

SP MANWEB

Reinforcement to the North Shropshire Electricity Distribution Network



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

**Line Route Report
June 2016**

GILLESPIES

PROJECT TITLE

North Shropshire Reinforcement Project

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M5405 701 Line Routeing Report

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1. INTRODUCTION

BACKGROUND

- 1.1 This Line Route Options Report sets out work carried out in 2016 by Gillespies LLP, environmental consultants based in Cheshire, and SP Energy Networks. The main purpose of this work has been to identify and assess alternative line route options for the proposed 132 kilovolt (kV) overhead wood pole line between Oswestry and Wem substations.
- 1.2 Gillespies has established experience in overhead line routeing work and is familiar with the SP Energy Networks routeing methodology. Gillespies were assisted by specialist ecologists, Avian Ecology and heritage advisors, Network Archaeology Ltd, and also worked closely with SP Energy Networks' line design engineer, Line Design Technology Ltd (LDT) based in Wrexham, who designed the very similar 132kV overhead line recently installed between Legacy and Oswestry.

Route Corridor Options Report

- 1.3 The line routeing options work follows on from the earlier assessment of route corridors, which is set out in the Route Corridor Options Report . After considering four initial route corridors (each up to approximately 1km wide), that report identified an overall preference for a route corridor which follows a relatively direct line from Oswestry substation to Wem primary substation (hereafter referred to as 'Wem substation'). This preferred route corridor comprises the first section of the Red Route Corridor, known as R1, and then the next two sections of the Blue Route Corridor, B2 and B3. The preferred route corridor is shown in Figure 5.1 of the Route Corridor Options Report, which also shows the other sections of the Red and Blue route corridors that were considered.
- 1.4 Prior to identifying and appraising the above route corridors, the Route Corridor Options Report explains the alternative technological design solutions that were considered for the level of reinforcement required and the reasons for SP Energy Networks preferring to install a new 132kV overhead wood pole line (hereafter referred to as the 'proposed overhead line') between Oswestry substation and Wem substation. The Route Corridor Options Report further explains SP Energy Networks' preference for the Trident wood pole design, which is illustrated in **Figure 1.1: Trident Wood Pole Design**. As such, the route corridor options were considered on the basis of their suitability for accommodating a 132kV overhead Trident wood pole line.

BACKGROUND

- 1.5 Having concluded the route corridor stage, SP Energy Networks commissioned Gillespies LLP to identify and assess line route options approximately 100m wide. The study area for this work is the same as the 'reduced study area' identified in the Route Corridor Options Report and shown in **Figure 1.2: Study Area**. In identifying line route options the boundaries of the route corridors were reviewed and refined as appropriate.
- 1.6 The Route Corridor Options Report then explains that SP Energy Networks considered placing the proposed overhead line wholly underground. In this respect, it refers to Government policy which acknowledges that overhead lines can generally be introduced into existing landscapes with suitable mitigation and makes no presumption in favour of undergrounding.

¹ SP Energy Networks, June 2016. Reinforcement to North Shropshire Electricity Distribution Network: 132kV Wood Pole Overhead Line from Oswestry to Wem: Route Corridor Options Report

- 1.7 SP Energy Networks however accepts that in areas where no suitable route for an overhead line can be identified, and there are specific circumstances supporting undergrounding, then this should be considered. These circumstances include where there are technical difficulties or serious concerns about the potential adverse landscape and visual effects of an overhead line, and where the additional cost of undergrounding and any other impacts that might arise from undergrounding are outweighed by the benefits that undergrounding would bring.
- 1.8 For reference, this Line Route Options Report outlines the broad approach to identifying line route options, which is referred to below as the overarching routeing methodology. It describes how the routeing methodology has been applied by first reviewing the range of environmental constraint data in the Route Corridor Options Report and then identifying any additional environmental and technical data required to inform the line routeing stage.
- 1.9 The Report goes on to explain that, from this exercise, a number of initial line route options, approximately 100m wide, were identified in the Red and Blue Route Corridors. This report then explains that an initial appraisal resulted in some of these being discounted. The remaining line route options were then appraised against a number of established line routeing criteria, in order to identify a preferred line route to be taken forward to preliminary consultations with local communities, landowners, tenants and statutory consultees.
- 1.10 The outcome of this process is the identification of a Preferred Line Route.

FIGURE 1.1: TRIDENT WOOD POLE DESIGN



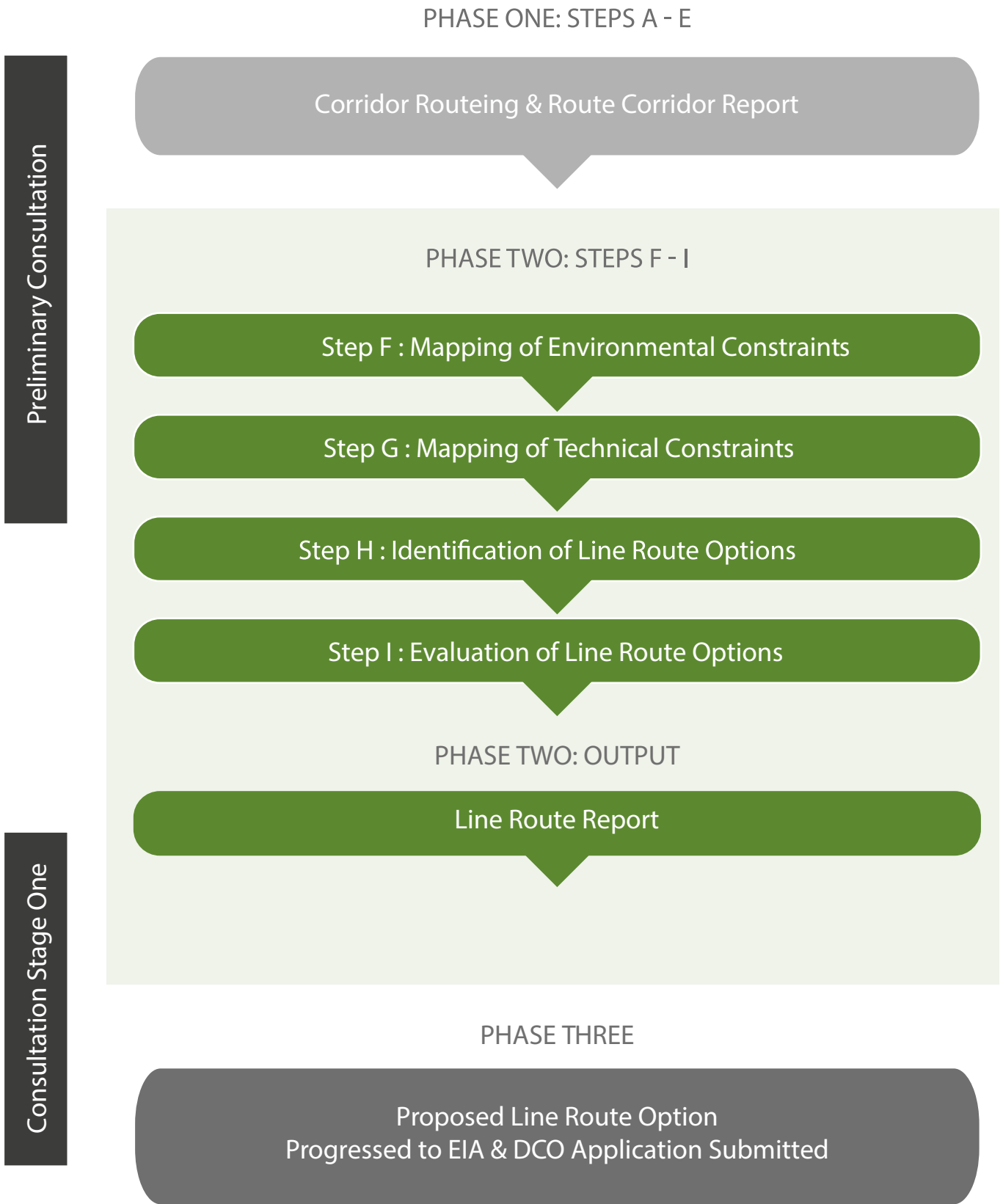
2. THE ROUTEING METHODOLOGY

OVERALL APPROACH

- 2.1** This section sets out the methodology used to develop the initial line route options. This approach is similar to that followed in the Route Corridor Options Report and follows Stage Two (Steps F-I) of the overarching routeing methodology shown in the flow chart opposite. It is based on the principle that the major effect of an overhead line is its visual intrusion and that this can be reduced by careful routeing, for example by utilising landform and trees to provide screening and backgrounding and by retaining wherever possible an appropriate distance from settlements and publically accessible viewpoints. Line routeing also takes into account other environmental considerations by seeking to avoid the most sensitive and valued natural and man-made features. The objective of the process is to identify a line route, which has the least likely environmental effects.
- 2.2** In following the steps shown in the flow chart, account continues to be taken of the Holford Rules and supplementary guidance notes as explained in Section 3 of the Route Corridor Options Report.
- 2.3** As also noted in Section 3 of the Route Corridor Options Report, steps are followed sequentially as far as practical with each step requiring a greater level of detail of analysis, assessment and review. Steps can be revisited if necessary as new information becomes available or in response to feedback, and line route options may be rejected, modified or studied in further detail.
- 2.4** This process provides a framework for SP Energy Networks and its advisers to identify routes that minimise impacts on the environment, as it is required to do in the statutory duties set out in Section 38 of the Electricity Act 1989. This is noted in the introductory chapter of the Route Corridor Options Report.
- 2.5** This process also enables SP Energy Networks to have regard in its routeing work to its other statutory duties, as set in Section 9 of the 1989 Act to develop and maintain an '*efficient, coordinated and economic system of electricity distribution*'.
- 2.6** As well as minimising effects on the environment, the preferred line route must also be technically feasible and economical. For this project, the design process has included ongoing technical input and review by LDT to ensure that:
- The selected line route is safe, operable and can be maintained; and
 - The status of any other works or any connections to the system in the North Shropshire area that could affect or present opportunities in relation to this project are considered.
- 2.7** In terms of the line route being economical, SP Energy Networks has considered factors such as route length, minimising angles and capability of being installed as an overhead line.

²As noted in Section 3 of the Route Corridor Options Report, the Holford Rules referred to here, are the original rules, which were developed in 1959 with clarifications by National Grid PLC in 1992 and further 2003 Scottish Hydro Electric Transmission Ltd notes which have been applied by SP Manweb in a number of routeing studies across the UK.

OVERARCHING ROUTEING METHODOLOGY



*Steps denoted in colour are those applied in this Line Route Report

2.8 SP Energy Networks seeks to ensure that any landowner issues, which may also increase project costs and/ or introduce possible delays where negotiations are unable to be settled, are minimised wherever possible. To this end, SP Energy Networks' land agent has commenced discussions regarding elements of the proposed design with local landowners and occupiers, and others with interest in potentially affected land. Information from these discussions which might affect line routing has also been taken into account.

CONSIDERATIONS FOR LINE ROUTEING

2.9 Section 4 of the Route Corridor Options Report identifies the areas of highest environmental value and Section 6 of the report identifies more localised routing considerations. To help identify line routes within the preferred route corridor, these considerations were revisited and supplemented with additional information. Gillespies' specialist advisers assisted in this process.

2.10 Initial discussions on line routing matters were also held with specialists in environmental bodies such as the Environment Agency (EA), Historic England and Shropshire Council.

2.11 The review process at this early stage of line routing work included:

- Revisiting areas of local interest identified in the Route Corridor Options Report;
- Introducing other localised environmental information, e.g. sensitive local landscapes, and non-designated ecological and historic environment features such as individual listed buildings;
- Considering distances to residential buildings;
- Wherever possible avoiding tree groups and individual mature field or hedgerow trees;
- Identifying where local landform and/ or vegetation could provide screening opportunities;
- Considering more specific technical requirements (limitations of slope, angles, Environment Agency (EA) borehole data etc.); and
- Gathering more site based information through detailed field work, e.g. the overview Phase One Habitat Survey.

2.12 The process also requires an understanding of engineering design issues relating to the use of wood poles to enable technically feasible line routes to be identified. This was achieved through collaborative working with LDT.

2.13 The information collected is provided in **Table 2.1: Environmental Information Collected and Mapped to Assist in Identification of 100m Wide Line Routes**. It reflects the key considerations set out in the Route Corridor Options Report. It is important to note that information gathered specifically to inform line routing rather than corridor routing is highlighted with an asterisk* in Table 2.1.

2.14 This more localised information is mapped in the following figures:

- Relevant local development framework land allocations plans (**Figure 2.1: Additional Environmental Considerations**);
- Registered Common Land (Figure 2.1);
- Woodland, including ancient and semi-natural woodland (Figure 2.1);
- Long distance footpaths such as canal towpaths, public rights of way, national cycle routes (Figure 2.1);
- Landscape character (**Figure 2.2: National Character Areas** and **Figure 2.3: Shropshire Landscape Character Areas**);
- Agricultural Land Classification (**Figure 2.4: Agricultural Land Classification**); and
- Local level nature conservation designations e.g. County Wildlife Sites, Local Nature Reserves (Figure 2.1).

2.15 The above additional environmental considerations and areas of highest environmental value are shown in **Figure 2.5: Composite Constraints**.

Table 2.1: Environmental Information Collected and Mapped to Assist in Identification of 100m Wide Line Routes

Criterion	Sub-criteria	Mapped and Field Gathered Data
Length of Line Route	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.
Ecology and Biodiversity (Holford Rules 1 & 2 & Supplementary Note b.) NPS EN-1 and NPS EN-5	<ul style="list-style-type: none"> ● Ramsar Sites ● Special Protection Area (SPA) ● Special Area Conservation (SAC) ● Site of Special Scientific Interest (SSSI) ● National Nature Reserve (NNR) ● Wildlife Trust Sites (WTS) (WTNR) ● Local Wildlife Site (LWS), including Local Nature Reserves (LNR) ● Protected Species and Ornithology ● LWS across the study area (up to 5km distant) ● Protected species across the study area 	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. Strategic scale appraisal of potential for protected species and ornithological activity within the study area and professional judgement applied in relation to potential routing issues. 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 [REDACTED]
Landscape Character and Visual Amenity (Holford Rules 1, 2, 3, 4 & 5 & 7 and Supplementary Note b.) EN1 and EN5	Landscape Designations: <ul style="list-style-type: none"> ● National Parks ● Areas of Outstanding Natural Beauty (AONB) Landscape Character Sensitivity	GIS based, gather data and map locations, consider potential for routing to directly affect designations. Desk based and field work. GIS mapping of landscape character areas and desk based review of published assessments to consider potentially sensitive areas. Consideration during field surveys of landscape sensitivity. (National Character Areas and Shropshire Landscape Typology)

Criterion	Sub-criteria	Mapped and Field Gathered Data
	<p>Visual Amenity</p> <ul style="list-style-type: none"> • Settlements and individual residential properties. • Visitor attractions and setting of attractions e.g. historic sites such as Whittington Castle, tourist routes. • Recreational resource including National/ regional trail, cycle-ways and public rights of way. • Formal recreation. • Informal recreation. • Common Land and Open Access Areas. • Main roads and routes. • Existing and proposed electricity network infrastructure and wind turbines 	<p>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.</p> <p>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.</p> <p>OS based GIS buildings data is used to identify the location of settlements and individual residential properties, and then verified in the field.</p> <p>Mapping of 100m between potential line route options and properties.</p> <p>Field based identification of principal view and existing potential screening.</p> <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>

Criterion	Sub-criteria	Mapped and Field Gathered Data
Historic Environment (Holford Rules 1 & 2 & Supplementary Note b.) EN1	<ul style="list-style-type: none"> • Scheduled monuments (SAMs) • Listed buildings • Conservation area • Historic landscapes (informed by Shropshire historic landscape characterisation and Shropshire Historic Farmsteads Characterisation • Non-listed assets of potential regional importance 	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. Assessment of setting and identification of principal views of designations.
Water Environment	Flood Risk – Environment Agency Flood Zones 2 and 3	GIS used to map EA Flood Zones 2 and 3 to identify these areas.
Forestry and Woodland:	<ul style="list-style-type: none"> • Ancient and semi-natural woodland • Other forestry and woodland 	GIS based identification of woodland areas in relation to ancient and semi-natural woodland data and National Forest Inventory (NFI) data. Reference to field study and aerial photography to identify areas of woodland and tree groups.
Socio Economic	<ul style="list-style-type: none"> • Agricultural land classification • Tourism 	GIS mapping of all grades of agricultural land. OS and site verification of any caravan/ camping sites, log cabins, lodges, visitor attractions etc.
Technical considerations	<ul style="list-style-type: none"> • Geology • Topography/ slopes • Crossings, including main roads, bridges, railways, canals • Existing infrastructure • Existing and proposed wind turbines • Angles of deviation • Access and construction traffic • Airfields 	Identify locations using OS mapping. GIS based quantitative assessment and qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified avoiding such constraints as far as practical.

Criterion	Sub-criteria	Mapped and Field Gathered Data
Planning and land use considerations	<ul style="list-style-type: none"> • Registered Common Land • Local Development Plan Land Allocations • Open Space/green infrastructure • Green belt • Minerals safeguarding areas 	<p>GIS layers from Local Authority Plans. GIS based quantitative assessment and qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified avoiding these uses.</p>

3. REVIEW OF INITIAL LINE ROUTE OPTIONS IN RED AND BLUE CORRIDORS

- 3.1 The Red and Blue Route Corridor Options set out in the Route Corridor Options Report, and the mapped data referred to in the above section, enabled Gillespies to identify a number of initial line route options. As in the earlier route corridor options stage of the project, the identification of line route options continued to be influenced by the Holford Rules.

IDENTIFYING INITIAL LINE ROUTE OPTIONS

- 3.2 In identifying initial line route options, Gillespies first considered the conclusions of the Route Corridor Options Report, noting in particular that whilst the R1 section was preferred over B1, the decision was only marginal. In view of this, Gillespies considered it appropriate to review whether there were any possible line route options in both the R1 and B1 sections and whether an assessment of these would support the preference for the R1 section. At the same time, the remainder of the Blue Route Corridor (B2 and B3 sections), which was selected as the preferred route corridor, was also appraised in terms of potential line routeing.
- 3.3 Initial line route options, approximately 100m wide, which meet technical parameters, whilst where possible avoiding environmental constraints, were identified within the Blue Route Corridor and the R1 section of the Red Route Corridor. Although primarily a desk based exercise, this process was also informed by knowledge of the area gathered during field work undertaken during the route corridor identification and appraisal stage by Gillespies and their ecological and heritage specialists. Feedback from the preliminary stakeholder consultations was also used.
- 3.4 In seeking to avoid environmental constraints, consideration was given to their relative sensitivity. More sensitive constraints such as areas of highest environmental value, include features identified in Rules 1 and 2 of the Holford Rules as explained in Section 3 of the Route Corridor Options Report. Environmental concerns highlighted for consideration in NPS EN-1 and NPS EN-5, were accorded greatest influence in the development of line route options.
- 3.5 Consideration was also given to the 'fit' of the line within the landscape using mapped information and Google Earth Pro. Key objectives were to:
- Follow the grain of the landscape, running with valleys, alongside woodland edges, field boundaries etc.;
 - Use woodland and landform as a backdrop to views of the line, or as a foreground screen;
 - Minimise the number of crossings of linear features (e.g. roads and the canal) and cross at a perpendicular angle wherever possible;
 - Avoid creating wirescapes with existing vertical overhead electricity and telegraph lines;
 - Avoid residential areas as far as practicable, including individual properties which could be adversely affected; and
 - Other things being equal, prefer the shortest most direct alignment.

³DECC (2011) Overarching National Policy Statement for Energy (EN-1)

⁴DECC (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5)

- 3.6** With reference to the various environmental constraints, possible line route options were identified in both the R1 and the B1 sections, and within the B2 and B3 route sections of the Blue Route Corridor. These are shown in **Figure 3.1: Initial Line Route Options**. The initial line routes shown in this figure are annotated as the Red Line and Blue Line with the various options marked as Blue Alt A, Blue Alt B, Blue Alt C etc.
- 3.7** The desk based initial line route options and the findings of the constraints mapping exercise were checked in the field both to verify the desk based work and to add to the understanding of the local conditions. This work included appraising and recording the principal views(s) from residential properties, the screening potential of landform and vegetation features, the identification of important views and locally sensitive landscapes and identification of localised recreation and tourism importance e.g. Sleep Airfield. As explained below, amendments were made to the initial line route options to reflect the findings of the site based field work. The line route options for the Blue 1 and Red 1 route corridor sections, and the B2 and B3 sections were then taken forward for technical and peer review.

