



**HELIOS** RENEWABLE  
ENERGY  
PROJECT

# Preliminary Environmental Information Report

**Volume 2: Main Text and Figures**

Chapter 2: EIA Methodology

October 2023

## 2. Environmental Impact Assessment Methodology

2.1.1. This chapter is supported by the following figure:

- Figure 2.1 Utilities Plan.

2.1.2. This chapter is supported by the following appendices:

- Appendix 2.1 Scoping Report;
- Appendix 2.2 Scoping Opinion;
- Appendix 2.3 Construction Dust Risk Assessment;
- Appendix 2.4 Phase 1 Ground Conditions Assessment; and
- Appendix 2.5 Solar Photovoltaic Glint and Glare Study.

### 2.2. Introduction

2.2.1. This chapter sets out the methodology undertaken for the assessments as part of the EIA. It states the assumptions applicable to all disciplines and summarises the EIA scoping process undertaken and the public consultation process. Bespoke methodologies, limitations and assumptions are contained in the technical chapters, where required. This PEIR has been prepared as a draft ES and reports on the preliminary results of the assessment work undertaken to date. Once the assessments are completed, the PEIR will be updated as a final ES which will accompany the DCO application submission.

2.2.2. This PEIR has been prepared in accordance with the latest regulations and advice on good practice, comprising:

- the EIA Regulations;
- the Planning Inspectorate's ('PINS') *Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements*<sup>1</sup> (June 2020); *Advice Note Nine: Rochdale Envelope*<sup>2</sup> (July 2018); *Advice Note Ten: Habitats Regulations Assessment Relevant to Nationally*

---

<sup>1</sup> Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-environmental-statements/> Accessed: August 2023.

<sup>2</sup> Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/> Accessed: August 2023.

*Significant Infrastructure Projects*<sup>3</sup> (August 2022); *Advice Note Seventeen: Cumulative Effects Assessment Relevant to Nationally Significant Infrastructure Projects*<sup>4</sup> (August 2019); *Advice Note Eighteen: The Water Framework Directive*<sup>5</sup> (June 2017); and

- Institute of Environmental Management and Assessment ('IEMA') *Delivering Proportionate EIA*<sup>6</sup> (2017).

## 2.3. EIA Methodology

2.3.1. The PEIR will set out the methodology used in the EIA, state the assumptions applicable to all disciplines, summarise the EIA scoping process undertaken, and summarise the public consultation process. Bespoke methodologies, limitations and assumptions will be contained in the technical chapters of the PEIR where required.

2.3.2. The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive (beneficial) or negative (adverse). Generic criteria to be used in carrying out this process are detailed below. Some technical chapters may use discipline-specific criteria with their own terms for magnitude, sensitivity and significance and, where used, this will be explained in the relevant chapter.

2.3.3. An environmental effect can be categorised as either permanent or temporary. The duration of temporary effects comprises:

- Short-term (a period of up to 1 year);
- Medium-term (a period of between 1 year and up to 5 years); and
- Long-term (a period of more than 5 years).

### Prediction of Impact Magnitude

2.3.4. The methodology for determining the scale or magnitude of impact is set out Table 2.1 below.

---

<sup>3</sup> Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/> Accessed: August 2023.

<sup>4</sup> Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/> Accessed: August 2023.

<sup>5</sup> Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-18/> Accessed: August 2023.

<sup>6</sup> Available at: <https://www.iema.net/resources/reading-room/2017/07/18/delivering-proportionate-eia> Accessed: August 2023.



**Table 2.1: Methodology for Assessing Magnitude**

| <b>Magnitude of Impact</b> | <b>Criteria for Assessing Magnitude of Impact</b>   |
|----------------------------|---|
| <b>High</b>                | Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.   |
| <b>Medium</b>              | Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.  |
| <b>Low</b>                 | A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation. |
| <b>Very Low</b>            | Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.   |

- 2.3.5. The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out in Table 2.2 below.

