



**STATERA**  
BALANCING THE GRID

# **East Claydon Battery Energy Storage System (BESS)**

## **Environmental Statement**

### **Volume 8: TRANSPORT AND ACCESS**

**December 2023**



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# 1 TRANSPORT AND ACCESS

## 1.1 Introduction

- 1.1.1 This document represents the Transport and Access Chapter of the Environmental Statement (ES) for the proposed development of a Battery Energy Storage System (BESS) adjacent to the existing East Claydon Substation, Buckinghamshire.
- 1.1.2 This Chapter is intended to be read in conjunction with the other Chapters of the ES together with the Access Technical Note dated 16<sup>th</sup> October 2023 (attached as **Appendix 8.1**), the Construction Traffic Management Plan dated 27<sup>th</sup> November 2023 (attached as **Appendix 8.2**), and the Wynns Abnormal Indivisible Load report dated 8<sup>th</sup> September 2023 (attached as **Appendix 8.3**). These documents provide further assessment of the site access strategy, the impacts of the development proposal on the local highway network and the proposed mitigation.
- 1.1.3 This Chapter describes the assessment methodology, the baseline conditions, the likely significant effects on the environment, the proposed mitigation measures to prevent or reduce adverse effects, and the likely residual effects that will remain. It also considers potential cumulative effects from other local development projects.
- 1.1.4 For BESS projects and in transport and access terms, the effect of the operational phase is minimal as the proposed BESS will be unmanned and remotely controlled / monitored. Operatives will therefore only visit the site on an occasional ad-hoc basis for maintenance purposes, security checks and similar. Whilst the operational phase is considered throughout, due to the transport and access nature of the BESS, this Chapter of the ES focusses primarily on the construction phase.

## 1.2 Legislative and Policy Framework

- 1.1.5 The assessment has been carried out in accordance with “Guidelines for the Environmental Assessment of Road Traffic”<sup>1</sup> published by the Institute of Environmental Management and Assessment (IEMA) hereafter referred to as “the IEMA Guidelines”, and the Design Manual for Roads and Bridges (DMRB)<sup>2</sup>, National Highways.
- 1.1.6 The proposals have also been considered in the context of the:
- National Planning Policy Framework (NPPF)<sup>3</sup>,
  - National Planning Practice Guidance (PPG)<sup>4</sup>,
  - Vale of Aylesbury Local Plan (VALP)<sup>5</sup> and Saved Policies, and
  - Buckinghamshire Local Transport Plan<sup>6</sup>

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<sup>1</sup> Guidelines for the Assessment of Road Traffic, Institute of Environmental Management and Assessment (IEMA), 1993

<sup>2</sup> Design Manual for Roads and Bridges, National Highways (March 2020)

<sup>3</sup> National Planning Policy Framework, Ministry of Housing, Communities and Local Government, July 2021

<sup>4</sup> National Planning Practice Guidance, Ministry of Housing, Communities and Local Government, various

<sup>5</sup> Vale of Aylesbury Local Plan 2013 to 2033, Buckinghamshire Council, September 2021

<sup>6</sup> Buckinghamshire's Local Transport Plan 4, Buckinghamshire County Council, 2016

- 1.1.7 Transport policy generally focusses on reducing car dependency through improved walking and cycling networks and encouraging a greater use of public transport. It also requires appropriate vehicular access for the scale of development proposed and that development does not have an unacceptable impact on road safety or the operation of the local road network.

## 1.3 Assessment Methodology

- 1.1.8 Table 2.1 of the IEMA guidelines sets out a checklist of “*environmental effects*” to be considered. Most of the items listed are covered by other Chapters within the ES with this Chapter focussing solely on the transport and access issues. In particular, the following topic areas are considered:

