

Rosefield Solar Farm

Preliminary Environmental Information Report

Volume 1
Chapter 14: Transport and Access

September 2024



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14. Transport and Access

14.1. Introduction

14.1.1. This chapter reports the initial assessment of likely significant effects arising from Rosefield Solar Farm upon transport and access during the construction and operational (including maintenance) phases.

14.1.2. This chapter should be read with the following appendices in **Volume 3**:

- **Appendix 14.1 – Transport Assessment**; and
- **Appendix 14.2 – Draft Outline Construction Traffic Management Plan**.

14.2. Stakeholder engagement

14.2.1. **Table 14.1** provides a summary of the engagement undertaken to date to inform this preliminary assessment.

Table 14.1 – Engagement undertaken to date

Stakeholder	Date and method	Key matters discussed	How this matter has been addressed
Oxfordshire County Council	3 October 2023, Email and telephone call	Transport scoping and potential for impact on the Oxfordshire County Council road network. Request for detail of committed developments to be included.	Impact review undertaken on A41 and A34 corridors. Use of Low National Road Traffic Forecast (NRTF) assumptions to determine future traffic flows.
National Highways	27 October 2023, Teams meeting	Transport scoping and potential for impact on the trunk road network.	Impact review undertaken for the M40 corridor.
Buckinghamshire Council	19 December 2023, Teams meeting	Transport scoping and potential for impact on the Buckinghamshire Council road network. Discussion on access routing and compare access options via Snake Lane/Claydon Road vs route through	Impact review of all relevant Buckinghamshire Council roads undertaken. Traffic surveys undertaken on both access routes.

Stakeholder	Date and method	Key matters discussed	How this matter has been addressed
		Grendon Underwood and Calvert. Agreement on traffic survey locations.	
Buckinghamshire Council	30 May 2024, Teams meeting	Agreement of access route via Snake Lane/Claydon Road. Review of initial traffic impact figures. Discussion on potential road improvements.	The agreed access route has been assessed and reported in this chapter. Initial access works are included in the Draft Outline Construction Traffic Management Plan (Appendix 14.2 in Volume 3).

14.3. Legislative framework, planning policy and guidance

14.3.1. This preliminary assessment has been undertaken with regard to the following legislation, planning policy and guidance.

Legislation

14.3.2. There is no legislation of relevance to the transport and access assessment.

National planning policy

- Overarching National Policy Statement for Energy (NPS EN-1) (2023)¹ – Section 5.14 details the planning policy for transport and access matters;

¹ Department for Energy Security and Net Zero. (2023). Overarching National Policy Statement for Energy (EN-1). Available online: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1>

- National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) (2023)² – Section 2.10 gives specific consideration to solar development including the assessment of traffic and transport impacts; and
- National Policy Statement for Electricity Networks Infrastructure (NPS EN-5) (2023)³- notes that consideration in the assessment should include grid connection infrastructure impacts.
- National Planning Policy Framework (NPPF) (2023)⁴ – the Considering Development Proposals section outlines the requirements for all developments that are anticipated to generate significant movements to prepare a transport assessment to assess the likely impacts of the Proposed Development⁵.

Local planning policy

- Vale of Aylesbury Local Plan (VALP) 2013 – 2033 Adopted Plan (2021)⁵ - Planning Policy T5 noting the need for a Transport Assessment to consider traffic impacts and the need for a Staff Travel Plan;
- Buckinghamshire Council, Local Transport Plan 4, 2018⁶ - Policy 3 noting the Council's need to manage the impacts of new developments.