**Table 2.2: Methodology for Determining Sensitivity**

| <b>Sensitivity</b> | <b>Criteria for Determining Sensitivity of Receptor/Resource</b>  |
|--------------------|---|
| <b>High</b>        | The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.                          |
| <b>Medium</b>      | The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.  |
| <b>Low</b>         | The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.  |
| <b>Very Low</b>    | The receptor/resource is tolerant of change without detriment to its character, or does not make a significant contribution to local character or distinctiveness and is not designated |

### **Assessment of Effect Significance**

- 2.3.6. After the magnitude of the impact and the sensitivity of the receptor/resource have been determined, the effect significance will be classified using the matrix in Table 2.3. This illustrates the interaction between impact magnitude and receptor sensitivity.

**Table 2.3: Effect Significance Matrix**

| Magnitude | Sensitivity                   |                               |                               |                            |
|-----------|-------------------------------|-------------------------------|-------------------------------|----------------------------|
|           | High                          | Medium                        | Low                           | Very Low                   |
| High      | Major Adverse / Beneficial    | Major Adverse / Beneficial    | Moderate Adverse / Beneficial | Minor Adverse / Beneficial |
| Medium    | Major Adverse / Beneficial    | Moderate Adverse / Beneficial | Minor Adverse / Beneficial    | Negligible                 |
| Low       | Moderate Adverse / Beneficial | Minor Adverse / Beneficial    | Negligible                    | Negligible                 |
| Very Low  | Minor                         | Negligible                    | Negligible                    | Negligible                 |

**Generic Effect Definitions**

2.3.7. Table 2.4 below provides generic definitions of the terminology used to categorise effects.

**Table 2.4: Generic Effect Definitions**

| Effect            | Description   |
|-------------------|---|
| <b>Major</b>      | An effect that is likely to be an important consideration at a national to regional level because it will contribute to achieving national/regional objectives or is likely to result in exceedance of statutory objectives or breaches of legislation. |
| <b>Moderate</b>   | An effect that is likely to be an important consideration at a regional level.  |
| <b>Minor</b>      | An effect that is likely to be an important consideration at a local level.   |
| <b>Negligible</b> | An effect that is likely to have a negligible or neutral influence, irrespective of other effects.  |

**Significance**

2.3.8. Significance of effect has been identified in the technical chapters. As a general rule, major and moderate effects are considered to be ‘significant’ in the context of the EIA Regulations, whilst minor and negligible effects are considered to be not significant. However, professional judgment has also been applied and may moderate the significance of an effect where necessary, taking into account the professional's understanding of the balance between the magnitude of an impact and the sensitivity of the receptor/resource and whether the effect is permanent or temporary, its frequency, whether it is reversible, and its likelihood of occurrence.

## 2.4. Technical Assessments

2.4.1. Each PEIR chapter follows the headings set out below to ensure the PEIR is transparent, consistent and accessible.

- Introduction;
- Planning Policy Context;
- Assessment Methodology;
- Baseline Conditions;
- Likely Significant Effects;
- Mitigation Measures;
- Residual Effects;
- Cumulative Effects; and
- Summary.

2.4.2. Each chapter sub-heading is explained in further detail in Table 2.5 below.

**Table 2.5: Technical Chapter Format and Content**

| <b>Sub-Heading</b>             | <b>Content</b>   |
|--------------------------------|--|
| <b>Introduction</b>            | This section introduces the assessment discipline and the purpose for which it is being undertaken.  |
| <b>Planning Policy Context</b> | This section includes a summary of national, regional and local policies of relevance to the environmental discipline and assessment. Where applicable, relevant technical legislation is also summarised.   |
| <b>Assessment Methodology</b>  | This section provides an explanation of methods used in undertaking the technical assessment with reference to published standards, guidelines and best practice. The application of significance criteria is also discussed. It also outlines any difficulties encountered in compiling the required information.   |
| <b>Baseline Conditions</b>     | This section includes a description of the environment as it is currently (at the time of writing the chapter or at another appropriate point in time) and as it is expected to change if the project were not to proceed (i.e. 'do-nothing' scenario). The method used to obtain baseline information is clearly identified. Baseline data has been collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted. |
| <b>Likely</b>                  | This section identifies the likely significant effects on the  |

