SP MANWEB

Reinforcement to the North Shropshire Electricity Distribution Network

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Planning Statement

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November 2018

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PLANNING STATEMENT

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The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Regulations 5(2)(q)

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CONTENTS

1 INTRODUCTION

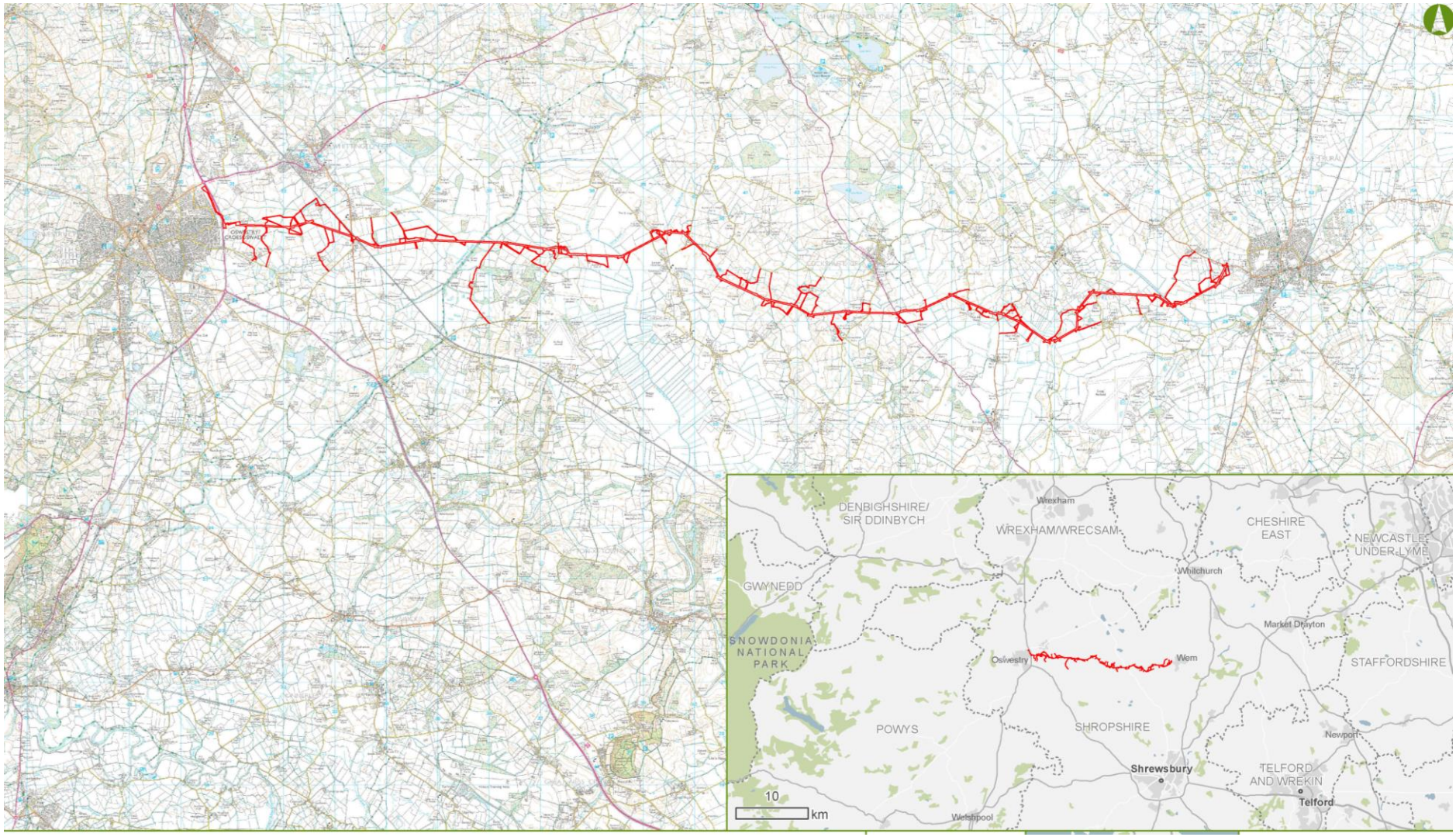
1.1 OVERVIEW

1.1.1 This Planning Statement accompanies an application by SP Manweb plc (SP Manweb) under the Planning Act 2008 for an Order granting development consent for the Reinforcement to the North Shropshire Electricity Distribution Network (the 'DCO'). The DCO would grant powers to construct, operate and maintain a new 22.5 kilometre 132,000 volt (132kV) connection between the existing Oswestry Substation and Wem Substation within the administrative boundary of Shropshire County (see Figure 1.1 Location Plan).

1.2 CONTEXT

1.2.1 The predominant land use within which the Proposed Development would be located is agriculture. Arable and pastoral farmland is interspersed with small settlements including Lower Hordley, Bagley, Cockshutt, Noneley and Loppington.

1.2.2 There are number of other small-scale land uses in keeping to its rural nature including residential properties, recreational uses, Public Rights of Way (PRoW) and businesses.


DENBIGHSHIRE/
SIR DDINBYCH
Wrexham
WREXHAM/WRECSAM
CHESHIRE
EAST
NEWCASTLE-
UNDER-LYME
Whitchurch
GWYNEDD
Market Drayton
SNOWDONIA
NATIONAL
PARK
Oswestry
Wem
STAFFORDSHIRE
POWYS
SHROPSHIRE
Newport
Shrewsbury
TELFORD
AND WREKIN
Telford
10
km
Welshpool

1.3 PURPOSE OF THE REPORT

1.3.1 Under the Planning Act 2008[1] the Proposed Development is defined as a Nationally Significant Infrastructure Project (NSIP).

1.3.2 Section 14(1) of the Planning Act 2008 states that a:

> *'nationally significant infrastructure project" means a project which consists of any of the following —*
>
> *(b) the installation of an electric line above ground;'*

1.3.3 Section 16 of the Act provides further explanation defining this as an electric line installed above ground with a nominal voltage greater than or equal to 132kV and greater than 2 kilometres (km) in length.

1.3.4 National Policy Statements (NPSs) set out Government policy for the delivery of national infrastructure and are of primary importance to the decision making process for NSIPs.

1.3.5 Whilst the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 do not specifically require a Planning Statement to accompany an application for an Order granting Development Consent. Regulation 5(2)(q) allows for the submission of *'any other documents considered necessary to support the application'* ,SP Manweb considers that a Planning Statement would assist the Planning Inspectorate (PINS) in examining the DCO application, and the Secretary of State (SoS) with the determination of the DCO application.

1.3.6 Section 104 of the Planning Act 2008 states:

> '(2) *In deciding the application the Secretary of State must have regard to –*
>
> *any national policy statement which has effect in relation to development of the description to which the application relates (a 'relevant national policy statement); and* …..

[1] Planning Act. HMSO, London. HM Government (2008)

The Secretary of State must decide the application in accordance with any relevant national policy statement' …

1.3.7 This Planning Statement describes the planning policy context for the Proposed Development and reviews the planning issues raised in light of the Overarching National Policy Statement for Energy (EN-1)[2] and the National Policy Statement for Electricity Networks Infrastructure (EN-5)[3].

1.3.8 This Planning Statement also describes the planning policy context set by other planning documents.

1.3.9 The National Planning Policy Framework (July 2018)[4] sets out government's planning policies for England and how these are expected to be applied. The Framework does not contain specific policies for NSIPs however para 5 of the NPPF states that;

'*The Framework does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the decision making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework)*'.

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

'… *matters that [the decision maker] may consider both important and relevant*

[2] Department of Energy and Climate Change. Overarching National Policy Statement for Energy (EN-1). London: UK Government, 2011

[3] Department of Energy and Climate Change. National Planning Policy Statement for Electricity Networks Infrastructure (EN-5). London: UK Government, 2011

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/733637/National_Planning_Policy_Framework_web_accessible_version.pdf

to its decision making may include Development Plan Documents or other documents in the Local Development Framework. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for the purposes of … decision making given the national significance of the infrastructure'.

1.3.11 The Planning Statement considers relevant policies from the Shropshire Local Plan (Section 6).

1.3.12 The Planning Statement draws upon the conclusions of other application documents in order to assess the compliance of the Proposed Development, as described in Section 2.3, against the requirements of the National Policy Statements and to have regard to other material considerations, those being the NPPF and the Shropshire Local Plan.

1.4 STRUCTURE OF THE REPORT

1.4.1 This report is structured as follows:

- Section 2 sets out the background to the proposals (including the need for the Proposed Development, an overview of the Proposed Development and an explanation as to what an order granting Development Consent is being sought;
- Section 3 sets out the approach that SP Manweb has adopted in developing the design of the Proposed Development;
- Section 4 sets out the National Planning Policy context;
- Section 5 provides an assessment of the Proposed Development against that policy context;
- Section provides the local planning policy context and assess the Proposed Development against that context;
- Section 7 summarises the Report; and
- Appendix 1 provides an appraisal of the consideration of undergrounding in the context of NPS EN-5.

2 BACKGROUND

2.1 SP MANWEB

2.1.1 SP Manweb plc is the electricity distribution network operator (DNO) for North and Mid Wales, Cheshire, Merseyside and parts of Shropshire.

2.1.2 As an electricity DNO, SP Manweb holds a distribution licence pursuant to the Electricity Act 1989 (the "1989 Act") and is subject to a number of conditions under its licence and statutory duties under the 1989 Act.

2.2 THE NEED FOR THE PROPOSED DEVELOPMENT

2.2.1 NPS EN-1 (para 3.7.10) highlights an urgent need for the provision of new electricity transmission and distribution infrastructure.

> '*In the light of the above, there is an urgent need for new electricity transmission and distribution infrastructure (and in particular for new lines of 132 kV and above) to be provided. The IPC should consider that the need for any given proposed new connection or reinforcement has been demonstrated if it represents an efficient and economical means of connecting a new generating station to the transmission or distribution network, or reinforcing the network to ensure that it is sufficiently resilient and has sufficient capacity (in the light of any performance standards set by Ofgem) to supply current or anticipated future levels of demand*'.

Updated North Shropshire Growth Plans

2.2.2 SP Manweb has been in discussion with Shropshire Council for many years in relation to the need for reinforcement of the electricity circuit in North Shropshire. In preparing its business plans for the current regulatory period (RIIO-ED1), this area of network was identified and recognised as requiring reinforcement. This major reinforcement scheme will facilitate and attract business and housing investment across North Shropshire. SP Manweb has been working closely with Shropshire Council to understand the level of expected development and the land allocated for new jobs and homes, particularly in and around Oswestry, Whitchurch, Wem and Ellesmere.

2.2.3 Shropshire Council's SAMDev (Site Allocations and Management of Development) Plan, which was published in 2015, identified growth strategies in a number of towns and villages in the north of the County through to 2026[5], and showed areas of land for both housing and employment uses. Whilst some of this development had already been built in the early part of the Plan, there still remained approximately 4,120 dwellings and 63 hectares of employment land to be delivered up to 2026. Looking beyond 2026, the Shropshire Council is currently consulting on a new growth strategy for the period 2026-2040[6] for which the planned growth in housing is 11% higher than for the previous strategy. In addition, the connected load in this area has increased since the Strategic Options Report was first published in May 2016.

2.2.4 Much of the development demand is expected to materialise in and around Whitchurch and Oswestry, and also on the long 33kV interconnections between Whitchurch and Oswestry. SP Manweb continues to work closely with its stakeholders, including Shropshire Council and developers connecting directly to its networks.

Background Demand Growth, Including Low Carbon Technologies (LCTs)

2.2.5 SP Manweb has to accommodate the peak demands that customers require from its networks. These peak demands often occur for a short period and are not well correlated with customers' overall energy consumption. During the economic downturn the number of units (kWh) distributed were observed to be falling in some years but the peak demands on the network did not change in the same way. During the current regulatory period (RIIO-ED1) SP Manweb expects to see modest demand growth throughout the period. It is anticipated that the main driver of demand growth, particularly during the latter half of the RIIO-ED1 period, will be

[5] Shropshire Council Site Allocations and Management of Development (SAMDev) Plan, Adopted Plan, 17/12/2015

[6] Shropshire Local Plan Review, Consultation on Preferred Scale and Distribution Development, Consultation Period: 27th October 2017 – 22nd December 2017

customer uptake of Low-carbon Technologies (LCT). The LCT analysis in the SP Manweb's RIIO-ED1 business plan is based upon scenarios developed by the Department of Energy & Climate Change (DECC, now BEIS). Each DECC Scenario was designed to achieve the Fourth Carbon Budget, and SP Manweb used the models developed by the industry to assess the impact on their networks. SP Manweb's "best view" of LCT uptake is regularly held under review and informed by a range of industry sources including the annually published National Grid Future Energy Scenarios (currently under review).

Obligations

2.2.6 The current local electricity distribution network has been supplying North Shropshire reliably for many years. However with future growth plans in the region planned up to 2036, there is a need to reinforce the network. This is to provide additional capacity to support development and growth.

2.2.7 As a holder of an Electricity Distribution Licence for the Cheshire, Merseyside, Shropshire, North and Mid Wales area, SP Manweb must comply with various statutory and licence duties and obligations. Such duties require SP Manweb to develop, maintain and continue to provide an efficient, co-ordinated and economical system of electricity distribution. Conditions of the Distribution Licence are such that SP Manweb has a responsibility to plan and develop the distribution system in accordance with a standard not less than that set out in Engineering Recommendation P2/6 (ER P2/6). ER P2/6 is considered to be the minimum level of security standard and sets out the expected levels of security required for distribution networks. The document has been adopted by the distribution network operators (DNOs) to ensure commonality across distribution networks with regards to network security of supply.

2.3 REINFORCEMENT REQUIREMENT

2.3.1 Reinforcement of the distribution network in North Shropshire is necessary in order to establish the required level of network security for the Legacy - Newtown - Oswestry - Welshpool - Whitchurch 33kV demand group.

2.3.2 The magnitude of current flow through the 33kV circuits in the Whitchurch/ Wem area is such that some circuits are already at risk of exceeding their thermal ratings and the voltage drop along these circuits is close to statutory limits. Connecting any additional demand in this area would increase the thermal and voltage issues on this circuit, and the network would be unable to accommodate the level of demand growth indicated by Shropshire Council.

2.3.3 To accommodate sustained demand growth in the area, network reinforcement is required.

2.3.4 In terms of the relevant legislation, Section 9(1) of the Electricity Act 1989 requires SP Manweb:

a) '*to develop and maintain an efficient, co-ordinated and economical system of electricity distribution; and*

b) *to facilitate competition in the supply and generation of electricity'.*

2.3.5 Schedule 9 of the Electricity Act 1989 requires that SP Manweb, when formulating proposals for new lines and other works:

(a) '*shall have regard to the desirability of preserving natural beauty, of conserving flora, fauna, and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and*

(b)..shall do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects'.

Consequences of Not Reinforcing the Network

2.3.6 Failure to reinforce the group would impede or prevent economic growth in the area. Failure to reinforce the group could also risk thermal overloads and voltage issues as demand is expected to continue to increase for the group. This would pose a risk to the security of supply to thousands of the 62,250 customers supplied by this group. The loss of supply to such a number of customers would be dramatic, with

the range of sensitivities to a supply interruption, from such a large range of customer types, having a wide spectrum of impacts:

- Domestic customer loss of lighting and heating;
- Loss of public street lighting, traffic lights, gas & water supplies and water treatment works processes;
- Telecommunications systems limited;
- Large disruption for offices, factories, shops and workplaces;
- Hospitals not able to function effectively (limited on-site backup generation); and
- Schools, GP surgeries, nursing homes and emergency services severely impacted Priority treatments for dialysis (local portable generators).

2.3.7 Furthermore, failure to reinforce the network would lead to a non-compliance of ER P2/6 and breach of Condition 24 of the distribution licence, which can ultimately result in financial penalties and a breach of the statutory duties described above.

2.3.8 The various options available to help increase the security of supply for the North Shropshire area have been considered, and out of all the options considered the proposed solution of a new 132kV single circuit wood pole line from Oswestry to Wem and associated 132/33kV transformer in Wem substation is considered as the most appropriate to address the network issues.

2.4 OVERVIEW OF THE PROPOSED DEVELOPMENT

2.4.1 The Proposed Development comprises a new 22.5 km 132kV electrical circuit between the existing SP Manweb Substations at Oswestry and Wem Substations in North Shropshire, together with associated temporary construction works. The circuit would be a combination of underground cables and overhead line. Works are also required at the existing Oswestry and Wem Substations to accommodate the new circuit.

2.4.2 The Proposed Development includes the following elements:

- Works within the boundary of the existing SP Manweb Substation at Oswestry including underground cable and the installation of electrical switchgear and associated equipment;
- Approximately 1.2km of 132kV underground cable between Oswestry Substation and a 132kV terminal structure at Long Wood (SJ 31132 29877);
- Approximately 21.3km of 132kV of overhead line supported by Trident wood poles from the terminal structure at Long Wood (SJ 31132 29877) to the existing SP Manweb Substation at Wem; and
- Works within the existing SP Manweb Substation at Wem including the installation of a new 132kV to 33kV transformer.

2.4.3 The modifications to Oswestry and Wem Substations would normally be considered permitted development, however SP Manweb have included the substation works within the Proposed Development and considered them within the EIA of the Proposed Development.

2.4.4 The Proposed Development also includes work to facilitate the new electrical circuit including:

- Undergrounding six short sections of existing SP Manweb lower voltage overhead lines in order to ensure safe electrical clearance for the new overhead line; and
- Temporary works required for the construction of the new overhead line including seven temporary laydown areas, welfare unit, security cabin, access tracks, vegetation clearance and reinstatement planting.

2.4.5 The construction compound for the Proposed Development would be located at the existing SP Manweb depot at Maesbury Road, Oswestry Industrial Estate, where site offices and welfare facilities are already in place. As this is an existing depot this compound is not included within the application. The construction compound would cater for the following:

- Bulk delivery (HGV) and storage of materials, the main components being wood poles, wood baulks, conductor, stay wire, crossarm assemblies and insulators; and
- Storage of construction plant and equipment.

2.5 APPLICATION FOR AN ORDER GRANTING DEVELOPMENT CONSENT

2.5.1 Under the Planning Act 2008[7] the Proposed Development is defined as a Nationally Significant Infrastructure Project (NSIP).

2.5.2 As an NSIP the project requires development consent. A draft Order which, if made, would grant Development Consent, is one of the application documents submitted by SP Manweb. This Planning Statement is also one of the suite of documents that accompanies the application for an Order granting development consent.