² Department for Energy Security and Net Zero (2023). National Policy Statement for Renewable Energy Infrastructure (EN-3). Available online: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3>

³ Department for Energy Security and Net Zero (2023). National Policy Statement for Electricity Networks Infrastructure (EN-5). Available online: <https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5>

⁴ Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities (2023) National Planning Policy Framework. Available online: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁵ Vale of Aylesbury Local Plan (VALP) 2013 – 2033 Adopted Plan (2021). Available online: https://buckinghamshire-gov-uk.s3.amazonaws.com/documents/Aylesbury_local_plan_L46JWaT.pdf

⁶ Buckinghamshire Council (2016), 'Buckinghamshire's Local Transport Plan 4'. Available online at: <https://buckinghamshire-gov-uk.s3.amazonaws.com/documents/local-transport-plan-4.pdf>

Guidance

- Buckinghamshire Council, Highways Development Management Guidance, 2018⁷;
- Planning Practice Guidance “Travel Plans, Transport Assessments and Statements”⁸;
- Institute of Environmental Management and Assessment (IEMA) (2023) “Environmental Assessment of Traffic and Movement”⁹; and
- National Highways, *et al*, Design Manual for Roads and Bridges LA 104: Environmental assessment and monitoring¹⁰.

14.4. Study area

- 14.4.1. The Study area is based on those roads that are expected to experience increased traffic flows associated with the construction of Rosefield Solar Farm. The geographic scope has been determined through a review of other developments in the area, Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.
- 14.4.2. Bulk materials for use on the Site will be sourced from existing supply locations located to the west. The appointed contractors will confirm the sources of materials in the finalised Construction Traffic Management Plan that would be secured pursuant to the DCO as a requirement.
- 14.4.3. Electrical component, plant and general deliveries are likely to originate along the M40 corridor from the Southeast and the Midlands.

⁷ Buckinghamshire Council (2016), ‘Highways Development Management Guidance: Managing the transport and travel impact of new developments’. Available online at <https://buckinghamshire-gov-uk.s3.amazonaws.com/documents/highways-development-management-guidance.pdf>

⁸ Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities (2014), ‘Travel Plans, Transport Assessments and Statements’. Available online at: <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements>

⁹ Institute of Environmental Management and Assessment, (2023), ‘Environmental Assessment of Traffic and Movement’

¹⁰ National Highways, *et al*, Design Manual for Roads and Bridges LA 104: Environmental assessment and monitoring. Available online: <https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a>

- 14.4.4. Staff engaged during the construction process will likely be based within the major urban areas of Bicester and Aylesbury during the construction phase.
- 14.4.5. The proposed Study area therefore includes the road links most likely to be impacted by the proposed movements associated with Rosefield Solar Farm and comprises:
- The A34 to the southwest of Bicester;
 - The M40 to the north and south of Junction 9;
 - The A41 from its junction with the M40 through to Waddesdon;
 - Station Road/Dewes Lane from its junction with the A41 to the Buckingham Railway Centre;
 - Snake Lane/Fiddlers Field from its junction at the Buckingham Railway Centre to its junction with Claydon Road;
 - Claydon Road from its junction with Snake Lane/Fiddlers Field to its junction with Quainton Road/Granborough Road; and
 - Granborough Road between its junction with Claydon Road and the proposed Site access junction.
- 14.4.6. The proposed Study area is illustrated in **Figure 4** in **Appendix 14.1** in **Volume 3** and has been discussed and agreed with Buckinghamshire Council, Oxfordshire County Council and National Highways.

14.5. Establishing baseline conditions

- 14.5.1. The following data sources have been used to gain a comprehensive understanding of the existing transport and access conditions in the vicinity of Rosefield Solar Farm:
- OS data for the Study area;
 - Buckinghamshire Council Public Rights of Way (PRoW) map¹¹;
 - Buckinghamshire Council Greenway map¹²;

¹¹ Buckinghamshire Council (2024), 'Public rights of way map'. Available online at: <https://prow.buckscc.gov.uk/standardmap.aspx>

¹² Buckinghamshire Council (2024), 'Buckinghamshire Greenway Map'. Available online at: <https://www.buckinghamshire.gov.uk/parking-roads-and-transport/walking-cycling-and-wheeling/plans-to-improve-walking-cycling-and-wheeling/the-buckinghamshire-greenway/>

- Sustrans National Cycle Network route map¹³; and
- The online resource, www.crashmap.co.uk¹⁴.

14.5.2. In addition to these resources, a review of the Department for Transport (DfT) road traffic database¹⁵ has been undertaken to review traffic flows for the A41, M40 and A34.