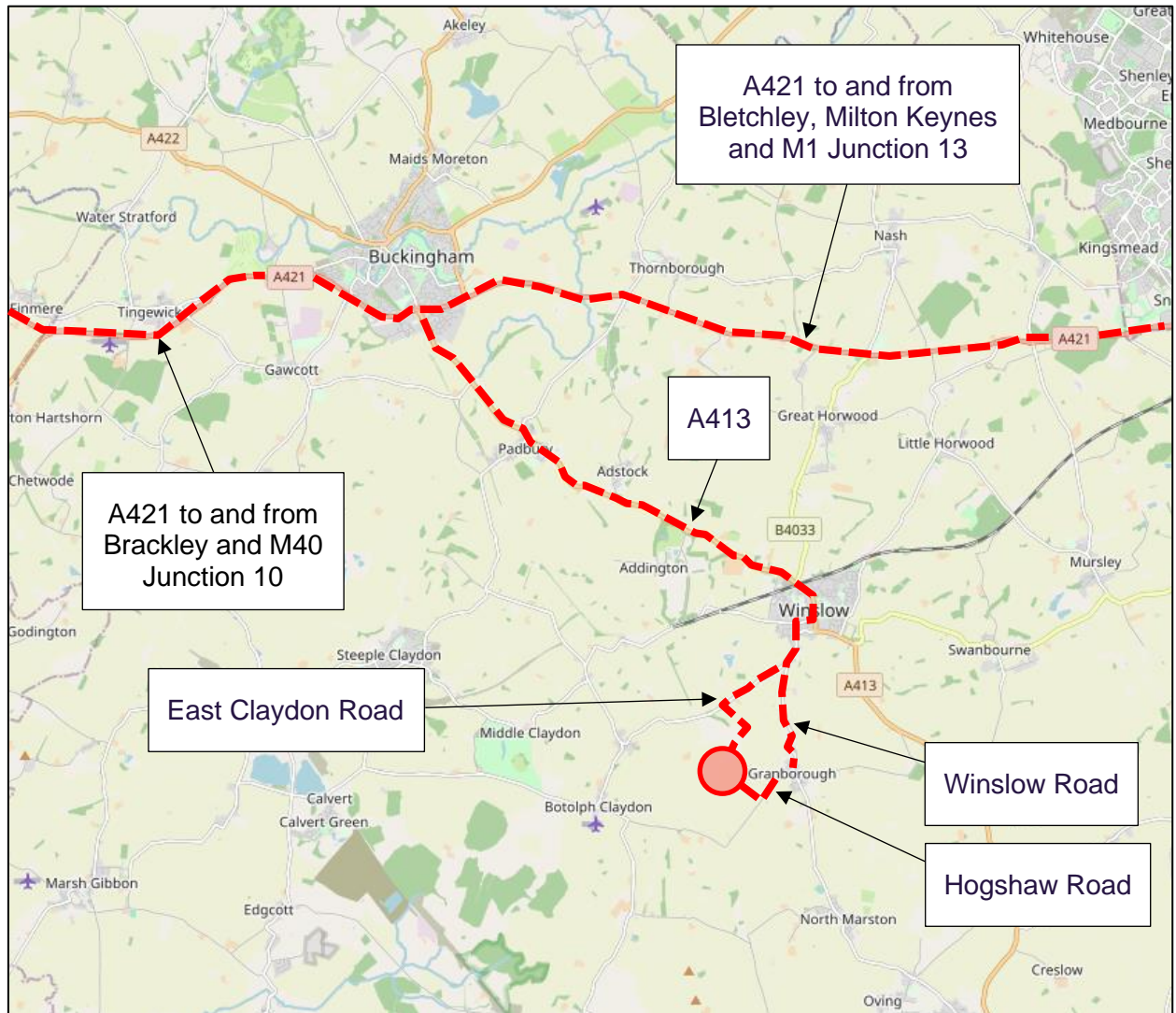
- Severance,
- Driver Delay,
- Pedestrian Delay and Amenity,
- Fear and Intimidation,
- Accidents and Safety, and
- Hazardous Loads

### Study Area

- 1.1.9 The Study Area follows the proposed construction traffic route between the A421 Buckingham Bypass and the site via the A413 London Road, local roads through Winslow, Granborough Road to East Claydon Road and beyond to the main construction access to the site. A second route for the AIL movements and to act as a reserve construction route should the main construction access be blocked for whatever reason will continue via Granborough Road and Winslow Road to Granborough village, and Hogshaw Road to the proposed operational site access. These routes are shown in **Figure 8.1** overleaf.
- 1.1.10 Buckinghamshire Council has produced a series of maps showing recommended routes for Heavy Goods Vehicles (HGVs) throughout the Authority area. These show the A421 and A413 as being part of these recommended routes hence the proposed construction delivery routes shown in Figure 8.1.

### Sources of Information

- 1.1.11 The below sources of information have been used in the assessment of transport and access effects:
- Automatic Traffic Counts (ATC) on East Claydon Road and Hogshaw Road,
  - Traffic data obtained from the Department for Transport road traffic statistics website,
  - Personal injury collision data obtained from the Crashmap website,
  - Ordnance Survey mapping, and
  - Topographical survey data for the proposed site access locations and potential pinch points along the construction traffic route.



**Figure 8.1: Study Area and Construction Delivery Routes**

#### Impact Assessment and Significance Criteria

- 1.1.12 To arrive at a judgement on the significance of effects on transport, the assessment considers the relative importance of the receptors and how these are likely to be affected.
- 1.1.13 The sensitivity of a receptor is based on the relative importance of the receptor or resource. The assessment has been carried out in accordance with the IEMA guidelines which highlights that it is useful to identify particular groups of people or locations which may be sensitive to change in traffic conditions. The guidelines set out groups of people and special interests to be considered (described as receptors), which are shown in **Table 8.1** overleaf.
- 1.1.14 The magnitude of an impact is described as major, moderate, minor, negligible or no change. Impacts are either adverse or beneficial in nature. Such terms are relative to the receptor affected by the impact (i.e. a particular impact can result in an adverse effect on one receptor and a beneficial effect on another). The criteria associated with magnitude of impact are summarised in **Table 8.2** overleaf.