TECHNICAL LINE DESIGN AND OTHER CONSIDERATIONS

- 3.8** In parallel to the appraisal of the initial line routes, in terms of environmental constraints, work continued on the line design by LDT to ensure that the engineering requirements for the line design were taken into account. This work considered factors such as the need to maintain adequate ground clearance distances, required angles where the line route changes direction, and local constraints such as topography and slope design. It also included the requirement to avoid the single wind turbines which are shown in Figures 2.1 and 2.4.
- 3.9** Design input was also provided by SP Energy Networks' land agents as the ability to secure land agreements for installation of an overhead line is also an important part of the design process.
- 3.10** From their assessment, LDT produced a line design drawing which is reproduced in **Figures 3.2 to 3.4: Technical Line Route Options**.
- 3.11** A review of the technical line design resulted in adjustments to the initial line routes in the form of introducing straighter sections wherever possible, and discounting a number of initial line route options which were less preferable technically as they introduced additional angles.
- 3.12** The line design work also looked at the potential for a new line which exits the Oswestry substation and avoids existing overhead lines which radiate out from the substation, before following the eastern side of the A5 road corridor. In considering this option, further discussions with Shropshire Council also highlighted the importance of avoiding the allocated employment land to the east of Oswestry. The possibility of introducing a short underground section was considered. This would run from Oswestry substation along the A5 and across the southern edge of the allocated employment land to a point on the south-eastern corner of this site where the overhead line would start was considered.
- 3.13** Further consideration led to routing the overhead line away from the A5, in order to avoid laying an underground cable along the employment land. This also shortened the length of underground cable, which would bring technical and cost benefits. In repositioning the start point of the overhead line, a further and straighter line route option was identified and has been taken forward.

KEY OUTCOMES FROM REVIEWING INITIAL LINE OPTIONS

- 3.14** In addition to removing a number of shorter options for technical reasons, Gillespies' review of the initial line options resulted in SP Energy Networks discounting those initial line route options in the B₁ route corridor up to where it joins the R₁ route corridor. Initial line routes positioned outside of the Blue Route Corridor were also discounted with the exception of an alternative route south of Cockshutt. This part of the assessment led to then including a further option for linking this line route option back to the option Blue Line B₃.
- 3.15** It is important to note that in addition to showing the refined line route options, to simplify the nomenclature, the line routes taken forward were renamed.
- 3.16** Based on the review of the initial line route options and the technical route plans, Gillespies identified a series of refined line route options which are shown in **Figure 3.5: Refined Line Route Options**. This is the plan included in the Stage One Consultation newsletter. Whilst this stage of line routeing supported the earlier preferences for taking forward the R₁, B₂ and B₃ route corridors, SP Energy Networks acknowledged that presenting these options to local communities in the Stage One Consultation may raise comments regarding the alternative line route options in the discounted sections of the Red and Blue Corridor (B₁, R₁ and R₃). For this reason, SP Energy Networks has extended the consultation zone to include these other route corridor options. This provides an opportunity for local people in these other areas to also be involved and informed as to why these areas have not been taken forward to this line route options stage.
- 3.17** The following chapter explains the work carried out to evaluate the refined line route options (hereafter referred to as the line route options) shown on Figure 3.5.

4. DESCRIPTION OF REFINED LINE ROUTE OPTIONS

4.1 The outcome of the line routeing process was the identification of a number of line route options. These include a main route, which is divided into four numbered sections. Where alternative options are identified, these are denoted with an 'A', 'B' or 'C' as follows.

- Line Route Section 1, Option 1A, Option 1B
- Line Route Section 2
- Line Route Section 3, Option 3A, Option 3B, Option 3C
- Line Route Section 4, Option 4A.

4.2 **Figures 4.1-4.3: Detail of Line Route Options** show the options in more detail and the following paragraphs describe the line route options.

LINE ROUTE SECTION 1

4.3 Section 1 originates in fields immediately to the east of the A5 near Oswestry. It runs briefly south parallel to the road, before turning east and passing through fields bounded by hedgerows, with some blocks of trees to the north (near Round Wood) and the south (near Middleton Coppice). Section 1 meets Option 1A in the fields south of Brookfield Farm and continues in a broadly easterly direction to meet Option 1B immediately to the west of the Shrewsbury to Crewe main line railway, on the B5009 next to the fuel oil distribution yard south of Babbinswood. After crossing the rail line and the A5009, Section 1 continues in an easterly direction passing 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. Here it meets the eastern end of Option 1B.

4.4 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 fields with mature hedgerow boundaries north of the privately owned Woodhouse Estate, avoiding wherever possible, larger blocks of trees and the frequent mature hedgerow trees. Section 1 crosses these slightly elevated fields before 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.

OPTION 1A

4.5 Option 1A originates south of the sewage works to the north-east of Oswestry, just east of the A5 and south of the A495 near Whittington, on the boundary of an employment land allocation. It then passes through low-lying fields in an easterly direction, skirting a block of woodland south of the listed buildings at Drenewydd where it turns south-east to run broadly parallel but at some distance to the west of the rail line. Passing to the west of Brookfield Farm it crosses a short section of flood zone associated with Common Brook before terminating at the junction with Section 1 in the fields south of Brookfield Farm.

OPTION 1B

- 4.6 Option 1B originates immediately to the west of the Shrewsbury to Crewe main line railway on the B5009 next to the fuel oil distribution yard south of Babbinswood. After crossing the rail line and the A5009, Option 1B continues in a north-easterly direction passing to the south of Babbinswood Farm and Perry 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. It terminates where it meets Section 1 in the fields to the west of the Montgomery Canal near Green Wood.

LINE ROUTE SECTION 2

- 4.7 Section 2 originates east of Woodhouse Drive, north of Rednal Industrial Estate and equidistant between Lees Farm (to the south) and Rednal Mill Cottage and Lower Lee (to the north). It then passes through open and low-lying larger scale fields in a south-easterly direction, crossing the flood zone associated with the River Perry and towards the southern edge of the settlement at Lower Hordley. Section 2 then turns to the east, passing over a very slightly elevated ground near Bagley Marsh, close to an existing wind turbine. It then crosses two rural lanes as it passes between the edge of Lower Hordley and Bagley. Here, there are a number of individual scattered properties (including Standor, The Oaks, Oaklands and Palm Trees) and industrial scale farming units to the north.

LINE ROUTE SECTION 3

- 4.8 Section 3 originates just east of the rural lane on the southern edge of the settlement at Lower Hordley, and north-west of the settlement at Bagley. It crosses a low-lying field as it runs in a slight north-easterly direction. The landform to the north-east of Bagley is undulating. Field patterns become more irregular and mature trees are present in hedgerows and in the fields. The line route then crosses a low ridge that runs north-west between Standwardine in the Wood and Kenwick Lodge. There are two existing wind turbines present in this landscape, a well-known stud farm at Shade Oak with paddocks and associated buildings to the south, and scattered farms such as Ferney Hough, Top House Farm and Kenwick Lodge. East of the low ridge line, Section 3 would run through an area of small to medium scale fields with scattered mature hedgerow trees into the lower lying fields south of Cockshutt, and north of Stanwardine Grange. The line route passes close to the southern edge of Cockshutt, crossing a rural lane and the A528 in quick succession before continuing east in the general direction of Wood Farm and Loppington.
- 4.9 East of the A528, Section 3 skirts the edge of the flood zone associated with Wackley Brook before turning south-east and passing north of the residential property known as The Wood and Malt Kiln Farm. This landscape contains both small and larger scale fields, some of which are irregular with frequent ponds, small blocks of trees and scattered hedgerow trees. Section 3 then crosses the B4397 south of Coppice Farm and north of Moor House Farm and runs through the open fields to the south-east.

LINE ROUTE OPTION 3A

- 4.10 Option 3A originates at the same location as Section 2, just east of the rural lane on the southern edge of the settlement at Lower Hordley, and north-west of the settlement at Bagley. It then crosses low-lying fields as it runs in a north-easterly direction and is more distant from the settlement at Bagley than Section 3. The landform is more undulating where Option 3A approaches

Whinnett Hill. From here Option 3A turns in a more easterly direction and field patterns become more irregular and mature trees are found in hedgerows and in the fields. This line route may result in the line being more widely visible as it passes over this higher ground, however, the small localised ridge that runs north-west from Stanwardine and Kenwick Lodge is likely to provide some back dropping. There are two existing wind turbines present in this landscape, a well-known stud farm at Shade Oak with paddocks and associated buildings to the south, and scattered farms such as Ferney Hough, Top House Farm and Kenwick Lodge. South-west of Kenwick Lodge, Option 3A changes direction, taking a more easterly route before re-joining Section 3.

LINE ROUTE OPTION 3B

- 4.11** Option 3B originates south of Kenwick Lodge and runs in a south-easterly direction and crossing the low ridge that runs north-west between Standwardine in the Wood and Kenwick Lodge. There are two existing wind turbines present in this landscape, a well-known stud farm at Shade Oak with paddocks and associated buildings to the south, and scattered farms such as Ferney Hough, Top House Farm and Kenwick Lodge. East of the low ridgeline, Section 3 would run through an area of small to medium scale fields with scattered mature hedgerow trees into the lower lying fields south of Cockshutt, and north of Stanwardine Grange. The line route is broadly equidistant between the individual residential properties at Stanwardine Grange and Stonehill, and passes closer to the cluster of listed buildings (including Stanwardine Hall) and a scheduled monument at Stanwardine in the Wood than Section 3. Option 3B crosses a rural lane and the A528 in relatively quick succession and continues in a south-easterly direction towards Wackley Lodge, before turning sharply north-east in the general direction of Loppington. It then passes through some larger scale low-lying fields, with a few scattered mature hedgerow trees, before crossing an area of flood zone associated with Wackley Brook before re-joining Section 3.

LINE ROUTE OPTION 3C

- 4.12** Option 3C originates west of Wood Farm in an area of low-lying fields with frequent ponds, some mature hedgerow trees and small blocks of trees. It runs east, crossing a rural lane to the south of the individual property at Wood Farm before turning sharply in a south-easterly direction towards Coppice Farm. The line route crosses some larger scale fields with occasional individual mature trees, then oversails the B4397 before crossing open fields (with no hedgerow boundaries) to the south-east of Coppice Farm and re-joining Section 3.

LINE ROUTE SECTION 4

- 4.13** Section 4 originates to the east of the B4397 south-east of Coppice Farm. It runs in a broadly south-easterly direction, skirting the southern edge of Moor Fields Local Wildlife Site. Moor Fields is an area of distinctive field patterns marked with mature hedgerows and trees, identified as important in terms of its grassland.
- 4.14** Section 4 then passes through an area of flood zone associated with Wackley Brook, before turning east, crossing over low-lying larger-scale fields with low hedgerow boundaries and few trees. The alignment oversails two rural lanes south of the small hamlet at Noneley, and north of Sleep Airfield, avoiding small blocks of trees located on the edge of the hamlet at Commonwood.

- 4.15** South-east of Commonwood, Section 4 turns sharply and heads north-east, avoiding the properties at Ruewood and crossing a rural lane to the east of Pearl Farm. From here it continues across low-lying fields bounded in places by mature hedgerows, before crossing a large area of flood zone associated with the River Roden. After crossing the River Roden it turns slightly to the east, continuing to cross the low-lying and open fields of the flood zone.
- 4.16** West of the individual residential property at Pools Farm, Section 4 turns north and heads in the direction of the existing substation at Wem, crossing low-lying open fields with occasional hedgerow trees. It crosses the B5063 Ellesmere Road before entering Wem substation. This latter section lies close to the western edge of Wem and properties close to the B5063.

LINE ROUTE OPTION 4A

- 4.17** Option 4a follows a broadly similar north-easterly route to Option 4, but is slightly further east and closer to the Ruewood Pastures SSSI. Commencing south of Pearl Farm, it runs through low-lying fields bounded by mature hedgerow before crossing the River Roden. After crossing the river it continues to run through the low-lying open fields before re-joining Section 4 east of Pools Farm.

5. METHODOLOGY FOR APPRAISAL OF LINE ROUTE OPTIONS

- 5.1** The line route options identified were appraised against a series of established criteria to identify the line route with the least likely environmental impact. The methodology for the appraisal of the line route options relates to Step I of the routing methodology and is outlined below with the findings of the appraisal presented in the next chapter of this report.
- 5.2** The appraisal of line route options is undertaken in the following stages:
- Identification of appraisal criteria;
 - Application of appraisal criteria to each of the line route options; and
 - Comparative appraisal of the line route options to identify the option with the least environmental impacts and which is also technically and economically feasible.
- 5.3** The approach is considered to include a level of information and appraisal that can reasonably be expected for this line routing stage of the project. Where further information is required to be considered at the subsequent environmental impact assessment (EIA) stage, this has been highlighted within the relevant criteria rationale.
- 5.4** The methodology also includes a technical review stage to ensure that the line route with the least environmental effect is deliverable.
- 5.5** The appraisal criteria have been used on a number of similar projects. They reflect the nature of the proposal (Trident wood pole), desk and field based knowledge of the study area, and the team's previous routing experience. The purpose of applying the criteria was to:
- Continue to reflect the overall routing objective, which is to identify a technically operable and economical route for a new electricity connection between Oswestry and Wem substations. The new connection must meet the technical requirements of the electricity network and cause, on balance, the least disturbance to the environment and the people who live, work and recreate within it;
 - Continue to reflect the Holford Rules, which although developed for routing high voltage steel tower transmission lines are also considered applicable to wood pole overhead lines. They are accepted throughout the electricity industry as guidelines to be employed as the basis for routing overhead lines;
 - Take account of policy on the assessment of effects set out in part 5 of NPS EN-1 and Part 2 of NPS EN-5. NPS EN-5 is specific to electricity networks and specifically lists biodiversity and geological conservation (including ornithology), and landscape and visual amenity, as assessment and technology specific information. NPS EN-1, in setting out policy for a range of energy infrastructure, includes a range of criteria to be considered and included in assessments and in addition to those criteria mentioned in NPS EN-5, includes topics such as the historic environment and flood risk; and
 - Draw out distinctions between the line route options to identify the relative strengths and weakness of each.

- 5.6 The appraisal followed a qualitative approach supported where appropriate by quantifiable information. Qualitative appraisal involved the professional judgement of landscape architects, ecologists and historic environment specialists. Where expert professional judgement could be supported by data/ information in a quantitative format, this was included, for example, the number of sites potentially affected (mainly in relation to the historic environment), the size of the receptor covered by the criterion being considered and the distance for a receptor covered by a criterion.
- 5.7 In relation to route line length, this was appraised solely on a quantitative basis.
- 5.8 The evaluation criteria applied in this assessment are listed in **Appendix A: Criteria for Appraisal of Line Route Options**.

OTHER CONSIDERATIONS

- 5.9 NPS EN-1 and NPS EN-5 highlight that other economic, social and environmental aspects are likely to be of relevance to the project. These were not included at the line routeing stage as they are not considered to be differentiating factors when comparing line route options. These topics may, however, be considered at the subsequent detailed alignment and EIA stage of the project. They include:
- Air quality and emissions including dust;
 - Noise and vibration;
 - Traffic and transport;
 - Climate change;
 - Waste management;
 - Water quality and resources; and
 - Electric and magnetic fields (EMFs).
- 5.10 As part of the design process, SP Energy Networks line designers are identifying locations for locations for design components related to construction of the proposed overhead line including access points, construction areas, scaffold locations, pulling points and pole laydown areas. The required size of these areas for a Trident wood pole line is relatively small and they are not considered to be a differentiating factor when comparing line route options. They will however be an important consideration at the subsequent detailed alignment and EIA stage of the project.

6. APPRAISAL OF LINE ROUTE OPTIONS

- 6.1** Following the application of the appraisal criteria to each line route section, a comparative evaluation was undertaken to identify which line route is likely to have the least likely effect on the environment. The detailed findings of the appraisal are included at **Appendix B: Comparative Line Route Appraisal** and summarised in **Table 6.1: Summary of Comparative Appraisal of Line Routes**. It should also be noted that as only one line route option has been identified for Section 2, no comparative evaluation has been undertaken for this section.
- 6.2** As discussed in Chapter 5 of this report, the appraisal criteria reflect the hierarchy of the Holford Rules and the technology specific effects identified in NPS EN-5.

TABLE 6.1: SUMMARY OF COMPARATIVE APPRAISAL OF LINE ROUTES

Criterion	Comparative Appraisal
Length of Line Route	<p>No noticeable difference in terms of lengths of line routes.</p> <p>Section 1 and Options 1a and 1B are broadly comparable with no real preference.</p> <p>Section 3 is shorter and more direct than the equivalent options (3A, 3B and 3C), and therefore slightly preferred.</p> <p>Section 4 and Option 4B are broadly comparable with no preference.</p>
Ecology and Biodiversity	<p>The line route options are overall largely comparable although Section 1 passes through an area of farmland with slightly more trees, mature hedgerows and small woodland copses than the equivalent sections of Option 1A and 1B. It is however noted that these could be avoided through deviation and careful pole positioning. Section 1 lies further from Gravenhall ancient woodland. Overall marginal preference for Options 1A and 1B.</p> <p>Option 3C includes slightly fewer ponds over the equivalent section of Section 3 and is therefore slightly preferred, although these ponds are avoidable.</p> <p>Option 4A lies slightly closer to Rue Pastures SSSI so equivalent Section 4 is preferred.</p>
Landscape and Visual Amenity	<p>Landscape: Section 1 passes through an area of farmland with slightly more trees, mature hedgerows and small woodland copses than Options 1A and 1B which are therefore preferred, although the judgement is marginal and effects can be avoided by careful routeing and pole positioning.</p> <p>Option 3A is largely comparable with the equivalent Section 3. Both pass through farmland with mature hedgerow trees and small woodland blocks between Shade Oak and Top House Farm.</p> <p>Option 3B is largely comparable with the equivalent Section 3. Both pass through farmland with mature hedgerow trees and small woodland blocks between Cockshutt and Stanwardine in the Wood.</p> <p>Option 3C is largely comparable with the equivalent Section 3. Both pass through farmland with mature hedgerow trees and small woodland blocks between Wood Farm and The Wood and Malt Kiln Farm.</p> <p>Option 4A passes through an area of farmland north of the River Roden with slightly more mature hedgerow trees than Section 4 which is therefore preferred, although the judgement is marginal.</p>

Criterion	Comparative Appraisal
	<p>Visual Amenity: Option 1A lies closer to Whittington than Section 1. The village and castle are an important visitor attraction and Section 1 is therefore preferred.</p> <p>Section 1 also passes slightly further from dispersed properties and farmsteads than Option 1A and is therefore preferred, although the judgement is marginal.</p> <p>Although Option 1B and the equivalent Section 1 are close to a similar number of dispersed farmsteads in the area east of the B5009, Option 1B lies closer to the village of Babbington than Section 1, which is therefore preferred.</p> <p>Both Option 1A and 1B introduce more of the larger and more visible angle pole structures (potentially double Trident poles), and are therefore less preferable than the equivalent Section 1 which is straighter.</p> <p>Option 3A is largely comparable with the equivalent Section 3. Both pass through farmland with dispersed farmsteads.</p> <p>Section 3 passes closer to the southern edge of Cockshutt than Option 3B which is marginally preferable although it introduces some larger and more visible angle pole structures.</p> <p>Option 3C is largely comparable with the equivalent Section 3, although 3C introduces larger and more visible angle pole structures than Section 3 which is straighter and therefore marginally preferred.</p> <p>Option 4A is largely comparable with the equivalent Section 4. Both pass through farmland with dispersed farmsteads. Option 4A is very slightly further from Commonwood and utilises screening from existing hedgerow trees but is slightly closer to the edge of settlement at Wem.</p>
<p>Historic Environment</p>	<p>All line routes avoid direct impacts on designated sites and there is no overall preference. Section 1 lies further from Drenewydd listed building than Option 1A and is therefore preferred.</p> <p>Section 1 lies further from the Roman Marching Camp (non-designated asset of potential regional importance), where there are potential significant effects on setting.</p> <p>Option 3A is slightly further than Option 3 from Stanwardine, but the preference for 3A is marginal and there is little differentiate.</p> <p>Section 3 is preferred over Option 3B as it lies further from Stanwardine Moated Site scheduled monument.</p> <p>Option 3C is preferred over the equivalent Section 3 as it lies further from the listed building at Malt Kiln Farm.</p> <p>Section 4 and Option 4B are broadly comparable with no preference.</p>
<p>Water Environment</p>	<p>All line route options cross flood risk areas, with the exception of Option 1A, 3A and 3C which are therefore considered preferable.</p>
<p>Forestry and Woodland:</p>	<p>Section 1 passes through an area of farmland with slightly more trees, and small woodland copses than Options 1A and 1B which are therefore preferred, although the judgement is marginal and effects can be avoided by careful route design and pole positioning.</p> <p>Option 3A, 3B and 3C are largely comparable with the equivalent Section 3. All pass through farmland with mature hedgerow trees and small woodland blocks. Effects can mostly be mitigated by careful route design and pole positioning.</p>

Criterion	Comparative Appraisal
Socio Economic	<p>Agricultural land classification: All line route options are largely comparable in that they pass through low grade (Grades 3 and 4) agricultural land, except for Option 3C which passes through an area of Grade 2 agricultural land and is therefore less preferable than the equivalent Section 3. Option 3B and the equivalent Section 3 pass through comparable length of Grade 2 land as do Section 4 and Option 4A.</p> <p>Tourism and Recreation: All route options are largely comparable except for Option 1A which passes closer to the village of Whittington which together with its castle is an important visitor attraction. Option 1a is therefore less preferable than the equivalent Section 1.</p>
Technical considerations	<p>To avoid crossing existing 132kV overhead lines, both Section 1 and Option 1A would require undergrounding on exit from the Oswestry substation. Section 1 would require a shorter length of undergrounding and is therefore preferred over Option 1A.</p> <p>Section 1 is preferred over Option 1A and 1B as it is straighter and therefore requires fewer angle poles and the need for double wood pole structures.</p> <p>Option 3B is less preferable than the equivalent Section 3 due to the undulating terrain which presents more challenges for construction.</p> <p>Section 3 is preferred over Option 3A, 3B and 3C as it is straighter and therefore requires fewer angle poles and the need for double wood pole structures.</p> <p>Section 4 and Option 4A are broadly comparable, although Option 4A is slightly straighter and therefore requires fewer angle poles.</p>
Planning and land use considerations	<p>Local Development Plan Land Allocations:</p> <p>There are employment land allocations east of the A5 near Oswestry and some small housing allocations on the southern side of Cockshutt. All of the route options avoid these allocations, which are therefore not a differentiating factor.</p>

LINE ROUTES WITH THE LEAST EFFECT ON THE ENVIRONMENT

- 6.3** The comparative appraisal summarised in table 6.1 shows that no single line route emerged with respect to each of the factors considered.