| Sub-Heading                | Content   |
|----------------------------|---|
| <b>Significant Effects</b> | <p>environment resulting from the construction, operation and maintenance, and decommissioning phases of the Proposed Development. This assessment of magnitude, sensitivity and significance of effect takes all primary and tertiary mitigation measures into account as an integral part of the Proposed Development.</p> <p>Primary mitigation includes modifications to the location or design of the project made during the pre-application phase that are an inherent part of the project, with no further actions required, such as ensuring that a key habitat or archaeological feature will be unaffected by the development's layout and operation.</p> <p>Tertiary mitigation comprises actions that would occur regardless of the EIA, including those undertaken to meet other existing legislative requirements, or actions that are standard practice to manage commonly occurring environmental effects.</p> |
| <b>Mitigation Measures</b> | <p>Adverse effects are considered for mitigation and specific mitigation measures put forward, where practicable, to reduce, avoid or offset the potential adverse effects. Secondary mitigation measures considered comprise actions that require further activity to achieve a particular outcome, secured for example through development consent requirements or section 106 obligations, such as lighting limits that will be subject to the submission of a detailed lighting layout for approval.</p> <p>The extent of the mitigation measures and how these will be effective is discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data is provided to justify these assumptions and monitoring programmes are proposed to enable subsequent adjustment of mitigation measures, as necessary.</p>   |
| <b>Residual Effects</b>    | <p>The residual effects, i.e. the effects of the Proposed Development assuming implementation of proposed secondary mitigation, is determined. The residual effects represent the overall likely significant effect of the Proposed Development on the environment having taken account of practicable/available mitigation measures.</p>   |
| <b>Cumulative Effects</b>  | <p>The inter-project cumulative effects of the Proposed Development and the identified committed developments are assessed.</p>   |
| <b>Summary</b>             | <p>A summary of the assessment and conclusions is provided at the end of each technical chapter.</p>  |

## 2.5. Mitigation Measures

- 2.5.1. A Schedule of Mitigation summarising the measures proposed to reduce, avoid or offset the potential adverse effects of the Proposed Development will be included in the ES to be submitted in support of the DCO application. This schedule will set out the mechanisms that will be used to secure mitigation that is required.

## 2.6. Cumulative Effects

2.6.1. A summary of the likely significant cumulative effects of the Proposed Development is set out in Chapter 15 Cumulative Effects of this PEIR.

## 2.7. Summary and Residual Effects

2.7.1. The residual effects of the Proposed Development have been summarised in one table at the end of this PEIR (Chapter 16), setting out the overall beneficial and adverse likely significant effects of the Proposed Development.

## 2.8. Topics Scoped Out

2.8.1. A scoping exercise has been undertaken informed by desk-based research, professional judgement and other information available for the Site, including information obtained from initial on-Site surveys.

2.8.2. As set out in the EIA Scoping Report submitted to PINS in June 2022 and PINS' EIA Scoping Opinion adopted in July 2022 (refer to Appendices 2.1 and 2.2), the following topics have been scoped out of the PEIR, as set out in Table 2.6.