Value (Sensitivity)	Receptors
Very High	Sensitive groups including children, elderly and disabled; sensitive locations e.g. hospitals, churches, schools and historical buildings.
High	Locations where large groups of people gather such as shopping areas or tourist / visitor attractions.
Medium	People walking; people cycling; sites of ecological/nature conservation value; people driving.
Low	Open spaces; recreational sites; shopping areas.
Negligible	No receptors

**Table 8.1: Receptor Classifications of Sensitivity**

Magnitude of Impact	Typical Criteria Descriptors
Major	<p>Adverse – Loss of resource and/or integrity of resource; severe damage to key characteristics, features or elements.</p> <p>Beneficial – Large scale or major improvement of resource quality or restoration / enhancement of resource.</p>
Moderate	<p>Adverse – Loss of resource but not adversely affecting its quality or integrity; partial loss of key characteristics.</p> <p>Beneficial – Benefit to, or addition of, key characteristics, features, elements or quality.</p>
Minor	<p>Adverse – Some measurable change in attributes including minor loss of, or alteration to, at least one key characteristic or feature.</p> <p>Beneficial – Minor benefit to, or addition of, at least one key characteristic or feature; some beneficial impact or reduced risk of negative impact.</p>
Negligible	<p>Adverse – Very minor loss or detrimental alteration to one or more characteristics, features or elements.</p> <p>Beneficial – Very minor benefit to or positive addition to one or more characteristics, features or elements.</p>

No Change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.
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**Table 8.2: Magnitude of Impact and Typical Descriptors**

Topic Areas for Assessment

*Severance*

- 1.1.15 The IEMA guidelines describe severance as being *“a complex series of factors that separate people from places and other people”*. This can occur due to difficulty crossing a heavily trafficked road or relate to minor traffic flows if they impede pedestrian access to essential facilities. Factors which have been considered in the assessment include road width, traffic flow and composition, traffic speeds, availability of crossing facilities and the number of movements that are likely to cross the affected route.
- 1.1.16 In accordance with the IEMA guidelines the assessment uses a range of indicators including changes in traffic flows of 30%, 60% and 90% which are regarded as ‘slight’, ‘moderate’ and ‘substantial’ changes in severance respectively. The guidelines also suggest that *“marginal changes in traffic flows are, by themselves, unlikely to create or remove severance”*.

*Driver Delays*

- 1.1.17 For driver delays the IEMA guidelines state that *“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”*. This is a function of the background traffic flows and capacity of existing junctions within the Study Area and on the construction delivery route to and from the site. Junction capacity assessments can be used to identify the change in vehicle delays at junctions when considered appropriate.

*Pedestrian Delay and Amenity*

- 1.1.18 The assessment of pedestrian delay has been carried out using professional judgement in accordance with the IEMA guidelines. The volume, composition and speed of traffic have the potential to affect the ability of people to cross roads. Increases in traffic levels are likely to lead to greater increases in delay, and the extent of the delay will be dependent on the level of pedestrian activity, visibility, and general physical conditions of the affected road network.

*Fear and Intimidation*

- 1.1.19 Pedestrians’ fear and intimidation from traffic is dependent on the volumes of traffic, HGV composition, and the proximity to people or the lack of protection (such as narrow footway widths). The assessment has taken account of the IEMA guideline thresholds which are summarised in **Table 8.3** overleaf.

*Accidents and Safety*

- 1.1.20 The IEMA guidelines do not define accidents and safety or any associated thresholds. The guidelines suggest that the assessor uses professional judgement taking account of existing local safety issues within the Study Area and how the proposed development may increase or reduce the risk of accidents occurring.



Degree of Hazard	Ave. Hourly Flow over 18 Hour Day	Total HGVs over 18 Hour Day	Ave. Speed over 18 Hour Day (mph)
Extreme	1,800+	3,000+	20+
Great	1,200 to 1,800	2,000 to 3,000	15 to 20
Moderate	600 to 1,200	1,000 to 2,000	10 to 15

**Table 8.3: Thresholds for Fear and Intimidation**

*Hazardous Loads*

- 1.1.21 The IEMA guidelines require hazardous loads to be included in the assessment when likely to occur. In this case, some deliveries could be considered to be hazardous, such as delivery of the lithium-ion batteries and delivery of transformer oil, however all applicable transport regulations will be followed, and the appropriate documentation will be obtained.
- 1.1.22 The proposed development will require abnormal loads to transport the transformers to the substation. Whilst the loads are not hazardous in themselves, the size of the vehicles involved could be considered to represent a hazard during transit.