[7] Planning Act. HMSO, London. HM Government (2008)

3 APPROACH TO DESIGN

3.1 INTRODUCTION

3.1.1 The scale of any SP Manweb proposal is largely determined by the need for the new infrastructure (function and operational requirements) and adherence to their duties under the Electricity Act. The need for the Proposed Development is outlined in Section 2.2 above.

3.1.2 The design evolution of the Proposed Development has been an iterative process. SP Manweb has considered ways to achieve good design through for example the careful consideration of route corridors, and consultation feedback. SP Manweb has also considered alternatives from suggestions made in written representations during consultation, a summary of which is reported in the Consultation Report (**DCO Document 5.1**) and Chapter 2 of the ES 'Alternatives and Design Evolution' (**DCO Document 6.2**).

3.1.3 As noted above, Schedule 9 of the Electricity Act 1989 imposes a duty upon SP Manweb to ensure that it has regard to amenity when carrying out its undertakings. Schedule 9 states that a licence holder has a general responsibility when formulating proposals for new electric lines to:

> '…*have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological of physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and shall do what [it] reasonably can to mitigate any effect which the proposals would have on natural beauty of the countryside or on any such flora, fauna, features, site buildings or objects*'.

3.1.4 SP Manweb is also required under Schedule 9 to have a responsibility when assessing the effects of its proposals to: '…*mitigate any effect which the proposals would have on the natural beauty of the countryside or any flora, fauna, features, sites, buildings or objects.'*

3.1.5 It is these key responsibilities and objectives which underpin the design principles on which the Proposed Development is based.

3.1.6 SP Manweb is regulated by Ofgem, the electricity and gas markets regulator, to ensure value for money for consumers and is required under the Electricity Act to '*develop and maintain an efficient, coordinated and economical electricity transmission system, and to facilitate competition in supply and generation of electricity*.' These duties and obligations mean that SP Manweb has a responsibility to deliver new electricity infrastructure but also to be responsible for the cost of projects as such costs will ultimately be borne by electricity users.

3.2 APPROACH TO ROUTEING

3.2.1 The approach to routeing once the need case is established is summarised in Diagram 3.1.

Strategic Options

3.2.2 The initial work carried out to identify the preferred design for reinforcing the network is presented in the following documents;

- Strategic Options Report (May 2016) (**DCO Document 7.5**);
- Updated Strategic Options Report (November 2017) (**DCO Document 7.6**); and
- Further Updated Strategic Options Report (October 2018) (**DCO Document 7.7**).

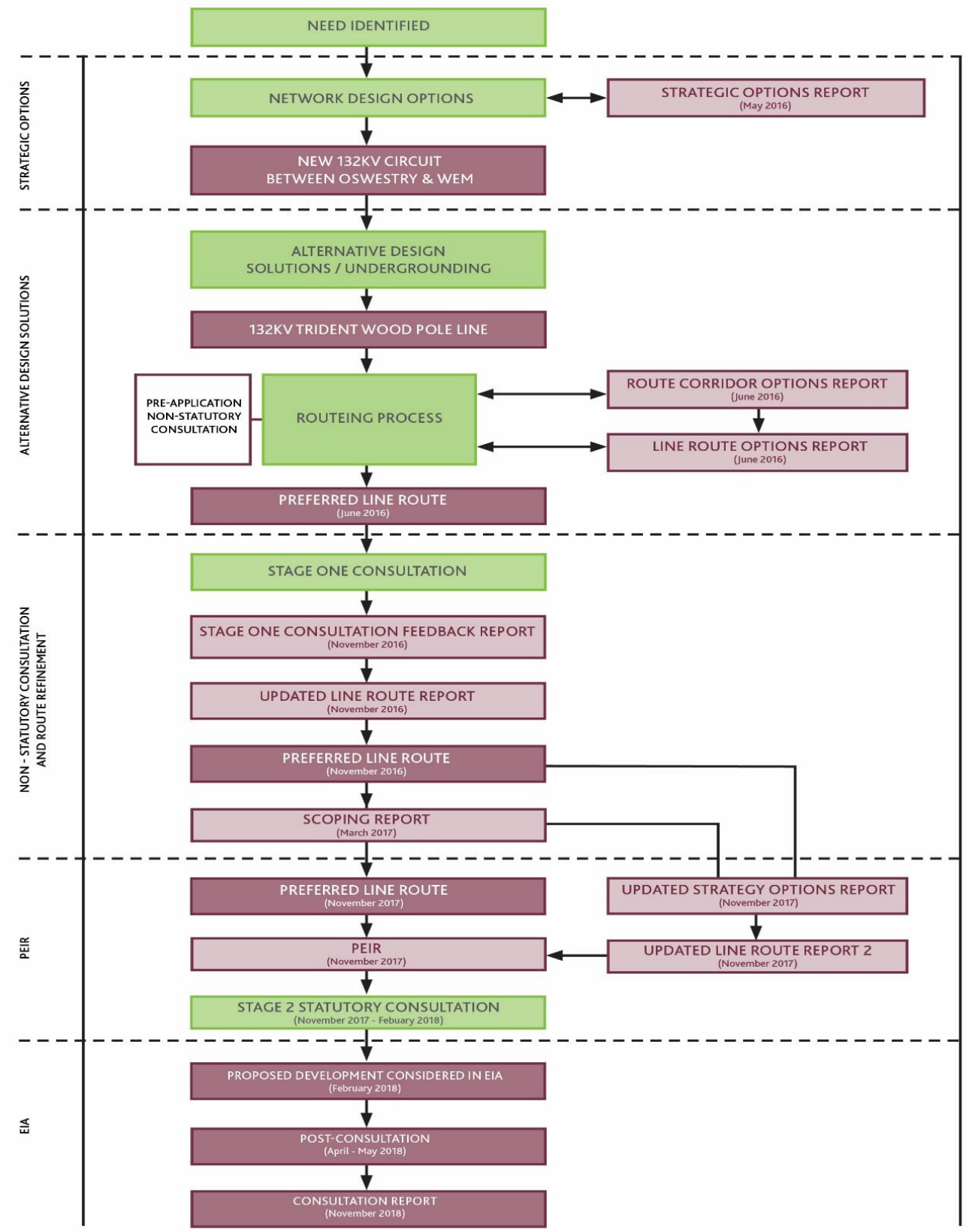
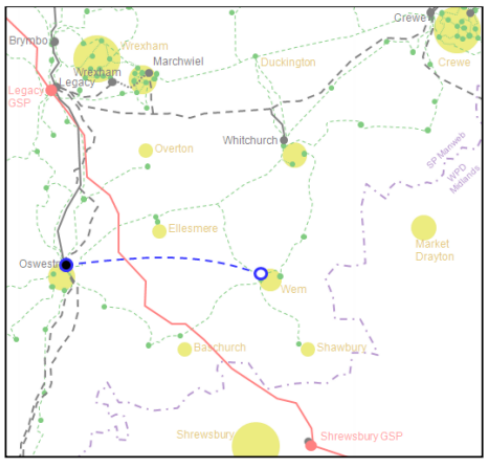


Diagram 3.1 – Design Process for the Proposed Development

3.2.3 The preferred design solution for upgrading the electricity supply in North Shropshire was to install a new 132kV circuit between Oswestry and Wem Substations. This was deemed to be acceptable in environmental terms and would be the most cost effective and technically efficient option. The preferred design solution is illustrated in Diagram 3.2 below.

5.11 Establish New 132/33kV Supply at Wem



Option	New 132kV circuit Oswestry – Wem New 132/33kV transformer in Wem	
Evaluation	Proposed	Preferred solution
The new c.22km overhead line will reinforce the existing 33kV distribution network by increasing the capacity available throughout North Shropshire. This option is to establish a new transformer in-feed at Wem. This minimises the electrical infrastructure required and therefore associated potential environmental effects. Although, there is still a need to avoid impacts on key national designations and minimise overall impact.		

Diagram 3.2 – Figure 5.1.1 Extracted from Strategic Options Report

Route Corridors

3.2.4 The approach to routeing for this scheme is demonstrated in the following reports:

- Route Corridor Options Report (June 2016) (**DCO Document 7.8**);
- Line Route Report (June 2016) (**DCO Document 7.9**);
- Updated Line Route Report (November 2016) (**DCO Document 7.10**); and the
- Updated Line Route Report 2 (November 2017) (**DCO Document 7.11**).

3.2.5 Throughout the development of the project SP Manweb has sought to identify measures, which will help to reduce potential effects, the careful routeing and design of the scheme has avoided significant effects and, with the implementation of standard good practice construction measures (as set out in the draft Construction Environmental Management Plan (CEMP (**DCO Document 6.3.2**), further avoided effects.

3.2.6 SP Manweb has undertaken a number of stages of consultation, both statutory and non-statutory, as set out in the Consultation Report (**DCO Document 5.1**). A summary of routeing considerations / amendments is provided below:

Following Stage One Consultation – non statutory consultation (June 2016 – July 2017)

- A more southerly route was adopted further from the village of Cockshutt where concerns about proximity to the line had been raised by local people;
- In response to some residents' concerns in Noneley, the proposed route of the line was directed further to the south to reduce likely visual impacts on peoples' views and on the setting of Noneley Hall.
- Near Lower Hordley, a more direct northerly route was proposed which avoided impacts on agricultural operations further south.
- Small areas were excluded from the 100m wide corridor because they contained environmental features such as ponds or tree groups
- Two sections of the Proposed Line Route were re-appraised resulting in two further options being identified. These were at Lower Hordley and Noneley:
    - Lower Hordley South and Lower Hordley (a route further to the north); and
    - Noneley South and Noneley North.
- A new option was proposed in the area around the Woodhouse Estate

Following Stage Two Consultation –statutory consultation (November 2017 – February 2018)

- Rednal Mill – minor amendments to the location of poles near Rednal Mill and the River Perry to counter the anticipated significant effects on residential visual amenity, and also to a number of poles to allow sufficient clearance beneath the existing 400kV National Grid pylon connection at Lower Lees;

- Lower Hordley – re-location of the line northwards away from the settlement at Lower Hordley and to minimise the number of poles located within large arable fields and towards field boundaries, thereby reducing likely impacts on farming activities;
- Wackley Lodge – south of Cockshutt, a minor realignment of the line further north, in order to relocate poles from a higher agricultural grade field to a lower agricultural grade field;
- Bentley Farm/The Shayes – re-alignment of the line west of Noneley including taking the overhead line further north and west away from the residential dwelling at The Shayes Farm and moving the route further south and east away from the residential dwelling at Bentley Farm; whilst respecting existing landscape features such as ponds, trees and hedgerows;
- River Roden – re-alignment of the line, moving it away from Commonwood Farm, and avoiding the felling of a large mature oak tree and moving a pole away from the edge of the river.
- Changes were also made to proposed access tracks (to retain hedgerows) and to the temporary laydown areas in response to landowner requests and SP Manweb constructability assessments.

Targeted Consultation following Stage Two

- Resulted in a number of minor alternations to access tracks, the Order Limits and pole locations in response to further landowner request.

3.3 MEASURES WITHIN THE DESIGN

Overhead Line Supports

3.3.1 Steel towers are commonly used in the SP Manweb area to support 132kV circuits. Steel towers have the benefit of achieving greater span lengths (x3 that of a wood pole), crossing features where there is a land level change or where ground clearances need to be higher, and reducing impacts on agricultural use. However, they are also less flexible than wood poles, as they follow more direct routes and due to their height, which on average is 25m, they are less likely to be screened by

surrounding trees and other vegetation. As the landscape and land use in North Shropshire is relatively flat and open, with occasional trees and hedgerows, the use of steel towers as a support structure was discounted in this scheme due to their visibility in comparison to wood poles.

3.3.2 Having discounted the use of steel towers, SP Manweb then considered two wood pole designs. These were the heavy duty wood pole (HDWP) design and the Trident design. The HDWP is a larger double wood pole structure with heavier metalwork than the lighter Trident design. It is typically used where wind velocities and potential ice loading are higher and where there is a need for integral earthing structure. In the case of this project, there was no need for an integral earthing structure and the predicted wind and ice loading are such that the smaller and lighter Trident design could be used.

3.3.3 Trident wood poles are lighter and shorter structures than HDWPs and provide greater flexibility to avoid potential environmental issues through careful routeing. The choice of Trident wood poles allows for greater flexibility and minimal environmental impacts whilst providing a suitable engineering solution for the required line and local geography.

3.3.4 The proposed wooden pole overhead line design (Trident) selected is shown in Diagram 3.3 below.

3.3.5 This design is lower in height and has a more slender and simple appearance than steel lattice towers or alternative heavier duty wood poles. Trident poles are also more flexible in terms of routeing around obstacles, thereby enabling a better landscape ‘fit’. Wood poles have a further advantage in that they do not generally have concrete foundations and so construction methods are typically less intrusive.

3.4 SUMMARY

3.4.1 This section of the Planning Statement has described the process through which the Proposed Development has progressed.

3.4.2 SP Manweb has throughout, sought to develop a well-designed scheme that responds positively to environmental constraints and to comments from

stakeholders, landowners and members of the public, whilst having regard to the planning framework as set out in the following section.

4 NATIONAL PLANNING POLICY

4.1 CONTEXT

4.1.1 Six NPS for energy infrastructure were designated by the Secretary of State for Energy and Climate Change (SoS) in July 2011. The most relevant NPS for distribution infrastructure are the Overarching National Policy Statement for Energy (EN-1)[8] and the National Policy Statement for Electricity Networks Infrastructure (EN-5)[9] (which must be read in conjunction with NPS EN-1).

4.2 OVERARCHING NATIONAL POLICY STATEMENT FOR ENERGY (EN-1)

4.2.1 NPS EN-1 provides Government policy and guidance relating to the generic impacts of energy infrastructure.

4.2.2 Section 3.7 deals with 'The need for new electricity network infrastructure'. Noting that:

> '*lack of sufficiently robust electricity networks can cause, or contribute to, large scale interruptions. Existing transmission and distribution networks will have to evolve and adapt in various ways to handle increases in demand, but construction of new lines of 132 kV and above will also be needed to meet the significant national need for expansion and reinforcement of the UK's transmission and distribution networks*' (para 3.7.2)

And:

> '*It is important to note that new electricity network infrastructure projects, which will add to the reliability of the national energy supply, provide crucial national benefits, which are shared by all users of the system*' (para 3.7.3).

[8] Department for Energy and Climate Change (July 2011), Overarching Energy National Policy Statement (EN-1)

[9] Department for Energy and Climate Change (July 2011), National Policy Statement for Electricity Energy Infrastructure (EN-5)

4.2.3 Paragraph 3.7.10 confirms that

….'there is an urgent need for new electricity transmission and distribution infrastructure (and in particular for new lines of 132 kV and above) to be provided'.

4.2.4 Paragraph 3.7.10 goes on to recognise that there will be more than one technological approach to make a connection (e.g. by overhead line or underground cable) and that 'the costs and benefits of these alternatives should be properly considered as set out in EN-5'…

4.2.5 Part 4 of NPS EN-1 sets out general polices. Its states that:

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

- Its potential benefits including its contribution to meeting the need for energy infrastructure, job creation and any long term or wider benefits; and

- Its potential adverse impacts, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.

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

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

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

4.2.7 NPS EN-1 goes on:

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

4.2.8 NPS EN-1 sets out additional matters that the Secretary of State must consider in his determination process. They include the matters summarised set out in Parts 4 and 5, 'Assessment Principles' and Generic Impacts' respectively.

- Part 4, 'Assessment Principles', sets out general policies in accordance with which applications relating to energy infrastructure are to be decided.
- Part 5 'Generic Impacts' identifies the impacts of energy infrastructure that are anticipated to arise most frequently, noting that it is not intended to provide a list of all possible effects or ways to mitigate such effects.

4.3 NATIONAL POLICY STATEMENT FOR ELECTRICITY NETWORKS INFRASTRUCTURE (NPS EN-5)

4.3.1 National Policy Statement EN-5 provides specific guidance relevant to 'electricity networks infrastructure'.

4.3.2 It notes that:

'*This National Policy Statement (NPS), taken together with the Overarching National Policy Statement for Energy (EN-1), provides the primary basis for decisions taken by the Infrastructure Planning Commission (IPC) on applications it receives for electricity networks infrastructure*.' (para 1.2.1)

4.3.3 Part 2 'Assessment and Technology-Specific Information' provides guidance, under a number of headings, as to what should be considered. Para 2.6.1 sets out additional technology specific considerations on the generic impacts considered in NPS EN-1 (see section 4.2 above). These are:

- Biodiversity and geological conservation;
- Landscape and visual; and

- Noise and vibration.

4.3.4 Para 2.6.2 notes that the NPS also sets out technology-specific considerations for the impact of EMFs, which is not an impact considered in EN-1. More detailed, guidance on these four topics is provided in Sections 2.7 – 2.10 of the NPS.

4.3.5 Consideration of the specific considerations set out in EN-5 is set out in the appropriate topic specific chapters of the ES (**DCO Documents 6.6 – 6.11**) and summarised in Section 5 below.

4.3.6 Section 2.8 of EN-5 sets out Government policy on undergrounding in the context of the landscape and visual effects of electricity network infrastructure. It is pertinent to remember that policy for electricity networks infrastructure contains no requirement in principle for undergrounding. This is demonstrated by reference to the following paragraphs of NPS EN-5:

> '*Government does not believe that the development of overhead lines is generally incompatible with developers" statutory duty under section 9 of the Electricity Act to have regard to amenity and to mitigate impacts*.' (para 2.8.2)

4.3.7 Para 2.8.2 also states that

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

4.3.8 It goes on:

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

4.3.9 Para 2.8.4 sets out:

'… *wherever the nature or proposed route of an overhead line proposal makes it likely that its visual impact will be particularly significant, the applicant should have given appropriate consideration to the potential costs and benefits of other feasible means of connection or reinforcement … including undergrounding* … .' *However, the applicant is not required to provide undergrounding, only to include it as part of considering other reasonable options*'. (para 2.8.4)

4.3.10 NPS EN-5. Paragraph 2.8.8 states:

'*Paragraph 3.7.10 of EN-1 sets out the need for new electricity lines of 132kV and above, including overhead lines. Although Government expects that fulfilling this need through the development of overhead lines will often be appropriate, it recognises that there will be cases where this is not so. Where there are serious concerns about the potential adverse landscape and visual effects of a proposed overhead line, the IPC will have to balance these against other relevant factors, including the need for the proposed infrastructure, the availability and cost of alternative sites and routes and methods of installation (including undergrounding).*'

4.3.11 Paragraph 2.8.9 states:

'*The impacts and costs of both overhead and underground options vary considerably between individual projects (both in absolute and relative terms). Therefore, each project should be assessed individually on the basis of its specific circumstances and taking account of the fact that Government has not laid down any general rule about when an overhead line should be considered unacceptable. The IPC should, however only refuse consent for overhead line proposals in favour of an underground or sub-sea line if it is satisfied that the benefits from the non-overhead line alternative will clearly outweigh any extra economic, social and environmental impacts and the technical difficulties are surmountable. In this context it should consider*:

- *the landscape in which the proposed line will be set, (in particular, the impact on residential areas, and those of natural beauty or historic importance such as National Parks, AONBs and the Broads);*
- *the additional cost of any undergrounding or sub-sea cabling (which experience shows is generally significantly more expensive than overhead lines, but varies considerably from project to project depending on a range of factors, including whether the line is buried directly in open agricultural land or whether more complex tunnelling and civil engineering through conurbations and major cities is required. Repair impacts are also significantly higher than for overhead lines as are the costs associated with any uprating); and*
- *the environmental and archaeological consequences (undergrounding a 400kV line may mean disturbing a swathe of ground up to 40 metres across, which can disturb sensitive habitats, have an impact on soils and geology, and damage heritage assets, in many cases more than an overhead line would)*.'

