



# Mallard Pass

Solar Farm

## Mallard Pass Solar Farm

### Statement on 60 Year Time Limit

**Deadline 7 – October 2023**

PINS Ref: EN010127

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## Statement on 60 Year time limit

### Introduction

- 1.1.1. Following concerns raised by Interested Parties in respect of the non-time limited nature of the Proposed Development in the application, the Applicant has now amended the DCO to introduce a 60-year operational time-limit.
- 1.1.2. In terms of the ES, all effects have been assessed as permanent, which is now changing to long term temporary, with no change to the assessment of effects at construction or decommissioning phases (beyond certainty as to when decommissioning would occur).
- 1.1.3. This document sets out an appraisal of the change from permanent operation to a time limited operation, on each topic assessed within the ES.

### Environmental Statement Chapter 6 – Landscape and Visual

- 1.1.4. The proposed 60-year operational stage timeframe would not materially change the significance of effects assessed within the LVIA **[APP-033]**.
- 1.1.5. The duration of effects within the operational stage was previously assessed as ‘permanent’ effects in accordance with Table 6 (page 6.-10) of the LVIA methodology **[APP-055]** as the operational lifespan was not time limited. The proposal to time-limit the DCO application to a 60-year operational lifespan is considered to be ‘semi-permanent’ as this would be in excess of the ‘long term’ category although not in ‘permanent’ category with regards to Table 6 (page 6.-10) of the LVIA methodology **[APP-055]**. This would result in an imperceptible change to the magnitude of effects assessments within the LVIA and would not change the overall significance of effects arising for the operational stages of the DCO.

1.1.6. The submitted LVIA **[APP-033]** before the Examining Authority has assessed the 'worst case scenario' in accordance with the EIA Rochdale Envelope principles. The subsequent proposal to time-limit the DCO to 60 years would not materially change the overall significance of effects assessed for the operational stage of the LVIA. However, the proposal to time-limit the operational stage to 60 years does provide further clarity and a timescale for the decommissioning of the development, ensuring the reversibility of the landscape and visual effects.

### Residential and Visual Amenity Assessment

- 1.1.7. In terms of the Residential Visual Amenity Assessment (RVAA) **[APP-057]** and Amenity and Recreation Assessment (ARA) **[APP-058]** the commitment to a 60 year timeframe by the Applicant provides certainty that identified effects to these topics would be limited to within this time period. The RVAA and ARA assessments assessed a permanent time period therefore the effects of a 60 year period would be less than that concluded in these assessments.
- 1.1.8. In terms of potential changes to impacts concluded, both the RVAA and A&R utilise the LVIA methodology **[APP-055]** of which duration forms one of three factors to assessing the magnitude of change (the others being scale and extent). Under this methodology, the limitation of operation to a 60 year period would fall between the 'long-term' duration category (i.e. over 40 years) and the 'permanent' duration category (i.e. permanent).
- 1.1.9. It is the Applicant's position the landscape and visual effects and consequently RVAA and ARA effects would therefore be 'semi-permanent' in recognition that this not permanent but neither insubstantial among of time. The change in duration would not result in any material change to the significance of effects concluded in the RVAA and ARA in corroboration with those of the LVIA but would be less than the 'worst case' permanent effects assessed originally.

## Environmental Statement Chapter 7 – Ecology and Biodiversity

- 1.1.10. The construction impacts that have been identified would still exist no matter the project timeframe.
- 1.1.11. No significant adverse impacts were assessed to occur in the operational phase, which was irrespective of the timeframe of the project, given the nature of solar activities (in contrast to, for example, a road scheme) and the mitigation measures put in place.
- 1.1.12. The enhancements of new habitat being put in place would still be the case, as the DEMP has always assumed that they would be left in situ upon handback which still remains the case.

## Environmental Statement Chapter 8 – Cultural Heritage

- 1.1.13. The Applicant's approach to the assessment of effects regarding change within the setting of heritage assets is set out within Chapter 8 Cultural Heritage [APP-038]. This approach acknowledged the 'permanent' (although reversible) nature of the development, as it would be present within the landscape for 'more than a generation'. As such, if effects had been identified, that would have been the conclusion. This would be the case if the effects were permanent or 60 years.
- 1.1.14. However, the heritage assessment also concluded that the development would cause no adverse effects (cause no harm) to heritage assets, via changes to their setting. This therefore applies to a permanent case or a 60 year position so there is no change to the assessment's conclusions.
- 1.1.15. All assessed potential adverse effects and the proposed mitigation regarding buried archaeological remains relate to the construction phase. Thus, any difference in the duration of the operational phase will have no effect to the conclusion in respect of archaeological remains.