Assessment of Significance of Effect

- 1.1.23 The relative significance of an effect is largely a product of the value and sensitivity of the identified receptor and the magnitude and duration of the impact. The assessment is however moderated by professional judgement and takes account of the considerations described above. The significance of effect matrix is provided in **Table 8.4**. It is assumed for the purposes of this assessment that any effects of moderate significance or greater will be significant in EIA terms.

		Magnitude of Impact (Degree of Change)				
		No Change	Negligible	Minor	Moderate	Major
Environmental Sensitivity	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate

	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight
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**Table 8.4: Significance of Effect Matrix**

- 1.1.24 In the context of the Proposed Development, short to medium term (temporary) effects are generally considered to be those associated with the construction phase and long term (temporary) effects are generally those associated with the operational phase. The long term effects remain temporary given the restricted lifetime of the project.

## 1.4 Baseline Conditions

### Description of Construction Access Route

- 1.1.25 The proposed construction access route has previously been shown in Figure 8.1 and has been chosen following detailed consideration of the options available. The standard of the local roads and junctions to the south of Granborough via Whitchurch and North Marston are not considered appropriate. Similarly, approaching the site via East Claydon Road or Hogshaw Road from the southwest would also involve the use of inappropriate local roads.
- 1.1.26 The A421 travels east-west linking the M1 junction 13, Milton Keynes and Bletchley in the east with the A43, Brackley and M40 junction 10 in the west. It is a high standard single carriageway primary road that carries a high proportion of HGVs each day. At its approximate mid-point, the A421 bypasses Buckingham from which the A413 heads southeast towards Winslow and Aylesbury beyond. Again, the A421 is a good standard single carriageway road which regularly carries a high proportion of HGVs. Both the A421 and the A413 are elements of the HGV route network recommended by Buckinghamshire Council.
- 1.1.27 Within Winslow it is proposed that HGVs turn right from the A413 High Street onto Vicarage Road before turning left onto Burleys Road. This is the signed through route to Granborough and allows through traffic to avoid Winslow town centre. Vicarage Road and Burleys Road also have a more appropriate width and horizontal alignment than Horn Street in the town centre. Burleys Road joins Granborough Road at the southern exit from Winslow before continuing south.
- 1.1.28 Primary access for construction related vehicles will be taken from East Claydon Road via a temporary haul road that will be removed once construction is complete. East Claydon Road leads away from Granborough Road just south of Winslow and has a horizontal and vertical alignment that is appropriate for temporary construction traffic movements.
- 1.1.29 The temporary nature of the northern construction access and haul road from East Claydon Road is not viable for Abnormal Indivisible Loads (AIL). Deliveries of these AILs (of which there will be four) will, instead of turning right into East Claydon Road, continue south on Granborough Road between Winslow and Granborough. The route crosses the Claydon Brook via a single carriageway bridge before becoming Winslow Road where it enters Granborough village. In the village centre the route will turn right onto Hogshaw Road and continue southwest to the southern site access. Construction traffic will also utilise this southern route should any extreme weather conditions or flooding make use of the temporary northern construction access and haul road unviable. This situation is not anticipated to occur but has been assessed for completeness.
- 1.1.30 Construction vehicles departing the site will return to the A421 corridor via the reverse of the above routes.

### Existing Traffic Flows

- 1.1.31 The Department for Transport 'road traffic statistics' website identifies various count points along the above route with details summarised in **Table 8.5** overleaf.

Road Section	Count Point	Data Year	Traffic Flow	HGV's
A421 just east of A413 junction	7929	2021	21,039	1,230
A413 just north of Winslow	37125	2019	8,230	228
Winslow Road, Granborough	1871	2018	1,871	50
East Claydon Road ATC	-	2023	2,458	20
Hogshaw Road ATC	-	2023	393	2

**Table 8.5: Existing Traffic Flows (AAWT)**

- 1.1.32 The two-way Annual Average Weekday Traffic (AAWT) flow on the A421 is shown to be high before reducing to moderate on the A413 and then low on Winslow Road. A recent Automatic Traffic Counter (ATC) loop survey on East Claydon Road shows two-way daily flows to be moderate with another on Hogshaw Road showing two-way daily flows to be very low. The number of HGVs within the AAWT and ATC flows also reduces as the routes advance towards the site as would be expected given the reducing hierarchy of the roads as the route gets closer to the site.

#### Personal Injury Collisions

- 1.1.33 Details of Personal Injury Collisions (PICs) have been obtained through reference to the 'crashmap' website. This identifies the location and severity of recorded collisions and is summarised in **Table 8.6** for the latest five-year period for which data is available.