4.4 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

4.4.1 The National Planning Policy Framework (July 2018)[10] sets out government's planning policies for England and how these are expected to be applied.

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

10 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/733637/National_Planning_Policy_Framework_web_accessible_version.pdf

4.4.3 Paragraph 80 of the NPPF with reference to '*building a strong, competitive economy*' states that:

> '*Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development'*.

4.4.4 Section 11 '*Making effective use of land*' recognises that planning policies and decision to support development that makes efficient use of land should take into account '*the availability and capacity of infrastructure and services – both existing and proposed…'* (para 122 (c)).

4.4.5 The NPPF also includes sections on other core land–use planning principles, which provide the overarching policy for the panning system in England. These include;

- Section 14 – Managing the challenge of climate change, flooding and coastal change;
- Section 15 – Conserving and enhancing the natural environment; and
- Section 16 - Conserving and enhancing the historic environment.

4.4.6 The NPPF is therefore a relevant consideration in decision making for NSIPs and the relevant sections have been considered in Section 5 of this Planning Statement.

5 NATIONAL POLICY ASSESSMENT

5.1 INTRODUCTION

5.1.1 The following section sets out how the application for an Order granting Development Consent is in accordance with national policy including NPS EN-1, NPS EN-5 and the NPPF. It addresses the 'assessment principles' and the 'generic impacts' from EN-1 and EN-5 identified as relevant to the Proposed Development and sets out how these have been addressed in the application. It also considers how the Proposed Development accords with the NPPF.

5.1.2 Table 5.1 sets out how each of the relevant 'assessment principles' and generic impacts from NPS EN-1 and NPS EN-5 are considered in this Planning Statement and other DCO Documents.

Table 5.1 – Requirements of NPS EN-1 and EN-5 and location in the Planning Statement and DCO Documents

NPS EN-1	NPS EN-5	Location in Planning Statement	Other DCO Documents
Assessment Principles			
Environmental Statement		5.2.3 – 5.2.5	Volume 6 – Environmental Statement
Habitats and Species Regulations		5.2.6 – 5.2.8	No Significant Effects Report (**DCO Document 5,4**)
Alternatives		5.2.9 – 5.2.11	ES Chapter 2 (**DCO Document 6.2**) Further Updated Strategic Options Report (**DCO Document 7.7**) Route Corridor Options Report (**DCO Document 7.8**)

Table 5.1 – Requirements of NPS EN-1 and EN-5 and location in the Planning Statement and DCO Documents			
NPS EN-1	NPS EN-5	Location in Planning Statement	Other DCO Documents
Criteria for Good Design	Factors influencing site selection Consideration of Good Design	5.2.12 – 5.2.19	ES Chapter 2 (**DCO Document 6.2**) ES Chapter 6 (**DCO Document 6.6**) Further Updated Strategic Options Report (**DCO Document 7.7**) Route Corridor Options Report (**DCO Document 7.8**)
Climate Change Adaption	Climate Change Adaption	5.2.20 – 5.2.22	ES Chapter 9 (**DCO Document 6.9**) Flood Risk Assessment (**DCO Document 5.2**)
Pollution Control and Other Environmental Regulatory Regimes		5.2.23 – 5.2.27	ES Appendix 4.1 (**DCO Document 6.4.1**) ES Chapter 9 (**DCO Document 6.9**) Other Consents and Licences Report (**DCO Document 5.5**)
Health	EMFs	5.2.28 – 5.2.36	ES Appendix 1.1. (**DCO Document 6.1.1**) ES Appendix 4.1 (**DCO Document 6.4.1**)
Common law nuisance and		5.2.37 – 5.2.39	Statement of Statutory Nuisance

Table 5.1 – Requirements of NPS EN-1 and EN-5 and location in the Planning Statement and DCO Documents			
NPS EN-1	NPS EN-5	Location in Planning Statement	Other DCO Documents
statutory nuisance			(**DCO Document 5.3**)
Generic Impacts			
Air Quality and Emissions		5.3.2 – 5.3.5	ES Appendix 4.1 (**DCO Document 6.4.1**)
Biodiversity and geological conservation	Biodiversity and geological conservation	5.3.6 – 5.3.18	ES Chapter 7 (**DCO Document 6.7**) No Significant Effects Report (**DCO Document 5.4**) Draft Construction Environmental Management Plan (**DCO Document 6.3.1**)
Civil and Military Defence		5.3.19 – 5.3.21	ES Chapter 10 (**DCO Document 6.10**) Further Updated Strategic Options Report (**DCO Document 7.7**) Route Corridor Options Report (**DCO Document 7.8**)
Flood Risk		5.3.22 – 5.3.26	Flood Risk Assessment (**DCO Document 5.2**) ES Chapter 9 (**DCO Document 6.9**)
Historic Environment		5.3.27 – 5.3.30	ES Chapter 8 (**DCO Document 6.8**)

Table 5.1 – Requirements of NPS EN-1 and EN-5 and location in the Planning Statement and DCO Documents			
NPS EN-1	NPS EN-5	Location in Planning Statement	Other DCO Documents
Landscape and Visual	Landscape and Visual	5.3.31 – 5.3.44	ES Chapter 6 (**DCO Document 6.6**)
Land use including open space, green infrastructure and Green Belt		5.3.45 – 5.3.56	ES Chapter 5 (**DCO Document 6.5**) ES Chapter 10 (**DCO Document 6.10**) ES Chapter 11 (**DCO Document 6.11**)
Noise and Vibration	Noise and Vibration	5.3.57 – 5.3.61	ES Appendix 4.1 (**DCO Document 6.4.1**)
Socio Economic		5.3.62 – 5.3.67	ES Chapter 10 (**DCO Document 6.10**)
Traffic and Transport		5.3.68 – 5.3.73	ES Appendix 1.1 (**DCO Document 6.1.1**)
Waste		5.3.74 – 5.3.76	Draft Construction Environmental Management Plan (**DCO Document 6.3.1**)
Water Quality and Environment		5.3.77 – 5.3.81	Flood Risk Assessment (**DCO Document 5.2**) ES Chapter 9 (**DCO Document 6.9**)

5.2 ASSESSMENT PRINCIPLES

5.2.1 Part 4 of NPS EN-1 sets out a number of 'Assessment Principles' and Part 5 considers 'Generic Impacts'.

5.2.2 The following section addresses each of the relevant assessment principles as set out in EN-1 and the technology specific assessment principles as set out in EN-5.

Environmental Statement

5.2.3 NPS EN-1 Section 4.2 notes the requirements for an 'environmental statement', which sets out the aspects of the environment potentially significantly affected by the project.

5.2.4 An ES (Volume 6) that addresses the requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) accompanies the application for an Order granting Development Consent. The ES responds to and addresses the matters raised in the Secretary of States Scoping Opinion[11] and addresses the matters set out in EN-1 para 4.2.1 – 4.2.11.

5.2.5 In accordance with EN-1 (para 4.2.2) and the Directive, the ES assesses the likely significant effects of the Proposed Development.

Habitats and Species Regulations

5.2.6 Section 4.3 of NPS EN-1 sets out habitats and species regulations policy requirements. Paragraph 4.3.1 states that

> '*Prior to granting development consent, the IPC [Secretary of State] must, under the Habitats and Species Regulations, consider whether a project may have significant effects on a European site… either alone or in combination with other plans or projects'*.

5.2.7 A No Significant Effects Report (NSER) (**DCO Document 5.4**) provides a report to inform the Habitats Regulation Assessment (HRA). The report contains a Stage 1 screening assessment, undertaken on a precautionary basis, which concludes that the Proposed Development will result in no Likely Significant Effect (LSE) on European sites or their qualifying interest features.

5.2.8 The NSER takes account of the European Court of Justice ruling (Case C323/17 also known as the 'People over Wind' ruling) on Habitats Regulations Assessments

[11] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN020021/EN020021-000012-Scoping%20Opinion.pdf

referred to below in Paragraphs 1.2.5 - 1.2.7, and has excluded consideration of the draft CEMP (**DCO Document 6.3.1**) or any other mitigation when screening for an Appropriate Assessment.

Alternatives

5.2.9 NPS EN-1 section 4.4 of sets out policy requirements relating to the need to consider alternatives:

> '*Applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility*; (Para 4.4.2)

5.2.10 SP Manweb has taken significant time and care in developing the Proposed Development. The Proposed Development has developed in an iterative manner, informed by environmental, socio-economic, technical and cost considerations and through consultation with key stakeholders, local residents and persons with an interest in land.

5.2.11 The main alternatives considered are presented in Chapter 2 'Alternatives and Design Evolution' of the ES (**DCO Document 6.2**). SP Manweb's approach to the consideration of alternatives is in accordance with the provisions of EN-1.

Criteria for "Good Design" for Energy Infrastructure

5.2.12 EN-1 Section 4.5 notes:

> '*Applying "good design" criteria to energy infrastructure should produce: "sustainable infrastructure sensitive to place, efficient in use of natural resources and energy used in their construction and operations, matched by an appearance that demonstrates good aesthetic as far as possible*.' (para 4.5.1)

5.2.13 Para 4.5.3 states

> … '*the [IPC] should satisfy itself that the applicant has taken into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located)*

as far as possible. Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation'. (para 4.5.3).

5.2.14 Paragraph 4.5.3 accepts that the nature of much energy infrastructure development will often be limited to the extent to which it is able to contribute to the enhancement of the quality of the area.

Para 4.5.4 goes on:

…'*applicants should be able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved*'. (para 4.5.4)

5.2.15 NPS EN-5 notes that the general location of electricity network projects is often determined by the location, or anticipated location, of a particular generating station in relation to the existing network infrastructure (para 2.2.2).

5.2.16 SP Manweb has developed a structured approach to routeing, as set out in the Route Corridor Options Report (**DCO Document 7.8**). The approach has had regard to the Holford Rules[12] which recognise that the most likely effects of an overhead line are visual and that the degree of visual intrusion can be reduced by careful routeing.

5.2.17 SP Manweb has taken significant time and care in developing the Proposed Development, seeking to develop a well-designed scheme that has responded positively to environmental constraints and comments from stakeholders, landowners and members of the public.

5.2.18 In addition the Trident wood pole design selected is lower in height and more simple in appearance than alternatives, and has allowed more flexible routeing thereby allowing a better landscape 'fit'.

[12] Guidelines developed by the late Lord Holford in 1959 for routeing overhead lines.

5.2.19 Having had regard to polices in EN-1 and EN-5 SP Manweb considers that it has demonstrated the principles of good design through the careful routeing of the connection and the selection of the Trident wood pole design.

Climate Change Adaption

5.2.20 NPS EN-1 Para 4.8.5 recognises that:

> '*New energy infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning the location, design, build, operation'*.

5.2.21 Climate change is expected to increase the probability of flooding. The Flood Risk Assessment (**DCO Document 5.2**) has adopted a precautionary approach assuming the current flood zone 2 represents the future flood zone 3 extent. The assessment has shown that the Proposed Development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere.

5.2.22 SP Manweb has therefore had regard to NPS EN-1 in the design of the Proposed Development.

Pollution Control and other Environmental Regulatory Regimes

5.2.23 Para 4.10.1 of EN-1 recognises that

> '*Issues relating to discharges or emissions from a proposed project which affect air quality, water quality, land quality and the marine environment, or which include noise and vibration may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes*'.

5.2.24 SP Manweb has liaised with the Environment Agency, Natural England and Shropshire Council as to the need for further permits / licences.

5.2.25 The 'Other Consents and Licences Report' (**DCO Document 5.5**) identifies which other regulatory regimes which apply and for which consents could be sought. These include:

- Natural England – European Protected Species (EPOS) Licences;
- Natural England – Licence to authorise work affecting [redacted] or interfering with [redacted] setts;
- Environment Agency - Environmental Permitting for works within 8m to a river bank;
- Environment Agency – Environmental Permitting discharge consents; and
- Shropshire Council - Section 61 consent(s).

5.2.26 SP Manweb is also seeking to agree with the relevant bodies the need for further permits / exemptions prior to the Examination of its application for development consent. SP Manweb has therefore had regard to EN-1.

5.2.27 The draft CEMP (**DCO Document 6.3.2**) identifies standard good practice measures that will be implemented (by a Requirement to the draft DCO) which will further reduce the risk of any pollution incidents.

Health

5.2.28 Para 14.3.1 of EN-1 recognises that:

'*Energy production has the potential to impact on the health and well-being ("health") of the population. Access to energy is clearly beneficial to society and to our health as a whole. However, the production, distribution and use of energy may have negative impacts on some people's health'*.

5.2.29 Para 13.3. EN-1 goes on

…'*direct impacts on health may include increased traffic, air or water pollution, dust, odour, hazardous waste and substances, noise, exposure to radiation, and increases in pests'*.

5.2.30 In their response to the statutory consultation Public Health England noted that the Preliminary Environmental Information Report (November 2017) did not include a specific section summarising the potential public health impacts. They acknowledged that issues including air quality, emissions to water, waste,

contaminated land etc. would be covered in separate sections of the ES and suggested a summation of relevant issues into a specific section of the report.

5.2.31 Although the ES does not include a specific section relating to public health impacts, the EIA has considered aspects of the Proposed Development which may have the potential for adverse impacts on health.

5.2.32 The assessments covering topics listed in EN-1 (para 13.3) are included within the following sections of the ES:

- Traffic and Transport (Appendix 1.1 (**DCO Document 6.1.1**));
- Noise and Vibration (Appendix 4.1 (**DCO Document 6.4.1**))
- Air Quality (Appendix 4.1 (**DCO Document 6.4.1**));
- Water Quality (Chapter 9 (**DCO Document 6.9**));
- Land Use and Agriculture (Chapter 11 (**DCO Document 6.11**)).

5.2.33 The EIA has not identified any effects which, either alone or in combination, would result in public health effects.

5.2.34 No areas of potentially contaminated land were identified at the PEIR stage and therefore this topic is not included in the ES. The draft CEMP (**DCO Document 6.3.2**) includes control measures that would be adopted, should any unexpected contaminated land be encountered during construction.

5.2.35 With respect to operational effects the Scoping Opinion confirmed that Electric and Magnetic Fields (EMFs) could be scoped out of the assessment, as EMFs produced by the Proposed Development would be below the relevant exposure limits.

5.2.36 SP Manweb therefore has had regard to EN-1 with respect to health.

Statutory Nuisance

5.2.37 Paragraph 4.14.2 of EN-1 states that a DCO application should consider how possible sources of statutory nuisance under section 79(1) of the Environmental Protection Act 1990 may be mitigated or limited.

5.2.38 The Statement of Statutory Nuisance (**DCO Document 5.6**) describes the relevant nuisances defined in the Environmental Protection Act 1990, that may occur as a result of the Proposed Development. It concludes that, with the implementation of the measures in the draft CEMP (**DCO Document 6.3.2**), it is not expected that there would be a breach of Section 79(1) of the Environmental Protection Act 1990 during construction. The operation of the Proposed Development is also unlikely to cause nuisances as defined in Section 79(1).

5.2.39 SP Manweb has therefore had regard to EN-1 in this respect.

5.3 GENERIC IMPACTS

5.3.1 This section of the Planning Statement sets out how the DCO application addresses each of the relevant generic impacts as set out in EN-1 and the technology-specific generic impacts as set out in EN-5.

Air Quality and Emissions

5.3.2 EN-1 section 5.2 of sets out NPS air quality and emissions policy relating to proposed developments. Paragraph 5.2.6 states that where the proposed development is "*likely to have adverse effect on air quality the applicant should undertake an assessment of the impacts of the proposed project as part of the ES*."

5.3.3 In his Scoping Opinion, the Secretary of State ("SoS") agreed that air quality effects during operation could be scoped out of the ES. Subsequent to this, and noting the SoS comments in respect of the potential effects on air quality during construction, further consultation was undertaken with the Environmental Protection Team at Shropshire Council. Appendix 4.1 to the ES (**DCO Document 6.4.1**) concludes that there is little potential for significant air quality effects.

5.3.4 Standard good practice construction techniques, as set out in the draft CEMP (**DCO Document 6.3.2**) will reduce the potential effects emissions to negligible

5.3.5 It is therefore considered that the Proposed Development is unlikely to have an adverse effect on air quality and has had regard to EN-1.

Biodiversity and Geological Conservation

5.3.6 Section 5.3 of EN-1 sets out biodiversity and geological conservation policy. Biodiversity and geological conservation is also one of the generic effects identified in Part two of EN-5 with additional guidance provided which should inform the applicant's assessment.

5.3.7 Para 5.3.3 states that:

'*Where the development is subject to Environmental Impact Assessment (EIA) the applicant should ensure that the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity*. …' .

5.3.8 Para 2.7.1 of EN-5 acknowledges that generic biodiversity effects are covered in Section 5.3 of EN-1 and then goes on to identify that

'… *large birds such as swans and geese may collide with overhead lines associated with power infrastructure, particularly in poor visibility. Large birds in particular may also be electrocuted when landing or taking off by completing an electric circuit between live and ground wires. Even perching birds can be killed as soon as their wings touch energised parts*.'

5.3.9 It goes on:

'*The applicant will need to consider whether the proposed line will cause such problems at any point along its length and take this into consideration in the preparation of the Environmental Impact Assessment (EIA) and ES…. Particular consideration should be given to feeding and hunting grounds, migration corridors and breeding grounds*.' (para 2.7.2).

