHREWSBURY ROAD, Cockshutt                            | ND | n/a | 343592.36 | 328770.6  |
| HER MSA6951 | Crosemere Hall and attached garden wall, Crosemere          | ND | n/a | 343850    | 329280    |
| HER MSA6952 | Shade Oak Farmhouse, Cockshutt                              | ND | n/a | 341125.3  | 327678.95 |
| HER MSA6993 | Hordley Hall, Hordley                                       | ND | n/a | 338119.3  | 330895.15 |
| HER MSA6994 | Hordley House with attached wall and out buildings, Hordley | ND | n/a | 338481.8  | 330536.3  |
| HER MSA7002 | Loppington Hall   | ND | n/a | 347152.8  | 329409.1  |
| HER MSA7003 | Garden wall surrounding grounds of Loppington Hall          | ND | n/a | 347186.6  | 329396.4  |
| HER MSA7004 | The Nook Farmhouse, Loppington                              | ND | n/a | 347283.8  | 329349.9  |
| HER MSA7005 | Church Farmhouse, Loppington                                | ND | n/a | 347198.4  | 329281.95 |
| HER MSA7006 | The Old Vicarage, Loppington                                | ND | n/a | 347115.4  | 329241.8  |
| HER MSA7007 | Bull Ring Cottage and Hall Cottage, Loppington              | ND | n/a | 347090.6  | 329353.25 |
| HER MSA7008 | Spenford House, Loppington                                  | ND | n/a | 347171    | 329471.35 |
| HER MSA7009 | Laburnum Cottage, Loppington                                | ND | n/a | 347145    | 329482.25 |
| HER MSA7010 | Holly Cottage (at S end of village), Loppington             | ND | n/a | 347001    | 329235.4  |
| HER MSA7011 | Burlton Hall, BURLTON                                       | ND | n/a | 345856.35 | 326140.45 |
| HER MSA7012 | Hatchetts Farmhouse, BURLTON                                | ND | n/a | 345812.05 | 326096.2  |
| HER MSA7014 | Noneley Hall Farmhouse, NONELEY                             | ND | n/a | 347966.85 | 327969.7  |
| HER MSA7015 | The Old House, BROWN HEATH                                  | ND | n/a | 346585.75 | 329814    |
| HER MSA7033 | Petton Church (dedication unknown), Petton                  | ND | n/a | 344040    | 326270    |
| HER MSA7035 | Wackley Farmhouse, Petton                                   | ND | n/a | 344874.7  | 327220.1  |
| HER MSA7087 | No 18, TILLEY   | ND | n/a | 350657    | 327948.6  |
| HER MSA7088 | Tilley Manor, TILLEY  | ND | n/a | 350685.2  | 327911.8  |
| HER MSA7089 | Tilley Hall and attached walls to front and rear, TILLEY    | ND | n/a | 350723.2  | 327889.35 |
| HER MSA7090 | Tilley Farmhouse, TILLEY                                    | ND | n/a | 350799.8  | 327832.65 |
| HER MSA7091 | Brook House, TILLEY   | ND | n/a | 350689.8  | 327955.8  |
| HER MSA7093 | The Ditches Hall, B5063                                     | ND | n/a | 349619.4  | 329347.45 |

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| HER MSA7094 | Lowe Hall, LOWE   | ND | n/a | 350072.6  | 330586.2  |
| HER MSA712  | Postulated DMV at Kenwick   | ND | n/a | 342189.79 | 330321.75 |
| HER MSA7166 | No 3 and No 5, CHAPEL STREET, Wem                                       | ND | n/a | 351325.25 | 328890.8  |
| HER MSA7167 | No 19 and No 21, CHAPEL STREET, Wem                                     | ND | n/a | 351341    | 328813.1  |
| HER MSA7168 | No 23, CHAPEL STREET, Wem   | ND | n/a | 351343.7  | 328801.85 |
| HER MSA7169 | No 6 and No 8, CHAPEL STREET, Wem                                       | ND | n/a | 351318.2  | 328874.3  |
| HER MSA7170 | Congregational Chapel, CHAPEL STREET, Wem                               | ND | n/a | 351317.45 | 328844.22 |
| HER MSA7171 | No 26, CHAPEL STREET, Wem   | ND | n/a | 351333.8  | 328770.45 |
| HER MSA7172 | No 28, CHAPEL STREET, Wem   | ND | n/a | 351334.2  | 328760.05 |
| HER MSA7173 | No 32 and No 34, CHAPEL STREET, Wem                                     | ND | n/a | 351345.15 | 328726.25 |
| HER MSA7174 | No 3, CROWN STREET, Wem   | ND | n/a | 351266.6  | 328931.1  |
| HER MSA7175 | The Castle Hotel, HIGH STREET, Wem                                      | ND | n/a | 351370    | 328950    |
| HER MSA7176 | No 34 and No 36, HIGH STREET, Wem                                       | ND | n/a | 351296.3  | 328912.55 |
| HER MSA7177 | No 44 and No 46, HIGH STREET, Wem                                       | ND | n/a | 351260.65 | 328907.35 |
| HER MSA7178 | White House Hotel, HIGH STREET, Wem                                     | ND | n/a | 351250    | 328910    |
| HER MSA7179 | No 62 HIGH STREET, Wem  | ND | n/a | 351188.45 | 328895.95 |
| HER MSA7180 | No 37, HIGH STREET, Wem   | ND | n/a | 351300    | 328890    |
| HER MSA7181 | No 39 and 41, (National Westminster Bank), HIGH STREET, Wem             | ND | n/a | 351290    | 328890    |
| HER MSA7182 | No 47 and No 49, HIGH STREET, Wem                                       | ND | n/a | 351259.4  | 328886.05 |
| HER MSA7183 | Church of St Peter and St Paul, Wem                                     | ND | n/a | 351230    | 328860    |
| HER MSA7184 | Churchyard gates and gate piers NW of St Peter and St Pauls Church, Wem | ND | n/a | 351203.3  | 328876.55 |
| HER MSA7185 | No 67 and railings, HIGH STREET, Wem                                    | ND | n/a | 351175.25 | 328872.4  |
| HER MSA7186 | No 71 and No 71A, HIGH STREET, Wem                                      | ND | n/a | 351153.45 | 328879.7  |
| HER MSA7187 | No 91 and Front railings, HIGH STREET, Wem                              | ND | n/a | 351077.65 | 328842.95 |
| HER MSA7188 | No 93, HIGH STREET, Wem   | ND | n/a | 351059.6  | 328845.35 |
| HER MSA7189 | No 8 and No 10, MARKET STREET, Wem                                      | ND | n/a | 351187.4  | 328944.85 |
| HER MSA7190 | Roden House, MILL STREET, Wem   | ND | n/a | 351253.65 | 328697.3  |
| HER MSA7191 | Old Mill House (formerly listed as Mill house), MILL STREET, Wem        | ND | n/a | 351188    | 328431.95 |
| HER MSA7192 | Old Hall, NEW STREET, Wem   | ND | n/a | 351440.15 | 329026.15 |
| HER MSA7193 | Park House, PARK ROAD, Wem  | ND | n/a | 351470    | 329060    |
| HER MSA7194 | No 4, NOBLE STREET, Wem   | ND | n/a | 351329.4  | 328952.6  |
| HER MSA7195 | No 8 to No 18, (even), NOBLE STREET, Wem                                | ND | n/a | 351272.3  | 328971.35 |
| HER MSA7196 | The Hollies, NOBLE STREET, Wem  | ND | n/a | 351241.55 | 328985.55 |
| HER MSA7197 | No 24, NOBLE STREET, Wem  | ND | n/a | 351228.85 | 328978.1  |
| HER MSA7198 | Wem Conservative Club, NOBLE STREET, Wem                                | ND | n/a | 351204.2  | 328988.55 |
| HER MSA7198 | Wem Conservative Club, NOBLE STREET, Wem                                | ND | n/a | 351209    | 328987    |
| HER MSA7199 | No 60, NOBLE STREET, Wem  | ND | n/a | 351036.4  | 328933.35 |

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| HER MSA720  | Wat's Dyke   | ND | n/a | 330127.63 | 327670.02 |
| HER MSA720  | Wat's Dyke   | ND | n/a | 329726.16 | 329190.42 |
| HER MSA7200 | Trentham House, NOBLE STREET, Wem  | ND | n/a | 350984.65 | 328882.3  |
| HER MSA7201 | No 17 (Hazlitt House), NOBLE STREET, Wem   | ND | n/a | 351262.35 | 328957.8  |
| HER MSA7202 | No 31, NOBLE STREET, Wem   | ND | n/a | 351178    | 328963.4  |
| HER MSA7203 | No 61 and No 63, NOBLE STREET, Wem   | ND | n/a | 351034.85 | 328911.7  |
| HER MSA722  | Whittington Castle   | ND | n/a | 332540.46 | 331129.12 |
| HER MSA731  | Highfields Moat  | ND | n/a | 351021.88 | 330872.48 |
| HER MSA7483 | Aston Hall, ASTON PARK   | ND | n/a | 332530    | 327240    |
| HER MSA7484 | Entrance gateway to Aston Hall (A4083)   | ND | n/a | 332400.4  | 327782.1  |
| HER MSA7492 | Gateway lodge, and gates, Brogyntyn Park MOUNT ROAD, Oswestry                    | ND | n/a | 328369    | 330146.55 |
| HER MSA7493 | Lys House MIDDLETON ROAD, Wilfred Owen Close                                     | ND | n/a | 330309.96 | 329350.07 |
| HER MSA7494 | Nos 11 and 13 ALBION HILL, Oswestry  | ND | n/a | 329143.85 | 329749.3  |
| HER MSA7495 | Savings Bank, ARTHUR STREET, Oswestry  | ND | n/a | 329056.85 | 329767.15 |
| HER MSA7496 | No 29 BAILEY STREET, Oswestry  | ND | n/a | 329073.6  | 329704.05 |
| HER MSA7497 | No 36 BAILEY STREET, Oswestry  | ND | n/a | 329102    | 329729.9  |
| HER MSA7498 | Nos 12 and 14 BEATRICE STREET, Oswestry  | ND | n/a | 329180    | 329750    |
| HER MSA7499 | Nos 13 and 15 BEATRICE STREET, Oswestry  | ND | n/a | 329186.65 | 329777.45 |
| HER MSA7500 | Nos 7 and 9 and attached railings CHAPEL STREET, Oswestry                        | ND | n/a | 328989.8  | 329808.25 |
| HER MSA7501 | No 21 (The Fox Inn) CHURCH STREET, Oswestry                                      | ND | n/a | 328991.05 | 329513.95 |
| HER MSA7502 | Nos 25 and 27 CHURCH STREET, Oswestry  | ND | n/a | 328981.35 | 329497.25 |
| HER MSA7503 | Nos 29 and 31 CHURCH STREET, Oswestry  | ND | n/a | 328976.35 | 329486.3  |
| HER MSA7504 | Nos 39 and 41 CHURCH STREET, Oswestry  | ND | n/a | 328939.75 | 329417.2  |
| HER MSA7505 | No 43 (Wynnstay Hotel) CHURCH STREET, Oswestry                                   | ND | n/a | 328930    | 329380    |
| HER MSA7506 | Outbuilding approx 50m SE of No 43 (Wynnstay Hotel) CHURCH STREET, Oswestry      | ND | n/a | 328990    | 329350    |
| HER MSA7507 | No 45 CHURCH STREET, Oswestry  | ND | n/a | 328919.5  | 329365.65 |
| HER MSA7508 | No 61 (The Bell Inn) CHURCH STREET, Oswestry                                     | ND | n/a | 328900    | 329326.75 |
| HER MSA7509 | No 12 (Kings Head Inn) CHURCH STREET, Oswestry                                   | ND | n/a | 328991.85 | 329554.9  |
| HER MSA7510 | Nos 16 to 20 (even) including warehouse attached to rear CHURCH STREET, Oswestry | ND | n/a | 328972.05 | 329531.05 |
| HER MSA7511 | No 34 CHURCH STREET, Oswestry  | ND | n/a | 328942.6  | 329475.55 |
| HER MSA7512 | No 35 CHURCH STREET, Oswestry  | ND | n/a | 328957.05 | 329448.65 |
| HER MSA7513 | No 36, with attached piers and railings CHURCH STREET, Oswestry                  | ND | n/a | 328921.1  | 329436.8  |