Section of Carriageway	Fatal	Serious	Slight
A421 / A413 Roundabout in Buckingham	-	-	4
A413 from A421 roundabout to edge of Buckingham	-	1	4
A413 edge of Buckingham to Padbury	-	3	1
A413 Padbury to edge of Winslow	-	2	3
High Street, Vicarage Street, Burleys Road in Winslow	-	-	7
Edge of Winslow to edge of Granborough	-	1	2
East Claydon Road west of Winslow / Granborough Road	-	-	-

Edge of Granborough to proposed site access	-	-	1
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**Table 8.6: Personal Injury Collision History**

- 1.1.34 The number of recorded collisions is not considered excessive given the 13km (8 mile) length of route covered, the volume of traffic on the various sections, the variable urban and rural nature of the route, and the five-year period covered. It is also noted that most of the collisions occurred in separate locations which suggests that there are no particular collision 'hot spots' that might indicate a particular deficiency with the highway network.

Summary of Receptors and Associated Sensitivity

- 1.1.35 The construction delivery route within the Study Area has been considered to identify the presence or receptors and their corresponding sensitivity referenced to the previous Table 8.1. This is summarised in **Table 8.7**.

Receptor	Sensitivity
People walking and cycling on / beside Hogshaw Road and Winslow Road within Granborough.	Medium
People walking and cycling on / beside the various roads within Winslow.	Medium
Staff and students associated with the Sir Thomas Fremantle School in Winslow.	Very High
People walking and cycling on / beside the A413 through Padbury	Medium
Staff and students associated with Padbury Church of England Primary School	Very High
People driving on the various sections of the construction delivery route.	Medium

**Table 8.7: Summary of Receptors and Associated Sensitivity**

Future Baseline

- 1.1.36 In the absence of the Proposed Development, it is assumed that the use of the Application Site would remain as at present. Similarly, it is assumed that the highway network within the Study Area would continue to operate as at present. This is particularly the case given the relatively short-term effects associated with the construction stage and the negligible change in traffic flows associated with the operational stage. Any change in future traffic flows as a result of cumulative developments in the area is discussed further in the 'Cumulative Effects' section of this Chapter.

Limitations and Assumptions

- 1.1.37 It is not possible at the planning stage to be definitive regarding the traffic generation associated with the construction phase. The CTMP (Appendix 8.2) identifies the assumptions used which are based on professional judgment and the Applicant's considerable experience of other developments of a similar scale and nature.

Notwithstanding this limitation and the associated assumptions, it is considered that the methodology and conclusions reached within this Chapter remain valid.

## 1.5 Assessment of Impacts

- 1.1.38 This section describes the potential effects associated with the Proposed Development in relation to construction and operational traffic and takes account of the proposed site access arrangements.

### Construction Traffic

- 1.1.39 During construction, vehicles accessing the Application Site will be a mixture of specialist construction vehicles; HGVs delivering materials or collecting waste materials; and cars / vans associated with the workforce.
- 1.1.40 It is not possible to accurately identify the number of construction related vehicle movements per day as this will vary depending on the particular construction activities being undertaken throughout the envisaged 18 month construction programme.
- 1.1.41 A Construction Traffic Management Plan (CTMP) will however be implemented to minimise and control the impacts of the construction traffic with this attached as Appendix 8.2.
- 1.1.42 The CTMP requires all construction vehicles larger than a car or van to approach the Application Site from the A421 in the north via the A413 to Winslow, via Vicarage Road and Burleys Road within Winslow, and finally via Granborough Road and East Claydon Road to the temporary northern construction access (as shown in Figure 8.1). The only exception to this is the AIL movements which will continue south on Granborough Road and Winslow Road to Granborough, and via Hogshaw Road to the southern site access. This southern route may also be used by other construction vehicles in the unlikely event that the northern construction access is unavailable. The opposite of these routes will be followed when large construction vehicles depart the site.
- 1.1.43 The CTMP also restricts the movement of construction related vehicles larger than a car or van to 09:30 to 16:00 Monday to Friday (outside of school term) and 09:30 to 15:00 (during school term). These timings avoid the traditional highway peak hours and help minimise off-site traffic impact. They also avoid the start and end of the school day to minimise the impact on travelling staff and students. Vehicle movements associated with the construction workforce are likely to be concentrated at either end of the 07:00 to 18:00 working hours.

### *Severance*

- 1.1.44 The CTMP identifies the maximum number of daily two-way construction vehicle movements associated with the Application Site to be approximately 104 comprising approximately 56 cars / vans and 48 HGVs. Adding this construction traffic to the existing traffic flows identified in Table 8.5 allows the percentage increase in traffic flows on the access route to be calculated as shown in **Table 8.8** overleaf.
- 1.1.45 It is evident that the change in traffic flows associated with temporary construction traffic will be less than the 30% value which the IEMA guidelines identifies as being the threshold for a 'slight' change in severance. A more detailed assessment of severance effects is therefore not required.
- 1.1.46 The overall effect on severance during construction is considered 'minor adverse' for all receptors.