14.5.3. Further traffic survey data has also been included for other links located within the Study area using Automatic Traffic Count surveys:

- A41 west of the Station Road / Dewes Lane junction;
- A41 east of the Station Road / Dewes Lane junction;
- Station Road / Dewes Lane;
- Snake Lane / Fiddlers Field;
- Claydon Road; and
- Granborough Road.

14.5.4. All of the surveys were undertaken in consultation with Buckinghamshire Council and were undertaken in January 2024. A further survey on Granborough Road was undertaken in June 2024.

14.5.5. All traffic flow data provided in this chapter has been summarised into Car/Light Goods Vehicle (LGV), Heavy Goods vehicle (HGV) and total traffic flows. All flows reported are two way flows.

14.6. Environmental baseline

14.6.1. A full review of sustainable travel links (PRoW, bridleways and cycle routes) and road links within the Study area has been undertaken and is described in **Appendix 14.1** in **Volume 3**.

14.6.2. Construction of Rosefield Solar Farm is assumed to commence in 2028 and be completed in 2030.

14.6.3. To assess the likely significant effects during the construction phase, base year traffic flows have been determined by applying a National Road

¹³ Sustrans (2024), 'National Cycle Network Map'. Available online at:

<https://explore.osmaps.com/?lat=51.869452&lon=-0.878530&zoom=10.7822&style=Standard&type=2d&overlays=os-ncn-layer>

¹⁴ Crashmap (2024), 'www.crashmap.co.uk'

¹⁵ Department for Transport (2024), 'Road traffic statistics'. Available online at:

<https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints>

Traffic Forecast (NRTF) low growth factor to the surveyed traffic flows. The subsequent baseline traffic flows for 2028 are provided in **Table 14.2**.

Table 14.2 – 2028 baseline traffic flows

Road link	Car & LGV	HGV	Total traffic
A34	62,425	8,562	70,987
M40 North	94,674	15,266	1099,40
M40 South	63,209	7,653	70,862
A41	31,824	2,182	34,006
A41 Bicester	21,713	1,947	23,660
A41 West	10,730	2,375	13,105
A41 East	9,670	2,357	12,027
Station Road/Dewes Lane	838	255	1,093
Snake Lane/Fiddlers Field	92	30	123
Claydon Road	1,267	243	1,510
Granborough Road	270	82	352

Please note that rounding errors may occur

- 14.6.4. A review of traffic accidents on the online road safety resource Crashmap.co.uk for a five year period (2018 – 2022) has indicated that there were three recorded traffic accidents on the proposed access route from the A41 to the proposed Site access junction.
- 14.6.5. The proposed access strategy has been developed to avoid construction trips being routed through sensitive areas as far as possible. Early discussions with Buckinghamshire Council suggested a review of access via Grendon Underwood and Calvert; however this would bring construction traffic through both villages. The proposed construction routes avoid impacts on these and other nearby villages.
- 14.6.6. The principal receptors to be considered are as follows:
- Users of the public road network;

- Residents living along the access route; and
- Users of the PRow, bridleway and path network within the Study area.

14.7. Mitigation embedded into the design

14.7.1. This preliminary assessment has been based on the principle that measures have been ‘embedded’ into the design of Rosefield Solar Farm to remove potential likely significant environmental effects as far as practicable, for example by the considered placement of infrastructure.. Embedded (primary) environmental mitigation measures that are considered to be an inherent part of Rosefield Solar Farm are detailed within **Chapter 5: Approach to the EIA**. The embedded mitigation measures relevant to transport and access and the benefits these provide are outlined in **Table 14.3** below.

Table 14.3 – Embedded mitigation measures relevant to transport and access

Embedded mitigation measures relevant to transport and access	Benefit
The proposed access route avoids passing through villages as far as is possible and reduces its potential impact on sensitive receptors.	Removes construction traffic from villages, reducing adverse impacts in sensitive areas.
The Site access junctions are designed to allow for two-way traffic flows and sufficient visibility in all directions.	Ensuring road safety and efficiency for all users.
All HGV traffic for the Battery Energy Storage System (BESS) and northeastern portion of the Site will be routed through the main access and will approach Granborough Road from Quanton Road, removing the need for a constrained 90 degree turn at the junction.	Ensuring road safety and efficiency for all users and reducing the need for intrusive road enhancement works.
Layby works on the Granborough Road to accommodate the temporary increase in traffic associated with the construction phase.	Improving road safety measures and reducing the need for large scale road widening measures.
Bridge crossing and road enhancement works on Snake Lane/Fiddlers Field potentially undertaken by HS2 and/or Buckinghamshire Council.	Improved access and enhanced safety measures for all road users.
Basic traffic management measures including site access signage.	Improving road safety for all users.