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| HER MSA7514 | No 40 (Bellan House school) with attached railings CHURCH STREET, Oswestry                       | ND | n/a | 328904.6  | 329421.8  |
| HER MSA7515 | Churchyard gates and wall, Church of St Oswald, Oswestry   | ND | n/a | 328900.65 | 329398.55 |
| HER MSA7516 | Nos 40 and 42 CHURCH STREET, Oswestry  | ND | n/a | 328867.85 | 329308.95 |
| HER MSA7517 | Nos 1 to 3 Church Terrace (Old Grammar School), now a museum (Holbache) and restaurant, Oswestry | ND | n/a | 328819.55 | 329336.75 |
| HER MSA7518 | No 6 CROSS STREET, Oswestry  | ND | n/a | 329088    | 329598.45 |
| HER MSA7519 | Nos 1 to 9 (odd) LEG STREET, Oswestry  | ND | n/a | 329153.65 | 329730.3  |
| HER MSA7520 | No 27 CROSS STREET, Oswestry   | ND | n/a | 329131.8  | 329677.7  |
| HER MSA7521 | Nos 2 and 4 LEIGHTON PLACE, Oswestry   | ND | n/a | 328954.25 | 329242.85 |
| HER MSA7522 | No 2 LOWER BROOK STREET, Oswestry  | ND | n/a | 328879.95 | 329276.3  |
| HER MSA7523 | No 6 LOWER BROOK STREET, Oswestry  | ND | n/a | 328914.85 | 329258.25 |
| HER MSA7524 | No 8 LOWER BROOK STREET, Oswestry  | ND | n/a | 328942.15 | 329249.85 |
| HER MSA7525 | Nos 12 and 14 LOWER BROOK STREET, Oswestry   | ND | n/a | 328964.8  | 329240.95 |
| HER MSA7526 | Former headquarters of the Cambrian Railway and station, OSWALD ROAD, Oswestry                   | ND | n/a | 329396.2  | 329812.65 |
| HER MSA7527 | No 13 OAK STREET, Oswestry   | ND | n/a | 328752.1  | 329969.7  |
| HER MSA7529 | Black Gate Restaurant SALOP ROAD, Oswestry   | ND | n/a | 329185.5  | 329562    |
| HER MSA7530 | Lychgate approx 30m SW of Church of St Oswald (Griddle Gate), Oswestry                           | ND | n/a | 328826.1  | 329330.85 |
| HER MSA7531 | No 3 UPPER BROOK STREET  | ND | n/a | 328794.6  | 329321.35 |
| HER MSA7533 | Nos 16 to 22 (even) UPPER BROOK STREET, Oswestry   | ND | n/a | 328809.75 | 329291.75 |
| HER MSA7534 | Nos 26 and 28 Upper Brook Street, Oswestry   | ND | n/a | 328772.7  | 329291.4  |
| HER MSA7535 | No 32 UPPER BROOK STREET, Oswestry   | ND | n/a | 328758.1  | 329296.5  |
| HER MSA7536 | Nos 48 and 50 UPPER CHURCH STREET, Oswestry  | ND | n/a | 328840    | 329190    |
| HER MSA7537 | No 52 UPPER CHURCH STREET, Oswestry  | ND | n/a | 328835.6  | 329181.65 |
| HER MSA7538 | Nos 33 to 39 (odd) WILLOW STREET, Oswestry   | ND | n/a | 328918    | 329708.35 |
| HER MSA7539 | No 47 (The Poplars) and attached garden wall WILLOW STREET, Oswestry                             | ND | n/a | 328890.35 | 329744.6  |
| HER MSA7540 | The Willow Tree WILLOW STREET, Oswestry  | ND | n/a | 328838.3  | 329808.25 |
| HER MSA7541 | Former 'New Theatre' and former Malthouse in Willow Street, Oswestry                             | ND | n/a | 328829.5  | 329815.45 |
| HER MSA7567 | The Fords, QUEENS HEAD, West Felton  | ND | n/a | 334306.8  | 326673.05 |
| HER MSA7572 | Wood House, including attached service range to North  | ND | n/a | 336420    | 328840    |

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| HER MSA7579 | The Old Manor House, Boot Street, Whittington                         | ND | n/a | 332648.8  | 331286.45 |
| HER MSA7581 | Fernhill Hall, Whittington (A5)                                       | ND | n/a | 332091.2  | 332493.85 |
| HER MSA77   | Oswestry Castle, motte and castle ruins                               | ND | n/a | 329050    | 329807.87 |
| HER MSA78   | Site of the Standing Stone at Swan Hollow                             | ND | n/a | 329150    | 329920    |
| HER MSA80   | Site of the Gareg Lwyd Standing Stone                                 | ND | n/a | 329770    | 329030    |
| HER MSA81   | Find of a Palstave at the site of the Carreg Lwyd Standing Stone      | ND | n/a | 329750    | 329050    |
| HER MSA831  | Llwyd Mansion   | ND | n/a | 329072.48 | 329622.32 |
| HER MSA8316 | Barn and attached wall apx 20m NE of Sutton Farmhouse SUTTON          | ND | n/a | 335815.86 | 327100.54 |
| HER MSA836  | Motte castle at Hisland   | ND | n/a | 331722.83 | 327478.2  |
| HER MSA8365 | No 24 CROSS STREET  | ND | n/a | 329130    | 329640    |
| HER MSA8368 | Ye Olde Vaults Inn CHURCH STREET                                      | ND | n/a | 328984.9  | 329550.3  |
| HER MSA8369 | Llovan Cottage WELSH WALLS  | ND | n/a | 328794.6  | 329349.4  |
| HER MSA8370 | Former Congregational Chapel, Arthur Street                           | ND | n/a | 328982.15 | 329749.25 |
| HER MSA8371 | No 13 ARTHUR STREET   | ND | n/a | 328993.55 | 329755.7  |
| HER MSA8372 | No 43 (George Hotel) BAILEY STREET, Oswestry                          | ND | n/a | 329090    | 329750    |
| HER MSA8373 | The Red Lion Inn BAILEY HEAD  | ND | n/a | 329127.5  | 329777.25 |
| HER MSA8374 | Nos 64 to 70 (even) WILLOW STREET                                     | ND | n/a | 328892.95 | 329781.7  |
| HER MSA8375 | Nos 1 to 5 PORKINGTON TERRACE   | ND | n/a | 328775.9  | 329881.85 |
| HER MSA839  | Stanwardine in the Wood Moated site                                   | ND | n/a | 342706.23 | 327638.74 |
| HER MSA840  | Petton Park Moat  | ND | n/a | 344282.28 | 326510.98 |
| HER MSA841  | Bowl barrow in Petton Park (Petton Motte)                             | ND | n/a | 344095.27 | 326239.33 |
| HER MSA842  | Sundial at St Michaels Church, Loppington                             | ND | n/a | 347165.76 | 329263.2  |
| HER MSA8431 | The Blacksmiths Arms  | ND | n/a | 346941.4  | 329164.65 |
| HER MSA846  | Wem Castle  | ND | n/a | 351156.17 | 328741.73 |
| HER MSA8630 | Nos 61 to 65 (Odd) WILLOW STREET, Oswestry                            | ND | n/a | 328856.75 | 329792.7  |
| HER MSA8635 | No 1 and No 3, ASTON ROAD, Wem  | ND | n/a | 352202.45 | 329159.25 |
| HER MSA8637 | Morgan Library, ASTON ROAD, Wem                                       | ND | n/a | 351488.25 | 328970.85 |
| HER MSA8638 | The Albion Public House and adjoining stables to E, ASTON STREET, Wem | ND | n/a | 351690.95 | 329034.85 |
| HER MSA8639 | No 40, ASTON STREET, Wem  | ND | n/a | 351533.3  | 329011.55 |
| HER MSA8640 | No 17, CHAPEL STREET, Wem   | ND | n/a | 351344.35 | 328822.2  |
| HER MSA8641 | No 14 and No 16, CHAPEL STREET, Wem                                   | ND | n/a | 351328.7  | 328812.4  |
| HER MSA8642 | No 24, CHAPEL STREET, Wem   | ND | n/a | 351332.2  | 328779.8  |
| HER MSA8643 | Beech House, ELLESMERE ROAD, Wem                                      | ND | n/a | 350619.6  | 329009.1  |
| HER MSA8644 | No 2, HIGH STREET, Wem  | ND | n/a | 351417.25 | 328971.1  |
| HER MSA8645 | No 4, HIGH STRRET, Wem  | ND | n/a | 351410    | 328967.3  |
| HER MSA8646 | No 40 and No 42, HIGH STRRET, Wem                                     | ND | n/a | 351268.9  | 328909.75 |

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| HER MSA8647 | No 50 and No 52, HIGH STREET, Wem                                   | ND | n/a | 351236.5  | 328907.45 |
| HER MSA8648 | No 56 and No 58, HIGH STREET, Wem                                   | ND | n/a | 351217.35 | 328899.75 |
| HER MSA8649 | No 64, HIGH STREET, Wem   | ND | n/a | 351173    | 328895.1  |
| HER MSA8650 | No 68, HIGH STREET, Wem   | ND | n/a | 351157.55 | 328901.3  |
| HER MSA8651 | No 70, HIGH STREET, Wem   | ND | n/a | 351157.55 | 328894.35 |
| HER MSA8652 | No 72, No 74 and No 76, HIGH STREET, Wem                            | ND | n/a | 351148.85 | 328896.4  |
| HER MSA8653 | No 78 High Street, Wem  | ND | n/a | 351126.8  | 328886.5  |
| HER MSA8654 | White Lion Public House, HIGH STREET, Wem                           | ND | n/a | 351433.2  | 328956.3  |
| HER MSA8655 | No 19 and No 21, HIGH STREET, Wem                                   | ND | n/a | 351356.1  | 328922.3  |
| HER MSA8656 | No 27, HIGH STREET, Wem   | ND | n/a | 351336.45 | 328910.9  |
| HER MSA8657 | Churchyard gate piers S of St Peter and St Pauls Church, Wem        | ND | n/a | 351234.7  | 328800.65 |
| HER MSA8658 | Church Hall, HIGH STREET, Wem                                       | ND | n/a | 351192.25 | 328872.7  |
| HER MSA8659 | No 69, HIGH STREET, Wem   | ND | n/a | 351164.55 | 328878.8  |
| HER MSA8660 | No 73, HIGH STREET, Wem   | ND | n/a | 351144.25 | 328876.2  |
| HER MSA8661 | No 85 and The Haven, HIGH STREET, Wem                               | ND | n/a | 351117.6  | 328847.65 |
| HER MSA8662 | No 89, (Astbury House), HIGH STREET, Wem                            | ND | n/a | 351093.95 | 328846.2  |
| HER MSA8663 | Ladona Farmhouse, LOVE LANE, Wem                                    | ND | n/a | 351493.88 | 329748.34 |
| HER MSA8663 | Ladona Farmhouse, LOVE LANE, Wem                                    | ND | n/a | 351498.3  | 329768.8  |
| HER MSA8664 | The Old Rectory, (Deerstalker Restaurant), LOWE HILL ROAD, Wem      | ND | n/a | 350719.35 | 329098.05 |
| HER MSA8665 | No 2, MARKET STREET, Wem  | ND | n/a | 351173.95 | 328903.25 |
| HER MSA8666 | Bridge over River Roden (N of Wem Mill), MILL STREET, Wem           | ND | n/a | 351202.05 | 328627    |
| HER MSA8667 | Wem Mill, MILL STREET, Wem  | ND | n/a | 351194.75 | 328587.45 |
| HER MSA8668 | No 3, NEW STREET, Wem   | ND | n/a | 351415.7  | 328986.9  |
| HER MSA8669 | Roseville Residential Home for the Elderly, NEW STREET, Wem         | ND | n/a | 351391.95 | 329026.7  |
| HER MSA8670 | No 63 NEW STREET, Wem   | ND | n/a | 351383.35 | 329253    |
| HER MSA8671 | Hawkstone Arms Public House, NEW STREET, Wem                        | ND | n/a | 351418.95 | 329397.2  |
| HER MSA8672 | Drawwell House, NOBLE STREET, Wem                                   | ND | n/a | 351308.86 | 328981.08 |
| HER MSA8673 | No 20, NOBLE STREET, Wem  | ND | n/a | 351255.3  | 328973.4  |
| HER MSA8674 | No 26, NOBLE STREET, Wem  | ND | n/a | 351219.45 | 328975.45 |
| HER MSA8675 | Gate piers in front (S) of Wem Conservative Club, NOBLE STREET, Wem | ND | n/a | 351202.03 | 328972.67 |
| HER MSA8676 | No 30, NOBLE STREET, Wem  | ND | n/a | 351181.63 | 328987.52 |
| HER MSA8677 | No 34, NOBLE STREET, Wem  | ND | n/a | 351163.42 | 328983.86 |
| HER MSA8678 | No 40 and No 42, NOBLE STREET, Wem                                  | ND | n/a | 351139.05 | 328983.7  |
| HER MSA8679 | No 46 and No 48, NOBLE STREET, Wem                                  | ND | n/a | 351102.75 | 328969.6  |
| HER MSA8681 | No 23, NOBLE STREET, Wem  | ND | n/a | 351216.9  | 328961.3  |