Road Section	Existing Traffic	Construction Traffic	E + C Traffic	Percentage Increase
A421 just east of A413 junction	21,039	104	21,143	0.49%
A413 just north of Winslow	8,230	104	8,334	1.26%
Winslow Road, Granborough	1,871	104	1,975	5.56%
East Claydon Road ATC	2,458	104	2,562	4.23%
Hogshaw Road ATC	393	104*	497*	26.46%*

*\* only applies if northern construction access cannot be used*

**Table 8.8: Percentage Increase in Traffic Associated with Construction**

*Driver Delay*

- 1.1.47 Additional traffic flows associated with the construction period are relatively low at a maximum of approximately 104 two-way vehicle movements per day. However, the defined access route passes through towns and villages where even slight increases in traffic flow could have an adverse effect on driver delay.
- 1.1.48 The CTMP requires all HGV access to and from the Application Site to be undertaken outside of the highway peak hours and their associated shoulders thereby minimising any adverse effects associated with HGVs. Despite the site working hours being 07:00 to 18:00 there may be a small number of construction workers who arrive and depart during the highway peak hours with these potentially having a slight impact on driver delay.
- 1.1.49 The overall effect of driver delay during construction is considered 'minor adverse' for all receptors.

*Pedestrian Delay and Amenity*

- 1.1.50 As above, the increase in traffic flows associated with the construction activities is likely to be low particularly in the context of the existing traffic flows on the local highway network. The magnitude of impact associated with pedestrian delay and amenity for people walking along the roads and footways or people waiting at bus stops will also be low. Controlled and uncontrolled pedestrian crossing facilities are available at appropriate locations along the defined route for construction traffic.
- 1.1.51 The overall effect on pedestrian delay and amenity during construction is considered 'minor adverse' for all receptors.

*Fear and Intimidation*

- 1.1.52 People walking along the roads and footways or waiting at bus stops along the defined route for construction traffic will experience a degree of fear and intimidation. In the context of the thresholds identified in Table 8.3, the existing traffic flows on the A421 may represent a 'great' hazard for fear and intimidation and those on the A413 may represent a 'moderate' hazard but Granborough Road, East Claydon Road, Winslow Road and Hogshaw Road would not be classified. The additional traffic flows associated with construction traffic will not cause any change to this degree of hazard.

- 1.1.53 The overall effect on fear and intimidation during construction is considered 'neutral' for all receptors.

*Accidents and Safety*

- 1.1.54 The likely increase in daily traffic flows associated with the construction activities will be small particularly in the context of the existing high base line traffic flows on the A421 and A413 sections of the construction traffic route. The CTMP identifies that the speed limit will be temporarily reduced to 40mph on East Claydon Road, and that extensive temporary signage will be erected at various junctions along the route (and at Claydon Brook bridge) to advise users of the roads to expect an increase in construction related traffic. As such, there is no reason to believe that the risk of accidents occurring will increase during the construction period.

- 1.1.55 The overall effect on accidents and safety during construction is considered 'neutral' for all receptors.

*Hazardous Loads*

- 1.1.56 As previously identified, deliveries of lithium-ion batteries and transformer oil could be classified as hazardous loads however all necessary transport regulations will be followed, and appropriate documentation obtained to minimise any adverse effects.
- 1.1.57 Transport of AILs may also cause a temporary hazard to other road traffic. The number of such movements will be very low with the effects controlled through the CTMP and specialist haulage contractor's AIL Routing report (Appendix 8.3).
- 1.1.58 The overall effect of hazardous loads during construction is considered 'neutral' for all receptors.

Operational Traffic

- 1.1.59 Once operational the traffic generation associated with the Proposed Development will be minimal. It will be a remotely controlled and monitored facility with no day-to-day on-site operatives. Visits to the site will only be made on an occasional ad-hoc basis for maintenance purposes, security checks and similar.
- 1.1.60 Given the above, a detailed assessment of the effects on severance, driver delay, pedestrian delay and amenity, fear and intimidation, accidents and safety, and hazardous loads is not considered necessary as all can clearly be identified as 'neutral' for all receptors.

Decommissioning

- 1.1.61 The activities involved in decommissioning the Proposed Development are not yet known in detail as it has a design life of up to 40 years. There would be expected to be some vehicle movements associated with the removal (and recycling, as appropriate) of material arising from demolition and potentially the import of materials for land restoration and reinstatement. However, vehicle numbers are not expected to be any higher than those experienced during the construction period.
- 1.1.62 Current baseline data collected for the purposes of this assessment will not be valid at the unknown year of decommissioning. However, baseline traffic figures on local roads will likely continue to increase up to the decommissioning date meaning the percentage increase in traffic due to decommissioning would reduce, and the overall effects would be no greater than that of the construction traffic detailed within this assessment.