Embedded mitigation measures relevant to transport and access

Benefit

A Construction Staff Travel Plan to reduce single occupancy journeys to and from the Site. An Outline Construction Staff Travel Plan will be submitted in support of the DCO application as part of the Outline Construction Traffic Management Plan.

Reduced traffic and delay on study roads.

14.8. Optionality

- 14.8.1. **Chapter 5: Approach to the EIA** sets out those elements of Rosefield Solar Farm for which optionality is present within the current design and sets out the scenarios assessed for the purpose of this PEIR.
- 14.8.2. The preliminary design principles as outlined in **Chapter 5: Approach to the EIA** and preliminary parameter plans (**Figures 3.1 to 3.5 in Volume 2**) set out the reasonable 'worst case scenario' that has been assessed within this chapter. The 'worst case scenario' option in relation to this preliminary transport and access assessment are associated with the substation and cable routing options and the traffic estimates account for either design option. This preliminary assessment assumes a worst case scenario and has modelled the peak of construction traffic and its potential impact on the Study area road network.
- 14.8.3. The use of peak flows, based upon a maximised design, ensures that minor design changes that may occur between the PEIR stage and the submission of the DCO application will not increase the likely significant effects noted in the assessment or have an adverse impact on proposed mitigation measures.

Preliminary assessment assumptions

- 14.8.4. The derivation of construction traffic is detailed in **Appendix 14.1 in Volume 3**. The peak of construction in terms of vehicular movements would likely occur in Month 4 of the indicative construction programme and results in 362 daily trips (218 Car/LGV and 144 HGV journeys).
- 14.8.5. The peak traffic flows have been distributed to the Study area network. The construction phase traffic flows are detailed in **Table 14.5**. These flows have been used in this preliminary assessment.

Table 14.5 – Construction peak period daily traffic flow

Road link	Car & LGV	HGV	Total traffic
A34	11	124	135
M40 North	11	8	19
M40 South	11	8	19
A41	33	140	173
A41 Bicester	109	140	249
A41 West	109	140	249
A41 East	109	5	114
Station Road/Dewes Lane	218	144	362
Snake Lane/Fiddlers Field	218	144	362
Claydon Road	218	144	362
Granborough Road	74	83	157

Please note that rounding errors may occur

14.9. Approach to the preliminary assessment

14.9.1. In 2023, the Institute of Environmental Management and Assessment (IEMA), published guidelines entitled ‘Environmental Assessment of Traffic and Movement’ that should be used to characterise the environmental traffic and transport effects (offsite effects) and the assessment of significance of major new developments. The IEMA Guidelines (2023) intend to complement professional judgement and the experience of trained assessors and require consideration of the following:

- Severance;
- Driver delay;
- Pedestrian delay (incorporating delay to all non-motorised users);
- Non-motorised user amenity;
- Fear and intimidation;
- Road safety;
- Road safety audits; and
- Large loads.

Receptor sensitivity

- 14.9.2. In terms of traffic and transport impacts, the receptors are the users of the roads within the Study area and the locations through which those roads pass.
- 14.9.3. The IEMA Guidelines (2023) includes guidance on how the sensitivity of receptors should be assessed. Using that as a base, professional judgement has been used to develop a classification of sensitivity for users based on the characteristics of roads and locations. This is summarised in **Table 14.6**. It should be noted that the criteria presented in **Table 14.6** have been augmented from the criteria presented in Appendix D of the EIA Scoping Report to include residential classes as well as the road user classes, thus ensuring a more robust approach to this preliminary assessment.