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| HER MSA8682 | No 29, NOBLE STREET, Wem  | ND | n/a | 351194.65 | 328963.65 |
| HER MSA8683 | No 41, NOBLE STREET, Wem  | ND | n/a | 351140    | 328963.6  |
| HER MSA8684 | No 59, NOBLE STREET, Wem  | ND | n/a | 351061.75 | 328928.2  |
| HER MSA8685 | Wemsbrook Lodge, PYMMS ROAD   | ND | n/a | 351428.2  | 329433.85 |
| HER MSA8686 | Creamore Grove, WHITCHURCH ROAD                                       | ND | n/a | 351472.5  | 329485.9  |
| HER MSA9018 | No 2 CONEY GREEN, Oswestry  | ND | n/a | 329213.65 | 329611.5  |
| HER MSA9043 | Malt Kiln Farmhouse, Loppington                                       | ND | n/a | 345541    | 328115.95 |
| HER MSA9048 | Span Cottage, English Frankton  | ND | n/a | 344560    | 330140    |
| HER MSA9049 | Nos 2 and 4 WILLOW STREET, Oswestry                                   | ND | n/a | 329005.85 | 329610.35 |
| HER MSA9052 | No 44, NOBLE STREET, Wem  | ND | n/a | 351126.65 | 328979.25 |
| HER MSA9054 | The Shayes Farmhouse, SALTERS LANE, Loppington                        | ND | n/a | 347821.8  | 328341.95 |
| HER MSA9062 | Lower Farmhouse, ENGLISH FRANKTON                                     | ND | n/a | 345540    | 329640    |
| HER MSA9063 | Barn apx 20m SW of Lower Farmhouse, ENGLISH FRANKTON                  | ND | n/a | 345510    | 329630    |
| HER MSA9117 | Nos 48 and 50 SALOP ROAD, Oswestry                                    | ND | n/a | 329305.2  | 329420.45 |
| HER MSA9180 | Rosemary Cottage, CROSEMERE   | ND | n/a | 343625.7  | 329544.85 |
| HER MSA9181 | The Eagles Inn, BAILEY HEAD   | ND | n/a | 329114.45 | 329760.4  |
| HER MSA9201 | Nos 26 and 28 CROSS STREET, Oswestry                                  | ND | n/a | 329133.3  | 329648.55 |
| HER MSA9212 | Disused barge house, SHROPSHIRE UNION CANAL (Montgomeryshire Branch)  | ND | n/a | 333980.8  | 326811.7  |
| HER MSA9213 | Corbetts Bridge (Bridge No 75), SHROPSHIRE UNION CANAL                | ND | n/a | 334295.4  | 327053.25 |
| HER MSA9229 | Heath House, REDNAL   | ND | n/a | 335130    | 327670    |
| HER MSA9234 | Signal Post apx 150m to S of former Oswestry Station, OSWALD ROAD     | ND | n/a | 329367.35 | 329631    |
| HER MSA9244 | Goods shed about 70m SW of Station OSWALD ROAD, Oswestry              | ND | n/a | 329343.95 | 329732.1  |
| HER MSA982  | Postulated DMV at Petton  | ND | n/a | 344279.34 | 326617.35 |
| LB 1054188  | GAME LARDER IMMEDIATELY TO NORTH OF SERVICE RANGE TO HALSTON HALL     | D  | II  | 333961    | 331656.36 |
| LB 1054189  | ICE HOUSE APPROXIMATELY 90 METRES NORTH EAST OF HALSTON HALL          | D  | II  | 333821    | 331688.36 |
| LB 1054190  | GARDEN COTTAGE WITH ATTACHED KITCHEN GARDEN WALL AND OUTBUILDINGS     | D  | II  | 333348    | 331768.36 |
| LB 1054191  | CROSSING COTTAGE  | D  | II  | 332078    | 331106.36 |
| LB 1054192  | DRENEWYDD   | D  | II  | 331713    | 330870.36 |
| LB 1054193  | SHROPSHIRE UNION CANAL POLLETT'S BRIDGE (THAT PART IN WHITTINGTON CP) | D  | II  | 334870.28 | 332702.31 |
| LB 1054195  | THE BIG HOUSE   | D  | II  | 332783    | 330967.36 |
| LB 1054198  | SHROPSHIRE UNION CANAL BRIDGE NUMBER 74                               | D  | II  | 335096.46 | 327635.01 |

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| LB 1054199 | DISUSED BARGE HOUSE  | D | II  | 333984    | 326816.36 |
| LB 1054200 | BARN AND ATTACHED WALL APPROXIMATELY 20 METRES NORTH EAST OF SUTTON FARMHOUSE                  | D | II  | 335819    | 327106.36 |
| LB 1054201 | TEDSMORE HALL WITH ATTACHED BALUSTRADE, ARCHWAY AND OUTBUILDING                                | D | II  | 336718    | 325442.36 |
| LB 1054202 | ICE HOUSE AT NGR SJ 3693 2555  | D | II  | 336930    | 325550.36 |
| LB 1054203 | THREADNEEDLE COTTAGE   | D | II  | 334326    | 325274.36 |
| LB 1054204 | TWYFORD HOUSE  | D | II  | 334808    | 326176.36 |
| LB 1054205 | ARCH WAY IN WALL APPROXIMATELY 40 METRES EAST OF THE NURSERY                                   | D | II  | 334714    | 325860.36 |
| LB 1054206 | BENTLEY MEMORIAL APPROXIMATELY 1 METRE NORTH EAST OF NORTH AISLE OF CHURCH OF ST MICHAEL       | D | II  | 334116    | 325242.36 |
| LB 1054213 | DISUSED COTTAGE AT NGR SJ 3274 2838 (YEW TREE COTTAGE)   | D | II  | 332740    | 328380.36 |
| LB 1054214 | THE OLD MANOR HOUSE  | D | II  | 332652.15 | 331285.05 |
| LB 1054215 | 4 AND 6, BOOT STREET   | D | II  | 332662.5  | 331259.46 |
| LB 1054216 | HALSTON HALL INCLUDING ATTACHED FLANKING WALLS AND BALUSTRADE TO REAR                          | D | I   | 333926    | 331653.36 |
| LB 1054224 | GOBOWEN RAILWAY STATION INCLUDING STATION NAME BOARDS  | D | II  | 330316    | 333434.36 |
| LB 1054225 | FORMER LEVEL CROSSING KEEPER'S COTTAGE IMMEDIATELY TO NORTH WEST OF GOBOWEN RAILWAY STATION    | D | II  | 330302    | 333454.36 |
| LB 1054231 | WOODHOUSE INCLUDING ATTACHED SERVICE RANGE TO NORTH  | D | II* | 336417    | 328835.36 |
| LB 1054232 | THE BRICK HOUSE  | D | II  | 334742    | 325534.36 |
| LB 1054233 | MILESTONE AT NGR SJ 3487 2503  | D | II  | 334863.51 | 325027.9  |
| LB 1054234 | WALL APPROXIMATELY 20 METRES NORTH OF FELTON GRANGE AND ATTACHED OUTBUILDING AT SOUTH WEST END | D | II  | 334581    | 325630.36 |
| LB 1054235 | OLD FARMHOUSE  | D | II  | 334342    | 325166.36 |
| LB 1054236 | 2 BARNES APPROXIMATELY 40 METRES NORTH OF HENBARNES FARMHOUSE                                  | D | II  | 338037    | 326602.36 |
| LB 1054237 | OUTBUILDING AND PRIVY ATTACHED TO WALL TO RIGHT OF MANOR FARMHOUSE                             | D | II  | 334108    | 325300.36 |
| LB 1054238 | SMITHY COTTAGE   | D | II  | 336514    | 328011.36 |
| LB 1054241 | THE FIRS AND WESTON MILL   | D | II  | 329651    | 327570.36 |
| LB 1054246 | WOOTTON CASTLE   | D | II  | 334146    | 327960.36 |
| LB 1054247 | WOOTTON HOUSE  | D | II  | 333676    | 327750.36 |
| LB 1054258 | PENTRE-PANT  | D | II  | 328688    | 331855.36 |



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| LB 1054259 | PUMP AND BASIN APPROXIMATELY 3 METRES SOUTH OF THE HOLLIES                           | D | II | 328726    | 327130.36 |
| LB 1054260 | TY-SANLEY  | D | II | 328779    | 325996.36 |
| LB 1054262 | ENTRANCE GATEWAY TO ASTON HALL   | D | II | 332399    | 327783.36 |
| LB 1054263 | MILESTONE AT NGR SJ 3299 2742  | D | II | 332964.45 | 327404.47 |
| LB 1054264 | MILESTONE AT NGR SJ 3154 2792  | D | II | 331551.9  | 327913.46 |
| LB 1054265 | L SHAPED RANGE OF OUTBUILDINGS ALONG NORTH AND EAST SIDES OF COURTYARD AT ASTON HALL | D | II | 332577    | 327288.36 |
| LB 1054266 | DECORATIVE URN APPROXIMATELY 25 METRES WEST OF WEST FRONT OF ASTON HALL              | D | II | 332506    | 327261.36 |
| LB 1054267 | KITCHEN GARDEN WALL APPROXIMATELY 120 METRES EAST OF ASTON HALL                      | D | II | 332665    | 327201.36 |
| LB 1054268 | PEDESTAL TOMB APPROXIMATELY 20 METRES SOUTH OF DOMESTIC CHAPEL AT ASTON HALL         | D | II | 332500    | 327155.36 |
| LB 1054271 | MAESBURY HOUSE   | D | II | 330376    | 325710.36 |
| LB 1054272 | NAVIGATION INN AND ATTACHED WAREHOUSE  | D | II | 331367.98 | 325026.89 |
| LB 1054273 | BARN APPROXIMATELY 25 METRES NORTH WEST OF POOL FARMHOUSE                            | D | II | 331904    | 328839.36 |
| LB 1054274 | NIGHTINGALE WING OF FORMER MORDA HOSPITAL  | D | II | 328906    | 327922.36 |
| LB 1054279 | 48 AND 50, UPPER CHURCH STREET   | D | II | 328840.02 | 329191.44 |
| LB 1054280 | LLOVAN COTTAGE   | D | II | 328796    | 329351.36 |
| LB 1054281 | 18 AND 20, WILLOW STREET   | D | II | 328978.35 | 329660.38 |
| LB 1054282 | BUTCHER'S ARMS PUBLIC HOUSE  | D | II | 328945.72 | 329712.49 |
| LB 1054283 | 58, WILLOW STREET (See details for further address information)                      | D | II | 328912.71 | 329750.07 |
| LB 1054284 | 64-70, WILLOW STREET   | D | II | 328892.5  | 329782.76 |
| LB 1054285 | BOAR'S HEAD INN  | D | II | 328967.29 | 329622.62 |
| LB 1054286 | 41, WILLOW STREET  | D | II | 328901.75 | 329727.35 |
| LB 1054287 | THE POPLARS AND ATTACHED GARDEN WALL   | D | II | 328889.92 | 329745.11 |
| LB 1054288 | 55, WILLOW STREET (See details for further address information)                      | D | II | 328872.37 | 329766.84 |
| LB 1054289 | 59, WILLOW STREET  | D | II | 328862.33 | 329782.31 |
| LB 1054290 | ASHGROVE   | D | II | 329702    | 325479.36 |
| LB 1054291 | BARN APPROXIMATELY 15 METRES NORTH WEST OF THE FIELDS                                | D | II | 330762    | 325215.36 |
| LB 1054295 | GATE PIERS, RAILINGS AND BOUNDARY WALL TO NORTH OF SWEENEY HALL                      | D | II | 329316    | 326615.36 |