## Environmental Statement Chapter 9 – Highways and Access

- 1.1.16. An assessment of the operational effects was scoped out of Chapter 9 Highways and Access **[APP-039]** as it was considered that the traffic impacts would be non-significant when there was no time restriction on the operational period due to the nature of the activities described in section 5.17 of the ES. A time limited consent of 60 years does not change this conclusion as it would not lead to any change in the peak level of vehicular activity.
- 1.1.17. In addition to this, the OEMP was updated at Deadline 5 to include a cap on the level of daily vehicular activity associated with maintenance during operation, which set out a daily limit of five two-way daily HGV movements to ensure that the operational effects during maintenance are non-significant, in accordance with the Institute of Environmental Management and Assessment (IEMA) 'Environmental Assessment of Traffic and Movement' (2023) criteria of not leading to more than a 10% change in daily HGV flows.
- 1.1.18. Whilst overall the change is considered to be non-significant, there are some potential residual benefits to a time limited constraint such as the ability to better plan the future decommissioning works around other cumulative schemes.

## Environmental Statement Chapter 10 – Noise and Vibration

- 1.1.19. The assessment of operation noise effects was in line with BS 4142 which does not depend on the duration of the development and so there are no implications with the change in the operational life limit. The conclusion of non-significance would continue to hold.

## Environmental Statement Chapter 11 – Water Resources

- 1.1.20. This resource also considers the comments made in ISH4 in terms of whether any 'proxy' modelling could be undertaken to account for a 60 year time frame taking the Scheme into another flood 'epoch'.
- 1.1.21. The West Glen Hydraulic Modelling Report (2016) study, undertaken on behalf of the Environment Agency, adjusted the rainfall total to produce inflows with a 20 % increase rather than a direct uplift of the inflow to keep a proportional baseflow for each Annual Exceedance Probability (AEP) to account for climate change for the 1 % AEP event i.e. the 1:100 year event.
- 1.1.22. The Flood Risk Assessment [**APP-086**] assessed the 20 % climate change allowance, which is a conservative approach compared to the required 10 % uplift in river flows assessed for the majority of the Development lifetime.
- 1.1.23. The revised 'flood risk assessments: climate change allowance' peak river flow allowances for the Welland Management Catchment for the Higher Central 2080s requires a 28 % climate change uplift to be considered should the Development operate into the 2080's epoch.
- 1.1.24. In the absence of a specific 28 % uplift for the 1 % AEP modelled scenario, the 0.5 % AEP event (1:200 year) data from the West Glen Hydraulic Modelling Report has been interrogated as a proxy. Modelled river cross sections within the canalised section of the West Glen in the central section of the Order limits (model Nodes 13 to 0) show that the 0.5 % AEP flows are 23 to 25 % higher than the 1 % AEP flows i.e. 3 to 5 % below the 28 % climate change uplift required for the 2080s epoch.
- 1.1.25. The 0.5 % AEP extent marginally encroaches into the PV works area in the north of the Order limits but does not encroach into the area considered for PV arrays, as shown in Figure 1. The extent also encroaches into the PV array area immediately south of where the West Glen is carried under the railway embankment. The extent of

- encroachment into the PV works area amounts to 22,626.5 m<sup>2</sup>, which is 0.5 % of the works area.
- 1.1.26. Flood levels in the cross sections closest to the railway embankment (i.e. area affected by out of channel flows) are modelled to be 17.721 metres above ordnance datum (m AOD) for the 0.5 % AEP event. Lidar data at 1 m resolution shows the lowest elevation within the affected area under the PV array table is 17.391 m AOD. Taking a static level, this would derive a maximum flood depth of 0.33 m, with the majority of the flooded area being between 0 and 0.1 m depth, as shown in Figure 2. These depths would be substantially below the leading edge of the PV array tables, which will be located above ground level by 0.8 m.
- 1.1.27. Based on the freeboard between the 0.5 % AEP event and the leading PV edge, a further 3 % to 5 % increase to flows will not generate flood levels which would interact with the leading edge of the PV array tables.
- 1.1.28. It should be noted that the 0.1 % AEP event flows are 97 % greater than the 1 % AEP flows, being 51.117 cumecs (m<sup>3</sup>/s) and 25.921 m<sup>3</sup>/s respectively. This derives a flood level of 18.878 m AOD at the node closest the PV array area immediately south of where the West Glen is carried under the railway embankment. Under this extreme scenario only 4.1 ha of the works area would be submerged above the leading PV array edge, further demonstrating that a 28 % increase to flows will not produce depths which will reach the PV array leading edge.
- 1.1.29. If this modelling persisted to be the case in 2078, the Applicant would be able to mitigate, by, for example, changing the pitch of the arrays, and the mechanisms in the OOEMP would ensure that appropriate measures are put in place.
- 1.1.30. Given the marginal encroachment and shallow flood depths within the PV array area, the 0.5 % AEP event is a good proxy for the 28 % climate change allowance required for the 2080s epoch. Therefore, the