Table 14.6 – Classification of receptor sensitivity

Sensitivity	Description
High	<p>Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs. Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.</p> <p>Where a location is a large rural settlement containing a high number of community and public services and facilities.</p>
Medium	<p>Where the road is a local A or B class road, capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures.</p> <p>Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.</p>
Low	<p>Where the road is Trunk or A-class, constructed to accommodate significant HGV composition. Includes roads with little or no traffic calming or traffic management measures.</p> <p>Where a location is a small rural settlement, few community or public facilities or services.</p>
Negligible	<p>Where roads have no adjacent settlements. Includes new or existing strategic trunk roads that would be little affected by additional traffic and suitable for Abnormal Indivisible Loads, and new strategic trunk road junctions capable of accommodating Abnormal Indivisible Loads.</p> <p>Where a location includes individual dwellings or scattered settlements with no facilities.</p>

- 14.9.4. Where a road passes through a location, users are considered subject to the highest level of sensitivity defined by either the road or the location characteristics.

Magnitude of change

- 14.9.5. The magnitude of change has been assessed in accordance with the following rules which are outlined in the IEMA Guidelines (2023), and are used to inform a screening exercise to determine which links within the Study area are to be considered for detailed analysis in the assessment:
- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles (HGVs) is predicted to increase by more than 30%).
 - Rule 2: Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.
- 14.9.6. The IEMA Guidelines (2023) identify the key impacts when assessing the magnitude of traffic change from an individual development:
- Severance – the IEMA Guidelines (2023) advises that, *“The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of 30%, 60% and 90% are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes in severance respectively. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law. However, caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic.”* (Para 3.16). The Guidelines acknowledge that changes in traffic flows should be used cautiously, stating that *“the assessment of severance should pay full regard to specific local conditions, e.g. sensitivity of adjacent land uses, prevalence of vulnerable people, whether or not crossing facilities are provided, traffic signal settings, etc.”* (Para 3.17).
 - Driver delay – the IEMA Guidelines (2023) note that these delays are only likely to be *“significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system”* (Para 3.20).
 - Pedestrian delay (incorporating delay to all non-motorised users) – the IEMA Guidelines (2023) advises that *“pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the*

development site.” (Para 3.24). Furthermore, the Guidelines advises that “...it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect.” (Para 3.26).

- Non-motorised user amenity - the IEMA Guidelines (2023) advises that, *“The 1993 Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law.” (Para 3.30).*
 - Fear and intimidation – there are no commonly agreed thresholds for estimating levels of fear and intimidation from known traffic and physical conditions. However, as the impact is considered to be sensitive to traffic flow, changes in traffic flow of 30%, 60% and 90% are regarded as producing minor, moderate and substantial changes respectively in the IEMA Guidelines (2023) (Para 2.19). As such, this has been used to assess the potential impacts associated with construction activities around fear and intimidation on people near Rosefield Solar Farm.
 - Road safety – professional judgement has been used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents. In line with the IEMA Guidelines (2023), those areas of collision clusters have been subject to detailed review.
 - Road safety audits – It would be proposed to undertake any necessary Road Safety Audits post consent and it is considered that this can be secured via a requirement to the DCO through the Construction Traffic Management Plan.
 - Large loads – The movement of the Abnormal Indivisible Loads associated with the construction of Rosefield Solar Farm are being considered, within a separate route survey assessment, which identifies if any physical mitigation measures are required to accommodate the predicted loads.
- 14.9.7. While not specifically identified, as more vulnerable road users, cyclists are considered in similar terms to pedestrians.
- 14.9.8. The impacts and levels of magnitude are discussed in **Table 14.7**. The IEMA Guidelines (2023) states that there are useful references within Design Manual for Roads and Bridges that can be used cautiously to augment the assessment methodologies outlined in the Guidelines. Equally, the EIA suite of documents (Design Manual for Roads and Bridges LA 101 to LA 104 inclusive) set out a framework for EIA, some of which can be utilised for an assessment of non-highway/road projects. Therefore, the criteria presented in **Table 14.7** have been informed by

Design Manual for Roads and Bridges LA 104: Environmental Assessment and Monitoring.

Table 14.7 – Magnitude of change

Magnitude	Description
Major	These effects are considered to be material in the decision-making process.
Moderate	These effects may be important but are not likely to be material factors in decision making. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a receptor.
Minor	These effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in improving the subsequent design of the project.
Negligible	No effects or those that are imperceptible.