## 1.6 Mitigation

### Construction Traffic

- 1.1.63 As previously identified, a CTMP will be implemented to manage the effects of large delivery vehicles and similar during the construction phase. This has been considered as 'embedded mitigation' within the above assessment of impacts and sets out construction traffic access, routing, generation, and the overall management measures that will be implemented.
- 1.1.64 In summary the CTMP involves (inter alia):
- A defined access route for large construction vehicles from the A421 via the A413 and Winslow (as identified previously).
  - Restrictions on the timing of large construction vehicle movements to avoid the highway peak hours and the start / end of the school day.
  - Provision of temporary advanced warning signage at junctions and other constraints along the defined access routes to advise drivers to expect additional HGV turning movements between the relevant dates.
  - A temporary reduction in the speed limit from 60mph to 40mph on East Claydon Road between Granborough Road and the construction access.
  - All signage and traffic management being designed, implemented and maintained by an accredited traffic management sub-contractor with full details discussed with, and approved by the Highway Authority in advance.
  - Introduction of two passing bays on Hogshaw Road during the construction period.
  - Use of a 'Road Booking System' should the construction programme overlap with that associated with other large scale developments along the defined access routes (see 'Cumulative Effects' section below).
  - Advising the Parish Council's along the access route of the construction programme and contact details for the Site Manager.
  - Undertaking a letter drop within parts of Winslow and Granborough to advise local residents of the construction programme and contact details of the Site Manager.
  - Coordination of all delivery vehicles movements to ensure they are consolidated as far as possible and spread evenly throughout the daily delivery period.
  - Providing a Banksman to control vehicle access to the site, minimise disruption to other road users and ensure all delivery vehicles are appropriately sheeted, netted or strapped.
  - Inspection of all vehicles departing the site to ensure their wheels are sufficiently clean to access the public highway. Wheel washing facilities will be provided as appropriate with a mobile road sweeper hired should this be found to be necessary.
  - Undertaking a road condition survey at the start and end of the construction period (and monitor between) such that any damage to the local roads associated with the construction traffic can be appropriately repaired.

### Operational Traffic

- 1.1.65 As previously discussed, the Proposed Development has minimal traffic generation and as such mitigation measures are not required.



## 1.7 Cumulative Effects

- 1.1.66 A number of cumulative schemes are proposed in the local area with these having been identified through the EIA Scoping process. The following developments were highlighted by Buckinghamshire Council as potentially having a transport and access effect on the study area in combination with the Proposed Development.
- Tuckey Solar Farm (consented under ref: 19/00983/APP).
  - Planned expansion by National Grid of the East Claydon Grid Substation.
  - High Speed 2 Rail Link.
  - East – West Rail.
- 1.1.67 The Tuckey Solar site also takes construction access from East Claydon Road with access points approximately 100m and 700m to the northeast of the temporary construction access to the Proposed Development. The approved CTMP for the Tuckey Solar site (dated October 2021) identifies an average of 6 HGV movements per day (3 in / 3 out) and a peak of 10 HGV movements per day (5 in / 5 out). It also identifies up to 50 car or van movements per day (25 in / 25 out). Predicted traffic generation over the construction period will therefore be low.
- 1.1.68 The Tuckey Solar CTMP identifies the HGV construction vehicle access route as being to and from the southwest via East Claydon, Calvert, Edgcott and the A41 beyond. This routing is opposite to that for the Proposed Development meaning the only element of shared HGV route is the 700m length of East Claydon Road between the respective site accesses.
- 1.1.69 No information is available for the planned expansion of the East Claydon Grid Substation meaning it is not possible to identify the number of construction vehicle movements that could be involved. It is however considered that National Grid would not want contractors working on two large scale projects at the Substation at the same time and that construction dates would therefore be set to avoid any overlap.
- 1.1.70 The nearest construction vehicle access point for the High Speed 2 rail link is understood to be at Calvert approximately 7km to the west of the Proposed Development. Construction vehicles associated with High Speed 2 primarily route west from that point and then south to the A41 and do not therefore utilise the same construction vehicle access route as the Proposed Development.
- 1.1.71 It is understood from the project website that the Oxford to Milton Keynes section of the East – West Rail project, including the new Winslow Station, is due for completion in Spring 2024. Given the date of this ES Chapter and the time required for the subsequent planning and mobilisation process, it is anticipated that the local section of the East – West Rail project will be complete before the Proposed Development commences.
- 1.1.72 Given the above, it is only the Tuckey Solar Farm project where there could be a cumulative transport effect should it and the Proposed Development both be built out at the same time. Even then the effect of HGV movements would only apply over the approximately 700m distance between the respective site access points as the construction vehicle routes lead in opposite directions. The CTMPs for the respective projects identify up to approximately 48 two-way HGVs per day for the Proposed Development and up to 10 HGVs per day for Tuckey Solar so combined approximately 58 HGVs (29 in each direction) over this 700m section. This equates to less than 10 HGV movements per hour on average which it is considered can be appropriately mitigated through the respective CTMPs.