conclusions of the Flood Risk Assessment **[APP-086]** and Chapter 11: Water Resources and Ground Conditions of the Environmental Statement **[APP-041]** remain unchanged with the introduction of a 60 year time limit on operation i.e. no displacement of flood waters and no significant effects.

- 1.1.31. The commitment in Table 3-7 Water Resources and Ground Conditions of the Outline Operational Environmental Management Plan **[REP6-009]** to remodel flood risk should the Development be operational in the year 2078 using the climate change allowance at the time is still appropriate, and will ensure the Development can operate safely without displacing flood water, accounting for more up to date modelling at the time, should decommissioning not occur before 2080.

## **Environmental Statement Chapter 12 – Land Use and Soils**

- 1.1.32. The Environmental Statement Volume 1 Chapter 12 **[APP-042]** assesses the effects on agricultural land and soils on the basis that the solar farm equipment will be removed on decommissioning, and the land returned in the same condition as it is now.
- 1.1.33. The time period for this to happen was not specified, so the capping of the operational phase at 60 years does not change the assessment.

## **Environmental Statement Chapter 13 – Climate and Carbon**

### **Introduction**

- 1.1.34. The net lifetime carbon impact of the proposed Mallard Pass Solar Farm (MPSF) can be assessed by estimating the lifetime emissions resulting from the construction, operation and decommissioning of the Proposed Development, and subtracting this figure from the estimated carbon benefit likely to be achieved through displacement of conventional, higher carbon generating capacity from the electricity system.
- 1.1.35. This analysis presents a worst-case outcome, in order to demonstrate the clear and absolute benefit of the Proposed Development against

even the most unfavourable assumptions. Each figure has been calculated by applying inherently cautious assumptions throughout the assessment. This approach is described in more detail below.

1.1.36. Both the lifetime carbon cost, and the lifetime carbon benefit, are estimated by applying a representative emissions factor to each megawatt hour of generation likely to be achieved over the design life of the Proposed Development. As discussed above, the lifetime generation figures have been made inherently cautious in each case, i.e.

- Lifetime carbon costs have been unitised and applied to lifetime output before degradation has been applied, thus estimating a higher than likely carbon cost from construction through to decommissioning
- Average unit carbon savings have been applied to output after degradation has been applied, thus estimating a lower than likely carbon benefit during operation (because higher carbon, marginal plant, are more likely to be those which will be displaced from the electricity system)

### Carbon Cost

1.1.37. For the lifetime emissions figure used to estimate the carbon cost, the capacity of the Proposed Development in megawatts is multiplied by a percentage load factor, post clipping, of 11.4%, (based on satellite data presented in Appendix B to the Applicant's response to ExA's Second Written Questions Q1.1.2 **[REP5-012]** and **[REP5-013]**), and the number of hours in a year to get an annual output in MWh/year:

- Total installed capacity of 350 MWp
- Capacity factor of 11.4%
- 8,760 hours per year

- 1.1.38. The Proposed Development can be expected to generate 349,254 MWh before taking degradation into account. The 40-year operational lifetime assessment submitted with the Applicant's submission did not factor the degradation of panels into the carbon cost calculation and so maximised the carbon cost associated with a scheme operating for that period of time. For a 60-year operational lifetime assessment a conservative assumption has been made to double the initially inherently conservative value presented at submission, i.e. to account for embodied carbon associated with the construction, operation, maintenance and decommissioning of the facility over 40 years twice fully over.
- 1.1.39. The emissions factor applied to this lifetime generation figure is taken from a report of the IPCC, specifically Annex III of the Fifth Assessment Report by Working Group 3, Technology-specific Cost and Performance Parameters.<sup>1</sup>
- 1.1.40. Table A.III.2 (Emissions of selected electricity supply technologies) provides lifecycle emissions for selected generation technologies, from construction through to decommissioning (therefore including all manufacturing, supply chain, operational and maintenance emissions insofar as they exist), with a median value of 48 g CO<sub>2</sub>e/kWh<sup>2</sup> for utility scale photovoltaic systems.
- 1.1.41. This figure, published in 2014, is very likely to be an overestimate, given the dramatic and ongoing reduction in the carbon costs of PV manufacture achieved since that time, due to grid decarbonisation and likely manufacturing efficiencies. For the avoidance of doubt, "from construction through to decommissioning" is deemed to include all physical infrastructure required for utility scale photovoltaic systems, including but not limited to footings, frames, fencing, connections to the grid and other matters to last the plant lifetime.
- 1.1.42. The IPCC emissions factor assumes a plant lifetime for PV installations of 25 years. Because the carbon cost of PV during operation is