Significance of effect

14.9.9. To determine the overall significance of effects, the results from the receptor sensitivity and magnitude of change assessments are correlated and classified using the scale set out below in **Table 14.8**. These criteria have been based on an amalgam of the IEMA Guidelines (2023), Design Manual for Roads and Bridges LA 104: Environmental Assessment and Monitoring, and professional judgement.

Table 14.8 – Significance criteria

Sensitivity	Magnitude of change			
	Major	Moderate	Minor	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

14.9.10. Significance is categorised as **major**, **moderate**, **minor** or **negligible**. Effects judged to be of **major** or **moderate** significance are considered to

be **significant** and require additional mitigation. Effects judged to be of **minor** or **negligible** significance are considered **not significant**.

- 14.9.11. Where an effect could be one of **major/moderate**, **moderate/minor** or **minor/negligible** significance, professional judgement has been used to determine which option should be applicable.
- 14.9.12. In line with the scoping opinion from PINS, the assessment will only focus on the construction phase, that being the phase with the highest level of traffic generation.
- 14.9.13. During operation, the Site will be subject to daily operational and maintenance visits, with up to 12 staff travelling to Site via cars or LGV. The average number of trips per day would be less than twelve trips per day, which is the equivalent to traffic impact of between 0.5% and 0.8% between the A41 and the main Site access junction on Claydon Road. This level of traffic is significantly below the established daily variance in traffic flows of 10% that can be normally expected and as such, there is no requirement to undertake an operational (including maintenance) phase assessment.
- 14.9.14. The decommissioning phase has not been considered within this preliminary assessment for two reasons. The decommissioning phase will result in fewer trips on the network than the construction phase as elements such as the access junctions and section of the access tracks would be retained for future agricultural uses. In addition, the decommissioning phase is too far in the future to accurately predict future traffic flows. To protect future stakeholders it is proposed that a Decommissioning Traffic Management Plan be prepared prior to decommissioning works commencing, which would be secured via a DCO Requirement.

14.10. Assessment of likely effects (without additional mitigation)

- 14.10.1. The construction peak period daily traffic flow presented in **Table 14.5** has been compared with the 2028 baseline traffic flows presented in **Table 14.2** to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in **Table 14.9**.

Table 14.9 – Predicted % increase in traffic volume during construction

Road link	Car & LGV	HGV	Total traffic
A34	0.02%	1.45%	0.19%
M40 North	0.01%	0.05%	0.02%
M40 South	0.02%	0.10%	0.03%

Road link	Car & LGV	HGV	Total traffic
A41	0.10%	6.41%	0.51%
A41 Bicester	0.50%	7.18%	1.05%
A41 West	1.13%	5.93%	2.07%
A41 East	1.02%	0.23%	0.87%
Station Road/Dewes Lane	26.01%	56.58%	33.14%
Snake Lane/Fiddlers Field	235.74%	473.17%	294.61%
Claydon Road	17.21%	59.29%	23.98%
Granborough Road	27.45%	101.07%	44.67%

Please note that rounding errors may occur

- 14.10.2. The highest total traffic movement increase during construction occurs on Station Road/Dewes Lane, Snake Lane/Fiddlers Field and Granborough Road. This is expected due to the relatively low baseline traffic flow on both roads at present. Claydon Road does not experience a traffic increase in excess of 24% and is therefore below the 30% threshold to trigger Rule 1 of the IEMA Guidelines (2023) (refer to **paragraph 14.9.5**).
- 14.10.3. None of the other links within the Study area experience total traffic movement increases in excess of 2.1%. These are either at or significantly below the accepted industry standard estimate of daily traffic flow variation of 10%.
- 14.10.4. It should be noted the construction phase is transitory in nature and the peak of construction activities is short lived, occurring over a relatively short timeframe when taking account of the whole construction programme.
- 14.10.5. The increase in traffic levels are such that link capacity thresholds would not be exceeded.
- 14.10.6. Under the IEMA Guidelines (2023) thresholds, a preliminary assessment has been undertaken (refer to **Section 14.12**) on the roads leading from the A41 to the Site access junctions, as these exceed the 30% threshold of Rule 1 (refer to **Section 14.9**).
- 14.10.7. Taking account of the embedded mitigation measures described within **Chapter 5: Approach to the EIA** and **Section 14.7**, the resultant effects that could be expected will be restricted to the section of access route

from the A41 corridor to the Site accesses. These are summarised in **Table 14.10**. It should be noted that the effects relate solely to the peak of construction activities (Month 4), and that the construction period is short lived and the effects transitory in nature.