**Table 2.6: Summary of Topics to be Scoped Out of the PEIR**

| Topic       |                   | PINS EIA Scoping Opinion Comment   | Applicant's Response  |
|-------------|-------------------|--|---|
| Air Quality | Vehicle Emissions | PINS agrees to scoping out an assessment of air quality effects during all phases from vehicle emissions on the basis that the number of anticipated vehicle movements during construction (up to 100 Annual Average Daily Traffic for heavy goods vehicles) and operation (up to 10 two-way vehicle trips per month) are below relevant threshold criteria (Institute of Air Quality Management (IAQM, 2017). | As set out in Chapter 10 Transport and Access of the PEIR, the relevant number of vehicles generated by the Proposed Development will not exceed the relevant threshold criteria. |
|             | Dust Emissions    | PINS is content to scope out a quantitative assessment of air quality effects from dust emissions on the basis that the risk of dust generation  | The outline Construction Environmental Management Plan ('oCEMP') is provided at Appendix 5.1 and the  |



| Topic  | PINS EIA Scoping Opinion Comment   | Applicant's Response   |
|--|--|--|
|  | <p>associated with the construction and decommissioning phases will be managed through the implementation of standard best practice and mitigation measures incorporated into the Construction Environmental Management Plan/ Decommissioning Environmental Management Plan (CEMP/ DEMP). A qualitative assessment of dust impacts based on relevant guidance (e.g. IAQM) should be provided to demonstrate that measures proposed are consistent with the scale of effects.</p> | <p>qualitative assessment of dust impacts is provided at Appendix 2.3, which identifies that no significant effects are anticipated.</p>   |
| <b>Land Contamination</b>                            | <p>PINS requires that the ES should be supported by the findings of a Preliminary Risk Assessment and where land contamination is identified, the ES should assess significant effects where they are likely to occur.</p>   | <p>The Phase 1 Ground Conditions Assessment is provided at Appendix 2.4 and concludes that potential pollutant linkages identified onsite are able to be mitigated through the implementation of standard mitigation measures, to be implemented via the Register of Environmental Actions and Commitments. Significant effects are therefore not anticipated, and this topic remains scoped out of the PEIR/ES.</p> |
| <b>Electric, Magnetic and Electromagnetic Fields</b> | <p>PINS agrees that this may be scoped out as a technical chapter on the basis that cables and infrastructure are below relevant guidance thresholds referenced in the Scoping Report (DECC Power Lines: Demonstrating compliance with EMF public exposure guidelines, A Voluntary Code of Practice</p>  | <p>Noted. To be demonstrated in the ES.</p>  |

| Topic  | PINS EIA Scoping Opinion Comment  | Applicant's Response   |
|--|---|--|
| <p><b>Telecommunications, Television Reception and Utilities</b></p> | <p>2012 guidance).</p> <p>PINS considers that insufficient evidence has been provided to scope this matter out.</p>   | <p>Utilities within the Site are as shown on Figure 2.1 Utilities Plan. The Applicant confirms that no utilities will require diversion or are anticipated to be affected. As set out within Chapter 3 Site and Development Description of the PEIR, the design parameters have accounted for the required easements surrounding utilities present within the Site such as watercourses and gas pipeline. Significant effects are therefore not anticipated, and this topic remains scoped out of the PEIR/ES.</p> |
| <p><b>Wind Microclimate</b></p>                                      | <p>PINS has considered the characteristics of the Proposed Development and is content that due to its nature, significant effects are not likely to occur, and this matter can be scoped out.</p>   | <p>Noted.</p>  |
| <p><b>Daylight, Sunlight and Overshadowing</b></p>                   | <p>PINS has considered the characteristics of the Proposed Development and is content that the scale and massing of the Proposed Development will not cause changes to daylight or sunlight visibility, or cause overshadowing and this aspect can be scoped out.</p> | <p>Noted.</p>  |
| <p><b>Glint and Glare</b></p>  | <p>PINS is content that a separate Glint and Glare Chapter is scoped out on the basis that the initial Glint and Glare assessment will be provided as a technical appendix to the ES and will be used to inform the Landscape and Visual Impact</p>                   | <p>The Glint and Glare assessment is provided at Appendix 2.5.</p>   |