essentially zero, it was already inherently cautious to apply the IPCC's unit figure (based on a 25-year lifetime) to a 40-year operational period, on a pro-rate basis.

- 1.1.43. Further, doubling the embedded carbon cost of the 40-year operational period provides a further inherently conservative assumption for the carbon cost of a 60-year operational period. The assumption effectively assumes two complete lifecycles of carbon cost at the Proposed Development including full construction / reconstruction and two decommissioning events.
- 1.1.44. Applying the 48 g CO<sub>2</sub>e/kWh to the un-degraded annual generation of 349,254 MWh over 80 years (twice the assumption for the 40-year operational period) gives a highly conservative carbon cost of 1,342,172 tonnes CO<sub>2</sub>e for a 60-year operational period.
- 1.1.45. The carbon cost calculations included in this analysis are conservative in comparison to three projects which have all been / are being assessed under the NISP regime:
- Sunnica - 29.2 g/kWh (Para 6.8.28 of [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-001781-SEF\\_ES\\_6.1\\_Chapter\\_6\\_Climate%20Change.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-001781-SEF_ES_6.1_Chapter_6_Climate%20Change.pdf))
  - Longfield - 49.2 g/kWh (Para 6.7.31 of <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010118/EN010118-000163-6.1%20ES%20Chapter%206%20%20Climate%20Change.pdf>) as referenced in the Applicant's response to Interested Parties' Deadline 2 Submissions on Climate Change [REP3-029].
  - Gate Burton - 33.35 g/kWh (Para 6.10.27 of <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010131/EN010131-000219->

[EN010131%20APP%203.1%20ES%20Chapter%206%20-%20Climate%20Change.pdf](#))

1.1.46. All three references also assessed battery energy storage systems (BESS) and the lifetime carbon cost calculations therefore account for replacement of PV infrastructure and BESS infrastructure, the lifetime average carbon cost figures without BESS would be therefore lower. Longfield assessed a 1.6 GWh battery storage system which is likely to contribute a significant proportion of the lifetime total carbon cost of the Longfield installation.

### Carbon Benefit

1.1.47. The gross carbon benefit of the Proposed Development can also be estimated by multiplying a lifetime generation figure in MWh by a representative emissions factor for displaced generation. The lifetime generation figure used to estimate carbon benefit includes degradation so as to not overstate any decarbonisation benefits.

1.1.48. It is known that PV modules are subject to degradation over time. Manufacturers advise that standard degradation factors are applied, of 2% in the first year and 0.45% per year thereafter. These degradation factors are applied to the lifetime generation figures calculated above to provide a lifetime generation, for carbon benefit purposes, of 18,046,608 MWh over 60 years, for an average annual generation figure of 300,777 MWh per year. The generation figure used to estimate carbon benefit is almost 14% lower than the generation figure used to estimate carbon cost, however of course if panels are replaced during the operational life of the Proposed Development, then degradation should be expected to at least partially reset. The implication of this is that average annual generation is in reality likely to be higher than the average previously calculated and therefore this analysis also understates the benefits of decarbonisation brought forward by the Proposed Development.