Table 14.10 – Preliminary assessment of likely significant effects, in the absence of additional mitigation

Receptor	Likely effects	Potential significance	Need for additional mitigation
Users of Station Road/Dewes Lane	Non-Motorised User Amenity	Significant, but temporary effect	Yes
Users of Snake Lane/Fiddlers Field	Severance, Driver Delay, Non-Motorised User Amenity and Fear & Intimidation	Significant, but temporary effect	Yes
Users of Claydon Road	None	Not significant	No
Users of Granborough Road	Severance, Driver Delay, Non-Motorised User Amenity and Fear & Intimidation	Significant, but temporary effect	Yes
PRoW, Bridleway and Path Users within the development areas	Severance, Pedestrian Delay, Non-Motorised User Amenity and Fear & Intimidation	Significant, but temporary effect	Yes
Residents of Station Road/Dewes Lane	None	Not significant	No
Residents of Snake Lane/Fiddlers Field	Driver Delay, Non-Motorised User Amenity and Fear & Intimidation	Significant, but temporary effect	Yes
Residents of Claydon Road	None	Not significant	No

14.11. Additional mitigation

14.11.1. To address the temporary effects associated with the construction phase, the following additional measures are proposed.

Draft Outline Construction Traffic Management Plan (CTMP)

14.11.2. A Draft Outline Construction Traffic Management Plan is provided in **Appendix 14.2** in **Volume 3** that addresses the specific traffic management measures required at the Site and sets out the proposed measures in detail and what how these measures will assist road users and residents. The Draft Outline Construction Traffic Management Plan has been informed by early consultation feedback from residents and stakeholders.

14.11.3. The Draft Outline Construction Traffic Management Plan includes the following proposed measures:

- Proposed construction access route;
- Routes barred for construction traffic;
- Timing for construction traffic on the network;
- The creation of a Traffic Management Group (formed as a subgroup of the Community Liaison Group) to act as a liaison between the Applicant and the local community;
- Contractor selection, including the requirements to adhere to the Considerate Constructors Scheme and Construction Logistics and Community Safety best practice guidance;
- General traffic management requirements;
- Road signage measures;
- HGV vehicle requirements, including identify requirements and data logging;
- A Wear & Tear Agreement with Buckinghamshire Council covering any damages and wear on the road network;
- Outline Construction Staff Travel Plan to facilitate sustainable travel to and from the construction site for staff (note this is presented in **Table 14.3** as embedded (primary) mitigation, but is referenced here as it will be submitted in support of the DCO application as part of the Outline Construction Traffic Management Plan);
- Abnormal Indivisible Load Traffic Management Plan, covering the separate access route for abnormal deliveries;
- Onsite access management proposals;

- Measures to reduce onsite vehicle emissions such as shutting down engines when vehicles are stationary and the use of low emission vehicles;
 - Construction Traffic Management Plan management protocol and complaints process, including response times and commitments; and
 - A liaison process with other existing development and/or approved development(s) that may share the access routes.
- 14.11.4. An Outline Construction Traffic Management Plan will be submitted in support of the DCO application.
- 14.11.5. It is recognised that it will be necessary to divert PRoWs, either temporarily or permanently, for the construction phase of Rosefield Solar Farm. Within the Outline Construction Traffic Management Plan, consideration will be given to pedestrians, cyclists and horse riders alike due to potential interactions between construction traffic and users of the PRoW, bridleway and path network during the construction phase.
- 14.11.6. The Principal Contractor should ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important at crossing points. Advisory speed limit signage will also be installed on approaches to areas where path users may interact with construction traffic.
- 14.11.7. Signage will be installed across the Site that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians, cyclists and equestrians. This will also be emphasised in weekly toolbox talks for construction staff and delivery drivers.
- 14.11.8. Users of the PRoWs will be separated from construction traffic using barriers (where permitted and appropriate) which will ensure that safe access across the Site for recreational purposes will be maintained. Crossing points will be provided where required with path users having right of way, and diversions will be provided where necessary. It should be noted that any necessary temporary diversions (during the construction phase) to the path network will be discussed and agreed with Buckinghamshire Council in further detail.
- 14.11.9. Appropriate Traffic Signs Manual Chapter 8¹⁶ compliant temporary road signage would be provided to assist at these crossings for the benefit of all users.