Route Length

- 6.4** Sections 1 and 3 are preferred because the equivalent options are longer and less direct. Section 4 and Option 4A are comparable and therefore no preference.

Ecology and Biodiversity

- 6.5** Options 1A and 1B are marginally preferred over equivalent Section 1. There is no preference in Section 3. Section 4 is preferred over Option 4A.

Landscape

- 6.6** Options 1A and 1B are marginally preferred over equivalent Section 1. There is no preference in Section 3. Section 4 is preferred over Option 4A.

Visual Amenity

- 6.7** Section 1 is preferred over Options 1A and 1B. There is no preference between Option 3A, 3C and the equivalent Section 3. Section 3B is marginally preferred over equivalent Section 3.

Historic Environment

- 6.8** Section 1 is preferred over Options 1A and 1B. Option 3A and the equivalent Section 3A are broadly comparable and therefore no preference. Section 3 is preferred over Option 3B and Option 3C is preferred over the equivalent Section 3. Section 4 and Option 4A are comparable and therefore no preference.

Water Environment

- 6.9** Option 1A is preferred over equivalent Section 1 and Options 3A and 3C are preferred over equivalent Section 3. Section 3 and Option 3A are comparable and therefore no preference. Section 4 and Option 4A are comparable and therefore no preference.

Forestry and Woodland

- 6.10** Options 1A and 1B are marginally preferred over equivalent Section 1. There is no preference in Section 3. Section 4 is marginally preferred over Option 4A.

Socio-economic

- 6.11** Section 1 is preferred over Options 1A and 1B. There is no preference between Option 3A, 3B and the equivalent Section 3. Section 3 is preferred over Option 3C. Section 4 and Option 4A are comparable and therefore no preference.

Technical

- 6.12 Section 1 is preferred over Options 1A and 1B. Section 3 is preferred over Option 3A, 3B and 3C. Section 4 and Option 4A are comparable and therefore no preference.

Planning and Land Use

- 6.13 Land use and land allocations do not provide a differentiator between line route sections.

Summary

- 6.14 When determining a preferred line route, landscape and visual considerations are considered to be an important factor. Potential effects on the setting of designated heritage assets are also an important issue. With respect to ecology and biodiversity considerations, many features such as ponds and woodlands are avoidable through careful routeing. Effects can be further reduced through the use of appropriate construction techniques and mitigation. Socio-economic issues are important and varied and some are also covered under landscape and visual appraisal (for example, views from footpaths or cycleways). When considering technical issues, the straighter line routes and those that avoid undulating ground are preferable in terms of overhead line construction and operation. Changes in direction require larger angle poles which are heavier in appearance and therefore have repercussions in terms of visual and historic environment effects.

SUMMARY AND PREFERRED LINE ROUTE

- 6.15 Based on the appraisal and knowledge of the study area, the most significant differentiating factors are landscape and visual, the historic environment and technical. The following discussion seeks to summarise consideration of these factors with reference to specific locations, and where there is no consensus, the balance in selecting a preferred option.
- 6.16 From a landscape perspective, Options 1A and 1B are marginally preferred over equivalent Section 1, whilst from a visual perspective the equivalent Section 1 is preferred. The visual effects likely to arise by routeing closer to Whittington and Babbington, and the greater number of dispersed properties are considered to be more significant than the landscape implications of routeing through an area with slightly more trees, mature hedgerows and small woodland copses as effects on these features should be largely avoided by careful routeing and pole positioning. On balance, from a landscape and visual perspective Section 1 is therefore preferred over Options 1A and 1B.
- 6.17 From a visual perspective, within Section 3 the line routes close to Cockshutt. The alternative Option 3B, lies closer to some individual dispersed properties, including Stanwardine Grange. From an historic environment perspective, Option 3B lies close to Stanwardine Moated Site scheduled monument and would potentially have significant effects on its setting. Option 3B is also longer and has more changes in direction which require larger angle poles which are heavier in appearance and therefore have repercussions in terms of visual and historic environment effects. On balance, the potential effects of Option 3B on the historic environment and the visual effects of routeing across an area requiring with more angle poles, are considered to outweigh the visual effects of routeing closer to Cockshutt, which supports Section 3.
- 6.18 Based on the above, the preferred line route includes **Sections 1, 2, 3, and 4** as shown on **Figure 6.1: Preferred Line Route**.

7. NEXT STEPS

- 7.1 Following application of the routeing methodology, line route sections (with options) were identified within the preferred R1, B2, B3 route corridor and outside the route corridor boundary in one location where there was a particular reason to do so in order to avoid allocated employment land. Additional environmental information gathered during this and the previous stage of the routeing process has enabled identification of a preferred line route which is considered to have the least environmental effects.

CONSULTATION

- 7.2 The line route with the least effect on the environment will be presented at the Stage One consultation which commences at the end of June 2016. The consultation will request feedback on the preferred line route option. Responders will also be able to comment on the other line route options (including the initial line route options).
- 7.3 The feedback will be assessed and used to further evaluate the preferred line route to identify a proposed line route which will then be subject to further detailed design and an environmental impact assessment (EIA). An application to the Planning Inspectorate, for the connection and its associated infrastructure, pursuant to the Planning Act 2008 is then anticipated in 2018, following completion of the detailed design and EIA stage.

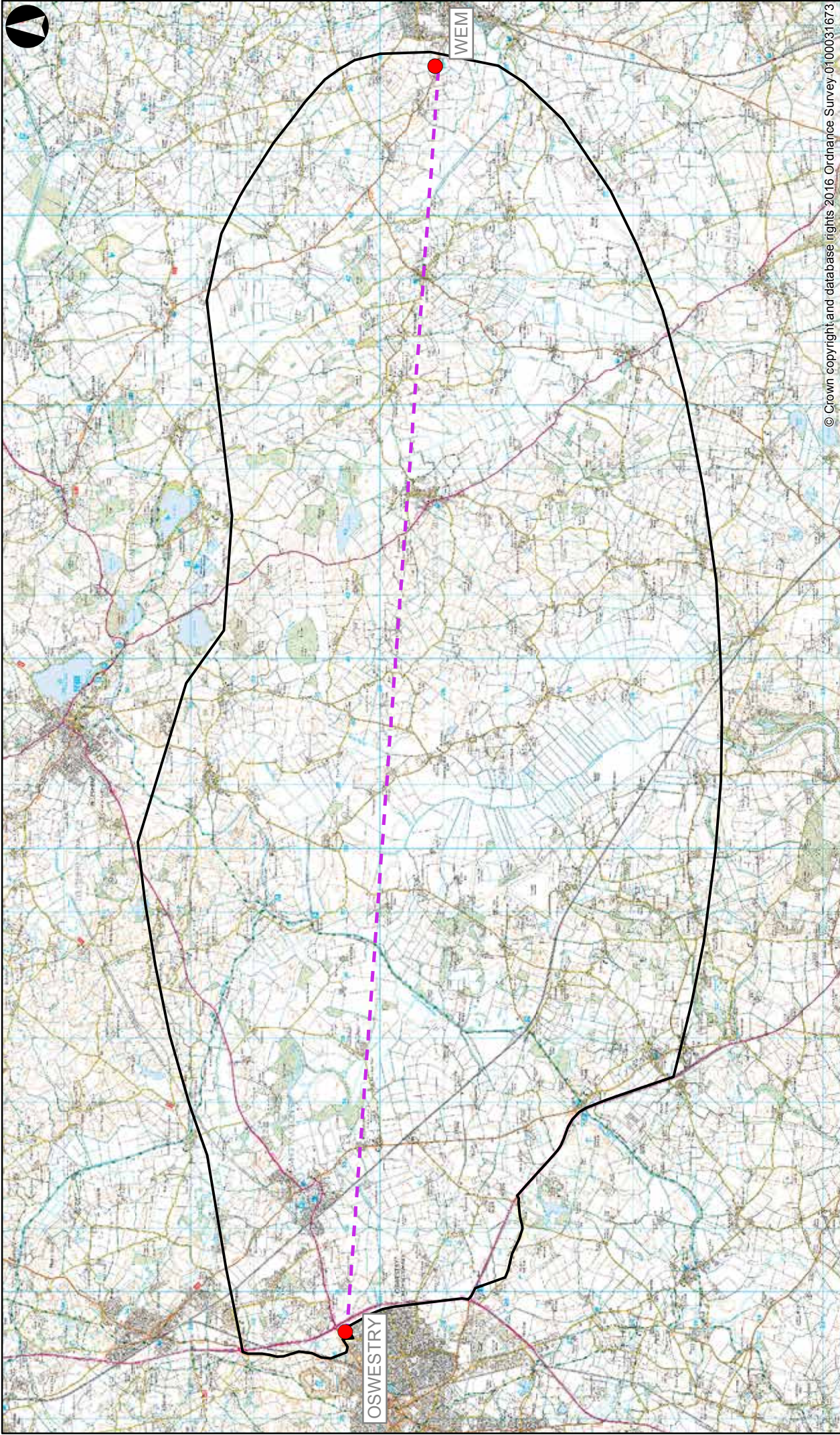
LIKELY KEY ISSUES FOR THE EIA STAGE

- 7.4 In identifying a preferred line route that is considered to have the least environmental effect, the routeing process has, where possible, sought to avoid all environmental constraints likely to result in significant effects. As the routeing and appraisal process inevitably requires 'balancing' of environmental constraints within the local area, it is not possible to avoid all environmental constraints in their entirety.
- 7.5 On this basis, there may be issues within a localised context, which will have to be addressed during the next phase of the project, the EIA phase. These include:
- Potential effects on birds;
 - Potential effects on undesignated archaeological features;
 - Potential effects on the setting of designated archaeological features;
 - Loss of trees and woodland;
 - Effects on views from private properties.
 - These issues will be addressed in the next phase through:
 - Further detailed field surveys to accurately identify, map and characterise heritage features;
 - Input of this information into the design and detailed routeing of the overhead line and associated infrastructure to avoid localised features by deviation where possible thereby 'designing out' potential significant effects; and
 - Where significant effects cannot be avoided through the design process, identification of mitigation measures to avoid, reduce or remedy potentially significant effects e.g. protected species licensing.

FIGURES

Line Route Report

June 2016



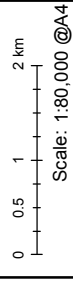
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Study Area (Identified as Refined Study area in Route Corridor Options Report)

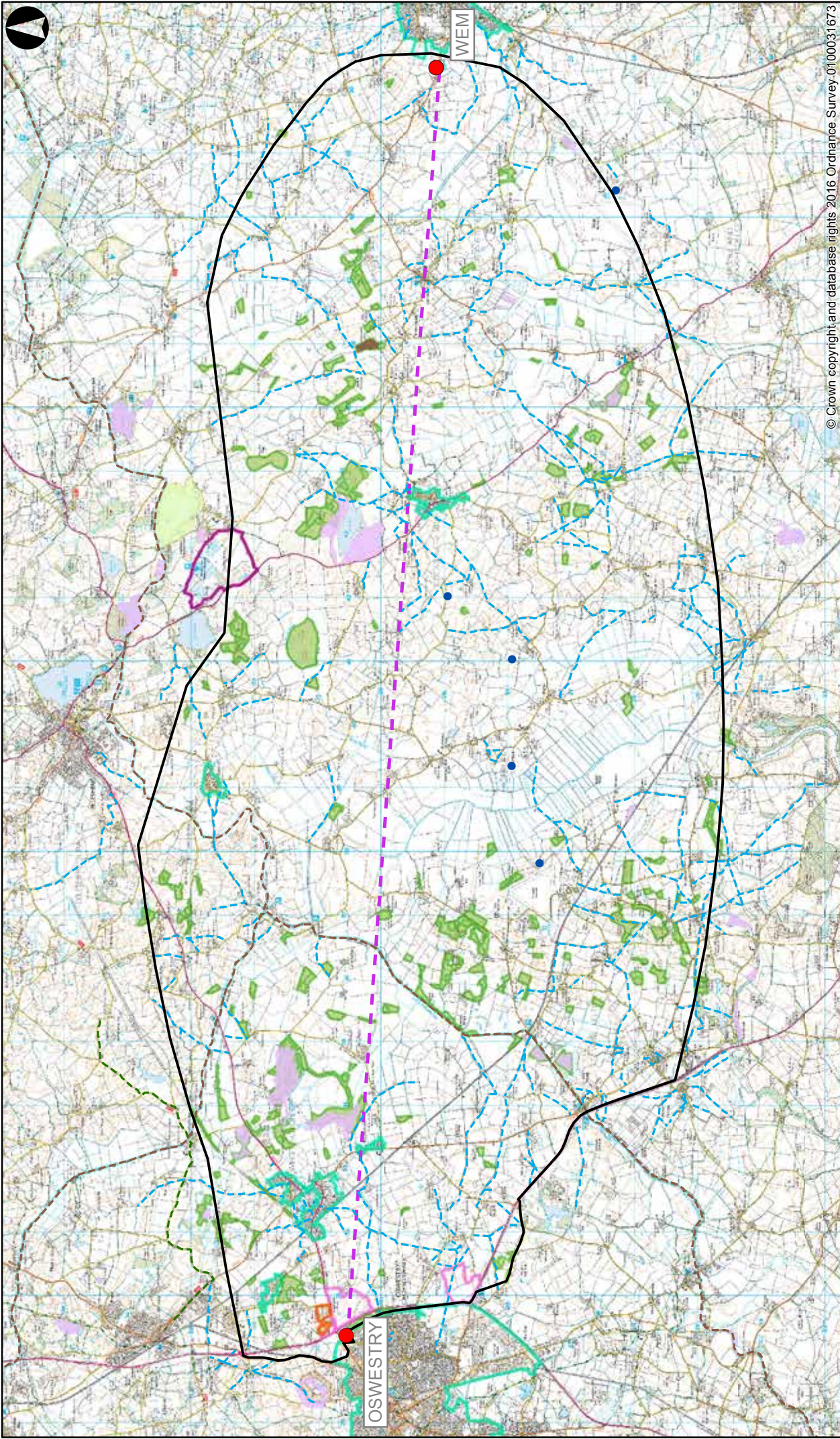
SPEN Substation

Direct Route from Oswestry to Wem

FIGURE 1.2
STUDY AREA



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Key:

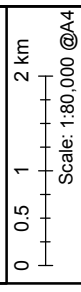
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- SPEN Substation
- Direct Route from Oswestry to Wem

- Regional Trails
- National Cycleway
- Public Rights of Way
- Approximate Location of Existing Turbines

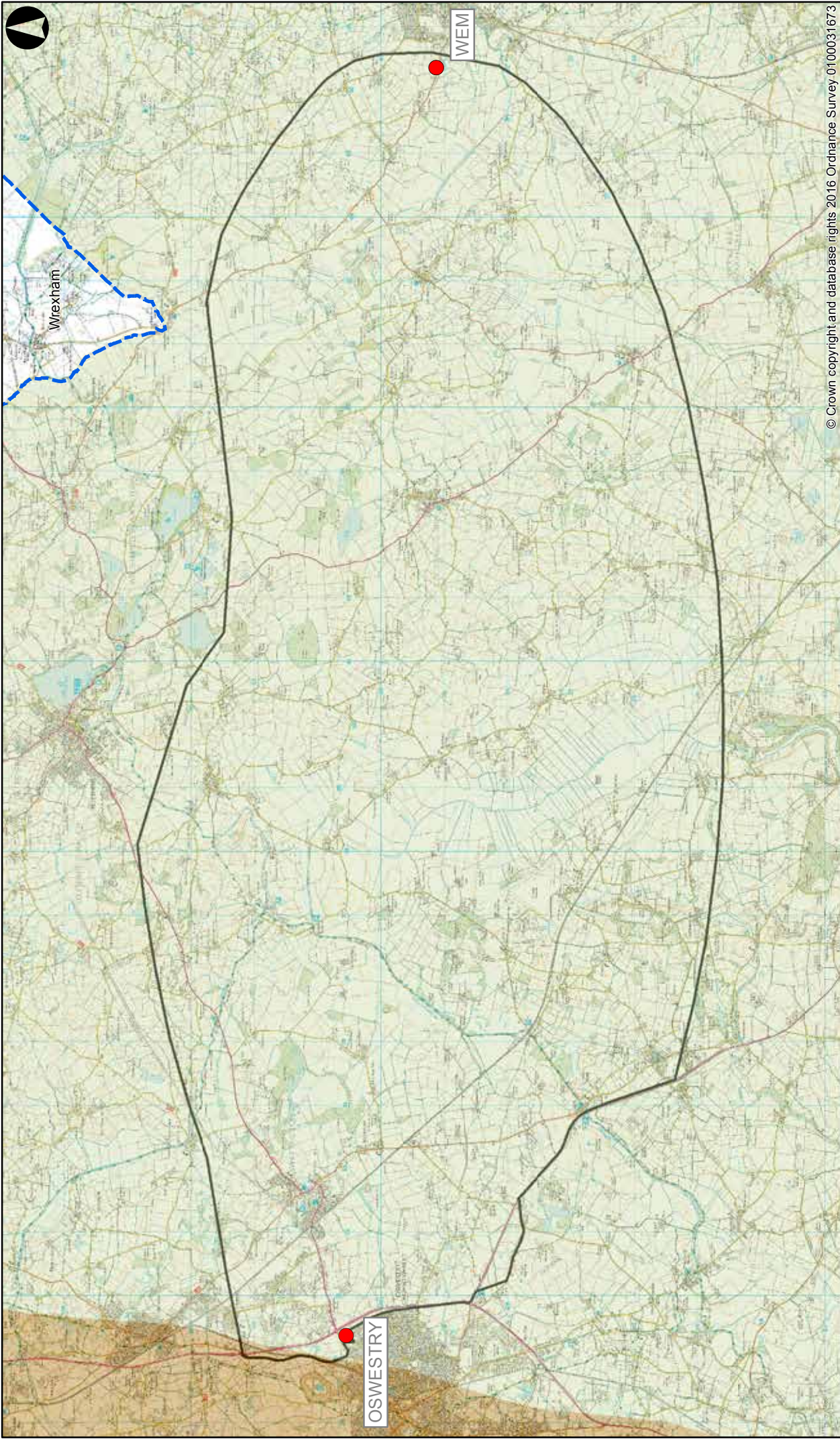
- Registered Common Land
- Woodland (inc. Ancient & Semi-Natural)
- Local Nature Reserve
- Shropshire Council Wildlife Sites