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| LB 1054296 | OUTBUILDING AND ATTACHED BRICK WALL IN COURTYARD TO REAR OF SWEENEY HALL | D | II | 329341    | 326561.36 |
| LB 1054297 | WALL LINKING EAST WING OF SWEENEY HALL WITH BARN TO EAST                 | D | II | 329362    | 326524.36 |
| LB 1054298 | 6, THE CROSS (See details for further address information)               | D | II | 329045.47 | 329610.12 |
| LB 1054299 | LLWYD MANSION  | D | I  | 329072.18 | 329620.7  |
| LB 1054300 | 18, CROSS STREET (See details for further address information)           | D | II | 329124.19 | 329631.37 |
| LB 1054301 | 27, CROSS STREET   | D | II | 329129    | 329678.36 |
| LB 1054302 | FORMER RAILWAY WORKS AND ATTACHED FOOTBRIDGE                             | D | II | 329572.93 | 329982.27 |
| LB 1054303 | 1-9, LEG STREET  | D | II | 329151.71 | 329727.07 |
| LB 1054304 | 25, LEG STREET   | D | II | 329174.74 | 329638.01 |
| LB 1054305 | 2, LEIGHTON PLACE (See details for further address information)          | D | II | 328956.01 | 329245.8  |
| LB 1054306 | 2, LOWER BROOK STREET  | D | II | 328882.77 | 329274.45 |
| LB 1054307 | PREMISES OCCUPIED BY DOCTOR'S SURGERY                                    | D | II | 328909.75 | 329253.58 |
| LB 1054308 | 8, LOWER BROOK STREET  | D | II | 328943.14 | 329249.41 |
| LB 1054310 | CROESWYLAN STONE   | D | II | 328750    | 328842.36 |
| LB 1054311 | WHITE LION INN   | D | II | 328718.22 | 329978.7  |
| LB 1054312 | PORKINGTON TERRACE   | D | II | 328774.7  | 329883.39 |
| LB 1054313 | 49, ROFT STREET (See details for further address information)            | D | II | 329033.51 | 329300.71 |
| LB 1054314 | 48 AND 50, SALOP ROAD  | D | II | 329302.73 | 329422.04 |
| LB 1054315 | 3, UPPER BROOK STREET  | D | II | 328803.13 | 329322.47 |
| LB 1054316 | 2, UPPER BROOK STREET  | D | II | 328860.88 | 329286.24 |
| LB 1054317 | 26 AND 28, UPPER BROOK STREET  | D | II | 328775.16 | 329292.51 |
| LB 1054318 | 31, BAILEY STREET  | D | II | 329075.23 | 329712.19 |
| LB 1054319 | 39, BAILEY STREET (See details for further address information)          | D | II | 329082.83 | 329733.42 |
| LB 1054320 | 13, BEATRICE STREET (See details for further address information)        | D | II | 329192.75 | 329781.05 |
| LB 1054321 | NOS 7 AND 9 AND ATTACHED RAILINGS  | D | II | 328988.33 | 329811.08 |
| LB 1054322 | 1, CHURCH STREET (See details for further address information)           | D | II | 329061.88 | 329597.19 |
| LB 1054323 | THE FOX INN  | D | II | 328990.22 | 329509.51 |
| LB 1054324 | 39, CHURCH STREET (See details for further address information)          | D | II | 328941.42 | 329416.47 |
| LB 1054325 | OAK INN  | D | II | 328917.16 | 329356.67 |
| LB 1054326 | THE BELL INN   | D | II | 328900.69 | 329325.29 |
| LB 1054327 | KINGS HEAD INN   | D | II | 328991.34 | 329552.91 |

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| LB 1054328 | NOS 16 TO 20 INCLUDING WAREHOUSE ATTACHED TO REAR                                      | D | II  | 328975.89 | 329535.52 |
| LB 1054329 | 34, CHURCH STREET  | D | II  | 328941    | 329476.36 |
| LB 1054330 | NO 36 WITH ATTACHED PIERS AND RAILINGS   | D | II  | 328920.23 | 329436.99 |
| LB 1054331 | BELLAN SCHOOL WITH ATTACHED RAILINGS   | D | II  | 328905.34 | 329421.36 |
| LB 1054332 | CHURCH OF ST OSWALD  | D | II* | 328869.49 | 329368.62 |
| LB 1054333 | SUNDIAL APPROXIMATELY 30 METRES SOUTH WEST OF CHURCH OF ST OSWALD                      | D | II  | 328834.72 | 329334.19 |
| LB 1054334 | HUNT MEMORIAL APPROXIMATELY 25 METRES NORTH WEST OF NORTH AISLE OF CHURCH OF ST OSWALD | D | II  | 328827    | 329396.36 |
| LB 1054335 | WILLIAMS MEMORIAL APPROXIMATELY 25 METRES NORTH WEST OF CHURCH OF ST OSWALD            | D | II  | 328822    | 329400.36 |
| LB 1054336 | 40, CHURCH STREET (See details for further address information)                        | D | II  | 328867    | 329314.36 |
| LB 1054347 | THE DON  | D | II  | 329112.77 | 329749.95 |
| LB 1054348 | 3, ALBION HILL (See details for further address information)                           | D | II  | 329120.74 | 329748.97 |
| LB 1054349 | 11, ALBION HILL (See details for further address information)                          | D | II  | 329139.93 | 329748.87 |
| LB 1054350 | GRIFFIN INN  | D | II  | 329120.94 | 329733.18 |
| LB 1054351 | 2, ALBION HILL (See details for further address information)                           | D | II  | 329106.89 | 329735.95 |
| LB 1054352 | 6, ALBION HILL   | D | II  | 329112.94 | 329735.19 |
| LB 1054353 | 13, ARTHUR STREET  | D | II  | 328994.81 | 329757.93 |
| LB 1054354 | THE EAGLES INN   | D | II  | 329126.37 | 329776.74 |
| LB 1054355 | NOS 23 AND 25 (INCLUDING PASSAGE TO CLIFTON PLACE)                                     | D | II  | 329066.66 | 329683.86 |
| LB 1054616 | WALL WITH ARCH WAY AT NORTH WEST CORNER SURROUNDING GARDEN OF EARDISTON HOUSE          | D | II  | 337022    | 325014.36 |
| LB 1054617 | OLDE FARMHOUSE   | D | II  | 336979    | 325046.36 |
| LB 1054637 | PRADOE INCLUDING ATTACHED SERVICE RANGES AND OUTBUILDINGS                              | D | II* | 335841.7  | 324848.65 |
| LB 1054638 | CARPENTERS SHOP APPROXIMATELY 50 METRES EAST OF PRADOE                                 | D | II  | 335910.64 | 324853.09 |
| LB 1055419 | SHOOTERS HILL  | D | II  | 350680    | 325826.36 |
| LB 1055434 | NUMBER 85 AND THE HAVEN  | D | II  | 351118    | 328850.36 |
| LB 1055435 | ASTBURY HOUSE  | D | II  | 351095    | 328847.36 |
| LB 1055436 | 93, HIGH STREET  | D | II  | 351056    | 328845.36 |

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|            | DEER STALKER RESTAURANT                               |   |    |          |           |
| LB 1055437 | THE OLD RECTORY                                       | D | II | 350720   | 329097.36 |
| LB 1055438 | 8 AND 10, MARKET STREET                               | D | II | 351062   | 328846.36 |
| LB 1055439 | RODEN HOUSE   | D | II | 351256   | 328694.36 |
| LB 1055440 | WEM MILL  | D | II | 351196   | 328592.36 |
| LB 1055441 | ROSEVILLE RESIDENTIAL HOME FOR THE ELDERLEY           | D | II | 351392   | 329028.36 |
| LB 1055442 | OLD HALL  | D | II | 351438   | 329025.36 |
| LB 1055443 | OFFICES OF SHREWSBURY AND WEM BREWERY COMPANY LTD     | D | II | 351300   | 328983.36 |
| LB 1055444 | 8-18, NOBLE STREET                                    | D | II | 351280   | 328973.36 |
| LB 1055445 | THE HOLLIES   | D | II | 351242   | 328985.36 |
| LB 1055446 | 24, NOBLE STREET                                      | D | II | 351229.9 | 328976.38 |
| LB 1055447 | WEM CONSERVATIVE CLUB                                 | D | II | 351204   | 328986.36 |
| LB 1055448 | GATE PIERS IN FRONT (SOUTH) OF WEM CONSERVATIVE CLUB  | D | II | 351203   | 328973.36 |
| LB 1055449 | 34, NOBLE STREET                                      | D | II | 351161   | 328983.36 |
| LB 1055450 | 46 AND 48, NOBLE STREET                               | D | II | 351106   | 328970.36 |
| LB 1055451 | 60, NOBLE STREET                                      | D | II | 351035   | 328934.36 |
| LB 1055452 | 23, NOBLE STREET                                      | D | II | 351216   | 328960.36 |
| LB 1055453 | 41, NOBLE STREET                                      | D | II | 351140   | 328959.36 |
| LB 1055454 | 61 AND 63, NOBLE STREET                               | D | II | 351040   | 328914.36 |
| LB 1055455 | CREAMORE GROVE  | D | II | 351471   | 329488.36 |
| LB 1055457 | THE ALBION PUBLIC HOUSE AND ADJOINING STABLES TO EAST | D | II | 351689   | 329036.36 |
| LB 1055458 | 40, ASTON STREET                                      | D | II | 351532   | 329014.36 |
| LB 1055459 | 17, CHAPEL STREET                                     | D | II | 351346   | 328822.36 |
| LB 1055460 | 23, CHAPEL STREET                                     | D | II | 351344   | 328805.36 |
| LB 1055461 | CONGREGATIONAL CHAPEL                                 | D | II | 351318   | 328846.36 |
| LB 1055462 | 14 AND 16, CHAPEL STREET                              | D | II | 351326   | 328817.36 |
| LB 1055463 | 26, CHAPEL STREET                                     | D | II | 351335   | 328769.36 |
| LB 1055464 | 3, CROWN STREET                                       | D | II | 351264   | 328929.36 |
| LB 1055465 | 4, HIGH STREET  | D | II | 351408   | 328973.36 |
| LB 1055466 | THE CASTLE HOTEL                                      | D | II | 351365   | 328946.36 |
| LB 1055467 | 40 AND 42, HIGH STREET                                | D | II | 351270   | 328909.36 |
| LB 1055468 | 44 AND 46, HIGH STREET                                | D | II | 351260   | 328908.36 |
| LB 1055469 | 50 AND 52, HIGH STREET                                | D | II | 351237   | 328904.36 |
| LB 1055470 | 62, HIGH STREET                                       | D | II | 351195   | 328897.36 |
| LB 1055471 | 64, HIGH STREET                                       | D | II | 351169   | 328898.36 |
| LB 1055472 | 70, HIGH STREET                                       | D | II | 351152   | 328901.36 |
| LB 1055473 | WHITE LION PUBLIC HOUSE                               | D | II | 351435   | 328955.36 |