| Topic  | PINS EIA Scoping Opinion Comment  | Applicant's Response   |
|--|---|--|
|  | Assessment (LVIA) aspect Chapter.   |  |
| <b>Minerals</b>  | PINS agrees that on the basis that the Site is not located within a Mineral Safeguarding Area, this aspect can be scoped out.   | As advised in Appendix 2.4 Phase 1 Ground Conditions Assessment, the Site sits within a Minerals Safeguarding Area. The assessment identifies that the minerals present beneath the Site comprise sand and gravel deposits. The Proposed Development is considered unlikely to permanently sterilise mineral resources, considering the temporary nature of the proposed solar photovoltaic panels. Therefore, significant effects are not anticipated and this topic remains scoped out of the PEIR/ES. |
| <i>The following topics have been considered within the relevant chapters of the PEIR.</i> |   |  |
| <b>Human Health</b>  | PINS agrees that a standalone chapter would not be required, and potential effects to human health would be considered within the appropriate technical chapters.   | Noted.   |
| <b>Major Accidents and Disasters</b>   | The Inspectorate agrees that a standalone chapter would not be required, and that potential effects would be considered within the appropriate technical chapters. The Inspectorate also requires that the risk of fire associated with the battery storage facilities should be set out in the ES, and relevant mitigation should be set out and secured in the DCO. | The Battery Energy Storage System ('BESS') Management Plan ('SMP') for the Proposed Development is provided by the Applicant at Appendix 3.1, which identifies the potential hazards of energy storage systems of this type, and provides the basis for the safety management processes and procedures to mitigate   |

| Topic           | PINS EIA Scoping Opinion Comment   | Applicant's Response  |
|-----------------|--|---|
|                 |  | the risk of hazards. The Applicant does not consider that further information within the PEIR/ES is required; following the implementation of the mitigation proposed there will be no significant risk of major accidents and disasters. |
| <b>Lighting</b> | PINS requires that the ES should include a detailed description of the construction and operational lighting design and the measures taken to avoid or minimise lighting impacts on human and ecological receptors, including consideration of effects relating to intermittent lighting sources such as motion activated security lighting. | A description of lighting proposed is provided in Chapter 3 Site and Development Description of the PEIR.   |
| <b>Waste</b>    | PINS requires that an assessment of operational waste be provided, where significant effects are likely to occur, and outline what measures, if any, are in place to ensure that panels and any associated components are able to be diverted from the waste chain.  | The Applicant provides the requested measures within the oCEMP (Appendix 5.1) and confirms that no significant effects are likely.  |













- 2.8.3. Given the Site's location, the Proposed Development is not anticipated to result in transboundary effects, and an assessment of these effects is therefore scoped out of the ES.