5.3.10 Through all phases of the project's development, from Strategic Options through to the refinement of the Order Limits consideration was given to environmental constraints. Designated sites of biodiversity and geological interest were considered and through the sensitive routeing of the Proposed Development have been avoided.

5.3.11 In accordance with section 5.3 of EN-1, Chapter 7 'Ecology and Biodiversity' (**DCO Document 6.7**) identifies international, national and local sites of ecological importance, which are in proximity to the Proposed Development.

5.3.12 There are no sites designated for geological conservation importance in proximity to the Proposed Development, and no statutory or non-statutory sites are affected by the Proposed Development.

5.3.13 The Arboricultural Survey (**DCO Document 6.7.4**) has identified the number and types of trees which need to be removed. Careful routeing of the Proposed Development has minimised the requirements for tree removal however due to the linear nature of the development and the technical considerations associated with overhead lines (including safety requirements) it is not possible to avoid impacts on trees.

5.3.14 The ES includes survey information for habitats and individual species (DCO Documents **6.7.5 – 6.7.9**). No significant effects have been identified.

5.3.15 Sensitive routeing has ensured that valuable habitats are avoided and that potential effects on species have been minimised. In addition standard good practice construction techniques, as set out in within the draft CEMP (**DCO Document 6.3,2**) will be implemented.

5.3.16 Para 2.7.1 of EN-5 recognises that:

> …"*large birds such as swans and geese may collide with overhead lines associated with power infrastructure, particularly in poor visibility. Large birds in particular may also be electrocuted when landing or taking off by completing an electric circuit between live and ground wires. Even perching birds can be killed as soon as their wings touch energised parts*"

5.3.17 Chapter 7 of the ES 'Ecology and Biodiversity' (**DCO Document 6.7**) has concluded that the collision risk along the route of the Proposed Development is not significant.

5.3.18 It is therefore considered that through sensitive routeing (as demonstrated in Chapter 2 'Alternatives and Design Evolution' of the ES (**DCO Document 6.2**)) and the consideration of ecology and biodiversity interests (as demonstrated in Chapter

7 'Ecology and Biodiversity' (**DCO Document 6.7**)) the Proposed Development has had regard to EN-1 and EN-5 in terms of biodiversity and geological conservation.

Civil and military aviation and defence interests

5.3.19 Section 5.4 of EN-1 sets out policy relating to civil and military aviation and defence interests. EN-1 identifies the importance of UK airspace for both civilian and military aviation interests. Paragraph 5.4.2 states that it is essential that the safety of UK aerodromes, aircraft and airspace is not adversely affected by new energy infrastructure and identifies the potential economic and social benefits, particularly at the regional and local level of aerodromes.

5.3.20 Through sensitive routeing, and the selection of its preferred route corridor (as set out in the Route Corridor Options Report (June 2016) (**DCO Document 7.8**) SP Manweb has avoided aviation interests, including the Airfields at Rednal (disused) and Sleap.

5.3.21 The Proposed Development has therefore had regard to EN-1 with respect to civil and military and defence interests.

Flood Risk

5.3.22 Section 5.7 of EN-1 sets out flood risk policy. Paragraph 5.7.4 of EN-1 states that

> '*applications for energy projects of 1 hectare or greater in Flood Zone 1 in England…and all proposals for energy projects located in Flood Zones 2 and 3 in England…should be accompanied by a flood risk assessment (FRA).*'

5.3.23 A Flood Risk Assessment has been undertaken and is reported in **DCO Document 5.2**. The FRA has screened potential sources of flooding in and around the Order limits and considered flood risks associated with the construction and operation of the Proposed Development.

5.3.24 Chapter 9 of the ES also provides an assessment of Flood Risk, Water Quality and Water Resources (**DCO Document 6.9**)

5.3.25 The FRA has identified:

- An extensive area of flood zone 2 associated with the River Perry adjacent to the Montgomery Canal;
- Flood zone 2 associated with the River Perry at three locations close to Rednal;
- Two small areas of flood zone 2 associated with the Sleap Brook; and
- A more extensive area of flood zone 2 associated with the River Roden outside of Wem.

5.3.26 The FRA concludes that the Proposed Development, with the implementation of the standard good practice construction techniques as set out in the draft CEMP (**DCO Document 6.3.2**), would not be subject to an unacceptable level of flood risk, nor would it increase flood risk elsewhere. The Proposed Development has therefore had regard to EN-1.

Historic Environment

5.3.27 EN-1 section 5.8 sets out policy relating to Historic Environment, recognising that that

> '*The construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment*' (para 5.8.1).

5.3.28 The routeing process for the Proposed Development has sought to avoid heritage assets, at all stages, from the strategic options and the route corridor study (**DCO Document 7.8**) through to the development of the Order Limits. Throughout this process, particular attention has been paid to designated assets, non-designated registered assets and their settings, and also to other significant non-designated assets.

5.3.29 Chapter 8 of the ES 'Historic Environment' (**DCO Document 6.8**) provides the assessment of the Proposed Development relating to the historic environment. It has considered the potential effect of the Proposed Development on archaeological remains and the historic character of the landscape. It has also considered

receptors protected by legislation including listed buildings and scheduled ancient monuments and areas protected by local policy including conservation areas.

5.3.30 The ES has not identified any significant effects on heritage assets or their settings due to the careful routeing of the connection. The Proposed Development has therefore had regard to EN-1.

Landscape and Visual

5.3.31 EN-1 refers to guidance that should be referred to in undertaking a landscape and visual assessment including GLVIA and landscape character assessments:

> '… *The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project*. …' (para 5.9.5)

5.3.32 The landscape and visual assessments as set out in the Chapter 6 ' Landscape and Visual' of the ES (**DCO Document 6.6**) were carried out in accordance with the Third Edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3). Consideration was also given to other guidance and assessments as listed in Appendix 6.1 (**DCO Document 6.6.1**) (Landscape and Visual Assessment Methodology) including the Holford Rules and the Shropshire Landscape Typology (2006).

5.3.33 EN-1 recognises that:

> '… *Virtually all nationally significant energy infrastructure projects will have effects on the landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate*.' (para 5.9.8).

5.3.34 EN-5 recognises that Generic landscape and visual effects are covered in Section 5.9 of EN-1 but that there are specific considerations which apply to electricity networks infrastructure. In paragraph 2.8.2, it is noted that the placing of overhead lines is generally not incompatible with developers' statutory duty under section 9 of the 1989 Act.

5.3.35 EN-5 states that

> '*…new above ground electricity lines, whether supported by lattice steel towers/pylons or wooden poles, can give rise to adverse landscape and visual impacts, dependent upon their scale, siting, degree of screening and the nature of the landscape and local environment through which they are routed. For the most part these impacts can be mitigated, however at particularly sensitive locations the potential adverse landscape and visual impacts of an overhead line proposal may make it unacceptable in planning terms, taking account of the specific local environment and context*.' (para 2.8.2)

5.3.36 Consideration of undergrounding is set out in Appendix 1 to this Planning Statement which identifies locations were the EIA has identified significant landscape and visual effects and considers potential alternative underground routes in these locations. The assessment concludes that, on balance, taking into account, environmental, socio economic, technical and costs considerations an underground option would not be preferred.

5.3.37 Para 2.8.2 of EN-5 goes on:

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

5.3.38 As the works at the existing Oswestry and Wem Substations form part of the Proposed Development they have been considered throughout the ES. The ES has however considered the potential cumulative landscape and visual effects of the Proposed Development with a number of other proposed developments in the vicinity. The results of this assessment are set out in Appendix 6.4 (**DCO Document 6.6.4**) to the ES.

5.3.39 Chapter 2 'Alternatives and Design Evolution' of the ES (**DCO Document 6.2**) describes the development of the scheme and demonstrates that minimising harm to the landscape and avoiding visual effects through sensitive routeing and design was a major consideration for SP Manweb.

5.3.40 Through all phases of the project's development, from Strategic Options through to the identification of the Order Limits consideration has been given to the potential landscape and visual effects. Potential effects on nationally designated landscapes and locally designated landscapes have been avoided through careful routeing. The selection of the Trident wood pole design for the connection has also further reduced the potential for effects.

5.3.41 Paras 5.9.21 to 5.9.23 of EN-1 advise applicants to include appropriate measures to mitigate the landscape and visual effects of a project. Measures such as amending the design, using appropriate materials and landscaping, including off site measures such as filling gaps in existing tree and hedge lines, are all encouraged.

5.3.42 Careful routeing of the connection has avoided the need for mitigation planting. The number of access tracks identified is in response to SP Manweb's desire to limit hedgerow crossings during construction, which has been standard practice in previous linear projects, in order to protect and retain the integrity of hedgerows within the landscape. Standard good practice construction techniques identified in draft CEMP (**DCO Document 6.3.2**) would be implemented to further avoid and minimise effects on these landscape features. Hedgerows would either be lifted and replanted in situ within 48 hours, or would be replanted as part of the reinstatement after construction works were completed.

5.3.43 During the development of the scheme, sensitive routeing and design has been a key factor in lessening the likely effects of the Proposed Development, and no major significant effects are predicted.

5.3.44 It is considered that, through SP Manweb's careful routeing and design, the Proposed Development has had regard to EN-1 and EN-5.

Land use including open space, green infrastructure & Green Belt

5.3.45 EN-1 states that:

'*The ES …. should identify existing and proposed*[13] *land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan*'. (para 10.5.5)

5.3.46 Chapter 5 'Planning Considerations (**DCO Document 6.5**) and Chapter 11 'Land Use and Agriculture' (**DCO Document 6.11**) of the ES have identified existing and proposed land uses within the Order Limits and the wider area. Existing land uses relate to primarily agricultural activities and would not be prevented by the Proposed Development, although a small area associated with the footprints of the wood poles and any stays would be removed from agricultural use. Land within the substation boundaries is already SP Manweb operational land and its use will not therefore change. Land for the underground cable and lower voltage diversions would be returned to its former use post construction.

5.3.47 Development plan allocations are discussed in Chapter 5 'Planning Considerations (**DCO Document 6.5**) and Section 6 below

5.3.48 Careful routeing of the 132kV underground cable avoided potential effects on an area of public open space resulting in the Proposed Development not involving the use of any open space open space, sports or recreational buildings and land (Para 10.5.6).

5.3.49 EN-1 states, in para 5.10.8, that that:

'*Applicants should seek to minimise impacts on the best and most versatile agricultural land*'

5.3.50 The Agricultural Land Classification (ALC) within the Order Limits is described in Chapter 11 'Land Use and Agriculture' of the ES (**DCO Document 6.11**). Much of the land within the area within the classified as Grade 3 (assumed to be BMV), with smaller pockets of Grade 2. The 'uncropped' area created by the Proposed

[13] Footnote from EN-1 '*For example, where a planning application has been submitted*'.

Development would be a total of 1.5 hectares, which represents a very minor permanent land take. In reality, the actual footprint would be significantly less, as wood poles are often sited as close as possible to field boundaries and hedgerows.

5.3.51 EN-1 goes on:

'*Applicants should safeguard any mineral resources on the proposed site as far as possible*,…' (para 5.10.9)

and

'*Where a proposed development has an impact upon a Mineral Safeguarding Area… the IPC should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources*.' (para 5.10.22)

5.3.52 The Mineral Resource Assessment (Appendix 5.1 to the ES (**DCO Document 6.5.1**) concluded that there would not be sterilisation of a realisable economic mineral resource and that there was not a conflict with local minerals safeguarding policy. The Secretary of State, in the Scoping Opinion, agreed that this issue could be scoped out of the EIA.

5.3.53 Para 10.24 of EN-1 states that:

'*Rights of way, National Trails and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The IPC [Secretary of State] should expect applicants to take appropriate mitigation measures to address adverse effects on … National Trails and other rights of way*'.

5.3.54 A network of public footpaths crosses the landscape, including the Shropshire Way (within the Order Limits) and Oswalds' Trail (a local trail which is not within the Order Limits). There are no other national trails or long distance footpaths.

5.3.55 No closures (permanent or temporary) of Public Rights of Way (PRoW) are required as part of the Proposed Development and none are being sought under the DCO. All points where PRoWs cross the Proposed Development would be managed, as described in the Construction Report (**DCO Document 7.1**). A significant visual effect has been identified on one PRoW, and localised significant visual effects on

10 other PRoW, as set out in Chapter 6 'Landscape and Visual' of the ES (**DCO Document 6.6**). These effects however would be experienced only for a short duration and would be localised in nature.

5.3.56 It is considered that, given the careful routeing, the use of the Trident wood pole and the standard good practice construction measures as set out the draft CEMP (DCP Document 6.3.1) the Proposed Development has had regard to EN-1.

Noise and Vibration

5.3.57 EN-1 recognises that noise can have adverse impacts and where noise impacts are likely to arise a noise assessment should be included. It does however recognise that the nature and extent of the noise assessment should be proportionate to the likely noise impact (para 5.11.4).

5.3.58 Appendix 4.1. to the ES (**DCO Document 6.4.1**) provides an initial assessment of noise during the construction phase for the Proposed Development and the operational phase at Wem Substation (with respect to the operation of the new transformer). Effects during construction would occur only for limited periods within the overall construction programme and would be localised.

5.3.59 Due to the nature of construction Shropshire Council have confirmed that no significant effects are anticipated from the construction of the Proposed Development.

5.3.60 Standard good practice construction techniques as set out in the draft CEMP (**DCO Document 6.3.2**) would further reduce effects.

5.3.61 Potential noise effects from the operation of the new 132kV transformer at Wem Substation have been considered in Appendix 4.1 to the ES (**Document 6.4.1**). The assessment concludes that, with an agreed limit applied to the noise levels for the transformer, the levels of noise generation would not cause disturbance to local residents.

Socio Economic

5.3.62 Para 5.12.2 of EN-1 states that:

'*Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES*… '.

5.3.63 Chapter 10 of the ES 'Socio-Economics' (**DCO Document 6.10**) demonstrates that, due the nature of the Proposed Development, it would not lead to any significant adverse socio-economic labour market effects or significant adverse effects on the overall tourism economy or tourism related receptors. The Proposed Development will have the potential for positive effects as it will reinforce the local electricity distribution network and assist Shropshire Council in bringing forward land allocations identified within the SAMDev Plan.

5.3.64 The assessment has considered all relevant socio economic impacts including job creation, local services and tourism as required by para 5.12.3.

5.3.65 As required by para 5.12.4 of EN-1 the existing socio-economic conditions in the areas surrounding the Proposed Development have been described together with the local planning policies and economic development strategies (see Chapter 10 of the ES 'Socio-Economics' (**DCO Document 6.10**)).

5.3.66 EN-1 recognises (para 5.12.5) that socio-economic impacts may be linked to other impacts, for example visual impacts can lead to impacts on tourism and local businesses. The Socio-economic assessment has therefore cross referenced other assessments contained within the ES.

5.3.67 It is therefore considered that the Proposed Development has had regard to EN-1.

Traffic and Transport

5.3.68 EN-1 recognises that:

'*A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the IPC [Secretary of State] should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the develo*pment.' (para 5.13.6).

5.3.69 EN-1 Para 5.13.3 states that:

'*If a project is likely to have significant transport implications, the applicant's ES … should include a transport assessment, using the NATA/WebTag methodology stipulated in Department of Transport guidance or any successor to such methodology*….'

5.3.70 A full transport assessment has not been completed because, as set out in the Scoping Report, it was not predicted that the Proposed Development would give rise to likely significant effects. Appendix 1.1 'Transport and Highways Technical Note' of the ES (**DCO Document 6.1.1**) includes an overview assessment of the existing status of the highway network and potential impacts of the Proposed Development on the highway network.

5.3.71 As the flows are considered low the use of WebTag[14] has not been taken forward as the proposal does not change long term the layout of the road network or flows in the area.

5.3.72 SP Manweb has agreed with relevant stakeholders that the Proposed Development would not lead to likely significant effects. Impacts would be short term and mitigated through the measures set out in the draft CEMP (including a Construction Traffic Management Plan) (**DCO Document 6.3.2**).

5.3.73 The Proposed Development has therefore had regard to EN-1.

Waste Management

5.3.74 EN-1 para 5.4.14 recognises that:

'*All large infrastructure projects are likely to generate hazardous and non-hazardous waste*'.

5.3.75 The Proposed Development would not generate any hazardous waste. Measures for the control of non-hazardous waste are set out in the draft CEMP (**DCO**

[14] **WebTAG** refers to the UK Department for Transport's web-based multimodal guidance on appraising transport projects and proposals. **WebTAG** reflects the New Approach to Appraisal that was developed in 1998 and initially applied to decisions on trunk road schemes and a series of major multimodal studies.

Document 6.3.2), including the production of a Site Waste Management Plan, and secured by a Requirement to the draft DCO.. .

5.3.76 The Proposed Development has therefore had regard to EN-1

Water Quality and Resources

5.3.77 EN-1 para 5.15.2 states that:

'*Where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment as part of the ES or equivalent*'.

5.3.78 Para 5.15.3 goes on to set out what the ES should describe.

'*The ES should in particular describe:*

- *the existing quality of waters affected by the proposed project and the impacts of the proposed project on water quality, noting any relevant existing discharges, proposed new discharges and proposed changes to discharges;*
- *existing water resources19 affected by the proposed project and the impacts of the proposed project on water resources, noting any relevant existing abstraction rates, proposed new abstraction rates and proposed changes to abstraction rates (including any impact on or use of mains supplies and reference to Catchment Abstraction Management Strategies);*
- *existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project and any impact of physical modifications to these characteristics; and*
- *any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions'.*

5.3.79 An assessment of the existing water quality and groundwater is provided in Chapter 9 of the ES (**DCO Document 6.9**). There are no discharges or abstractions and no proposed changes to the physical characteristics of watercourses. The Proposed

Development crosses a number of groundwater protection zones, however no effects are anticipated.

5.3.80 The assessment has concluded that all identified effects on water quality, resources and flood risk have a negligible significance after the standard good practice construction techniques as set out in the draft CEMP (**DCO Document 6.3.2**) are implemented.

5.3.81 It is therefore considered that the Proposed Development has had regard to EN-1.

5.4 NATIONAL PLANNING POLICY FRAMEWORK

5.4.1 The National Planning Policy Framework (NPPF) (July 2018) provides national planning policies to be used in the preparation of development plan documents and determining planning applications. The NPPF does not contain specific policies for NSIPs.

5.4.2 Paragraph 80 of the NPPF with reference to '*building a strong, competitive economy*' states that:

> '*Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development'*.