- Shropshire Council Local Plan Development boundary
- Employment
- Existing site (Former Quarry)
- Protected employment site

FIGURE 2.1
ADDITIONAL ENVIRONMENTAL CONSIDERATIONS



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FIGURE 2.2
NATIONAL
LANDSCAPE
CHARACTER AREAS

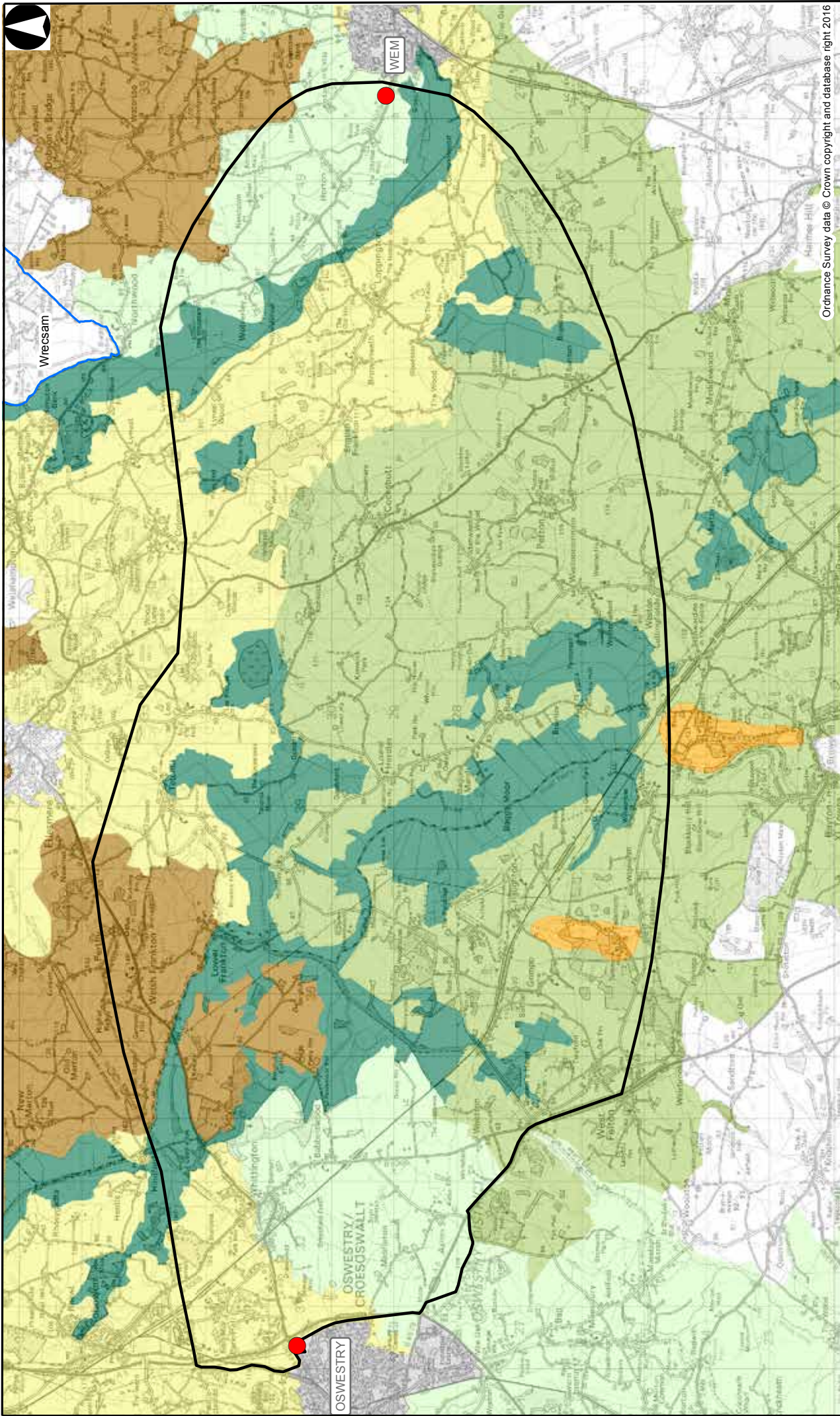
0 0.5 1 2 km
 Scale: 1:80,000 @A4

SP ENERGY NETWORKS

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Key:

- Study Area
- SPEN Substation
- Unitary Authority Boundary
- Shropshire, Cheshire and Staffordshire Plain
- Oswestry Uplands



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FIGURE 2.3
SHROPSHIRE
LANDSCAPE
CHARACTER
AREAS

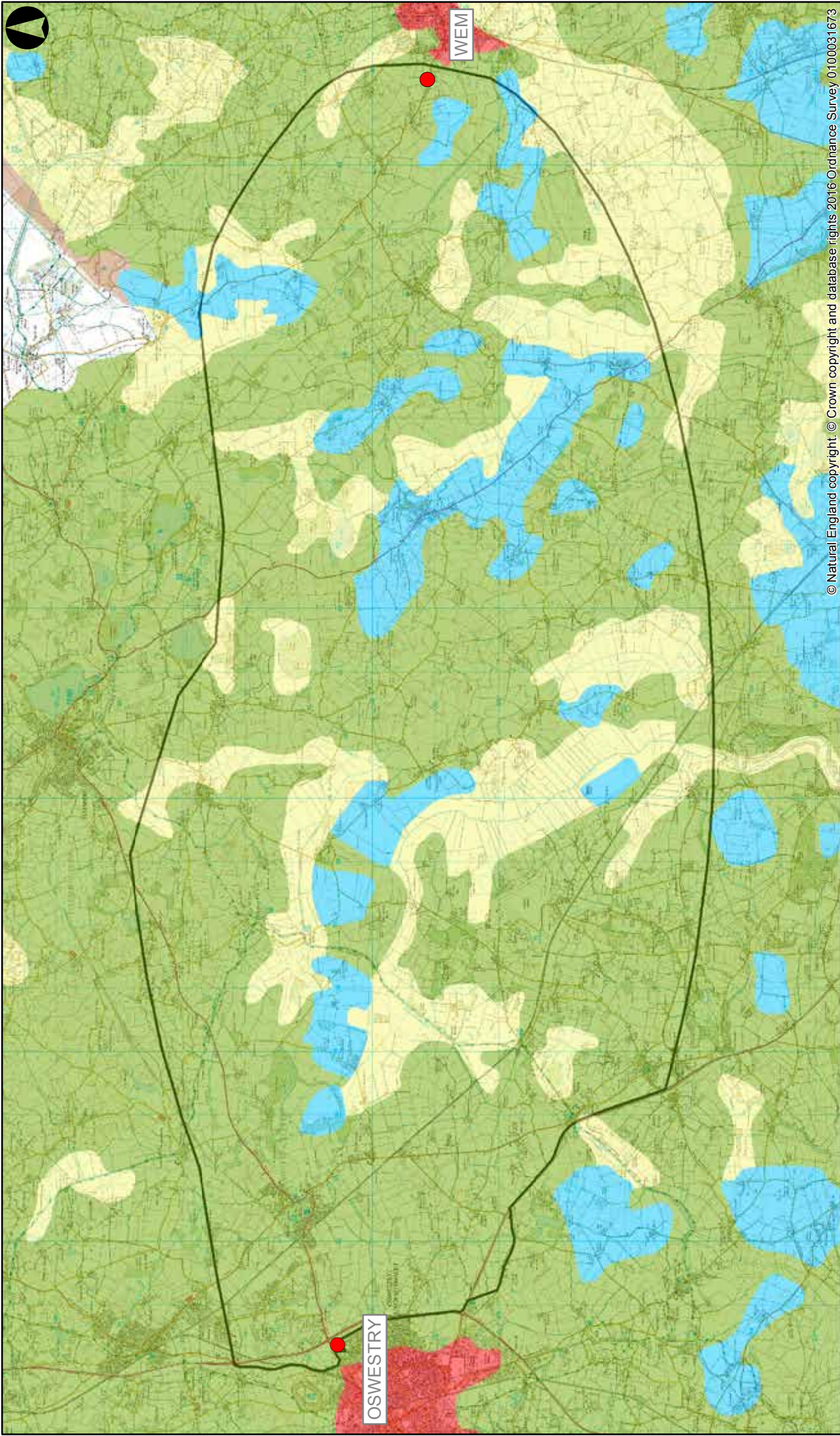
0 0.5 1 2 km
 Scale: 1:80,000 @ A4

Key:

- Study Area
- SPEN Substation
- UK Unitary Authority Boundary

Shropshire Landscape Character Area

- Urban
- Settled Pastoral Farmlands
- Estate Farmlands
- Lowland Moors
- Principal Settled Farmlands
- Sandstone Hills
- Principal Timbered Farmlands



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SP ENERGY NETWORKS

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FIGURE 2.4
AGRICULTURAL LAND CLASSIFICATION

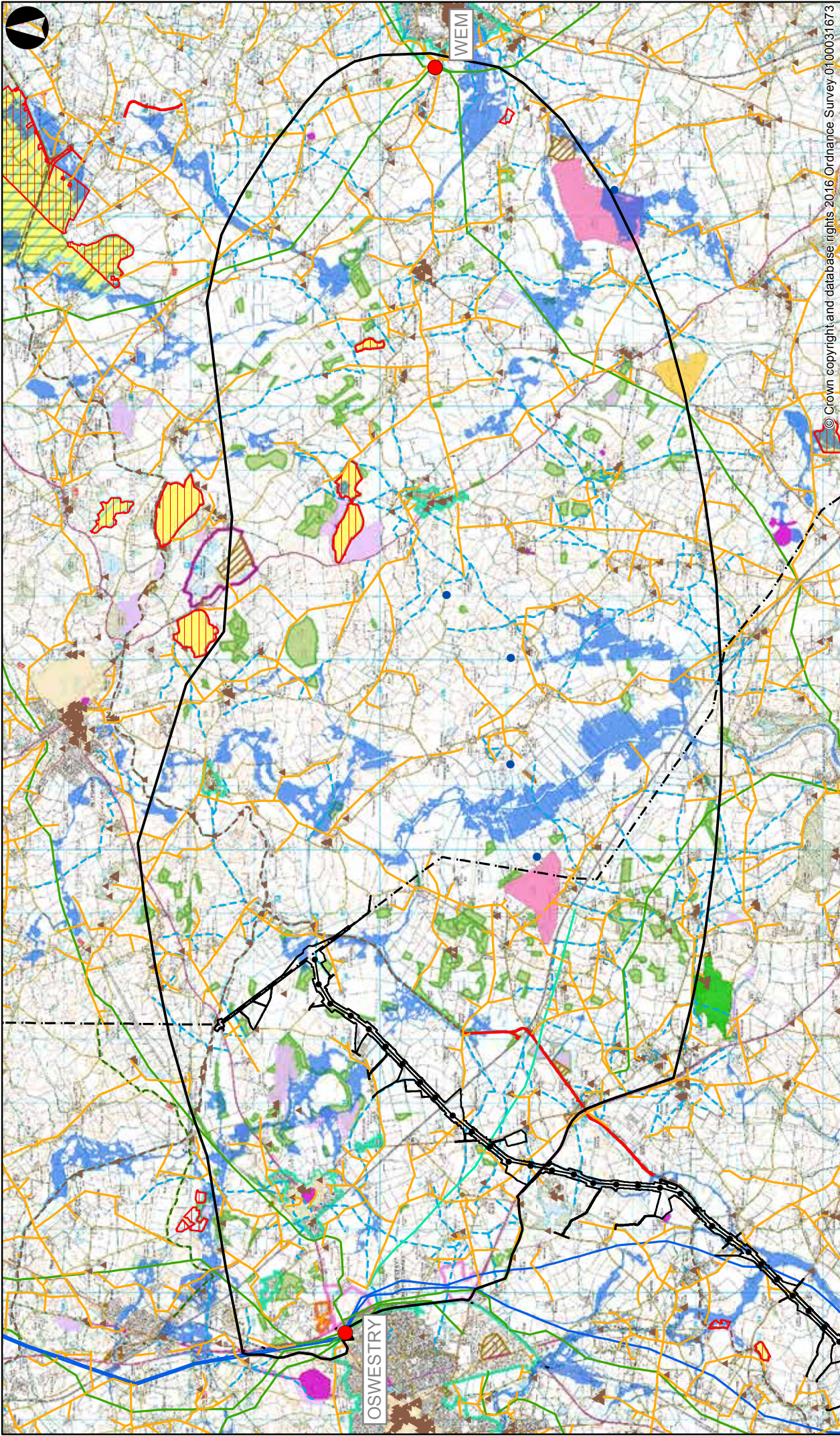
0 0.5 1 2 km
 Scale: 1:80,000 @A4

Key:

- SPEN Substation
- Study Area

Agricultural Land Classification

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban



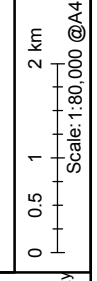
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Key:

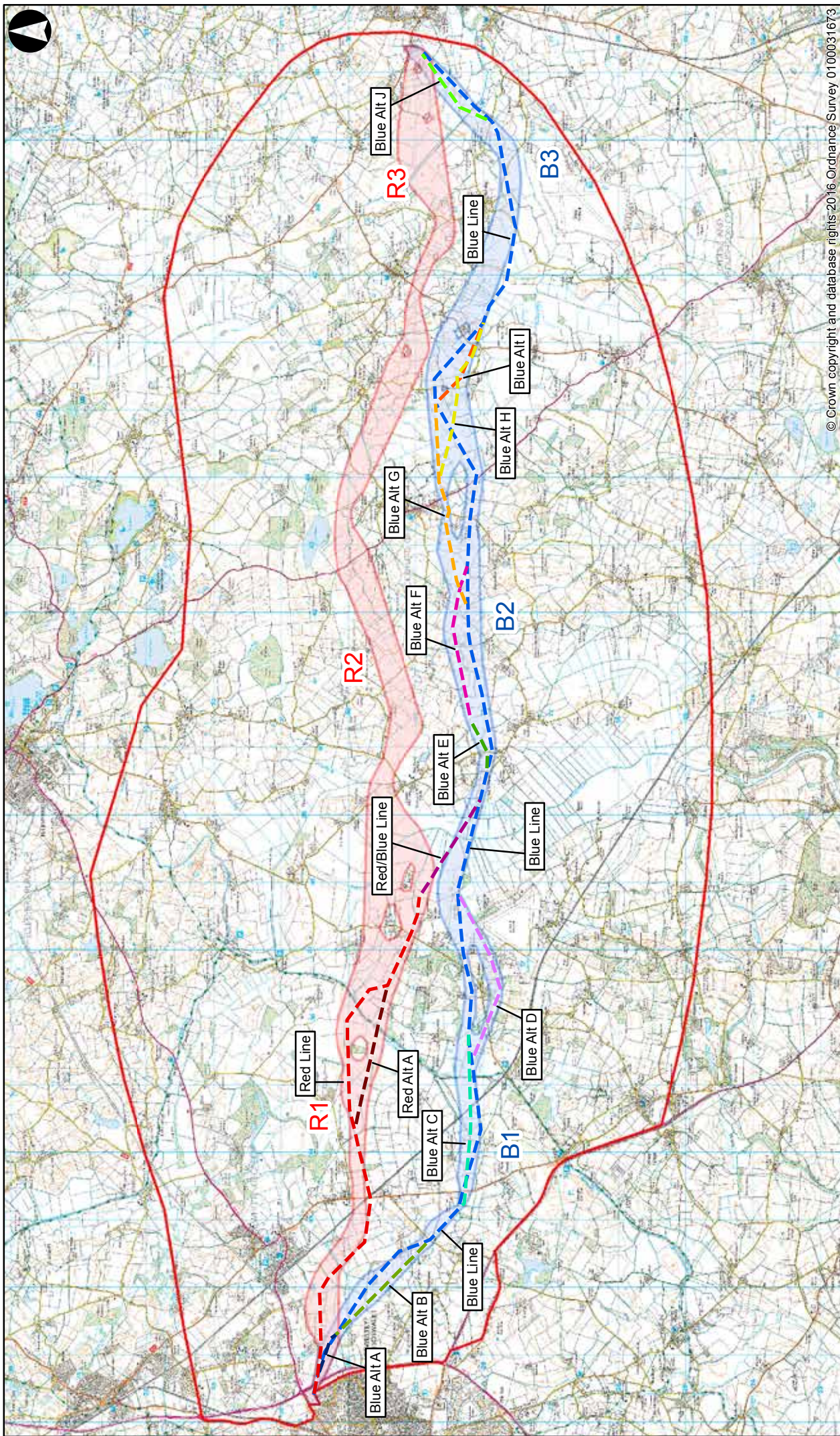
- Study
- National Grid Proposed Mid-Wales Connection (On Hold)
- Wind Turbines
- National Grid 400 kV OHL
- SPEN Substation Compound
- SPEN 11 kV OHL
- SPEN 33 kV OHL
- SPEN 132 kV OHL
- SPEN Former OHL
- Approximate Location of Existing
- Ramсар
- Site of Specific Scientific Interest (SSSI)
- Special Area of Conservation
- National Nature Reserve (NNR)
- Local Nature Reserve
- Registered Common Land
- Shropshire Council Wildlife Sites
- Woodland (inc. Ancient & Semi-Natural)
- Listed Building (Grade I, II and II*)
- Scheduled Monument
- Registered Parks and Garden
- Shropshire North Conservation
- Shropshire Council Local Plan
- Development boundary
- Employment
- Existing site (Former Quarry)
- Protected employment site
- Airfield
- Burton Solar Farm (In Construction)
- Canal Towpath
- National Cycleway
- Public Rights of Way
- Landfill Site (Authorised & Historic)
- Flood Risk Zone 3 - High Probability

FIGURE 2.5

COMPOSITE CONSTRAINTS



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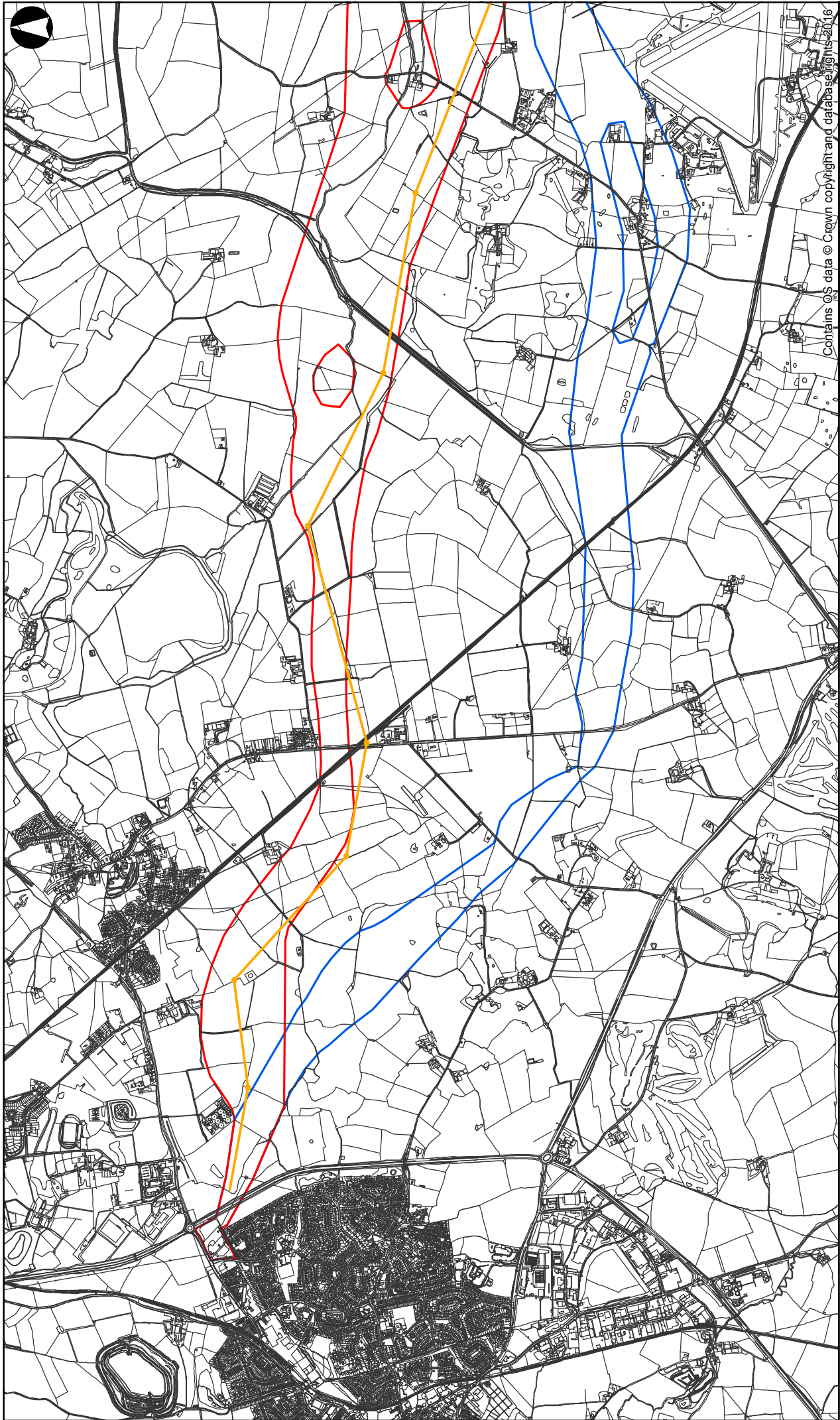
FIGURE 3.1
INITIAL LINE
ROUTE OPTIONS
(100M WIDE)