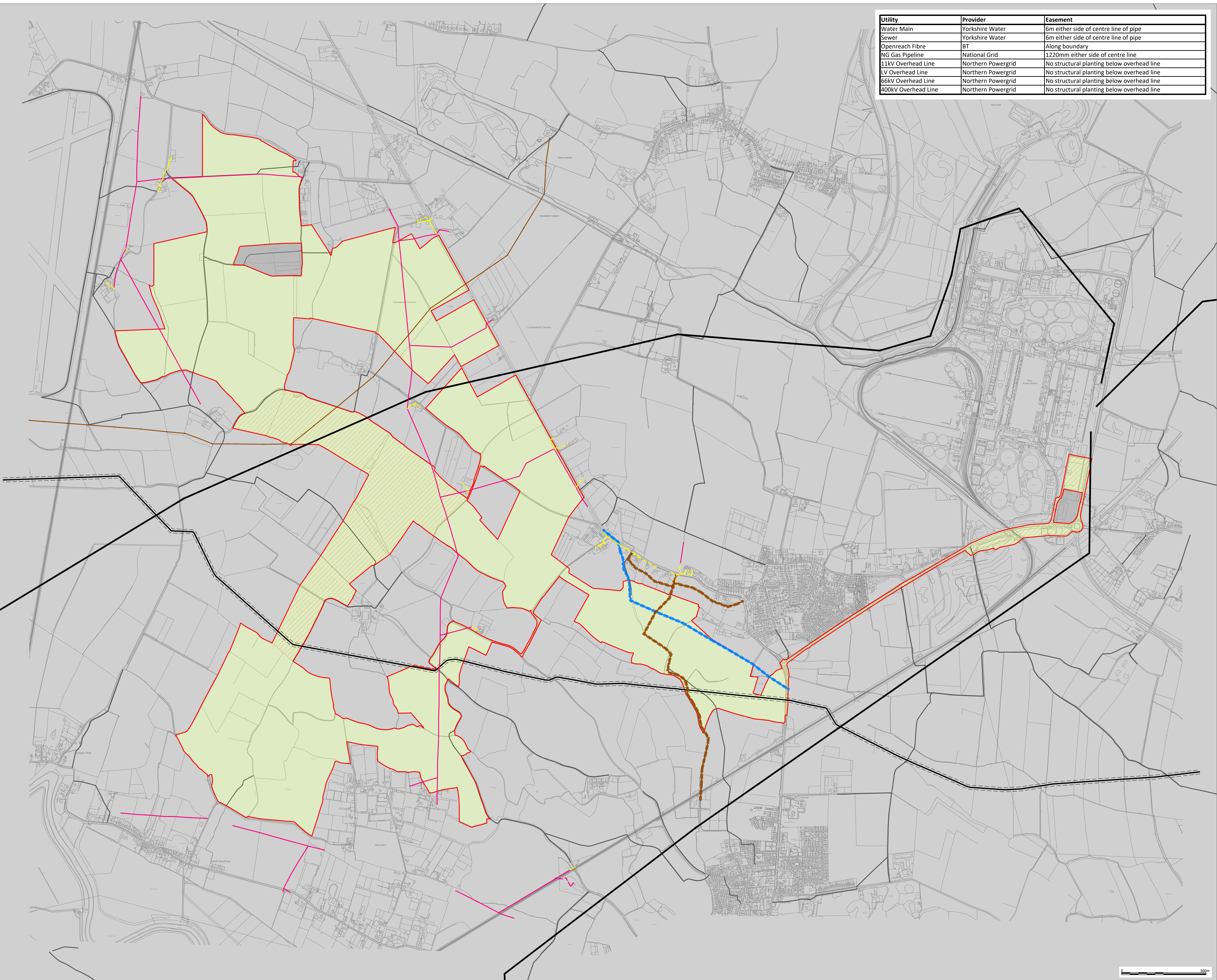
**Figure 2.1 Utilities Plan**



| Utility             | Provider           | Easement                                   |
|---------------------|--------------------|--|
| Water Main          | Yorkshire Water    | 6m either side of centre line of pipe      |
| Sewer               | Yorkshire Water    | 6m either side of centre line of pipe      |
| Openreach Fibre     | BT                 | Along boundary                             |
| NG Gas Pipeline     | National Grid      | 1220mm either side of centre line          |
| 11kV Overhead Line  | Northern Powergrid | No structural planting below overhead line |
| LV Overhead Line    | Northern Powergrid | No structural planting below overhead line |
| 66kV Overhead Line  | Northern Powergrid | No structural planting below overhead line |
| 400kV Overhead Line | Northern Powergrid | No structural planting below overhead line |

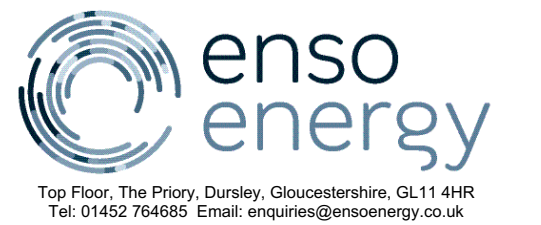
**KEY**

-  Site Boundary
-  Cable Corridor
-  LV Overhead Line
-  LV Underground Cable
-  LV Pole
-  11kV Overhead Line
-  66kV Overhead Line
-  400kV Overhead Line
-  400kV Pylon
-  NG Gas Pipeline
-  Sewage Pipe
-  Water Main