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| LB 1055474 | 37, HIGH STREET   | D | II  | 351298    | 328894.36 |
| LB 1055475 | 47 AND 49, HIGH STREET  | D | II  | 351260    | 328885.36 |
| LB 1055476 | CHURCHYARD ENTRANCE GATES AND GATE PIERS IMMEDIATELY NORTH-WEST OF CHURCH OF ST PETER AND ST PAUL | D | II  | 351202    | 328877.36 |
| LB 1055477 | 69, HIGH STREET   | D | II  | 351164    | 328872.36 |
| LB 1055478 | 73, HIGH STREET   | D | II  | 351148    | 328874.36 |
| LB 1055881 | GREENWOOD COTTAGE   | D | II  | 341189    | 333102.36 |
| LB 1055882 | CHURCH OF ST ANDREW   | D | II  | 336406    | 333146.36 |
| LB 1055883 | CHURCH OF ST MARY   | D | II* | 338123    | 330825.36 |
| LB 1055884 | CURETON MEMORIAL APPROXIMATELY 1.5 METRES NORTH OF VESTRY OF CHURCH OF ST MARY                    | D | II  | 338130    | 330834.36 |
| LB 1055885 | DODD MEMORIAL APPROXIMATELY 5 METRES NORTH OF VESTRY OF CHURCH OF ST MARY                         | D | II  | 338119    | 330831.36 |
| LB 1055886 | HIGNETT MEMORIAL APPROXIMATELY 2 METRES SOUTH OF PORCH OF CHURCH OF ST MARY                       | D | II  | 338120    | 330814.36 |
| LB 1055887 | PETTON CHURCH (DEDICATION UNKNOWN)  | D | II* | 344038    | 326270.36 |
| LB 1055888 | CHURCHYARD WALL AND GATE, PETTON CHURCH   | D | II  | 344023    | 326276.36 |
| LB 1055892 | BARN APPROXIMATELY 20 METRES SOUTH OF LOWER HOUSE FARMHOUSE                                       | D | II  | 335817    | 333475.36 |
| LB 1055893 | LEE OLD HALL  | D | II* | 340325    | 332431.36 |
| LB 1055894 | THE SMITHY  | D | II  | 340474    | 332445.36 |
| LB 1055895 | BARN APPROXIMATELY 15 METRES NORTH EAST OF LEE HALL FARMHOUSE                                     | D | II  | 340517    | 332397.36 |
| LB 1055896 | BARN APPROXIMATELY 10 METRES WEST OF THE LAURELS  | D | II  | 340437    | 332355.36 |
| LB 1055897 | BROAD OAK COTTAGE   | D | II  | 337128    | 331783.36 |
| LB 1055898 | ROSE COTTAGE  | D | II  | 344491    | 333272.36 |
| LB 1055899 | OLD HALL  | D | II  | 344595    | 333100.36 |
| LB 1055908 | BRIDGE NUMBER 62 (COACHMAN'S BRIDGE)  | D | II  | 338534    | 332977.36 |
| LB 1055909 | BRIDGE NUMBER 64  | D | II  | 338580.46 | 332209.93 |
| LB 1055910 | BROOM'S BRIDGE (THAT PART IN ELLESMERE RURAL CP)  | D | II  | 334569.16 | 332798.96 |
| LB 1055911 | PADDOCK BRIDGE NUMBER 2 (THAT PART IN ELLESMERE RURAL CP)   | D | II  | 333902.15 | 332904.59 |
| LB 1055913 | L SHAPED BARN APPROXIMATELY 30 METRES WEST OF LEE NEW FARMHOUSE                                   | D | II  | 341107    | 331904.36 |
| LB 1055914 | LITTLE MILL   | D | II  | 342760.9  | 333431.31 |

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| LB 1055920 | THE LYTH   | D | II* | 341161    | 333639.36 |
| LB 1055926 | CHURCH OF ST JOHN THE EVANGELIST   | D | II* | 343779    | 332908.36 |
| LB 1055927 | THE HOLLIES  | D | II  | 343347    | 332645.36 |
| LB 1055942 | CARTREF  | D | II  | 342463    | 325934.36 |
| LB 1055943 | LIMEKILNS APPROXIMATELY 60 METRES NORTH-EAST OF BRIDGE FARMHOUSE   | D | II  | 342068    | 325689.36 |
| LB 1055946 | SHADE OAK FARMHOUSE  | D | II  | 341121    | 327681.36 |
| LB 1055947 | CROSMERE HALL AND ATTACHED GARDEN WALL   | D | II  | 343862    | 329279.36 |
| LB 1055948 | BARN APPROXIMATELY 15 METRES SOUTH-EAST OF THE HOLLIES   | D | II  | 345422    | 329659.36 |
| LB 1055949 | SUNDIAL APPROXIMATELY 12 METRES SOUTH OF NAVE OF CHURCH OF ST SIMON AND ST JUDE                              | D | II  | 343481    | 329203.36 |
| LB 1055950 | BURLTON MEMORIAL AND RAILED ENCLOSURE APPROXIMATELY 2 METRES SOUTH OF NAVE OF CHURCH OF ST SIMON AND ST JUDE | D | II  | 343485    | 329211.36 |
| LB 1055951 | THE RED LION   | D | II  | 343505    | 329070.36 |
| LB 1055963 | CLAYPIT HALL   | D | II  | 342492    | 325133.36 |
| LB 1055964 | CHURCH OF HOLY TRINITY   | D | II  | 342554    | 325600.36 |
| LB 1055965 | WYCHERLEY HALL   | D | II* | 341810    | 327259.36 |
| LB 1056038 | HOLYWELLMOOR   | D | II  | 346100    | 329500.36 |
| LB 1056039 | MALT KILN FARMHOUSE  | D | II  | 345540    | 328116.36 |
| LB 1056040 | PUMP AND BASIN APPROXIMATELY 0.30 METRES SOUTH OF BURLTON GRANGE FARMHOUSE                                   | D | II  | 345896    | 327265.36 |
| LB 1056041 | THE GROVE FARMHOUSE AND ATTACHED WALLS   | D | II  | 345827    | 325912.36 |
| LB 1056042 | OUTBUILDINGS AND ATTACHED WALLS TO REAR OF BURLTON HALL  | D | II  | 345849    | 326164.36 |
| LB 1056043 | WALL FLANKING ROAD IMMEDIATELY TO EAST OF HATCHETTS FARMHOUSE  | D | II  | 345822    | 326076.36 |
| LB 1056044 | VILLAGE PUMP AND BASIN   | D | II  | 347129    | 329442.36 |
| LB 1056045 | DOVECOTE APPROXIMATELY 40 METRES EAST OF LOPPINGTON HALL   | D | II  | 347202    | 329376.36 |
| LB 1056046 | BARN APPROXIMATELY 10 METRES NORTH WEST OF PARISH FARMHOUSE  | D | II  | 347041    | 329396.36 |
| LB 1056047 | BARN APPROXIMATELY 15 METRES SOUTH WEST OF PEAR TREE FARMHOUSE   | D | II  | 347036    | 329345.36 |
| LB 1056048 | THE BLACKSMITHS ARMS   | D | II  | 346944    | 329168.36 |
| LB 1056049 | THE OLD VICARAGE   | D | II  | 347115.05 | 329241.51 |
| LB 1056050 | CHURCH OF ST MICHAEL   | D | I   | 347161.62 | 329276.32 |

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| LB 1056051 | CHURCHYARD WALL TO NORTH AND WEST OF CHURCH OF ST MICHAEL              | D | II  | 347136.95 | 329287.33 |
| LB 1056052 | CHURCH FARMHOUSE   | D | II  | 347198.66 | 329282.54 |
| LB 1056053 | BARN APPROXIMATELY 15 METRES SOUTH EAST OF THE NOOK FARMHOUSE          | D | II  | 347288    | 329327.36 |
| LB 1056054 | THE SHAYES FARMHOUSE   | D | II  | 347824    | 328345.36 |
| LB 1175709 | 32 AND 34, CHAPEL STREET   | D | II  | 351344    | 328726.36 |
| LB 1175748 | FORMER WHITE HORSE HOTEL   | D | II  | 351249    | 328923.36 |
| LB 1175767 | 56 AND 58, HIGH STREET   | D | II  | 351218    | 328900.36 |
| LB 1175795 | 68, HIGH STREET  | D | II  | 351157    | 328903.36 |
| LB 1175811 | 78, HIGH STREET  | D | II  | 351129    | 328886.36 |
| LB 1175820 | 19 AND 21, HIGH STREET   | D | II  | 351354    | 328920.36 |
| LB 1175827 | NATIONAL WESTMINSTER BANK  | D | II  | 351289    | 328886.36 |
| LB 1175854 | CHURCHYARD GATE PIERS SOUTH OF ST PETER AND ST PAUL'S CHURCH           | D | II  | 351234    | 328799.36 |
| LB 1175870 | NUMBER 67 AND AREA RAILINGS  | D | II  | 351176    | 328869.36 |
| LB 1175889 | 71 AND 71A, HIGH STREET  | D | II  | 351155    | 328881.36 |
| LB 1175934 | 11, ARTHUR STREET  | D | II  | 328990    | 329757.36 |
| LB 1175947 | KINGWELL COMMUNITY CENTRE  | D | II  | 328981    | 329755.36 |
| LB 1175982 | THE RED LION INN   | D | II  | 329117.53 | 329762.12 |
| LB 1176013 | 3, NEW STREET  | D | II  | 351414    | 328985.36 |
| LB 1176028 | 29, BAILEY STREET  | D | II* | 329072.23 | 329704.6  |
| LB 1176044 | 4, NOBLE STREET  | D | II  | 351332    | 328954.36 |
| LB 1176087 | 30, NOBLE STREET   | D | II  | 351182    | 328990.36 |
| LB 1176095 | 40 AND 42, NOBLE STREET  | D | II  | 351140    | 328986.36 |
| LB 1176122 | 35, CHURCH STREET  | D | II  | 328958.29 | 329444.54 |
| LB 1176125 | 29, NOBLE STREET   | D | II  | 351194    | 328962.36 |
| LB 1176127 | STANWARDINE HALL   | D | II* | 342746    | 327806.36 |
| LB 1176132 | NORTH SHROPSHIRE PRINTING COMPANY                                      | D | II  | 351063    | 328927.36 |
| LB 1176134 | WYNNSTAY HOTEL   | D | II  | 328933.07 | 329379.27 |
| LB 1176202 | 63, CHURCH STREET  | D | II  | 328896.51 | 329316.92 |
| LB 1176212 | WHITE HOUSE FARMHOUSE  | D | II  | 342423    | 326303.36 |
| LB 1176213 | YE OLDE VAULTS INN   | D | II  | 328985.97 | 329547.86 |
| LB 1176232 | GATE PIER ATTACHED TO SOUTH EAST CORNER OF NO 36                       | D | II  | 328921.33 | 329429.71 |
| LB 1176234 | GATE PIER ATTACHED TO NORTH EAST CORNER OF NO 40 (BELLAN SCHOOL HOUSE) | D | II  | 328918.57 | 329425.12 |

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| LB 1176247 | GATE PIERS AND GATES APPROXIMATELY 30 METRES NORTH EAST OF CHURCH OF ST OSWALD AND ATTACHED CHURCHYARD WALL TO SOUTH<br><br>GATE PIERS AND GATES APPROXIMATELY 30 METRES NORTH EAST OF CHURCH OF ST OSWALD AND ATTACHED CHURCHYARD WALL TO SOUTH | D | II | 328904.53 | 329385.01 |
| LB 1176253 | L SHAPED BARN APPROXIMATELY 10 METRES NORTH EAST OF THE QUAIKIN  | D | II | 345501    | 330886.36 |
| LB 1176262 | SPAN COTTAGE   | D | II | 344562    | 330139.36 |
| LB 1176268 | BENNION/LEWIS MEMORIAL ABUTTING EAST END OF VESTRY OF CHURCH OF ST OSWALD  | D | II | 328886.74 | 329354.41 |
| LB 1176278 | MERE FARMHOUSE   | D | II | 343338    | 329831.36 |
| LB 1176281 | LOWER FARMHOUSE  | D | II | 345541    | 329640.36 |
| LB 1176293 | WOLFE/JENNINGS MEMORIAL APPROXIMATELY 8 METRES NORTH OF NORTH CHANCEL CHAPEL OF CHURCH OF ST OSWALD  | D | II | 328888    | 329390.36 |
| LB 1176318 | HOLBACHE MUSEUM AND RESTAURANT   | D | II | 328818.78 | 329342.72 |
| LB 1176336 | CROWN HOTEL  | D | II | 343494    | 329032.36 |
| LB 1176449 | 6, LOWER BROOK STREET  | D | II | 328920.92 | 329258.43 |
| LB 1176463 | BANK HOUSE   | D | II | 343403    | 332745.36 |
| LB 1176464 | ROW OF 7 BOLLARDS IMMEDIATELY IN FRONT OF NUMBER 6   | D | II | 328916    | 329267.36 |
| LB 1176493 | LYS HOUSE  | D | II | 330307    | 329355.36 |
| LB 1176550 | 13, OAK STREET   | D | II | 328752    | 329972.36 |
| LB 1176559 | SIGNAL BOX APPROXIMATELY 80 METRES SOUTH OF FORMER OSWESTRY STATION  | D | II | 329365.84 | 329707.09 |
| LB 1176603 | FRANKTON FARM COTTAGE<br><br>FRANKTON FARMHOUSE  | D | II | 336527    | 332090.36 |
| LB 1176618 | THE ISLAND   | D | II | 344632    | 333162.36 |
| LB 1176650 | LYCH GATE APPROXIMATELY 30 METRES SOUTH-WEST OF CHURCH OF ST OSWALD  | D | II | 328826.39 | 329330.8  |
| LB 1176678 | 8 AND 10, UPPER BROOK STREET   | D | II | 328836.82 | 329290.86 |
| LB 1176683 | 32, UPPER BROOK STREET   | D | II | 328758.35 | 329296.76 |
| LB 1176795 | 33-39, WILLOW STREET   | D | II | 328913.57 | 329714.95 |
| LB 1176807 | 43, WILLOW STREET (See details for further address information)  | D | II | 328895.04 | 329734.95 |
| LB 1176838 | 57, WILLOW STREET  | D | II | 328867.57 | 329774.13 |
| LB 1176875 | BRIDGE AT NGR SJ 3197 2735   | D | II | 331980.09 | 327358.14 |
| LB 1176898 | MAESBURY HALL AND ATTACHED STABLES   | D | II | 330265    | 325005.36 |