0 0.5 1 2 km
 Scale: 1:75,000 @A4

Key:

	Red Line		Red Route Corridor Option
	Blue Alt A		Blue Route Corridor Option
	Red Alt A		Study Area
	Red/Blue Line		
	Blue Line		
	Blue Alt E		
	Blue Alt I		
	Blue Alt B		
	Blue Alt F		
	Blue Alt C		
	Blue Alt G		
	Blue Alt D		
	Blue Alt H		





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FIGURE 3.2

**TECHNICAL LINE
ROUTE OPTIONS**

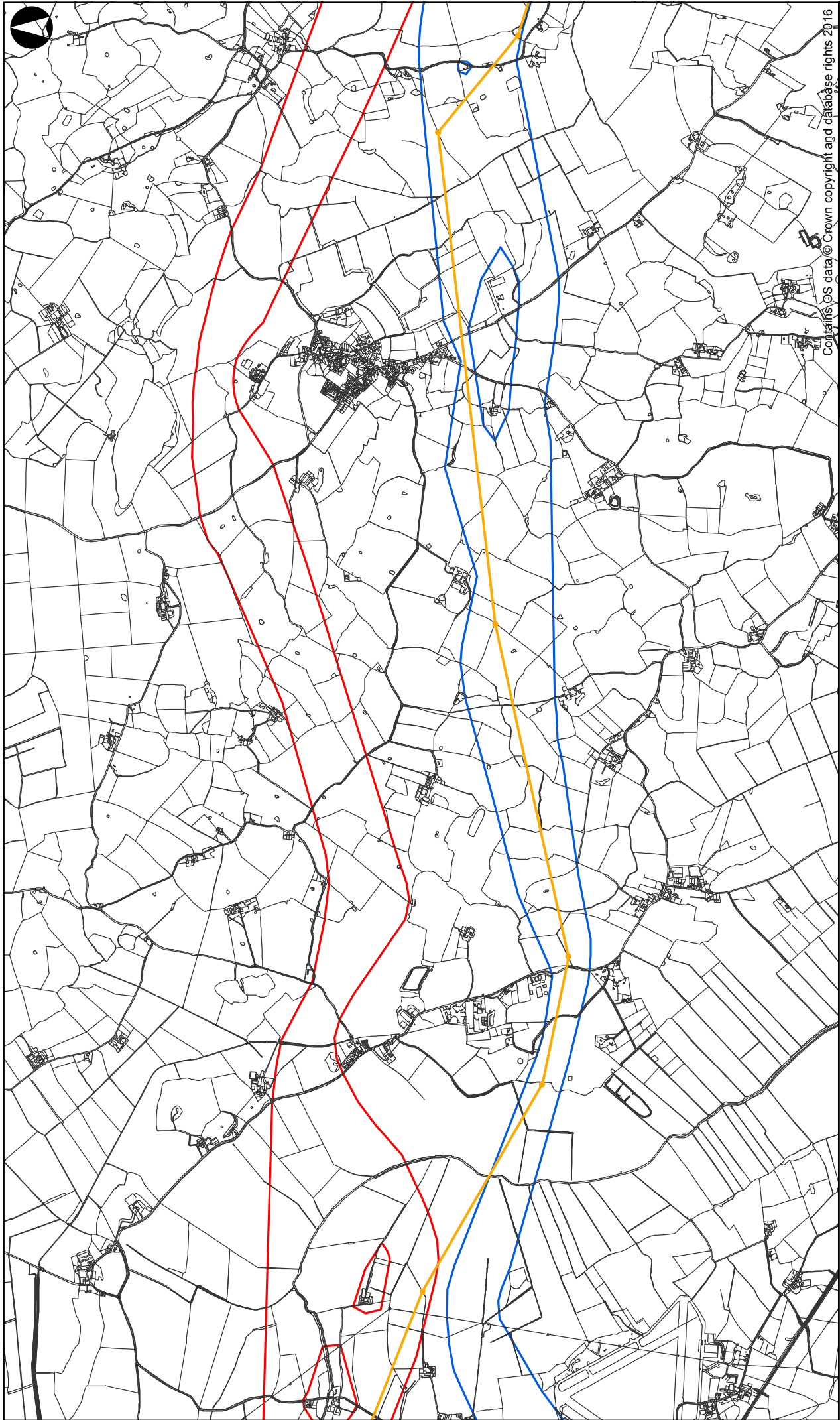
PAGE 1 OF 3

0 0.25 0.5 1 km
Scale: 1:30,000 @A4

Key:

-  Proposed Technical Line Route
-  Red Route Corridor Option
-  Blue Route Corridor Option





Key:




-  Proposed Technical Line Route
-  Red Route Corridor Option
-  Blue Route Corridor Option

FIGURE 3.3

**TECHNICAL LINE
ROUTE OPTIONS**

PAGE 2 OF 3

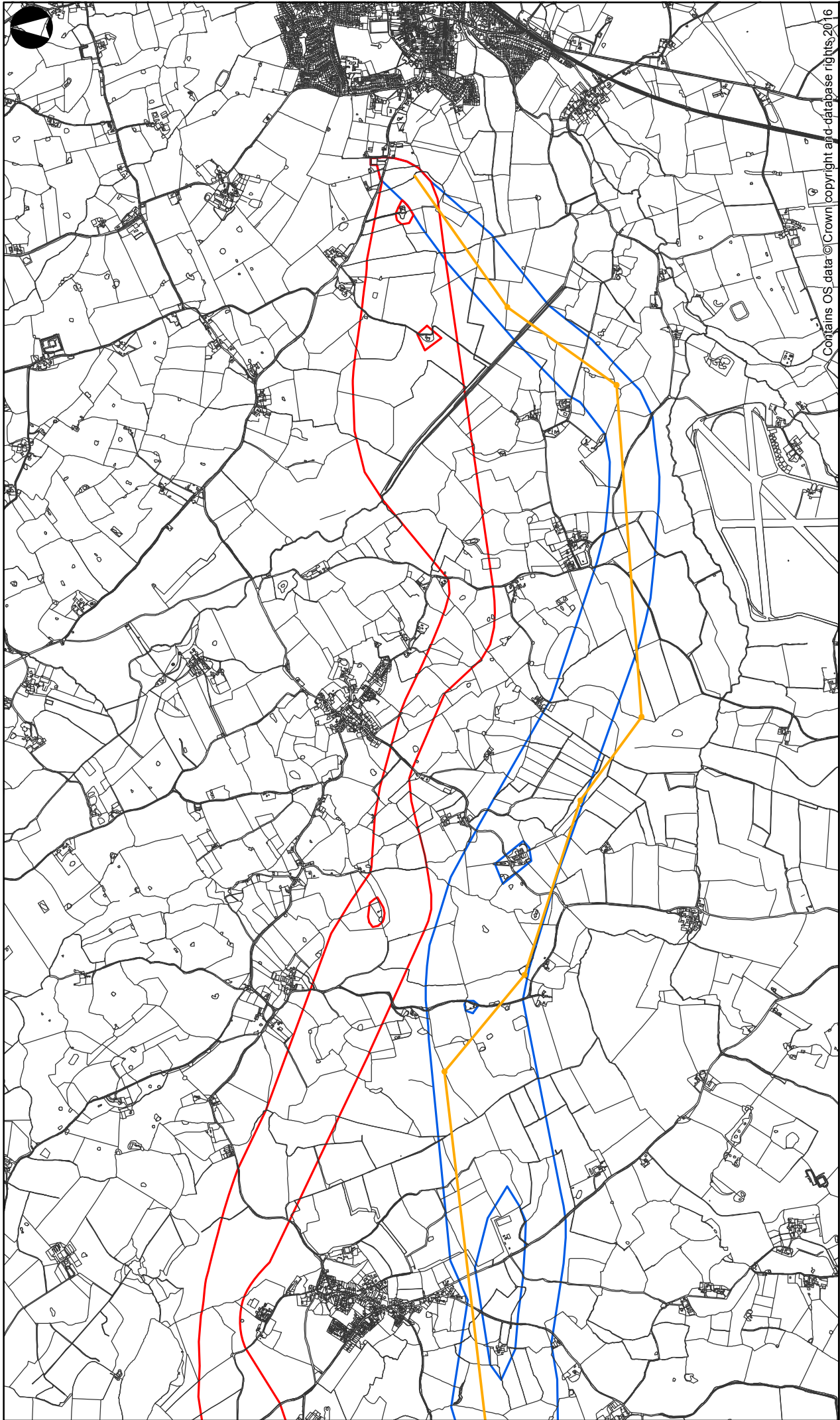
0 0.25 0.5 1 km

Scale: 1:30,000 @A4

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LINE DESIGN TECHNOLOGY



Key:




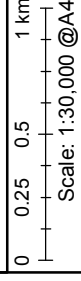
-  Proposed Technical Line Route
-  Red Route Corridor Option
-  Blue Route Corridor Option

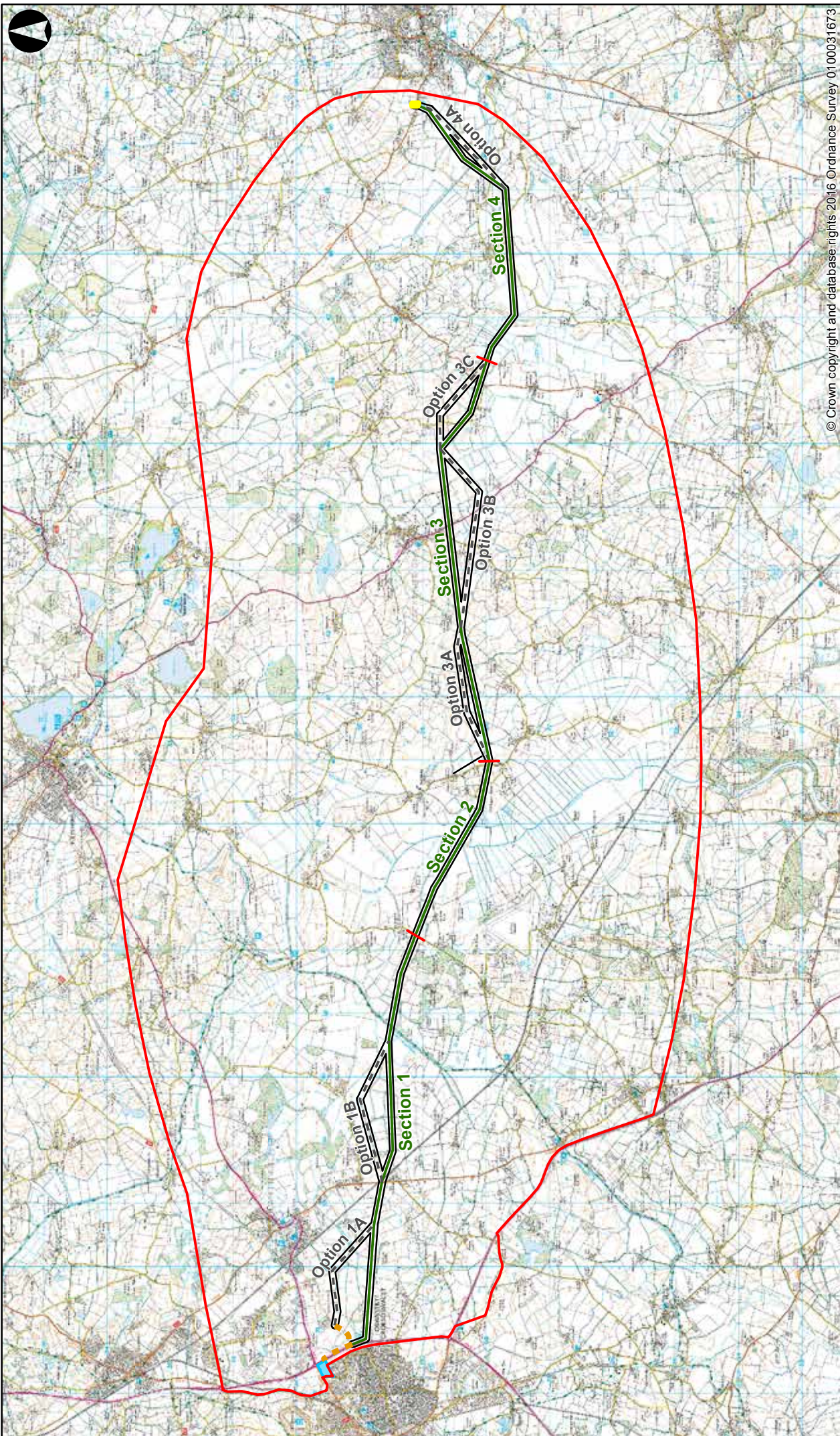
FIGURE 3.4
TECHNICAL LINE
ROUTE OPTIONS

PAGE 3 OF 3



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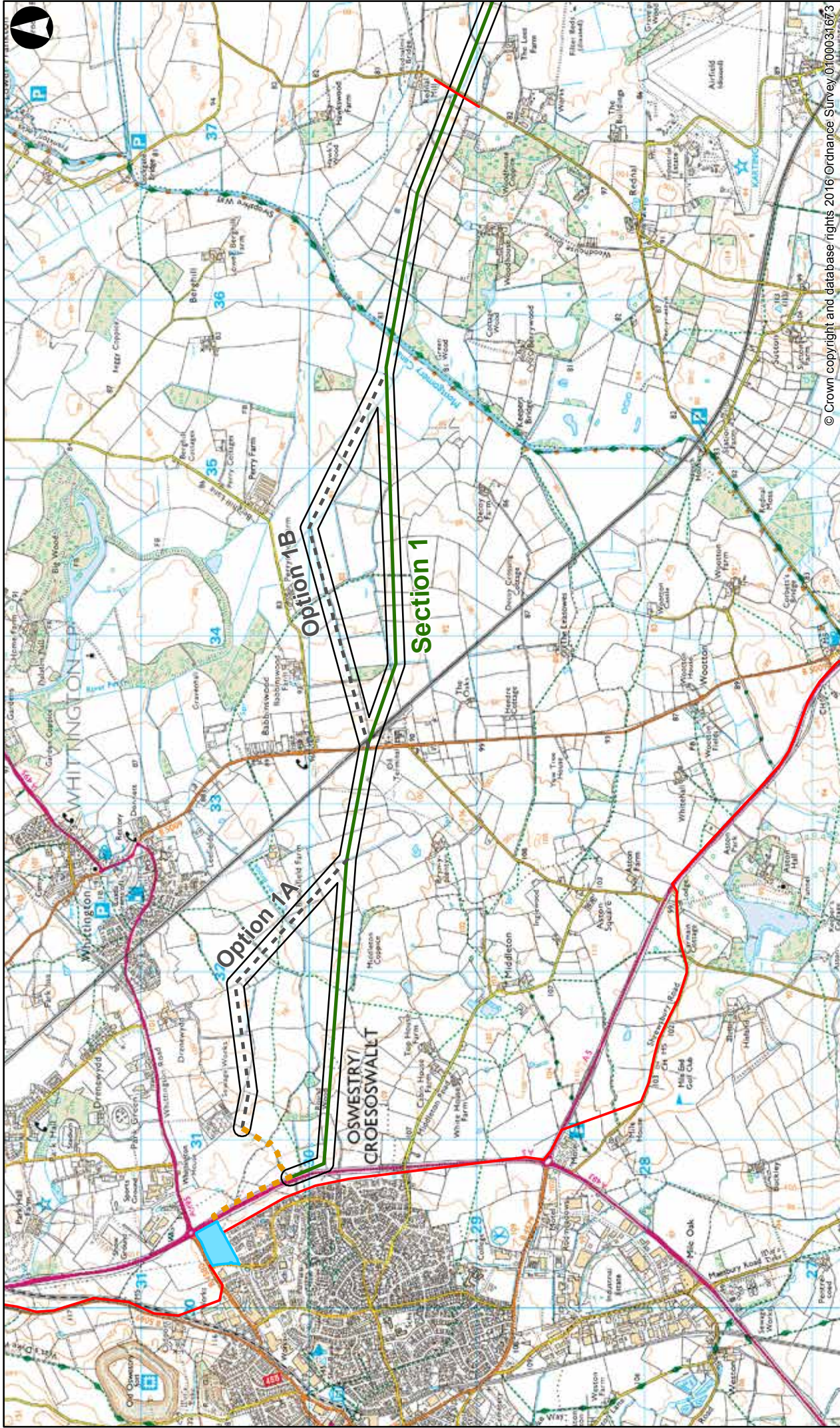
FIGURE 3.5
REFINED LINE
ROUTE OPTIONS
(100M WIDE)

Key:

- Preferred Line Route
- - - Alternative Line Routes
- Line Route Options (100m)
- Initial Underground Route Option
- Oswestry Substation
- Wern Substation
- Study Area

Scale: 1:75,000 @A4

0 0.5 1 2 km



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FIGURE 4.1
DETAIL OF 100M
WIDE LINE ROUTE
OPTIONS PAGE 1 OF 3

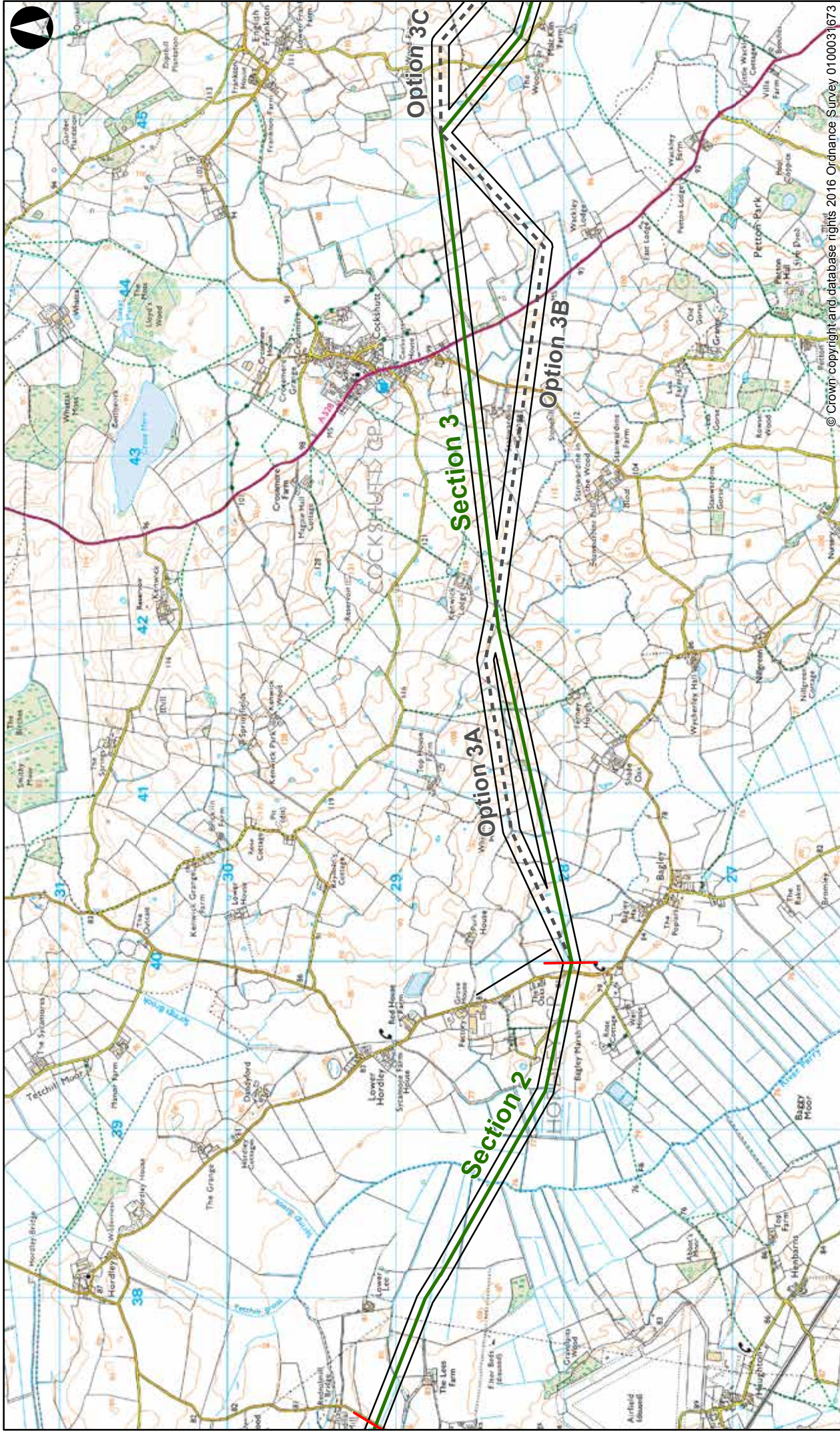
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Key:

- Preferred Line Route
- Alternative Line Routes
- Line Route Options (100m)
- Initial Underground Route Option
- Oswestry Substation
- Wem Substation
- Study Area



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FIGURE 4.2
DETAIL OF 100M
WIDE LINE ROUTE
OPTIONS PAGE 2 OF 3

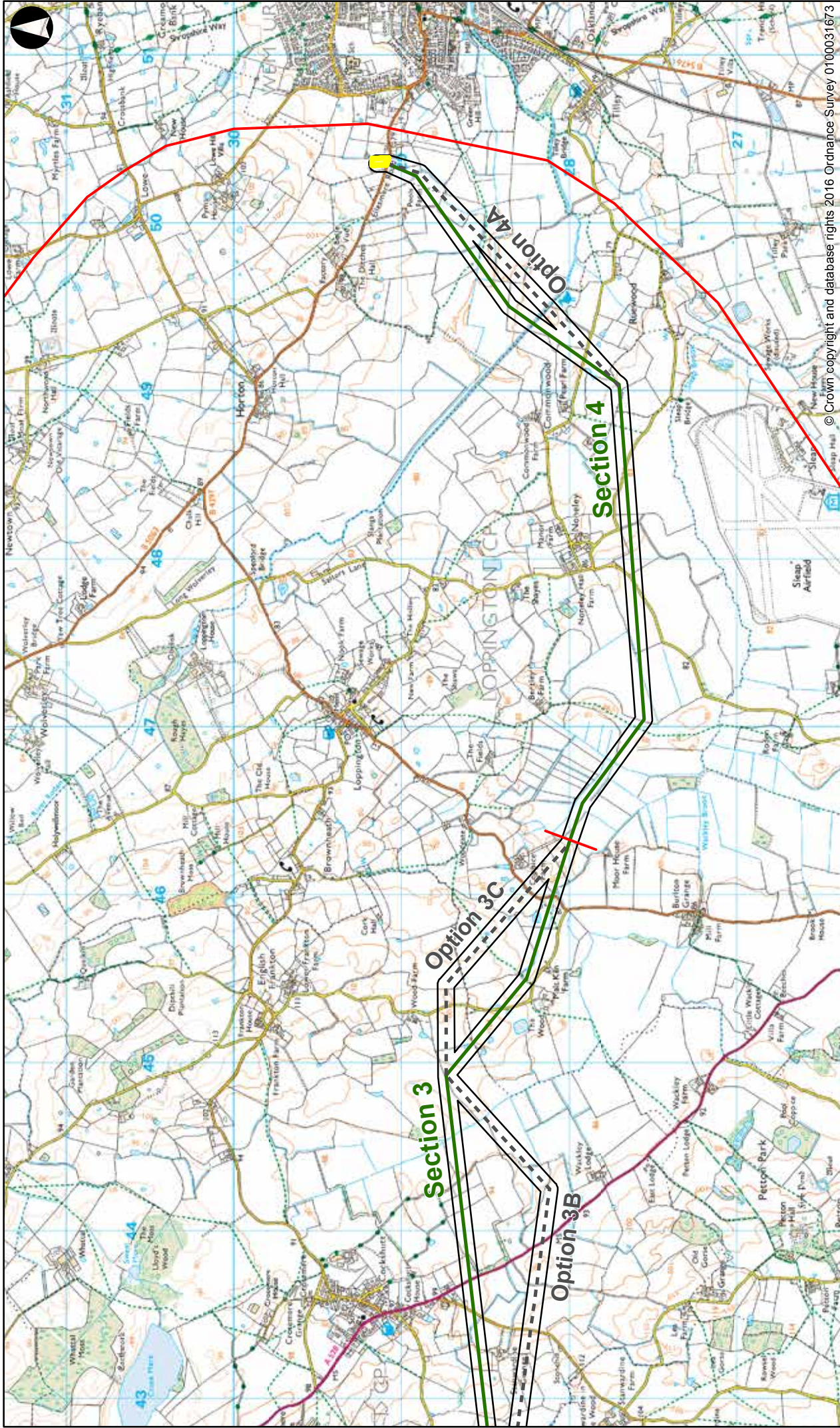
Scale: 1:30,000 @A4

Key:

- Preferred Line Route
- - - Alternative Line Routes
- Line Route Options (100m)
- Oswestry Substation
- Wem Substation
- Study Area

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SP ENERGY NETWORKS

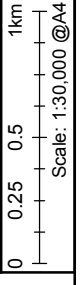


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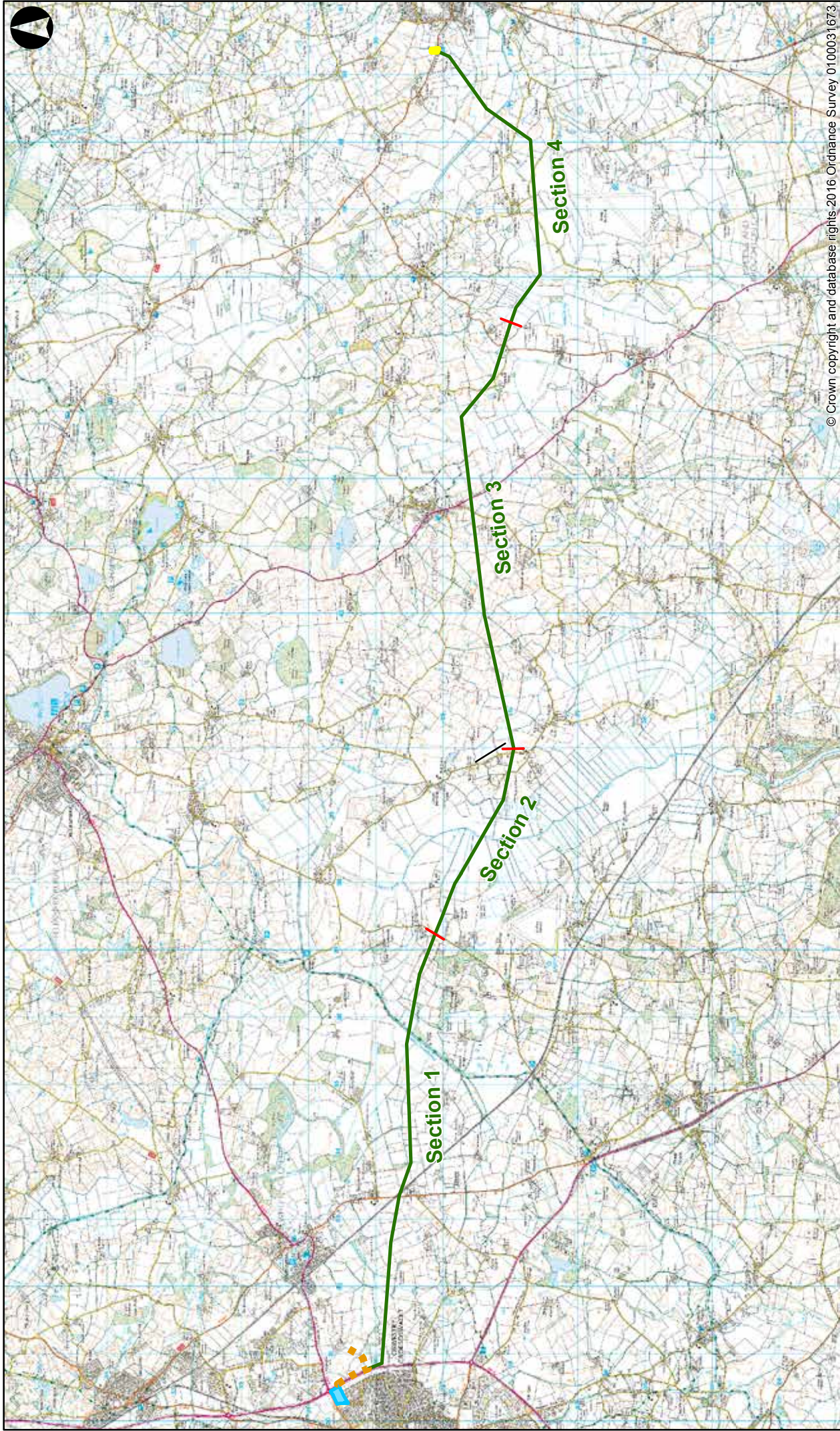
- Preferred Line Route
- - - Alternative Line Routes
- Line Route Options (100m)
- Oswestry Substation
- Wem Substation
- Study Area

FIGURE 4.3

**DETAIL OF 100M
WIDE LINE ROUTE
OPTIONS PAGE 3 OF 3**



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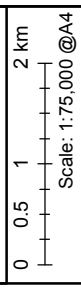
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Key:

- Preferred Line Route
- - - Initial Underground Route Option
- Oswestry Substation
- Wem Substation

FIGURE 6.1

**PREFERRED 100M
WIDE LINE ROUTE**



GILLESPIES

APPENDIX A

Line Route Report

June 2016

APPENDIX A: CRITERIA FOR ENVIRONMENTAL APPRAISAL OF LINE ROUTE OPTIONS

Criterion	Sub-criteria	Objective	Method for Appraisal
Length of Line Route	Consider the length of each route options compared to other comparable options.	To minimise environmental effects, all else being equal.	Calculate length using Geographical Information Systems (GIS) based on an approximate centre line of the line route option.
Ecology and Biodiversity (Holford Rules 1 & 2 & Supplementary Note b.) NPS EN-1 and NPS EN-5	Internationally designated Sites: <ul style="list-style-type: none"> • Ramsar Sites • Special Protection Area (SPA) • Special Area Conservation (SAC) • Nationally designated sites: • Site of Special Scientific Interest (SSSI) • Locally designated sites: • Local Wildlife Site (LWS), including Local Nature Reserves (LNR) • Ancient Woodland • Protected Species • Ornithology 	To minimise effects on statutory and non-statutory designated sites. To minimise effects on habitats and species of biodiversity importance. To minimise effects on protected species and their supporting habitats. To minimise potential effects on birds.	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. Appraisal of potential for protected species and ornithological activity within the study area and professional judgement applied in relation to potential routeing issues. Field survey 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 [REDACTED].

Criterion	Sub-criteria	Objective	Method for Appraisal
Landscape Character and Visual Amenity (Holford Rules 1, 2, 3, 4 & 5 & 7 and Supplementary Note b.) EN1 and EN5	Landscape and landscape Related Designations: None in the study area	-	-
	Landscape Character: <ul style="list-style-type: none"> • Landform (Holford 4 and 5) • Landcover/ Landscape Pattern (Holford 5 and 6) • Settlement Pattern Holford 1 and 2) • Scenic Quality (Holford 1 and 2) • Scale • Human Influence • Perceptual/ Sensory Aspects (Holford 1 and 2) • Landscape Condition • Skylines and Settings (Holford 4) • Views and Visibility National Character Areas: <ul style="list-style-type: none"> • Shropshire Landscape Typology Visual Amenity Potential extent of visibility and visual effects relating to a new overhead line: <ul style="list-style-type: none"> • Settlements • Visitor attractions and setting of attractions e.g. historic sites such as Whittington Castle, tourist routes. • Recreational resource including national/ regional trail, cycleways and public rights of way. • Formal recreation. • Informal recreation. • Common Land and Open Access Areas. • Main roads and routes. • Existing and proposed electricity network Infrastructure. • Individual residential properties. 	Landscape: To contribute to the understanding of likely landscape sensitivities within different areas for line routing. To find the best landscape 'fit' for the 100m line routes. To avoid landscapes with greatest potential sensitivity to change from a Trident wood pole overhead line. To minimise effects on distinctive landscape features or patterns of features. To use landscape features to help integrate the overhead line into the landscape. Visual Amenity: To avoid higher ground with potential for skylining. To avoid settlements where possible and/ or maximise distances to the overhead line. To avoid principal views, and maximise use of existing screening. To avoid where possible and/ or maximise distances to the overhead line from areas of amenity value. To avoid where possible direct effects on promoted long distance routes, areas of recreation including formal and informal recreation.	GIS mapping and desk based review of published landscape character assessments to consider potentially sensitive areas. Desk based appraisal of the line route options, using Google Earth and field survey to obtain a good landscape 'fit'. Consideration given to sensitive landscape features and landform, preferring less distinctive locations and selecting routes where the scale of the landscape could accommodate an overhead line. Visual Amenity: GIS, Ordnance Survey (OS), desk top and field based appraisal of the study area. OS mapping and field survey of landscape features which influence visibility and the potential for skylining or backdropping, including ridgelines and other topographical features, woodland blocks and buildings. 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. OS based GIS buildings data is used to identify the location of settlements. 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 survey to assist in the identification of any important views, and potential visibility of the line route options.

Criterion	Sub-criteria	Objective	Method for Appraisal
		<p>To minimise crossing points on main routes and roads, as far as is possible, and to avoid, where possible, key views from routes.</p> <p>To identify concentrations of similar development, existing overhead lines, wind turbines and options to avoid visual clutter and potential cumulative effects.</p> <p>To avoid where possible and/ or maximise distances to the overhead line from individual residential properties.</p> <p>To consider principal views, and existing screening through site appraisals</p>	<p>Consideration of views from key recreational and visitor attractions, e.g. historic visitor attractions, activity centres, etc. Potential visibility of the route from these areas is highlighted through professional judgement.</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. Field based identification of any important 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> <p>OS based GIS buildings data is used to identify the location of individual residential properties, in particular those within 100m of the edge of the 100m line routes. Field survey is used to establish potential for significant effects, with consideration given to orientation of the property in relation to the line route option, primary views and existing screening.</p>
<p>Historic Environment (Holford Rules 1 & 2 & Supplementary Note b.) EN1</p>	<ul style="list-style-type: none"> Scheduled monuments (SAMs) Listed buildings Conservation area Historic landscapes (informed by Shropshire Historic Landscape Characterisation and Shropshire Historic Farmsteads Characterisation) Non-listed assets of potential regional importance 	<p>To avoid and maximise distances to the overhead line.</p> <p>To avoid principal views from historic environment features where possible.</p> <p>Be aware of undesignated sites but consider in more detail at EIA stage.</p>	<p>Fields survey and GIS based quantitative assessment and qualitative appraisal of designated and where possible, undesignated/ non-listed assets of potential regional importance.</p> <p>Appraisal includes preliminary assessment of setting/ principal views of designations.</p>

Criterion	Sub-criteria	Objective	Method for Appraisal
Water Environment	Flood Risk – Environment Agency Flood Zones 2 and 3.	To establish areas of flood zone and potential technical issues (not an absolute constraint with Trident poles).	GIS mapping of Environment Agency Flood Zones 2 and 3. Consideration of the interrelationship of flood risk areas with receptor of high ecological importance, i.e., SAC or SSSI which may be dependent upon the hydrology of the area within which line route options are proposed, including tributaries of SACs, etc.
Forestry and Woodland:	<ul style="list-style-type: none"> • Ancient and semi-natural woodland • Other forestry and woodland 	<p>To avoid where possible woodlands and particularly areas of ancient semi-natural woodland due to the importance placed on their protection through the planning system.</p> <p>To cross linear features at right angles.</p> <p>To use as backdrop/ foreground in relation to landscape and visual objectives.</p>	<p>GIS based qualitative appraisal of woodland areas in relation to Ancient and Semi-Natural Woodland data and National Forest Inventory (NFI) data.</p> <p>Google Earth and site based identification of hedgerows, hedgerow trees and individual trees.</p> <p>Reference to field study and aerial photography to identify tree groups and areas of woodland. Proximity to woodland blocks and smaller groups of mature trees is also taken into account. Individual trees are generally avoided through deviation at the later route alignment stage.</p> <p>Consideration is also given to potential opportunities to utilise woodland and trees as a backdrop to the line or as intervening screen, and to prevent where possible the loss of woodland, trees and hedgerows.</p>
Scio Economic	<ul style="list-style-type: none"> • Agricultural land classification • Tourism and Recreation 	<p>To avoid 'Best and Most Versatile' agricultural land i.e. grades 1, 2, and 3a or follow edges where avoidance not possible.</p> <p>To avoid where possible and/ or maximise distances to the overhead line in relation to potential for economic effects.</p>	<p>GIS mapping of all grades of agricultural land to ensure. Consideration of location of route options with respect to all grades of agricultural land.</p> <p>OS and site verification of any caravan/ camping sites, log cabins, lodges, visitor attractions etc. Consideration of the location of route options in proximity to tourism and recreation facilities.</p>

Criterion	Sub-criteria	Objective	Method for Appraisal
Technical considerations	<ul style="list-style-type: none"> • Geology • Topography/Slopes • Crossings, including Main Roads, Bridges, Railways, Canals • Existing infrastructure • Existing and proposed wind turbines • Angles of Deviation • Access and Construction traffic • Airfields 	<p>To establish the geology of the study area.</p> <p>To avoid technical constraints due to steep slopes and altitude.</p> <p>To minimise effects on the local transport systems and their users.</p> <p>To avoid technical conflict with existing infrastructure, and minimise the need to underground/divert existing infrastructure.</p> <p>To avoid conflict with wind turbines.</p> <p>To minimise the need for angle poles.</p> <p>To establish the potential access for construction traffic.</p> <p>To avoid effects on aviation.</p>	<p>GIS based quantitative assessment and qualitative appraisal i.e. descriptive text in relation to potential for a route to be identified avoiding such constraints as far as practical.</p> <p>Technical review of line route options against steep slopes and/or topography.</p> <p>Study of the public road network close to line route options in terms of possible options for construction traffic access and potential constraints.</p> <p>Study of transport networks to consider feasibility of crossing points. Technical review of all options against existing and proposed overhead lines and wind turbines.</p> <p>Identification of areas protected for civil and military aviation including local airstrip, through consultation with the Local Authority and Civil Aviation Authority.</p>
Technical	<ul style="list-style-type: none"> • Registered Common Land • Local Development Plan Land Allocations • Open Space/green infrastructure • Green Belt • Minerals safeguarding areas 	<p>To avoid planning allocations where possible – see open access in Landscape and Visual criterion.</p> <p>To avoid, where possible, the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect villages, towns, and cities.</p> <p>To avoid green belt.</p> <p>To have awareness of any minerals safeguarding areas</p>	<p>GIS data.</p> <p>OS, GIS and field survey/ assessment and qualitative appraisal i.e. descriptive text in relation to potential for a line route to be identified avoiding (where possible) these uses. Consideration of the location of line route options with respect to agricultural land, minerals safeguarding, green space, green belt and local development plan land allocations published by Shropshire (including the 2016 policies map), and the potential for direct effects.</p>