Revisions:  
 First Issue- 27/06/2022 JS  
 01 - (24/07/2023 JS) Revised boundary and landowners removed  
 02 - (04/08/2023 AD) key and graphical changes

ALL DIMENSIONS TO BE CHECKED ON SITE WORK TO FIGURED DIMENSIONS ONLY. REPORT DISCREPANCIES TO THE GFF AT ONCE BEFORE PROCEEDING. COPYRIGHT ACT APPLIES.  
 © Enso Energy Ltd. Crown Copyright. All rights reserved.  
 © 2022 Emapsite license number 0100031673



Project Title:  
**Helios Renewable Energy Project**

Drawing Title:  
**Utilities Plan**

|                         |                     |              |
|-------------------------|---------------------|--------------|
| DRWG No:<br>DX-01-P45   | Rev:<br>02          | Sht no:<br>- |
| Drawn by :<br>AD        | Checked by:<br>KL   |              |
| Scale:<br>1:10,000 @ A1 | Date:<br>04/08/2023 |              |





## **2.9. Topics Scoped In**

- 2.9.1. The scoping exercise has been informed by desk-based research, professional judgement and other information available for the Site. The Proposed Development is anticipated to result in likely significant environmental effects on the topics set out in Table 2.7 below and therefore these topics have been scoped into the ES.

Table 2.7: Summary of Topics to be Scoped In to the PEIR

| Topics                        | Potential Effects |           |                 | Likely Significant Effects (Pre-Mitigation) | Comments   |
|-------------------------------|-------------------|-----------|-----------------|---|--|
|                               | Construction      | Operation | Decommissioning |   |  |
| Cultural Heritage             | ✓ - S             | ✓ - L     | ✓ - S           | ✓   | Chapter 6  |
| Landscape and Views           | ✓ - S             | ✓ - M     | ✓ - S           | ✓   | Chapter 7  |
| Biodiversity                  | ✓ - S/L           | ✓ - L     | ✓ - S           | ✓   | Chapter 8  |
| Water Environment             | ✓ - S             | ✓ - L     | ✓ - S           | ✓   | Chapter 9  |
| Transport and Access          | ✓ - S             | x         | x               | ✓   | Chapter 10   |
| Noise and Vibration           | ✓ - S             | ✓ - L     | ✓ - S           | ✓   | Chapter 11   |
| Climate Change                | ✓ - S             | ✓ - L     | x               | ✓   | Chapter 12   |
| Socio-Economics               | ✓ - S             | ✓ - L     | ✓ - S           | ✓   | Chapter 13   |
| Soils and Agricultural Land   | ✓ - L             | ✓ - L     | x               | ✓   | Chapter 14   |
| Human Health                  | x                 | x         | x               | x   | Separate topic chapter scoped out of the PEIR/ES. Significant effects are not anticipated. |
| Major Accidents and Disasters | x                 | x         | x               | x   | Separate topic chapter scoped out of the PEIR/ES. Significant effects are not anticipated. |
| Lighting                      | x                 | x         | x               | x   | Separate topic chapter scoped out of the PEIR/ES. Significant effects are not anticipated. |
| Waste                         | x                 | x         | x               | x   | Separate topic chapter scoped out of the   |

**Helios Renewable Energy Project  
PEIR**

| Topics | Potential Effects |           |                 | Likely Significant Effects (Pre-Mitigation) | Comments  |
|--------|-------------------|-----------|-----------------|---|---|
|        | Construction      | Operation | Decommissioning |   |   |
|        |                   |           |                 |   | PEIR/ES. Significant effects are not anticipated. |

Key:  
 ✓ Likely Significant Effect / x No Likely Significant Effect  
 S – Short-Term Effect / M – Medium-Term Effect / L – Long-Term Effect