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| LB 1176925 | BRIDGE NUMBER 56 (BURNS WOOD BRIDGE)  | D | II | 342063    | 333722.36 |
| LB 1176940 | BRIDGE NUMBER 60 (STANKS BRIDGE)  | D | II | 339107.44 | 333734.11 |
| LB 1176944 | COTTAGE IMMEDIATELY EAST OF BRIDGE NUMBER 62 (COACHMAN'S BRIDGE)              | D | II | 338555.62 | 332976.72 |
| LB 1176952 | BRIDGE NUMBER 68 (PRICES BRIDGE)  | D | II | 337458    | 331842.86 |
| LB 1176962 | POLLETT'S BRIDGE (THAT PART IN ELLESMERE RURAL CP)                            | D | II | 334870.28 | 332703.82 |
| LB 1176969 | PADDOCK BRIDGE NUMBER 1 (THAT PART IN ELLESMERE RURAL CP)                     | D | II | 334407.52 | 332831.27 |
| LB 1176982 | FOWL HOUSE/DOVECOTE ATTACHED TO NORTH EAST CORNER OF SWEENEY HALL             | D | II | 329360    | 326563.36 |
| LB 1177037 | HORDLEY HALL  | D | II | 338121    | 330898.36 |
| LB 1177050 | LOCKGATE BRIDGE (THAT PART IN HORDLEY CP)                                     | D | II | 336820.45 | 331061.77 |
| LB 1177109 | DECORATIVE URN APPROXIMATELY 25 METRES WEST OF WEST FRONT OF ASTON HALL       | D | II | 332502    | 327256.36 |
| LB 1177122 | DOMESTIC CHAPEL APPROXIMATELY 110 METRES SOUTH OF ASTON HALL                  | D | II | 332509    | 327167.36 |
| LB 1177186 | GATES AND GATE PIERS APPROXIMATELY 20 METRES TO NORTH WEST OF SHOOTER'S HILL  | D | II | 350654    | 325836.36 |
| LB 1177280 | PUMP AND BASIN APPROXIMATELY 2 METRES SOUTH OF MAESBURY HOUSE                 | D | II | 330385    | 325698.36 |
| LB 1177300 | THE WHARFINGER'S HOUSE  | D | II | 331352.83 | 325076.86 |
| LB 1177306 | POOL FARMHOUSE  | D | II | 331927    | 328815.36 |
| LB 1177320 | BEACONSFIELD TERRACE  | D | II | 328807    | 328032.36 |
| LB 1177356 | MORDA HALL  | D | II | 328829    | 327927.36 |
| LB 1177444 | MANURE SUMP APPROXIMATELY 120 METRES EAST OF PRADOE                           | D | II | 335975    | 324834.36 |
| LB 1177490 | MILESTONE AT NGR SJ 3020 3259   | D | II | 330200.14 | 332562.2  |
| LB 1177520 | SHROPSHIRE UNION CANAL CRANE APPROXIMATELY 10 METRES WEST OF BRIDGE NUMBER 79 | D | II | 331336    | 325007.36 |
| LB 1177604 | WESTON COTTON   | D | II | 329320.95 | 328301.45 |
| LB 1177682 | OAK TREE COTTAGE  | D | II | 334157    | 327516.36 |
| LB 1177740 | L SHAPED BARN APPROXIMATELY 10 METRES SOUTH OF THE BUILDINGS FARMHOUSE        | D | II | 336961    | 328149.36 |
| LB 1177772 | PINFOLD COTTAGE   | D | II | 339097    | 324957.36 |
|            | SYCAMORE COTTAGE  | D | II |           |           |

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| LB 1177779 | WALL ATTACHED TO WEST FRONT OF WOODHOUSE WITH ATTACHED KITCHEN GARDEN WALL INCLUDING OUTBUILDING TO NORTH EAST CORNER | D | II | 336323    | 328840.36 |
| LB 1177780 | PUMP AND BASIN IN YARD TO EAST OF STABLE BLOCK TO NORTH OF WOODHOUSE  | D | II | 336420    | 328929.36 |
| LB 1177790 | GRANGE COTTAGE  |   |    |           |           |
| LB 1177790 | OLD PLOUGH COTTAGE  | D | II | 334720    | 325505.36 |
| LB 1177799 | FELTON GRANGE   | D | II | 334594    | 325584.36 |
| LB 1177812 | BARN APPROXIMATELY 10 METRES TO EAST OF OLD FARMHOUSE   | D | II | 334362    | 325170.36 |
| LB 1177818 | HENBARN FARMHOUSE   | D | II | 338039    | 326556.36 |
| LB 1178000 | PUMP AND BASIN APPROXIMATELY 2 METRES NORTH OF THE FORDS  | D | II | 334302    | 326685.36 |
| LB 1178054 | THE TWYFORDS  | D | II | 334919    | 326250.36 |
| LB 1178060 | CIDER PRESS APPROXIMATELY 40 METRES NORTH EAST OF THE NURSERY   | D | II | 334692    | 325951.36 |
| LB 1178248 | FERNHILL HALL   | D | II | 332095    | 332495.36 |
| LB 1178283 | BARN AT HEN-HAFOD   | D | II | 335722    | 331536.36 |
| LB 1178295 | YE OLDE BOOTE INN   | D | II | 332625.31 | 331230.14 |
| LB 1178307 | WHITTINGTON CASTLE  | D | I  | 332614.93 | 331148.4  |
| LB 1178358 | SUNDIAL APPROXIMATELY 3 METRES SOUTH OF NAVE OF CHURCH OF ST JOHN THE BAPTIST   | D | II | 332608    | 331254.36 |
| LB 1180237 | SHROPSHIRE UNION CANAL BROOM'S BRIDGE (THAT PART IN WHITTINGTON CP)   | D | II | 334568.52 | 332797.45 |
| LB 1180240 | SHROPSHIRE UNION CANAL PADDOCK BRIDGE NUMBER 2 (THAT PART IN WHITTINGTON CP)  | D | II | 333900.55 | 332901.97 |
| LB 1180260 | SHROPSHIRE UNION CANAL LOCKGATE BRIDGE (THAT PART IN WHITTINGTON CP)  | D | II | 336818.53 | 331066.37 |
| LB 1180264 | WHITE GABLES  | D | II | 332135    | 331070.36 |
| LB 1212453 | BURLTON GRANGE FARMHOUSE  | D | II | 345894    | 327276.36 |
| LB 1212502 | MILL FARMHOUSE  | D | II | 345880    | 327244.36 |
| LB 1212510 | BURLTON HALL  | D | II | 345861    | 326142.36 |
| LB 1212524 | HATCHETTS FARMHOUSE   | D | II | 345814    | 326097.36 |
| LB 1212750 | LOPPINGTON HALL   | D | II | 347163    | 329405.36 |
| LB 1212773 | GARDEN WALL SURROUNDING GROUNDS OF LOPPINGTON HALL  | D | II | 347083    | 329390.36 |
| LB 1212805 | GRANGE FARM COTTAGE   | D | II | 347137.16 | 329240.05 |
| LB 1212864 | VILLAGE POUND   | D | II | 347171.8  | 329304.52 |
| LB 1212870 | WALL SURROUNDING CHURCH FARM ON NORTH, SOUTH AND WEST SIDES   | D | II | 347184.43 | 329260    |

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| LB 1212882 | THE NOOK FARMHOUSE   | D | II | 347285    | 329350.36 |
| LB 1212917 | NONELEY HALL FARMHOUSE   | D | II | 347967    | 327971.36 |
| LB 1236341 | FOXHOLES FARMHOUSE   | D | II | 350121    | 331897.36 |
| LB 1236485 | THE LAWN   | D | II | 347996    | 333263.36 |
| LB 1236502 | YEW TREE FARMHOUSE   | D | II | 348862    | 329826.36 |
| LB 1236503 | MILEPOST AT NGR SJ 5075 2667   | D | II | 350764.39 | 326669.81 |
| LB 1236504 | MILEPOST AT NGR SJ 5163 30 32  | D | II | 351635    | 330339.36 |
| LB 1236569 | SUNDIAL APPROXIMATELY 15 METRES EAST OF THE DITCHES HALL                 | D | II | 349638    | 329351.36 |
| LB 1236693 | HORTON VILLA   | D | II | 349079.04 | 329877.24 |
| LB 1236696 | CHURCH OF KING CHARLES THE MARTYR  | D | II | 347826    | 331634.36 |
| LB 1236760 | GATE PIERS APPROXIMATELY 20 METRES SOUTH WEST OF LOWE HALL               | D | II | 350048    | 330573.36 |
| LB 1236794 | RUEWOOD FARMHOUSE  | D | II | 349704    | 327441.36 |
| LB 1236847 | BROOK HOUSE  | D | II | 350689    | 327958.36 |
| LB 1236849 | TILLEY MANOR   | D | II | 350683    | 327916.36 |
| LB 1236852 | TILLEY LODGE   | D | II | 350837    | 327748.36 |
| LB 1237078 | 18, TILLEY   | D | II | 350657    | 327948.36 |
| LB 1237088 | TILLEY HALL AND ATTCHED WALLS TO FRONT AND REAR                          | D | II | 350721.24 | 327893.71 |
| LB 1237106 | TILLEY FARMHOUSE   | D | II | 350799    | 327833.36 |
| LB 1237121 | WOLVERLEY HALL   | D | II | 346927    | 331232.36 |
| LB 1237209 | 15, WATERLOO   | D | II | 350138    | 332796.36 |
| LB 1237304 | YEW TREE COTTAGE   | D | II | 350667    | 333175.36 |
| LB 1237348 | SHROPSHIRE UNION CANAL (EDSTASTON BRANCH) BOODLES BRIDGE                 | D | II | 349758    | 333726.36 |
| LB 1241464 | MONTGOMERY CANAL CANAL WAREHOUSE   | D | II | 335114.61 | 327638.24 |
| LB 1245124 | DERWEN HOUSE   | D | II | 331034    | 332815.36 |
| LB 1252474 | SIGNAL POST APPROXIMATELY 150 METRES TO SOUTH OF FORMER OSWESTRY STATION | D | II | 329364.41 | 329638.26 |
| LB 1254350 | 44, NOBLE STREET   | D | II | 351123    | 328979.36 |
| LB 1255299 | 24, CROSS STREET   | D | II | 329129.82 | 329638.28 |
| LB 1260498 | HEATH HOUSE  | D | II | 335128.86 | 327672.39 |
| LB 1262262 | 2 AND 4, WILLOW STREET   | D | II | 329003.5  | 329612.54 |
| LB 1262263 | GOODS SHED ABOUT 70 METRES SOUTH WEST OF STATION                         | D | II | 329348    | 329740.36 |
| LB 1264269 | WOLVERLEY BRIDGE   | D | II | 347422    | 331226.36 |
| LB 1264411 | OAK COTTAGE  | D | II | 350764    | 327872.36 |
| LB 1264452 | CHALK HILL COTTAGE   | D | II | 348356    | 330232.36 |
| LB 1264453 | LOWE HALL  | D | II | 350304    | 330085.36 |
| LB 1264489 | PARK GATE HOUSE  | D | II | 351487    | 332397.36 |