5.4.3 Section 11 '*Making effective use of land*' recognises that planning policies and decision to support development that makes efficient use of land should take into account '*the availability and capacity of infrastructure and services – both existing and proposed…'* (para 122 (c)).

5.4.4 Section 2.2 of this report has described the need for the Proposed Development. The support the network reinforcement will provide with respect to the allocation sin the Shropshire Local Plan is set out in Section 6 below.

5.4.5 Para 155 (Section 14 – Managing the challenge of climate change, flooding and coastal change) states that;

> *'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future).*

Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.'

5.4.6 Paragraphs 5.3.22 – 5.3.26 of this document set out how the SP Manweb has had regard to the relevant generic principles in the NPSs in designing the Proposed Development. The FRA (**DCO Document 5.2**) concludes that the Proposed Development, with the implementation of the standard good practice construction techniques as set out in the draft CEMP (**DCO Document 6.3.2**), would not be subject to an unacceptable level of flood risk, nor would it increase flood risk elsewhere.

5.4.7 Section 15 – Conserving and enhancing the natural environment, para 170 states that the planning system should contribute to and enhance the natural and local environment by:

'a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; and

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.'

5.4.8 Chapter 2 'Alternatives and Design Evolution' of the ES (**DCO Document 6.2**) describes the development of the scheme and demonstrates that minimising harm to the landscape and avoiding visual effects through sensitive routeing and design was a major consideration for SP Manweb. International, national and local sites of landscape, ecological and geological importance have been avoided. The

sensitive routeing of the connection has also avoided significant effects on most other receptors, with only 4 locations identified were there are significant effects on viewpoints. Chapter 6 'Landscape and Visual' (**DCO Document 6.6**) and Chapter 7 'Ecology and Biodiversity' (**DCO Document 6.7**) have considered trees and woodland and identified no significant effect. Chapter 11 of the ES 'Land use and Agriculture' (**DCO Document 6.11**) has identified no significant effects on best and most versatile agricultural land.

5.4.9 Para 193 in Section 16 'Conserving and enhancing the historic environment' states that:

'When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be)'.

5.4.10 Chapter 8 of the ES 'Historic Environment' (**DCO Document 6.8**) has considered the potential effects arising from the Proposed Development on heritage assets and concluded that there will be no significant effects.

6 LOCAL PLANNING POLICY

6.1 INTRODUCTION

6.1.1 EN-1 states at paragraph 4.1.5 that:

'*Other matters that the Infrastructure Planning Commission (IPC) may consider important and relevant to its decision-making may include Development Plan Documents or other documents in the Local Development Framework. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for the purposes of IPC decision making given the national significance of the infrastructure'*.

6.2 SHROPSHIRE LOCAL PLAN

6.2.1 The Local Plan for Shropshire comprises several planning documents. Two of the key documents are:

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

The Core Strategy

6.2.2 The Core Strategy (adopted 2011) provides the overarching local planning policy document for Shropshire and includes a spatial vision and a set of strategic county-wide objectives and policies to inform future development. The Core Strategy's vision sets a development strategy, which identifies the level of development anticipated to take place.

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

'*Shropshire will flourish, accommodating investment and new development to contribute to meeting its needs and to make its settlements more sustainable, delivering over the plan period 2006 – 2026, around 27,500 new homes… around*

290 hectares of employment land, and accompanying infrastructure across Shropshire….'.

6.2.4 Core Strategy Policy CS8 'Facilities, Services and Infrastructure Provision' seeks to encourage the development of:

'*sustainable places in Shropshire with safe and healthy communities where residents enjoy a high quality of life', recognising that this will be assisted by 'working closely with network providers to ensure provision of necessary energy distribution networks'.*

6.2.5 Core Strategy Policy CS9 'Infrastructure Contributions' recognises that development that provides additional dwellings or employment premises will help deliver more sustainable communities by making contributions to local infrastructure. These are defined as 'critical', 'priority' and key infrastructure, depending on the scale.

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

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

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

6.2.7 As noted in section 2.2 the existing electricity distribution network is operating at or close to capacity. The Proposed Development will provide network reinforcement and will provide additional capacity which will support the objectives of all the Core Strategy Policies (CS1, CS8, CS9 and CS13) identified above.

6.2.8 The installation of a new 132kV circuit was identified by SP Manweb, following discussions with Shropshire Council, as the best way to reinforce the existing network, and provide the required capacity to support future development.

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

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

6.2.11 As noted in Section 3 of this Report, SP Manweb liaised with Shropshire Council and has consulted with a wide range of stakeholders, landowners and members of the public to ensure that the Proposed Development, whilst meeting the objectives of Strategic Policies CS1, CS8, CS9 and CS13, has also been sensitively routed and designed, so as to support the objectives of Strategic Policies CS5 and CS 17.

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

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

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

6.2.13 The Proposed Development traverses a Mineral Safeguarding Area for sand and gravel. A Minerals Resource Assessment was provided as Appendix D to the Scoping Report and is reproduced as Appendix 5.1 (**DCO Document 6.5.1**) to the ES. The Report concluded that there would not be an impact upon a significant economic mineral resource that is likely to be permanently encumbered and / or

subsequently sterilised by SP Manweb equipment. This topic was scoped out of the EIA.

The SAMDev Plan

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

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

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

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

6.2.17 The Proposed Development will provide network reinforcement to the electricity distribution network, thereby supporting the objectives of Policy MD2.

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

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

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

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

6.2.20 These areas are illustrated on Figure 4.6 'Additional Environmental Constraints' from the Route Corridor Options Report, June 2016 (**DCO Document 7.8**). SP Manweb avoided both these areas when routeing for the Proposed Development. In addition, the network reinforcement will ensure that sufficient electrical capacity is available to support future development of employment land.

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

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

i. residential and other sensitive neighbouring land uses;

ii. visual amenity;

iii. landscape character and sensitivity, including impacts on sensitive skylines;

iv. natural and heritage assets…

v. the visitor and tourism economy including long distance footpaths, cycle tracks and bridleways (Policy MD11);

vi. noise, air quality, dust, odour and vibration;

vii. water quality and resources;

viii. impacts from traffic and transport during the construction and operation of the infrastructure development; and

ix. cumulative impacts'.

6.2.22 It goes on:

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

6.2.23 SP Manweb's approach to the routeing and design of new electricity infrastructure has ensured that the potential for significant effects to arise from the Proposed Development has been reduced.

6.2.24 The EIA has addressed all of the topics within the policy listed above, and the outcomes of the assessments are set out below.

- Substantial design work and consultation has been undertaken by SP Manweb to ensure that residential and other sensitive land uses have been avoided;
- Very few likely significant landscape and visual effects have been identified. No significant construction landscape or visual effects have been identified and no operational phase landscape effects have been identified;
- The residential visual amenity assessment has identified potentially significant visual effects on only 1 property;
- The routeing of the Proposed Development has avoided direct effects on designated sites and other key habitats, such as trees and hedgerows;
- With the standard good practice construction techniques set out in the draft CEMP (**DCO Document 6.3.2**), secured by a Requirement to the draft DCO, no significant ecological effects would occur during the construction, or maintenance of the Proposed Development. During the operational phase there would be no significant ecological effects at a local, regional or national scale.
- No likely significant effects on historical environment were identified in the ES;
- The operational phase of the Proposed Development may result in significant, beneficial effects for local businesses. No significant adverse socio economic (including tourism) effects are predicted during the construction, maintenance or decommissioning;

- With the standard good practice construction techniques set out in the draft CEMP (**DCO Document 6.3.2**) and secured by a Requirement to the draft DCO no significant effects associated noise, air quality, dust, odour and vibration are anticipated;
- With the standard good practice construction techniques set out in the draft CEMP (**DCO Document 6.3.2**) and secured by a Requirement to the draft DCO significant hydrology and flood risk effects would be avoided;
- There will be no significant effects on traffic and transport during construction and operation; and
- No inter-project or intra-project environmental cumulative effects have been identified as a result of the Proposed Development.

6.2.25 SP Manweb has consulted widely over its proposals over a number of years and has adapted the route of the Proposed Development where possible (as set out in the Consultation Report (**DCO Document 5.1**)).

6.2.26 SP Manweb is therefore compliant with the policy guidance set out in Policy MD8.

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

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

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

ii. locally designated biodiversity and geological sites;

iii. priority species;

iv. priority habitats;

v. important woodlands, trees and hedges;

vi. ecological networks;

vii. geological assets;

viii. visual amenity; and

ix. landscape character and local distinctiveness.

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

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

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

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

6.2.28 SP Manweb has sought to avoid significant effects throughout the evolution of the project through identification of environmental constraints, sensitive routeing, responding to feedback and the design of the connection. Alternative routes and designs that avoided potential significant impacts have been taken forward resulting in the Proposed Development which is the subject of the application for an order granting Development Consent. Paras 6.2.5 and 6.2.6 above demonstrate how the sensitive design and routeing, and the consultation, undertaken by SP Manweb have resulted in the Proposed Development and its limited effects.

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

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

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

4. Ensuring that proposals which are likely to have an adverse effect on the significance of a non-designated heritage asset, including its setting, will only be permitted if it can be clearly demonstrated that the public benefits of the proposal

outweigh the adverse effect….'.

6.2.30 As noted above SP Manweb has sought to avoid significant effects throughout the evolution of the project through identification and considerations of heritage assets from strategic options through to the identification of the Order Limits resulting in the Proposed Development which is the subject of the application for an order granting Development Consent. No likely significant effects on historical environment were identified in the EIA.

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

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

i. The applicant can demonstrate that the mineral resource concerned is not of economic value; or

ii. The mineral can be extracted to prevent the unnecessary sterilisation of the resource prior to the development taking place without causing unacceptable adverse impacts on the environment and local community; …'.

6.2.32 It goes on

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

6.2.33 The Proposed Development traverses a Mineral Safeguarding Area for sand and gravel. A Minerals Resource Assessment was provided as Appendix D to the

Scoping Report and is reproduced as Appendix 5.1 (**DCO Document 6.5.1**) to the ES. As noted above the Report concluded that there would not be an impact upon a significant economic mineral resource that is likely to be permanently encumbered and / or subsequently sterilised by SP Manweb equipment.

6.2.34 The Scoping Opinion confirmed that this topic could be scoped out of the ES.

Place Plans

6.2.35 The Local Plan also includes a number of Place Plans, which summarise and prioritise the local infrastructure needs which are required to support the sustainable development of the individual areas and identify the wider investment needs to assist delivery of the communities' visions and aspirations. Of relevance to the Proposed Development are the Oswestry and Wem Place Plans.

6.2.36 The Place plans recognise that in order to ensure that new development is sustainable, it is important that it is supported by the necessary infrastructure.

6.2.37 The 'Place Plan for Oswestry and the Surrounding Area' (2015-2016) identifies the following:

- Oswestry Innovation Park; and
- Investment required for provision of infrastructure for employment sites (Land south and north of Whittington Road).

6.2.38 These are categorised as 'Priority' under the Core Strategy definitions in Policy CS9.

6.2.39 As noted in section 2.2 the existing electricity distribution network is operating at or close to capacity. The Proposed Development will provide network reinforcement and will provide additional capacity that will support the objectives Core Strategy Policy CS9.

6.3 LOCAL PLAN REVIEW

6.3.1 The Core Strategy (adopted 2011) and the Site Allocations and Management of Development (SAMDev) Plan (adopted 2015), set out proposals for the use of land and policies to guide future development in order to help to deliver sustainable growth in Shropshire for the period up to 2026.

6.3.2 Shropshire Council is currently in the process of a Local Plan Review in order:

- To allow the consideration of updated information on development needs within the Country;
- To reflect changes to national policy and our local strategies;
- To extend the Plan period to 2036; and to provide a plan which will help to support growth; and
- To maintain local control over planning decisions during the period to 2036.

6.3.3 Shropshire Council published its 'Preferred Scale and Distribution of Development (October 2017)'. This has identified planned housing growth 11% higher than the previous strategy on which the load forecast for the Proposed Development was based. Consultation on the document closed in December 2017.

6.3.4 SP Manweb continues to liaise with Shropshire Council over its future plans for growth in the area.

7 SUMMARY

7.1.1 This Planning Statement has explained that the Proposed Development is required to provide necessary reinforcement of the electrical distribution infrastructure in North Shropshire and also to allow the Council to bring forward proposals in its Local Plan.

7.1.2 There is policy support for the Proposed Development in NPS EN-1 and NPS EN-5, which, under the Planning Act 2008, are the primary basis for decision making for NSIPs.

7.1.3 The Secretary of State may also consider that other documents are both important and relevant to its decision making. However the NPSs have primacy in the determination of the DCO application, and they should be afforded substantial weight. The local development plan is a further material consideration to be taken into account but with less weight than the NPSs.

7.1.4 NPS EN-1 (para 4.1.5) identifies that, where there is a conflict between a development plan and the NPS, the NPS prevails for the purpose of decision making, given the national significance of the infrastructure.

7.1.5 A review of the relevant NPSs and the local development plan has been undertaken and it has been demonstrated that the Proposed Development is compliant with those policies.

7.1.6 The Proposed Development facilitates the Governments' objectives for energy and climate change (EN-1) and this Report has demonstrated, based on information provided within the ES how the Project meets the specific objectives in EN-1 and EN-5 and the relevant policies of the Local Plan.

7.1.7 In accordance with policies in EN-1 and EN-5, and local planning policies SP Manweb has sought to limit any adverse impacts where possible. Significant time has been invested by SP Manweb in consulting in connection with the proposals and refining the Proposed Development prior to making the application for an Order granting Development Consent. The iterative process adopted and positive engagement received from stakeholders has helped to ensure that the design of

the Proposed Development would minimise adverse impacts associated with its construction and operation.

7.1.8 The ES also demonstrates, in the topic specific chapters, how the Proposed Development is consistent with and supports the policy objectives of Shropshire Council.

7.1.9 In addition to the above, the Proposed Development provides the positive benefit of supporting the objectives of the Shropshire Council's Local Plan.

APPENDIX 1

Appraisal of the 132kv Overhead Line against NPS En-5 In Relation To Undergrounding

1 INTRODUCTION

1.1.1 This document, which is appended to the Planning Statement (**DCO Document 7.1**), supports the application (the Application) by SP Manweb plc (SP Manweb) under the Planning Act 2008 for an Order granting development consent for the Reinforcement of the North Shropshire Electricity Distribution Network (the Proposed Development).

1.1.2 It sets out SP Manweb's assessment of potential undergrounding options for the Proposed Development.

2 NPS EN-5

2.1.1 The Overarching National Policy Statement for Energy (EN-1) sets the context for references to undergrounding in EN-5. Section 3.7 of EN-1 deals with the need for new electricity infrastructure. Paragraph 3.7.10, in particular, notes there is an urgent need for new electricity lines at 132kV and above. It states that there will be more than one technological approach to connect the network such as overhead lines or underground cables and the costs and benefits of these alternatives should be properly considered, as set out in EN-5, before any overhead line is consented.

2.1.2 It is further noted that section 4.4 refers to the need for considering alternatives to the proposed development. A fully undergrounded line was considered in the Further Updated Strategic Options Report (the "SOR") (**DCO Document 7.7**) and rejected for the reasons set out in Section 5.13 of that document.

2.1.3 This report focuses on partial undergrounding options that are appropriate to consider in the light of the detail of the environmental impact assessment, which has now been carried out and within the policy context as set out in NPS EN-5.

2.1.4 Section 2.8 of NPS EN-5 considers undergrounding in the context of the landscape and visual effects of electricity network infrastructure. In the opening introduction to this section in paragraph 2.8.2, it is noted that the placing of overhead lines is generally not incompatible with developers' statutory duty under section 9 of the 1989 Act. Paragraph 2.8.2 also states that:

> '*For the most part, these impacts [adverse landscape and visual impacts] can be mitigated, however at particularly sensitive locations the potential adverse landscape and visual impacts of an overhead line proposal may make it unacceptable in planning terms, taking account of the specific local environment and context.*

2.1.5 Paragraph 2.8.8 explains that although Government expects that fulfilling the need for new networks overhead lines will often be appropriate, there will be cases where this is not so. It states:

'Where there are serious concerns about the potential adverse landscape and visual effects of a proposed overhead line, the Secretary of State will have to balance these against other relevant factors, including the need for the proposed infrastructure, the availability and cost of alternative sites and routes and methods of installation (including undergrounding).'

2.1.6 Paragraph 2.8.9 then goes on:

'The impacts and costs of both overhead and underground options vary considerably between individual projects (both in absolute and relative terms). Therefore, each project should be assessed individually on the basis of its specific circumstances and taking account of the fact that Government has not laid down any general rule about when an overhead line should be considered unacceptable. The Secretary of State should, however only refuse consent for overhead line proposals in favour of an underground or sub-sea line if it is satisfied that the benefits from the non-overhead line alternative will clearly outweigh any extra economic, social and environmental impacts and the technical difficulties are surmountable. In this context it should consider:

- *the landscape in which the proposed line will be set, (in particular, the impact on residential areas, and those of natural beauty or historic importance such as National Parks, AONBs and the Broads);*
- *the additional cost of any undergrounding or sub-sea cabling (which experience shows is generally significantly more expensive than overhead lines, but varies considerably from project to project depending on a range of factors, including whether the line is buried directly in open agricultural land or whether more complex tunnelling and civil engineering through conurbations and major cities is required.*

Repair impacts are also significantly higher than for overhead lines as are the costs associated with any later uprating.); and

- *the environmental and archaeological consequences (undergrounding a 400kV line may mean disturbing a swathe of ground up to 40 metres across, which can disturb sensitive habitats, have an impact on soils and geology, and damage heritage assets, in many cases more than an overhead line would).'*

2.1.7 Paragraph 2.8.10 adds that in addition to the above, the main opportunities for mitigating potential adverse landscape and visual impacts are the consideration of network alternatives and the selection of the most suitable types of support structures.

2.1.8 Paragraph 2.8.11 refers to more specific measures such as landscaping schemes including tree and hedgerow planting off site to mitigate landscape and visual impacts and localised screening in the immediate vicinity of residential properties and principal viewpoints to soften any visual impacts.

3 SP MANWEB'S INTERPRETATION OF PARAGRAPHS 2.8.8 AND 2.8.9 OF EN-5

3.1.1 In terms of defining '*serious concerns*' and identifying "*particularly sensitive areas*", this has previously been interpreted by SP Manweb in its submissions in respect of the Llandinam Scheme and the North Wales Wind Farm Connection Order to mean adverse significant landscape and visual effects that are over and above that expected for this type of project. In the context of an overhead line, this was taken to be a major adverse effect as identified in the ES for the Proposed Development. Whilst SP Manweb remains of the view that this is the better interpretation given that the Government expressly accept overhead lines can and usually will be compliant with licence operators' obligations to preserve environmental amenity, this approach was not adopted by the North Wales Wind Farm Connection Order Examining Authority which determined that serious concerns arises where there is any significant environmental effect.