- 1.1.49. The emissions factor that is applied to the lifetime generation figure is represented by the current grid carbon intensity of 182 gCO<sub>2</sub>e/kWh provided in the Digest of UK Energy Statistics (DUKES)<sup>3</sup> and is very similar to that included in National Grid's 2023 Future Energy Scenarios<sup>4</sup>. The figure is the average operational intensity of all electricity generated in the UK for a given year.
- 1.1.50. It is important to note that the DUKES figure is itself inherently cautious for two different reasons. Firstly, the figure only refers to operational emissions, and does not include the embodied emissions from the construction, maintenance or decommissioning of generating capacity.
- 1.1.51. Secondly, it would be entirely reasonable to assume a significantly higher figure for displaced generation than the current grid average from DUKES. Low-carbon generating capacity, such as the Proposed Development, seeks to replace existing fossil-fuelled generation that continues to make up a significant proportion of UK electricity generation.
- 1.1.52. The current marginal generating capacity that supplies the UK grid (i.e. the capacity that directly responds to marginal increases or decreases in demand) is provided by unabated combined cycle gas turbine installations, operating with a typical operational carbon intensity of 354 gCO<sub>2</sub>e/kWh<sup>5</sup>.
- 1.1.53. Since this is the generating capacity that the Proposed Development seeks to displace, it would also be reasonable to use this figure to estimate the gross carbon benefit, rather than the average from DUKES. The DUKES figure, therefore, is extremely cautious for both these reasons.
- 1.1.54. Applying the 182 gCO<sub>2</sub>e/kWh figure from DUKES to the lifetime generation figure estimated above (taking account of degradation)

provides a gross carbon benefit of 3,284,483 tonnes CO<sub>2</sub>e over a 60 year lifetime.

### Net Carbon Benefit

1.1.55. The net carbon benefit of the Proposed Development can be conservatively estimated as the difference between the lifetime carbon cost of 1,342,172 tonnes CO<sub>2</sub>e and the gross lifetime carbon benefit of 3,284,483 tonnes CO<sub>2</sub>e. The net benefit can be estimated at 1,942,310 tonnes CO<sub>2</sub>e. This figure represents a conservative lower limit to the total emissions of carbon dioxide equivalent that the Proposed Development will avoid over a 60-year design lifetime.

1.1.56. As discussed above, highly conservative, worst-case assumptions have been applied to every aspect of this calculation, and so the true figure for carbon emissions avoided is likely to be significantly higher.

### Environmental Statement Chapter 14 – Socio-Economics

1.1.57. Chapter 14 (Socio-Economics) of the Environmental Statement **[APP-044]** assesses the following four effects of the Proposed Development for each of the construction, operation, and decommissioning phase. Each of the four effects is assessed at the study area of Rutland and South Kesteven:

- The creation of employment;
- The generation of economic activity;
- The impact of the Proposed Development on tourism; and
- The impact of the Proposed Development on the Public Rights of Way (PRoW) network.

1.1.58. The impact of a 60 year time period on this is set out below:

Effect	Change in the assessment
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<p>Employment generation during the operation phase</p>	<p>Chapter 14 Socio-Economics concludes that the Proposed Development would result in a negligible beneficial effect during the operational phase. This effect is determined on the basis of the level of on-site employment remaining at the current level of approximately 13 full-time equivalent workers (FTEs), with continued sheep grazing of the land during the operational phase. After considering the additionality of on-site employment (through supply chain multipliers and displacement), a total of 4.5 additional FTEs are estimated to be generated during the operational phase.</p> <p>The 60-year time limit would have no impact on the conclusion of this effect. The on-site employment would remain at the levels assessed during the operational phase. The time limit would restrict the generation of 4.5 additional FTEs to a 60 year period, but this would not alter the negligible beneficial effect conclusion.</p>
<p>Economic activity (Gross Value Added or GVA) generation during the operation phase</p>	<p>Chapter 14 Socio-Economics concludes that based on the additional 4.5 net FTEs generated during operation, an estimated £154,800 additional economic activity (in GVA terms) would be generated during the operational phase. This is concluded to deliver a negligible beneficial effect.</p> <p>The time limit would not alter the scale of the employment or economic activity generation, and no change in the negligible beneficial effect conclusion.</p>
<p>The impact on tourism during the operational phase</p>	<p>Chapter 14 Socio-Economics concludes that during the operational phase, the Proposed Development has the potential to impact tourism through changes in visual amenity and noise. Based on the conclusions of the other technical assessments in the Environmental Statement, and existing evidence highlighting the lack of an impact on tourism on other sites, these impacts are concluded to result in a negligible adverse effect on tourism.</p> <p>The time limit would not alter the effect conclusions of the other technical assessments on which this effect is based. The presence of the time limit may help any receptors that do experience impacts with long-term planning and strategic decisions, however, no change would occur to the concluded negligible adverse effect on tourism.</p>

<p>The impact on Public Rights of Way during the operational phase</p>	<p>Chapter 14 Socio-Economics concludes that during the operational phase, the Proposed Development would deliver a negligible adverse effect on Public Rights of Way. This effect results in particular from reductions in amenity through visual impact for users of the MacMillan Way and Byway E123, and to a lesser extent other rights of way within the site area.</p> <p>As shown elsewhere in this response, the time limit would not alter the conclusions of Chapter 6 Landscape and Visual <b>[APP-036]</b> on which this assessment is based. As a result, no changes would occur to the negligible adverse effect concluded in this assessment.</p>
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1.1.59. In conclusion, the 60 year time limit for the operation of the Proposed Development would not impact any of the conclusions presented in Chapter 14 (Socio-Economics) of the Environmental Statement **[APP-044]**. The time limit would have the potential to alter the timing of impacts during the decommissioning phase, and reduce the period of impact for the operational phase, but these changes are not sufficient to alter the identified conclusions.