¹⁶ Department for Transport et al, (2009), 'Traffic Signs Manual, Traffic Safety Measures and Signs for Road Works and Temporary Situations'

- 14.11.10. The British Horse Society recommendations on the interactions between HGV traffic and horses state that horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flighty animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.
- 14.11.11. The main factors causing fear in horses in this situation are:
- something approaching them, which is unfamiliar and intimidating;
 - a large moving object, especially if it is noisy;
 - lack of space between the horse and the vehicle;
 - the sound of air brakes; and
 - anxiety on the part of the rider.
- 14.11.12. The British Horse Society recommends the following actions that will be included in the Site training for all HGV staff:
- On seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible.
 - If the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so).
 - The vehicle should not move off until the riders are well clear of the back of the HGV.
 - If drivers are wishing to overtake riders, please approach slowly or even stop to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them.
 - All drivers delivering to the Site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.
- 14.11.13. Discussions with local equestrian groups will be held during the construction phase to keep riders informed of works and activities. These discussions will also allow the contractors to tailor their toolbox talks to specific equestrian issues.

14.12. Assessment of residual effects (with additional mitigation)

- 14.12.1. Taking account of the proposed embedded and additional mitigation measures described above, it is expected that the transport and access effects would be as detailed in **Table 14.11**, based upon the assessment criteria presented in **Section 14.9**.

Table 14.11 – Preliminary assessment of likely effects, following additional mitigation

Receptor (sensitivity)	Magnitude of change	Residual significance of effect	Effect duration
Users of Station Road/Dewes Lane (Medium receptor sensitivity)	Moderate	Minor Not significant	Temporary during construction
Users of Snake Lane/Fiddlers Field (High receptor sensitivity)	Major	Minor Not significant	Temporary during construction
Users of Granborough Road (High receptor sensitivity)	Major	Minor Not significant	Temporary during construction
PRoW, Bridleway and Path Users within the development areas (High receptor sensitivity)	Major	Minor Not significant	Temporary during construction
Residents of Snake Lane/Fiddlers Field (Low receptor sensitivity)	Moderate	Minor Not significant	Temporary during construction

14.13. Opportunities for enhancement

14.13.1. The following proposed enhancement opportunities have currently been identified in relation to traffic and transport:

- Enhancements to Granborough Road in the form of the passing places and road widening, should Buckinghamshire Council agree to the works being permanent; and
- PRoW, bridleway and path enhancements within the Site.

14.13.2. A Wear & Tear Agreement with Buckinghamshire Council is referenced in **Section 14.11** as additional mitigation, covering any damages and wear on the road network. This will also ensure that no significant road deterioration will take place and where repairs are undertaken, they will be left in-situ, which will realise an enhancement benefit.

14.14. Difficulties and uncertainties

- 14.14.1. The information provided in this PEIR is preliminary and is based on the data available at the time of writing. The final assessment of likely significant effects will be reported in the ES.
- 14.14.2. The assessment is based upon the worst case preliminary design and construction programme. Changes to these will result in a revised impact that will likely be lower than that predicted in this preliminary assessment. Any such changes however, are unlikely to alter the mitigation proposals.

14.15. Further work required to inform the ES

- 14.15.1. To form a robust ES, the following work is proposed so that all aspects will be suitably considered:
- An updated assessment, including full details of other existing development and/or approved development(s). This will also include a sensitivity review of the traffic effects of other existing development and/or approved development(s).

Appendix 1





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