3.1.2 Accordingly, for this application, SP Manweb is following the approach adopted by the Examining Authority for the North Wales Wind Farms Connection Order and is treating significant landscape and visual effects as equating to 'serious concerns'. SP Manweb regards this as a precautionary approach.

3.1.3 Further to this SP Manweb has also considered significant effects identified within the Residential Visual Amenity Assessment.

4 UNDERGROUNDING

4.1.1 Generally, undergrounding is used where there are constraints to routeing an overhead line, such as within or on the edge of urban areas, where there are features such as major transport routes and existing utilities where it would be preferable to avoid them and where undergrounding can be configured within the operational requirements of the existing network that it needs to connect into. Where undergrounding is an option, and depending on the required voltage capacity, it has specific technical requirements which influence the choice of route and design. Typically, undergrounding of 132kV cables is by means of an open cut trench and where, for example, a watercourse or road is crossed, then a trenchless technique known as directional drilling is used. Works where undergrounding is installed involve providing construction access for the excavators for the trench works, backfilling with sand, cable laying, and then surface reinstatement. Where the underground cable connects into an above ground installation, cable sealing ends are required.

4.1.2 For the Proposed Development, a 132kV underground cable would be a three single core cables laid in 200mm diameter ducts at a depth of about 1.4m to ensure a 975mm depth below ground level can be maintained. A working area of between 7m and 10m wide is generally required and an additional working area of similar width is needed for the construction. Diagram A1 below shows the typical cable corridor working area.

Diagram A1 Typical cable working area

4.1.3 The placing of underground cables involves other technical requirements. The first of these is that 132kV underground cables need to be accessed at any time at least at one end by a testing vehicle which is a HGV articulated lorry. This is in order to locate any faults in the cable should they arise. This requires a hard surfaced access to be available to one end of the underground cable. Where an underground section is in the middle of an otherwise overhead line, there would need to be terminal structures installed in place of the intermediate structures. Terminal structures are larger than the intermediate structures. These structures would also be used to attach the cable sealing end apparatus. In a wood pole design, such as the Proposed Development, these terminal structures are a 4 poled structure, such as the ones shown in Figure 3.2 in Chapter 3 of the ES (**DCO Document 6.3**) and shown below in Diagram A2.

Environmental Considerations

4.1.4 An undergrounded 132kV connection would have different environmental effects to a 132kV overhead line. Although the landscape and visual effects

of a 132kV overhead line during operation would not occur effects of construction for other environmental topics can be greater, including:

- Potential effects to buried archaeology;
- Potential effects on groundwater during construction and operation; and
- Greater disruption to agricultural practices during construction.

Costs of Undergrounding

4.1.5 Cost considerations include lifetime costs (based on capital cost, cost of electrical transmission losses and operational and maintenance costs calculated over the asset lifetime).

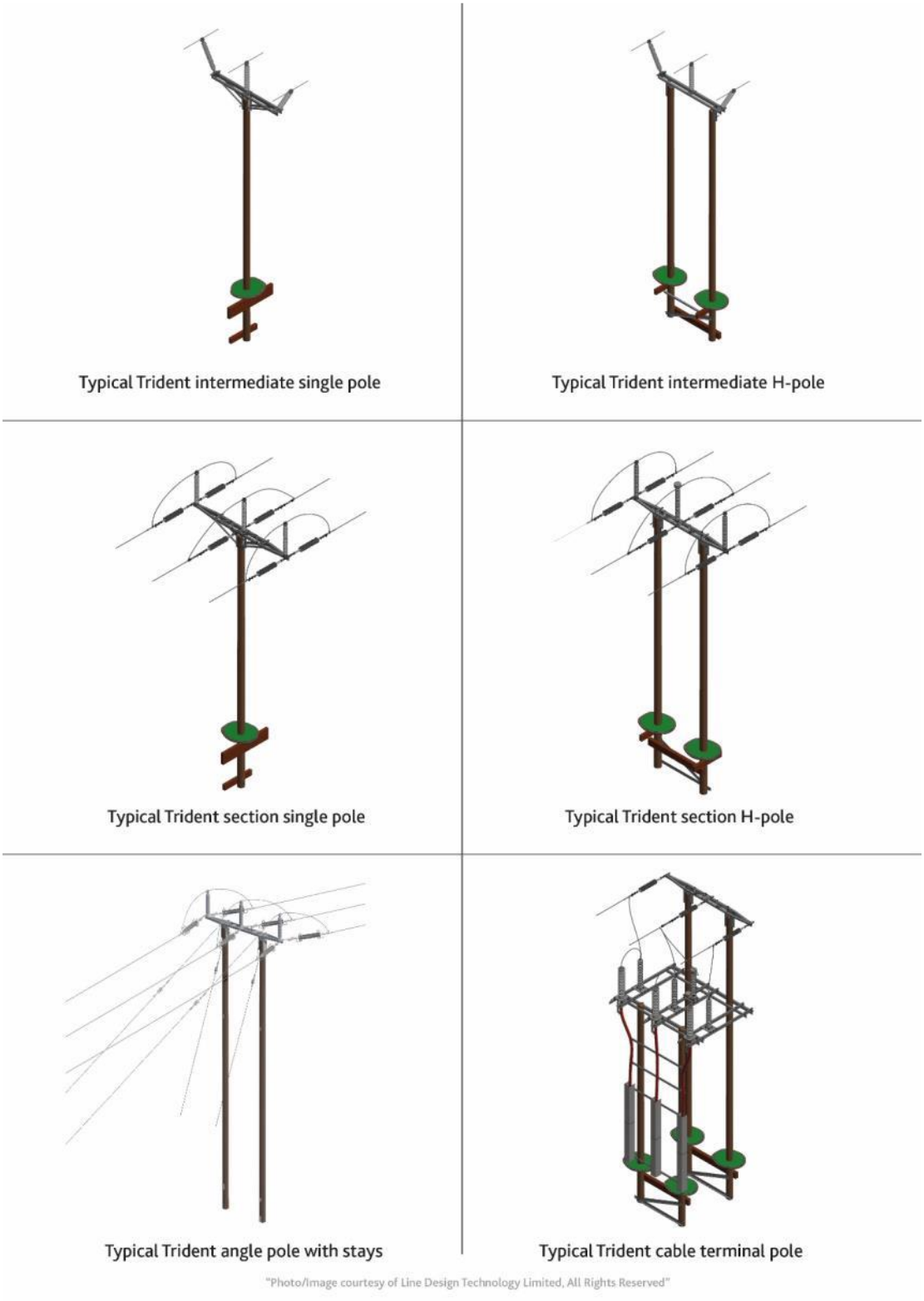


Diagram A2 Wood Pole Structures (including the Terminal Pole Design)

4.1.6 In general terms, for a lifetime of 40 years, the full lifecycle cost for an underground cable option is a factor of 2.2 – 2.8 times more expensive than an overhead line option. Capital costs might be higher for an underground option where construction is less typical i.e. not on the edge of an urban area and where a longer permanent access road might be required.

4.1.7 Operational and losses costs are due to 132kV underground cable faults taking several days to locate using specialist equipment and several weeks to arrange sufficient excavation and to install a repair section. During all of this time the network is depleted and in this case customer supply may be interrupted. It may be that the excavations and repair activities result in significant disruption to other parties where, for example, excavations are required in the highway or agricultural land.

4.1.8 In addition, more time would be needed for the repairs and this could be up to several weeks from a fault occurrence to the return to service, dependent on the fault location and the availability of spare cable and jointing accessories.

4.1.9 A further difficulty is introduced when a circuit has several transitions between overhead and underground. When such a circuit faults, it must be ascertained whether the fault is overhead or underground and, should the circuit have permanent damage, then the task of locating the fault becomes extended. An overhead line which has significant underground sections is not therefore able to be treated in the same fashion as one which is mainly overhead. It is therefore considered industry best practice to minimise the number of transitions in distribution circuits.

5 LIKELY SIGNIFICANT EFFECTS

5.1.1 The following likely significant effects have been identified in the Environmental Statement:

Table A1 – Summary of Likely Significant Effects		
Landscape and Visual		
Receptor	Sensitivity	Summary of Potential Significant Effects
Viewpoint 14: PRoW 0207/14/13 near Kenwick Oak	Medium-high	View south from a slightly elevated location on a PRoW looking out across attractive arable farmland, with expansive views across neighbouring landscapes and beyond to the distant hills along the Welsh border. Up to eight new poles would be visible from the viewpoint extending from the near to middle distance. Poles 92 to 95 would be visible on the skyline, but the remainder would be seen against a backdrop of landform and vegetation which would reduce their perceptibility. Although a single turbine is present within the view, the introduction of the new overhead line would bring a new and contrasting feature into the landscape. It is anticipated that the magnitude of change in the view would be medium and the level of effect **moderate adverse**.
Viewpoint 23: PRoW 0217/4/2 near Malt Kiln Farm (listed building)	High	View north from PRoW near residential properties. Poles 123-125 would be close to the viewpoint. Pole 124 would be particularly noticeable as it would be situated on the rising ground to the west of the viewpoint where it would be seen on the skyline. Other poles, although visible, would be mostly screened by intervening vegetation in the summer months but potentially visible (although not prominent) during the winter months. The new overhead line would bring a new and contrasting feature into the landscape.

Table A1 – Summary of Likely Significant Effects		
Landscape and Visual		
Receptor	Sensitivity	Summary of Potential Significant Effects
		It is anticipated that the magnitude of change in the view would be medium and the level of effect **moderate adverse**.
Viewpoint 70: Dandyford Farm, Lower Hordley	High	View across level and relatively open farmland across neighbouring landscapes including the slightly elevated Woodhouse Estate and the elevated wooded hill at Tedsmore, and beyond to more distant uplands. Up to eight new poles would be visible from this viewpoint, most of which would be visible on the skyline. All the poles would benefit, to a varying degree, from some level of screening and/or be backdropped by landform and vegetation. The overhead line would be visible within the context of the existing baseline which includes a telegraph pole line, wind turbines and in the distance a 400kV pylon line. Views from within Dandyford Farm would benefit from greater screening than the actual viewpoint. It is anticipated that the magnitude of change in the view would be medium and the level of effect **moderate adverse**.
Viewpoint 72: PRoW 0217/12/1 near The Shayes (listed building)	Medium	In views south and east from this PRoW the overhead line would be visible across the view and on the skyline, particularly between poles 150 and 151. To the east, poles 152-154 would be partially visible through the intervening vegetation. To the south-west, angle pole 150 would be prominent and appear noticeably taller than the existing 33kV and 11kV wood pole lines currently present within the view. Wood poles 149-146 would also be visible heading away from the viewpoint, where multiple poles would be seen 'stacked' behind one another, which increases their perceptibility. It is anticipated that the magnitude of change in the view would be medium and the level of effect **moderate adverse**.

Table A1 – Summary of Likely Significant Effects		
Landscape and Visual		
Receptor	Sensitivity	Summary of Potential Significant Effects
PRoW 0217/5/1	Medium	PRoW 0217/5/1 is a 205m long PRoW adjacent to the B4397 to the east of Malt Kiln Farm. The western end of this PRoW is approximately 100m south of wood pole no. 127, and the PRoW runs south-west to north-east across a single arable field, with the eastern end of the PRoW directly adjacent to wood pole no. 128. There would be clear unobstructed views of the overhead line for the full length of this PRoW at a maximum distance of 100m. It is noted, however, that this is a minor PRoW (Shropshire Council Category D) that is unlikely to be walked by tourists or visitors to the area. The magnitude of change in the visual amenity would be medium and the overall level of effects **moderate adverse**.

5.1.2 In addition to the above a further likely significant effect has been identified by the Residential Visual Amenity Assessment (**DCO Document 6.6.5**)

Table A2 – Summary of Likely Significant Effects		
Residential Visual Amenity		
Receptor	Sensitivity	Summary of Potential Significant Effects
Lower Lees	High	Occupants of Lower Lees would have open northerly views from the front of the property and its eastern garden, where the overhead line and closest two wood poles would be approximately 100m from the building. The Proposed Development would be visible across the view heading east to west and at least eight wood poles would be visible in the foreground and middle distance, although not all within the same view. Whilst existing overhead line structures are an accepted element in views in this location, the addition of another line could result in significant

Table A2 – Summary of Likely Significant Effects		
Residential Visual Amenity		
Receptor	Sensitivity	Summary of Potential Significant Effects
		effects on the residential visual amenity of Lower Lees, particularly as the overhead line would introduce a new feature into the agricultural field within which the property is located and from the main outlook of the property (although steel pylons are close to the property they are at an oblique angle to the property). Views towards the Proposed Development would be open with limited or no screening, although hedgerows in the distance may provide a partial backdrop. The introduction of the Proposed Development would mean that the property would be almost encircled by overhead lines. The magnitude of change would be medium, as such the effects are considered to be **moderate adverse.**

6 ANALYSIS AGAINST EN-5

6.1.1 This section:

- Sets out a minimal partial undergrounding scheme to address each of the above likely significant effects; and
- Analyses the benefits and dis-benefits of undergrounding against the criteria in paragraph 2.8.9 of EN-5.

Viewpoint 14

6.1.2 The underground connection would run between poles 92 and 97.

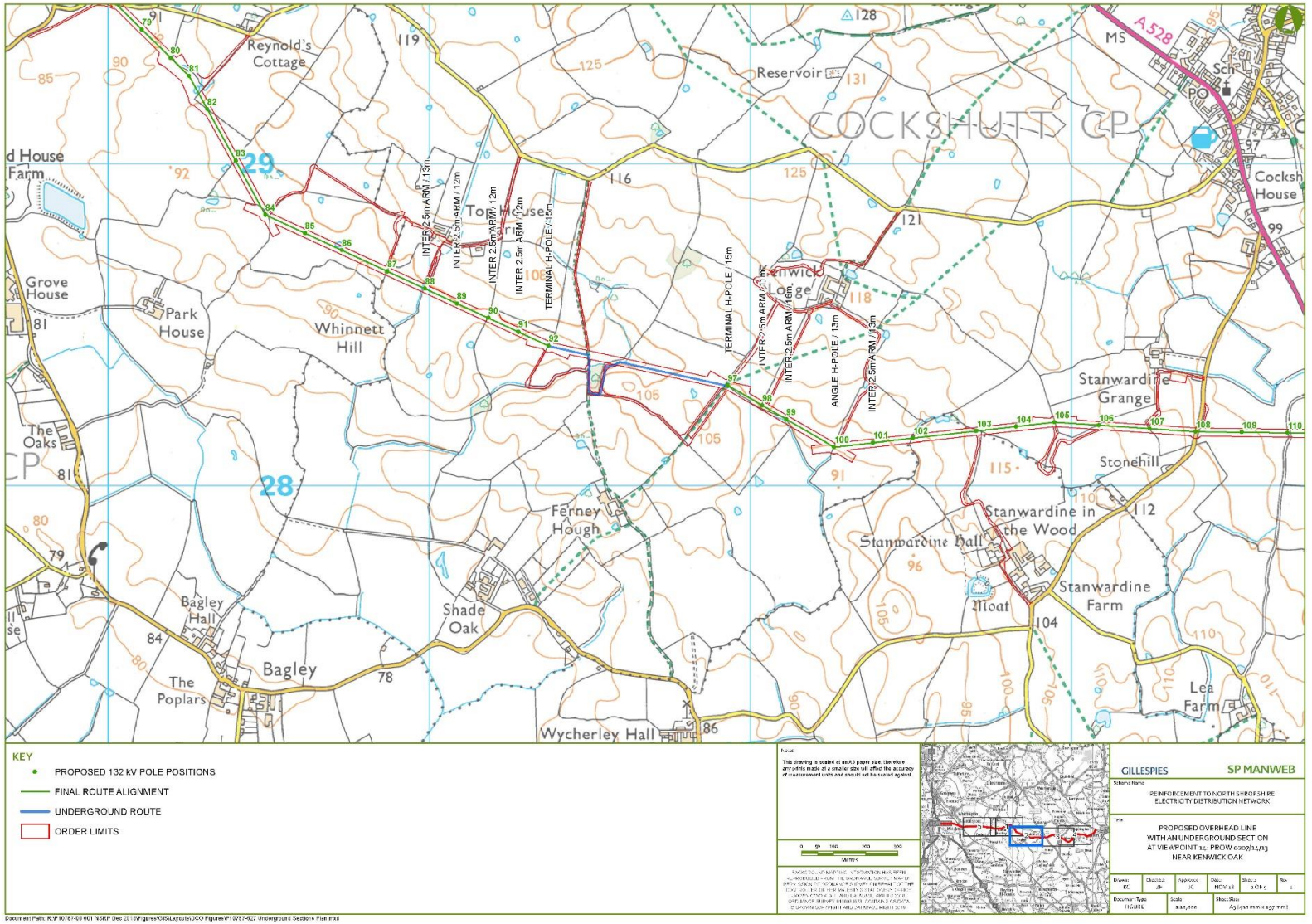

Reynold's Cottage
Reservoir
COCKSHUTT CP
A528
Cocksh House
Grove House
Park House
Whinnett Hill
Kenwick Lodge
Stanwardine Grange
The Oaks
Stonehill
Ferney Hough
Stanwardine in the Wood
Stanwardine Hall
Moat
Stanwardine Farm
Shade Oak
Bagley Hall
Bagley
The Poplars
Wycherley Hall
Lea Farm
TERMINAL H-POLE / 15m
INTER 2.5m ARM / 13m
INTER 2.5m ARM / 12m
ANGLE H-POLE / 13m
KEY
PROPOSED 132 kV POLE POSITIONS
FINAL ROUTE ALIGNMENT
UNDERGROUND ROUTE
ORDER LIMITS
GILLESPIES
SP MANWEB
REINFORCEMENT TO NORTH SHROPSHIRE ELECTRICITY DISTRIBUTION NETWORK
PROPOSED OVERHEAD LINE WITH AN UNDERGROUND SECTION AT VIEWPOINT 16: PROW 0207/14/X3 NEAR KENWICK OAK