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| LB 1264545 | FORMER LODGE AT ENTRANCE TO BELLE   | D | II  | 349789    | 329330.36 |
| LB 1264547 | PANKEYMOOR COTTAGE  | D | II  | 351223    | 327749.36 |
| LB 1264550 | THE DITCHES HALL  | D | II* | 349618    | 329351.36 |
| LB 1264580 | TRENCH FARMHOUSE  | D | II  | 351477    | 326838.36 |
| LB 1289360 | HOLLY COTTAGE (AT SOUTH END OF VILLAGE)   | D | II  | 347002    | 329235.36 |
| LB 1289363 | BULL RING COTTAGE AND HALL COTTAGE  | D | II  | 347095    | 329350.36 |
| LB 1289372 | GROUP OF CHEST AND TABLE TOMBS TO SOUTH OF SOUTH AISLE OF CHURCH OF ST MICHEL   | D | II  | 347159    | 329264.36 |
| LB 1289483 | OUTBUILDINGS APPROXIMATELY 10 METRES NORTH WEST OF BURLTON HALL   | D | II  | 345851    | 326160.36 |
| LB 1289496 | RUEWOOD FARMHOUSE   | D | II  | 349722    | 327696.36 |
| LB 1289526 | WOODGATE AND ATTACHED WALL  | D | II  | 346410    | 328624.36 |
| LB 1295213 | SUNDIAL AND STEPS APPROXIMATELY 20 METRES SOUTH OF NAVE OF CHURCH OF ST MICHAEL   | D | II  | 334119    | 325199.36 |
| LB 1295248 | BARN APPROXIMATELY 15 METRES SOUTH WEST OF MANOR FARMHOUSE  | D | II  | 334095    | 325257.36 |
| LB 1307262 | LODGE FARMHOUSE WITH ATTACHED STABLES AND MALTHOUSE   | D | II  | 334268    | 325154.36 |
| LB 1307270 | MANOR FARMHOUSE AND ATTACHED GARDEN WALL  | D | II  | 334095    | 325290.36 |
| LB 1307296 | PUMP AND BASIN APPROXIMATELY 60 METRES SOUTH WEST OF WOOTTON HOUSE  | D | II  | 333620    | 327693.36 |
| LB 1307330 | OUTBUILDING APPROXIMATELY 15 METRES SOUTH OF WOOTTON CASTLE   | D | II  | 334140    | 327936.36 |
| LB 1307386 | MODEL FARMBUILDINGS APPROXIMATELY 110 METRES SOUTH WEST OF TREWERN  | D | II  | 329477    | 332860.36 |
| LB 1307396 | SHROPSHIRE UNION CANAL CORBETT'S BRIDGE (BRIDGE NUMBER 74)  | D | II  | 334297    | 327054.36 |
| LB 1307442 | DAIRY AND BREWHOUSE WITH ATTACHED PIGSTIES APPROX. 50M EAST OF PRADOE<br><br>FORMER DAIRY AND MALT-HOUSE WITH PUMP AND SINK APPROX 50M EAST OF PRADOE | D | II  | 335903.25 | 324870.16 |
| LB 1307603 | ASTON HALL  | D | II  | 332530    | 327253.36 |
| LB 1307606 | ICE HOUSE APPROXIMATELY 60 METRES SOUTH EAST OF PETTON CHURCH   | D | II  | 344089    | 326224.36 |
| LB 1307636 | KITCHEN GARDEN WALL TO SOUTH EAST OF SWEENEY HALL AND CONNECTING WALL TO BARN ON NORTH  | D | II  | 329426    | 326500.36 |
| LB 1307655 | SWEENEY HALL  | D | II  | 329320    | 326545.36 |

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| LB 1307663 | HA-HA TO SOUTH AND WEST OF SWEENEY HALL INCORPORATING NON CONFORMIST CEMETERY AT SOUTH WEST CORNER                                       | D | II  | 329287    | 326509.36 |
| LB 1307692 | FORMER MALTHOUSE ATTACHED TO RIGHT SIDE OF THE WILLOW TREE   | D | II  | 328828    | 329815.66 |
| LB 1307704 | THE FIELDS AND ATTACHED GARDEN WALL  | D | II  | 330789    | 325190.36 |
| LB 1307728 | 61-65, WILLOW STREET   | D | II  | 328856.41 | 329792.74 |
| LB 1307730 | 9 AND 11, WILLOW STREET  | D | II  | 328972.87 | 329614.12 |
| LB 1307787 | OLD HALL AND ATTACHED GARDEN WALL  | D | II* | 334655    | 333893.36 |
| LB 1307805 | 24-30, SALOP ROAD  | D | II  | 329267.43 | 329482.74 |
| LB 1307812 | BLACK GATE RESTAURANT  | D | II  | 329184.88 | 329560.12 |
| LB 1307826 | RAISED PAVEMENT, STEPS AND RAILINGS IN FRONT OF NUMBERS 1 TO 5<br><br>RAISED PAVEMENT, STEPS AND RAILINGS IN FRONT OF PORKINGTON TERRACE | D | II  | 328779.14 | 329888.36 |
| LB 1307832 | 14-18, KENT PLACE (See details for further address information)  | D | II  | 329206.4  | 329399    |
| LB 1307924 | CHURCH OF ST SIMON AND ST JUDE   | D | II  | 343481    | 329220.36 |
| LB 1307929 | BURLTON MEMORIAL AND RAILED ENCLOSURE APPROXIMATELY 5 METRES SOUTH OF CHANCEL OF CHURCH OF ST SIMON AND ST JUDE                          | D | II  | 343487    | 329206.36 |
| LB 1307934 | 7, SHREWSBURY ROAD   | D | II  | 343390    | 329278.36 |
| LB 1307946 | JONES MEMORIAL APPROXIMATELY 35 METRES WEST OF WEST END OF NAVE OF CHURCH OF ST OSWALD   | D | II  | 328813.93 | 329375.01 |
| LB 1307964 | WAR MEMORIAL   | D | II  | 328933.13 | 329455.32 |
| LB 1307978 | LAMP APPROXIMATELY 4 METRES WEST OF TOWER OF CHURCH OF ST OSWALD   | D | II  | 328842    | 329363.36 |
| LB 1307980 | GROUP OF 7 CHEST TOMBS APPROXIMATELY 15 METRES WEST OF CHURCH OF ST OSWALD   | D | II  | 328837    | 329390.36 |
| LB 1307984 | 59, CHURCH STREET (See details for further address information)  | D | II  | 328903.79 | 329336.78 |
| LB 1308007 | PARK HOUSE (formerly listed as The Hall, New Street)   | D | II* | 351468.5  | 329056.25 |
| LB 1308013 | SUNDIAL APPROXIMATELY 10 METRES SOUTH OF STANWARDINE HALL  | D | II  | 342740    | 327788.36 |
| LB 1308022 | 45, CHURCH STREET  | D | II  | 328917.95 | 329365.49 |
| LB 1308025 | TRENTHAM HOUSE   | D | II  | 350981.58 | 328883.16 |
| LB 1308028 | 25, CHURCH STREET (See details for further address information)  | D | II  | 328982.81 | 329497.9  |
| LB 1308045 | 20, NOBLE STREET   | D | II  | 351254    | 328974.36 |

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| LB 1308051 | 26, NOBLE STREET  | D | II  | 351220.96 | 328974.91 |
| LB 1308074 | 63, NEW STREET  | D | II  | 351378    | 329258.36 |
| LB 1308092 | 36, BAILEY STREET   | D | II  | 329103.06 | 329726.48 |
| LB 1308206 | 2, HIGH STREET (See details for further address information)                                  | D | II  | 351415    | 328975.36 |
| LB 1308213 | 34 AND 36, HIGH STREET  | D | II  | 351296    | 328912.36 |
| LB 1356736 | HERMON CHAPEL   | D | II* | 328979.88 | 329820.23 |
| LB 1365705 | SPENFORD HOUSE  | D | II  | 347170    | 329471.36 |
| LB 1366121 | 8, LEIGHTON PLACE   | D | II  | 328942.84 | 329206.05 |
| LB 1366133 | BEAM COTTAGE  | D | II  | 343261    | 332548.36 |
| LB 1366134 | 14, LOWER BROOK STREET (See details for further address information)                          | D | II  | 328967.21 | 329242.7  |
| LB 1366485 | STABLES APPROXIMATELY 20 METRES NORTH EAST OF WOODGATE  | D | II  | 346451    | 328646.36 |
| LB 1366486 | THE OLD HOUSE   | D | II  | 346584    | 329821.36 |
| LB 1366487 | FARMBUILDING AND ATTACHED WALL AND GATEWAY APPROXIMATELY 30 METRES NORTH EAST OF BURLTON HALL | D | II  | 345890    | 326190.36 |
| LB 1366488 | LABURNUM COTTAGE  | D | II  | 347141    | 329486.36 |
| LB 1366489 | BARN APPROXIMATELY 15 METRES NORTH EAST OF CHURCH FARMHOUSE                                   | D | II  | 347211.36 | 329296.06 |
| LB 1366490 | GRAFTON FARMHOUSE   | D | II  | 348129    | 327963.36 |
| LB 1366518 | ROSEMARY COTTAGE  | D | II  | 343625    | 329544.36 |
| LB 1366519 | BARN APPROXIMATELY 20 METRES SOUTH WEST OF LOWER FARMHOUSE                                    | D | II  | 345506    | 329634.36 |
| LB 1366520 | PHILIPS MEMORIAL APPROXIMATELY 1 METRE NORTH OF VESTRY OF CHURCH OF ST SIMON AND ST JUDE      | D | II  | 343485    | 329224.36 |
| LB 1366521 | 32, SHREWSBURY ROAD   | D | II  | 343514    | 329009.36 |
| LB 1366528 | NORTON HOUSE INCLUDING CONNECTING VESTIBULE WITH CHURCH OF HOLY TRINITY                       | D | II  | 342557    | 325585.36 |
| LB 1366536 | BRIDGE NUMBER 55 (LITTLE MILL BRIDGE)   | D | II  | 342776.32 | 333490.89 |
| LB 1366537 | BRIDGE NUMBER 63 (CLAY PIT BRIDGE)  | D | II  | 338222.51 | 332637.79 |
| LB 1366538 | BRIDGE NUMBER 70 (THAT PART IN ELLESMERE RURAL CP)  | D | II  | 336985.66 | 331892.29 |
| LB 1366539 | 36, SHREWSBURY ROAD   | D | II  | 343559    | 328915.36 |
| LB 1366540 | LEE NEW FARMHOUSE   | D | II  | 341156    | 331907.36 |
| LB 1366541 | OAK HOUSE FARMHOUSE   | D | II  | 339225    | 331560.36 |
| LB 1366546 | THE OLD VICARAGE AND ATTACHED OUTBUILDINGS  | D | II  | 343731    | 332790.36 |
| LB 1366547 | WHITE HOUSE   | D | II  | 343272    | 332490.36 |

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| LB 1366554 | TERRACES, GARDEN WALLS AND GATEPIERS IMMEDIATELY TO SOUTH OF STANWARDINE HALL         | D | II  | 342746 | 327765.36 |
| LB 1366561 | THREE WAYS  | D | II  | 338981 | 332688.36 |
| LB 1366562 | OAK HOUSE   | D | II  | 339225 | 331559.36 |
| LB 1366563 | DAVIS MEMORIAL APPROXIMATELY 1.2 METRES NORTH OF NAVE OF CHURCH OF ST MARY            | D | II  | 338114 | 330831.36 |
| LB 1366564 | REYNOLDS MEMORIAL APPROXIMATELY 1.2 METRES NORTH OF CHANCEL OF CHANCEL OF ST MARY     | D | II  | 338123 | 330836.36 |
| LB 1366565 | HORDLEY HOUSE WITH ATTACHED WALL AND OUTBUILDINGS                                     | D | II  | 338494 | 330553.36 |
| LB 1366566 | WACKLEY FARMHOUSE   | D | II  | 344871 | 327217.36 |
| LB 1366569 | WILLOWBANK  | D | II  | 336150 | 333618.36 |
| LB 1366570 | LEE FARMHOUSE   | D | II  | 340500 | 332466.36 |
| LB 1366571 | THE LAURELS   | D | II  | 340450 | 332378.36 |
| LB 1366752 | 6 AND 8, CHAPEL STREET  | D | II  | 351320 | 328874.36 |
| LB 1366753 | 24, CHAPEL STREET   | D | II  | 351330 | 328781.36 |
| LB 1366754 | 28, CHAPEL STREET   | D | II  | 351337 | 328758.36 |
| LB 1366755 | BEECH HOUSE   | D | II  | 350621 | 329012.36 |
| LB 1366756 | 72, 74 AND 76, HIGH STREET  | D | II  | 351138 | 328892.36 |
| LB 1366757 | 27, HIGH STREET   | D | II  | 351341 | 328908.36 |
| LB 1366758 | CHURCH OF ST PETER AND ST PAUL  | D | II* | 351235 | 328864.36 |
| LB 1366759 | CHURCH HALL   | D | II  | 351186 | 328875.36 |
| LB 1366773 | FORMER STABLE BLOCK AND COACH HOUSE APPROXIMATELY 40 METRES TO EAST OF SHOOTER'S HILL | D | II  | 350737 | 325835.36 |
| LB 1366778 | NUMBER 91 AND FRONT AREA RAILINGS   | D | II  | 351078 | 328844.36 |
| LB 1366779 | LANDONA FARMHOUSE   | D | II  | 351499 | 329771.36 |
| LB 1366780 | 2, MARKET STREET  | D | II  | 351183 | 328912.36 |
| LB 1366781 | BRIDGE OVER RIVER RODEN NORTH OF WEM MILL   | D | II  | 351201 | 328630.36 |
| LB 1366782 | OLD MILL HOUSE  | D | II  | 351188 | 328433.36 |
| LB 1366783 | HAWKSTONE ARMS PUBLIC HOUSE   | D | II  | 351411 | 329396.36 |
| LB 1366784 | HAZLITT HOUSE   | D | II* | 351255 | 328956.36 |
| LB 1366785 | 31, NOBLE STREET  | D | II  | 351172 | 328965.36 |
| LB 1366786 | WEMSBROOK LODGE   | D | II  | 351428 | 329437.36 |
| LB 1366788 | MORGAN LIBRARY  | D | II  | 351485 | 328971.36 |
| LB 1366789 | 3 AND 5, CHAPEL STREET  | D | II  | 351324 | 328891.36 |
| LB 1366790 | 19 AND 21, CHAPEL STREET  | D | II  | 351342 | 328815.36 |
| LB 1367165 | EARDISTON HOUSE   | D | II  | 337051 | 325003.36 |