## **Environmental Statement Chapter 15 – Other Environmental Topics**

1.1.60. Chapter 15 Other Environmental Topics, describes and assesses the effects of the Proposed Development on Air Quality, Arboriculture, Glint and Glare, Major Accidents and/or Disasters, Utilities, and Waste.

### **Air Quality**

1.1.61. No change.

1.1.62. There are no significant effects on air quality during the operation of the Proposed Development. The ES assessed a permanent effect which is now changing to long term temporary, with no change to the assessment of effects at construction or decommissioning phases (beyond certainty as to when decommissioning would occur); therefore, the conclusion of the assessment remains unchanged.

## Arboriculture

- 1.1.63. No change.
- 1.1.64. There are no significant effects on arboriculture during the operation of the Proposed Development. The ES assessed a permanent effect which is now changing to long term temporary, with no change to the assessment of effects at construction or decommissioning phases (beyond certainty as to when decommissioning would occur); therefore, the conclusion of the assessment remains unchanged.
- 1.1.65. The oLEMP secures measures for the management activities relative to trees.

## Glint and Glare

- 1.1.66. No change.
- 1.1.67. There are no significant effects regarding Glint and Glare during the operation of the Proposed Development. The ES assessed a permanent effect which is now changing to long term temporary, with no change to the assessment of effects at construction or decommissioning phases (beyond certainty as to when decommissioning would occur); therefore, the conclusion of the assessment remains unchanged.
- 1.1.68. The oLEMP secures measures for the mitigation of effects upon one dwelling (number 166 in the Glint and Glare study **[APP-104]**) where pre-additional mitigation significant effects had been considered, which reduced to non-significant after that mitigation is in place. This remains the case with the 60 year time limit on operation.

## Major Accidents and/or Disasters

- 1.1.69. No change.
- 1.1.70. There are no significant effects on Major Accidents and/or Disasters during the operation of the Proposed Development. The ES assessed a permanent effect which is now changing to long term temporary, with no change to the assessment of effects at construction or decommissioning

phases (beyond certainty as to when decommissioning would occur); therefore, the conclusion of the assessment remains unchanged (and indeed the more long term risks that could arise as a result of, for example, climate change, will now not take place after 60 years).

## Utilities

1.1.71. No change.

1.1.72. There are no significant effects on Utilities during the operation of the Proposed Development. The ES assessed a permanent effect which is now changing to temporary, with no change to the assessment of effects at construction or decommissioning phases (beyond certainty as to when decommissioning would occur); therefore, the conclusion of the assessment remains unchanged.

## Waste

1.1.73. No change.

1.1.74. There are no significant effects on Waste during the operation of the Proposed Development. The ES assessed a permanent effect which is now changing to temporary, with no change to the assessment of effects at construction or decommissioning phases (beyond certainty as to when decommissioning would occur); therefore, the conclusion of the assessment remains unchanged. The mitigation measures put in place for the maintenance period in the OOEMP would continue to apply in that 60 year period, and with the OOEMP controls on the extent of maintenance activities, ensures no significant effects would arise.

## Summary for Other Topics

1.1.75. In conclusion, the ES assessed a worst-case scenario that the proposed Development would be permanent (with an unspecified operational period). The ES also assessed a construction phase and a potential decommissioning phase; the conclusions of these assessments do not change other than providing a certainty as to when the Proposed