Table A3 – Summary of Likely Significant Effects of Underground Connection between Poles 92 – 97	
NPS EN-5 Criteria	SP Manweb Analysis
Description of potential underground route	The underground route would cross two medium scale arable fields to the south-west of Cockshutt and, in order to avoid an important hedgerow, follow the path of an existing farm track which is also PRoW 0207/14/13. There are no designated landscapes within the vicinity of this location. The closest residential properties are Kenwick Oak, approximately 375m north-west of pole no. 92 (which would become a terminal pole) and Kenwick Lodge, approximately 415m north-east of pole no. 97 (which would become a terminal pole). This underground section would cross the slightly higher ridge of ground which runs approximately northwest to southeast. The rural landscape is typical of the wider area, though slightly more undulating and more aesthetically pleasing than much of the local landscape.
Additional estimated life cycle costs (construction and operation)	Based on a typical 132kV underground cost ratio factor of 2.5[15], the additional life cycle cost of this section of underground cable would be £760,000. There would also be additional construction costs for this option of approximately £150,000 resulting in overall cost of approx. £910,000.
Landscape and Visual Considerations	In routeing the connection underground between poles 92 and 97, 4 no. proposed intermediate Trident wood poles (single poles) would be removed. Pole 92 is scheduled to be a single angle pole, but to facilitate undergrounding, this would become a terminal pole (see Diagram A2). Pole 97 is scheduled to be an angle H-pole (2 wood poles) and to facilitate

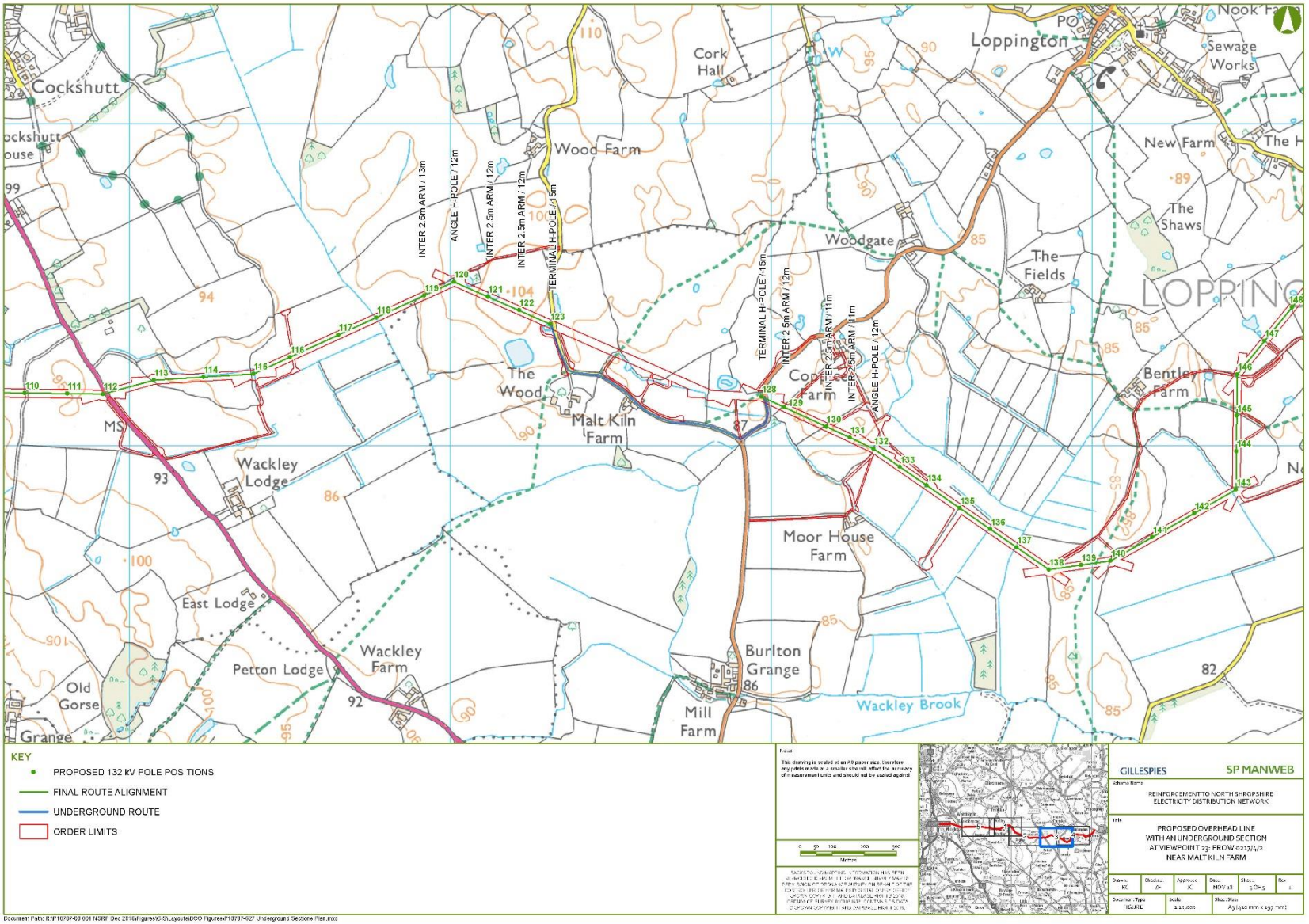
[15] Mid-ratio between 2.2 – 2.8 (see para 1.4.6 above)

Table A3 – Summary of Likely Significant Effects of Underground Connection between Poles 92 – 97	
NPS EN-5 Criteria	SP Manweb Analysis
	undergrounding, this would become a terminal pole. In addition, a permanent tarmac (or similar) access track of over 0.5km would be required from the rural lane northeast of Top House Farm along the existing farm track to the nearest terminal pole. The removal of 4 no. poles and overhead conductors would provide some visual benefit. The introduction of a terminal structure at pole 92 and a tarmac access track would be perceived as adverse introductions into this landscape. On balance, the magnitude of change resulting from the introduction of an underground section (when compared with the 132kV overhead line) at this location is likely to be reduced and thus the resultant predicted visual effects would not be significant. There are no effects on designated landscapes. The predicted landscape effects at this location for the 132kV overhead line are minor (not significant). There would be no change to this with the underground connection.
Technical issues	There is no technical reason that an underground section could not be constructed in this location. However, in fault situations, an underground cable is technically less preferable to an overhead line for the reasons explained above.
Planning balance (do the benefits of undergrounding clearly outweigh any extra social & environmental impacts and are technical issues surmountable):	Whilst undergrounding is technically feasible at this location, it is not preferred. Undergrounding would result in a localised reduction in significant visual effects (to not significant). On balance it is considered that, although there would be a localised visual benefit when compared to the 132kV overhead line

Table A3 – Summary of Likely Significant Effects of Underground Connection between Poles 92 – 97	
NPS EN-5 Criteria	SP Manweb Analysis
	there is no basis to refuse the overhead line in favour of undergrounding here as the benefits of undergrounding (a modest improvement in landscape and visual effects in a non-designated area) will not clearly outweigh the extra economic impacts and the technical preference for an overhead line.

Viewpoint 23

6.1.3 The underground connection would run between poles 123 and 128.


Cockshutt
Cork Hall
Loppington
Sewage Works
New Farm
The Shaws
Wood Farm
Woodgate
The Fields
The Wood
Malt Kiln Farm
Copperfield Farm
Bentley Farm
Wackley Lodge
Moor House Farm
East Lodge
Petton Lodge
Wackley Farm
Old Gorse
Burlton Grange
Mill Farm
Wackley Brook
INTER 2.5m ARM / 13m
ANGLE H-POLE / 12m
INTER 2.5m ARM / 12m
INTER 2.5m ARM / 12m
TERMINAL H-POLE / 15m
TERMINAL H-POLE / 15m
INTER 2.5m ARM / 12m
INTER 2.5m ARM / 11m
INTER 2.5m ARM / 11m
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KEY
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UNDERGROUND ROUTE
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REINFORCEMENT TO NORTH SHROPSHIRE ELECTRICITY DISTRIBUTION NETWORK
PROPOSED OVERHEAD LINE WITH AN UNDERGROUND SECTION AT VIEWPOINT 23: PROW 0217/4/2 NEAR MALT KILN FARM

Table A4 – Summary of Likely Significant Effects of Underground Connection between Poles 123 and 128	
NPS EN-5 Criteria	SP Manweb Analysis
Description of potential underground route	The underground route would follow the path of a local rural road adjacent to two local properties, including the Grade II Listed Malt Kiln Farm and adjoining three distinct PRoW. There are no designated landscapes within the vicinity of this location. As well as the 2 properties the underground route would pass, the next closest residential properties are Runners Rest, approximately 195m north of pole no. 123 (which would become a terminal pole) and Coppice Farm, approximately 275m north-east of pole no. 128 (which would become a terminal pole). This proposed section of underground cable would cross a rural landscape where the landform drops in height (from pole no. 123) to a lower level landscape with narrow drainage ditches and associated woodland copses. The rural landscape is typical of the area without any distinguishing qualities.
Additional estimated life cycle costs (construction and operation)	Based on a typical 132kV underground cost ratio factor of 2.5, the additional life cycle cost of this underground cable would be £920,000. There would also be additional construction costs for this option of approximately £50,000 resulting in overall cost of approx. £970,000.
Landscape and Visual Considerations	In routeing the connection underground between poles 123 and 128, 4 no. proposed Trident wood poles (1 no. single pole and 3 no. double poles) would be removed. Pole 123 is scheduled to be a single angle pole, but to facilitate undergrounding, this would become a terminal pole. Pole 128 is scheduled to be an angle H-pole (2 wood poles) and to facilitate undergrounding, this would also become a terminal pole. The removal of poles and overhead conductors would provide some visual benefit for users of the public footpath north of Malt Kiln Farm, and reduce the amount of

Table A4 – Summary of Likely Significant Effects of Underground Connection between Poles 123 and 128	
NPS EN-5 Criteria	SP Manweb Analysis
	necessary works to trees near pole 125 and 127. The introduction of a new terminal structure at pole 123 would require additional tree clearance. On balance, the magnitude of change resulting from the introduction of an underground section at this location (when compared with the 132kV overhead line) is likely to be reduced and thus the resultant predicted visual effects would not be significant. There are no effects on designated landscapes. The predicted landscape effects at this location for the 132kV overhead line are minor (not significant). There would be no change to this with the underground connection.
Technical issues	There is no technical reason that an underground section could not be constructed in this location. However, in fault situations, an underground cable is technically less preferable to an overhead line for the reasons explained above.
Planning balance (do the benefits of undergrounding clearly outweigh any extra social & environmental impacts and are technical issues surmountable):	Whilst undergrounding is technically feasible at this location, it is not preferred. Undergrounding would result in localised reduction in significant visual effects (to not significant). On balance it is considered that, although there would be a localised visual benefit when compared to the 132kV overhead line there is no basis to refuse the overhead line in favour of undergrounding here as the benefits of undergrounding (a modest improvement in landscape and visual effects in a non-designated area) will not clearly outweigh the extra economic impacts and the technical preference for an overhead line.

Viewpoint 70

6.1.4 The underground connection would run between poles 66 and 73.

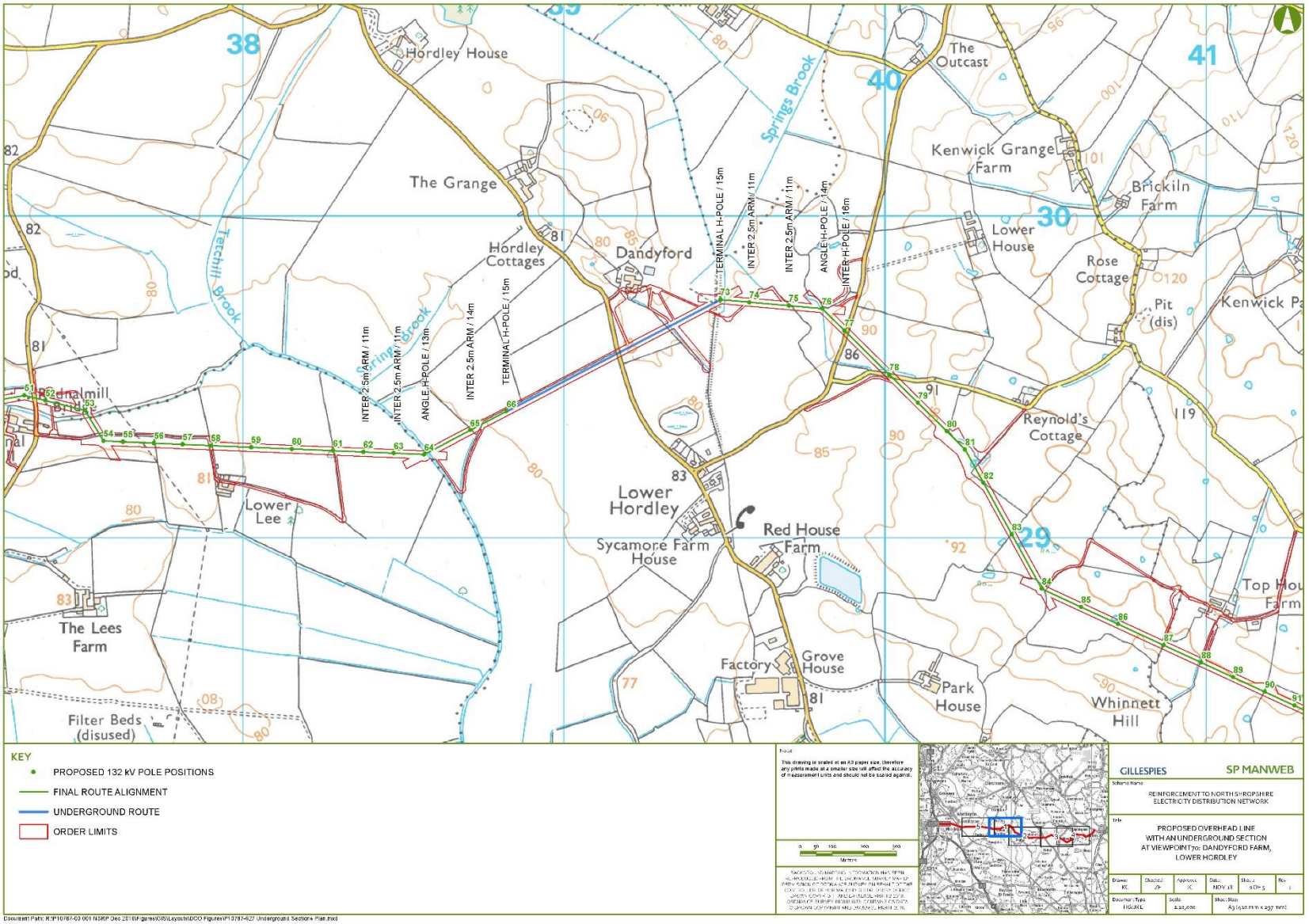
Hordley House
The Grange
Hordley Cottages
Dandyford
Springs Brook
The Outcast
Kenwick Grange Farm
Brickiln Farm
Lower House
Rose Cottage
Pit (dis)
Kenwick Pa
Reynold's Cottage
Tetchill Brook
Spring Brook
Lower Lee
Lower Hordley
Red House Farm
Sycamore Farm House
The Lees Farm
Filter Beds (disused)
Factory
Grove House
Park House
Whinnett Hill
Top Hou Farm
TERMINAL H-POLE / 15m
INTER 2.5m ARM / 11m
ANGLE H-POLE / 14m
INTER H-POLE / 16m
INTER 2.5m ARM / 11m
ANGLE H-POLE / 13m
INTER 2.5m ARM / 14m
TERMINAL H-POLE / 15m
KEY
PROPOSED 132 kV POLE POSITIONS
FINAL ROUTE ALIGNMENT
UNDERGROUND ROUTE
ORDER LIMITS
GILLESPIES
SP MANWEB
REINFORCEMENT TO NORTH SHROPSHIRE ELECTRICITY DISTRIBUTION NETWORK
PROPOSED OVERHEAD LINE WITH AN UNDERGROUND SECTION AT VIEWPOINT 7: DANDYFORD FARM, LOWER HORDLEY

Table A5 – Summary of Likely Significant Effects of Underground Connection between Poles 66 and 73	
NPS EN-5 Criteria	SP Manweb Analysis
Description of potential underground route	The underground connection would follow the same route as the proposed overhead line, along the hedgerow field boundary of a large scale arable field, under a local road and across three small scale arable fields. There are no designated landscapes within the vicinity of this location. Lower Hordley village is located between 330-500m to the south. The closest residential property is Dandyford Farm approximately 300m west of pole no. 73 (which would become a terminal pole. The underground connection would cross a flat and open rural landscape without any distinguishing qualities and little aesthetic quality.
Additional estimated life cycle costs (construction and operation)	Based on a typical 132kV underground cost ratio factor of 2.5, the additional life cycle cost of this underground cable would be £750,000. There would also be additional construction costs for this option of approximately £100,000 resulting in overall cost of approx. £850,000
Landscape and Visual Considerations	In routeing the connection underground between poles 66 and 73, 6 no. proposed Trident wood poles (all single poles) would be removed. Pole 66 is scheduled to be a single angle pole, but to facilitate undergrounding, this would become a terminal pole. Pole 73 is scheduled to be an angle H-pole (2 wood poles) and to facilitate undergrounding, this would become a terminal pole. The removal of Trident poles and the overhead conductors would provide some visual benefit for users of the main road and for visual receptors in Lower Hordley and at Dandyford. On balance, the magnitude of change resulting from the introduction of an underground section at this location (when compared to the 132kV overhead line) is

Table A5 – Summary of Likely Significant Effects of Underground Connection between Poles 66 and 73	
NPS EN-5 Criteria	SP Manweb Analysis
	likely to be reduced and thus the resultant predicted visual effects would not be significant. There are no effects on designated landscapes. The predicted landscape effects at this location for the 132kV overhead line are minor (not significant). There would be no change to this with the underground connection.
Technical issues	There is no technical reason that an underground section could not be constructed in this location. However, in fault situations, an underground cable is technically less preferable to an overhead line for the reasons explained above.
Planning balance (do the benefits of undergrounding clearly outweigh any extra social & environmental impacts and are technical issues surmountable):	Whilst undergrounding is technically feasible at this location, it is not preferred. Undergrounding would result in localised reduction in significant visual effects (to not significant). On balance it is considered that, although there would be a localised visual benefit when compared to the 132kV overhead line there is no basis to refuse the overhead line in favour of undergrounding here as the benefits of undergrounding (a modest improvement in landscape and visual effects in a non-designated area) will not clearly outweigh the extra economic impacts and the technical preference for an overhead line.