APPENDIX B

Line Route Report

June 2016

Appendix B: Comparative Line Route Options Appraisal

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
Length of line route (m)		1870 (comparative section of Section 1 is 2050) *Shorter	2360 (comparative section of Section 1 is 2250) *Longer	6730 (no significant difference in overall length of lines)	3020	6590 *Shorter overall	2170 (comparative section of Section 3 is 2110) *Slightly longer	3070 (comparative section of Section 3 is 2830) *Longer	1660 (comparative section of Section 3 is 1570) *Slightly longer	4860	1860 (comparative section of Section 4 is 1890) *Very slightly shorter
Ecology and Biodiversity (Holford Rules 1, 2 and Supplementary Note b) NPS EN 1 & NPS EN-5	Internationally designated sites	West Midlands Mosses SAC Midland Meres & Mosses Ramsar (closest)	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar	West Midlands Mosses SAC Midland Meres & Mosses Ramsar
	Nationally designated sites	N	N	N	N	N	N	N	N	Within 100m of Ruewood Pastures SSSI	Adjacent to Ruewood Pastures SSSI
	Locally designated sites	N	Gravenall LWS and Ancient Woodland to north within 200m	Further south from Gravenall LWS and Ancient Woodland than Option 1B alternative	N	N	N	N	N	N	Within 100m of Ruewood Pastures LWS
Protected Species:	1. Clusters of mature trees (bat roost potential) 2. Waterbodies within 50m 3. [REDACTED] likely in locality	Y - Runs within 50m of small woodland copse	Y - Intersects edge of woodland.	Y - Fewer intersections with mature tree clusters but runs within 50m of woodland copse.	Y	Y	Y	Y	Y	Y	Y
		Y	N	Y	N	Y	Y	Y	Y	Y	Y
		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ornithology (features potentially attracting wetland birds)	*present but of low value	Y Land west of Montgomery Canal	Y	*Western end suitable agricultural land, present but of low value	Y	*present but of low value	N	Y	N	Y	Y
		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
Landscape and Visual (Holford Rules 1- 2, 3, 4, 5, 7 and Supplementary Note b.) EN1 & EN5	<i>e.g. river corridors, flood plain areas on open arable fields. Potential risk of collision</i>	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	Y -Land either side of Montgomery Canal	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.	No known international, national and local (locally valued) designations. See Shropshire Landscape Typology below.
	Landscape sensitivity (informed by site survey and Shropshire Landscape Typology)	Approx. 400m Principal Settled Farmlands, 1.5 km Settled Pastoral Farmlands. General comment: low lying, sparsely populated farmland, prone to flooding, with medium to large scale fields and occasional hedgerow tree blocks. Unlikely to be sensitive to the proposed overhead line.	Approx. 850m Settled Pastoral Farmlands, and 1.5km Lowland Moors. General comment: low lying, sparsely populated farmland, prone to flooding, with medium to large scale fields and occasional hedgerow tree blocks. Unlikely to be sensitive to the proposed overhead line. (Sensitivity to be confirmed through further appraisal – potentially low to medium-low).	Approx. 700m Principal Settled Farmlands, 3-5km Settled Pastoral Farmlands, 1.3km Lowland Moors, and 1.2km Estate Farmlands. General comment: low lying, sparsely populated farmland adjacent to the busy A5. Unlikely to be sensitive to the proposed overhead line. Low lying, sparsely populated farmland adjacent to the B5009 and the railway, and further flood prone fields in proximity to the	Approx. 600m Estate farmlands, 1.6km Lowland Moors and 800m of Estate Farmlands. General comment: low lying, farmland with large scale field patterns and some hedgerow boundaries. A factory / industrial area lies to the south of Lower Hordley, some scattered residential properties and an existing wind turbine. Unlikely to be sensitive to the	Approx. 5.2km Estate Farmlands and 1.1km Principal Settled Farmland, and a further 300m of Estate Farmlands. General comment: lightly undulating topography gently rising to the north and west, with scattered farms. Small to medium scale field patterns reflect the undulating nature of the topography. Scattered mature trees and tree blocks are found in fields and within hedgerows. Two wind turbines visible from this section (with potential glimpses of one more distant	Approx. 2.2km Estate Farmlands. General comment: lightly undulating topography gently rising to the north and west, with scattered farms. Small to medium scale field patterns reflect the undulating nature of the topography. Scattered mature trees and tree blocks are found in fields and within hedgerows.	Approx. 3km Estate Farmlands. General comment: undulating medium scale farmland with hedgerow boundaries and scattered mature hedgerow trees. Localised ridge runs between Kenwick Lodge and Stanwardine Hall. Landscape gently slopes down between a shallow valley as it approaches the overhead line.	Approx. 100m Estate Farmlands, 1.2km Principal Settled Farmlands and 300m of Estate Farmlands. General comment: low lying, sparsely populated farmland, featuring ponds and small blocks of trees and scattered residential/farm properties. Landscape is slightly more sensitive to the proposed overhead line. (Sensitivity to be confirmed through further appraisal –	Approx. 650m Lowland Moors, 250m Principal Settled Farmlands, a further 600m Lowland Moors, and a further 3.1km of Principal Settled Farmlands. General comment: level farmland with small hamlets at Noneley and Commonwood to the north, and which crosses areas of flood plain to the east and west. There is an area of distinctive field patterns at Moor Fields (near Coppice Farm). Field patterns and scale vary from small and complex to large and open.	Approx. 550m of Principal Settled Farmlands, 950m Lowland Moors and 250m of Settled Pastoral Farmlands. General comment: low lying, sparsely populated farmland, of medium to small scale, set largely within flood plain, and with a small number of scattered hedgerow trees. Crosses the River Roden through a flat low lying landscape west

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	<ul style="list-style-type: none"> • Landscape Condition • Skylines and Settings (Holford 4) • Views and Visibility 			<p>Montgomery Canal.</p> <p>Pockets of slightly higher sensitivity in proximity to the canal and the edge of Woodhouse Estate where field pattern becomes more intimate and complex, and tree cover is greater.</p> <p>(Sensitivity to be confirmed through further appraisal – potentially low to medium-low)</p>	<p>proposed overhead line.</p> <p>(Sensitivity to be confirmed through further appraisal – potentially low).</p>	<p>Two wind turbines are visible from this section, (with potential glimpses of one more distant turbine at Bagley Marsh).</p> <p>Landscape is. Localised ridge runs between Top House Farm and Kenwick Lodge, and at Stanwardine Hall.</p> <p>Landscape gently slopes down between a shallow valley as it approaches southern edge of Cockshutt, and becomes more level as it passes lower lying flood areas and Malt Kiln Farm. This area features a number of ponds and small blocks of trees.</p> <p>Landscape is slightly more sensitive to the proposed overhead line.</p> <p>(Sensitivity to be confirmed through further appraisal – potentially medium-low).</p>	<p>turbine at Bagley Marsh).</p> <p>Landscape is. Passes close to a localised ridge between Top House Farm and Kenwick Lodge. Landscape is slightly more sensitive to the proposed overhead line.</p> <p>(Sensitivity to be confirmed through further appraisal – potentially medium-low).</p>	<p>lower lying flood areas in the direction of Wackley Lodge and Wood farm.</p> <p>Two existing wind turbines visible from this section, with glimpses of one more distant turbine at Bagley Marsh.</p> <p>Landscape is slightly more sensitive to the proposed overhead line.</p> <p>(Sensitivity to be confirmed through further appraisal, but is likely to vary – potentially low with some slightly higher sensitivity areas to the west and mid sections near distinctive field patterns and hamlets).</p>	<p>potentially medium-low).</p>	<p>Boundaries contain mostly hedgerows, with a limited number of mature trees.</p> <p>Crosses the River Roden through a flat low lying landscape west of Commonwood.</p> <p>(Sensitivity to the proposed overhead line will be confirmed through further appraisal, but is likely to vary – potentially low with some slightly higher sensitivity areas to the west and mid sections near distinctive field patterns and hamlets).</p>	<p>of Commonwood.</p> <p>Unlikely to be sensitive to the proposed overhead line.</p> <p>(Sensitivity to be confirmed through further appraisal – potentially low).</p>
	<p>Visual amenity including:</p> <ul style="list-style-type: none"> • Settlements 	Option 1A oversails 2 public footpaths, 2	Option 1B oversails 1 public footpathsand	Section 1 originates near the A5 in adjacent	Section 2 has the potential to be visible from scattered	Section 3 has the potential to be visible from scattered	Option 3A has the potential to be visible from scattered	Option 3B has the potential to be seen from the south of	Option 3C is unlikely to be seen from any areas of	Section 4 passes to the south of small hamlets at Grafton, Noneley	Option 4A passes through a largely unsettled area

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	<ul style="list-style-type: none"> Visitor attractions and setting of attractions e.g. historic sites such as Whittington Castle, tourist routes. Recreational resource including National/Regional trail, cycle-ways and Public Rights of Way. Formal Recreation. Informal Recreation. Common Land and Open Access Areas. Main Roads and Routes. Existing and Proposed Electricity Network Infrastructure. 	<p>existing 11 kV OHLs and has the potential to be visible from the A495 near Whittington, from edge of settlement at Whittington and Babbinswood. These views are likely to be distant (greater than 300m) and broken up by hedgerow trees, field boundaries and the trees along the linear embankment/cutting of the railway.</p> <p>Visual effects are unlikely to be significant.</p>	<p>lies approx. 170m from the Montgomery Canal (to the nearest centre line of the line route).</p> <p>Option 1B has the potential to be visible from edge of Babbinswood.</p> <p>Visual effects are unlikely to be significant, but potential for some localised effects near the Montgomery Canal.</p>	<p>farmland, but is likely to be well screened by existing trees along the A5, and is generally at a distance of over 500m from scattered settlement near Middleton.</p> <p>Visual effects are unlikely to be significant but there is potential for increased effects where the route crosses the junction of the B5009 and the railway line south of Babbinswood, north of Woodhouse Estate, and at Rednal in proximity to Rednal Mill, The Lees Farm and Lower Lee.</p> <p>Localised effects are possible at the Montgomery Canal. This section passes within 100m of/crosses 3 public footpaths and the regional trail along the Montgomery Canal – this is a long distance walking trail promoted by the</p>	<p>residential settlement near Rednal Mill (there is potential for increased effects north of Woodhouse in proximity to Rednal Mill, The Lees Farm and Lower Lee) and dispersed along the road south of Lower Hordley and into Bagley Village. However, this section of Section 2 is set within a landscape containing industrial scale factory units and an existing wind turbine. The landform is low lying with slight undulations, and as such views are likely to be relatively contained, though there is potential for some very localised sky lining in views that are in very close proximity to the proposed overhead line, particularly on the edge of settlement at Wern. Significant visual effects are unlikely with careful routing to limit potential effects in close proximity to the eastern end of the route, near the western edge of settlement at Wern on Ellesmere Road.</p> <p>Section 4 passes within 100m of/crosses 3 public footpaths and the River Roden (a black dotted line on the OS mapping denotes a path that has been identified by Ordnance Survey, but not necessarily a right of way</p>	<p>residential settlement dispersed along the road which runs south of Lower Hordley into Bagley Village, and west to Shade Oak and Stanwardine. This section is set in a slightly elevated location, a few hundred metres distant from the dispersed settlement. It is likely to be visible, but backclothed, subject to orientation of views. On its approach to Cocksbutt, the route passes over a localised ridge between Kenwick Lodge and Stanwardine Hall before dropping down towards the southern edge of Cocksbutt. Effects on visual amenity are possible at Lower Hordley and Stanwardine Grange, and to the southern edge of settlement at Cocksbutt, subject to orientation of primary views and screening, final positioning of the proposed overhead</p>	<p>residential settlement dispersed along the road which runs south of Lower Hordley into Bagley Village, and west to Shade Oak and Stanwardine. This section is set in a more elevated location than Section 3, and is more distant from the dispersed settlement, but slightly closer to properties along the localised ridge near Kenwick Oak, Top House Farm and Park Cottage. It is likely to be more visible than Section 3, but largely backclothed, and subject to orientation of views, is unlikely to result in significant effects.</p> <p>Option 3A passes within 100m of/crosses 1 public footpath.</p>	<p>Cocksbutt settlement, but at a distance of over 400m. The route passes over a localised ridge between Kenwick Lodge and Stanwardine Hall and has the potential to be seen in views from more distant settlements. However, the Trident pole is similar in height to mature hedgerow trees and would be screened in places.</p> <p>Option 3B crosses 1 public footpath, south of Kenwick Lodge.</p>	<p>settlement such as hamlets and villages.</p> <p>Option 3C passes within 100m of/crosses 1 public footpath and 1 along a B road.</p>	<p>and Commonwood, and is likely to be visible but at a distance of over 150m. Intervening hedgerow trees assist in screening views across this level and low-lying landscape. There is potential for some very localised sky lining in views that are in very close proximity to the proposed overhead line, particularly on the edge of settlement at Wern. Significant visual effects are unlikely with careful routing to limit potential effects in close proximity to the eastern end of the route, near the western edge of settlement at Wern on Ellesmere Road.</p> <p>Section 4 passes within 100m of/crosses 3 public footpaths and the River Roden (a black dotted line on the OS mapping denotes a path that has been identified by Ordnance Survey, but not necessarily a right of way</p>	<p>of flood plain and significant effects on visual amenity are unlikely. The landform is low lying with only slight undulations, and as such views are likely to be relatively contained, though there is potential for some very localised sky lining in views that are in very close proximity to the proposed overhead line, particularly on the edge of settlement at Wern. Significant visual effects are unlikely with careful routing to limit potential effects in close proximity to the eastern end of the route, near the western edge of settlement at Wern on Ellesmere Road.</p> <p>Option 4A passes within 100m of/crosses 1 public footpath.</p>

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	<ul style="list-style-type: none"> Individual residential properties. 			<p>Long Distance Walking Association, and also forms part of the Shropshire Way Route 27, and part of the locally promoted 53km Oswestry Round.</p> <p>The landscape to the west of Woodhouse Drive is open, largely level, with fewer hedgerow trees, and contains an existing network of 11 kV OHLs.</p> <p>In total, Section 1 crosses the intersection of two 11 kV OHLs, and comes into close proximity of two other 11 kV OHLs.</p> <p>The likelihood of significant effects on visual amenity is subject to orientation of views, presence of existing screening, final position of the proposed overhead line, and proximity to properties/features.</p>	<p>of/crosses no public footpaths. It also crosses the River Perry (a black dotted line on the OS mapping denotes a path that has been identified by Ordnance Survey, but not necessarily a right of way because the status is not defined or known).</p> <p>Effects are unlikely to be significant, but there is potential for increased effects south of Lower Hordley, subject to orientation of views, existing screening, final positioning of the proposed overhead line, and proximity to properties.</p>	<p>line, and proximity to properties. Further east, the section passes through relatively level topography at some distance from areas of settlement at Buriton and Wackley. Intervening hedgerow trees and small blocks of trees further screen any distant views, and as such there are unlikely to be any significant effects on visual amenity.</p> <p>The option passes within 100m of/crosses 4 public footpaths.</p>				<p>because the status is not defined or known).</p>	<p>1. public footpath and the River Roden (a black dotted line on the OS mapping denotes a path that has been identified by Ordnance Survey, but not necessarily a right of way because the status is not defined or known).</p>
	<p>Visibility near transport routes</p>	<p>In proximity to the A5 & A495 near Oswestry –</p>	<p>Crosses railway and B5009 south of</p>	<p>Section 1 has the potential to be visible in</p>	<p>Crosses a minor road (Woodhouse Drive) north of</p>	<p>Crosses A528 south of Cocksbutt, the</p>	<p>No major routes crossed.</p>	<p>Crosses a minor road near Stanwardine</p>	<p>Crosses the B4397 near Copplice Farm,</p>	<p>Crosses 3 minor roads south of Loppington,</p>	<p>Crosses 1 minor road near Commonwood/</p>

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
		distance is subject to the location of undergrounding and the terminal pole. There is potential for very localised effects at these locations.	Babbinswood Farm, and runs parallel to the rural lane south of Babbinswood Farm. Has the potential to be visible in glimpsed views and over a short distance, from the B5009 and the railway line. The railway line is largely in cutting, and through a screen of trees. There is potential for very localised effects at these locations.	glimpsed views from the A5, but through a screen of mature trees at a similar scale to the development. Crosses railway and B5009 south of Babbinswood Farm. Has the potential to be visible in glimpsed views and over a short distance, from the B5009 and the railway line. The railway line is largely in cutting, and through a screen of trees. Crosses Montgomery Canal near Rednal. There is potential for very localised effects at these locations.	Rednal and Woodhouse, and two minor roads in Lower Hordley. There is potential for very localised effects at these locations.	B4397 near Coppice Farm, and a minor road near Malt Kiln Farm. There is potential for very localised effects at these locations.	Significant effects are unlikely.	Grange and Stonehill, and the A528 near Wackley Lodge. There is potential for very localised effects at these locations.	and a minor road near Malt Kiln Farm. There is potential for very localised effects at these locations.	Noneley, Grafton and Commonwood, and the B5063 Ellesmere Road at Wem. There is potential for very localised effects at these locations.	Pearl Farm, and the B5063 Ellesmere Road at Wem. There is potential for very localised effects at these locations.
	Combined visual effects with other OHLs and electricity infrastructure	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – crosses a line just east of Oswestry, and crosses a line near Brookfield Farm. 		Proximity to: <ul style="list-style-type: none"> 132 kV SPEN OHL near Oswestry and the A5 11 kV OHL – crosses a line east of Oswestry near Brookfield Farm and is in proximity to two lines north of 	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – crosses and passes 2 lines which meet at Rednal Mill. Crosses a line in south of Lower Hordley, near a junction where 2 lines meet and cross. 	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – crosses in 1 location south of Lower Hordley, near a junction where 2 lines meet and cross. Crosses a line at Stanwardine Grange and south of Cocksbutt, at Malt Kiln Farm and Moor House Farm. 	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – crosses a line at Stanwardine Grange and south of Cocksbutt, near Wackley Lodge. Two wind turbines visible close to this section. 	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – crosses a line south of Wood Farm and southwest of Coppice Farm. Two wind turbines visible close to this section. 	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – Crosses a line south of Wood Farm and southwest of Coppice Farm. Two wind turbines visible close to this section. 	Proximity to: <ul style="list-style-type: none"> 11 kV OHL – Crosses a line south of Wood Farm and southwest of Coppice Farm. Two wind turbines visible close to this section. 	Proximity to: <ul style="list-style-type: none"> 33 kV OHL – Crosses/meets 2 lines south of Pools Farm.

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
Historic Environment (Holford Rules 1, 2 and Supplementary Note b)	Scheduled Monuments (SAMs)	Whittington Castle (SM 1019450): c.770m NE, setting crossed - significant effects unlikely; Old Oswestry Hillfort & 2 sections of Wat's Dyke (SM 1014899): c.1365m NW, setting crossed - significant effects unlikely; Wat's Dyke (SM 1014618): c.1770m SW, setting crossed - significant effects unlikely; Wat's Dyke (SM 1014619): c.1635m SW, setting crossed - significant effects unlikely; Wat's Dyke and cultivation terrace (SM 1020564): c.1435m SW - significant effects unlikely; Old Oswestry Castle motte and wall (SM 1019300): c.1445m W -	Whittington Castle (SM 1019450): c.1500m NW, setting crossed - significant effects unlikely.	Woodhouse Estate. Whittington Castle (SM 1019450): c.1185m NE, setting crossed - significant effects unlikely; Old Oswestry Hillfort & 2 sections of Wat's Dyke (SM 1014899): c.1265m NW, setting crossed - significant effects unlikely; Wat's Dyke (SM 1014618): c.1285m SW, setting crossed - significant effects unlikely; Wat's Dyke (SM 1014619): c.1235m SW, setting crossed - significant effects unlikely; Wat's Dyke and cultivation terrace (SM 1020564): c.1065m SW - significant effects unlikely; Wats Dyke (SM 1020562): c.1830m SW - significant effects unlikely;	<ul style="list-style-type: none"> Existing 400 kV west of Rednal Mill. None	A wind turbine is visible close to this section. Stanwardine Moated Site (SM 1017240): c.690m S; setting crossed - significant effects unlikely.	Stanwardine Moated Site (SM 1017240): c.850m SE; setting crossed - significant effects unlikely.	Stanwardine Moated Site (SM 1017240): c.550m S; setting crossed - potential for greater effects on setting subject to presence of existing screening, pole positions, etc.	None	Wem Castle (SHER MSA 846): c.750m E - significant effects unlikely.	Wem Castle (SHER MSA 846): c.750m E - significant effects unlikely.