|            |   |   |    |           |           |
|------------|---|---|----|-----------|-----------|
| LB 1367166 | FARMBUILDINGS GROUPED AROUND FARMYARD TO EAST OF EARDISTON HOUSE  | D | II | 337096    | 325010.36 |
| LB 1367172 | KITCHEN GARDEN WALL APPROXIMATELY 80 METRES NORTH WEST OF PRADOE  | D | II | 335949    | 324949.36 |
| LB 1367173 | PRADOE CHURCH   | D | II | 336351    | 324824.36 |
| LB 1367304 | 2, UPPER CHURCH STREET  | D | II | 328866.49 | 329285.11 |
| LB 1367305 | GEORGE HOTEL<br><br>NO. 3 AND ATTACHED FORMER STABLE BLOCK  | D | II | 329086.4  | 329751.41 |
| LB 1367306 | 12, BEATRICE STREET (See details for further address information)   | D | II | 329180.3  | 329751.06 |
| LB 1367307 | 9, CHURCH STREET (See details for further address information)  | D | II | 329039.73 | 329582.27 |
| LB 1367308 | 29, CHURCH STREET (See details for further address information)   | D | II | 328976.36 | 329487.12 |
| LB 1367309 | OUTBUILDING APPROXIMATELY 50 METRES SOUTH EAST OF NO. 43 (WYNNSTAY HOTEL)   | D | II | 328991    | 329351.36 |
| LB 1367310 | GATE PIERS APPROXIMATELY 30 METRES SOUTH OF ST OSWALD   | D | II | 328875.29 | 329319.87 |
| LB 1367311 | PAIR OF MEMORIALS TO MEMBERS OF JONES FAMILY APPROXIMATELY 30 METRES NORTH WEST OF NORTH AISLE OF CHURCH OF ST OSWALD | D | II | 328830    | 329405.36 |
| LB 1367312 | JONES MEMORIAL APPROXIMATELY 2 METRES EAST OF SOUTH PORCH OF CHURCH OF ST OSWALD                                      | D | II | 328865.64 | 329351.43 |
| LB 1367313 | 2, CONEY GREEN  | D | II | 329212.95 | 329611.12 |
| LB 1367320 | SAVINGS BANK  | D | II | 329056.71 | 329767.83 |
| LB 1367321 | THE GUILDHALL   | D | II | 329079.29 | 329778.78 |
| LB 1367324 | 52, UPPER CHURCH STREET   | D | II | 328836.26 | 329182.45 |
| LB 1367325 | 32-36, WILLOW STREET  | D | II | 328954.95 | 329698.25 |
| LB 1367326 | 56, WILLOW STREET   | D | II | 328928.48 | 329732.37 |
| LB 1367327 | THE WILLOW TREE   | D | II | 328837.47 | 329810.38 |
| LB 1367332 | BARN APPROXIMATELY 40 METRES EAST OF SWEENEY HALL   | D | II | 329373    | 326535.36 |
| LB 1367333 | THE HOLLIES   | D | II | 328727    | 327138.36 |
| LB 1367334 | 6, CROSS STREET   | D | II | 329091.4  | 329607.78 |
| LB 1367335 | 26,28, CROSS STREET   | D | II | 329139    | 329648.36 |
| LB 1367336 | OSWESTRY CASTLE, REMAINS OF   | D | II | 329063.32 | 329817.14 |
| LB 1367337 | 23, LEG STREET (See details for further address information)  | D | II | 329166.76 | 329652.85 |



|            |  |   |     |           |           |
|------------|--|---|-----|-----------|-----------|
| LB 1367339 | OLD RAILWAY STATION  | D | II  | 329398    | 329815.36 |
| LB 1367340 | 16-22, SALOP ROAD  | D | II  | 329251.35 | 329507.57 |
| LB 1367341 | CHURCH OF HOLY TRINITY   | D | II  | 329269.44 | 329400.56 |
| LB 1367342 | 16-22, UPPER BROOK STREET  | D | II  | 328807.06 | 329294.23 |
| LB 1367343 | SHROPSHIRE UNION CANAL BRIDGE NUMBER 79  | D | II  | 331369    | 325008.36 |
| LB 1367355 | BALL MILL  | D | II  | 330425    | 326532.36 |
| LB 1367358 | MIDDLETON FARMHOUSE  | D | II  | 331975    | 328710.36 |
| LB 1367359 | MORDA MILL   | D | II  | 328791    | 327998.36 |
| LB 1367362 | 4-14, UPPER CHURCH STREET  | D | II  | 328862.11 | 329270.96 |
| LB 1367364 | THREADNEEDLE WELL  | D | II  | 334303    | 325294.36 |
| LB 1367365 | CHURCH OF ST MICHAEL   | D | II* | 334114    | 325225.36 |
| LB 1367370 | GREAT FERNHILL FARMHOUSE   | D | II  | 331680    | 332540.36 |
| LB 1367371 | EVANALL FARMHOUSE  | D | II  | 335162    | 331972.36 |
| LB 1367372 | CHURCH OF ST JOHN THE BAPTIST  | D | II  | 332614.67 | 331268.04 |
| LB 1367375 | PENTRE-CLAWDD FARMHOUSE AND ATTACHED COWHOUSE  | D | II  | 329928    | 332125.36 |
| LB 1367377 | THE BUILDINGS FARMHOUSE  | D | II  | 336955    | 328188.36 |
| LB 1367378 | STABLE BLOCK APPROXIMATELY 50 METRES NORTH OF WOOD HOUSE WITH ATTACHED WALL TO SOUTH   | D | II* | 336410    | 328925.36 |
| LB 1367379 | MILESTONE AT NGR SJ 3417 2643  | D | II  | 334168.2  | 326431.06 |
| LB 1367381 | ABBOT'S MOOR FARMHOUSE   | D | II  | 337383    | 326948.36 |
| LB 1367382 | THE FORDS  | D | II  | 334312    | 326674.36 |
| LB 1367396 | STABLE BLOCK APPROXIMATELY 10 METRES TO NORTH EAST OF SERVICE RANGE TO HALSTON HALL INCLUDING ATTACHED GATE PIERS AND WEST RANGE OF FARM BUILDINGS TO EAST | D | II  | 334003    | 331659.36 |
| LB 1367397 | DOMESTIC CHAPEL APPROXIMATELY 350 METRES SOUTH OF HALSTON HALL   | D | I   | 333882.85 | 331297.8  |
| LB 1367398 | HINDFORD GRANGE  | D | II  | 333433    | 332996.36 |
| LB 1367399 | BRIDGE NUMBER 70 (THAT PART IN WHITTINGTON CP)   | D | II  | 336982.66 | 331887.84 |
| LB 1367400 | SHROPSHIRE UNION CANAL PADDOCK BRIDGE NUMBER 1 (THAT PART IN WHITTINGTON CP)   | D | II  | 334408.85 | 332826.04 |
| LB 1367401 | HIGHFIELDS FARMHOUSE   | D | II  | 332512    | 331401.36 |
| LB 1372065 | K6 TELEPHONE KIOSK   | D | II  | 340489    | 332408.36 |
| LB 1389540 | WAR MEMORIAL   | D | II  | 351237.6  | 328881.66 |
| LB 1390956 | FARM BUILDINGS 150M EAST OF PRADOE   | D | II  | 335929.3  | 324855.05 |
| LB 1390988 | SUNDIAL BASE IN THE GROUNDS OF ST MICHAEL'S CHURCH   | D | II  | 347158.82 | 329259.22 |
| LB 1409997 | Plas Wilmot  | D | II  | 329002.57 | 328620.52 |

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|-------------|---|---|-----|-----------|-----------|
| RPG 1001251 | PRADOE  | D | II  | 335666.28 | 324736.33 |
| RPG 1001326 | BROGYNTYN   | D | II  | 327894.36 | 331222.08 |
| SM 1003020  | Sundial in parish churchyard  | D | n/a | 347158.81 | 329259.26 |
| SM 1013497  | Motte castle at Hisland   | D | n/a | 331721.41 | 327483.87 |
| SM 1014899  | Old Oswestry hillfort, and two adjacent sections of Wat's Dyke  | D | n/a | 329567.54 | 331089.38 |
| SM 1016826  | Bowl barrow 60m south east of Petton parish church  | D | n/a | 344096.12 | 326240.86 |
| SM 1016828  | Moated site 320m north east of Petton parish church   | D | n/a | 344269.06 | 326479.84 |
| SM 1017006  | Bromwich Park moated site and formal garden remains   | D | n/a | 332184.02 | 325467.69 |
| SM 1017240  | Stanwardine moated site and associated fishpond   | D | n/a | 342699.66 | 327646.61 |
| SM 1019296  | Motte castle adjacent to St Michael's Church  | D | n/a | 334055.12 | 325236.06 |
| SM 1019300  | Oswestry Castle: motte and adjoining section of the town wall immediately north east of Christ Church | D | n/a | 329050.84 | 329809.07 |
| SM 1019450  | Whittington Castle  | D | n/a | 332538.63 | 331130.33 |
| SM 1019606  | Northwood Hall double moated site   | D | n/a | 349266.68 | 331085.4  |
| SM 1020287  | Wem Castle: a motte castle immediately south west of St Peter and St Paul's Church                    | D | n/a | 351175.89 | 328819.64 |
| SM 1020289  | Motte castle on the north bank of Crose Mere, 730m south west of Whattal Farm                         | D | n/a | 343108.87 | 330695.63 |
| SM 1020559  | Wat's Dyke: 140m long section, 370m south west of Gobowen Station                                     | D | n/a | 330167.84 | 333082.08 |
| SM 1020560  | Wat's Dyke: 180m long section, 170m east of Pentre-wern   | D | n/a | 330118.58 | 332881.88 |
| SM 1020562  | Wat's Dyke: section 350m long, 540m east of Weston Farm   | D | n/a | 330003.31 | 328140.62 |
| SM 1020564  | Wat's Dyke: 80m long section and adjacent cultivation terraces 540m east of Oswestry Castle           | D | n/a | 329591.3  | 329874.25 |
| SM 1020616  | Wat's Dyke, 380m long section, immediately east of the Sewage Works                                   | D | n/a | 330210.31 | 327305.14 |
| SM 1020618  | Wat's Dyke: 365m long section, extending from 45m north east of Gate House on Shrewsbury Road         | D | n/a | 329789.87 | 328987.8  |
| SM 1020619  | Wat's Dyke: 375m long section immediately south of Middleton Road and west of Laburnum Drive          | D | n/a | 329681.18 | 329336.55 |

**FINAL PAGE**