- 1.1.73 Appendix 8.2 contains the CTMP for the Proposed Development which includes a commitment to engage in dialogue with the Site Manager of any other developments that may be under construction at the same time as the Proposed Development. The aim would be to implement a joint 'Road Booking System' to allow HGV movements to be coordinated to ensure that total movements on a particular day or across a particular week do not have a significant effect on the shared elements of the site access routes. The banksman at the respective site access points could also be in contact by mobile telephone to ensure that vehicles are not released from the respective sites at the same time.
- 1.1.74 With the above mitigation in place, it is considered that the cumulative effects on severance, driver delay, pedestrian delay and amenity, fear and intimidation, accidents and safety, and hazardous loads will all remain as assessed for the Proposed Development in isolation.

## 1.8 Residual Impacts and Conclusions

- 1.1.75 **Table 8.9** provides a summary of the residual effects resulting from the Proposed Development after effective implementation of the embedded mitigation measures identified above.

Development Phase	Receptor	Environmental Effect	Residual Effect
Construction	People walking, cycling and driving on / beside the various roads within Granborough, Winslow and Padbury	Severance	Minor Adverse
		Driver delay	Minor Adverse
		Pedestrian delay and amenity	Minor Adverse
		Fear and intimidation	Neutral
		Accidents and safety	Neutral
		Hazardous Loads	Neutral
	Staff and students associated with Sir Thomas Fremantle and Padbury Primary Schools.	Severance	Minor Adverse
		Driver delay	Minor Adverse
		Pedestrian delay and amenity	Minor Adverse
		Fear and intimidation	Neutral

		Accidents and safety	Neutral
		Hazardous Loads	Neutral
Operation	All receptors	All environmental effects	Neutral

**Table 8.9: Residual Transport Effects**

## 1.9 Summary

- 1.1.76 Temporary construction access to the Proposed Development will be taken from East Claydon Road with long term operational access taken from Hogshaw Lane, Granborough. Both access junctions will be designed such that they can accommodate the turning requirements of the largest vehicles required to access the site during the construction period and to provide visibility splays that accord with the recorded traffic speeds.
- 1.1.77 During construction of the Proposed Development, the temporary effects on receptors will be minor adverse in respect of 'severance', 'driver delay' and 'pedestrian delay and amenity', and, neutral in respect of 'fear and intimidation', 'accidents and safety' and 'hazardous loads'.
- 1.1.78 The CTMP serves to control the routing, timing and number of construction vehicle movements accessing the Proposed Development and therefore assists in minimising the effects of the construction related traffic.
- 1.1.79 Cumulative effects with other local developments during both the construction and operational phases are negligible and do not alter the above assessment of the Proposed Development in isolation.
- 1.1.80 During operation of the Proposed Development, the long-term effects will be neutral for all receptors and for all environmental effects. This is due to the development being an unmanned, remotely controlled facility and therefore requiring minimal car or van trips by operatives.
- 1.1.81 **Table 8.10** summarises the transport effects resulting from the Proposed Development. The Table identifies the construction related effects only as the operational effects are neutral throughout.

Topic Area Receptor	Significance of Receptor	Effect	Embedded Mitigation	Magnitude Duration Likelihood	Significance of Effect	Additional Mitigation	Residual Magnitude of Impact	Significance of Residual Effect
Severance – Pedestrians, cyclists and drivers	Medium	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Minor Adverse	None	No change	Minor Adverse
Severance – Staff and students associated with the schools	Very High	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Minor Adverse	None	No change	Minor adverse
Pedestrian delay and amenity – Pedestrians, cyclists and drivers	Medium	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Minor Adverse	None	No change	Minor adverse
Pedestrian delay and amenity – Staff and students associated with the schools	Very High	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Minor Adverse	None	No change	Minor adverse
Driver Delay – Pedestrians, cyclists and drivers	Medium	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Minor Adverse	None	No change	Minor adverse
Driver delay – Staff and students associated with the schools	Very High	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Minor Adverse	None	No change	Minor adverse
Fear and intimidation – Pedestrians, cyclists and drivers	Medium	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Neutral	None	No change	Neutral
Fear and intimidation – Staff and students associated with the schools	Very High	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Neutral	None	No change	Neutral

Accidents and safety – Pedestrians, cyclists and drivers	Medium	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Neutral	None	No change	Neutral
Accidents and safety – Staff and students associated with the schools	Very High	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Neutral	None	No change	Neutral
Hazardous Loads – Pedestrians, cyclists and drivers	Medium	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Neutral	None	No change	Neutral
Hazardous Loads – Staff and students associated with the schools	Very High	Increase in traffic flows and HGVs	Implementation of the CTMP	Negligible Temporary Definitely	Neutral	None	No change	Neutral

**Table 8.10: Summary of Transport Effects**