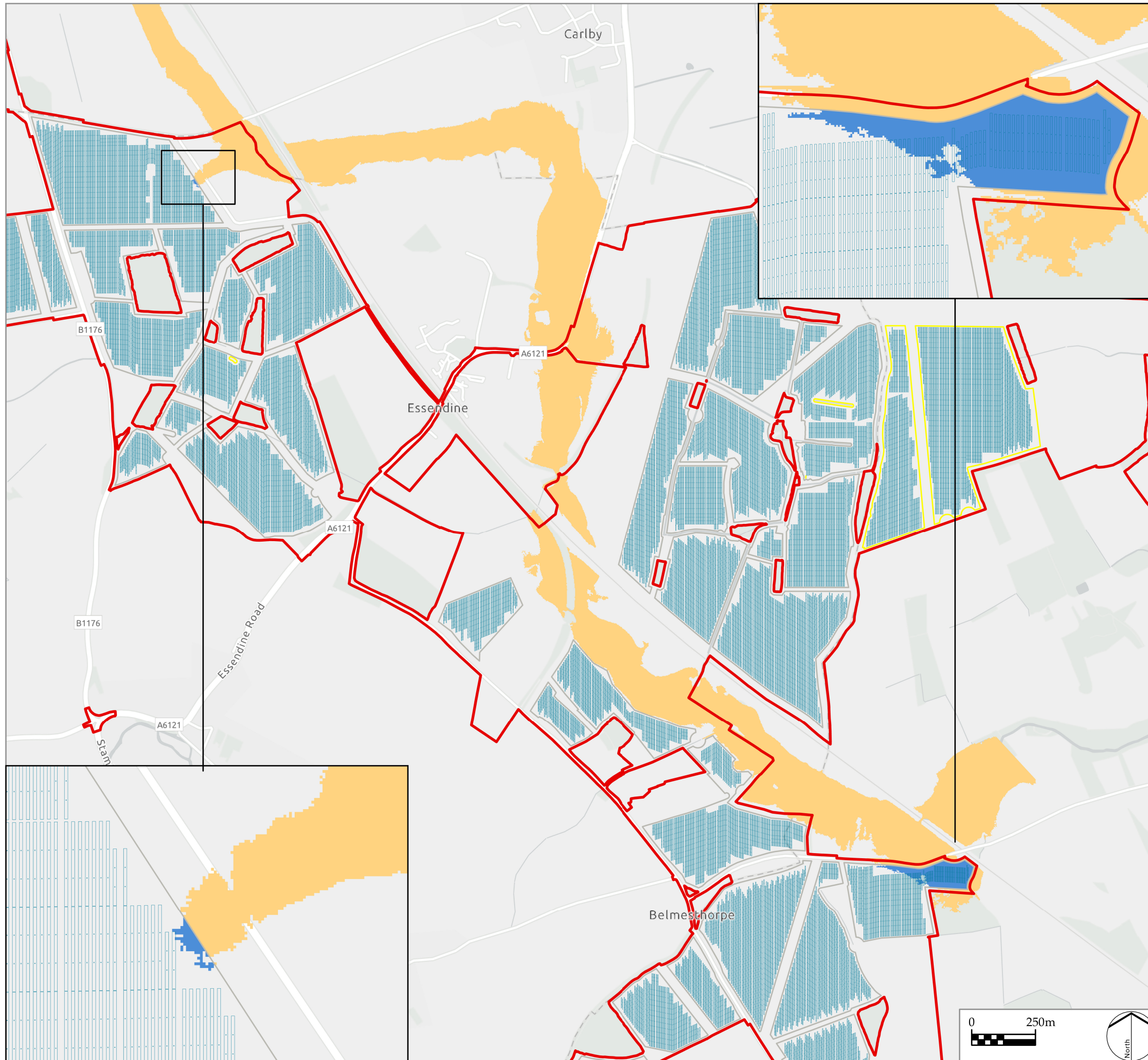
Development would be decommissioned with the time limit being imposed.

## Figures

Figure 1 - 0.5% AEP Extents

Figure 2 - 0.5% AEP Depths





Infrastructure Planning (Examination Procedure) Rules 2010

PINS REFERENCE NUMBER  
EN010127

LEGEND

- Order Limits
- 0.5 % AEP
- 0.5 % AEP within PV Array Area

P0 DCO Submission  
REV. DESCRIPTION

RP 04/10/23  
APP. DATE

PROJECT TITLE  
**MALLARD PASS SOLAR FARM**

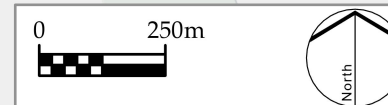
DRAWING TITLE  
**0.5 % AEP Extents**

ISSUED BY	Oxford	T: 01865 887050
DATE	Oct 2023	DRAWN LN
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STATUS	Draft	APPROVED PD