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
		significant effects unlikely.		Old Oswestry Castle motte and wall (SM 1019300): c.1445m W - significant effects unlikely.							
	Listed Buildings (LB)	Drenewydd (LB 1054192, Grade II listed); c.400m N; potential for greater effects on setting subject to presence of existing screening, pole positions; Crossing Cottage (LB 1054194, Grade II listed): c.630m N - significant effects unlikely; White Gables (LB 1180264, Grade II listed): c.600m N - significant effects unlikely; Big House (LB 1054195, grade II listed): c.900m N - significant effects unlikely; Halston Chapel (LB 1367397, grade II* listed): c.1875m NE - significant effects unlikely.	Halston Hall (LB 1054216, grade I listed) and Chapel (LB 1367397, grade II* listed): c.1400m, 1700m respectively N - significant effects unlikely.	Drenewydd (LB 1054192, Grade II listed): c.970m N; significant effects unlikely; Pool Farmhouse (LB 1177306, Grade II listed) and Barn (LB 1054273, Grade II listed): 960m and 940m S respectively - significant effects unlikely; Middleton Farmhouse (LB 1367358, Grade II listed), 1070m S - significant effects unlikely; Halston Hall Chapel (LB 1367397, grade II* listed): c.1700m N - significant effects unlikely; Woodhouse and Stable-block (LB 1054231, LB 1367378, Grade II* listed); Pump, Basin and Wall, LB 1177779, LB 1177780, Grade II W - significant effects unlikely.	Shade Oak Farmhouse (LB 1055946, Grade II listed): c.450m S - significant effects unlikely; Wycherley Hall (LB 1055965, Grade II listed): c.1020m S - significant effects unlikely; Stanwardine Hall (LB 1176127, Grade II*) and Terraces, Garden Walls & Gate-piers (LB 1366554, grade II listed): c.620, 650m respectively NW - significant effects unlikely; Crosmere Hall & attached Garden Wall (LB 1055947): c.600m N - significant effects unlikely; 38, Shrewsbury Road, Cocksbutt (LB 1366539): c.640m N - significant effects unlikely.	Shade Oak Farmhouse (LB 1055946, Grade II listed): c.630m S - significant effects unlikely; Wycherley Hall (LB 1055965, Grade II listed): c.1150m S - significant effects unlikely; Stanwardine Hall (LB 1176127, Grade II*) and Terraces, Garden Walls & Gate-piers (LB 1366554, grade II listed): c.875m, 850m respectively NW - significant effects unlikely; Crosmere Hall & attached Garden Wall (LB 1055947): c.600m N - significant effects unlikely; 38, Shrewsbury Road, Cocksbutt (LB 1366539): c.640m N - significant effects unlikely.	Shade Oak Farmhouse (LB 1055946, Grade II listed): c.630m S - significant effects unlikely; Wycherley Hall (LB 1055965, Grade II listed): c.1150m S - significant effects unlikely; Stanwardine Hall (LB 1176127, Grade II*) and Terraces, Garden Walls & Gate-piers (LB 1366554, grade II listed): c.875m, 850m respectively NW - significant effects unlikely; Crosmere Hall & attached Garden Wall (LB 1055947): c.600m N - significant effects unlikely; 38, Shrewsbury Road, Cocksbutt (LB 1366539): c.640m N - significant effects unlikely.	None	Maltkiln Farmhouse (LB 1056039, Grade II listed): c.365m SW - potential for greater effects on setting subject to presence of existing screening, pole positions; Woodgate & Attached Wall and Stables (LB 1289526, LB 1366485, Grade II listed): c.480m, 530m respectively NE - significant effects unlikely; Burlton Grange Farmhouse (LB 1121453, Grade II listed), Mill Farmhouse (LB 1212502, Grade II listed): c.785m, 820m, respectively S - significant effects unlikely.	Nonely Hall Farmhouse (LB 1212917, Grade II listed): c.290m N - potential for greater effects on setting subject to presence of existing screening, pole positions; Grafton Farmhouse (LB 1366490, Grade II listed): c.270m N potential for greater effects on setting subject to presence of existing screening, pole positions; Tilley 8 Listed Buildings: c.880 - 1150m S - significant effects unlikely; The Ditches Hall (LB 1264550, Grade II* listed): c.715m N - significant effects unlikely; Former Lodge (Entrance to Belle) (LB 1264545, Grade II listed): c.620m N - significant effects unlikely; Deer Stalker Restaurant (LB	

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
				520m respectively S; potential for greater effects on setting subject to presence of existing screening, pole positions, etc.		listed). c.70m SW – potential for greater effects on setting subject to presence of existing screening, pole positions; Woodgate & Attached Wall and Stables (LB 1289526, LB 1366485, Grade II listed); c.620m, 650m; respectively NE - significant effects unlikely; Buriton Grange Farmhouse (LB 1212453, Grade II listed), Mill Farmhouse (LB 1212502, Grade II listed); c.775m, 805m, respectively S - significant effects unlikely; Wackley Farmhouse (LB 1366566, Grade II listed); c.1165m S - significant effects unlikely.				significant effects unlikely; Tilley 8 Listed Buildings: c. 980 - 1250m S - significant effects unlikely; The Ditches Hall (LB 1264550, Grade II* listed); c.545m N - significant effects unlikely; Former Lodge (Entrance to Belle) (LB 1264545, Grade II listed); c.575m N - significant effects unlikely; Deer Stalker Restaurant (LB 1055437, Grade II listed); c.315m E – potential for greater effects on setting subject to presence of existing screening, pole positions; Beech House (LB 1366755, Grade II listed); c.225m E – potential for greater effects on setting subject to presence of existing screening, pole positions; Lowe Hall (1264453, Grade II listed); 545m N - significant effects unlikely.	

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	Conservation Areas (CA)	Whittington CA: c.600m NE - significant effects unlikely.	Whittington CA: c.1300m NW - significant effects unlikely.	Whittington CA: c.1040m N - significant effects unlikely.	None	Loppington CA: c.1200m N significant effects unlikely.	None	None	Loppington CA: c.1200m N significant effects unlikely.	Wem CA: c.195m E - potential for greater effects on setting subject to existing screening, pole positions, etc.	
	Historic landscapes (informed by Shropshire Historic Landscape Characterisation and Shropshire Historic Farmsteads Characterisation)	Park Hall Park & Garden (SHER MSA 4,080): c.395m N - significant effects unlikely; Halston Hall Park (SHER MSA 4,075): c.1435m NE - significant effects unlikely.	Halston Hall Park (SHER MSA 4,075): c.575m N - significant effects unlikely.	Park Hall Park & Garden (SHER MSA 4,080): c.630m N - significant effects unlikely; Halston Hall Park (SHER MSA 4,075): c.970m N - significant effects unlikely; Woodhouse Park (SHER MSA 18,442): setting crossed - potential for greater effects on setting subject to presence of existing screening, pole positions, etc.	Woodhouse Park (SHER MSA 18,442): setting crossed on E side - significant effects unlikely.	Petton Hall Park (SHER MSA 4,045): c.1000m S - significant effects unlikely; Frankton Grange Parkland (SHER MSA 33,406): c.1085m N - significant effects unlikely.	None	Petton Hall Park (SHER MSA 4,045): c.380m SW - significant effects unlikely; Frankton Grange Parkland (SHER MSA 33,406): c.1085m N - significant effects unlikely.	Frankton Grange Parkland (SHER MSA 33,406): c.1065m N - significant effects unlikely.	Pyms House Park (OS 1st Ed): c.465 N - significant effects unlikely.	Pyms House Park (OS 1st Ed): c.465 N - significant effects unlikely.
	Non-designated assets of potential regional importance	None	Roman Marching Camp (SHER MSA 0935): c.135m N - potential for greater effects on setting subject to	Roman Marching Camp (SHER MSA 0935): c.515m N - significant effects unlikely;	Montgomery Canal (SHER MSA 927): c.400m NE - significant effect.	Montgomery Canal (SHER MSA 927): overpassed - significant effects unlikely; Bagley Hall (SHER MSA 16857): 480m	Montgomery Canal (SHER MSA 927): overpassed - significant effects unlikely; Bagley Hall (SHER MSA 16857): 480m	None	None	Wem Castle (SHER MSA 846): c.730m E - significant effects unlikely; Wem Street System (SHER MSA 12884):	Wem Castle (SHER MSA 846): c.730m E - significant effects unlikely; Wem Street System (SHER MSA 12884):

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
Water Environment	Flood risk	Crosses flood zone area south of Whittington twice, once for approx. 20m then a further 100m.	Crosses flood zone on and off (islands) for approx. 1km near Montgomery Canal.	Crosses again on and off (islands) for approx. 900m near Montgomery Canal.	Crosses again intermittently for approx. 710m to the west of Lower Hordley.	Start of the route, east of Lower Hordley, is approx. 550m from floodzone. Passes adjacent to a flood zone area west of Cockshutt.	Does not cross a floodplain, nearest is approx. 750m to the south of the route.	Crosses a flood zone north of Wackley Lodge for approx. 300m	Does not cross a flood one, closest is approx. 300m south-west.	Crosses flood zone for approx. 200m at its start. East of Loppington the route crosses floodplain for approx. 1100m.	Most of route cuts through flood zone, approx. 1200m in length with a few islands.
Forestry and woodland	Ancient and semi-natural woodland	None within proximity.	Ancient Woodland to north within 330m	None within proximity.	None within proximity.	None within proximity.	None within proximity.	None within proximity.	None within proximity.	None within proximity.	None within proximity.

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	Other forestry and woodland		Significant effects are unlikely. Crosses through northern edge of woodland south of Babbinswood Farm.	Skirts the edge of woodland at Round Wood, east of the A5, and is over 70m from Middleton Coppice. Crosses through southern edge of woodland south of Babbinswood Farm and remains within at least 30m proximity of woodland patches in its southern reach.	Within 400m range of closest area south-west of the route.	Closest is within 50m of route just south of Cockshutt. Also close to woodland near Kenwick Farm and Wood Farm (within 300m).	Closest area is north of the route, approx. 170m away just west of Kenwick Lodge.	Doesn't cross, closest is approx. 170m north close to Cockshutt.	Doesn't cross, closest is approx. 300m north close to Wood Farm.	Does not cross any. Within approx. 200m of Commonwood and 360m Noneley Hall Farm.	Does not cross any areas. Closest are approx. 400m to the west at Commonwood and 560m approx. to south near Sleep Brook.
Socio-economic	Agricultural land classification	All Grade 3	Grade 3 (800m) then Grade 4 (1400m)	All Grade 3 land, except 1500m Grade 4, near the Montgomery Canal.	Runs through Grade 4 land in its entirety.	First 3500m stretch is through Grade 3 land, runs for approx. 800m through Grade 2, 350m through Grade 4 then finishes the length in Grade 3.	Runs through Grade 3 land in its entirety.	Approx. 1170m Grade 3, then approx. 760m Grade 2, then approx. 1100m Grade 4 and a final approx. 310m Grade	Is predominantly Grade 3, runs through Grade 2 for approx. 380m.	Mainly Grade 2 and 3 areas with 2 crossings of Grade 4 at 650 and 200m approx. lengths.	Is largely Grade 3, runs through Grade 2 twice for approx. 300m each.
	Tourism and recreation	None in close proximity. Over 900m south from Park Hall and Whittington Castle. Over 1km from the centre of Oswestry.	None in close proximity. Over 1.5 km south of Whittington Castle. Significant effects are unlikely	None in close proximity. Smithy Cottage and Rednal Airfield approx. 1km south of the route. Approx. 1.8km to Halston Hall (wedding venue and heronry).	None in close proximity. Over 1km from rednal Airfields, Smithy Cottage, and Hordley Hall.	Local interest sites to south of the route: Shade Oak Stud approx. 400m, Wycherley Hall approx. 1km and Stanwardine Hall 700m south. Footpaths within the setting of Petton Hall are over 1km from the proposed route.	Shade Oak Stud approx. 600m south.	Stanwardine Hall approx. 500m south. Wycherley Hall approx. 1.2km south.	None in close proximity.	Grafton Farmhouse 320m north of route. Ruewood Meadow Nature Reserve approx. 160m to east. Sleep Airfield approx. 500m south.	Ruewood Meadow Nature Reserve approx. 160m to east. Sleep Airfield approx. 500m south.

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
		Significant effects are unlikely		Approx. 1.9km to Hordley Hall. Significant effects are unlikely.							
Technical considerations (engineering design)	Geology	Diamicton	Clay Silt and Sand Sand & Gravel	Diamicton Clay Silt and Sand Sand & Gravel Peat	Peat Sand & Gravel Diamicton	Diamicton Sand & Gravel	Diamicton	Diamicton Sand & Gravel	Sand & Gravel Diamicton	Sand & Gravel Peat Diamicton	Sand & Gravel Diamicton
	Topography / Slopes	Slopes less than 1:10 Reasonably steady grade 88m - 116m altitude range	Slopes less than 1:10 Gentle Slope down to flat plain 78m - 96m altitude range	Slopes less than 1:10 Gentle slope, rolling hills Steady Rise 76m - 111m altitude range	Slopes less than 1:10 Flat grade 73m - 79m altitude range	Slopes less than 1:10 Gentle slope, rolling hills, steady rise and fall 76m - 115m altitude range	Slopes less than 1:10 Gentle slope, rolling hills, steady rise and fall 77m - 109m altitude range	Slopes less than 1:10 Gentle slope, rolling hills 83m - 112m altitude range	Slopes less than 1:10 Undulating terrain 91m - 99m altitude range	Slopes less than 1:10 Flat grade 74m - 84m altitude range	Slopes less than 1:10 Flat grade slight ripples 74m - 80m altitude range
	Crossings	A5 Road crossing (UG)	Railway line Crossing (Cut)	A5 Road crossing (UG) B5009 Road Crossing (Banked) Railway line Crossing (Cut) Montgomery Canal (Banked)	River Perry (Cut)	A528 Road Crossing (Level) B4397 Road Crossing (Level)				River Roden (Banked)	River Roden (Banked)
	Existing infrastructure	2 X 11kV OHL Crossing Line crossings, both are perpendicular to proposed route, therefore feasible to over-sail	No OHL Crossings	2 x 132kV OHL Crossing – Proposed will need to be underground to avoid placing existing lines at risk	2 x 11kV OHL Crossings Some of the line crossings would need to be reconfigured as they are in close proximity to	4 x 11kV OHL Crossing Line crossings are perpendicular to proposed route, therefore feasible to over-sail	1 X 11kV OHL Crossing Line crossing is perpendicular to proposed route, therefore feasible to over-sail	2 x 11kV OHL Crossings Line crossings are perpendicular to proposed route, therefore feasible to over-sail	1 x 11kV OHL Crossing Line crossing is perpendicular to proposed route, therefore feasible to over-sail	1 x 11kV OHL Crossing 2 x 33kV OHL crossing 33kV crossings in direct competition with proposed OHL therefore would need to	1 x 33kV OHL Crossing 33kV crossing in direct competition with proposed OHL therefore would need to

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
				3 x 33kV OHL Crossings – underground proposed to avoid conflict 4 x 11kV OHL Crossings Some of the line crossings would need to be reconfigured as they are in close proximity to proposed structures	proposed structures					OHL therefore would need to be undergrounded	be undergrounded
	Angles of Deviation	All angles within spec Failure containment achieved in this section	All angles within spec Failure containment achieved in this section	All angles within spec Need for inline failure containment in this section	All angles within spec Need for inline failure containment in this section	All angles within spec Failure containment achieved in this section	All angles within spec Failure containment achieved in this section	Heavy angle exceeds 75° maximum line deviation if section 3 route is utilised Failure containment achieved in this section	All angles within spec Failure containment achieved in this section	All angles within spec Failure containment achieved in this section	All angles within spec Failure containment achieved in this section
	Access & Construction Traffic	Reasonable access via existing entry points	Reasonable access via existing entry points	Possible access from A5 traffic management required. Reasonable access via existing entry points	Reasonable access via existing entry points	Reasonable access via existing entry points No obvious route to angle Ref A16	Reasonable access via existing entry points	Reasonable access via existing entry points No obvious route to angle Ref A16	Reasonable access via existing entry points No obvious route to angle Ref A16	Reasonable access via existing entry points	Reasonable access via existing entry points
	Wind Turbines			Proposed Turbine – southwest of The Oaks at Lower Hordley, and near the individual properties at Honeysuckle Cottage and	Proposed Turbine – Shade Oak Stud. Exact co-ordinates for the turbine are not published on the planning development management report - co-	Proposed Turbine – Shade Oak Stud. Exact co-ordinates for the turbine are not published on the planning development management report - co-	Proposed Turbine – Shade Oak Stud. Exact co-ordinates for the turbine are not published on the planning development management report - co-	Proposed Turbine – Shade Oak Stud. Exact co-ordinates for the turbine are not published on the planning development management report - co-	Proposed Turbine – Shade Oak Stud. Exact co-ordinates for the turbine are not published on the planning development management report - co-	Proposed Turbine – Sleep House Farm, Exact co-ordinates for the turbine are not published on the planning development management report - co-	Proposed Turbine – Sleep House Farm, Exact co-ordinates for the turbine are not published on the planning development management report - co-

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
					<p>Standor. Exact co-ordinates for the turbine are not published on the planning development report - co-ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located beyond the requisite falling distance of 48m for this turbine.</p> <p>Proposed Turbine – Top House Farm. Exact co-ordinates for the turbine are not published on the planning development management report - co-ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located beyond the requisite falling distance of 50m for this turbine.</p> <p>Proposed Turbine – Abbots Moor. Exact co-ordinates for the turbine are not published on the planning development management report - co-ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located beyond the requisite falling distance of 73m for this turbine.</p>	<p>ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located beyond the requisite falling distance of 48m for this turbine.</p> <p>Proposed Turbine – Top House Farm. Exact co-ordinates for the turbine are not published on the planning development management report - co-ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located well beyond the requisite falling distance of 54m for this turbine.</p>	<p>report - co-ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located beyond the requisite falling distance of 48m for this turbine.</p> <p>Proposed Turbine – Top House Farm. Exact co-ordinates for the turbine are not published on the planning development management report - co-ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located well beyond the requisite falling distance of 54m for this turbine.</p>			<p>ordinates are given for the associated property rather than the turbine location. Site observations indicate it is located beyond the requisite falling distance of 25m for this turbine.</p>	

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	Airfields					Within Sleep (ATZ) Air Traffic Zone			Within Sleep (ATZ) Air Traffic Zone	Within Sleep (ATZ) Air Traffic Zone Within Shawbury (ATZ) Air Traffic Zone Within Sleep (ATZ) Air Traffic Zone Within Sleep Aerodrome & Shawbury Aerodrome	
Planning and land use considerations	Registered Common Land	None within proximity.	None within proximity.	None within proximity.	Approx. 240m away at southern end to area east of Well House at Bagley.	Area east of Well House at Bagley is approx. 240m away at start of route.	Area east of Well House at Bagley is approx. 240m away at start of route.	None within proximity.	None within proximity.	None within proximity.	None within proximity.
	Local development plan land allocations	Route begins on the edge of the Employment development boundary.	Route begins on the edge of the Employment development boundary.	Route begins on the edge of the Employment development boundary. Runs over 200m south of development boundary at Babbinswood.	Nothing proposed within proximity.	The 200m line route sits just within proposed overhead line boundary around Cockshutt, and just south of housing allocation. *Sits within the housing development boundary.	Nothing proposed within proximity.	Runs approx. 300m south of proposed overhead line boundary around Cockshutt.	Nothing proposed within proximity.	170 m from end of route is proposed Housing development boundary surrounding Wern.	170 m from end of route is proposed Housing development boundary surrounding Wern.
	Open space/green infrastructure (i.e., the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and	No green belt identified in this area on the Shropshire Council policies map. No open access land or public forest.	None	No green belt identified in this area on the Shropshire Council policies map. Routes across the Montgomery Canal and associated footpath.	No open access land or public forest. Routes across the River Perry and associated path (status unknown). No green belt identified in this area on the	No open access land or public forest. No green belt identified in this area on the Shropshire Council policies map.	No open access land or public forest. No green belt identified in this area on the Shropshire Council policies map.	No open access land or public forest. No green belt identified in this area on the Shropshire Council policies map.	No open access land or public forest. No green belt identified in this area on the Shropshire Council policies map.	No open access land or public forest. Routes close to Ruewood Meadow Nature Reserve. No green belt identified in this area on the	No open access land or public forest. Routes close to Ruewood Meadow Nature Reserve. No green belt identified in this area on the Shropshire

Criterion	Sub-criteria	Option 1A	Option 1B	Section 1 (finishes at Rednal Mill)	Section 2 (originates at Rednal Mill)	Section 3 (originates at Lower Hordley)	Option 3A	Option 3B	Option 3C	Section 4 (originates near Moor House Farm)	Option 4A
	connect villages, towns, cities) Green belt			No open access land or public forest.	Shropshire Council policies map.					Shropshire Council policies map.	Council policies map.
	Minerals safeguarding areas	None	None	Sand and gravel noted on the Shropshire Council policies map.	Sand and gravel noted on the Shropshire Council policies map.	Sand and gravel noted on the Shropshire Council policies map.	Just clips the sand and gravel noted on the Shropshire Council policies map.	Sand and gravel noted on the Shropshire Council policies map.	Just clips the sand and gravel noted on the Shropshire Council policies map.	Sand and gravel noted on the Shropshire Council policies map.	Sand and gravel noted on the Shropshire Council policies map.