Viewpoint 72

6.1.5 The underground connection would run between poles 147 and 152.

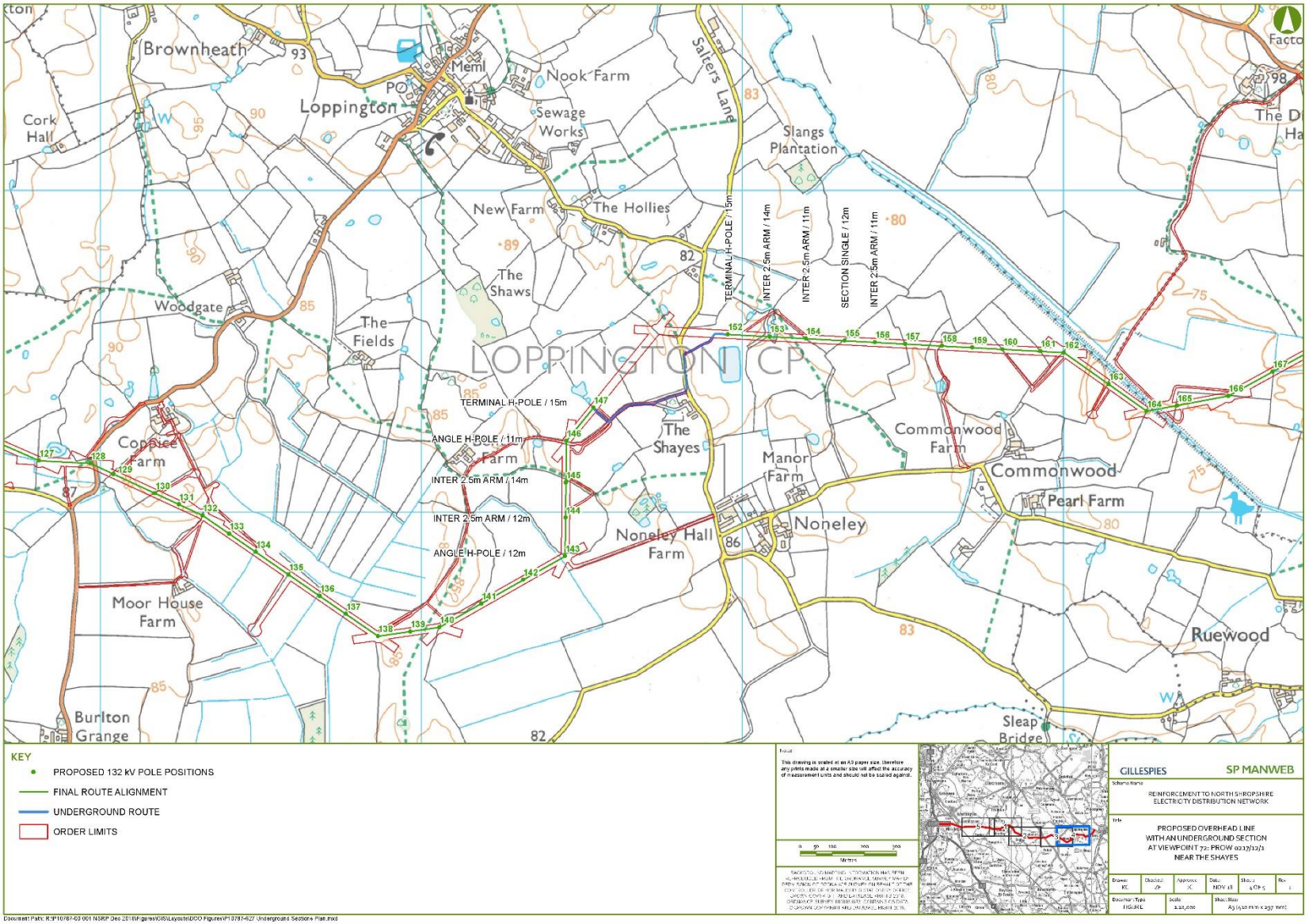
Brownheath
Loppington
Memi
PO
Nook Farm
Sewage Works
Salters Lane
Slangs Plantation
Cork Hall
New Farm
The Hollies
The Shaws
Woodgate
The Fields
LOPPINGTON CP
TERMINAL H-POLE / 15m
INTER 2.5m ARM / 14m
INTER 2.5m ARM / 11m
SECTION SINGLE / 12m
INTER 2.5m ARM / 11m
ANGLE H-POLE / 11m
INTER 2.5m ARM / 14m
INTER 2.5m ARM / 12m
ANGLE H-POLE / 12m
Coppice Farm
The Shayes
Manor Farm
Commonwood Farm
Commonwood
Pearl Farm
Noneley
Noneley Hall Farm
Moor House Farm
Ruewood
Burlton Grange
Sleap Bridge
KEY
PROPOSED 132 kV POLE POSITIONS
FINAL ROUTE ALIGNMENT
UNDERGROUND ROUTE
ORDER LIMITS
GILLESPIES
SP MANWEB
REINFORCEMENT TO NORTH SHROPSHIRE ELECTRICITY DISTRIBUTION NETWORK
PROPOSED OVERHEAD LINE WITH AN UNDERGROUND SECTION AT VIEWPOINT 72: PROW 0217/12/1 NEAR THE SHAYES

Table A6 – Summary of Likely Significant Effects of Underground Connection between Poles 147 and 152	
NPS EN-5 Criteria	SP Manweb Analysis
Description of potential underground route	Located to the south-east of Loppington the underground route would follow a farm access track associated with the Shayes Farm and adjacent to an Important Hedgerow before crossing a local rural road and one large arable field. There are no designated landscapes within the vicinity of this location. The closest property would be the Grade II Listed Shayes Farm, which the underground route would directly pass, and is approximately 290m west of pole no. 147, (which would become a terminal pole) and 250m south of pole no. 152 (which would become a terminal pole). Chapel House would be approximately 200m north-west of pole no. 152. This proposed section of underground connection would cross a rural landscape typical of the area, although without any distinguishing qualities.
Additional estimated life cycle costs (construction and operation)	Based on a typical 132kV underground cost ratio factor of 2.5, the additional life cycle cost of this underground cable would be £610,000. There would also be additional construction costs for this option of approximately £60,000 resulting in overall cost of approx. £670,000.
Landscape and Visual Considerations	In routeing the connection underground between poles 147 and 152, 4 no Trident wood poles (3 no. single poles and 1 no. double pole at pole 150) would be removed. Pole 147 is scheduled to be a single angle pole, but to facilitate undergrounding, this would become a terminal pole. Pole 152 is scheduled to be a single angle pole, but to facilitate undergrounding this would become a terminal pole. The removal of poles and overhead conductors would provide some visual benefit near the public footpath to the north of The Shayes, and reduce the amount of necessary works to trees near pole 148, 150 and 151.

Table A6 – Summary of Likely Significant Effects of Underground Connection between Poles 147 and 152	
NPS EN-5 Criteria	SP Manweb Analysis
	The introduction of a new double pole terminal structure at pole 147 would require more tree clearance. In addition, a permanent tarmac (or similar) access tracks (approximately 60m long) would be required from a neighbouring rural lane near The Shayes, to the closest terminal pole. The removal of 4 no. poles (one of which is a double pole) and overhead conductors would provide some visual benefit. The introduction of a new double pole terminal structure at pole 147 and 2 no. tarmac access tracks would be perceived as adverse introductions into this landscape. On balance, the magnitude of change resulting from the introduction of an underground section at this location is likely to be reduced and thus the resultant predicted visual effects would not be significant. There are no effects on designated landscapes. There would be no change to the predicted minor (and not significant) landscape effects at this location.
Technical issues	There is no technical reason that an underground section could not be constructed in this location. However, in fault situations, an underground cable is technically less preferable to an overhead line for the reasons explained above.
Planning balance (do the benefits of undergrounding clearly outweigh any extra social & environmental impacts and are technical issues surmountable):	Whilst undergrounding is technically feasible at this location, it is not preferred. Undergrounding would result in localised reduction in significant visual effects (to not significant). On balance it is considered that, although there would be a localised visual benefit when compared to the 132kV overhead line there is no basis to refuse the overhead line in favour of undergrounding here as the benefits of undergrounding (a modest

Table A6 – Summary of Likely Significant Effects of Underground Connection between Poles 147 and 152	
NPS EN-5 Criteria	SP Manweb Analysis
	improvement in landscape and visual effects in a non-designated area) will not clearly outweigh the extra economic impacts and the technical preference for an overhead line.

Lower Lees

6.1.6 The Residential Visual Amenity Assessment (RVAA) considers visual effects from individual properties; one property (Lower Lees) has been identified with potential significant effects.

6.1.7 The RVAA identified that, for the occupants of Lower Lees, at least eight poles would be visible in the foreground and middle distance although not all within the same view. Due to the open views a section between poles 54 and 64 (9 no wood poles) would need to be undergrounded. The route would follow the same alignment as the overhead line.

6.1.8 Based on a typical 132kV underground cost ratio factor of 2.5, the additional life cycle cost of this underground cable would be in the order of £1m. There would also be additional construction costs for this option of approximately £140,000 resulting in overall cost of approx. £1.14m.

6.1.9 There is no technical reason that an underground section could not be constructed in this location. However, in fault situations, an underground cable is technically less preferable to an overhead line for the reasons explained above.

6.1.10 Although there would be a localised visual benefit to the occupants of Lower Lees when compared to the 132kV overhead line there would be other landscape and visual effects associated with the terminal structures and the permanent access track.

6.1.11 On balance, it is considered that there is no basis to refuse the overhead line in favour of undergrounding here, as the benefits of undergrounding to the occupants of Lower Lees will not clearly outweigh the extra economic impacts and the technical preference for an overhead line.

Montgomery Canal

6.1.12 As explained above, the foregoing analysis is focused on areas where the Environmental Impact Assessment identified significant adverse effects. In consultation, the Canal and River Trust (CRT) expressed concern about the crossing of the Montgomery Canal by the Proposed Development. SP Manweb does not believe that any serious concerns (no significant landscape and visual effects) arise in this location. However, given CRT's concerns SP Manweb decided to go further than required by policy and analyse whether or not undergrounding (based on the EN-5 criteria) would be appropriate.

6.1.13 The photomontage for VP-08 illustrates the proposed 132kV Overhead Line Crossing of the Montgomery Canal (see **DCO Document 6.6.6**)

6.1.14 The underground connection would run between poles 36 and 40.

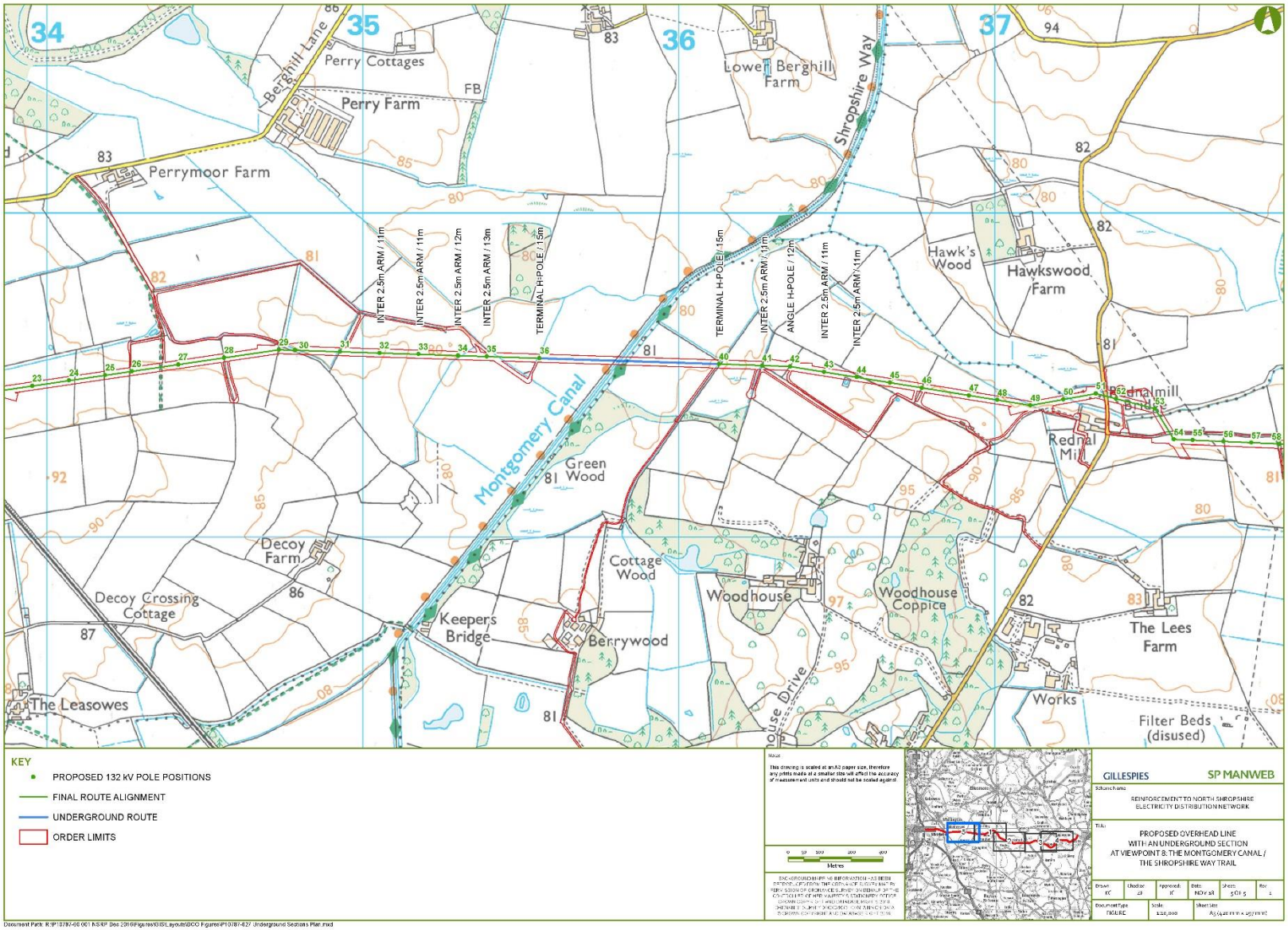
34
35
36
37
Perry Cottages
Perry Farm
Perrymoor Farm
Berghill Lane
Lower Berghill Farm
Shropshire Way
Hawk's Wood
Hawkswood Farm
Montgomery Canal
Green Wood
Redhal Mill
Decoy Farm
Decoy Crossing Cottage
Keepers Bridge
Cottage Wood
Woodhouse
Woodhouse Coppice
Berrywood
The Lees Farm
The Leasowes
Works
Filter Beds (disused)
INTER 2.5m ARM / 11m
INTER 2.5m ARM / 12m
INTER 2.5m ARM / 13m
TERMINAL H-POLE / 15m
ANGLE H-POLE / 12m
KEY
PROPOSED 132 kV POLE POSITIONS
FINAL ROUTE ALIGNMENT
UNDERGROUND ROUTE
ORDER LIMITS
GILLESPIES
SP MANWEB
REINFORCEMENT TO NORTH SHROPSHIRE ELECTRICITY DISTRIBUTION NETWORK
PROPOSED OVERHEAD LINE WITH AN UNDERGROUND SECTION AT VIEWPOINT 8: THE MONTGOMERY CANAL / THE SHROPSHIRE WAY TRAIL

Table A7 – Summary of Likely Significant Effects of Underground Connection between Poles 36 and 40	
NPS EN-5 Criteria	SP Manweb Analysis
Description of potential underground route	The underground route would follow the same route as the proposed overhead line, passing through the centre of two large arable fields and under the Montgomery Canal. There are no designated landscapes or residential properties within the vicinity of this location of line. The Shropshire Way Trail includes this section of the canal path; however, views from the canal path onto the wider landscape are generally screened by woodland vegetation on the canal embankments. Terminal poles would be created at pole no. 36, approximately 260m west of the canal, and at pole no. 40, approximately 300m east of the canal. The undergrounding would cross a typical rural landscape, although the presence of the canal, and woodland areas to the east of the canal, increase the aesthetic quality of the landscape, although as noted above views on to the wider landscape are often screened.
Additional estimated life cycle costs (construction and operation)	Based on a typical 132kV underground cost ratio factor of 2.5, the additional life cycle cost of this underground cable would be £570,000. There would also be additional construction costs for this option of approximately £300,000 resulting in overall cost of £870,000.
Landscape and Visual Considerations	In routeing the connection underground between poles 36 and 40, 3 no. proposed single Trident wood poles would be removed. Pole 36 is scheduled to be a H-pole (2 poles) and to facilitate undergrounding, this would become a terminal pole. Pole 40 is scheduled to be a single pole, but to facilitate undergrounding, this would become a terminal pole. In addition, a permanent tarmac access track (approximately 1km long) would be required

Table A7 – Summary of Likely Significant Effects of Underground Connection between Poles 36 and 40	
NPS EN-5 Criteria	SP Manweb Analysis
	from neighbouring rural lane near Perrymoor Farm, to the nearest terminal pole. The removal of poles and overhead conductors would provide some visual benefit for users of the Montgomery Canal. The routeing of the connection underground could result in fewer landscape losses at the tree/hedge boundaries along the canal. The introduction of a new terminal structure at pole 40 and the a. tarmac access track would be perceived as adverse introductions into this landscape. On balance, the magnitude of change resulting from the introduction of an underground section at this location (when compared with the 132kV overhead line) is likely to be reduced (still not significant). There are no effects on designated landscapes. There would be no change to the predicted minor (and not significant) landscape effects at this location.
Technical issues	There is no technical reason that an underground section could not be constructed in this location. However, in fault situations, an underground cable is technically less preferable to an overhead line for the reasons explained above.
Planning balance (do the benefits of undergrounding clearly outweigh any extra social & environmental impacts and are technical issues surmountable):	Whilst undergrounding is technically feasible at this location, it is not preferred. Undergrounding would result in localised reduction in visual effects (which are already not significant). On balance it is considered that, although there would be a localised visual benefit when compared to the 132kV overhead line there is no basis to refuse the overhead line in favour of undergrounding here as the benefits of undergrounding (a modest improvement in landscape and visual effects in a non-designated area) will not clearly outweigh the extra economic impacts and

Table A7 – Summary of Likely Significant Effects of Underground Connection between Poles 36 and 40	
NPS EN-5 Criteria	SP Manweb Analysis
	the technical preference for an overhead line.

7 CONCLUSION

7.1.1 Having applied the EN-5 criteria to those areas identified as being subject to significant environmental effects (as well as the crossing of the Montgomery Canal), SP Manweb has concluded that no further undergrounding in the scheme is warranted or otherwise appropriate.