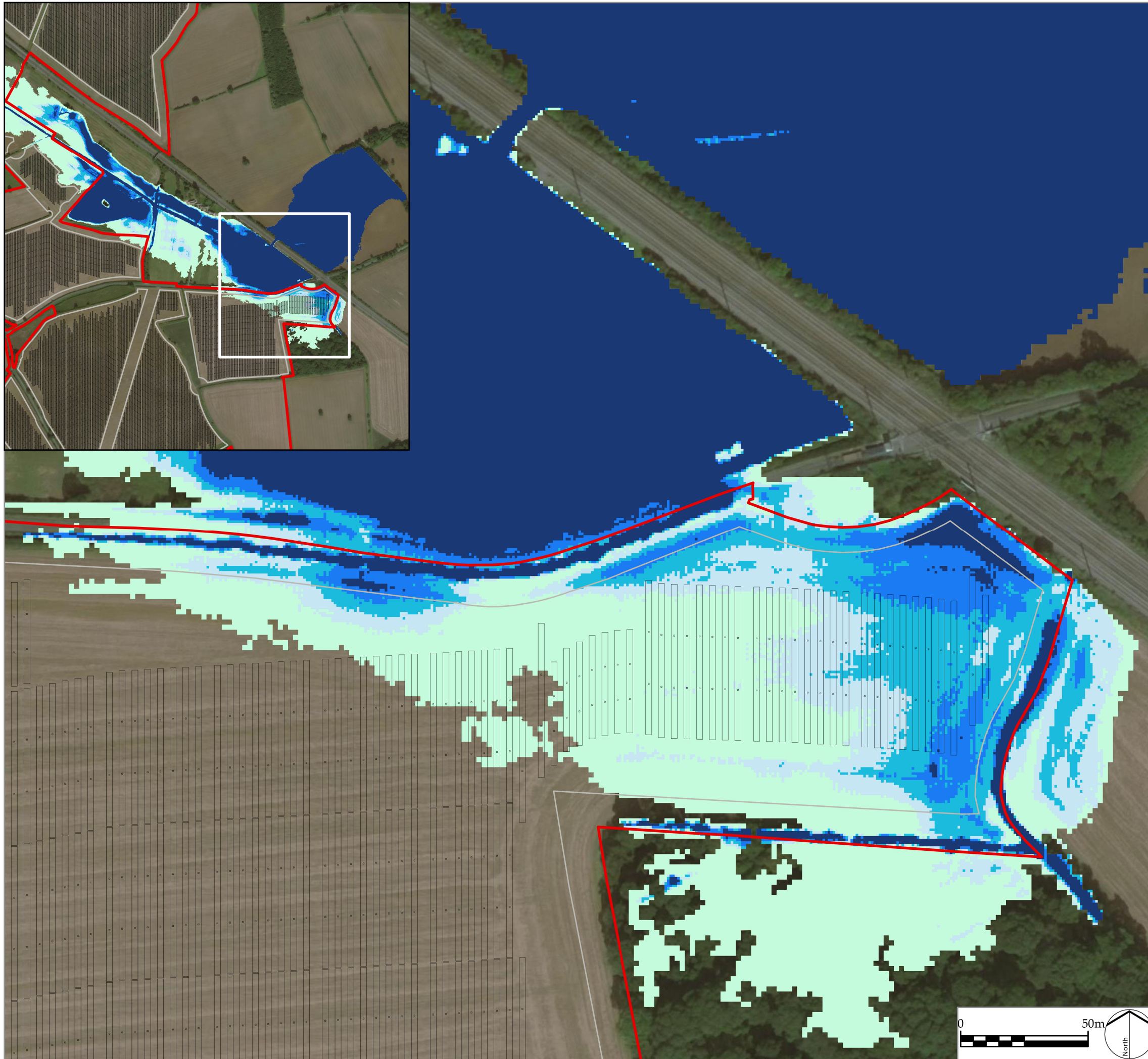
**DWG. NO. 1: Appendix X REV: P0**

No dimensions are to be scaled from this drawing.  
All dimensions are to be checked on site.  
Area measurements for indicative purposes only.

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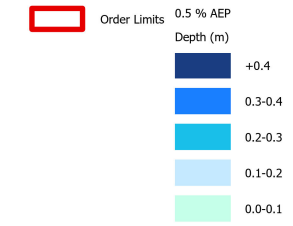




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PROJECT TITLE  
**MALLARD PASS SOLAR FARM**

DRAWING TITLE  
**0.5 % AEP Depths**

ISSUED BY	Oxford	T: 01865 887050
DATE	Oct 2023	DRAWN LN
SCALE @A3	1:1,500	CHECKED EH
STATUS	Draft	APPROVED PD

**DWG. NO. 2: Appendix X REV: P0**

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